DocuSign Envelope ID: DA4F66A8-47C4-4714-98C4-77FCEA54734D

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT Florida

DEVELOPMENT REVIEW

Property Information

Property address or Location: 2144, 2152, 2190 S Jenkins Rd.

Parcel ID #(s): 2418-333-0004-000-0; 2418-333-0003-000-3; 2418-333-0002-000-6; 2418-333-0001-0

Project description: Regatta Luxury Apartments

Application Type

■ Site Plan ☐ Conditional Use w/New Construction ☐ Conceptual Development Plan

☐ Minor Amendment ☐ Major Amendment

Site Information

Non-Residential: Proposed Sq. Ft.:_____ Site Acreage:_____

Residential: Proposed Units: 312 Proposed Sq. Ft.:_____ Site Acreage: 18

BGDN LLC	Leslie Olson, AICP, Principal, District F
Property Owner(s)	**Applicant/Representative, Title, Company**
1820 Avenue K	130 S Indian River Drive Ste 202
Street Address	Street Address
Brooklyn NY 11230	Fort Pierce FL 34950
City State Zip	City State Zip
(917) 208-8343	772.742.8649
Phone Number	Phone Number
Murray@parkstoneproperties.com	leslie@districtplanninggroup.com
Email Address	Email Address

Property Owner(s) Acknowledgements: *- This application will not be considered complete without the signature of all property owners of record, which shall serve as an acknowledgement of the submission of this application. The property owner's signature below shall also authorize the Applicant (if other than the property owner) and/or Representative to act in his/her behalf for the purposes of seeking approval for the application described herein. The undersigned consents to inspection and photographing of the subject property by the Planning staff for purposes of consideration of this Application and/or presentation to the Planning Board and City Commission.*

DocuSigned by:
Murray Puderbeutel
21722EF834C7492...

Property Owner(s) Signature(s)

APPOINTMENTS ARE REQUIRED FOR APPLICATION SUBMITTALS

CALL 772.467.3737 OR E-MAIL PLANNING_DL@CITYOFFORTPIERCE.COM

For more information, please refer to the website:

https://www.cityoffortpierce.com/971/Application-Submittal-for-Technical-Revi

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General Information

- **Incomplete application packets will not be accepted.**
- In-take meetings are required for application submittals.
- Site plan approval is valid for one (1) year following City Commission approval. To maintain site plan approval, vertical improvements, permitted by the Building Department must commence prior to the 12-month expiration date.
- Fee Schedule - https://www.cityoffortpierce.com/DocumentCenter/View/2620/Fee-Schedule-
- Public Notice Fees - https://www.cityoffortpierce.com/DocumentCenter/View/8818/Public-Notice-Fees-

Site Plan submittal requirements:

Submit one (1) original & three (3) hard copies and one (1) CD or Flash Drive of the following. Additional copies will be required of subsequent submittals.

- ☐ Complete application
- ☐ Warranty Deed
- ☐ SLC Property Record Card
- ☐ Detailed project description
- ☐ General location map (see Section 125-313)
- ☐ Survey (see Section 125-313)
- ☐ Site Plan (see Section 125-313)
- ☐ Landscaping Plan (see Section 123-37)
- ☐ Conceptual Drainage Plan (see Section 125-313)
- ☐ Environmental Impact Report
- ☐ Beach/Dune System protection plan, if applicable (see Section 125-313)
- ☐ Lighting Plan (see Section 125-313)
- ☐ Design Review submittals (see Design Review application)
- ☑ Traffic Impact Report
- ☑ Concurrency Review submittals (see Concurrency Review application)

DocuSign Envelope ID: DA4F66A8-47C4-4714-98C4-77FCEA54734D

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT Florida

DESIGN REVIEW

Property Information

Property address or Location 2144, 2152, 2190 S Jenkins Rd.

Parcel ID #(s) 2418-333-0004-000-0; 2418-333-0003-000-3; 2418-333-0002-000-6; 2418-333-0001-000-9

Project description Regatta Luxury Apartments

BGDN LLC	Leslie Olson, AICP, Principal, District Planning Group
Property Owner(s)	**Applicant/Representative, Title, Company**
1820 Avenue K	130 S Indian River Drive Ste 202
Street Address	Street Address
Brooklyn NY 11230	Fort Pierce FL 34950
City State Zip	City State Zip
(917) 208-8343	772.742.8649
Phone Number	Phone Number
Murray@parkstoneproperties.com	leslie@districtplanninggroup.com
Email Address	Email Address

Property Owner(s) Acknowledgements: *- This application will not be considered complete without the signature of all property owners of record, which shall serve as an acknowledgement of the submission of this application. The property owner's signature below shall also authorize the Applicant (if other than the property owner) and/or Representative to act in his/her behalf for the purposes of seeking approval for the application described herein. The undersigned consents to inspection and photographing of the subject property by the Planning staff for purposes of consideration of this Application and/or presentation to the Planning Board and City Commission.*

DocuSigned by:
Murray Puderbeutel
21722EFB34C7492...
Property Owner(s) Signature(s)

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CALL 772.467.3737 OR E-MAIL PLANNING_DL@CITYOFFORTPIERCE.COM
For more information, please refer to the website:
https://www.cityoffortpierce.com/971/Application-Submittal-for-Technical-Revi

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Design Review Application Checklist
(City Code of Ordinances 125-314)

Submittal for Administrative Approval

a. A survey (1" = 30' minimum scale) of property lines, existing topography and the location of trees meeting the tree protection regulations of section 123-66, location of bordering streets and, if applicable, wetlands and beaches.
b. A site analysis study to include a discussion of specimen trees and other natural vegetation, access, significant topography, wetlands, buffers, setbacks, views, orientation, the surrounding built environment, and other site features that may influence design elements.
c. A draft written narrative describing the design intent of the project, its goals, and objectives and how it reflects the site analysis study results.
d. Context photographs of neighboring uses and architectural styles.
e. Photographs and/or drawings of architectural buildings or objects that serve as a precedent for the proposed building design. Models should be taken from local exemplary buildings, either existing or demolished. Documentation of such buildings is available in the city's planning department.
f. Photographs of all existing structures located on the property. If existing structures on the property are more than fifty (50) years of age, documentation of these structures with data from the Florida Master Site File form is also required.
g. Conceptual site plan (to scale) showing proposed location of all buildings, structures, parking areas, signs and landscaping.
h. Landscape plan, at the same scale as the site plan. The planning director or designee may request enlarged plans of detailed planting areas. Planting schedule with sizes of proposed plantings must be included.
i. Accurate color rendering of proposed signs showing dimensions, type of lettering, materials and actual color samples that demonstrates cohesiveness with the project design.
j. Exterior elevations showing architectural character, external architectural features, and streetscape of the proposed development, including materials, colors, shadow lines and landscaping. The street elevation shall encompass the entire proposed project and generally identify the major elements of the adjacent two (2) properties on either side of the site. If the adjacent properties are vacant or underutilized, a diagram shall be provided that identifies the mass and form that is allowable under current zoning. If the street elevation must be drawn at such a scale as to render architectural details of the building unreadable, drawings of individual buildings at a larger scale should be provided as well.
k. Design review concurrent with conceptual development plan procedure according to subsection 125-313 is also available.

Submittal for Board Approval

a. A written narrative describing how the project conforms to administrative approval and design review guidelines of this section.
b. A final site plan meeting the requirements of section 125-313.
c. A final site lighting plan that meets the requirements of subsection 125-313(d)(8).
d. A final landscape plan that meets the requirements of articles II and III of chapter 123.
e. Final floor plans and elevation drawings (1/8" = 1'-0" minimum scale), as detailed under administrative approval, showing exterior building materials and colors with architectural sections and details to adequately describe the project.
f. A color board (11"x17" maximum) containing actual color samples of all exterior finishes, keyed to the elevations, and indicating the manufacturer's name and color designation.

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT
Florida

CONCURRENCY
CAPACITY ANALYSIS

I. Site Data:

	Existing Use	Future Land Use	Zoning
North	Vacant/Approved Multifamily	RH Residential High	R-5 High Density Residential Zone
South	K-8 Public School	RH Residential High	R-5 High Density Residential Zone
East	Vacant/Approved Multifamily	RH Residential High	R-5 High Density Residential Zone
West	Camping World RV Sales	GC General Commercial	C-3 General Commercial Zone

	Future Land Use	Zoning Classification	Maximum Intensity Residential: Dwelling Units per Acre Other: Square Footage	Total Acreage	Flood Zone
Current	RH Residential High	R-5 High Density Residential Zone	324 units	18	X
****Proposed**	RH Residential High	R-5 High Density Residential Zone	312 units	18	N/A

II. Public Facilities Information:

A. Potable Water:	
Average Use	Residential: 100 gallons per day per person (du x 2.6= persons x 100 gpd = demand) Other: 0.125 gallons per day per square foot
Demand Analysis	Maximum 82,240
Current Zoning/FLU	Total gallons per day 82,240
**Proposed Zoning/FLU	Total gallons per day 81,120
**Change in Demand	Total gallons per day -1,120

B. Wastewater:	
Average Use	Residential: 100 gallons per day per person (du x 2.6= persons x 100 gpd = demand) Other: 0.1 gallons per day per square foot
Demand Analysis	Maximum 82,240
Current Zoning/FLU	Total gallons per day 82,240
**Proposed Zoning/FLU	Total gallons per day 81,120
**Change in Demand	Total gallons per day -1,120

C. Parks and Recreation (Residential Classifications Only): 45,038: proposed
(Du x 2.6 = persons + 44,227 = population /LOS)

Park Type	LOS	Existing Population Park Demand	Proposed Population Park Demand	Change in Demand
Regional	20 acres per 1,000 people		45,038/1,000*20	
Urban District	5 acres per 1,000 people		45,038/1,000*5	
Community	2.5 acres per 1,000 people		45,038/1,000*2.5	
Neighborhood	1.36 acres per 1,000 people		45,038/1,000*1.36	

D. Public Schools (Residential Classifications Only):
Single Family: (du x 0.405 = students/70% K-8/30% High)
Multi-family: (du x 0.207 = students/70% K-8/30% High) 67 Current/65 Proposed

	K-8	High
School Name		
City		
Distance		
Current Zoning/FLU Enrollment Demand	47	20
****Proposed Zoning/FLU Enrollment Demand**	45	20
****Change in Demand**		

E. Solid Waste: Residential (2 yard serves 15 units, 4 yard serves 30 units, 6 yard serves 45 units, 8 yard serves 60 units)

Demand Analysis	Maximum
Current Zoning/FLU	44 Yds
****Proposed Zoning/FLU**	
***Change in Demand**	

F. Stormwater:
Potential increase in volume discharged due to increased impervious coverage, reduced groundwater seepage or loss of surface water storage impacting Adopted LOS of 25-year 3-day storm Pre vs. Post Runoff (Storm sewers to convey 5 year- 1 day storm event; Canals to convey 3 year – 1 day storm event)

Impact	Stormwater capacity will meet all state and local requirements

III. Transportation Analysis: *Complete ITE Trip Generation Form (Attached)*

G. Transportation Analysis: Complete ITE Trip Generation Data Form Most recent ITE Code for use; HCM Roadway Capacity		
	AADT	**AM/PM Peak Hour Trips**
Demand Analysis	Maximum	Maximum
Current Zoning/FLU	2,075 project projection	120/155 project projection
****Proposed Zoning/FLU**		
***Change in Demand**	Trips	Trips
Impact to Capacity		

IV. Project Description

PHASING
Is this project (phase) part of a larger project? ☐ Yes ☑ No
If yes, enumerate each phase, the number of units or square footage in each phase and beginning/completion date.
Total Project: Residential Units: Single Family: Multifamily:
Non-residential (square footage):
Mixed-use (describe use):
(If this is a single phase project, name it Phase I – Total)

RESIDENTIAL DATA					
Type	**Phase**	**Number of Units**	**Acres**	**Expected beginning date**	**Expected completion date**
Single-family, detached					
Single-family, attached					
Multi-family					
Other (specify)					

NON-RESIDENTIAL DATA					
Type(s) specify	**Phase**	**Square footage**	**Acres**	**Expecting beginning date**	**Expected completion date**

A. Indicate whether the proposed project will be eliminating any existing recreational facilities. If yes, detail the number and type being eliminated. ☐ Yes ☑ No

B. 1. Does this application involve demolition or re-use of any structure(s)? ☐ Yes ☑ No
If yes, what is the size of the structure(s) to be demolished or re-used? _____

2. What is the current use of the structure to be demolished or re-used? _____

3. Are you claiming trip credits for the demolition or re-use of a structure(s) at the site? ☐ Yes ☑ No
If yes, provide estimates of credits for each previous use at the site. (Attach sheet with calculations)

C. Exemptions Requested:

** Complete section if requesting a change in zoning, future land use, or expanding

Location Map

7/4/2023, 7:21:59 PM

Image

Red: Band_1

Green: Band_2

Blue: Band_3

Override 1

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Esri Community Maps Contributors, FDEP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA | St. Lucie County Property Appraiser's Office | GPI Geospatial, Inc. | Sanborn, FDOR | U.S. Fish and Wildlife Service, Coastal Barrier

JOSEPH E. SMITH, CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY
FILE # 3624394 OR BOOK 3320 PAGE 2396, Recorded 08/31/2011 at 03:27 PM

IN THE CIRCUIT COURT, 19th JUDICIAL CIRCUIT, IN AND FOR ST. LUCIE, COUNTY, FLORIDA

CASE NO.: 07-CA-002997
DIVISION: Bryan

BDGN, LLC,
a New York limited liability company,

Plaintiff,

vs.

GROUP THREE DEVELOPMENT, LLC,
a Florida limited liability company;
KEVIN McCOY, an individual;
LISA McCOY, an individual;
KEITH McCOY, an individual;
CARLA McCOY, an individual; and
JOHN S. McCOY, an individual;

Defendants.
_____/

2011 AUG 19 PM 12:48
ST. LUCIE COUNTY
CLERK OF CIRCUIT COURT

This Amended Certificate of Title is being filed to correct scrivener's error in Legal Description and Plaintiff's name which was incorrectly referenced in that certain Certificate of Title filed on May 19, 2011 in OR Book 3295, page 459 in the Public Records of St. Lucie County, Florida.

AMENDED CERTIFICATE OF TITLE

Original recorded in OR Book 3295 Pg 459

The undersigned Clerk of the Court certifies that he executed and filed a Certificate of Sale in this action on May 10, 2011 for the property described herein and that no objections to the sale have been filed within the time allowed for filing objections. The following parcels in St. Lucie County, Florida:

1. **The North ½ of the North ½ of the South ½ of the Southwest ¼ of the Southwest ¼ of Section 18, Township 35 South, Range 40 East, less the West 60 feet for road right of way purposes, all lying in St. Lucie County, Florida.**

   (Folio #2418-333-0001-000/9)
   a/k/a 2144 South Jenkins Road, Ft. Pierce, Florida

II. **The South ½ of the North ½ of the South ½ of the Southwest ¼ of the Southwest ¼ of Section 18, Township 35 South, Range 40 East, St. Lucie County, Florida. Less the West 60 feet thereof.**

(Folio #2418-333-0002-000/6)
a/k/a 2152 South Jenkins Road, Ft. Pierce, Florida

III. **Parcel 1:**
From the Southwest corner of Section 18, Township 35 South, Range 40 East, run Northerly along the West line of said Section 104.83 feet to a point of beginning; from said point of beginning continue Northerly along said section line a distance of 132 feet to a point; thence with an angle of 90° run East 25 feet to a pipe; thence continue East 100 feet to a pipe; thence at 90° run South 132 feet to a pipe; thence at 90° run Westerly 100 feet to a stove bolt in Drive; thence continue Westerly 25 feet to a point of beginning; excepting therefrom all rights of way for public roads. Said land lying in and being a part of St. Lucie County, Florida.

(Folio #2418-333-0003-000/3)

Parcel 2:
All of the South ½ of the South ½ of Southwest ¼ of the Southwest ¼ of Section 18, Township 35 South, Range 40 East, excepting therefrom all rights of way for public roads and drainage canals, and also, less and excepting that part thereof particularly described as follows: From the Southwest corner of said section, township and range run Northerly along the West line of said Section 104.83 feet to a point of beginning; from said point of beginning continue Northerly along said section line a distance of 132 feet to a point; thence with an angle of 90° run East 25 feet to a pipe; thence continue East 100 feet to a pipe; thence at 90° run South 132 feet to a pipe; thence at 90° run Westerly 100 feet to a stove bolt in Drive; thence continue Westerly 25 feet to a point of beginning.

(Folio #2418-333-0004-000/0)

were sold to the Plaintiff, BGDN, LLC, whose address is c/o Jonathan S. Feldman, Esq., 200 South Biscayne Boulevard, Suite 3000, Miami, Florida 33131.

WITNESS MY HAND AND THE SEAL OF THIS COURT on August 19, 2011.

Joseph E. Smith
Clerk of the Circuit Court

By: _____
As Deputy Clerk

Michelle Franklin, CFA -- Saint Lucie County Property Appraiser -- All rights reserved.

Property Identification

Site Address: 2144 S JENKINS RD
Sec/Town/Range: 18/35S/40E
Parcel ID: 2418-333-0001-000-9
Jurisdiction: Fort Pierce

Use Type: 0000
Account #: 27286
Map ID: 24/18S
Zoning: Medium Den

Ownership

BGDN LLC
1820 Avenue K
Brooklyn, NY 11230

Legal Description

18 35 40 N 1/2 OF N 1/2 OF S 1/2 OF SW 1/4 OF SW 1/4-LESS W 60 FT FOR RD R/W- (4.73 AC) (OR 3295-459: 3320-2396)

Current Values

Just/Market Value:	$338,200
Assessed Value:	$117,276
Exemptions:	$0
Taxable Value:	$117,276

Property taxes are subject to change upon change of ownership.

- **Past taxes are not a reliable projection of future taxes.**
- **The sale of a property will prompt the removal of all exemptions, assessment caps, and special classifications.**

Taxes for this parcel: SLC Tax Collector's Office
Download TRIM for this parcel: Download PDF

Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	4.73
Land Size (SF):	206,039

Building Design Wind Speed

Occupancy Category	I	II	III
Speed	140	150	160

Sources/links:

Sale History

Date	Book/Page	Sale Code	Deed	Grantor	Price
Aug 19, 2011	3320 / 2396	0311	CertTtle	BDGN LLC	$0
May 16, 2011	3295 / 0459	0311	CertTtle	Group Three Development LLC	$100,000
Sep 5, 2006	2678 / 1940	XX02	WD	Holtkamp Rose M	$850,000
Sep 1, 1985	0478 / 2489	XX01	CV		$0

Building Information (1 of 1)

Finished Area: 0 SF

Gross Sketched Area: 0 SF

Exterior Data

View:	Roof Cover:	Roof Structure:
Building Type:	Year Built: N/A	Frame:
Grade:	Effective Year: N/A	Primary Wall:
Story Height:	No. Units: 0	Secondary Wall:

Interior Data

Bedrooms: 0	Electric:	Primary Int Wall:
Full Baths: 0	Heat Type:	Avg Hgt/Floor: 0
Half Baths: 0	Heat Fuel:	Primary Floors:
A/C %: 0%	Heated %: N/A%	Sprinkled %: 0%

Sketch Area Legend

Sub Area Description Area Fin. Area Perimeter

Special Features and Yard Items

Type	Qty	Units	Year Blt

Current Year Values

Current Values Breakdown

Building:	$0
Land:	$338,200
Just/Market:	$338,200
Ag Credit:	$0
Save Our Homes or 10% Cap:	$220,924
Assessed:	$117,276
Exemption(s):	$0
Taxable:	$117,276

Current Year Exemption Value Breakdown

Tax Year	Grant Year	Code	Description	Amount

Current Year Special Assessment Breakdown

Start Year	AssessCode	Units	Description	Amount
2009	0041	1	Fort Pierce Stormwater Charge	$69.00
2013	0054	4.73	North St. Lucie Water Management District	$108.79

This does not necessarily represent the total Special Assessements that could be charged against this property. The total amount charged for special assessments is reflected on the most current tax statement and information is available with the SLC Tax Collector's Office.

Historical Values

Year	Just/Market	Assessed	Exemptions	Taxable
2022	$338,200	$117,276	$0	$117,276
2021	$233,700	$106,615	$0	$106,615
2020	$147,600	$96,923	$0	$96,923

Permits

Number	Issue Date	Description	Amount	Fee
BP09-1494	Sep 15, 2009	Demolition	$0	$130

Notice: This does not necessarily represent all the permits for this property.
Click the following link to check for additional permit data in Fort Pierce

All information is believed to be correct at this time, but is subject to change and is provided without any warranty.
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Michelle Franklin, CFA -- Saint Lucie County Property Appraiser -- All rights reserved.

Property Identification

Site Address: 2152 S JENKINS RD
Sec/Town/Range: 18/35S/40E
Parcel ID: 2418-333-0002-000-6
Jurisdiction: Fort Pierce

Use Type: 0000
Account #: 27287
Map ID: 24/18S
Zoning: Medium Den

Ownership

BGDN LLC
1820 Avenue K
Brooklyn, NY 11230

Legal Description

18 35 40 S 1/2 OF N 1/2 OF S 1/2 OF SW 1/4 OF SW 1/4-LESS W 60 FT FOR RD R/W- (4.73 AC)(OR 3295-459: 3320-2396)

Current Values

Just/Market Value:	$338,200
Assessed Value:	$117,276
Exemptions:	$0
Taxable Value:	$117,276

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Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	4.73
Land Size (SF):	206,039

Building Design Wind Speed

Occupancy Category	I	II	III
Speed	140	150	160

Sources/links:

Sale History

Date	Book/Page	Sale Code	Deed	Grantor	Price
Aug 19, 2011	3320 / 2396	0311	CertTtle	BDGN LLC	$0
May 16, 2011	3295 / 0459	0311	CertTtle	Group Three Development LLC	$100,000
Aug 22, 2006	2645 / 1725	XX00	WD	Marcelin Claudine	$825,000
Sep 30, 1999	1254 / 2673	XX00	WD	Zimmer Norman H	$154,857
Apr 15, 1996	1010 / 0614	XX00	WD	Baumker Jr Andrew J	$117,200
Mar 30, 1989	0639 / 1633	XX01	QC	Katherine E Baumker	$50,000
Feb 1, 1977	0263 / 2600	XX01	CV		$0

Building Information (1 of 1)

Finished Area: 0 SF

Gross Sketched Area: 0 SF

Exterior Data

View:	Roof Cover:	Roof Structure:
Building Type:	Year Built: N/A	Frame:
Grade:	Effective Year: N/A	Primary Wall:
Story Height:	No. Units: 0	Secondary Wall:

Interior Data

Bedrooms: 0	Electric:	Primary Int Wall:
Full Baths: 0	Heat Type:	Avg Hgt/Floor: 0
Half Baths: 0	Heat Fuel:	Primary Floors:
A/C %: 0%	Heated %: N/A%	Sprinkled %: 0%

Sketch Area Legend

Sub Area Description Area Fin. Area Perimeter

Special Features and Yard Items

Type	Qty	Units	Year Blt

Current Year Values

Current Values Breakdown

Building:	$0
Land:	$338,200
Just/Market:	$338,200
Ag Credit:	$0
Save Our Homes or 10% Cap:	$220,924
Assessed:	$117,276
Exemption(s):	$0
Taxable:	$117,276

Current Year Exemption Value Breakdown

Tax Year	Grant Year	Code	Description	Amount

Current Year Special Assessment Breakdown

Start Year	AssessCode	Units	Description	Amount
2009	0041	1	Fort Pierce Stormwater Charge	$69.00
2013	0054	4.73	North St. Lucie Water Management District	$108.79

This does not necessarily represent the total Special Assessements that could be charged against this property. The total amount charged for special assessments is reflected on the most current tax statement and information is available with the SLC Tax Collector's Office.

Historical Values

Year	Just/Market	Assessed	Exemptions	Taxable
2022	$338,200	$117,276	$0	$117,276
2021	$233,700	$106,615	$0	$106,615
2020	$147,600	$96,923	$0	$96,923

Permits

Number	Issue Date	Description	Amount	Fee
BP09-2393	Dec 21, 2009	Demolition	$0	$275

Notice: This does not necessarily represent all the permits for this property.
Click the following link to check for additional permit data in Fort Pierce

All information is believed to be correct at this time, but is subject to change and is provided without any warranty.
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Michelle Franklin, CFA -- Saint Lucie County Property Appraiser -- All rights reserved.

Property Identification

Site Address: S JENKINS RD
Sec/Town/Range: 18/35S/40E
Parcel ID: 2418-333-0003-000-3
Jurisdiction: Fort Pierce

Use Type: 0000
Account #: 27288
Map ID: 24/18S
Zoning: Medium Den

Ownership

BGDN LLC
1820 Avenue K
Brooklyn, NY 11230

Legal Description

18 35 40 S 1/2 OF S 1/2 OF SW 1/4 OF SW 1/4-LESS W 60 FT FOR RD R/W AND LESS N 132 FT OF S 194.33 FT OF W 85 FT- (8.15 AC)(OR 3295-459: 3320-2396)

Current Values

Just/Market Value:	$483,900
Assessed Value:	$202,133
Exemptions:	$0
Taxable Value:	$202,133

Property taxes are subject to change upon change of ownership.

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Taxes for this parcel: SLC Tax Collector's Office
Download TRIM for this parcel: Download PDF

Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	8.15
Land Size (SF):	355,014

Building Design Wind Speed

Occupancy Category	I	II	III
Speed	140	150	160

Sources/links:

Sale History

Date	Book/Page	Sale Code	Deed	Grantor	Price
Aug 19, 2011	3320 / 2396	0311	CertTtle	BDGN LLC	$0
May 16, 2011	3295 / 0457	0311	CertTtle	Group Three Development LLC	$100,000
Aug 1, 2006	2678 / 1763	XX02	WD	Nelson-York Patsy	$863,000
Dec 1, 1986	0525 / 0663	XX01	CV		$0
Jun 1, 1978	0288 / 2611	XX01	CV		$0

Building Information (1 of 1)

Finished Area: 0 SF

Gross Sketched Area: 0 SF

Exterior Data

View:	Roof Cover:	Roof Structure:
Building Type:	Year Built: N/A	Frame:
Grade:	Effective Year: N/A	Primary Wall:
Story Height:	No. Units: 0	Secondary Wall:

Interior Data

Bedrooms: 0	Electric:	Primary Int Wall:
Full Baths: 0	Heat Type:	Avg Hgt/Floor: 0
Half Baths: 0	Heat Fuel:	Primary Floors:
A/C %: 0%	Heated %: N/A%	Sprinkled %: 0%

Sketch Area Legend

Sub Area Description Area Fin. Area Perimeter

Special Features and Yard Items

Type	Qty	Units	Year Blt

Current Year Values

Current Values Breakdown

Building:	$0
Land:	$483,900
Just/Market:	$483,900
Ag Credit:	$0
Save Our Homes or 10% Cap:	$281,767
Assessed:	$202,133
Exemption(s):	$0
Taxable:	$202,133

Current Year Exemption Value Breakdown

Tax Year	Grant Year	Code	Description	Amount

Current Year Special Assessment Breakdown

Start Year	AssessCode	Units	Description	Amount
2009	0041	12.6	Fort Pierce Stormwater Charge	$869.40
2013	0054	8.15	North St. Lucie Water Management District	$187.45

This does not necessarily represent the total Special Assessements that could be charged against this property. The total amount charged for special assessments is reflected on the most current tax statement and information is available with the SLC Tax Collector's Office.

Historical Values

Year	Just/Market	Assessed	Exemptions	Taxable
2022	$483,900	$202,133	$0	$202,133
2021	$334,300	$183,758	$0	$183,758
2020	$206,100	$167,053	$0	$167,053

Permits

Number	Issue Date	Description	Amount	Fee

Notice: This does not necessarily represent all the permits for this property.
Click the following link to check for additional permit data in Fort Pierce

All information is believed to be correct at this time, but is subject to change and is provided without any warranty.
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Michelle Franklin, CFA -- Saint Lucie County Property Appraiser -- All rights reserved.

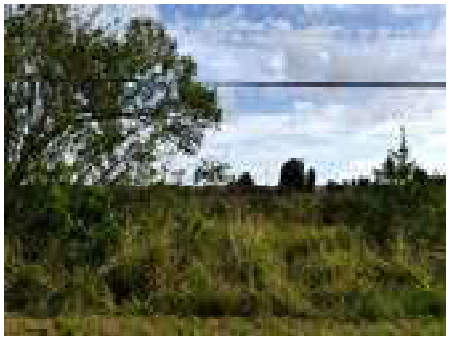
Property Identification

Site Address: 2190 S Jenkins RD
Sec/Town/Range: 18/35S/40E
Parcel ID: 2418-333-0004-000-0
Jurisdiction: Fort Pierce

Use Type: 0000
Account #: 135903
Map ID: 24/18S
Zoning: Medium Den

Ownership

BGDN LLC
1820 Avenue K
Brooklyn, NY 11230



Legal Description

18 35 40 FROM SW COR OF SD SEC RUN NLY ALG W LI OF SD SEC 104.68 FT TO POB,TH CONT NLY ALG SD W LI 132 FT,TH E 125 FT,TH S 132 FT,TH WLY 125 FT-LESS 60 FT FOR RD R/W (0.20 AC)(OR 3295-459: 3320-2396)

Current Values

Just/Market Value:	$21,000
Assessed Value:	$7,085
Exemptions:	$0
Taxable Value:	$7,085

Property taxes are subject to change upon change of ownership.

- **Past taxes are not a reliable projection of future taxes.**
- **The sale of a property will prompt the removal of all exemptions, assessment caps, and special classifications.**

Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	0.2
Land Size (SF):	8,580

Taxes for this parcel: SLC Tax Collector's Office
Download TRIM for this parcel: Download PDF

Building Design Wind Speed

Occupancy Category	I	II	III
Speed	140	150	160

Sources/links:

Sale History

Date	Book/Page	Sale Code	Deed	Grantor	Price
Aug 19, 2011	3320 / 2396	0311	CertTtle	BDGN LLC	$0
May 16, 2011	3295 / 0459	0311	CertTtle	Group Three Development LLC	$100,000
Aug 1, 2006	2678 / 1763	XX02	WD	Nelson-York Patsy	$863,000
Jan 7, 1994	0879 / 0276	XX01	WD	Nelson Patsy	$100

Building Information (1 of 1)

Finished Area: 0 SF

Gross Sketched Area: 0 SF

Exterior Data

View:	Roof Cover:	Roof Structure:
Building Type:	Year Built: N/A	Frame:
Grade:	Effective Year: N/A	Primary Wall:
Story Height:	No. Units: 0	Secondary Wall:

Interior Data

Bedrooms: 0	Electric:	Primary Int Wall:
Full Baths: 0	Heat Type:	Avg Hgt/Floor: 0
Half Baths: 0	Heat Fuel:	Primary Floors:
A/C %: 0%	Heated %: N/A%	Sprinkled %: 0%

Sketch Area Legend

Sub Area Description Area Fin. Area Perimeter

Special Features and Yard Items

Type	Qty	Units	Year Blt

Current Year Values

Current Values Breakdown

Building:	$0
Land:	$21,000
Just/Market:	$21,000
Ag Credit:	$0
Save Our Homes or 10% Cap:	$13,915
Assessed:	$7,085
Exemption(s):	$0
Taxable:	$7,085

Current Year Exemption Value Breakdown

Tax Year	Grant Year	Code	Description	Amount

Current Year Special Assessment Breakdown

Start Year	AssessCode	Units	Description	Amount
2009	0041	1	Fort Pierce Stormwater Charge	$69.00
2013	0054	0.19697	North St. Lucie Water Management District	$25.00

This does not necessarily represent the total Special Assessements that could be charged against this property. The total amount charged for special assessments is reflected on the most current tax statement and information is available with the SLC Tax Collector's Office.

Historical Values

Year	Just/Market	Assessed	Exemptions	Taxable
2022	$21,000	$7,085	$0	$7,085
2021	$10,500	$6,441	$0	$6,441
2020	$10,500	$5,856	$0	$5,856

Permits

Number	Issue Date	Description	Amount	Fee
BP09-1495	Sep 15, 2009	Demolition	$0	$130

Notice: This does not necessarily represent all the permits for this property.
Click the following link to check for additional permit data in Fort Pierce

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DISTRICT PLANNING GROUP

Project & Design Review Narrative

Regatta Luxury Apartments

South Jenkins Road

August 25, 2023

Summary

Alva Stone Group proposes a 312-unit luxury apartment complex within walking distance of a K-8 school, retail, service centers, job opportunities, and in close proximity to interchanges accessing the State's Intermodal System: I-95 and the Florida Turnpike. The community will primarily appeal to young professionals working in the Treasure Coast and the surrounding region. The project's average unit size will be 920 SF, varying in floorplans of 1 Bed/1 Bath, 2Bed/2Bath and 3 Beds/2 Baths, with an emphasis on spacious open floor plans and study/work areas. Interior amenities will include energy saving features, ceramic flooring (no carpet) and stainless-steel appliances. Architectural design of the project is influenced by coastal typologies and will differentiate the community from typical inventory in the existing Fort Pierce rental market. Amenities will include a clubhouse with spacious common areas, children's playground, full indoor gym, BBQ and pool area with a view to the community lake & fountain. A walking trail around the lake will activate the common open space and encourage social connections.

Site

The site (Parcel IDs 2418-333-0004-000-0; 2418-333-0003-000-3; 2418-333-0002-000-6; and 2418-333-0001-000-9) is 18 acres of previously fallow agricultural land.

Site Details

	PARCEL 1 2418-333-0004-000-0	PARCEL 2 2418-333-0003-000-3	PARCEL 3 2418-333-0002-000-6	PARCEL 4 2418-333-0001-000-9
ACREAGE	.2	8.15	4.73	4.73
ADDRESS	2190 S Jenkins Road	S Jenkins Road	2152 S. Jenkins Road	2144 S. Jenkins Road
JURISDICTION	City of Fort Pierce	City of Fort Pierce	City of Fort Pierce	City of Fort Pierce
ZONING	R-5 High Density Residential	R-5 High Density Residential	R-5 High Density Residential	R-5 High Density Residential
FUTURE LAND USE	RH High Density Residential	RH High Density Residential	RH High Density Residential	RH High Density Residential

Adjacent Properties

The property faces Jenkins Road to the west and is adjacent to a mix of entitled multifamily, public school and commercial uses.

	FLU	ZONING	USE
NORTH	RH	R-5	Approved multifamily
SOUTH	RH	R-5	K-8 Public School
EAST	RH	R-5	Approved Multifamily
WEST	GC	C-3	Commercial Use

Project Details

Density

This project proposes 312 dwelling units on 18 acres for a density of 17.33 dwelling units per acre. The underlying Future Land Use allows for a density of up to 18 units per acre. The adopted Zoning of High Density Residential permits up to 15 units per acre for a conventional development before the application of density bonuses provided in the Land Development Ordinances and Comprehensive Plan. The City's Comprehensive Plan, Policy 1.1.9, provides an undefined density bonus for voluntary contributions to needed public infrastructure as follows:

1.1.9 Policy: The City will allow density bonuses if the developer provides or makes contributions above minimum requirements to facilities that provide a public benefit. Such contributions shall include park land dedication or park facilities, infrastructure and transportation facilities, beach access and fishing piers. In establishing the value of the facilities and the appropriate density bonus, the following will be considered:

A. Hard costs–All material and labor costs for the construction of the facility.

B. Soft costs–Fees and costs required for the design of the facility.

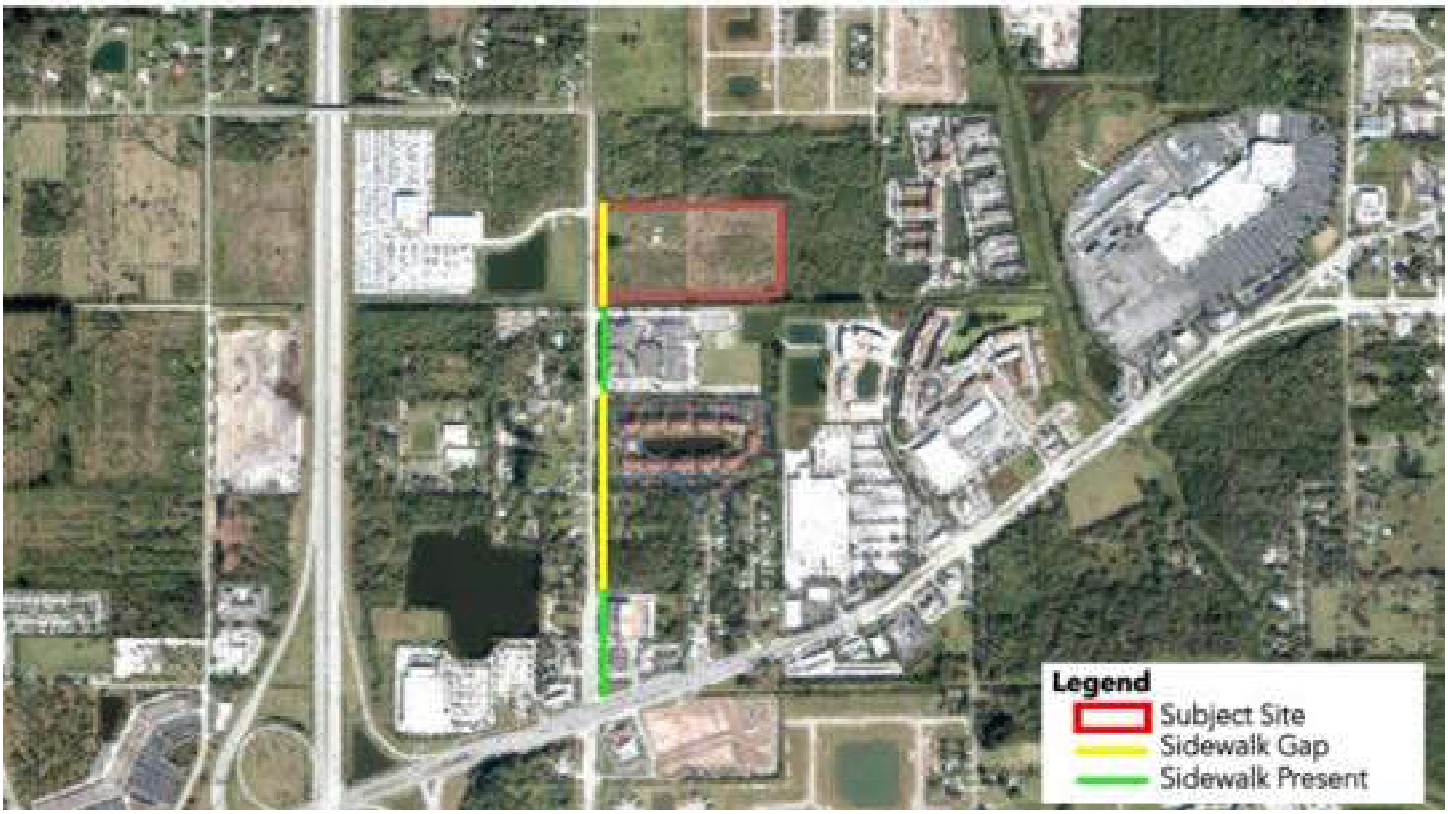
C. Land costs–Land to be transferred to the City or other public agency associated with the facility.

An ongoing challenge for the City and County at this location is the lack of sidewalk connectivity between the growing residential developments along the Jenkins Road corridor and the retail, service, office and other uses located in the area of Okeechobee Road and Jenkins Road. This lack of sidewalk connection further stresses the vehicle Level of Service on Jenkins Road, as there is no safe way to access these nearby uses without a car.

The developer of Regatta Luxury Apartments proposes to construct a sidewalk on their site, connecting to Samuel S Gaines school to the south, then complete the off-site sidewalk connection gaps on the east side of Jenkins Road between the subject site and Okeechobee Road in exchange for an additional 2.33 units of density.

This development also qualifies for Innovative Residential Development, which would provide for up to an additional 3 units of density, but the applicant has not requested that designation. The developer felt it was more

important to the community to construct the sidewalk gaps, and therefore has chosen to request the additional density through Policy 1.1.9 than through Innovative Residential Development. Nonetheless, we believe this development would qualify for that designation due to the quality of its site design, landscape design and amenities for residents. This project proposes both excellent design and a voluntary contribution of sorely needed sidewalk infrastructure connecting residential and commercial uses through an active transportation sidewalk that will accommodate both pedestrians and cyclists, reducing vehicular burden from Jenkins Road. Alva Stone Group respectfully requests an additional 2.33 units per acres of density for completing the sidewalk gaps between the subject site and the intersection of Okeechobee Road and Jenkins Road on the east site of Jenkins Road. In addition to their own site, a gap of over ¼ mile of sidewalk will be built.



Development Program

The Project involves a multifamily apartment complex consisting of 312 dwelling units ranging from one (1) to three (3) bedrooms in 13 buildings. Each building will be three (3) stories. A clubhouse, pool area and other amenities listed below are also proposed.

Site Design

Site Analysis & Design Intent

This project intends to create an innovative and compact multifamily development with quality architecture, landscaping and amenities that sets a new standard for the Okeechobee Road corridor, increases property values and creates an inviting sense of place for its residents. Residential buildings are arranged around a central lake which acts as an amenity for the Project. A walking path constructed around the entire lake with benches for residents to enjoy the lake views and recreate/exercise around the lake enhance this central feature. The entrance drive terminates at the clubhouse for a striking initial experience of the project. Parking and dumpsters are evenly

and conveniently distributed throughout the Project. The clubhouse includes a fitness center, kitchen, multipurpose room, restrooms and a covered area over the pool deck for shade lounging.

Design Compatibility

A limited number of buildings are visible from Jenkins Rd. to establish an architectural design context for compatibility. The closest built project include:

Samuel Gaines Academy, adjacent to the subject property on the south side,
Treasure Cay Apartments, whose entrance is 1300 feet to the south of the subject project entrance,
Celebration Pointe, with an entrance approximately 2800 feet north of the subject project entrance, and
Camping World and Gander Mountain, directly across Jenkins Rd.

Many of these projects are behind more visible features from the road, such as signage, landscaping and stormwater ponds, so stylistic compatibility with the proposed project would not be discernible from Jenkins Rd. Documentation for our site visit shows little in terms of definable architectural style. Roofing materials range from a Mediterranean barrel tile to the standing seam metal of Florida vernacular to asphalt shingle.

Traffic Impact

Included with this submittal is a traffic impact analysis for the Project (the "TIA"). The TIA concludes that:

(1) the roadway links are sufficient to accommodate the Project traffic in the AM and PM peak hours;

Site Lighting, Stormwater & Utilities

The complete plan set includes a preliminary paving and drainage analysis, stormwater retention, and lighting and utilities plans and details.

CLOSING

The Applicant respectfully requests the City's consideration and approval of the Regatta Luxury Apartment's application based on the justification provided herein.

(772) 742-8649 • 130 South Indian River Drive, Suite 202 • Fort Pierce, FL 34950
www.DistrictPlanningGroup.com

Architecture

The architecture and palette reflect elements of traditional Florida vernacular with stylistic updates informed by coastal contemporary design.

1 Roofing: Metal Seam Panels / Color: Charcoal Grey
2 Fascia & Brackets: Wood / Color: High Reflective White_SW 7757
3 Stucco Bands: Stucco / Color: High Reflective White_SW 7757
4 Bahama Shutters: Aluminum / Color: Honorable Blue_SW 6811
5 Decorative Louvers: Vinyl / Color: Honorable Blue_SW 6811
6 Exterior Walls: Stucco / Color: Crushed Ice_SW 7647
7 Siding: Stucco / Color: Lakeside_SW 6863

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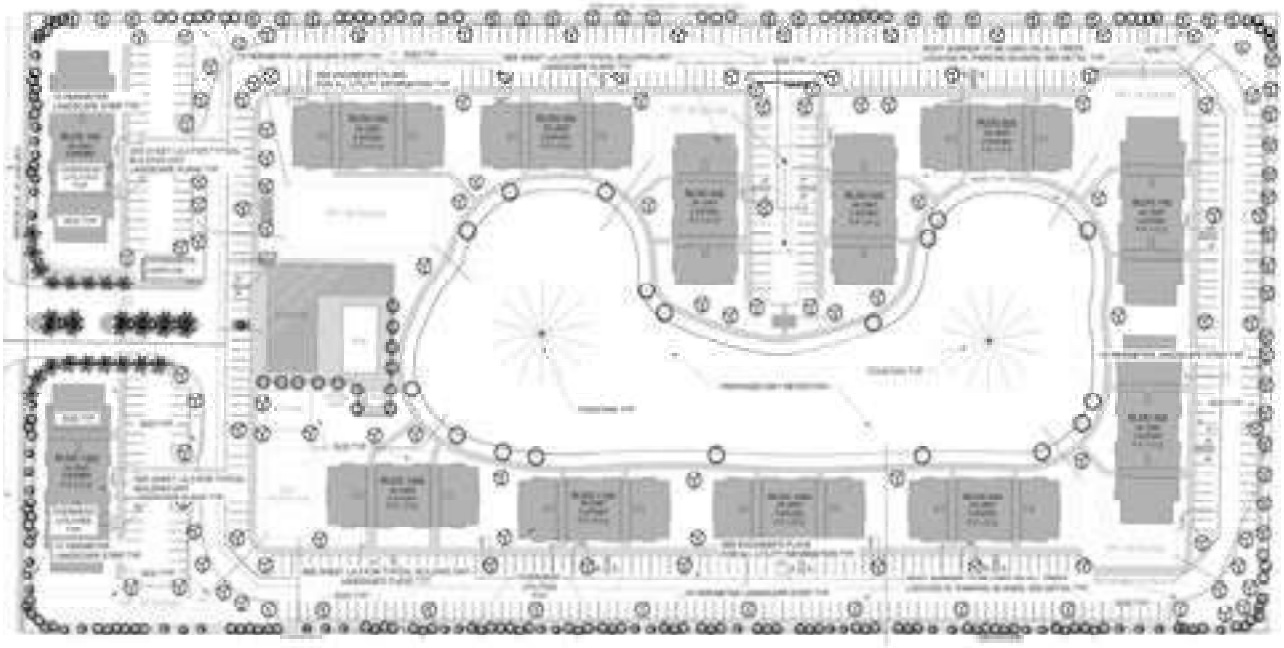
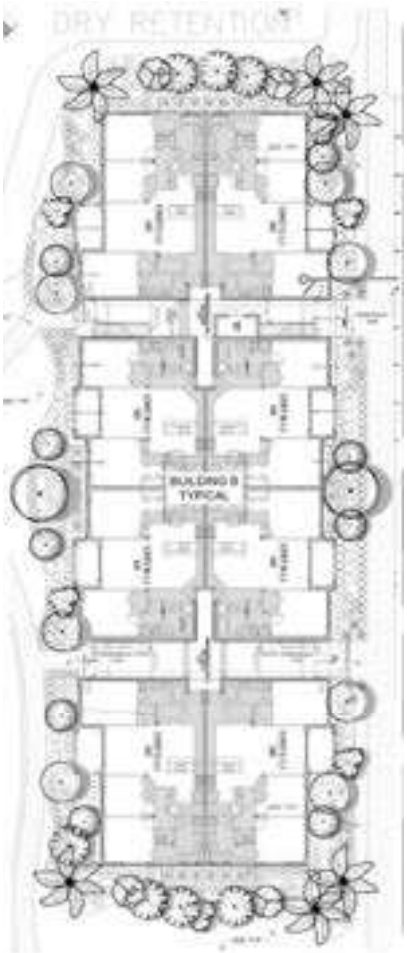
www.DistrictPlanningGroup.com

Site and Landscape Plan





The landscape plan illustrates a lush entry feature with a view terminating at the generous clubhouse amenity. The landscape detail with embedded floor plan demonstrates the views available from each unit and the connections from building entrances to site pathways.

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Context Photos

Camping World

Samuel Gaines Academy

Treasure Cay Apartments

Celebration Pointe

Nearby homes

(772) 742-8649 • 130 South Indian River Drive, Suite 202 • Fort Pierce, FL 34950
www.DistrictPlanningGroup.com

LEGEND

CERTIFICATIONS:

1. GROUP THREE DEVELOPMENT, LLC, A FLORIDA LIMITED LIABILITY COMPANY.
2. NEILL, GRIFFIN, TIERNEY, NEILL & MARQUIS, HARTERED.
3. COMMONWEALTH LAND TITLE INSURANCE COMPANY.
4. JECK, HARRIS & JONES, LLP.

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

NOT TO SCALE

SECTION BREAKDOWN

NOTES:

1) NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
2) LANDS SHOWN HEREON WERE NOT ABSTRACTED BY THIS OFFICE FOR RIGHT-OF-WAYS, RESERVATIONS, AGREEMENTS, AND EASEMENTS OF RECORD. SUCH INFORMATION SHOULD BE OBTAINED AND CONFIRMED BY OTHERS THROUGH APPROPRIATE TITLE VERIFICATION.
3) DESCRIPTION SHOWN HEREON PROVIDED BY THE CLIENT AND/OR THEIR AGENT.
4) UNDERGROUND FOUNDATIONS AND IMPROVEMENTS WERE NOT LOCATED.
5) THE LAST DATE OF FIELD WORK WAS DECEMBER 08, 2005.
6) BEARINGS SHOWN HEREON ARE BASED ON THE WEST LINE OF SECTION 18 WHICH BEARS N 00°16'31" WEST.
7) EXISTING POND CONTAINS 0.31 ACRES MORE OR LESS.
PARCEL EXCLUDING POND CONTAINS 17.66 ACRES MORE OR LESS.
TOTAL PARCEL CONTAINS 17.97 ACRES MORE OR LESS.
8) PARCEL LIES IN ZONE "X" PER F.I.R.M. 12111C0017 F EFFECTIVE DATE OF AUGUST 19, 1991.
9) ELEVATIONS SHOWN HEREON ARE BASED ON D. O. T. CONCRETE MONUMENT No. I-95 - 85 - A34 WITH A PUBLISHED ELEVATION OF 46.195 FEET N.G.V.D. 1929.
10) THERE ARE NO SUBMERGED LANDS OR LINES BELOW THE MEAN HIGH WATER LINE LOCATED ON SUBJECT PROPERTY.

DESCRIPTION

BEING THE NORTH 1/2 OF THE NORTH 1/2 OF THE SOUTH 1/2 OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 SECTION 18, TOWNSHIP 35 SOUTH, RANGE 40 EAST, LESS THE WEST 40 FEET FOR ROAD RIGHT OF WAY ALL LYING AND BEING IN ST. LUCIE COUNTY, FLORIDA.

TOGETHER WITH:

THE SOUTH 1/2 OF THE NORTH 1/2 OF THE SOUTH 1/2 OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 SECTION 18, TOWNSHIP 35 SOUTH, RANGE 40 EAST, LESS THE WEST 40 FEET FOR ROAD RIGHT OF WAY ALL LYING AND BEING IN ST. LUCIE COUNTY, FLORIDA.

TOGETHER WITH:

ALL OF THE S 1/2 OF S 1/2 OF SW 1/4 OF SW 1/4 OF SECTION 18, TOWNSHIP 35 SOUTH, RANGE 40 EAST, EXCEPTING THEREFROM ALL RIGHTS OF WAY FOR PUBLIC ROADS AND DRAINAGE CANALS.

ADD CONTOURS-UPDATE BOUNDARY-REVISE NAME GLL 4-11-06

MICHAEL T. OWEN, P.S.M. FLORIDA CERTIFICATE NO. 5556

4-11-2006
SIGNATURE DATE

COMPUTER FILE REF.	FIELD BK./PG.
05-121.MAP2	

CULPEPPER & TERPENING, INC.
CERTIFICATION No. LB 4286
CONSULTING ENGINEERS & LAND SURVEYORS
2980 SOUTH 25th STREET
FORT PIERCE, FLORIDA 34981
(772)-464-3537

- R E V I S I O N S -	BY	DATE
UPDATED NOTES AND RESCALE SURVEY	R.D.	3-27-06
UPDATED ACREAGE AND ADD CERTIFICATIONS	R.D.	2-13-06
UPDATED BOUNDARY SURVEY	R.D.	1-11-06
UPDATED TREE SURVEY	R.D.	1-10-06
ADD TOPOGRAPHIC SURVEY AND TREES	R.D.	12-9-05
UPDATED BOUNDARY SURVEY	R.D.	12-8-05

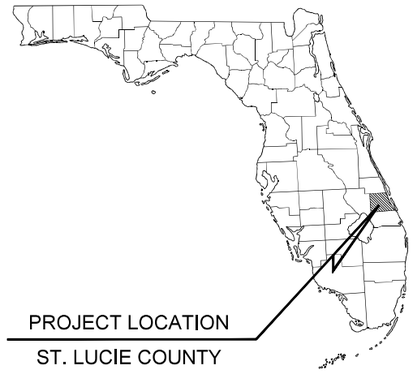
	BY	DATE
FIELD		
CALCS	P.K.	7-15-05
DRAWN	R.D.	8-4-05
DETAILED		
CHECKED		
APPROVED		

BOUNDARY & TOPOGRAPHIC SURVEY

PREPARED FOR:

SUMMERWIND TOWNHOMES AT FORT PIERCE

DATE: 08-04-2005
HORIZ. SCALE: 1" = 50'
VERT. SCALE: N/A
JOB No. 05-121
SHEET 1 OF 1



CONSTRUCTION PLANS

FOR

REGATTA APARTMENTS

LOCATED AT

2152 SOUTH JENKINS ROAD
FORT PIERCE, FL 34947
SECTION 18, TOWNSHIP 35S, RANGE 40E

PROJECT LOCATION

LOCATION MAP
1"=1000'

LEGAL DESCRIPTION

BEING THE NORTH 1/2 OF THE NORTH 1/2 OF THE SOUTH 1/2 OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 SECTION 18, TOWNSHIP 35 SOUTH, RANGE 40 EAST, LESS THE WEST 60 FEET FOR THE ROAD RIGHT OF WAY ALL LYING AND BEING IN ST. LUCIE COUNTY, FLORIDA

TOGETHER WITH:

THE SOUTH 1/2 OF THE NORTH 1/2 OF THE SOUTH 1/2 OF THE SOUTHWEST 1/4 OF THE 1/4 SECTION 18, TOWNSHIP 35 SOUTH, RANGE 40 EAST, LESS THE WEST 60 FEET FOR ROAD RIGHT OF WAY ALL LYING AND BEING IN ST. LUCIE COUNTY, FLORIDA

TOGETHER WITH:

ALL OF THE SOUTH 1/2 OF THE SOUTH 1/2 OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 18, TOWNSHIP 35 SOUTH, RANGE 40 EAST, EXCEPTING THEREFROM ALL RIGHTS OF WAY FOR PUBLIC ROADS AND DRAINAGE CANALS.

TOGETHER WITH:

18 35 40 FROM SW COR OF SD SEC RUN NLY ALG W LI OF SD SEC 104.68 FT TO POB,TH CONT NLY ALG SD W LI 132 FT,TH E 125 FT,TH S 132 FT,TH WLY 125 FT-LESS 60 FT FOR RD R/W (0.20 AC)(OR 3295-459; 3320-2396)

SHEET INDEX	
Sheet Number	Sheet Title
C-1	COVER SHEET
C-2	EXISTING CON. & DEMO
C-3	SITE PLAN
C-4	PGD PLAN
C-4a	ROW
C-5	UTILITIES PLAN
C-6	FPUA DETAILS
C-7	FPUA DETAILS (2)
C-8	NOTES
C-9	DETAILS
C-10	LIGHTING PLAN

PROJECT TEAM

OWNER/DEVELOPER
PEDRO QUIJADA
ALVA STONE GROUP
591 EVERNIA STREET, #1603
WEST PALM BEACH, FL 33401
(954) 850-0618
PEDRO@ALVASTONEGROUP.COM

CIVIL ENGINEER
BLAINE BERGSTRESSER, P.E.
KMA ENGINEERING AND SURVEYING, LLC
2345 14TH AVENUE, SUITE 3
VERO BEACH, FLORIDA 32960
(772) 569-5505
BLAINEB@KMAFL.COM

LANDSCAPE ARCHITECT
PAUL GOULAS, RLA
LANDSCAPE ARCHITECTURAL SVCS., LLC
1708 SE JOY HAVEN STREET
PORT ST. LUCIE, FL 34983
(772) 631-8400
PAUL@LAS-FL.COM

SURVEYOR
KMA ENGINEERING & SURVEYING, LLC
3001 INDUSTRIAL AVE 2
FT. PIERCE, FLORIDA 34946
(772) 569-5505
SURVEY@KMAFL.COM

PERMITTING AGENCIES

FORT PIERCE UTILITY AUTHORITY
SHANE OSTRANDER
1701 S. 37TH STREET
FORT PIERCE, FL 34984
SOTRANDER@FPUA.COM
772-466-1600

NORTH ST LUCIE RIVER WATER CONTROL DISTRICT
PATRICIA KUTA
14666 ORANGE AVENUE
FORT PIERCE, FL 34945
NSLRWCD@BELLSOUTH.NET
772-461-5050

CITY OF FORT PIERCE
CESAR FLORES
100 NORTH US 1
FORT PIERCE, FL 34950
CFLORES@CITYOFFORTPIERCE.COM
772-467-3730

KMA
ENGINEERING & SURVEYING, LLC
3001 INDUSTRIAL 2 AVE.
FT. PIERCE, FL 34946
PHONE: (772) 569-5505
FBPE C.O.A.# 32705

REVISIONS:
BY:	DATE:	COMMENT:

NOT FOR CONSTRUCTION

PROJECT:
REGATTA APARTMENTS
2152 SOUTH JENKINS ROAD
FT. PIERCE, FL 34947

CLIENT:
ALVA STONE GROUP, LLC
591 EVERNIA STREET
WEST PALM BEACH, FL 33401

STATE OF FLORIDA · BLAINE ROBERT BERGSTRESSER · LICENSE NO. 84598 · PROFESSIONAL ENGINEER

BLAINE BERGSTRESSER, P.E.
FLORIDA LICENSE No. 84598
09/16/2022

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PROJECT No.:	23-1011
DRAWN BY:	CRW
CHECKED BY:	BRB
DATE:	08/23/2023

SHEET TITLE:
COVER SHEET

SHEET NUMBER:
C-1

GRAPHIC SCALE

50 0 50 100 150

SCALE: (1 Inch = 50 Feet)

North

UNPLATTED LANDS
(VACANT)
PARCEL ID: 2418-322-0002-000-2
ORB 3065, PAGE 2045

S 89°04'39" W 1245.68'(C)
S 89°04'53" W 1245.82'(M) FROM IR TO R&C
S 89°04'10" W 1245.86'(M) FROM R&C TO R&C

UNPLATTED LANDS
(VACANT)
PARCEL ID: 2418-331-0001-000-3
ORB 3065, PAGE 2045

JENKINS ROAD
(146' R/W
ASPHALT
WIDTH VARIES)

N 00°15'43" W 617.45'(C&M)

FLOOD ZONE "AE" EL= 16
FLOOD ZONE "X"

PARCEL 1
N 1/2 OF THE N 1/2 OF THE S 1/2 OF THE SW 1/4
OF THE SW 1/4
EXCEPTION NO.6 OR BOOK 2328 PAGE 1501
EXCEPTION NO.7 OR BOOK 2625, PAGE 1118
PARCEL ID: 2418-333-0001-000-9

PARCEL 2
S 1/2 OF THE N 1/2 OF THE S 1/2 OF THE SW 1/4
OF THE SW 1/4
EXCEPTION NO.6 OR BOOK 2328 PAGE 1501
PARCEL ID: 2418-333-0002-000-6

S 00°01'46" E 616.39'(C)
S 00°00'59" E 616.31'(M) FROM IR TO R&C
S 00°00'47" E 616.57'(M) FROM R&C TO R&C

PARCEL 3
ALL OF THE S 1/2 OF
THE S 1/2 OF THE SW 1/4 OF THE SW 1/4
EXCEPTION NO.8 OR BOOK 879 PAGE 276
PARCEL ID: 2418-333-0003-000-3

UNPLATTED LANDS
(VACANT)
PARCEL ID: 2418-343-0001-000-0
ORB 3065, PAGE 2045

N 89°01'37" E 1263.03'(C&M)

N.S.L.R.W.M.D. CANAL NO 37
(85' R/W)
PARCEL ID: 2418-333-0005-000-7

FLOOD ZONE "AE" EL= 16
FLOOD ZONE "X"

NAVD 1988
ALL ELEVATIONS DEPICTED
HEREON REFERENCE NAVD 1988

KMA
ENGINEERING & SURVEYING, LLC
300 INDUSTRIAL 2 AVE
FT. PIERCE, FL 34946
PHONE: (772) 569-5505
FISPE C.O.A. # 31705

REVISIONS
BY: DATE: COMMENT

NOT FOR CONSTRUCTION

PROJECT:
REGATTA APARTMENTS
2152 SOUTH JENKINS ROAD
FT. PIERCE, FL 34947

CLIENT:
ALVA STONE GROUP, LLC
591 EVERNIA STREET
WEST PALM BEACH, FL 33401

LICENSE
BLAINE ROBERT BERGSTRESSER
NO. 84598
STATE OF FLORIDA
PROFESSIONAL ENGINEER

BLAINE BERGSTRESSER, P.E.
FLORIDA LICENSE No. 84598
09/16/2022

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PROJECT No.:	23-1011
DRAWN BY:	CRW
CHECKED BY:	BRB
DATE:	08/23/2023

SHEET TITLE:
EXISTING CON. & DEMO

SHEET NUMBER:
C-2

GRAPHIC SCALE

50 0 50 100 150

SCALE: (1 Inch = 50 Feet)

North

UNPLATTED LANDS
(VACANT)
PARCEL ID: 2418-322-0002-000-2
ORB 3065, PAGE 2045

UNPLATTED LANDS
(VACANT)
PARCEL ID: 2418-331-0001-000-3
ORB 3065, PAGE 2045

S 89°04'35" W 1245.68'(C)
S 89°04'53" W 1245.82'(M) FROM IR TO R&C
S 89°04'10" W 1245.86'(M) FROM R&C TO R&C

JENKINS ROAD

LEFT TURN LANE

SHARED ACCESS LANE

RIGHT TURN LANE

PROPOSED FUTURE TRANSIT STOP

6' SIDEWALK

14' ROW DEDICATION

160' ULTIMATE ROW

N 00°16'37" W 617.45'(C&M)

10' SETBACK

20' SETBACK

25' SETBACK

COMPACTOR

MAIL KIOSK

GRILL STATION AREA

TOT PARK

CLUBHOUSE

POOL

SPA

DRY RETENTION

BLDG 1300
24 UNIT
3 STORY
F.F.=17.0

BLDG 200
24 UNIT
3 STORY
F.F.=17.0

BLDG 300
24 UNIT
3 STORY
F.F.=17.0

BLDG 400
24 UNIT
3 STORY
F.F.=17.0

BLDG 500
24 UNIT
3 STORY
F.F.=17.0

BLDG 600
24 UNIT
3 STORY
F.F.=17.0

BLDG 700
24 UNIT
3 STORY
F.F.=17.0

BLDG 800
24 UNIT
3 STORY
F.F.=17.0

BLDG 900
24 UNIT
3 STORY
F.F.=17.0

BLDG 1000
24 UNIT
3 STORY
F.F.=17.0

BLDG 1100
24 UNIT
3 STORY
F.F.=17.0

BLDG 1200
24 UNIT
3 STORY
F.F.=17.0

GAZEBO

FOUNTAIN

FOUNTAIN

WET DETENTION POND

PROPOSED CONTROL STRUCTURE

PROPOSED OUTFALL TO NSLRWMD

BIOSWALE

14' ROW DEDICATION

N 89°01'37" E

1243.03'(C&M)

S 00°01'46" E 616.39'(C)
S 00°00'39" E 616.31'(M) FROM IR TO R&C
S 00°00'39" E 616.57'(M) FROM R&C TO R&C

SITE DATA

OWNER: BGDN LLC
1820 AVENUE K
BROOKLYN, NY 11230

ENGINEER: BLAINE BERGSTRESSER P.E.
KMA ENGINEERING & SURVEYING LLC
3001 INDUSTRIAL AVENUE 2
FT. PIERCE FL. 34946

SURVEYOR: WILLIAM HAYHURST P.S.M.
KMA ENGINEERING & SURVEYING LLC
3001 INDUSTRIAL AVENUE 2
FT. PIERCE FL. 34946

PROPOSED USE: 312 UNIT MULTI-FAMILY APARTMENTS
w/ 4,300 SF CLUBHOUSE

SITE ADDRESS: 2152 SOUTH JENKINS ROAD
FT. PIERCE, FL. 34947

PARCEL ID(S): 2418-333-0001-000-9
2418-333-0002-000-6
2418-333-0003-000-3

ZONING: R-5 HIGH DENSITY RESIDENTIAL

DENSITY
ALLOWED: MAX. 15 UNITS/AC.
PROPOSED: 312 UNITS / 17.96 AC = 17.4 UNITS/AC

SIDE YARDS:
FRONT 25'
SIDE 10'
CORNER LOT SIDE 15'
REAR 20'

SITE AREAS:

GROSS SITE	782,493 SF	(17.96 AC)
BUILDING FOOTPRINTS	124,615 SF	
PAVEMENT & CURBING	210,728 SF	
SIDEWALKS & PATIOS	45,785 SF	
TOTAL IMPERVIOUS AREA	381,128 SF	
OPEN SPACE	279,220 SF	
STORMWATER LAKE @ C.E.	122,145 SF	

PARKING:
REQUIRED: MULTI-FAMILY
1.5 SPACES PER UNIT
312 UNITS x 1.5 = 468 REQUIRED SPACES

CLUBHOUSE
1 SPACE PER 200 SF
4300 SF / 200 = 22 REQUIRED SPACES

TOTAL REQUIRED = 490 PARKING SPACES
ADA PARKING REQUIRED = 9 of 490 SPACES

PROPOSED 28 ADA PARKING SPACES PROVIDED
462 STANDARD PARKING SPACES PROVIDED

490 TOTAL SPACES PROVIDED

ROW DEDICATION

NAVD 1988
ALL ELEVATIONS DEPICTED
HEREON REFERENCE NAVD 1988

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FT. PIERCE, FL 34946
PHONE: (772) 569-5505
FSPE C.O.A. # 33705

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BY: DATE: COMMENT

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DATE: 08/23/2023

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
C-3

DISTRICT PLANNING GROUP

Density Bonus Request: Comprehensive Plan Policy 1.1.9

This project proposes 312 dwelling units on 18 acres for a density of 17.33 dwelling units per acre. The underlying Future Land Use allows for a density of up to 18 units per acre. The adopted Zoning of High Density Residential permits up to 15 units per acre for a conventional development before the application of density bonuses provided in the Land Development Ordinances and Comprehensive Plan.

The City's Comprehensive Plan, Policy 1.1.9, provides an undefined density bonus for voluntary contributions to needed public infrastructure as follows:

> *1.1.9 Policy: The City will allow density bonuses if the developer provides or makes contributions above minimum requirements to facilities that provide a public benefit. Such contributions shall include park land dedication or park facilities, infrastructure and transportation facilities, beach access and fishing piers. In establishing the value of the facilities and the appropriate density bonus, the following will be considered:*
> *A. Hard costs—All material and labor costs for the construction of the facility.*
> *B. Soft costs—Fees and costs required for the design of the facility.*
> *C. Land costs—Land to be transferred to the City or other public agency associated with the facility.*

An ongoing challenge for the City and County at this location is the lack of sidewalk connectivity between the growing residential developments along the Jenkins Road corridor and the retail, service, office and other uses located in the area of Okeechobee Road and Jenkins Road. This lack of sidewalk connection further stresses the vehicle Level of Service on Jenkins Road, as there is no safe way to access these nearby uses without a car.

The developer of Regatta Luxury Apartments proposes to construct a sidewalk on their site, connecting to Samuel S Gaines school to the south, then complete the off-site sidewalk connection gaps on the east side of Jenkins Road between the subject site and Okeechobee Road in exchange for an additional 2.33 units of density.

This development also qualifies for *Innovative Residential Development* designation, which would provide for up to an additional 3 units of density, but the applicant has not requested that designation. The developer felt it was more important to the community to construct the sidewalk gaps, and therefore has chosen to request the additional density through Policy 1.1.9 than through Innovative Residential Development. Nonetheless, we believe this development would qualify for that designation due to the quality of its site design, landscape design and amenities for residents.

This project proposes both excellent design and a voluntary contribution of sorely needed sidewalk infrastructure connecting residential and commercial uses through an active transportation sidewalk that will accommodate both pedestrians and cyclists, reducing vehicular burden on Jenkins Road. Alva Stone Group respectfully requests an additional 2.33 units per acres of density for completing the sidewalk gaps between the subject site and the intersection of Okeechobee Road and Jenkins Road on the east site of Jenkins Road. In addition to their own site, providing 1,223 linear feet of additional offsite sidewalk constructed by the developer, voluntarily. The value of this sidewalk, paid by this developer, in favor of the City and County's infrastructure gaps, is $48,520.80.

Please see attached signed and sealed engineering cost estimate and sidewalk exhibit.

Reagtta

Offsite Required Improvements

Construction Security - Performance Cost Exhibit

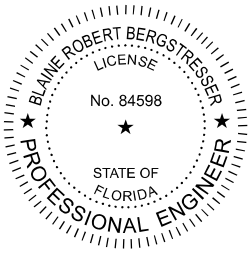
	ITEM NO.	ITEM	UNIT	QUANTITY	UNIT COST	PROJECT COST	PERCENT TO COMPLETE	BOND COST
RC	522-1	SIDEWALK CONCRETE, 4" THICK (COMMON AREA ONLY)	SY	816	$ 37.00	$ 30,192.00	100%	$ 30,192.00

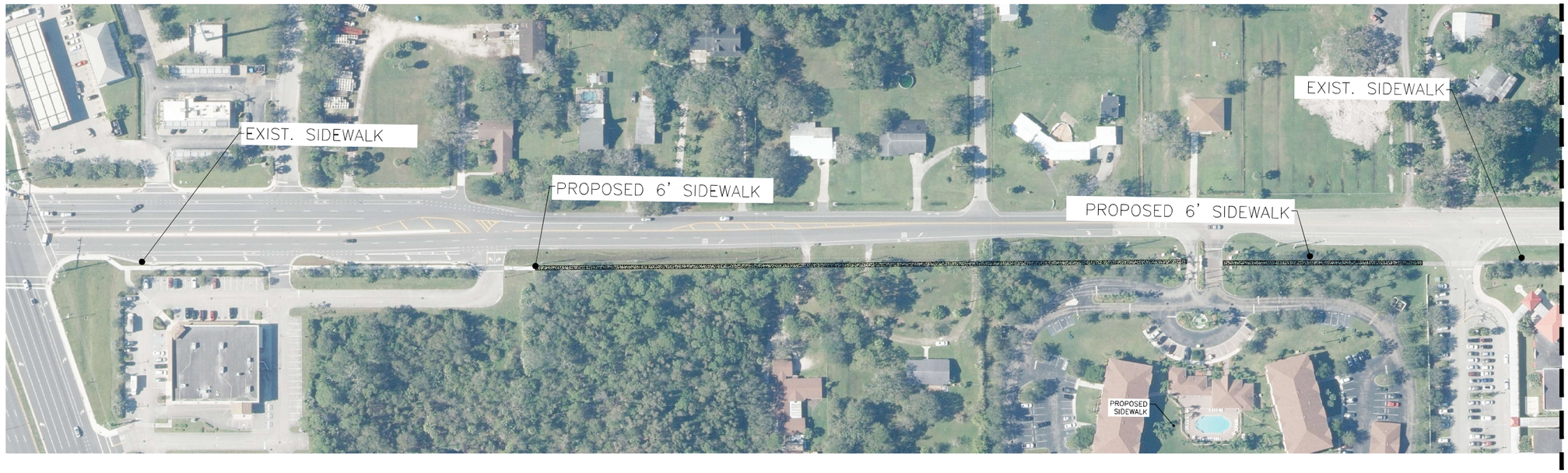
Contingency = $

Total Construction Cost = $ 42,192.00

Maintenance Security 15% = **$ 6,328.80**

TOTAL = $ 48,520.80





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FSPE C.O.A. # 33705

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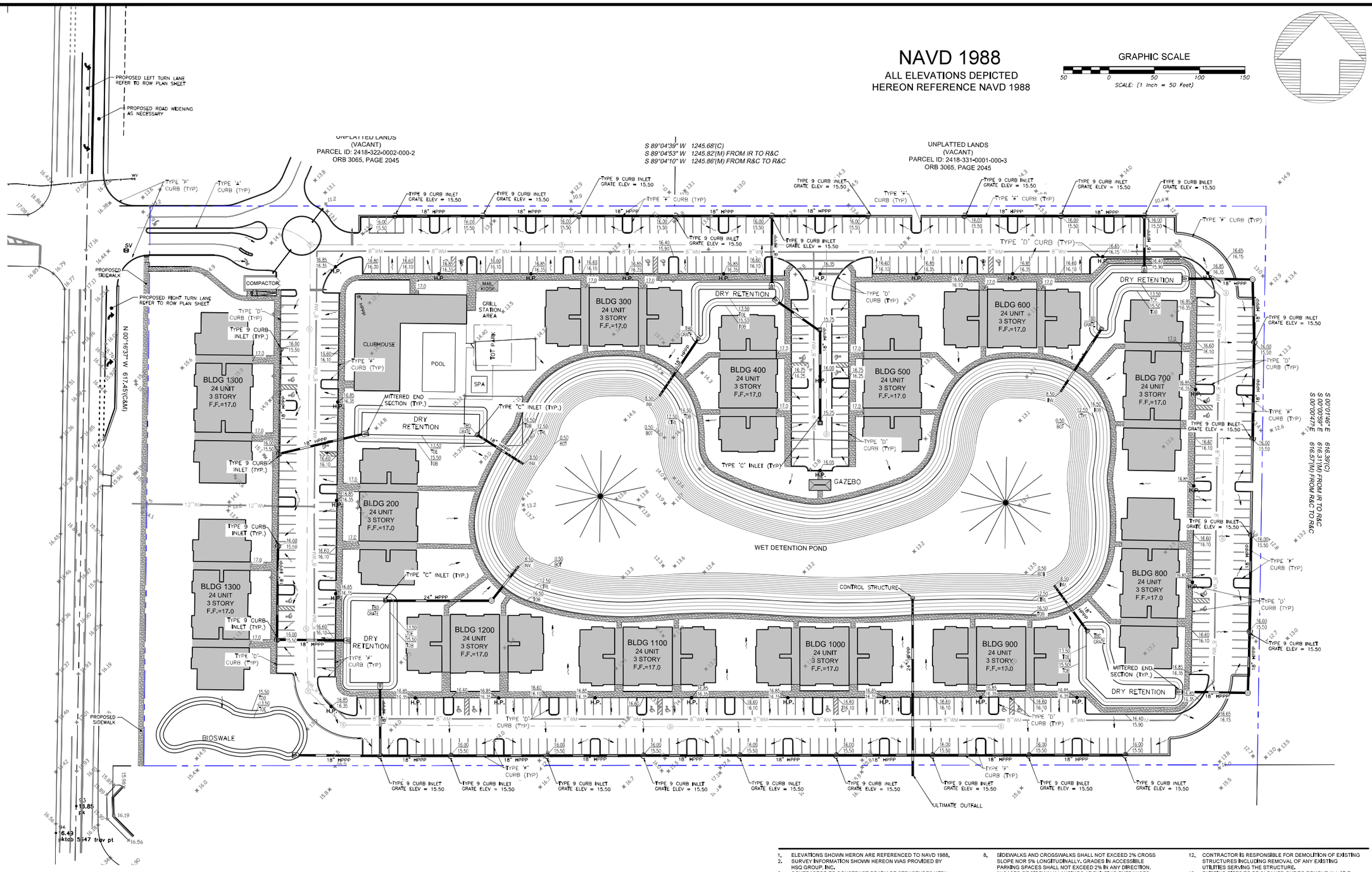
SHEET TITLE:
ROW

SHEET NUMBER:
C-4a



LEGEND

- TYPE "F" CURB AND GUTTER
- TYPE "D CURB
- PERIMETER BERM
- HEAVY DUTY ASPHALT PAVEMENT
- STANDARD DUTY ASPHALT PAVEMENT
- SIDEWALK

DRAINAGE LEGEND

- PROPOSED STORM INLET
- PROPOSED MITERED END SECTION
- PROPOSED DRAINAGE PIPE
- PROPOSED DIRECTION OF SURFACE WATER RUNOFF
- PROPOSED SURFACE ELEVATION
- EXISTING CONTOUR
- PROPOSED PRESERVE AREA SIGN

1. ELEVATIONS SHOWN HERON ARE REFERENCED TO NAVD 1988.
2. SURVEY INFORMATION SHOWN HEREON WAS PROVIDED BY HSQ GROUP, INC.
3. CONTRACTOR TO CONSTRUCT DRAINAGE STRUCTURES WITH USF GRATES, RIMS AND COVERS AS CALLED OUT OR APPROVED EQUAL. SHOP DRAWINGS ARE TO BE PROVIDED TO ENGINEER FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
4. CONTRACTOR TO REFER TO FDOT DESIGN STANDARD (AND NOT LIMITED TO) INDEX'S 200, 201, 210, 211, 214, 232 & 233 FOR MANHOLE, INLET AND GRATE SPECIFICATIONS.
5. ALL DRAINAGE STRUCTURES SHALL BE CONSTRUCTED WITH (4) SIDED BEARING HEAVY DUTY H-20 RATED TRAFFIC RIMS AND GRATES.
6. CONTRACTOR TO VERIFY ALL EXISTING UTILITY RINGS AND COVERS ON SITE ARE HEAVY DUTY TRAFFIC RATED. CONTRACTOR TO REPLACE DEFICIENT RINGS AND COVERS WITH HEAVY DUTY TRAFFIC RATED RINGS AND COVERS. CONTRACTOR TO ADJUST RIM ELEVATIONS OF ANY UTILITIES THAT CHANGE IN ELEVATION DURING CONSTRUCTION.
7. ALL CLEAN-OUT COVERS SHOULD BE RATED FOR HEAVY DUTY TRAFFIC.
8. SIDEWALKS AND CROSSWALKS SHALL NOT EXCEED 2% CROSS SLOPE NOR 5% LONGITUDINALLY. GRADES IN ACCESSIBLE PARKING SPACES SHALL NOT EXCEED 2% IN ANY DIRECTION. IN CASES OF SIDEWALK LANDINGS AT BUILDING ENTRANCES, GRADES SHALL NOT EXCEED 2% IN ANY DIRECTION. ACCESSIBLE CURB RAMPS SHALL NOT EXCEED 6' IN LENGTH AND 1:12 SLOPE. LANDINGS AT CHANGES IN DIRECTION SHALL BE MINIMUM 60"x60" AND SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION.
9. ROOF DRAIN CONNECTIONS TO DRAINAGE PIPE SHALL BE AS FOLLOWS:
   A. FOR ADS N-12 CORRUGATED POLYETHYLENE DRAINAGE PIPE USE ADS DUAL WALL FABRICATED REDUCING SADDLE TEE 4"x24" DIAMETER.
   B. FOR RCP DRAINAGE PIPE MAKE CONNECTION PER FDOT INDEX 280,CONCRETE COLLAR FOR JOINING MAINLINE PIPE AND STUB PIPE DETAIL
   C. NOTIFY CONSULTANT FOR CONNECTION METHOD TO STEEL PIPE.
10. ALL DRAINAGE PIPE JOINTS SHALL BE FILTER FABRIC WRAPPED PER FDOT INDEX #280. ALL DRAINAGE PIPE JOINTS NEED TO BE FILTER FABRIC WRAPPED REGARDLESS OF MATERIAL.
11. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
12. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING STRUCTURES INCLUDING REMOVAL OF ANY EXISTING UTILITIES SERVING THE STRUCTURE.
13. EXISTING PIPES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
14. PRECAST STRUCTURES MAY BE USED AT CONTRACTORS OPTION.
15. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
16. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RINGS & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER".
17. ALL CATCH BASINS WITHIN PROPOSED TRAFFIC AREAS SHALL HAVE BICYCLE PROOF GRATES.
18. CONTRACTOR TO FLUSH AND VACUUM ENTIRE ON-SITE STORM WATER SYSTEM UPON COMPLETION OF PROPOSED WORK.
19. MINIMUM DRAINAGE PIPE SHALL BE 15 INCHES PER CITY OF FORT PIERCE LAND DEVELOPMENT ORDINANCE SEC 119-3 DESIGN STANDARDS; STORMWATER MANAGEMENT; APPROVALS.

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STATE OF FLORIDA · BLAINE ROBERT BERGSTRESSER · LICENSE NO. 84598 · PROFESSIONAL ENGINEER

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PROJECT No.:	23-1011
DRAWN BY:	CRW
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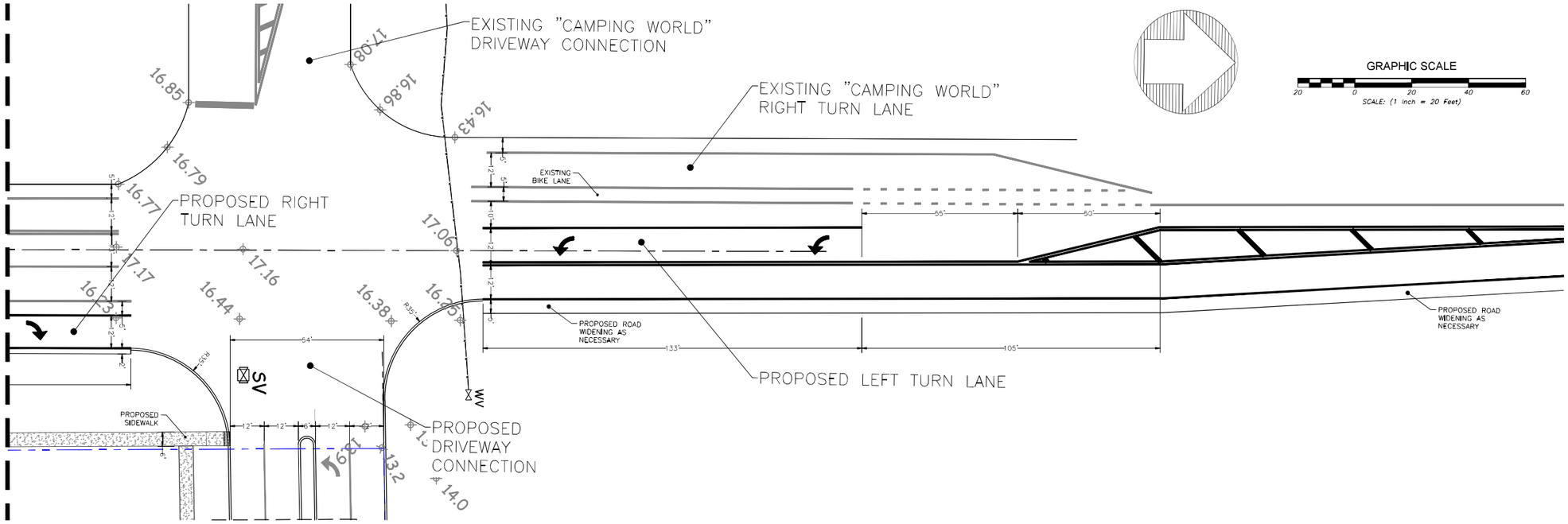
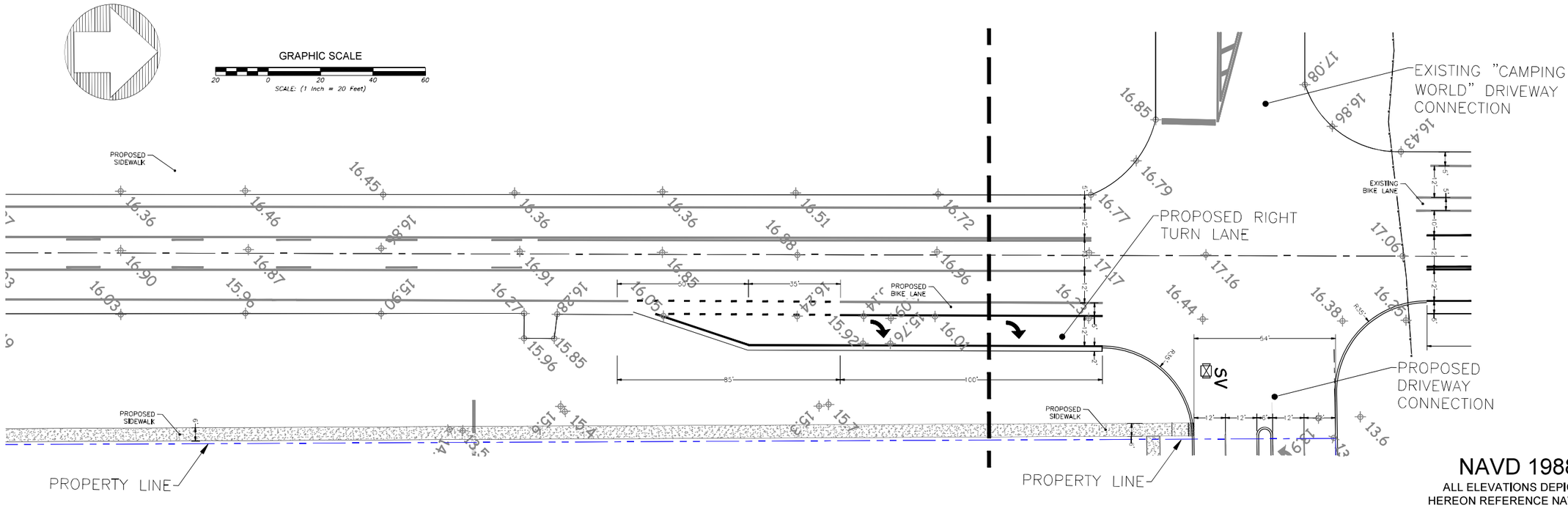
DATE:	08/23/2023

SHEET TITLE:
PGD PLAN

SHEET NUMBER:
C-4





NAVD 1988

ALL ELEVATIONS DEPICTED HEREON REFERENCE NAVD 1988

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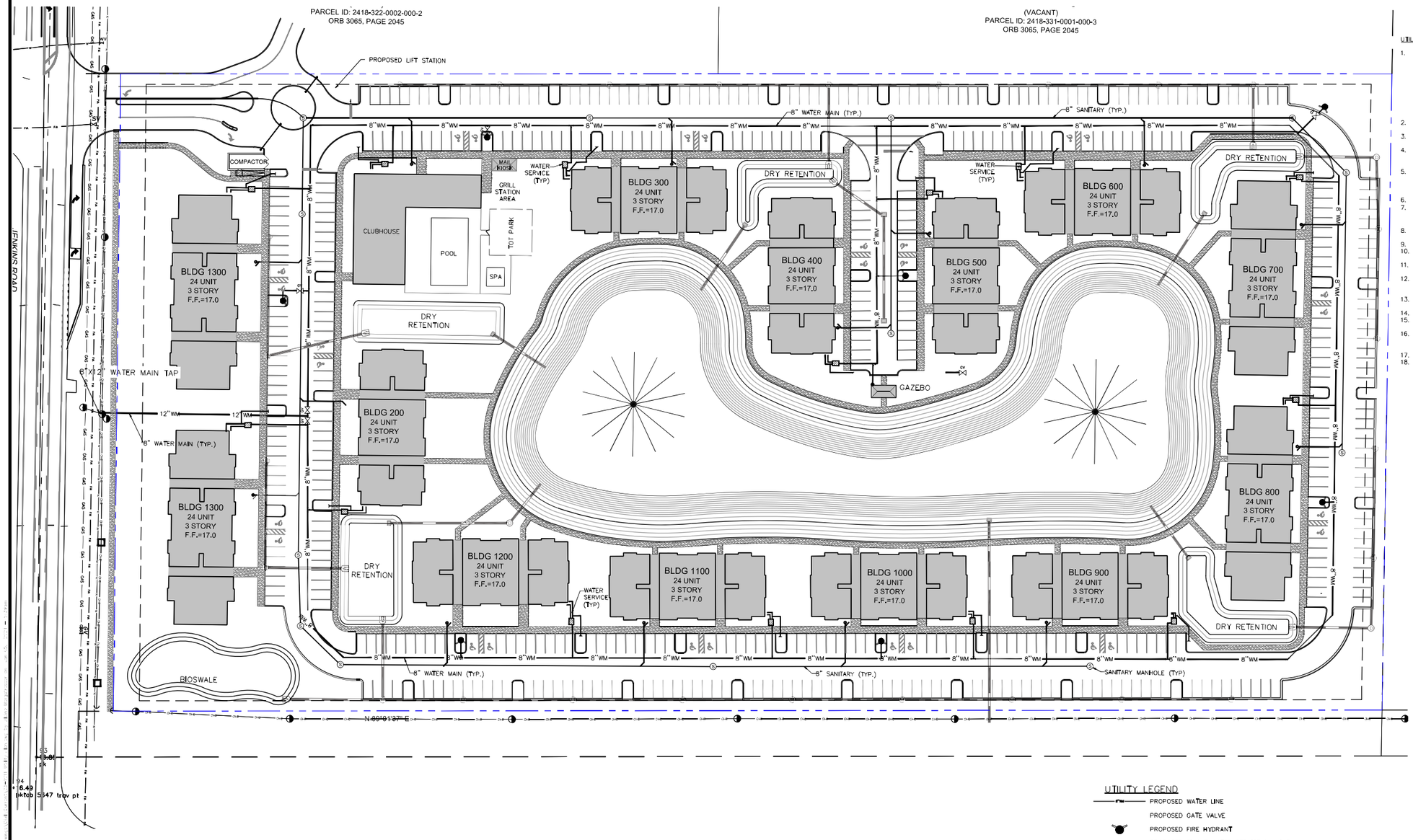
SHEET TITLE:
ROW

SHEET NUMBER:
C-4a

GRAPHIC SCALE

50 0 50 100 150

SCALE: (1 Inch = 50 Feet)

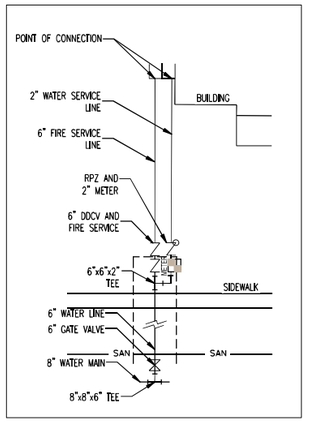


UTILITY NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPREITE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
3. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
4. SANITARY SEWER PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED ON THE PLANS:
   8" PVC SDR26 PER ASTM D 3034 DEPTHS LESS THAN 15'
5. WATER LINES SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED ON PLANS:
   6" AND LARGER, PVC C-900 PER ASTM D 2241 CLASS 200 UNDER ROADS, OTHERWISE CLASS 150
6. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
7. ALL UTILITIES SHOULD BE KEPT TEN (10') APART (PARALLEL) OR WHEN CROSSING 18" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).
8. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 36" COVER ON ALL WATERLINES AND FORCEMAINS.
9. CROSSINGS AND CONFLICTS MUST BE PER FPUA SPECIFICATIONS.
10. LINES UNDERGROUND SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
11. ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 COMPRESSION STRENGTH AT 3000 P.S.I.
12. CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL AUTHORITIES WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
13. ALL WATER MAIN INSTALLATIONS SHALL COMPLY WITH THE COLOR CODING REQUIREMENTS OF CHAPTER 62-555.320 FAC.
14. VALVES ARE NOT TO BE PLACED IN CURBS, SIDEWALKS, OR DRIVEWAYS.
15. ALL MANHOLES SHALL BE ADJUSTED TO FINAL GRADE PRIOR TO BEGINNING PAVING.
16. DRIVEWAY APRON IS SHOWN FOR REFERENCE ONLY. DRIVEWAYS ARE TO BE CONSTRUCTED AND PERMITTED AS PART OF THE BUILDING PERMIT PROCESS.
17. TRACER WIRE MUST BE INSTALLED PER FPUA SPEC./OPL.
18. THE PROPERTY OWNER, CONTRACTOR,AND AUTHORIZED REPRESENTATIVES SHALL PROVIDE PICK UP, REMOVAL, AND DISPOSAL OF LITTER WITHIN THE PROPERTY LIMITS AND SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE AREA FORM THE EDGE OF PAVEMENT TO THE PROPERTY LINE.

UTILITY LEGEND

- PROPOSED WATER LINE
- PROPOSED GATE VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED SINGLE WATER SERVICE (1" LINE W/ 5/8" METER UNLESS OTHERWISE NOTED)
- PROPOSED DOUBLE WATER SERVICE (1.5" LINE W/ (2) 5/8" METERS UNLESS OTHERWISE NOTED)
- PROPOSED SINGLE SEWER SERVICE W/ CO
- PROPOSED DOUBLE SEWER SERVICE W/ CO
- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SEWER
- PROPOSED WATER CAP
- PROPOSED TEE



TYPICAL WATER SERVICE CONNECTIONS

N.T.S.

NAVD 1988

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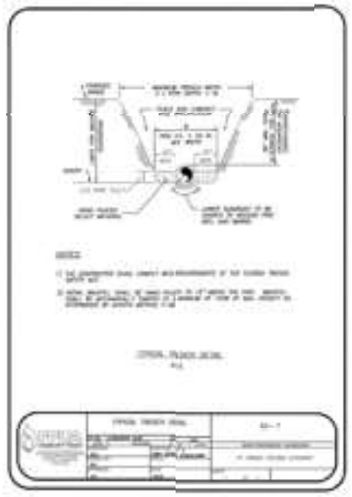
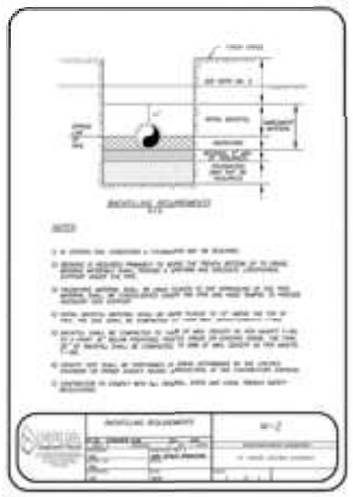
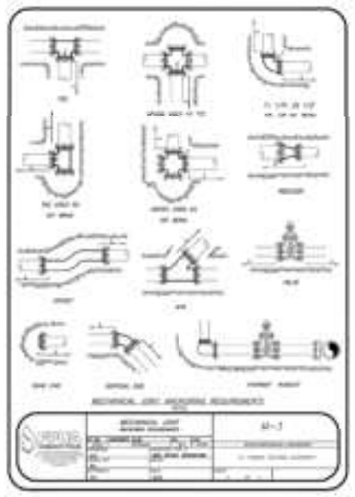
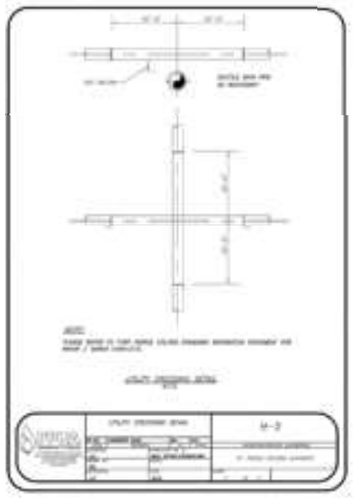
SHEET TITLE:
UTILITIES PLAN

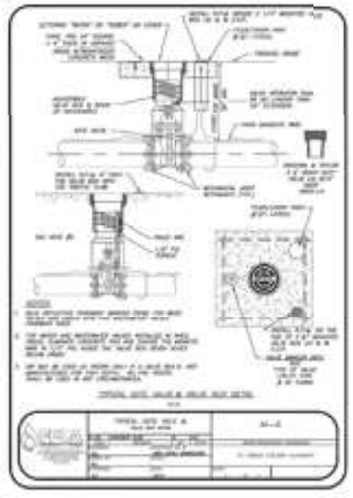
SHEET NUMBER:
C-5

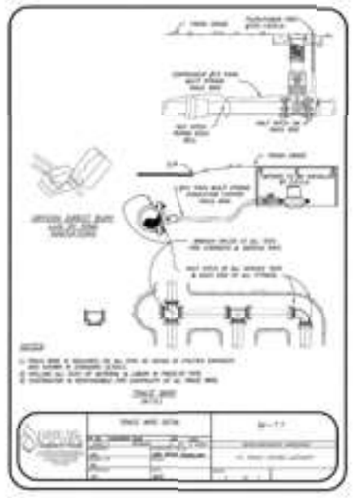


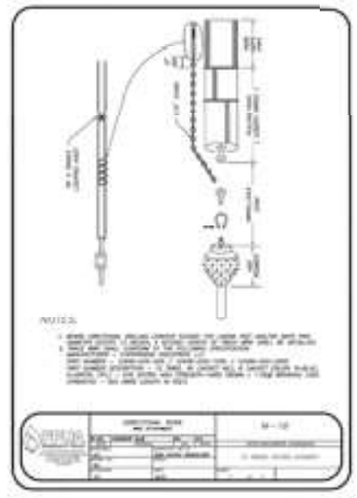












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PROJECT:
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CLIENT:
ALVA STONE GROUP, LLC
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WEST PALM BEACH, FL 33401

BLAINE ROBERT BERGSTRESSER LICENSE NO. 84598 STATE OF FLORIDA PROFESSIONAL ENGINEER

BLAINE BERGSTRESSER, P.E.
FLORIDA LICENSE No. 84598
09/16/2022

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DATE: 08/23/2023

SHEET TITLE:
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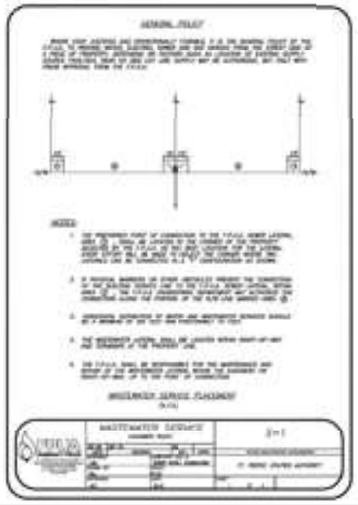

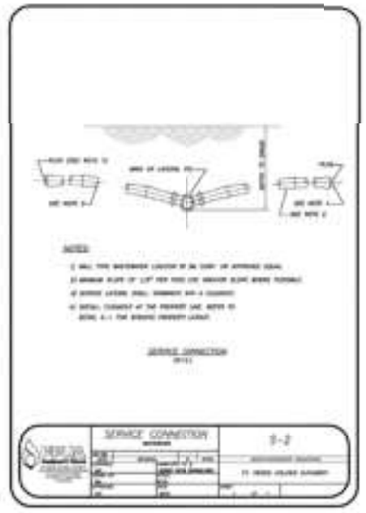

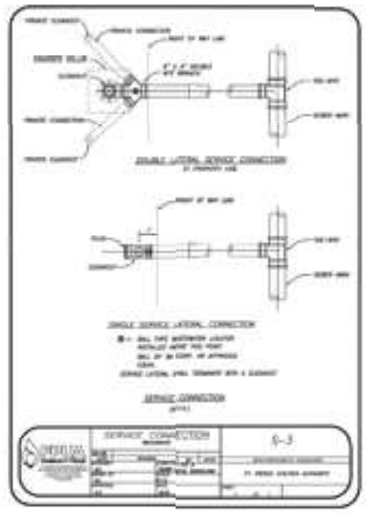

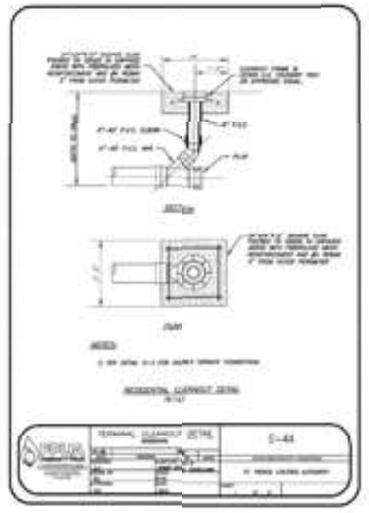

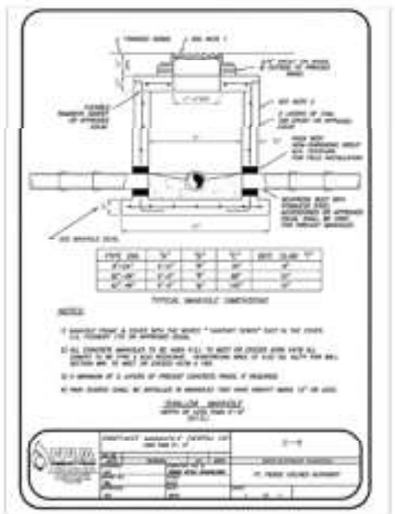

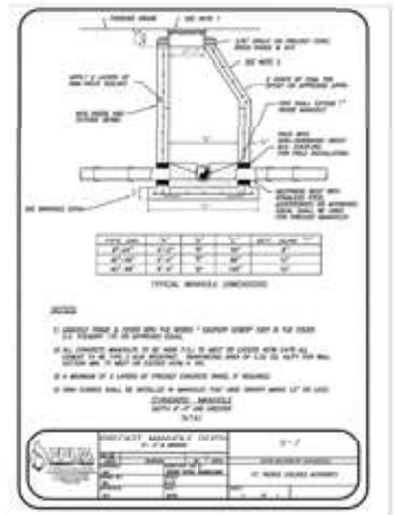

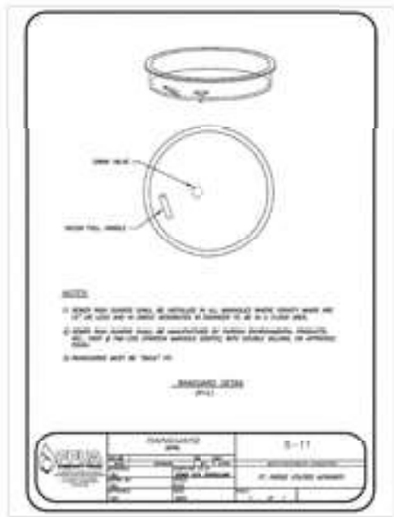

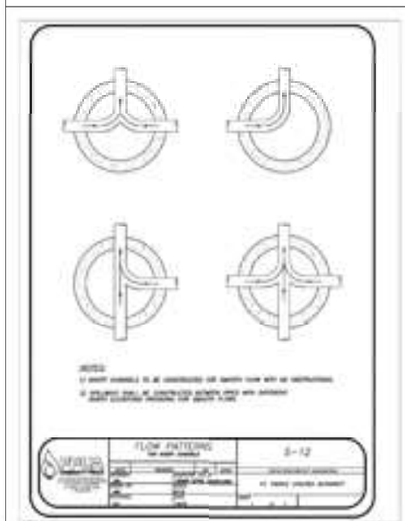

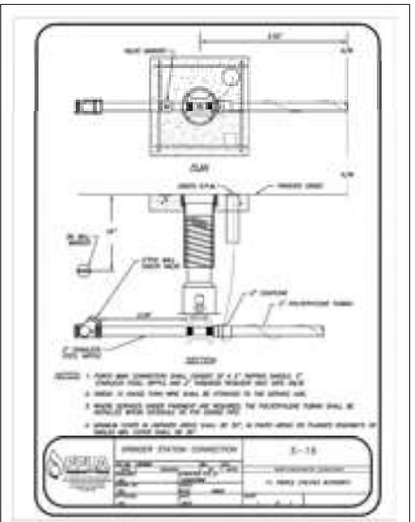

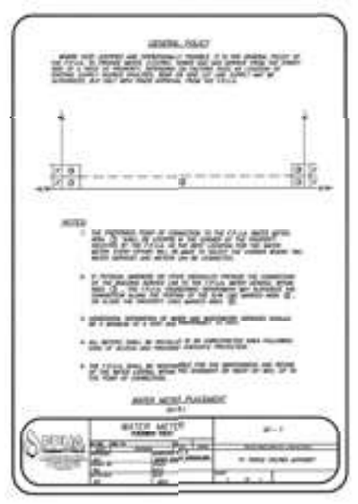

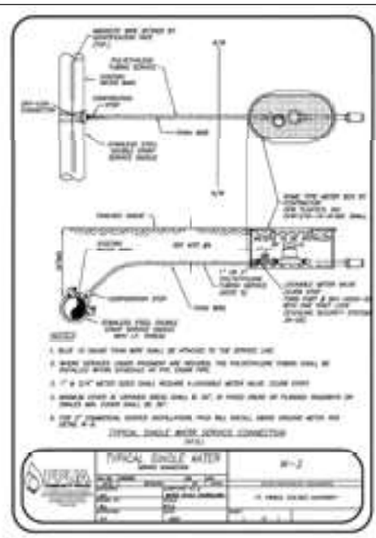

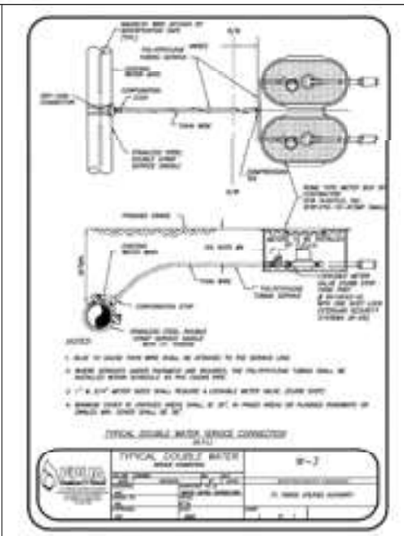

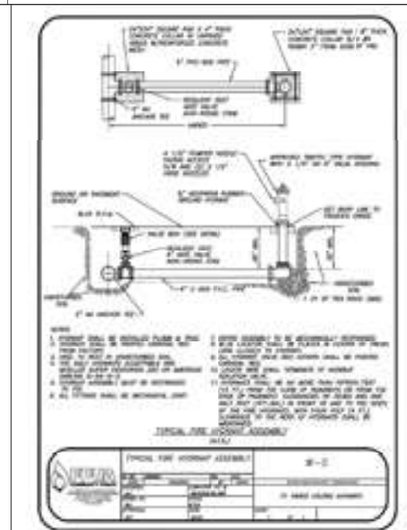

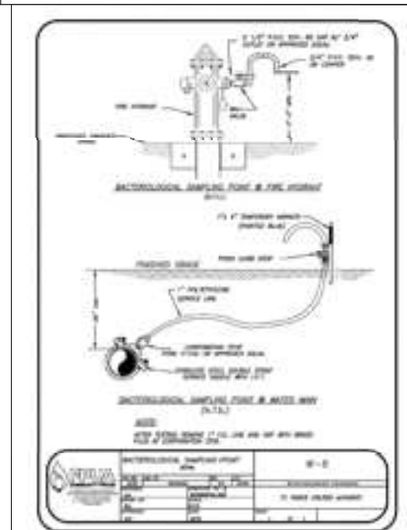

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C-7

GENERAL

1. THE CONTRACTOR AND SUBCONTRACTORS SHALL OBTAIN A COPY OF THE FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" (LATEST EDITION) AND BECOME FAMILIAR WITH THE CONTENTS PRIOR TO COMMENCING WORK, AND, UNLESS OTHERWISE NOTED, ALL WORK SHALL CONFORM AS APPLICABLE TO THESE STANDARDS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES, SPECIFICATIONS AND REQUIREMENTS. CONTRACTOR SHALL CLEAR AND GRUB ALL AREAS UNLESS OTHERWISE INDICATED, REMOVING TREES, STUMPS, ROOTS, MUCK, EXISTING PAVEMENT AND ALL OTHER DELETERIOUS MATERIAL.
3. EXISTING UTILITIES SHOWN ARE LOCATED ACCORDING TO THE INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME OF THE TOPOGRAPHIC SURVEY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE ENGINEER. GUARANTEE IS NOT MADE THAT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN OR THAT THE LOCATION OF THOSE SHOWN ARE ENTIRELY ACCURATE. FINDING THE ACTUAL LOCATION OF ANY EXISTING UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE DONE BEFORE HE COMMENCES ANY WORK IN THE VICINITY. FURTHERMORE, THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES, NOR FOR TEMPORARY BRACING AND SHORING OF SAME. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PROVIDE 48 HOURS MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION. A LIST OF THE UTILITY COMPANIES WHICH THE CONTRACTOR MUST CALL BEFORE COMMENCING WORK IS PROVIDED ON THE COVER SHEET OF THESE CONSTRUCTION PLANS. THIS LIST SERVES AS A GUIDE ONLY AND IS NOT INTENDED TO LIMIT THE UTILITY COMPANIES WHICH THE CONTRACTOR MAY WISH TO NOTIFY.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED CONSTRUCTION PERMITS AND BONDS IF REQUIRED PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE COPY OF THE CONSTRUCTION DOCUMENTS INCLUDING PLANS, SPECIFICATIONS, AND SPECIAL CONDITIONS AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.
7. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE OWNER AND NOTIFICATION TO THE ENGINEER.
8. ALL COPIES OF COMPACTION, CONCRETE AND OTHER REQUIRED TEST RESULTS ARE TO BE SENT TO THE OWNER AND DESIGN ENGINEER OF RECORD DIRECTLY FROM THE TESTING AGENCY.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING TO THE ENGINEER A CERTIFIED RECORD SURVEY SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA DEPICTING THE ACTUAL FIELD LOCATION OF ALL CONSTRUCTED IMPROVEMENTS THAT ARE REQUIRED BY THE JURISDICTIONAL AGENCIES FOR THE CERTIFICATION PROCESS. ALL SURVEY COSTS WILL BE THE CONTRACTORS RESPONSIBILITY.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING AND MAINTAINING AS-BUILT INFORMATION WHICH SHALL BE RECORDED AS CONSTRUCTION PROGRESSES OR AT THE COMPLETION OF APPROPRIATE CONSTRUCTION INTERVALS AND SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS TO THE OWNER FOR THE PURPOSE OF CERTIFICATION TO JURISDICTIONAL AGENCIES AS REQUIRED. ALL AS-BUILT DATA SHALL BE COLLECTED BY A STATE OF FLORIDA PROFESSIONAL LAND SURVEYOR WHOSE SERVICES ARE ENGAGED BY THE CONTRACTOR.
11. ANY WELLS DISCOVERED ON SITE THAT WILL HAVE NO USE MUST BE PLUGGED BY A LICENSED WELL DRILLING CONTRACTOR IN A MANNER APPROVED BY ALL JURISDICTIONAL AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY WELL ABANDONMENT PERMITS REQUIRED.
12. ANY WELL DISCOVERED DURING EARTH MOVING OR EXCAVATION SHALL BE REPORTED TO THE APPROPRIATE JURISDICTIONAL AGENCIES WITHIN 24 HOURS AFTER DISCOVERY IS MADE.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK THAT WOULD BE AFFECTED. FAILURE TO NOTIFY OWNER OF AN IDENTIFIABLE CONFLICT PRIOR TO PROCEEDING WITH INSTALLATION RELIEVES OWNER OF ANY OBLIGATION TO PAY FOR A RELATED CHANGE ORDER.

EROSION CONTROL

1. THE STORM WATER POLLUTION PREVENTION PLAN ("SWPPP") IS COMPRISED OF THE EROSION CONTROL PLAN, THE STANDARD DETAILS, THE PLAN NARRATIVE, ATTACHMENTS INCLUDED IN SPECIFICATIONS OF THE SWPPP, PLUS THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.
2. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE OF FLORIDA NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.
3. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST TO THE OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
4. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY THE PERMITTING AGENCY OR OWNER.
5. EROSION CONTROL PLAN MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.
6. THE CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.
7. CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.
8. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
9. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL ON SITE. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
11. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
12. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THE PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.
13. STABILIZATION PRACTICES SHOULD BE INITIATED AS SOON AS PRACTICAL, BUT IN NO CASE MORE THAN 7 DAYS WHERE CONSTRUCTION HAS TEMPORARILY CEASED.
14. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRED IN THESE AREAS. REFER TO SECTION 981 OF THE STANDARD SPECIFICATIONS FOR SEEDING AND MAINTENANCE REQUIREMENTS.
15. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
16. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED AS SOON AS POSSIBLE.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
18. ON-SITE & OFF SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE EROSION CONTROL PLAN AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
19. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
20. DUE TO GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION.
21. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY, THIS INCLUDES BACK FILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.

POTABLE WATER AND SANITARY SEWER SYSTEM

1. THE CONTRACTOR SHALL CONSTRUCT GRAVITY SEWER LATERALS, MANHOLES GRAVITY SEWER LINES AND DOMESTIC WATER AND FIRE PROTECTION SYSTEM AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIALS, EQUIPMENT, MACHINERY, TOOLS, MEANS OF TRANSPORTATION AND LABOR NECESSARY TO COMPLETE THE WORK IN FULL AND COMPLETE ACCORDANCE WITH THE SHOWN, DESCRIBED AND REASONABLY INTENDED REQUIREMENTS OF THE CONTRACT DOCUMENTS AND JURISDICTIONAL AGENCY REQUIREMENTS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
2. ALL EXISTING UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS FOR UTILITY LOCATION AND COORDINATION IN ACCORDANCE WITH THE NOTES CONTAINED IN THE GENERAL CONSTRUCTION SECTION OF THIS SHEET.
3. THE CONTRACTOR SHALL RESTORE ALL DISTURBED VEGETATION IN KIND, UNLESS SHOWN OTHERWISE.
4. DEFLECTION OF PIPE JOINTS AND CURVATURE OF PIPE SHALL NOT EXCEED THE MANUFACTURER'S SPECIFICATIONS. SECURELY CLOSE ALL OPEN ENDS OF PIPE AND FITTINGS WITH A WATERTIGHT PLUG WHEN WORK IS NOT IN PROGRESS. THE INTERIOR OF ALL PIPES SHALL BE CLEAN AND JOINT SURFACES WIPED CLEAN AND DRY AFTER THE PIPE HAS BEEN LOWERED INTO THE TRENCH. VALVES SHALL BE PLUMB AND LOCATED ACCORDING TO THE PLANS.
5. ALL PHASES OF INSTALLATION, INCLUDING UNLOADING, TRENCHING, LAYING AND BACK FILLING, SHALL BE DONE IN A FIRST CLASS WORKMANLIKE MANNER. ALL PIPE AND FITTINGS SHALL BE CAREFULLY STORED FOLLOWING MANUFACTURER'S RECOMMENDATIONS. CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE COATING OR LINING IN ANY D.I. PIPE FITTINGS. ANY PIPE OR FITTING WHICH IS DAMAGED OR WHICH HAS FLAWS OR IMPERFECTIONS WHICH, IN THE OPINION OF THE ENGINEER OR OWNER, RENDERS IT UNFIT FOR USE, SHALL NOT BE USED. ANY PIPE NOT SATISFACTORY FOR USE SHALL BE CLEARLY MARKED AND IMMEDIATELY REMOVED FROM THE JOB SITE, AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
6. WATER FOR FIRE FIGHTING SHALL BE AVAILABLE FOR USE PRIOR TO COMBUSTIBLES BEING BROUGHT ON SITE.
7. ALL UTILITY AND STORM DRAIN TRENCHES LOCATED UNDER AREAS TO RECEIVE PAVING SHALL BE COMPLETELY BACK FILLED IN ACCORDANCE WITH THE GOVERNING JURISDICTIONAL AGENCY'S SPECIFICATIONS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
8. UNDERGROUND LINES SHALL BE SURVEYED BY A STATE OF FLORIDA PROFESSIONAL LAND SURVEYOR PRIOR TO BACK FILLING.
9. CONTRACTOR SHALL PERFORM, AT HIS OWN EXPENSE, ANY AND ALL TESTS REQUIRED BY THE SPECIFICATIONS AND/OR ANY AGENCY HAVING JURISDICTION. THESE TESTS MAY INCLUDE, BUT MAY NOT BE LIMITED TO, INFILTRATION AND EXFILTRATION, TELEVISION INSPECTION AND A MANDREL TEST ON GRAVITY SEWER. A COPY OF THE TEST RESULTS SHALL BE PROVIDED TO THE UTILITY PROVIDER, OWNER AND JURISDICTIONAL AGENCY AS REQUIRED.

MAINTENANCE

ALL MEASURES STATED ON THE EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A 0.5" RAINFALL EVENT, AND CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

1. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.
2. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED AND RESEEDED AS NEEDED. FOR MAINTENANCE REQUIREMENTS REFER TO SECTION 981 OF THE OF THE FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" (LATEST EDITION).
3. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.
4. THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.
5. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.
6. OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED TO 55 CUBIC YARDS / ACRE.
7. ALL MAINTENANCE OPERATIONS SHALL BE DONE IN A TIMELY MANNER BUT IN NO CASE LATER THAN 2 CALENDAR DAYS FOLLOWING THE INSPECTION.

STORM DRAINAGE SYSTEM

1. STANDARD INDEXES REFER TO THE 2021/2022 EDITION OF F.D.O.T. "STANDARD PLANS FOR ROADWAY CONSTRUCTION"

2. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE CLASS III (ASTM C-76) UNLESS OTHERWISE NOTED ON PLANS. ALL DRAINAGE STRUCTURES SHALL BE IN ACCORDANCE WITH F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS UNLESS OTHERWISE NOTED ON PLANS.

3. PIPE LENGTHS SHOWN ARE APPROXIMATE AND TO CENTER OF DRAINAGE STRUCTURES, WITH THE EXCEPTION OF MITERED END AND FLARED END SECTIONS, WHICH ARE NOT INCLUDED IN LENGTHS.

4. ALL DRAINAGE STRUCTURE GRATES AND COVERS, EITHER EXISTING OR PROPOSED SHALL BE TRAFFIC RATED FOR H-20 LOADINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY UPGRADES TO EXISTING DRAINAGE STRUCTURES.

5. CONSTRUCTION OF THE ENTIRE STORMWATER MANAGEMENT SYSTEM SHOWN ON THE PLANS MUST BE COMPLETE AND ALL DISTURBED AREAS STABILIZED IN ACCORDANCE WITH THE PERMITTED PLANS AND CONDITIONS PRIOR TO ANY OF THE FOLLOWING: ISSUANCE OF THE FIRST CERTIFICATE OF OCCUPANCY FOR ANY LOT; INITIATION OF INTENDED USE OF THE INFRASTRUCTURE; OR TRANSFER OF RESPONSIBILITY FOR MAINTENANCE OF THE SYSTEM TO A LOCAL GOVERNMENT OR OTHER RESPONSIBLE ENTITY.

6. THE CONTRACTOR SHALL INSTALL ALL UNDERGROUND STORM WATER PIPING PER JURISDICTION REGULATIONS (MANUFACTURER'S RECOMMENDATIONS SHALL BE UTILITIZED IF MORE STRINGENT).

7. STORM WATER PIPES, STRUCTURES, MINIMUM COVER AND INSTALLATION PROCEDURES TO BE IN ACCORDANCE WITH SOUTH FLORIDA WATER MANAGEMENT DISTRICT STANDARDS.

PAVING/GRADING TESTING AND INSPECTION

1. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING APPLICABLE TESTING WITH THE SOILS ENGINEER. TESTS WILL BE REQUIRED PURSUANT WITH THE SOILS REPORT. UPON COMPLETION OF WORK THE SOILS ENGINEER WILL SUBMIT CERTIFICATIONS TO THE OWNER AND OWNER'S ENGINEER STATING THAT ALL REQUIREMENTS HAVE BEEN MET.

2. A QUALIFIED TESTING LABORATORY SHALL PERFORM ALL TESTING NECESSARY TO ASSURE COMPLIANCE OF THE IN-PLACE MATERIALS AS REQUIRED BY THESE PLANS AND GEOTECHNICAL REPORT, THE VARIOUS AGENCIES AND PERMIT CONDITIONS. SHOULD ANY RETESTING BE REQUIRED DUE TO THE FAILURE OF ANY TESTS TO MEET THESE REQUIREMENTS, THE CONTRACTOR WILL BEAR ALL COSTS OF SAID RETESTING.

DRAINAGE SYSTEM TESTING AND INSPECTION

1. THE STORM DRAINAGE PIPING SYSTEM SHALL BE SUBJECT TO A VISUAL INSPECTION BY THE OWNER'S ENGINEER PRIOR TO THE PLACEMENT OF BACKFILL. CONTRACTOR TO NOTIFY THE ENGINEER 2 FULL BUSINESS DAYS IN ADVANCE TO SCHEDULE INSPECTION.

2. THE CONTRACTOR SHALL MAINTAIN AND PROTECT FROM MUD, DIRT, DEBRIS, ETC. THE STORM DRAINAGE SYSTEM UNTIL FINAL ACCEPTANCE OF THE PROJECT. THE STORM SYSTEM WILL BE REINSPECTED BY THE OWNER'S ENGINEER PRIOR TO APPROVAL FOR CERTIFICATE OF OCCUPANCY PURPOSES. THE CONTRACTOR MAY BE REQUIRED TO RECLEAN PIPES AND INLETS AT THE CONTRACTORS EXPENSE AND PRIOR TO FINAL ACCEPTANCE.

PAVING, GRADING AND DRAINAGE

1. ALL PAVING, CONSTRUCTION, MATERIALS, AND WORKMANSHIP WITHIN COUNTY'S RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH LOCAL OR COUNTY SPECIFICATIONS AND STANDARDS (LATEST EDITION) OR FDOT SPECIFICATIONS AND STANDARDS (LATEST EDITION) IF NOT COVERED BY LOCAL OR COUNTY REGULATIONS.
2. ALL UNPAVED AREAS IN EXISTING RIGHTS-OF-WAY DISTURBED BY CONSTRUCTION SHALL BE REGRADED AND SODDED.
3. TRAFFIC CONTROL ON ALL FDOT, LOCAL AND COUNTY RIGHTS-OF-WAY SHALL MEET THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (U.S. DOT/FHA) AND THE REQUIREMENTS OF THE STATE AND ANY LOCAL AGENCY HAVING JURISDICTION. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
4. THE CONTRACTOR SHALL GRADE THE SITE TO THE ELEVATIONS INDICATED AND SHALL REGRADE WASHOUTS WHERE THEY OCCUR AFTER EVERY RAINFALL UNTIL A GRASS STAND IS WELL ESTABLISHED OR ADEQUATE STABILIZATION OCCURS.
5. ALL OPEN AREAS WITHIN THE PROJECT SITE SHALL BE SODDED UNLESS INDICATED OTHERWISE ON THE LANDSCAPE PLAN.
6. ALL AREAS INDICATED AS PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TYPICAL PAVEMENT SECTIONS AS INDICATED ON THE DRAWINGS.
7. WHERE EXISTING PAVEMENT IS INDICATED TO BE REMOVED AND REPLACED, THE CONTRACTOR SHALL SAW CUT A MINIMUM 2" DEEP FOR A SMOOTH AND STRAIGHT JOINT AND REPLACE THE PAVEMENT WITH THE SAME TYPE AND DEPTH OF MATERIAL AS EXISTING OR AS INDICATED.
8. WHERE NEW PAVEMENT MEETS THE EXISTING PAVEMENT, THE CONTRACTOR SHALL SAW CUT THE EXISTING PAVEMENT A MINIMUM 2" DEEP FOR A SMOOTH AND STRAIGHT JOINT AND MATCH THE EXISTING PAVEMENT ELEVATION WITH THE PROPOSED PAVEMENT UNLESS OTHERWISE INDICATED.
9. THE CONTRACTOR SHALL INSTALL FILTER FABRIC OVER ALL DRAINAGE STRUCTURES FOR THE DURATION OF CONSTRUCTION AND UNTIL ACCEPTANCE OF THE PROJECT BY THE OWNER. ALL DRAINAGE STRUCTURES SHALL BE CLEANED OF DEBRIS AS REQUIRED DURING AND AT THE END OF CONSTRUCTION TO PROVIDE POSITIVE DRAINAGE FLOWS.
10. IF DEWATERING IS REQUIRED, THE CONTRACTOR SHALL OBTAIN ANY APPLICABLE REQUIRED PERMITS. THE CONTRACTOR IS TO COORDINATE WITH THE OWNER AND THE DESIGN ENGINEER PRIOR TO ANY EXCAVATION.
11. STRIP TOPSOIL AND ORGANIC MATTER FROM ALL AREAS OF THE SITE AS REQUIRED. IN SOME CASES TOPSOIL MAY BE STOCKPILED ON SITE FOR PLACEMENT WITHIN LANDSCAPED AREAS BUT ONLY AS DIRECTED BY THE OWNER.
12. FIELD DENSITY TESTS SHALL BE TAKEN AT INTERVALS IN ACCORDANCE WITH THE LOCAL JURISDICTIONAL AGENCY OR TO FDOT STANDARDS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
13. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED AS PER PLANS. THE AREAS SHALL THEN BE SODDED OR SEEDED AS SPECIFIED IN THE PLANS, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL AREAS. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE JOB SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. ALL EARTHEN AREAS WILL BE SODDED OR SEEDED AND MULCHED AS SHOWN ON THE LANDSCAPING PLAN.
14. ALL CUT OR FILL SLOPES SHALL BE 4 (HORIZONTAL) :1 (VERTICAL) OR FLATTER UNLESS OTHERWISE SHOWN.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST AND DIRT RISING AND SCATTERING IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER SPRINKLING OR OTHER SUITABLE METHODS OF CONTROL. THE CONTRACTOR SHALL COMPLY WITH ALL GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
16. THE CONTRACTOR SHALL TAKE ALL REQUIRED MEASURES TO CONTROL TURBIDITY, INCLUDING BUT NOT LIMITED TO THE INSTALLATION OF TURBIDITY BARRIERS AT ALL LOCATIONS WHERE THE POSSIBILITY OF TRANSFERRING SUSPENDED SOLIDS INTO THE RECEIVING WATER BODY EXISTS DUE TO THE PROPOSED WORK. TURBIDITY BARRIERS MUST BE MAINTAINED IN EFFECTIVE CONDITION AT ALL LOCATIONS UNTIL CONSTRUCTION IS COMPLETED AND DISTURBED SOIL AREAS ARE STABILIZED. THEREAFTER, THE CONTRACTOR MUST REMOVE THE BARRIERS. AT NO TIME SHALL THERE BE ANY OFF-SITE DISCHARGE WHICH VIOLATES THE WATER QUALITY STANDARDS IN CHAPTER 17-302, FLORIDA ADMINISTRATIVE CODE.
17. SOD, WHERE CALLED FOR, MUST BE INSTALLED AND MAINTAINED ON EXPOSED SLOPES WITHIN 48 HOURS OF COMPLETING FINAL GRADING, AND AT ANY OTHER TIME AS NECESSARY, TO PREVENT EROSION, SEDIMENTATION OR TURBID DISCHARGES.
18. THE CONTRACTOR MUST REVIEW AND MAINTAIN A COPY OF THE ENVIRONMENTAL RESOURCE PERMIT COMPLETE WITH ALL CONDITIONS, ATTACHMENTS, EXHIBITS, AND PERMIT MODIFICATIONS IN GOOD CONDITION AT THE CONSTRUCTION SITE. THE COMPLETE PERMIT MUST BE AVAILABLE FOR REVIEW UPON REQUEST BY WATER MANAGEMENT DISTRICT REPRESENTATIVES.
19. THE CONTRACTOR SHALL ENSURE THAT ISLAND PLANTING AREAS AND OTHER PLANTING AREAS ARE NOT COMPACTED AND DO NOT CONTAIN ROAD BASE MATERIALS. THE CONTRACTOR SHALL ALSO EXCAVATE AND REMOVE ALL UNDESIRABLE MATERIAL FROM ALL AREAS ON THE SITE TO BE PLANTED AND PROPERLY DISPOSED OF IN A LEGAL MANNER.
20. THE CONTRACTOR SHALL INSTALL ALL UNDERGROUND STORM WATER PIPING PER MANUFACTURER'S RECOMMENDATIONS.

DEMOLITION

1. CONTRACTOR SHALL SUBMIT DEMOLITION SCHEDULE TO OWNER PRIOR TO PROCEEDING WITH DEMOLITION ACTIVITIES.
2. EXTENT OF SITE CLEARING IS SHOWN ON DRAWINGS.
3. CONTRACTOR SHALL CONDUCT SITE DEMOLITION OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS OR OTHER OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM AUTHORITIES HAVING JURISDICTION.
4. CONTRACTOR SHALL PROVIDE PROTECTION NECESSARY TO PREVENT DAMAGE TO EXISTING IMPROVEMENTS INDICATED ON PLAN "EXISTING TO REMAIN".
5. CONTRACTOR SHALL RESTORE DAMAGED IMPROVEMENTS TO THEIR ORIGINAL CONDITION, AS ACCEPTABLE TO PARTIES HAVING JURISDICTION.
6. CONTRACTOR SHALL REMOVE WASTE MATERIALS AND UNSUITABLE AND EXCESS TOPSOIL FROM PROPERTY AND DISPOSE OF OFF-SITE IN A LEGAL MANNER.
7. CONTRACTOR SHALL DEMOLISH AND COMPLETELY REMOVE FROM SITE MATERIAL INDICATED ON PLAN OR NOTES "TO BE REMOVED".
8. CONTRACTOR SHALL PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS CREATED BY THE DEMOLITION OPERATION
9. ALL MATERIAL REMOVED FROM THIS SITE BY THE CONTRACTOR SHALL BE DISPOSED OF BY THE CONTRACTOR IN A LEGAL MANNER.
10. REFER TO THE TOPOGRAPHIC SURVEY FOR ADDITIONAL DETAILS OF EXISTING STRUCTURES, ETC., LOCATED WITHIN THE PROJECT SITE. UNLESS OTHERWISE NOTED, ALL EXISTING BUILDINGS, STRUCTURES, SLABS, CONCRETE, ASPHALT, DEBRIS PILES, SIGNS, AND ALL APPURTENANCES ARE TO BE REMOVED FROM THE SITE BY THE CONTRACTOR AND PROPERLY DISPOSED OF IN A LEGAL MANNER AS PART OF THIS CONTRACT. SOME ITEMS TO BE REMOVED MAY NOT BE DEPICTED ON THE TOPOGRAPHIC SURVEY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND DETERMINE THE FULL EXTENT OF ITEMS TO BE REMOVED. IF ANY ITEMS ARE IN QUESTION, THE CONTRACTOR SHALL CONTACT THE OWNER PRIOR TO REMOVAL OF SAID ITEMS.
11. THE CONTRACTOR SHALL REFER TO THE DEMOLITION PLAN FOR DEMOLITION/PRESERVATION OF EXISTING TREES. ALL TREES NOT SPECIFICALLY SHOWN TO BE PRESERVED OR RELOCATED SHALL BE REMOVED AS A PART OF THIS CONTRACT. TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO ANY DEMOLITION.

KMA
ENGINEERING & SURVEYING, LLC
3001 INDUSTRIAL 2 AVE
FT. PIERCE, FL 34946
PHONE: (772) 569-5505
FBPE C.O.A. # 33705

REVISIONS: BY: DATE: COMMENT:

NOT FOR CONSTRUCTION

PROJECT:
REGATTA APARTMENTS
2152 SOUTH JENKINS ROAD
FT. PIERCE, FL 34947

CLIENT:
ALVA STONE GROUP, LLC
591 EVERNIA STREET
WEST PALM BEACH, FL 33401

NO. 84598

BLAINE BERGSTRESSER, P.E.
FLORIDA LICENSE No. 84598
09/16/2022

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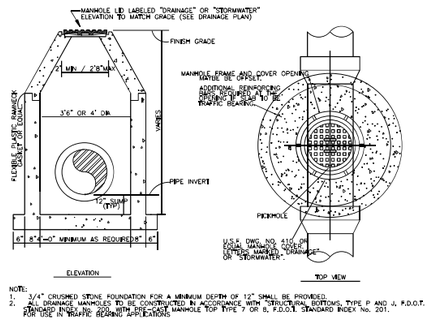
PROJECT No.: 23-1011
DRAWN BY: CRW
CHECKED BY: BRB
DATE: 08/23/2023

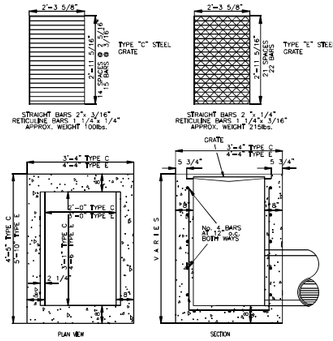
SHEET TITLE:
NOTES

SHEET NUMBER:
C-8

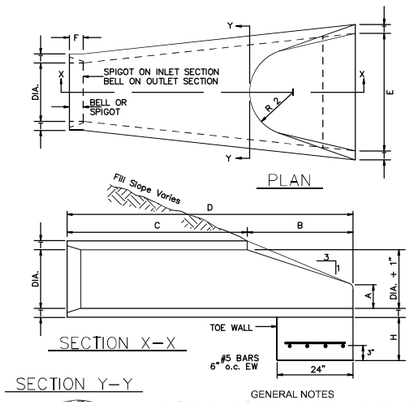


NOTE:
1. 3/4" CRUSHED STONE FOUNDATION FOR A MINIMUM DEPTH OF 12" SHALL BE PROVIDED.
2. ALL DRAINAGE MANHOLES TO BE CONSTRUCTED IN ACCORDANCE WITH "STRUCTURAL BOTTOMS, TYPE P AND J, F.D.O.T. STANDARD INDEX No. 200, WITH TYPE-C-SAF MANHOLE TOP TYPE 7 OR 8, F.D.O.T. STANDARD INDEX No. 201. FOR USE IN TRAFFIC BEARING APPLICATIONS

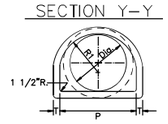
DRAINAGE JUNCTION BOX
N.T.S.



TYPE 'C' & 'E' INLETS
N.T.S.



SECTION Y-Y



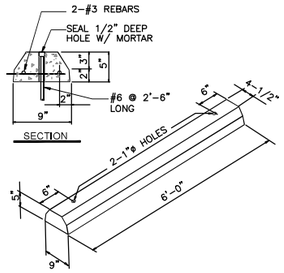
GENERAL NOTES

1. End sections shall conform to standard strength reinforced concrete pipe of like diameter as per Standard Specifications.
2. Joint between end section & pipe culvert to be made by reinforced concrete collar or cold adhesive preformed plastic casket.
3. End sections to be used only when specified on the plans or at locations as directed by the Engineer.
4. Toe wall to be constructed when shown on the plans or designated by the Engineer.

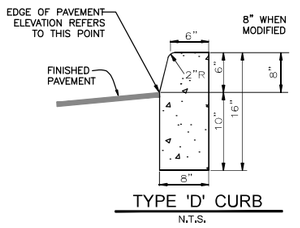
DIA.	T	BELL OR SPIGOT	A	B	C	D	E	P	R 1	R 2	F	H	WEIGHT (LBS.)
15"	2 1/4"	2"	6"	2'-3"	3'-10"	6'-1"	2'-6"	24 5/16	12 1/2"	11"	3 1/2"	24"	740
18"	2 1/2"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	29"	15 1/2"	12"	4"	24"	990
24"	3"	2 1/2"	9 1/2"	3'-6"	2'-6"	6'-2"	4'-0"	33 3/16"	16 1/8"	14"	4 1/2"	24"	1520

FLARED END SECTION DETAILS & NOTES
N.T.S.

STREET SIGN DETAIL
N.T.S.



PRECAST CONCRETE WHEEL STOP DETAIL
N.T.S.



TYPE 'D' CURB
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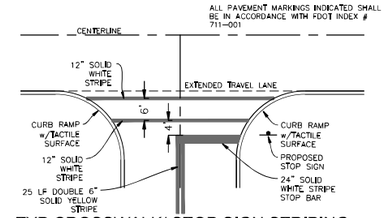
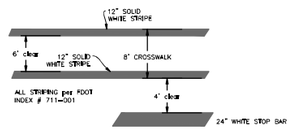
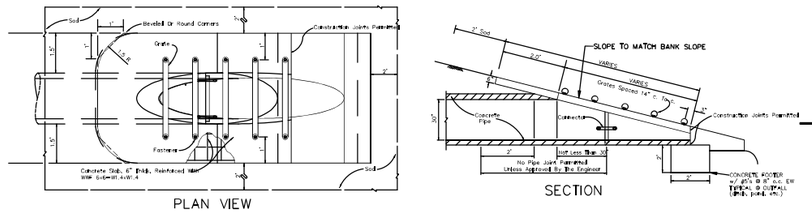


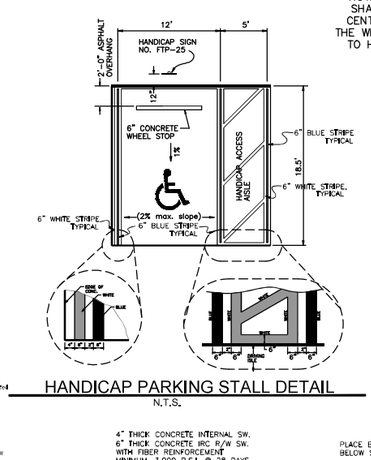
TYP CROSSWALK/ STOP SIGN STRIPING
N.T.S.



TYP PEDESTRIAN STRIPING DETAIL
N.T.S.

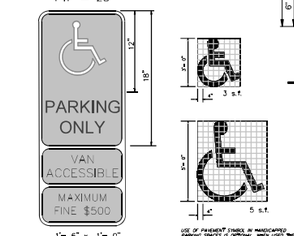


MITERED END SECTION (M.E.S.) DETAILS
N.T.S.

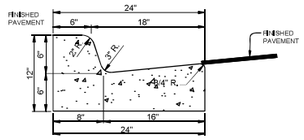


HANDICAP PARKING STALL DETAIL
N.T.S.

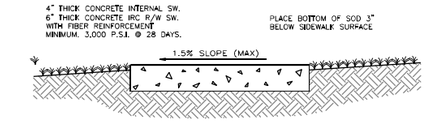
NOTE: PARKING STALL WIDTHS SHALL BE DIMENSIONED FROM CENTERLINE TO CENTERLINE OF THE WHITE STRIPES. THIS APPLIES TO HANDICAP PARKING STALLS ALSO.



HANDICAP SIGNAGE & PAVEMENT SYMBOLS DETAIL
N.T.S.



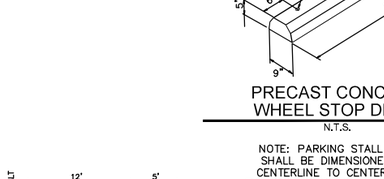
TYPE 'F' CURB
N.T.S.



SIDEWALK DETAIL
N.T.S.

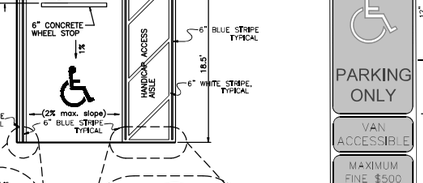
SIDEWALK NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES SHALL BE IN ACCORDANCE WITH THE "SUGGESTED SPECIFICATIONS FOR CONCRETE AREAS" PREPARED BY THE PORTLAND CEMENT ASSOCIATION.
2. CONTROL JOINTS SHALL BE CONSTRUCTED AT A MAXIMUM OF 8-FEET.
3. AT LEAST THREE (3) COMPRESSIVE STRENGTH CYLINDER SAMPLES SHALL BE TAKEN FOR EACH 10,000 SQUARE FEET OF PAVEMENT OR FIVE (5) PER JOB, WHICHEVER IS GREATER. SLUMP SHALL BE 2 TO 4 INCHES (AASHTO T-119). COMPRESSIVE STRENGTH SHALL BE REPORTED AT 7, 14, AND 28 DAYS.
4. CONSTRUCT UPON FIRM, STABILIZED GROUND, COMPACTED TO 95% MAXIMUM DRY DENSITY.
5. SURFACE WITH BROOM FINISH.
6. SIDEWALK LOCATION AND DETAILS PER FDOT INDEX #310, LATEST EDITION.

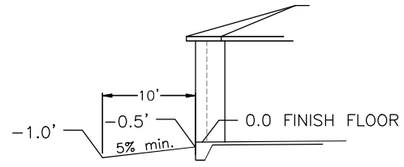


NOTE: ALL NEW PAVEMENT JOINTS SHALL INCLUDE A MIN. 12" WIDE ASPHALT OVERLAY OVER EXISTING BASE AND A MIN. 12" DEEP BASE FOR THE FIRST 2 FEET OF NEW CONSTRUCTION.

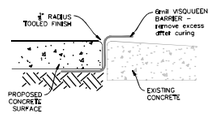
SAW CUT DETAIL
N.T.S.



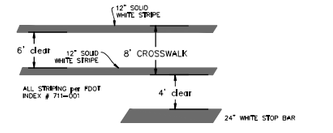
TYPICAL INVERTED ROADWAY SECTION
N.T.S.



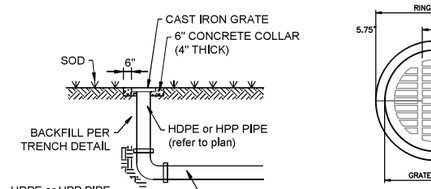
TYPICAL BUILDING GRADING
N.T.S.



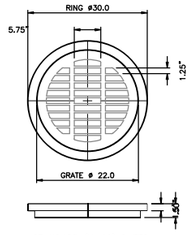
CONCRETE BUTT JOINT DETAILS
N.T.S.

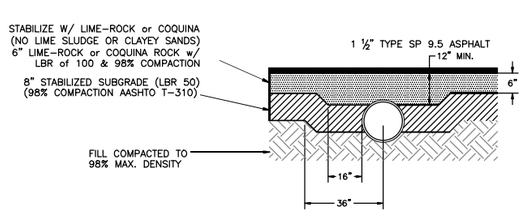


TYPICAL PEDESTRIAN CROSSWALK STRIPING
N.T.S.

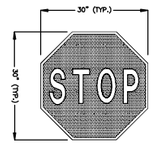


TYPICAL YARD DRAIN DETAIL
N.T.S.



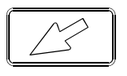


TYPICAL ASPHALTIC CONCRETE PAVING OVER DRAINAGE PIPES
N.T.S.

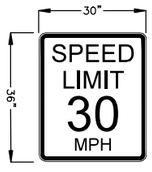


R1-1
N.T.S.

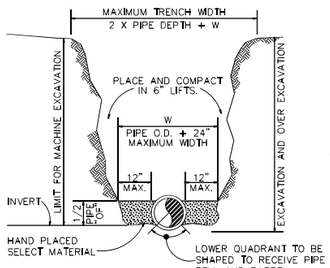
W11-2
N.T.S.



W16-7PL
N.T.S.

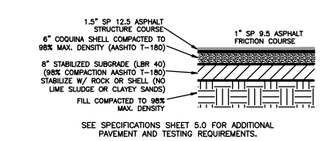


R2-1
N.T.S.



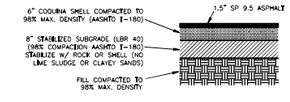
N O T E S:
1) THE CONTRACTOR SHALL COMPLY WITH REQUIREMENTS OF THE FLORIDA TRENCH SAFETY ACT.
2) BACKFILL TO 12" MAXIMUM LAYERS OR OTHER APPROVED METHOD TO ACHIEVE 98% COMPACTION UNDER PAVED SURFACES AND 95% COMPACTION UNDER OTHER SURFACES AS ESTABLISHED BY A.A.S.H.T.O. METHOD T-180.

TYPICAL TRENCH DETAIL
N.T.S.

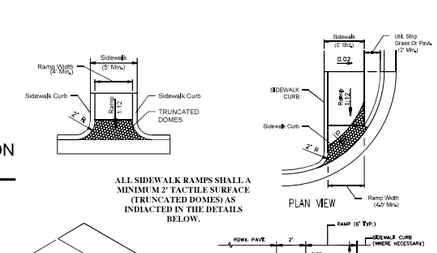


SEE SPECIFICATIONS SHEET 5.0 FOR ADDITIONAL PAVEMENT AND TESTING REQUIREMENTS.

ASPHALTIC CONCRETE PAVING SECTION (within the FDOT Right-of-Way)
N.T.S.



TYPICAL ASPHALTIC CONCRETE PAVING SECTION
N.T.S.



SIDEWALK CURB RAMP DETAIL FDOT CR-E
N.T.S.

NAVD 1988

ALL ELEVATIONS DEPICTED HEREON REFERENCE NAVD 1988. THE CONVERSION FACTOR TO NGVD 1929 IS +1.496'

KMA
ENGINEERING & SURVEYING, LLC
3001 INDUSTRIAL 2 AVE.
FT. PIERCE, FL 34946
PHONE: (772) 595-5505
FB/PE C.O.A.# 33705

REVISIONS:
BY: DATE: COMMENT:

NOT FOR CONSTRUCTION

PROJECT:
REGATTA APARTMENTS
2152 SOUTH JENKINS ROAD
FT. PIERCE, FL 34947

CLIENT:
ALVA STONE GROUP, LLC
591 EVERNIA STREET
WEST PALM BEACH, FL 33401

BLAINE ROBERT BERGSTRESSER LICENSE NO. 84598 STATE OF FLORIDA PROFESSIONAL ENGINEER
BLAINE BERGSTRESSER, P.E.
FLORIDA LICENSE No. 84598
09/16/2022

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PROJECT No.: 23-1011
DRAWN BY: CRW
CHECKED BY: BRB
DATE: 08/23/2023

SHEET TITLE:
DETAILS

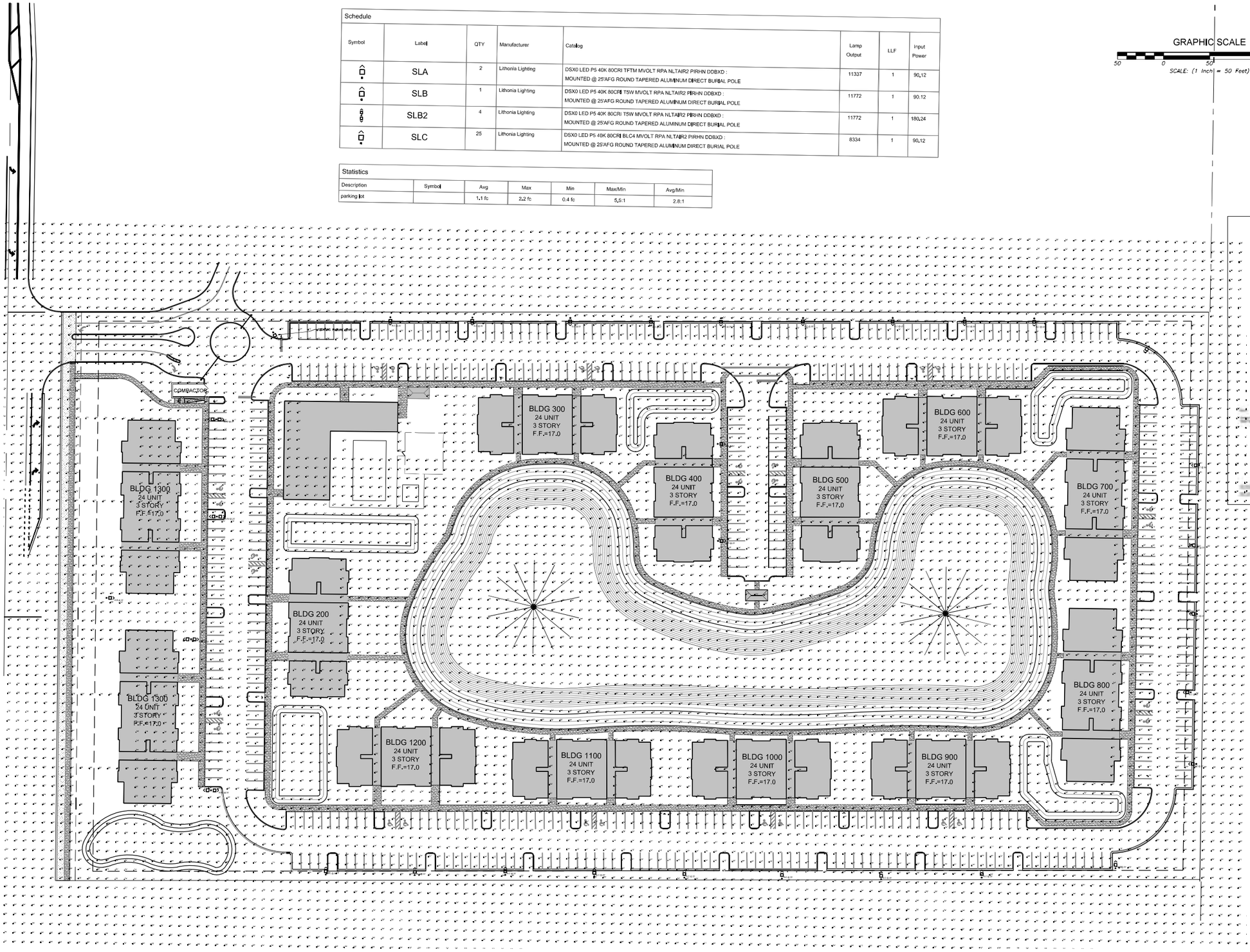
SHEET NUMBER:
C-9

Schedule							
Symbol	Label	QTY	Manufacturer	Catalog	Lamp Output	LLF	Input Power
	SLA	2	Lithonia Lighting	DSX0 LED P5 40K 80CRI TFTM MVOLT RPA NLTAIR2 PIRHN DDBXD : MOUNTED @ 25'AFG ROUND TAPERED ALUMINUM DIRECT BURIAL POLE	11337	1	90.12
	SLB	1	Lithonia Lighting	DSX0 LED P5 40K 80CRI T5W MVOLT RPA NLTAIR2 PIRHN DDBXD : MOUNTED @ 25'AFG ROUND TAPERED ALUMINUM DIRECT BURIAL POLE	11772	1	90.12
	SLB2	4	Lithonia Lighting	DSX0 LED P5 40K 80CRI T5W MVOLT RPA NLTAIR2 PIRHN DDBXD : MOUNTED @ 25'AFG ROUND TAPERED ALUMINUM DIRECT BURIAL POLE	11772	1	180.24
	SLC	25	Lithonia Lighting	DSX0 LED P5 40K 80CRI BLC4 MVOLT RPA NLTAIR2 PIRHN DDBXD : MOUNTED @ 25'AFG ROUND TAPERED ALUMINUM DIRECT BURIAL POLE	8334	1	90.12

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
parking lot		1.1 fc	2.2 fc	0.4 fc	5.5:1	2.8:1

GRAPHIC SCALE
50 0 50 100 150
SCALE: (1 Inch) = 50 Feet)

North



NAVD 1988
ALL ELEVATIONS DEPICTED HEREON REFERENCE NAVD 1988

KMA
ENGINEERING & SURVEYING, LLC
300 INDUSTRIAL 12 AVE
FT. PIERCE, FL 34946
PHONE: (772) 569-5505
FBPE C.O.A. # 31705

REVISIONS		
BY:	DATE:	COMMENT:

NOT FOR CONSTRUCTION

PROJECT:
REGATTA APARTMENTS
2152 SOUTH JENKINS ROAD
FT. PIERCE, FL 34947

CLIENT:
ALVA STONE GROUP, LLC
591 EVERNIA STREET
WEST PALM BEACH, FL 33401

BLAINE ROBERT BERGSTRESSER LICENSE NO. 84598 STATE OF FLORIDA PROFESSIONAL ENGINEER

BLAINE BERGSTRESSER, P.E.
FLORIDA LICENSE No. 84598
09/16/2022

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PROJECT No.:	23-1011
DRAWN BY:	CRW
CHECKED BY:	BRB
DATE:	08/23/2023

SHEET TITLE:
LIGHTING PLAN

SHEET NUMBER:
C-10

General Notes

TYPICAL BUILDING ELEVATION

No.	Revision/Issue	Date

Regatta
2100 S Jenkins Rd
Fort Pierce FL 34947

Project: Regatta	Sheet: 03
Date: 8-15-23	
Scale: As Noted	

1 Roofing: Metal Seam Panels / Color: Charcoal Gray

2 Facia & Brackets: Wood / Color: High Reflective White_SW 7757

3 Stucco Bands: Stucco / Color: High Reflective White_SW 7757

4 Bahama Shutters: Aluminum / Color: Honorable Blue_SW 6811

5 Decorative Louvers: Vinyl / Color: Honorable Blue_SW 6811

6 Exterior Walls: Stucco / Color: Crushed Ice_SW 7647

7 Siding: Stucco / Color: Lakeside_SW 9683

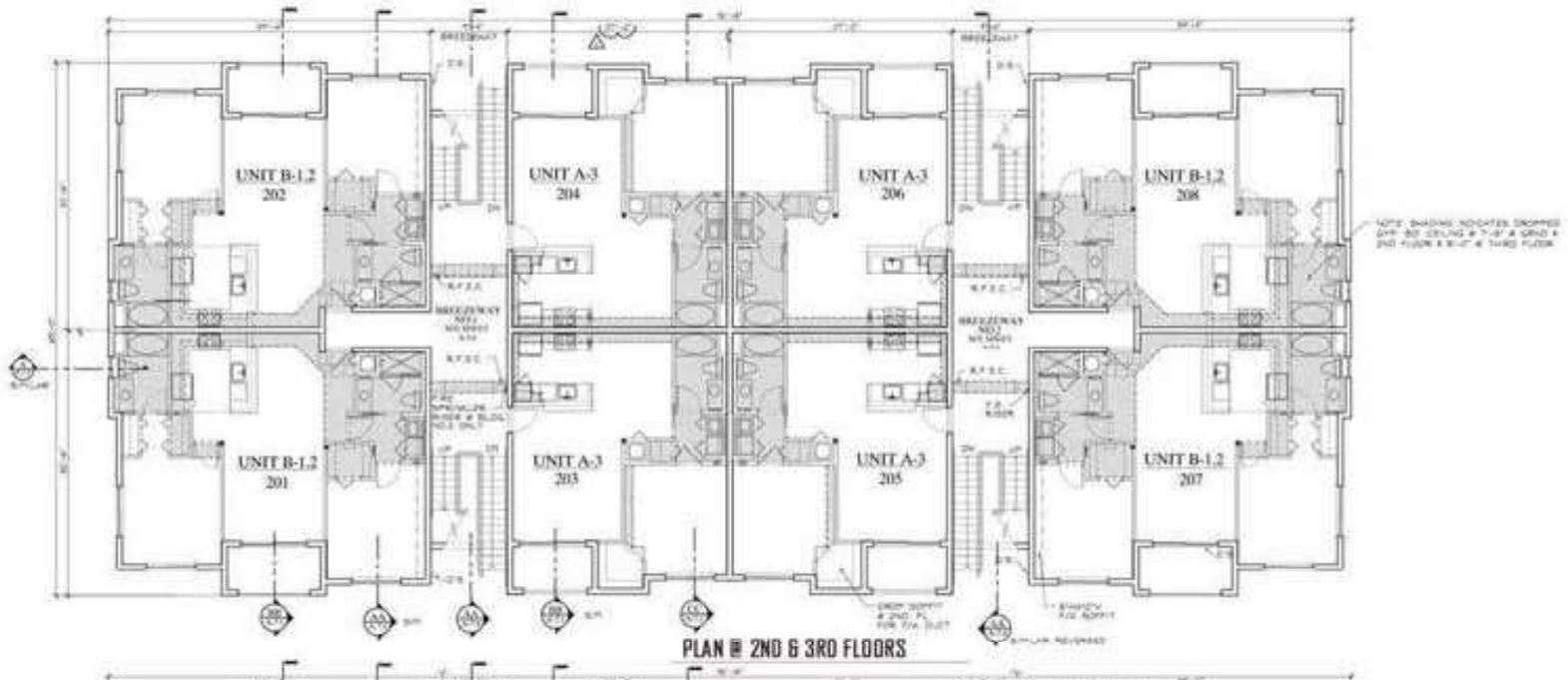
General Notes

COLOR BOARD

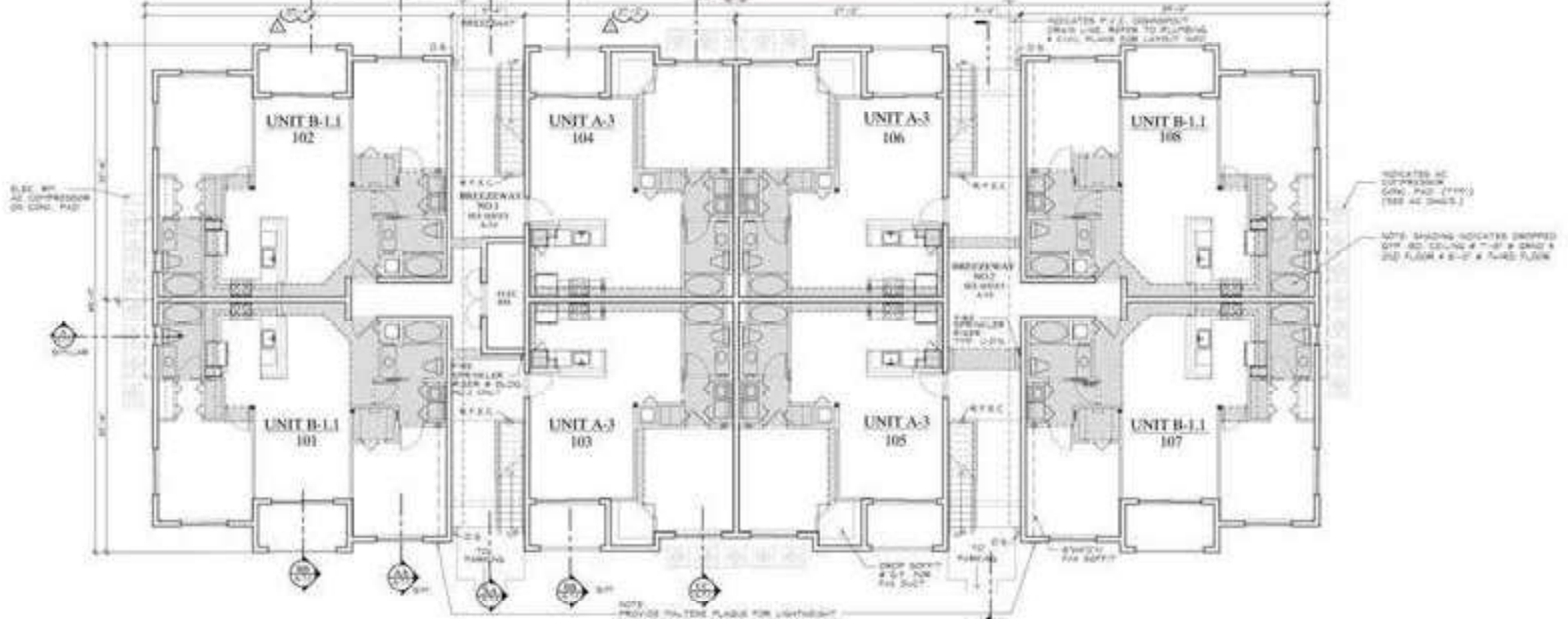
No.	Revision/Issue	Date

Regatta
2190 S Jenkins Rd
Fort Pierce FL 34947

Project: Regatta	Sheet: 04
Date: 8-15-23	
Scale: As Noted	



PLAN @ 2ND & 3RD FLOORS



PLAN @ GROUND FLOOR

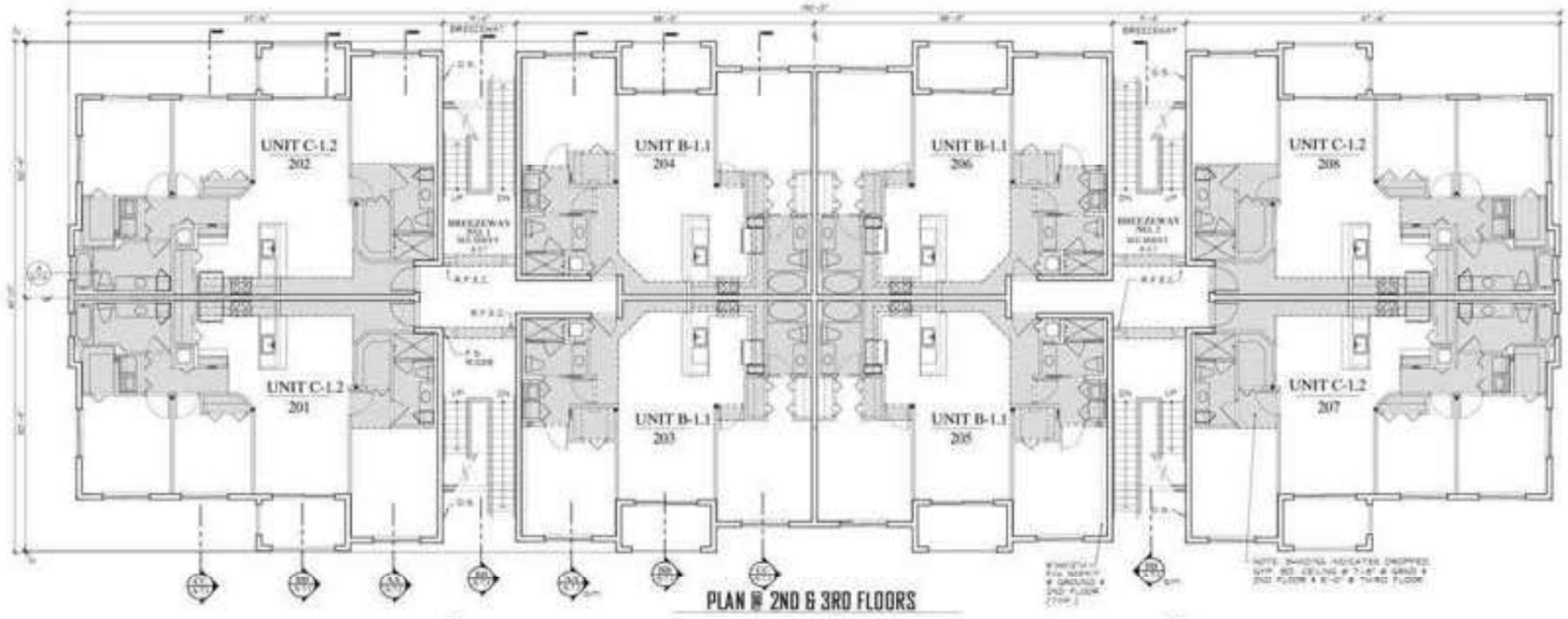
General Notes

TYPE A BUILDING - FLOORPLAN

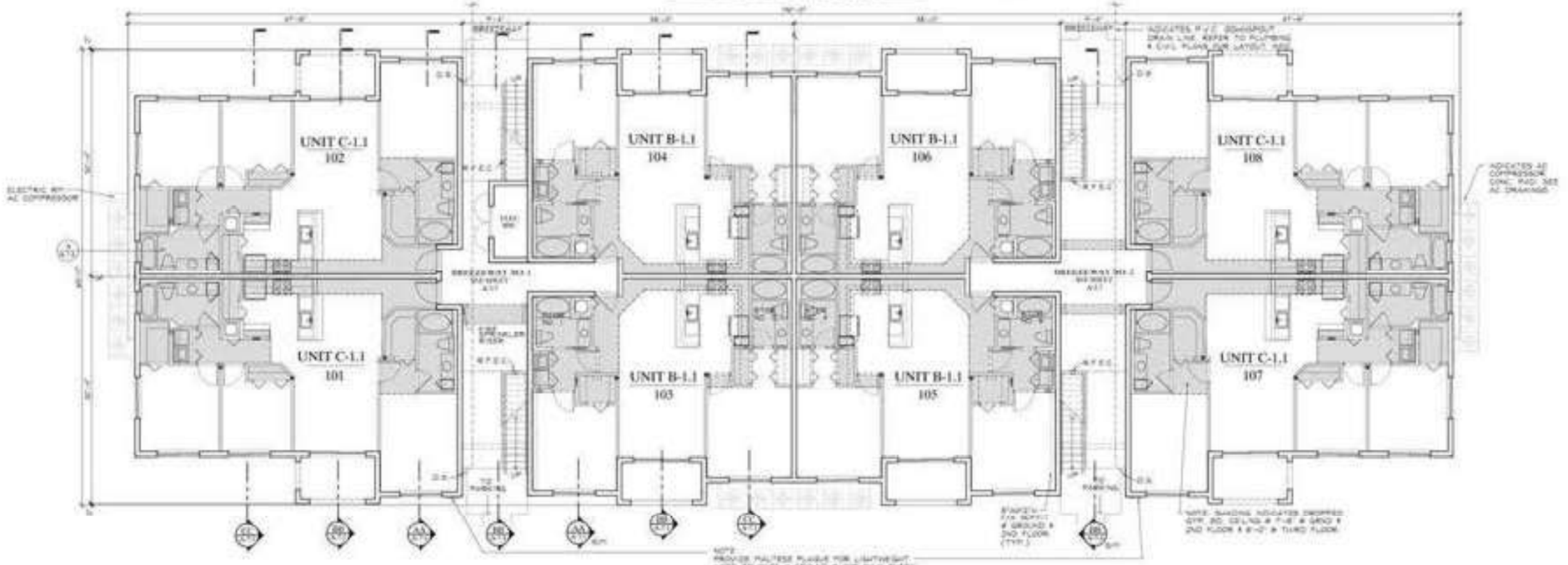
No.	Revision/Issue	Date

Regatta
2190 S Jenkins Rd
Fort Pierce FL 34947

Project	Sheet
Regatta	01
Date: 8-15-23	
Scale: As Noted	



PLAN @ 2ND & 3RD FLOORS



PLAN @ GROUND FLOOR

General Notes

TYPE B BUILDING - FLOORPLAN

No.	Revision/Issue	Date

Regatta
2190 S Jenkins Rd
Fort Pierce FL 34947

Project	Sheet
Regatta	02
Date: 8-15-23	
Scale: As Noted	

ENVIRONMENTAL ASSESSMENT

On the

Regatta Project Site
South Jenkins Road, Fort Pierce, Florida
±17.81 Acres

Parcel No.'s 2418-333-0001-000-9, 2418-333-0002-000-6,
2418-333-0003-000-3, & 2418-333-0004-000-0

Conducted for:

Mr. Pedro Quijada
Alva Stone Group, LLC
591 Evernia Street
West Palm Beach, Florida 33401

Conducted by:

Atlantic Environmental of Florida, LLC
657 Montreal Avenue
Melbourne, Florida 32935

August 15, 2023

ATLANTIC ENVIRONMENTAL
ENVIRONMENTAL PERMITTING & MITIGATION
657 Montreal Avenue • Melbourne, FL 32935
ph 321.676.1505 • fax 321.676.1730

August 15, 2023

Mr. Pedro Quijada
Alva Stone Group, LLC
591 Evernia Street
West Palm Beach, FL 33401

Re: Environmental Assessment
Regatta Project Site
South Jenkins Road, Fort Pierce, Florida
Parcel No.'s 2418-333-0001-000-9, 2418-333-0002-000-6, 2418-333-0003-000-3, & 2418-333-0004-000-0
Atlantic Environmental File No. 23631

Dear Mr. Quijada:

Atlantic Environmental of Florida, LLC (Atlantic Environmental) has completed an environmental assessment and feasibility study of the above-referenced property, an approximately 17.81-acre tract of land located on the east side of South Jenkins Road in Fort Pierce, St. Lucie County, Florida (Figures 1 and 2). The field assessment of this tract, hereinafter referred to as "the Property", occurred on August 14, 2023. This study is intended to assess any reasonably ascertainable environmental issues that might influence the developability of the subject property. Following are the results of our study.

Topography and Soils

Figure 3 shows the USGS Topographical Map for the Property and surrounding areas. According to this map, the Property is relatively flat. The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) map for St. Lucie County (Figure 4) depicts one soil type underlying the Property. Following is a description of the mapped soil type as it occurs in a natural environment.

Winder loamy sand (55)
The Winder, drained and bedded component makes up 67 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 14 inches during June, July, August, September, and October. This soil does not meet hydric criteria.

The Winder, hydric component makes up 15 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during June, July, August, September, October, November. This soil meets hydric criteria.

Past agricultural activity within the Property appears to have altered some of the characteristics

possessed by the underlying soils. However, for the most part, the soil description above appears relatively accurate.

Vegetation and Community Types

Different combinations of natural and human-influenced factors, such as surface elevation, hydrology, vegetative species and structure, soil characteristics, and degree and type of historical disturbance, will give rise to a variety of distinct ecological systems and functions, known as communities and land uses. The Florida Land Use, Cover, and Forms Classification System (FLUCFCS) organizes most of the major categories of communities and land uses into particular descriptions, each corresponding to a different code number. Using our field observations and the FLUCFCS system as a guideline, Atlantic Environmental has identified the on-site communities as they currently exist on the Property. Figure 5 depicts the code numbers of the on-site FLUCFCS categories, specifically, Open Land (FLUCFCS Code Number 190), Streams and Waterways (510), and Reservoirs less than 10 acres (534).

Following is a description of these classifications, as they exist on the Property, along with an assessment of the jurisdictional wetland status based on the rules and regulations of the South Florida Water Management District (SFWMD) and the U.S. Army Corps of Engineers (USACE). In December 2020, the Florida Department of Environmental Protection (FDEP) took over a significant portion of the Section 404 federal permitting from USACE. The jurisdictional status of FDEP will also be referenced below.

Open Land (190)
The vast majority (±17.81 acres) of the Property supports Open Land that previously supported several structures that no longer exist other than the slabs. The beds and furrows of the past agricultural usage are still evident throughout a majority of the Property, and the vegetation within the beds is dominated by earleaf acacia, cogongrass, lantana, rosary pea, guineagrass, broomsedge, cowpea, St. Augustine grass, wax myrtle, Brazilian pepper, saltbush, torpedograss, bahiagrass, sedges, and dog fennel. The higher elevated areas will be claimed as uplands by the regulatory agencies while some of the shallow furrows may be claimed as surface waters by SFWMD. No mitigation for impacts to these furrows should be required but the acreages will need to be accounted for throughout the permitting process.

Streams and Waterways (510)
Besides the numerous relic furrows throughout the Property that may be claimed as surface waters, there is a larger ditch found within the central portion of the Property. FDEP should not assert federal jurisdiction over this ditch while SFWMD will claim it as surface waters and therefore will require a permit for proposed impacts. Mitigation should not be required for impacts to the on-site surface waters.

Reservoirs less than 10 acres (534)
A small, manmade pond is located along the western extent of the Property that totals approximately 0.28 acres. Any impacts to this pond will require permits from SFWMD. Due to its small size, no mitigation will be required for impacts. Lastly, FDEP should not claim jurisdiction over this surface water.

Protected Wildlife Species

A preliminary survey for listed species and suitable listed species habitats was completed on the Property. This survey resulted in the determination that the Property may provide suboptimal habitat for a variety of wading birds.

Wading Birds

Wading birds, including little blue herons, tricolored herons, sandhill cranes, and wood storks, depend on freshwater marshes and shorelines for foraging and typically roost in forested wetland systems. It is possible that any or all of these birds use the on-site wetlands from time to time on an opportunistic foraging basis. However, the preliminary survey did not indicate that any of the above listed protected wading bird species are using the Property in a way that is significantly dependent upon on-site habitat. No nests of any of the listed species were observed on the Property, and no signs of these species were noted. The potential opportunistic usage should not trip a threshold to require compensatory mitigation for any of these species.

Surface Waters

As mentioned above, there are several surface waters on the Property that may require permitting through SFWMD. No mitigation should be required for surface water impacts.

Conclusions

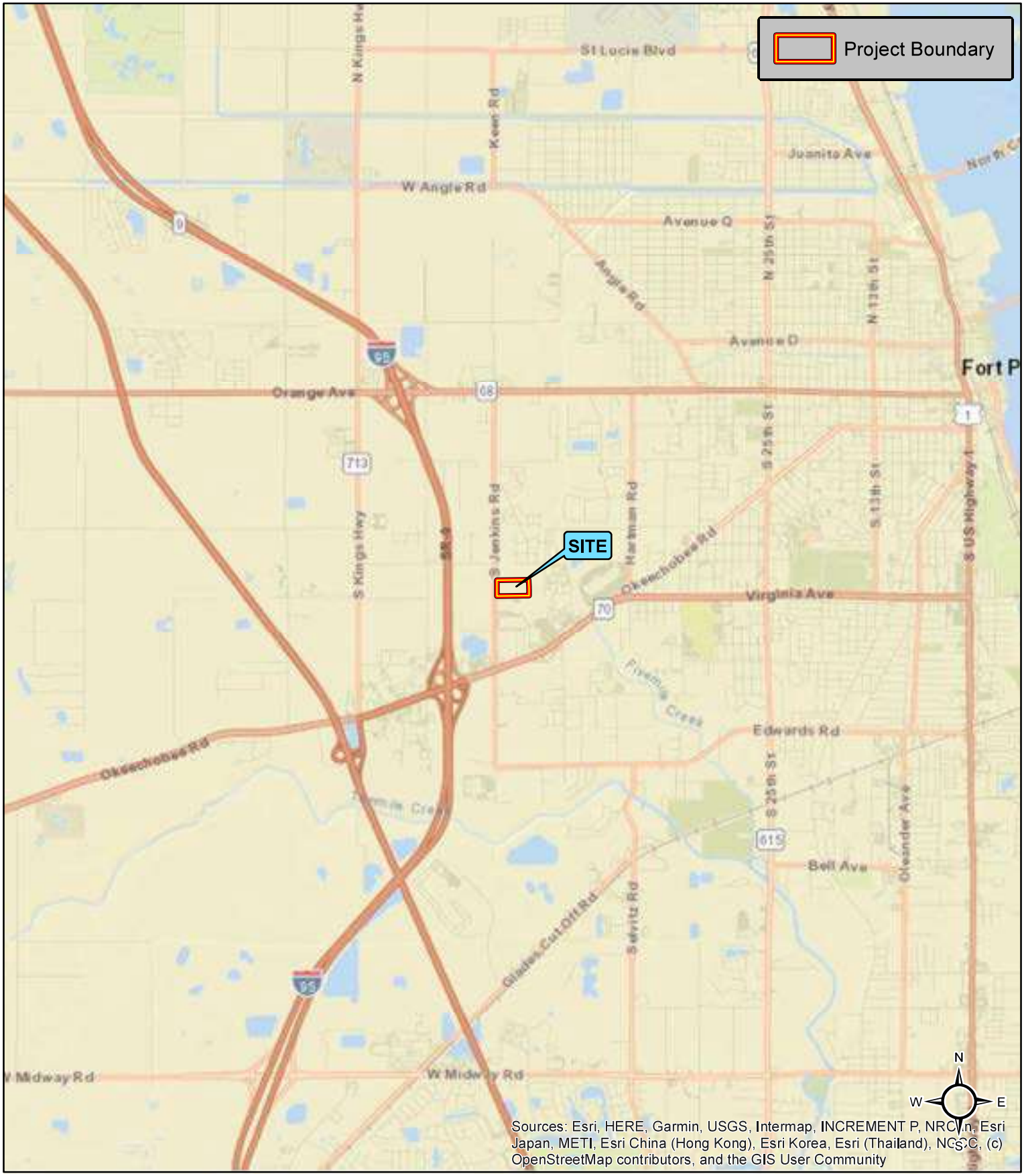
Atlantic Environmental determined that the Property contains ±17.53 acres of uplands and ±0.28 acres of surface waters (in addition to the acreage of the on-site furrows that are included in the upland acreage above for the purposes of this report). The on-site surface waters will require permits from SFWMD for impacts. FDEP should not claim the surface waters as federally jurisdictional.

Should you have any questions or need additional information, please do not hesitate to contact our office. We look forward to working further with you on this project.

Sincerely,

David G. Purkerson, MS, PWS
Vice President/Biologist

Jon H. Shepherd, MS, PWS
President/Ecologist



Project: Regatta

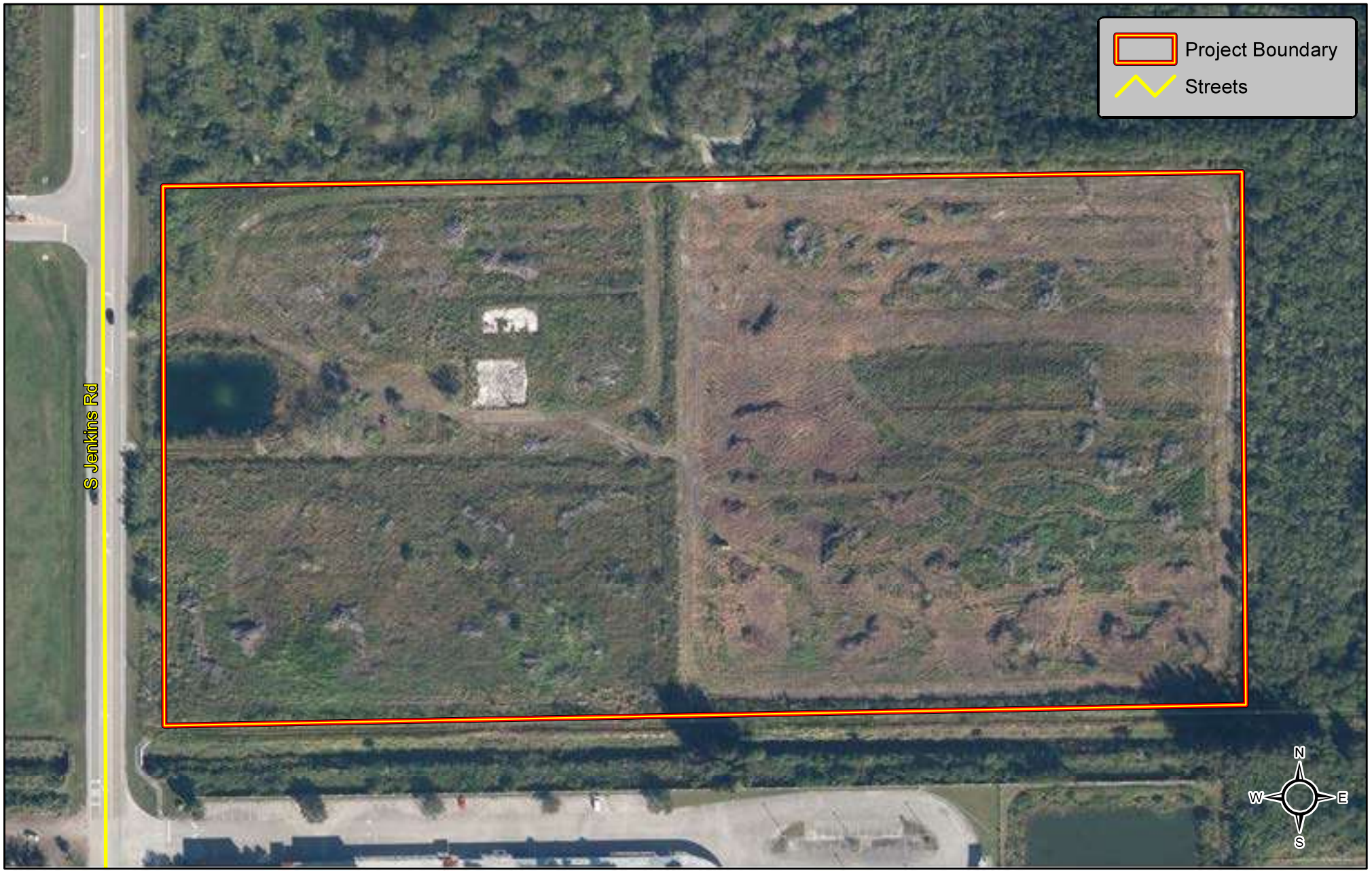
Figure 1: Location Map

0 0.5 1 2 Miles

St Lucie County, Florida

ATLANTIC ENVIRONMENTAL
ENVIRONMENTAL PERMITTING & MITIGATION

AE Proj #: 23631



Project: Regatta

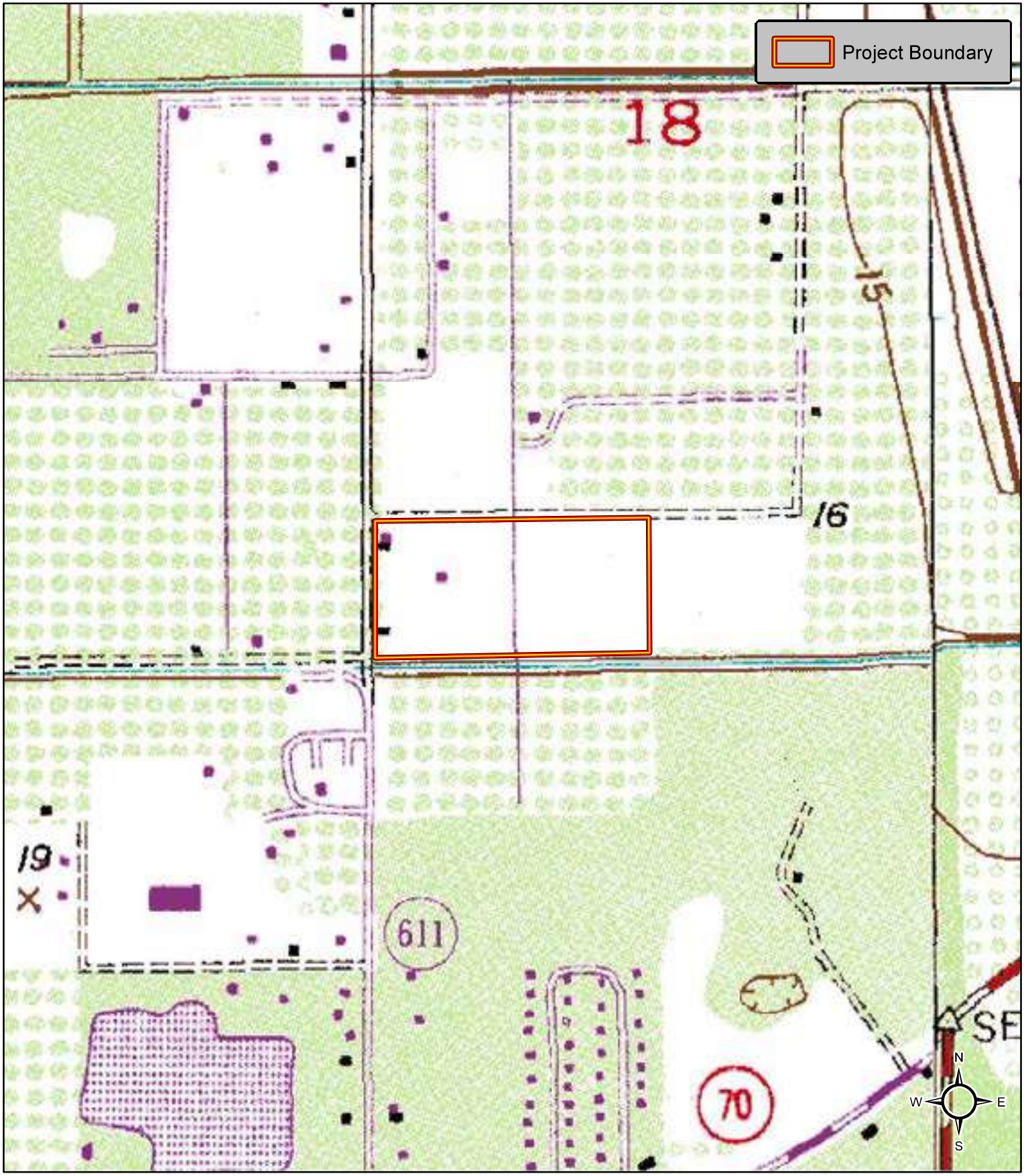
Figure 2: Aerial Map

0 100 200 400 Feet

2023 Aerial, St Lucie County, Florida

ATLANTIC ENVIRONMENTAL
ENVIRONMENTAL PERMITTING & MITIGATION

AE Proj #: 23631



Project: Regatta

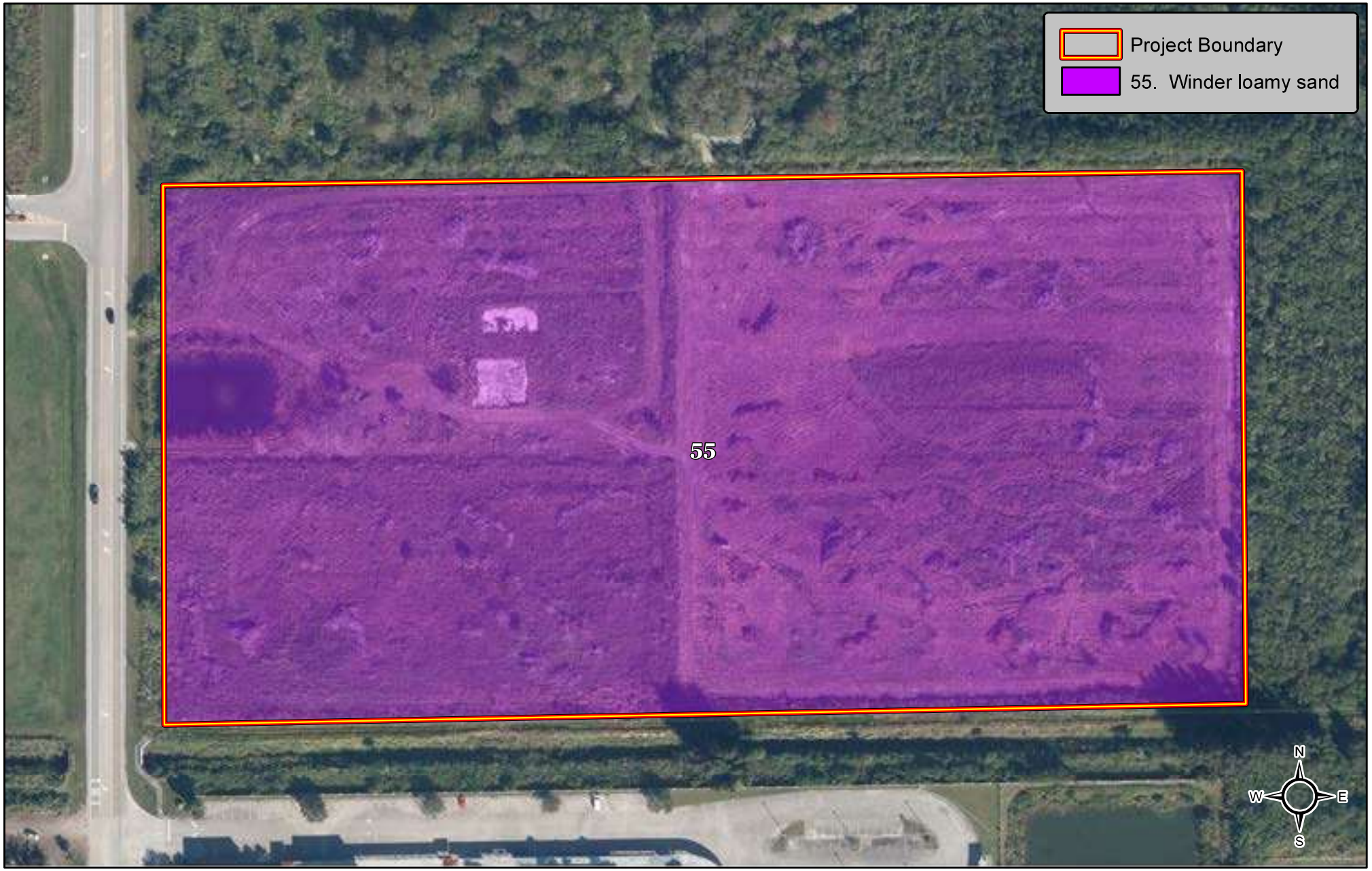
Figure 3: USGS Topo Map

0 500 1,000 2,000 Feet

Fort Pierce NW Quadrangle, St Lucie County, Florida

ATLANTIC ENVIRONMENTAL
ENVIRONMENTAL PERMITTING & MITIGATION

AE Proj #: 23631



Project: Regatta

Figure 4: NRCS Soils Map

0 100 200 400 Feet

2023 Aerial, St Lucie County, Florida

ATLANTIC ENVIRONMENTAL
ENVIRONMENTAL PERMITTING & MITIGATION

AE Proj #: 23631

Project: Regatta

Figure 5: Land Use (FLUCFCS) Map

0 100 200 400 Feet

2023 Aerial, St Lucie County, Florida

ATLANTIC ENVIRONMENTAL
ENVIRONMENTAL PERMITTING & MITIGATION

AE Proj #: 23631

O'ROURKE
ENGINEERING & PLANNING

TRAFFIC ANALYSIS

FOR

Regatta

Prepared for:

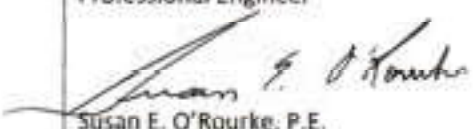
Mr. Pedro Quijada
Alva Stone Group
591 Evernia St
West Palm Beach, FL 33401

Prepared by:

O'Rourke Engineering & Planning
3725 SE Ocean Blvd. Suite 201
Stuart, Florida 34996
772-781-7918

August 11, 2023
Revised October 31, 2023

SR23071.0

Prepared by: O'Rourke Engineering & Planning Certificate of Authorization: #26869 3725 SE Ocean Blvd. Suite 201 Stuart, Florida 34996 772-781-7918	Professional Engineer  Susan E. O'Rourke, P.E. Date signed and sealed: 10/31/2023 License #: 42684

O'ROURKE
ENGINEERING & PLANNING

August 11, 2023

Mr. Pedro Quijada
Alva Stone Group
591 Evernia St
West Palm Beach, FL 33401

Re: Regatta

Dear Mr. Quijada:

O'Rourke Engineering & Planning has completed the analysis of the proposed development located on Jenkins Road in St. Lucie County, Florida. The steps in the analysis and the ensuing results are presented herein.

It has been a pleasure working with you. If you have any questions or comments, please give me a call.

Respectfully submitted,

O'Rourke Engineering & Planning

Susan E. O'Rourke, P.E.
Registered Civil Engineer

3725 SE Ocean Blvd. | Suite 201 | Stuart, FL 34996 | 772-781-7918 | Susan@OREflech

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

INTRODUCTION

O'Rourke Engineering & Planning was retained to prepare a traffic analysis for the proposed development consisting of 312 multi-family dwelling units located on Jenkins Road in Ft. Pierce, St. Lucie County, Florida. The purpose of this report is to determine the project's impact on the surrounding roadway system.

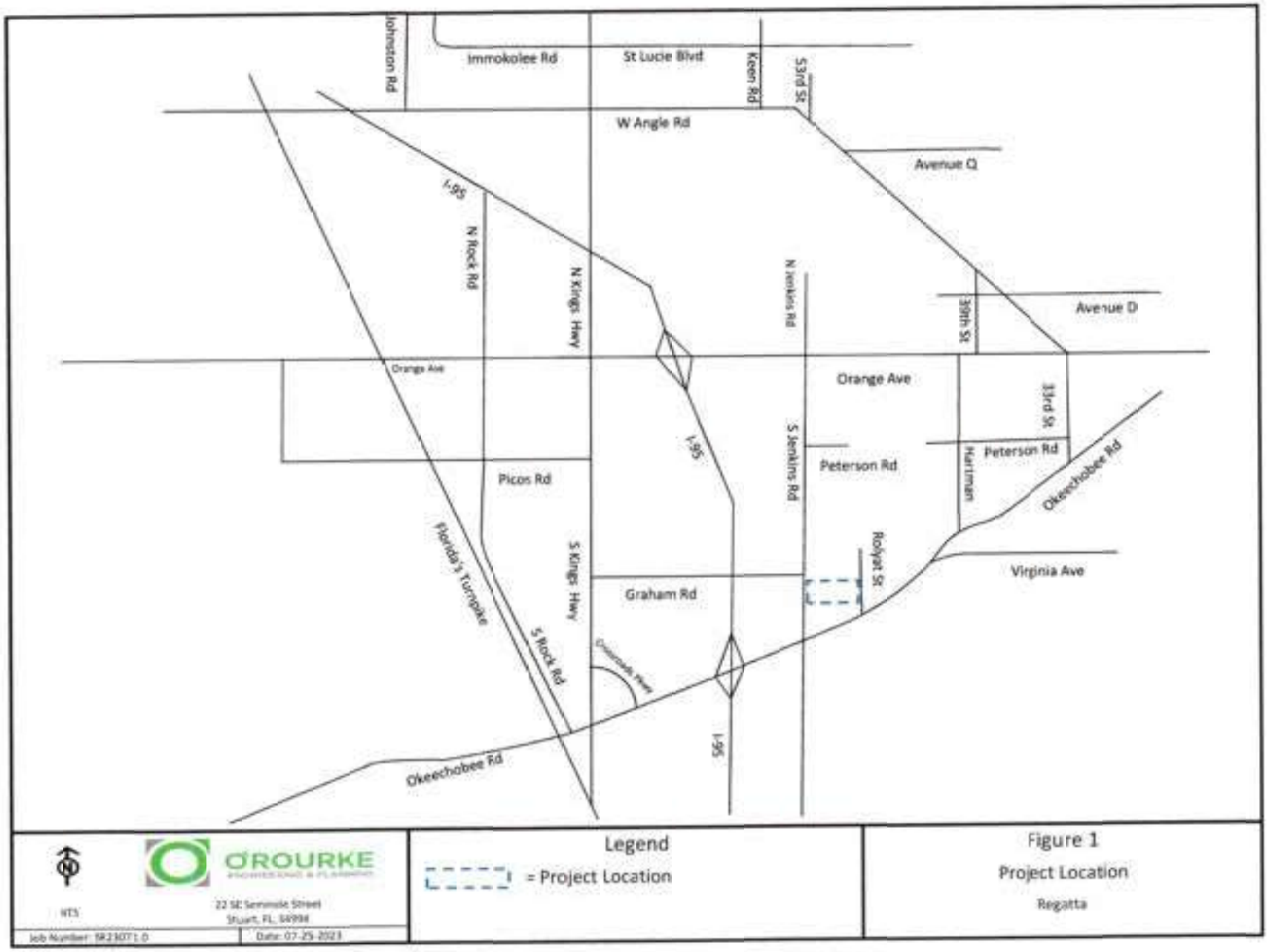
In order to make the determination that the project complies with County Concurrency Guidelines, the following analytical steps were taken:

- summary of the project
- summary of existing lane geometries
- summary of the existing traffic volumes
- assessment of project traffic
- determination of impact area
- summary of buildout cumulative traffic volumes
- summary of levels of service with the project traffic added

Each of these steps is outlined herein.

PROJECT DESCRIPTION

The proposed development will consist of 312 multi-family dwelling units. The project is located southeast of the intersection of Graham Road and Jenkins Road. The location is shown in **Figure 1**.


Johnston Rd
Immokolee Rd
St Lucie Blvd
Keen Rd
53rd St
W Angle Rd
Avenue Q
I-95
N Rock Rd
N Kings Hwy
N Jenkins Rd
39th St
Avenue D
Orange Ave
Orange Ave
33rd St
I-95
S Jenkins Rd
Peterson Rd
Peterson Rd
Hartman
Okeechobee Rd
Picos Rd
Florida's Turnpike
S Kings Hwy
Roblyat St
Virginia Ave
Graham Rd
S Rock Rd
I-95
Okeechobee Rd
NTS
O'ROURKE
22 SE Seminole Street
Stuart, FL, 34994
Job Number: 5R23077.0
Date: 07-25-2023
Legend
= Project Location
Figure 1
Project Location
Regatta

EXISTING CONDITIONS

The study area is defined as the roadways upon which the project has an impact of 3% of the level of service capacity of the roadway and 1% on the adjacent link. Once the project traffic was assigned, the study area was refined based on the impact percentages.

The study area roadways were defined in terms of existing lane geometrics and existing traffic volumes.

Existing/Proposed Lane Geometrics and Traffic Control

The study area was reviewed to determine the existing number and type of lanes, and the traffic control along the roadway. Each roadway is described below.

- Okeechobee Road is a multi-lane divided arterial roadway with an east/west alignment. It is four-lane divided west of Kings Highway and east of Virginia Avenue. It is six-lane divided from Rolyat Street to Virginia Avenue and from Kings Highway to I-95. There is an eight-lane divided section from east of I-95 to Rolyat Street. There are numerous extended turn lanes and freeway auxiliary lanes.
- Kings Highway is a two-lane arterial with a north/south alignment and is under construction in portions and included in the 5-year TIP to be widened to a four-lane divided roadway.
- Graham Road is a 2 lane arterial roadway with an E/W alignment.
- Jenkins Road is a 2 lane arterial roadway with a N/S alignment.

Existing Traffic Volumes/ Service Volume

Traffic volumes were obtained from the St. Lucie County TPO and FDOT. The count data along with the number of lanes and the associated peak hour/peak direction service volumes will be summarized in the upcoming sections of the report. Sources of the data are included in **Appendix B.**

PROJECT TRAFFIC

To estimate future traffic generated by the development, the ITE Trip Generation, 11th Edition trip rates for Multi-Family Housing – Low Rise (Land Use Code 220) was applied to estimate the trips generated by the proposed development. These calculations are shown in **Tables 1a, 1b, and 1c**.

As shown, the project will generate 2,075 new daily trips. There will be 120 AM peak hour trips with 29 entering the project and 91 trips exiting the project. The project will generate 155 new PM peak hour trips. There will be 98 trips entering the project and 57 trips exiting the project in the PM peak hour.

Table 1 - Trip Generation

Table 1a: Daily

Land Use	ITE Code	Intensity	Units	Trip Generation Rate	Directional Split		Net New Trips		
					In	Out	In	Out	Total
Multifamily Housing (Low-Rise)	220	312	DU	T = 6.41(X) + 75.31	50%	50%	1,038	1,037	2,075
TOTALS							**1,038**	**1,037**	**2,075**

Source: ITE 11th Edition Trip Generation Rates

Table 1b: AM Peak Hour

Land Use	ITE Code	Intensity	Units	Trip Generation Rate	Directional Split		Net New Trips		
					In	Out	In	Out	Total
Multifamily Housing (Low-Rise)	220	312	DU	T = 0.31(X) + 22.85	24%	76%	29	91	120
TOTALS							**29**	**91**	**120**

Source: ITE 11th Edition Trip Generation Rates

Table 1c: PM Peak Hour

Land Use	ITE Code	Intensity	Units	Trip Generation Rate	Directional Split		Net New Trips		
					In	Out	In	Out	Total
Multifamily Housing (Low-Rise)	220	312	DU	T = 0.43(X) + 20.55	63%	37%	98	57	155
TOTALS							**98**	**57**	**155**

Source: ITE 11th Edition Trip Generation Rates

PROJECT DISTRIBUTION/ ASSIGNMENT/IMPACT

The project traffic was distributed by general geographic direction and then assigned to the roadway network.

Distribution/ Assignment – This general distribution led to an assignment of trips based on the anticipated ultimate destinations and the roadway paths used to reach those destinations. The project assignment is shown in **Figure 2.**

Impact – Tables 2a and 2b summarize the project impact as a percent of service volume capacity. Significant is defined as 1% or more on an adjacent link and 3% or more on all other links. As shown, the project is significant on Jenkins Road between Okeechobee Boulevard and Orange Avenue.

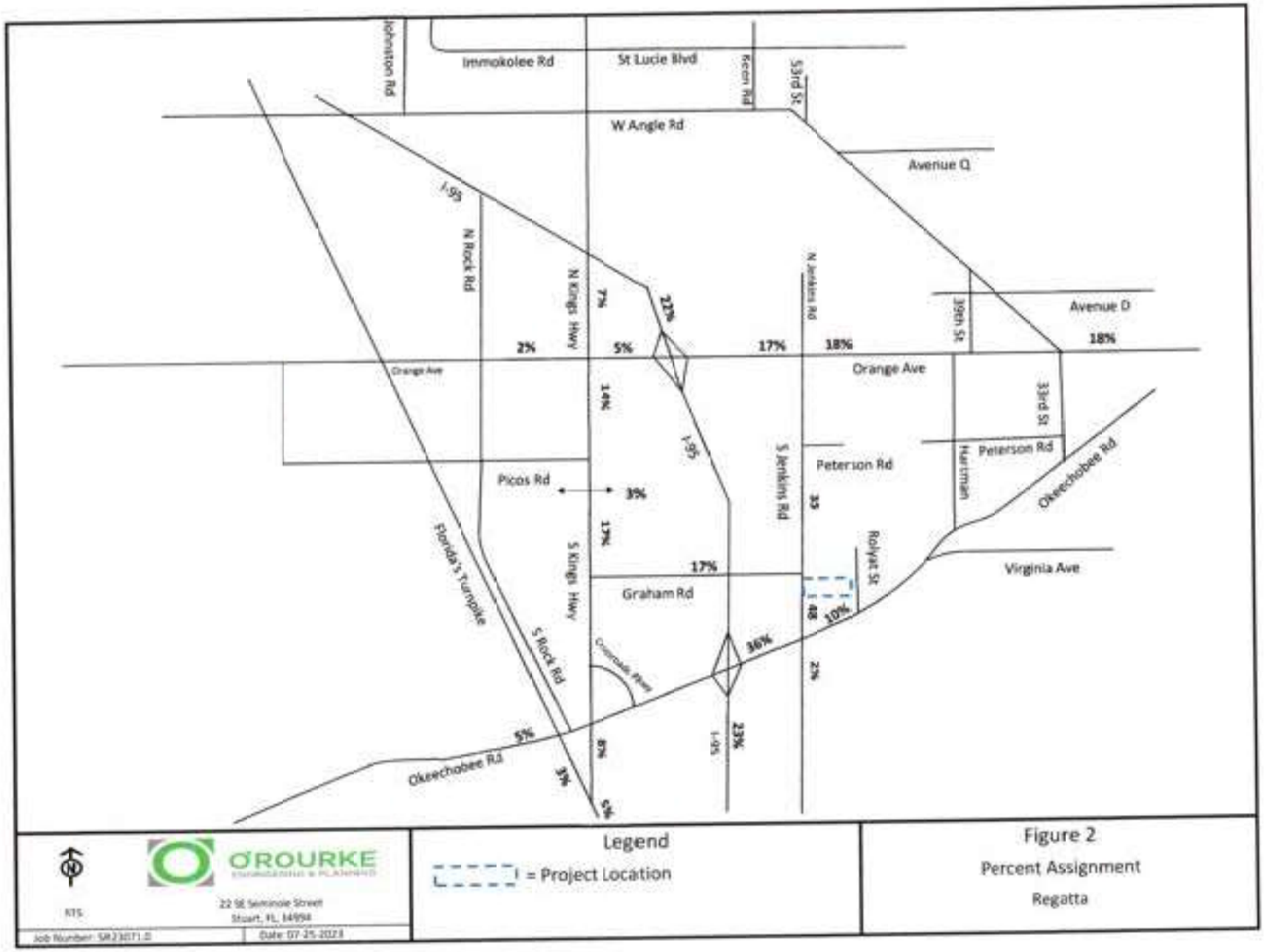
LINK ANALYSIS / REVIEW

Links where the project was significant were analyzed further to ensure they will meet concurrency. A project buildout of 2026 was used in the analysis. A growth rate of 1.1% was calculated for Jenkins Road. The greater of 1.1% growth or 1% plus traffic from other projects in the area were used to determine the 2026 background without project traffic. Other project data includes committed traffic from Kings Hwy Commerce Park, Sunnyland, Drawdy Angle Road, KRE, Stonemont, Creekside, Orange 95, Bent Creek, Celebration Pointe, Hillpointe Residential, Whispering Oaks, Viva at Treasure Coast, Project Hunt, 7/11 Angle Road, Jenkins Waypoint, and Project Hurricane. Project traffic was then added to determine the 2026 Future Total traffic.

Details of the background traffic are included in **Appendix C**.

Table 3a and 3b summarize the results of the link analysis. Jenkins Road is projected to exceed the theoretical capacity. Therefore, a detailed analysis of this road was performed. As shown, the detailed analysis demonstrates that this roadway will operate at acceptable levels of service at project buildout.

The detailed analysis is included in **Appendix D.**



NTS Job Number: SR23071.0	O'ROURKE ENGINEERING & PLANNING 22 SE Seminole Street Stuart, FL 34994 Date: 07-25-2023	Legend = Project Location

Figure 2
Percent Assignment
Regatta

TABLE 2a - Project Percent Impact - AM Peak Hour

Segment	From	To	Lanes	Direction	IN/OUT	Greater than 5% (1% on Adjacent Links)	Peak Hour Service Capacity	Project Volume Peak Direction	% Project of Capacity- Peak Hour	Project Percent Assignment
Jenkins Rd	Okeechobee Rd	Project Driveway	2L	NB	IN	YES	920	14	1.52%	48%
	Okeechobee Rd	Project Driveway	2L	SB	OUT	YES	920	44	4.78%	48%
	Project Driveway	Graham Rd	2L	NB	OUT	YES	920	47	5.11%	52%
	Project Driveway	Graham Rd	2L	SB	IN	YES	920	35	3.61%	52%
	Graham Rd	Peterson Rd	2L	NB	OUT	YES	630	32	5.08%	35%
	Graham Rd	Peterson Rd	2L	SB	IN	NO	630	10	1.59%	25%
	Peterson Rd	Orange Ave	2L	NB	OUT	YES	920	32	3.48%	35%
	Peterson Rd	Orange Ave	2L	SB	IN	NO	920	10	1.09%	25%
Orange Ave	Campbell Rd	Kings Hwy	2L	EB	IN	NO	1,070	3	0.28%	2%
	Campbell Rd	Kings Hwy	2L	WB	OUT	NO	1,070	2	0.19%	2%
	Kings Hwy	I-95	4LD	EB	IN	NO	2,100	5	0.24%	5%
	Kings Hwy	I-95	4LD	WB	OUT	NO	2,100	5	0.24%	5%
	I-95	Jenkins Rd	4LD	EB	IN	NO	2,100	5	0.24%	13%
	I-95	Jenkins Rd	4LD	WB	OUT	NO	2,100	15	0.71%	13%
	Jenkins Rd	Hartman Rd	4LD	EB	OUT	NO	2,100	16	0.76%	18%
	Jenkins Rd	Hartman Rd	4LD	WB	IN	NO	2,100	5	0.24%	18%
	Hartman	Jungle Rd	4LD	EB	OUT	NO	2,100	16	0.76%	18%
	Hartman	Jungle Rd	4LD	WB	IN	NO	2,100	5	0.24%	18%
Kings Hwy	Okeechobee Rd	Crossroads Pkwy	4LD	NB	IN	NO	2,000	6	0.30%	13%
	Okeechobee Rd	Crossroads Pkwy	4LD	SB	OUT	NO	2,000	12	0.60%	13%
	Crossroads Pkwy	Graham Rd	4LD	NB	IN	NO	2,000	6	0.30%	13%
	Crossroads Pkwy	Graham Rd	4LD	SB	OUT	NO	2,000	12	0.60%	13%
	Graham Rd	Penn Rd	4LD	NB	OUT	NO	2,000	15	0.75%	13%
	Graham Rd	Penn Rd	4LD	SB	IN	NO	2,000	5	0.25%	13%
	Penn Rd	Orange Ave	4LD	NB	OUT	NO	2,000	13	0.65%	14%
	Penn Rd	Orange Ave	4LD	SB	IN	NO	2,000	4	0.20%	14%
	Orange Ave	I-95 Overpass	4LD	SB	OUT	NO	2,000	6	0.30%	7%
	Orange Ave	I-95 Overpass	4LD	SB	IN	NO	2,000	2	0.10%	7%
	I-95 Overpass	Jungle Rd	2L	NB	OUT	NO	920	6	0.65%	7%
	I-95 Overpass	Jungle Rd	2L	SB	IN	NO	920	2	0.22%	7%
Okeechobee Rd	Florida's Turnpike	Kings Hwy	4LD	EB	IN	NO	2,100	1	0.05%	5%
	Florida's Turnpike	Kings Hwy	4LD	WB	OUT	NO	2,100	5	0.24%	5%
	I-95	Jenkins Rd	6LD	EB	IN	NO	4,240	7	0.17%	27%
	I-95	Jenkins Rd	6LD	WB	OUT	NO	4,240	23	0.54%	27%
	Jenkins Rd	Midway Rd	6LD	EB	OUT	NO	4,080	9	0.22%	10%
	Jenkins Rd	Midway Rd	6LD	WB	IN	NO	4,080	3	0.07%	10%
I-95	Midway Rd	Okeechobee Rd	6LD	NB	IN	NO	5,500	7	0.13%	23%
	Midway Rd	Okeechobee Rd	6LD	SB	OUT	NO	5,500	21	0.38%	21%
	Orange Ave	Indian Rd	8LD	NB	OUT	NO	7,040	20	0.27%	22%
	Orange Ave	Indian Rd	8LD	SB	IN	NO	7,320	6	0.08%	22%

(1) St. Lucie County 2023 Traffic Counts and LOS Report

IN: 29
OUT: 91

TABLE 2b - Project Percent Impact - PM Peak Hour

Segment	From	To	Lanes	Direction	IN/OUT	Greater than 5% (1% on Adjacent Links)	Peak Hour Service Capacity	Project Volume Peak Direction	% Project of Capacity- Peak Hour	Project Percent Assignment
Jenkins Rd	Okeechobee Rd	Project Driveway	2L	NB	IN	YES	920	37	4.02%	48%
	Okeechobee Rd	Project Driveway	2L	SB	OUT	YES	920	27	2.93%	48%
	Project Driveway	Graham Rd	2L	NB	OUT	YES	920	30	3.26%	52%
	Project Driveway	Graham Rd	2L	SB	IN	YES	920	51	5.54%	52%
	Graham Rd	Peterson Rd	2L	NB	OUT	YES	630	20	3.17%	35%
	Graham Rd	Peterson Rd	2L	SB	IN	YES	630	34	5.40%	35%
	Peterson Rd	Orange Ave	2L	NB	OUT	NO	920	20	2.17%	35%
	Peterson Rd	Orange Ave	2L	SB	IN	YES	920	34	3.70%	35%
Orange Ave	Campbell Rd	Kings Hwy	2L	EB	IN	NO	1,070	2	0.19%	2%
	Campbell Rd	Kings Hwy	2L	WB	OUT	NO	1,070	1	0.09%	2%
	Kings Hwy	I-95	4LD	EB	IN	NO	2,100	5	0.24%	5%
	Kings Hwy	I-95	4LD	WB	OUT	NO	2,100	3	0.14%	5%
	I-95	Jenkins Rd	4LD	EB	IN	NO	2,100	13	0.62%	13%
	I-95	Jenkins Rd	4LD	WB	OUT	NO	2,100	10	0.48%	13%
	Jenkins Rd	Hartman Rd	4LD	EB	OUT	NO	2,100	10	0.48%	18%
	Jenkins Rd	Hartman Rd	4LD	WB	IN	NO	2,100	19	0.86%	18%
	Hartman	Jungle Rd	4LD	EB	OUT	NO	2,100	10	0.48%	18%
	Hartman	Jungle Rd	4LD	WB	IN	NO	2,100	18	0.86%	18%
Kings Hwy	Okeechobee Rd	Crossroads Pkwy	4LD	NB	IN	NO	2,000	13	0.65%	13%
	Okeechobee Rd	Crossroads Pkwy	4LD	SB	OUT	NO	2,000	7	0.35%	13%
	Crossroads Pkwy	Graham Rd	4LD	NB	IN	NO	2,000	13	0.65%	13%
	Crossroads Pkwy	Graham Rd	4LD	SB	OUT	NO	2,000	7	0.35%	13%
	Graham Rd	Penn Rd	4LD	NB	OUT	NO	2,000	10	0.50%	13%
	Graham Rd	Penn Rd	4LD	SB	IN	NO	2,000	17	0.85%	13%
	Penn Rd	Orange Ave	4LD	NB	OUT	NO	2,000	8	0.40%	14%
	Penn Rd	Orange Ave	4LD	SB	IN	NO	2,000	14	0.70%	14%
	Orange Ave	I-95 Overpass	4LD	SB	OUT	NO	2,000	4	0.20%	7%
	Orange Ave	I-95 Overpass	4LD	SB	IN	NO	2,000	7	0.35%	7%
	I-95 Overpass	Jungle Rd	2L	NB	OUT	NO	920	8	0.43%	7%
	I-95 Overpass	Jungle Rd	2L	SB	IN	NO	920	7	0.76%	7%
Okeechobee Rd	Florida's Turnpike	Kings Hwy	4LD	EB	IN	NO	2,100	5	0.24%	5%
	Florida's Turnpike	Kings Hwy	4LD	WB	OUT	NO	2,100	1	0.19%	5%
	I-95	Jenkins Rd	6LD	EB	IN	NO	4,240	11	0.54%	27%
	I-95	Jenkins Rd	6LD	WB	OUT	NO	4,240	13	0.31%	27%
	Jenkins Rd	Midway Rd	6LD	EB	OUT	NO	4,080	6	0.15%	10%
	Jenkins Rd	Midway Rd	6LD	WB	IN	NO	4,080	10	0.25%	10%
I-95	Midway Rd	Okeechobee Rd	6LD	NB	IN	NO	5,500	13	0.23%	23%
	Midway Rd	Okeechobee Rd	6LD	SB	OUT	NO	5,500	13	0.23%	23%
	Orange Ave	Indian Rd	8LD	NB	OUT	NO	7,040	13	0.18%	22%
	Orange Ave	Indian Rd	8LD	SB	IN	NO	7,320	12	0.16%	22%

(1) St. Lucie County 2023 Traffic Counts and LOS Report

IN: 98
OUT: 97

TABLE 3a - Link Analysis - AM Peak Hour

Segment	From	To	Direction	IN/OUT	Greater than 3% (3% on Adjacent Links)	D Factor (1)	2023 Peak Hour Volumes (From 2023 TPO)	2023 Directional Peak Hour Volumes	Growth Rate (2)	2026 Peak Hour Volumes w/ Growth Factor	2026 Peak Hour w/ 1% Growth	AM Peak Hour Committed Projects Directional	2026 1% Growth + Committed Peak Direction	Higher of Growth Rate or 1% + Committed	Peak Hour Service Capacity (D+C)	Project Volume Peak Direction	Total Traffic (Peak Direction)	% Project of Capacity Peak Hour	Does Project Meet Concurrency ?	Project Percent Assignment
Jenkins Rd	Okeechobee Rd	Project Driveway	NB	IN	YES	0.603	567	567	1.10%	586	584	191	775	775	920	24	799	5.12%	YES	48%
	Okeechobee Rd	Project Driveway	SB	OUT	YES	0.397	567	373	1.10%	386	385	214	599	599	920	44	643	4.78%	YES	48%
	Project Driveway	Graham Rd	NB	OUT	YES	0.603	567	567	1.10%	586	584	191	775	775	920	47	822	5.11%	YES	52%
	Project Driveway	Graham Rd	SB	IN	YES	0.397	567	373	1.10%	386	385	214	599	599	920	11	614	2.83%	YES	52%
	Graham Rd	Peterson Rd	NB	OUT	YES	0.423	567	416	1.10%	430	428	259	687	687	630	33	720	5.08%	YES (3)	36%
	Graham Rd	Peterson Rd	SB	IN	NO	0.577	567	567	1.10%	586	584	165	749	749	630	11	759	1.69%	YES (3)	36%
	Peterson Rd	Orange Ave	NB	OUT	YES	0.539	567	567	1.10%	586	584	352	936	936	920	32	968	3.48%	YES (3)	35%
	Peterson Rd	Orange Ave	SB	IN	NO	0.461	567	485	1.10%	501	500	171	671	671	920	10	681	1.09%	YES	35%

Note: TPO Provides Peak Direction, off-peak derived from D Factor

(1) FDOT 2022 Annual Average Daily Traffic Report

(2) Growth rate calculated from St Lucie County Traffic Counts and Level of Service Reports

(3) 2026 and Committed Project trips cause the roadway to exceed service capacity

IN	79
OUT	73
Years Grown	3

TABLE 3b - Link Analysis - PM Peak Hour

Segment	From	To	Direction	IN/OUT	Greater than 3% (3% on Adjacent Links)	D Factor (1)		2023 Peak Hour Volumes (From 2023 TPO)	Growth Rate (2)	2026 Peak Hour Volumes w/ Growth Factor	2026 Peak Hour w/ 1% Growth	PM Peak Hour Committed Projects Directional	2026 1% Growth + Committed Peak Direction	Higher of Growth Rate or 1% + Committed	Peak Hour Service Capacity (D+C)	Project Volume Peak Direction	Total Traffic (Peak Direction)	% Project of Capacity Peak Hour	Does Project Meet Concurrency ?	Project Percent Assignment
Jenkins Rd	Okeechobee Rd	Project Driveway	NB	IN	YES	0.491	574	563	1.10%	582	580	246	829	829	920	47	876	5.11%	YES	48%
	Okeechobee Rd	Project Driveway	SB	OUT	YES	0.509	574	574	1.10%	593	591	237	828	828	920	27	855	2.93%	YES	48%
	Project Driveway	Graham Rd	NB	OUT	YES	0.491	574	563	1.10%	582	580	249	829	829	920	30	859	3.26%	YES	52%
	Project Driveway	Graham Rd	SB	IN	YES	0.509	574	574	1.10%	593	591	237	828	828	920	51	879	5.54%	YES	52%
	Graham Rd	Peterson Rd	NB	OUT	YES	0.530	574	574	1.10%	593	591	231	822	822	630	20	842	3.17%	YES (3)	35%
	Graham Rd	Peterson Rd	SB	IN	YES	0.470	574	509	1.10%	526	524	289	813	813	630	34	847	5.40%	YES (3)	36%
	Peterson Rd	Orange Ave	NB	OUT	NO	0.437	574	446	1.10%	460	459	265	724	724	920	20	744	2.17%	YES	35%
	Peterson Rd	Orange Ave	SB	IN	YES	0.563	574	574	1.10%	593	591	379	970	970	920	34	1004	3.70%	YES (3)	36%

Note: TPO Provides Peak Direction, off-peak derived from D Factor

(1) FDOT 2022 Annual Average Daily Traffic Report

(2) Growth rate calculated from St Lucie County Traffic Counts and Level of Service Reports

(3) 2026 and Committed Project trips cause the roadway to exceed service capacity

IN	98
OUT	57
Years Grown	3

INTERSECTION ANALYSIS

Three intersections were analyzed for Existing, Background without Project, and Future Total with Project scenarios for both the AM and PM peak hours. The three intersections analyzed include Jenkins Road & Graham Road, Jenkins Road & Orange Avenue, and Jenkins Road & Okeechobee Boulevard. The intersections of Jenkins Road & Orange Avenue and Jenkins Road & Okeechobee Boulevard will continue to operate at an acceptable level of service of D or better at project build out.

The intersection of Jenkins Road & Graham Road is projected to operate at a LOS F in the Background and Future Total scenarios. The Jenkins Waypoint project is committed to constructing the westbound approach and a northbound right-turn lane at this intersection. The addition of an eastbound left-turn lane will decrease the delays at the intersection, but it will continue to operate at a LOS F at project buildout with the additional lane. A signal warrant analysis was performed at this intersection. It is not projected to meet the 100% threshold for the 8-hour or 4-hour warrants at project buildout. It is recommended to continue monitoring the signal warrant thresholds as developments come online in the area of the project. As this is a Background failure without the addition of project traffic, it is not the projects responsibility to construct the additional eastbound left-turn lane.

Table 4 summarizes the delay and LOS.

The intersection data is included in **Appendix E.**

DRIVEWAY ANALYSIS

The project will have a single driveway that will be a full access driveway located on Jenkins Road. **Figure 3** shows the driveway volumes for the AM and PM peak hours. The driveway was analyzed using HCS. The analysis shows the driveway will operate at LOS D for the westbound movement in the AM peak hour and a LOS C in the PM peak hour.

The need for turn lanes at the project driveway were analyzed. The need for a left-turn lane was analyzed using NCHRP 457 with a left-turn percentage of 9% of the advancing volume and an approaching volume of 570 and an opposing volume of 625, a southbound left-turn lane is warranted at the project driveway. NCHRP 457 was used to evaluate the need for a right-turn lane. With an approaching volume of 625 and a right-turn volume of 47, a northbound right-turn lane is warranted.

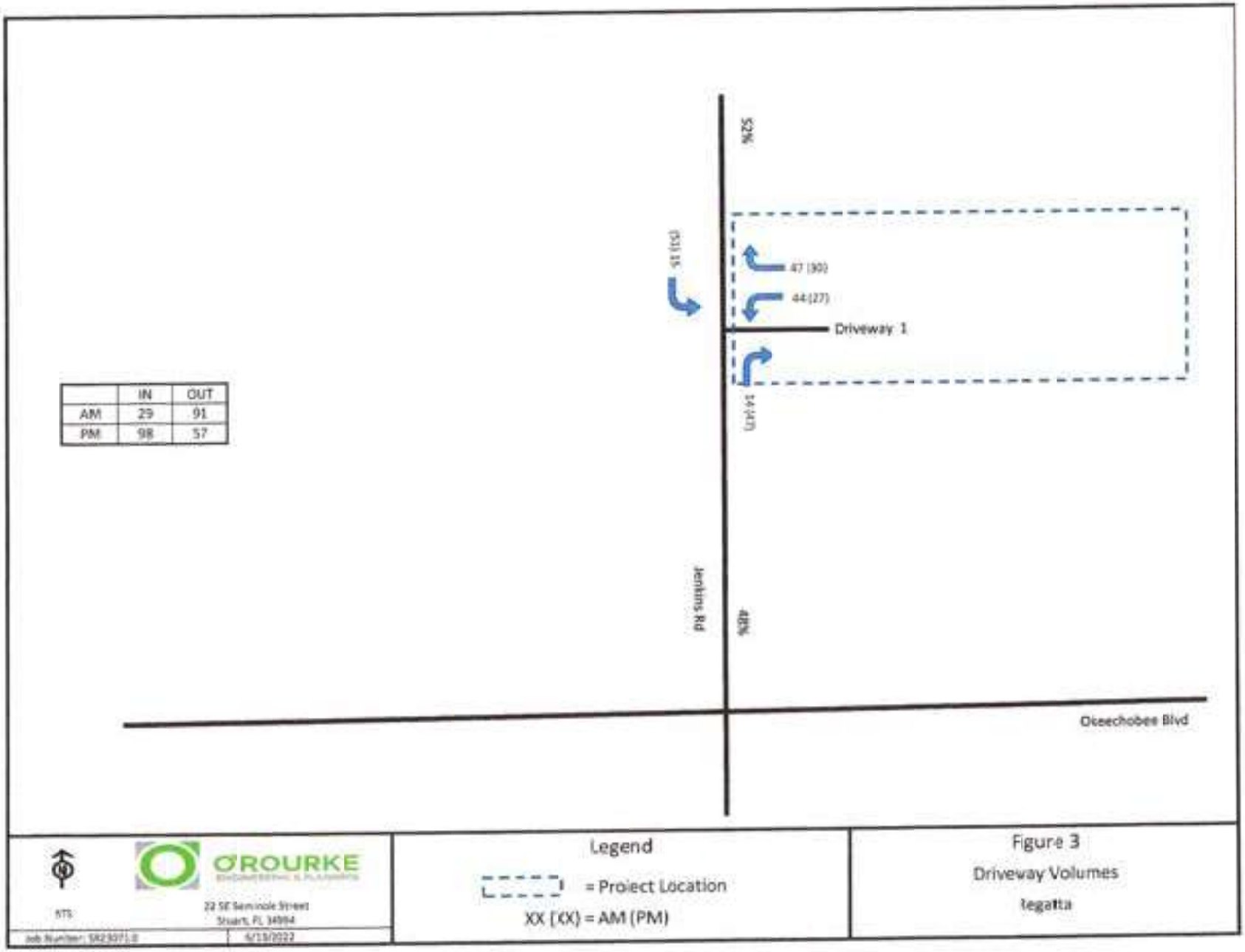
With a posted speed limit of 45 MPH, the required deceleration length for the turn lanes is 240'. The southbound left-turn lane has a queue of less than 1 vehicle in the AM and PM peak hours. Therefore, a queue of 1 vehicle was added to the southbound left-turn lane for a total length of 265'. The northbound right-turn lane does not have a queue. Therefore, a total length of 240' is proposed for the northbound right-turn lane.

The driveway data and analyses are included in **Appendix F.**

Table 4: Intersection Level of Service

Intersection	Period	Existing		2026 w/o Project		2026 w/o Project With Improvements		2026 w/ Project		2026 w/ Project With Improvements	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Jenkins Road & Graham Road	AM	18.3	C	135.9 / 61.9	F / E	46.2 / 43.9	E / E	219.7 / 99.5	F / F	60.0 / 99.5	E / F
	PM	16	C	287.3 / 75.5	F / F	97.9 / 75.5	F / E	420.7 / 115.2	F / F	126.9 / 115.2	F / F
Jenkins Road & Okeechobee Road	AM	42.2	D	59.7	D	N/A	-	55	D	N/A	-
	PM	39.2	D	51.9	D	N/A	-	52.2	D	N/A	-
Orange Avenue & Jenkins Avenue	AM	18.5	B	22.4	C	N/A	-	22.6	C	N/A	-
	PM	19.3	B	24.6	C	N/A	-	27.9	C	N/A	-

Note: XX /XX = Eastbound / Westbound Approaches


	IN	OUT
AM	29	91
PM	98	57
52%
48%
Jenkins Rd
Okeechobee Blvd
15 (5)
47 (30)
44 (27)
Driveway 1
14 (7)
NTS
O'ROURKE
22 SE Seminole Street
Stuart, FL 34994
Job Number: 5823071.0
6/13/2022
Legend
= Project Location
XX (XX) = AM (PM)
Figure 3
Driveway Volumes
Regatta

CONCLUSION

With 120 net new AM peak hour trips and 155 net new PM peak hour trips, all links and intersections operate at acceptable levels of service with the existing roadway network with the exception of the intersection of Jenkins Road & Graham Road.

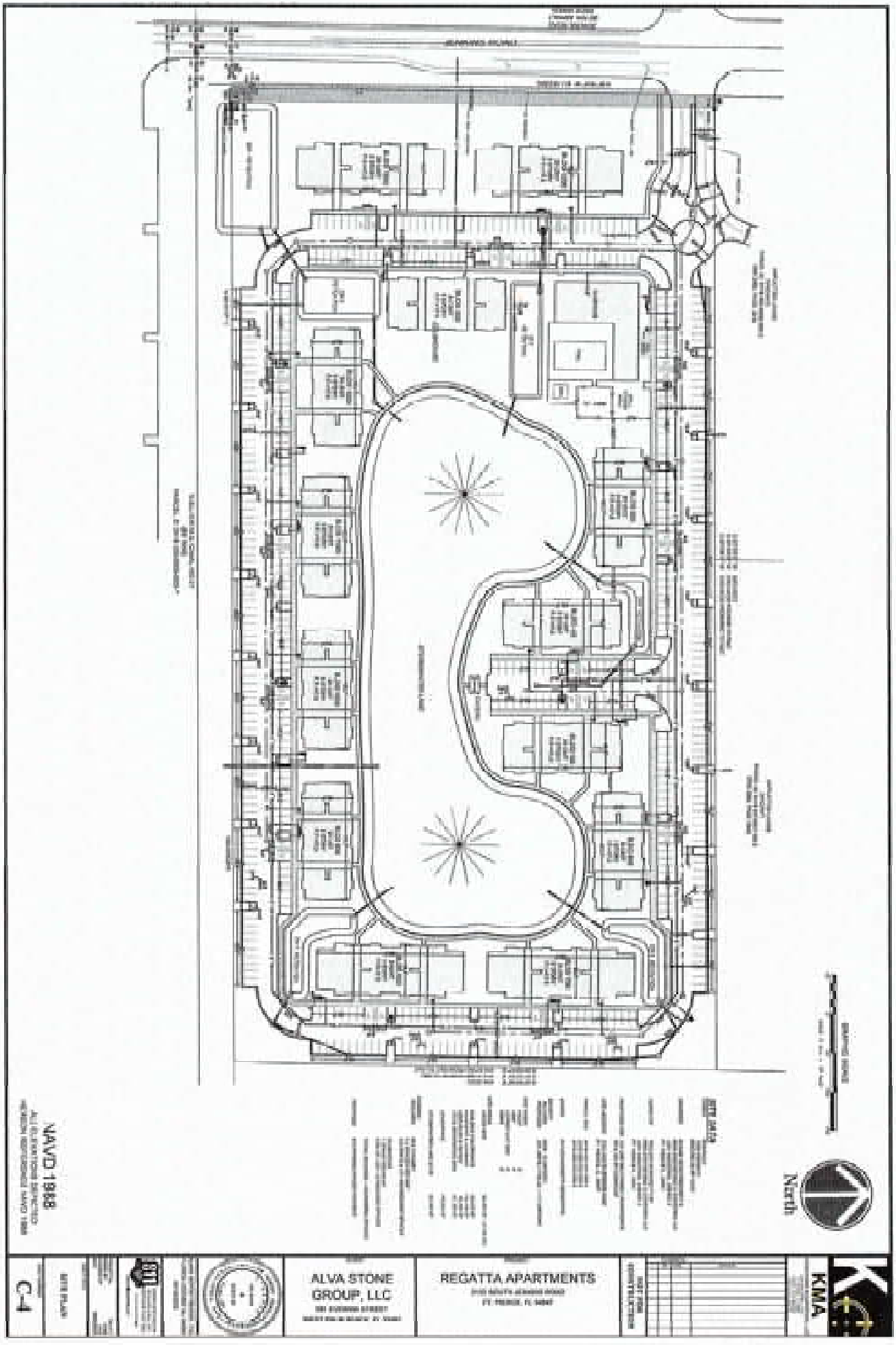
An eastbound left-turn lane is recommended for the interim conditions until the intersection meets the warrants for signalization. As this is a background failure without project traffic, the eastbound left-turn lane is not the responsibility of the project. The intersection should continue to be monitored for a signal warrant as developments in the area are completed.

A southbound left turn lane and a northbound right-turn lane on Jenkins Road at the Project Driveway are recommended.

Therefore, the project meets the requirements for concurrency.

APPENDIX A

SITE PLAN


NAVD 1988
North
ALVA STONE GROUP, LLC
REGATTA APARTMENTS
C-4
KIMLEY-HORN

APPENDIX B

ST. LUCIE COUNTY 2023 LEVEL OF SERVICE REPORT

St. Lucie Transportation Planning Organization

Coco Vista Centre
466 SW Port St. Lucie Blvd, Suite 111
Port St. Lucie, FL 34953
772-462-1593 www.stlucietpo.org

Traffic Counts and Level of Service Report
2023

Roadway Name	Location	AADT	Pk Hr Service Capacity	AM Pk Hr Pk Dir			PM Pk Hr Pk Dir		
				Volume	LOS	V/C	Volume	LOS	V/C
GATLIN BLVD	E OF I-95 to SAVAGE BLVD	49,323	3,170	2,408	C	0.76	2,408	C	0.76
GATLIN BLVD	SAVAGE BLVD to ROSSER BLVD	49,323	3,170	2,408	C	0.76	2,408	C	0.76
GATLIN BLVD	ROSSER BLVD to SAVONA BLVD	49,323	3,170	2,408	C	0.76	2,408	C	0.76
GATLIN BLVD	SAVONA BLVD to PORT ST LUCIE BLVD	49,323	3,170	2,408	C	0.76	2,408	C	0.76
GEORGIA AVE	25TH ST to OKEECHOBEE RD	4,000	600	233	C	0.39	223	C	0.37
GEORGIA AVE	OKEECHOBEE RD to 17TH ST	4,000	750	233	C	0.31	223	C	0.30
GEORGIA AVE	17TH ST to 13TH ST	5,400	600	275	C	0.46	277	C	0.46
GEORGIA AVE	13TH ST to 7TH ST	2,500	600	152	C	0.25	170	C	0.28
GEORGIA AVE	7TH ST to US 1	2,200	600	121	C	0.20	131	C	0.22
GILSON RD	MARTIN C.L. to BECKER RD	11,039	710	925	F	1.30	957	F	1.35
GILSON RD	BECKER RD to LAKERIDGE DR	11,039	540	925	F	1.71	957	F	1.77
GLADES CUT-OFF RD	RANGE LINE RD to RESERVE BLVD	2,894	1,070	182	B	0.17	192	B	0.18
GLADES CUT-OFF RD	RESERVE BLVD to COMMERCE CENTER DR	5,748	1,070	452	C	0.42	526	C	0.49
GLADES CUT-OFF RD	CARLTON RD to RANGE LINE RD	2,894	390	182	B	0.47	192	B	0.49
GLADES CUT-OFF RD	COMMERCE CENTER DR to MIDWAY RD	3,331	920	162	C	0.18	162	C	0.18
GLADES CUT-OFF RD	MIDWAY RD to JENKINS RD	10,767	790	647	D	0.82	685	D	0.87
GLADES CUT-OFF RD	JENKINS RD to SELVITZ RD	5,900	830	351	C	0.42	326	C	0.39
GRAHAM RD	KINGS HWY to JENKINS RD	2,686	630	170	C	0.27	170	C	0.27
GREEN RIVER PKWY	MARTIN C.L. to CHARLESTON DR	5,780	1,070	401	C	0.38	364	B	0.34
GREEN RIVER PKWY	CHARLESTON DR to MELALEUCA BLVD	5,780	1,070	401	C	0.38	364	B	0.34
GREEN RIVER PKWY	MELALEUCA BLVD to WALTON RD	5,780	1,070	401	C	0.38	364	B	0.34
HARTMAN RD	OKEECHOBEE RD to PETERSON RD	6,204	750	296	C	0.40	289	C	0.39
HARTMAN RD	PETERSON RD to DELAWARE AVE	6,204	540	296	D	0.55	289	D	0.54
HARTMAN RD	DELAWARE AVE to ORANGE AVE	6,204	790	296	C	0.38	289	C	0.37
HEADER CANAL RD	OKEECHOBEE RD to ORANGE AVE	598	670	50	B	0.08	60	B	0.09
HILLMOOR DR	US 1 to LENNARD RD	7,100	790	394	D	0.50	373	C	0.47
I-95	GATLIN BLVD to ST LUCIE WEST BLVD	87,285	5,500	5,058	D	0.92	5,058	D	0.92
I-95	ST LUCIE WEST BLVD to MIDWAY RD	70,410	5,500	4,080	C	0.74	4,080	C	0.74
I-95	MIDWAY RD to OKEECHOBEE RD	81,706	5,500	4,734	D	0.86	4,734	D	0.86

* Volumes shown were adjusted using FDOT Seasonal Factors
* AADT = Annual Average Daily Traffic

St. Lucie Transportation Planning Organization

Coor Vista Centre
466 SW Port St. Lucie Blvd, Suite 111
Port St. Lucie, FL 34953
772-462-1593 www.stlucietpo.org

Traffic Counts and Level of Service Report
2023

Roadway Name	Location	AADT	Pk Hr Service Capacity	AM Pk Hr Pk Dir			PM Pk Hr Pk Dir		
				Volume	LOS	V/C	Volume	LOS	V/C
I-95	OKEECHOBEE RD to ORANGE AVE	69,903	7,320	3,439	B	0.47	3,439	B	0.47
I-95	ORANGE AVE to INDRIO RD	52,086	7,320	3,018	B	0.41	3,018	B	0.41
INDIAN RIVER DR	CITRUS AVE to ORANGE AVE	5,559	750	276	C	0.37	276	C	0.37
INDIAN RIVER DR	ORANGE AVE to AVENUE A	6,098	750	302	C	0.40	302	C	0.40
INDIAN RIVER DR	AVENUE D to SEAWAY DR	6,293	790	312	C	0.40	312	C	0.40
INDIAN RIVER DR	AVENUE A to AVENUE D	6,293	540	312	D	0.58	312	D	0.58
INDRIO RD	PRIVATE RD to I-95 W RAMP	1,130	1,080	56	B	0.05	56	B	0.05
INDRIO RD	I-95 W RAMP to I-95 E RAMP	1,130	3,240	56	B	0.02	56	B	0.02
INDRIO RD	I-95 E RAMP to KOBLEGARD RD	11,474	3,240	560	B	0.17	560	B	0.17
INDRIO RD	KOBLEGARD RD to JOHNSTON RD	11,474	700	560	C	0.80	560	C	0.80
INDRIO RD	JOHNSTON RD to EMERSON AVE	11,474	880	560	C	0.64	560	C	0.64
INDRIO RD	EMERSON RD to SEMINOLE RD	10,743	920	524	C	0.57	524	C	0.57
INDRIO RD	SEMINOLE RD to KINGS HWY	10,743	790	524	D	0.66	524	D	0.66
INDRIO RD	KINGS HWY to SLASH PINE TRL	6,500	790	411	D	0.52	404	D	0.51
INDRIO RD	SLASH PINE TRL to US 1	6,500	920	411	C	0.45	404	C	0.44
INDRIO RD	US 1 to OLD DIXIE HWY	1,246	750	108	C	0.14	114	C	0.15
JENKINS RD	EDWARDS RD to OKEECHOBEE RD	10,375	880	488	C	0.56	535	C	0.61
JENKINS RD	OKEECHOBEE RD to GRAHAM RD	10,849	920	567	C	0.62	574	C	0.62
JENKINS RD	GRAHAM RD to PETERSON RD	10,849	630	567	C	0.90	574	C	0.91
JENKINS RD	PETERSON RD to ORANGE AVE	10,849	920	567	C	0.62	574	C	0.62
JENNINGS RD	US 1 to LENNARD RD	3,465	2,100	286	C	0.14	273	C	0.13
JOHNSTON RD	ANGLE RD to L20	2,909	1,070	228	B	0.21	200	B	0.19
JOHNSTON RD	L20 to MEADOWOOD DR	2,604	1,070	172	B	0.16	163	B	0.15
JOHNSTON RD	MEADOWOOD DR to OLD JOHNSTON RD	2,604	1,070	172	B	0.16	163	B	0.15
JOHNSTON RD	OLD JOHNSTON RD to INDRIO RD	2,604	1,070	172	B	0.16	163	B	0.15
JOHNSTON RD	INDRIO RD to RUSSOS RD	10,000	1,070	580	C	0.54	547	C	0.51
JOHNSTON RD	RUSSOS RD to INDIAN RIVER C.L.	10,000	1,070	580	C	0.54	547	C	0.51
JUANITA AVE	53RD ST to 25TH ST	1,972	750	126	C	0.17	103	C	0.14
JUANITA AVE	25TH ST to US 1	3,749	750	191	C	0.26	209	C	0.28

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* AADT = Annual Average Daily Traffic

St. Lucie Transportation Planning Organization

Cisco Vista Centre
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Port St. Lucie, FL 34953
772-462-1593 www.stlucietpo.org

Traffic Counts and Level of Service Report
2023

Roadway Name	Location	AADT	Pk Hr Service Capacity	AM Pk Hr Pk Dir			PM Pk Hr Pk Dir		
				Volume	LOS	V/C	Volume	LOS	V/C
KEEN RD	ANGLE RD to JUANITA AVE	3,200	630	234	C	0.37	253	C	0.40
KEEN RD	JUANITA AVE to ST LUCIE BLVD	3,200	630	234	C	0.37	253	C	0.40
KINGS HWY	OKEECHOBEE RD to CROSSROADS PKWY	9,383	880	472	C	0.54	472	C	0.54
KINGS HWY	CROSSROADS PKWY to GRAHAM RD	9,383	700	472	C	0.67	472	C	0.67
KINGS HWY	GRAHAM RD to PICOS RD	7,181	700	361	C	0.52	361	C	0.52
KINGS HWY	PICOS RD to ORANGE AVE	7,181	880	361	C	0.41	361	C	0.41
KINGS HWY	ORANGE AVE to ANGLE RD	15,247	920	767	C	0.83	767	C	0.83
KINGS HWY	ANGLE RD to ST LUCIE BLVD	11,202	880	547	C	0.62	547	C	0.62
KINGS HWY	ST LUCIE BLVD to JNDRIO RD	13,787	880	673	C	0.77	673	C	0.77
KIRBY LOOP RD	EDWARDS RD to 35TH ST	2,581	630	150	C	0.24	139	C	0.22
KITTIERMAN RD	OLEANDER AVE to US 1	2,600	750	167	C	0.22	136	C	0.18
KITTIERMAN RD	US 1 to LENNARD EXT	2,095	750	123	C	0.16	128	C	0.17
LENNARD RD	US 1 to MARIPOSA AVE	20,570	1,710	1,234	D	0.72	1,170	D	0.68
LENNARD RD	MARIPOSA AVE to MELALEUCA BLVD	20,570	1,710	1,234	D	0.72	1,170	D	0.68
LENNARD RD	MELALEUCA BLVD to JENNINGS RD	20,570	1,630	1,234	D	0.76	1,170	D	0.72
LENNARD RD	JENNINGS RD to HILLMOOR DR	20,570	1,710	1,234	D	0.72	1,170	D	0.68
LENNARD RD	HILLMOOR DR to TIFFANY AVE	20,570	1,710	1,234	D	0.72	1,170	D	0.68
LENNARD RD	TIFFANY AVE to WALTON RD	7,365	1,710	403	C	0.24	389	C	0.23
LENNARD RD	WALTON RD to S OF SAVANNA CLUB BLVD	3,748	790	259	C	0.33	246	C	0.31
LYNGATE DR	VETERANS MEMORIAL PKWY to MORNINGSIDE BLVD	9,700	920	612	C	0.67	553	C	0.60
LYNGATE DR	MORNINGSIDE BLVD to US 1	9,700	920	612	C	0.67	553	C	0.60
MARIPOSA AVE	LENNARD RD to HALLAHAN ST	7,300	880	568	C	0.65	541	C	0.62
MCCARTY RD	WILLIAMS RD to MIDWAY RD	364	540	27	C	0.05	25	C	0.05
MCCARTY RD	MIDWAY RD to OKEECHOBEE RD	431	540	37	C	0.07	37	C	0.07
MCNEIL RD	OKEECHOBEE RD to KIRBY LOOP RD	4,900	790	307	C	0.39	298	C	0.38
MCNEIL RD	KIRBY LOOP RD to EDWARDS RD	4,900	540	307	D	0.57	298	D	0.55
MELALEUCA BLVD	LENNARD RD to GREEN RIVER PKWY	10,710	920	630	C	0.69	601	C	0.65
MIDWAY RD	EAST TORINO PKWY to MILNER DR	25,000	880	1,245	F	1.42	1,298	F	1.48
MIDWAY RD	MILNER DR to W OF SELVITZ RD	25,000	790	1,245	F	1.58	1,298	F	1.64

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St. Lucie Transportation Planning Organization

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Traffic Counts and Level of Service Report
2023

Roadway Name	Location	AADT	Pk Hr Service Capacity	AM Pk Hr Pk Dir			PM Pk Hr Pk Dir		
				Volume	LOS	V/C	Volume	LOS	V/C
OKEECHOBEE RD	FLORIDA'S TURNPIKE to KINGS HWY	9,733	2,100	490	C	0.23	490	C	0.23
OKEECHOBEE RD	KINGS HWY to CROSSROADS PKWY	23,734	4,240	1,195	C	0.28	1,195	C	0.28
OKEECHOBEE RD	CROSSROADS PKWY to I-95	26,375	4,240	1,327	C	0.31	1,327	C	0.31
OKEECHOBEE RD	I-95 to JENKINS RD	32,142	4,240	1,569	C	0.37	1,569	C	0.37
OKEECHOBEE RD	JENKINS RD to MCNEIL RD	32,142	4,040	1,569	C	0.39	1,569	C	0.39
OKEECHOBEE RD	MCNEIL RD to VIRGINIA AVE	31,230	3,170	1,524	C	0.48	1,524	C	0.48
OKEECHOBEE RD	VIRGINIA AVE to HARTMAN RD	15,500	2,100	802	C	0.38	791	C	0.38
OKEECHOBEE RD	HARTMAN RD to 35TH ST	15,500	1,630	802	D	0.49	791	D	0.49
OKEECHOBEE RD	35TH ST to 33RD ST	16,500	1,630	859	D	0.53	822	D	0.50
OKEECHOBEE RD	33RD ST to 25TH ST	16,500	1,630	859	D	0.53	822	D	0.50
OKEECHOBEE RD	25TH ST to GEORGIA AVE	12,000	1,630	695	C	0.43	616	C	0.38
OKEECHOBEE RD	GEORGIA AVE to DELAWARE AVE	12,000	1,710	695	C	0.41	616	C	0.36
OLD DIXIE HWY	US 1 to SR A1A NORTH	830	790	129	C	0.16	123	C	0.16
OLD DIXIE HWY	SR A1A NORTH to ST LUCIE BLVD	1,753	750	62	C	0.11	82	C	0.11
OLD DIXIE HWY	ST LUCIE BLVD to INDRIO RD	2,125	790	172	C	0.22	126	C	0.16
OLD DIXIE HWY	INDRIO RD to INDIAN RIVER C.L.	1,340	870	63	C	0.07	63	C	0.07
OLEANDER AVE	BEACH AVE to KITTERMAN RD	2,970	540	172	C	0.32	194	C	0.36
OLEANDER AVE	KITTERMAN RD to MIDWAY RD	6,162	750	358	C	0.48	358	C	0.48
OLEANDER AVE	MIDWAY RD to WEATHERBEE RD	6,400	750	362	C	0.48	365	C	0.49
OLEANDER AVE	WEATHERBEE RD to BELL AVE	6,400	540	362	D	0.67	365	D	0.68
OLEANDER AVE	BELL AVE to FARMER'S MARKET RD	12,703	540	613	F	1.14	581	F	1.08
OLEANDER AVE	FARMER'S MARKET RD to EDWARDS RD	12,703	750	613	D	0.82	581	D	0.78
OLEANDER AVE	EDWARDS RD to WISTERIA AVE	9,907	750	601	D	0.80	500	D	0.67
OLEANDER AVE	WISTERIA AVE to GARDENIA AVE	9,907	540	601	F	1.11	500	D	0.93
OLEANDER AVE	GARDENIA AVE to VIRGINIA AVE	9,907	790	601	D	0.76	500	D	0.63
OLEANDER AVE	VIRGINIA AVE to SUNRISE BLVD	5,500	600	309	D	0.52	320	D	0.53
ORANGE AVE	OKEECHOBEE C.L. to SNEED RD	5,195	670	303	C	0.45	289	C	0.43
ORANGE AVE	SNEED RD to HEADER CANAL RD	5,195	670	303	C	0.45	289	C	0.43
ORANGE AVE	HEADER CANAL RD to SHINN RD	5,195	670	303	C	0.45	289	C	0.43

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2023

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				Volume	LOS	V/C	Volume	LOS	V/C
ORANGE AVE	SKINN RD to CAMPBELL RD	2,957	1,070	142	B	0.13	142	B	0.13
ORANGE AVE	CAMPBELL RD to KINGS HWY	2,957	1,070	142	B	0.13	142	B	0.13
ORANGE AVE	KINGS HWY to I-95	18,080	2,100	910	C	0.43	910	C	0.43
ORANGE AVE	I-95 to JENKINS RD	14,693	2,100	717	C	0.34	717	C	0.34
ORANGE AVE	JENKINS RD to HARTMAN RD	16,898	2,100	825	C	0.39	825	C	0.39
ORANGE AVE	HARTMAN RD to ANGLE RD	16,898	2,100	825	C	0.39	825	C	0.39
ORANGE AVE	ANGLE RD to 25TH ST	9,547	1,710		B			B	
ORANGE AVE	25TH ST to 17TH ST	13,554	1,630	661	C	0.41	661	C	0.41
ORANGE AVE	17TH ST to 13TH ST	13,554	1,710	661	C	0.39	661	C	0.39
ORANGE AVE	13TH ST to 10TH ST	13,554	750	661	D	0.88	661	D	0.88
ORANGE AVE	10TH ST to 7TH ST	9,873	600	482	D	0.80	482	D	0.80
ORANGE AVE	7TH ST to US 1	7,622	600	372	D	0.62	372	D	0.62
ORANGE AVE	US 1 to 2ND ST	4,209	600	209	C	0.35	209	C	0.35
ORANGE AVE	2ND ST to INDIAN RIVER DR	4,209	750	209	C	0.28	209	C	0.28
PARR DR	PORT ST LUCIE BLVD to DARWIN BLVD	2,283	700	177	C	0.25	153	C	0.22
PARR DR	DARWIN BLVD to TULIP BLVD	2,100	540	184	C	0.34	140	C	0.26
PARR DR	SAVONA BLVD to PORT ST LUCIE BLVD	2,283	700	177	C	0.25	153	C	0.22
PARR DR	ROSSER BLVD to SAVONA BLVD	2,283	630	177	C	0.28	153	C	0.24
PEACOCK BLVD	CALIFORNIA BLVD to CASHMERE BLVD	5,417	630	343	C	0.54	381	C	0.61
PEACOCK BLVD	UNIVERSITY BLVD to CALIFORNIA BLVD	11,327	920	778	C	0.85	637	C	0.69
PEACOCK BLVD	ST LUCIE WEST BLVD to UNIVERSITY BLVD	15,129	2,100	699	C	0.33	699	C	0.33
PETERSON RD	BENT CREEK DR to HARTMAN RD	2,195	540	163	C	0.30	150	C	0.28
PICOS RD	CAMPBELL RD to KINGS HWY	1,300	540	87	C	0.16	87	C	0.16
PORT ST LUCIE BLVD	MARTIN C.L. to BECKER RD	16,735	920	774	C	0.84	774	C	0.84
PORT ST LUCIE BLVD	BECKER RD to PAAR DR	16,735	920	774	C	0.84	774	C	0.84
PORT ST LUCIE BLVD	PAAR DR to TULIP BLVD	16,735	700	774	F	1.11	774	F	1.11
PORT ST LUCIE BLVD	TULIP BLVD to DARWIN BLVD	16,735	920	774	C	0.84	774	C	0.84
PORT ST LUCIE BLVD	DARWIN BLVD to GATLIN BLVD	34,500	3,070	1,765	C	0.58	1,744	C	0.58
PORT ST LUCIE BLVD	GATLIN BLVD to DEL RIO BLVD	44,000	3,170	2,481	C	0.78	2,389	C	0.75

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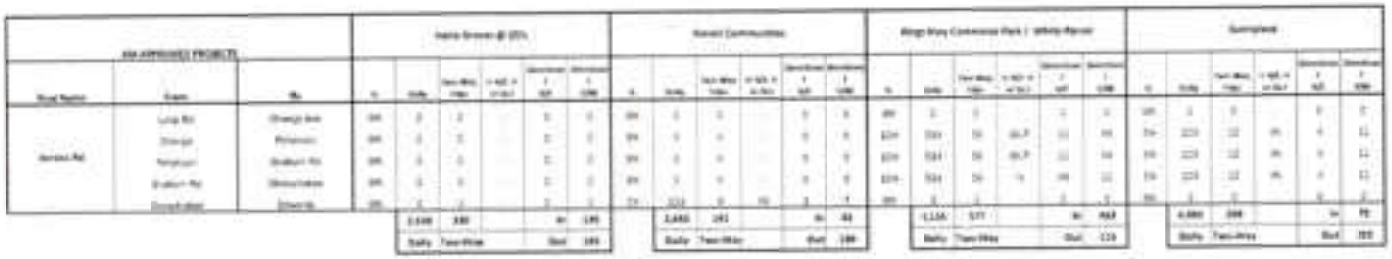
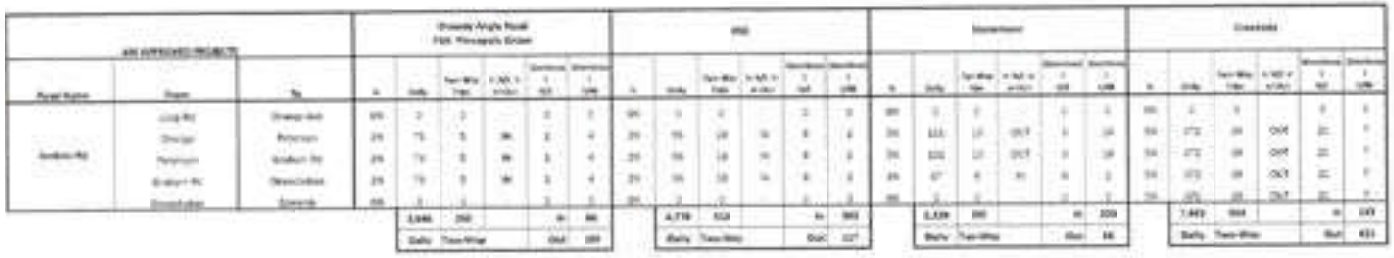
APPENDIX C

OTHER PROJECT DATA/GROWTH RATE



C-1



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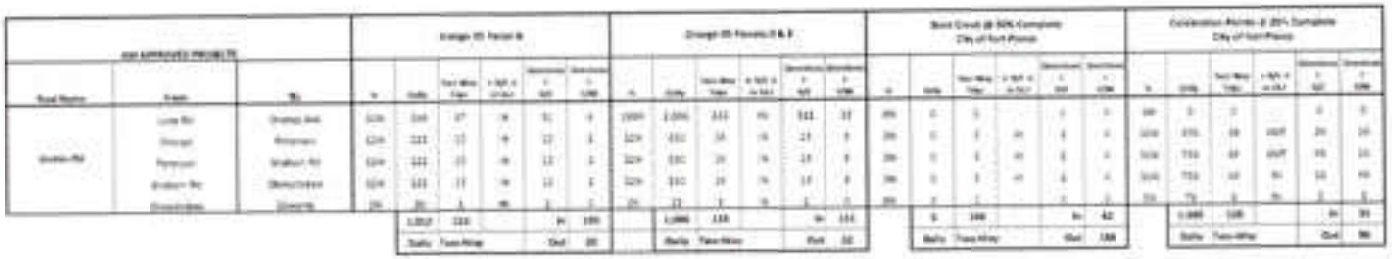

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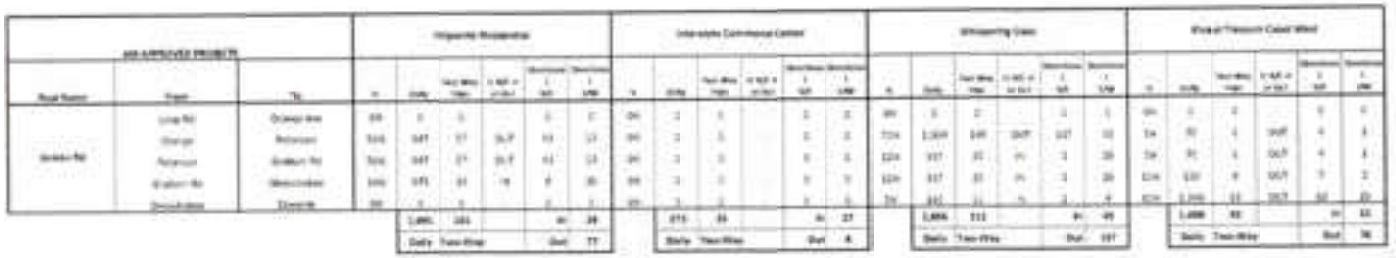
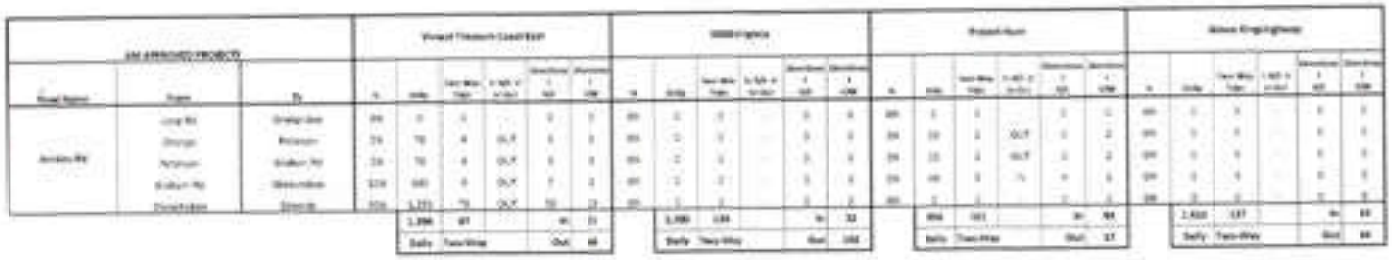
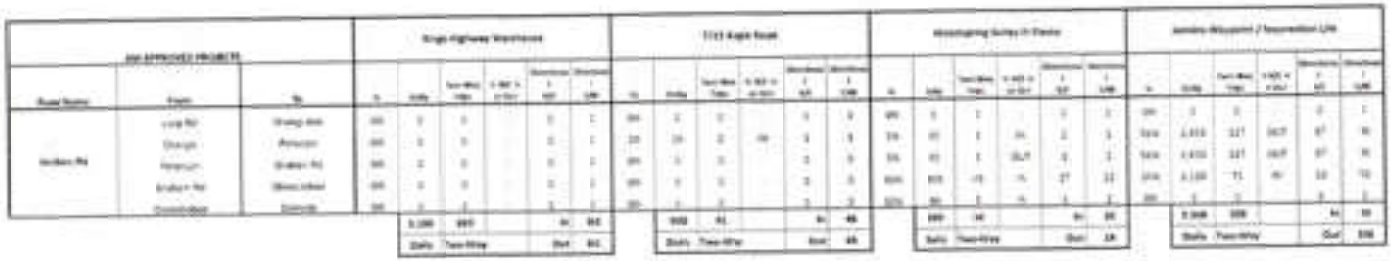
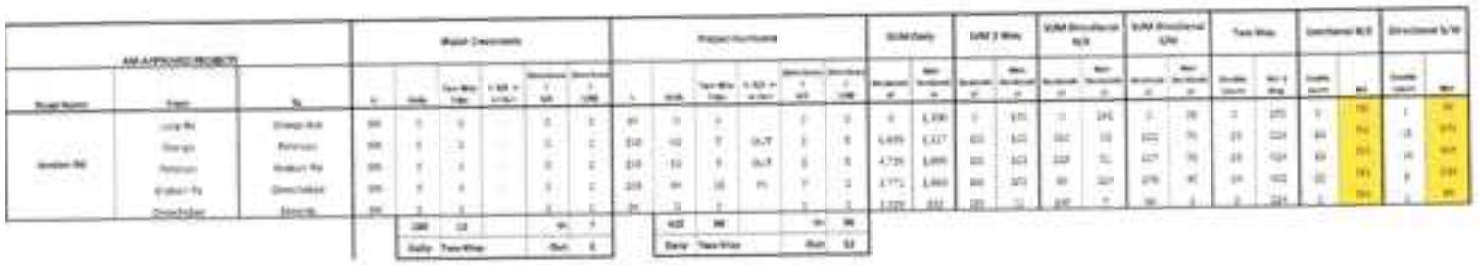
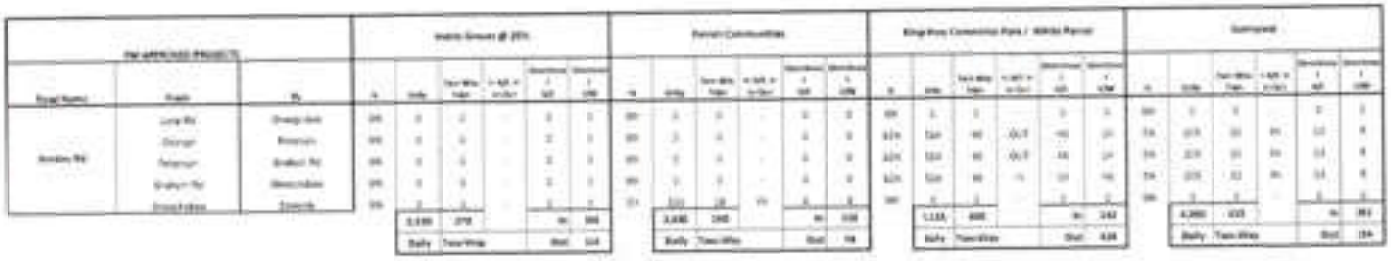
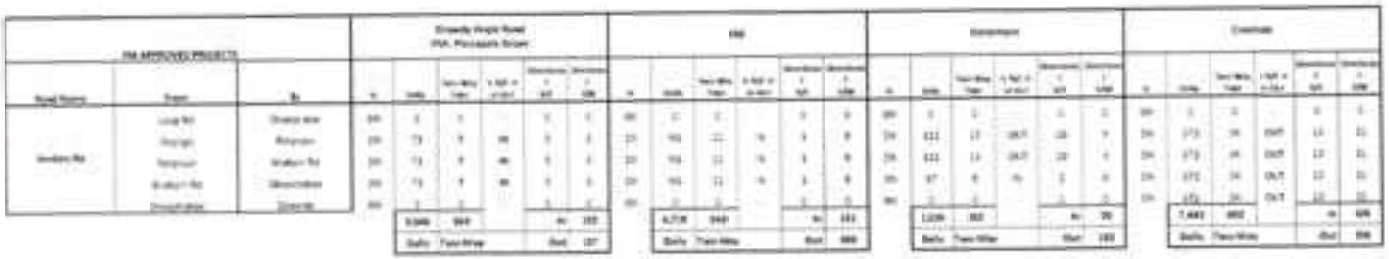


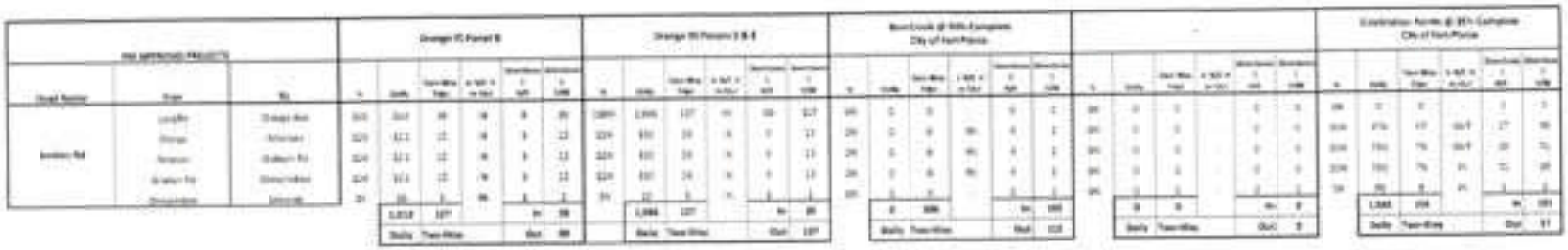


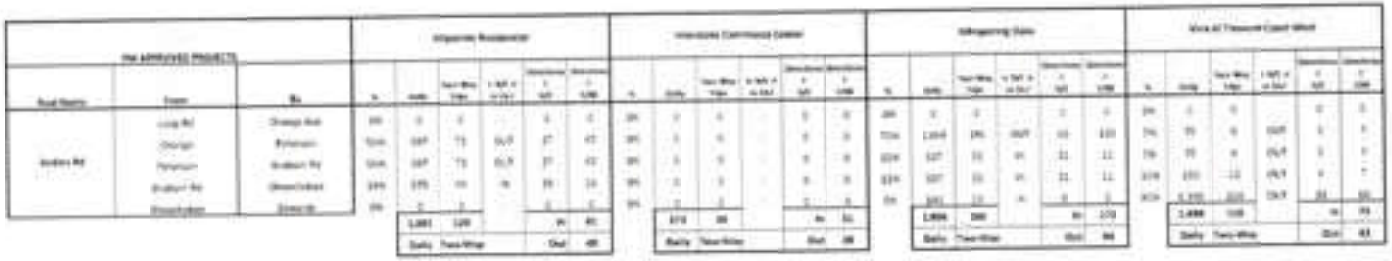


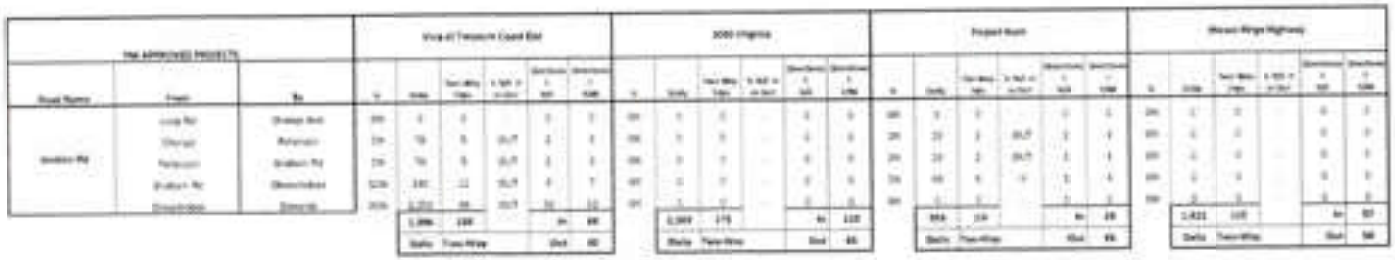


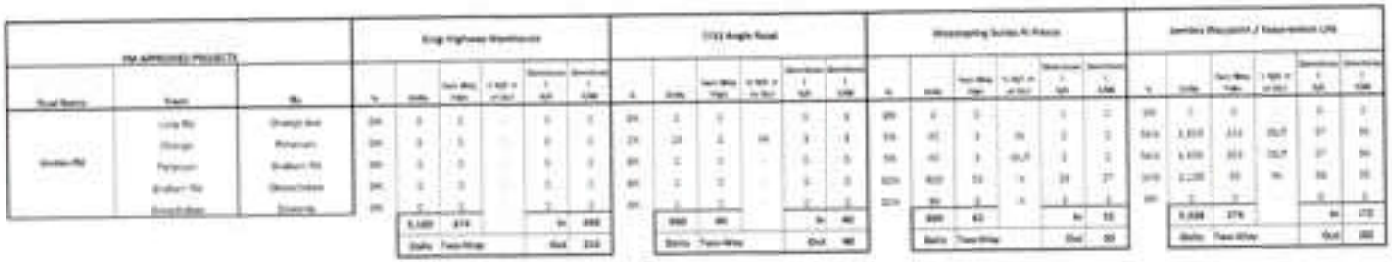


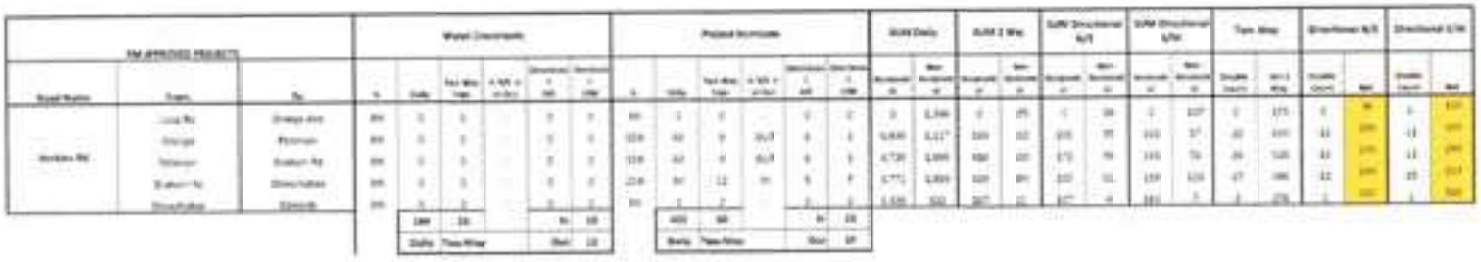












FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2022 HISTORICAL AADT REPORT

COUNTY: 94 - ST.LUCIE

SITE: 0273 - CR 611/JENKINS RD - E. OF SR 70/OKEECHOBEE RD (COUNTY 131)

YEAR	AADT	DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
2022	8600 T	N	4300	S	4300	9.00	51.40	5.00
2021	8600 S	N	4300	S	4300	9.00	50.90	7.20
2020	8800 F	N	4400	S	4400	9.00	51.30	31.50
2019	9200 C	N	4600	S	4600	9.00	51.00	7.80
2018	10000 V	N	4400	S	5600	9.00	51.30	5.80
2017	9900 R	N	4400	S	5500	9.00	50.90	10.00
2016	9700 T	N	4300	S	5400	9.00	50.90	6.20
2015	9600 S	N	4300	S	5300	9.00	51.00	41.80
2014	9600 F	N	4300	S	5300	9.00	50.80	49.50
2013	9600 C	N	4300	S	5300	9.00	50.80	11.90
2012	7100 S	N	3600	S	3500	9.00	56.80	4.80
2011	7100 F	N	3600	S	3500	9.00	57.20	4.80
2010	7100 C	N	3600	S	3500	10.32	55.40	4.80
2009	8500 C	N	4200	S	4300	10.27	57.35	10.70
2008	9100 C	N	4500	S	4600	10.45	58.06	6.60

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Historical Growth Rate Calculation

Segment	From	To	2020 AADT	2023 AADT	3 Year Historical Growth Rate
Jenkins Rd	Graham Rd	Okeechobee Rd	10,500	10,849	1.10%

*Source St Lucie County Traffic Counts and Level of Service Reports

AM Peak Hour - D Factor Calculation

Segment	Location	Time	Direction		D Factor
			N/E	S/W	
Jenkins Road	South of Orange	7:15-8:15	187	160	0.539
	North of Graham	8:00-9:00	159	217	0.577
	South of Graham	8:00-9:00	317	330	0.603

Source: TMC Counts

PM Peak Hour - D Factor Calculation

Segment	Location	Time	Direction		D Factor
			N/E	S/W	
Jenkins Road	South of Orange	4:30-5:30	223	287	0.563
	North of Graham	4:15-5:15	287	254	0.530
	South of Graham	4:15-5:15	355	362	0.505

Source: TMC Counts

APPENDIX D

ARTERIAL ANALYSIS

ARTPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	James Kemp	**Arterial Name**	Jenkins Road	**Study Period**	Dir Hr Demand Vol
Date Prepared	7/27/2023 4:56:07 PM	**From**	Okeechobee Rd	**Modal Analysis**	Auto Only
Agency	O'Rourke Engineering	**To**	Orange Ave	**Program**	ARTPLAN 2012
Area Type	Other Urbanized	**Peak Direction**	Northbound	**Version Date**	12/12/2012
Arterial Class	1				
File Name	C:\Users\admin\Documents\Projects\St. Lucie\Regatta\10.19.23\Artplan\C6 - Jenkins Rd - AM - NB - 10.31.23.xap				
User Notes	AM Peak Hour - Northbound				

Arterial Data

K	0.09	**PHF**	0.97	**Control Type**	FullyActuated
D	0.565	**% Heavy Vehicles**	2	**Base Sat. Flow Rate**	1950

Automobile Intersection Data

Cross Street	Cycle Length	Thru g/C	Arr. Type	INT # Dir.Lanes	% Left Turns	% Right Turns	Left Turn Lanes	Left Turn Phasing	# Left Turn Lanes	LT Storage Length	Left g/C	Right Turn Lanes
Orange Ave	150	0.32	3	1	33	33	Yes	ProtPerm	1	300	0.12	Yes

Automobile Segment Data

Segment #	Length	AADT	Hourly Vol.	SEG # Dir.Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
1 (to Orange Ave)	10560	15000	968	1	45	50	None	No	N/A

Automobile LOS

Segment #	Thru Mvmt Flow Rate	Adj. Sat. Flow Rate	v/c	Control Delay	Int. Approach LOS	Queue Ratio	Speed (mph)	Segment LOS
1 (to Orange Ave)	339	1053	1.007	67.65	E	#	32.31	B

Arterial Length	2.0114	Weighted g/C	0.32	FFS Delay	80.10	Threshold Delay	0.00	Auto Speed	32.31	Auto LOS	B

Automobile Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1000 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	**	1000	***	***	***
2	120	1920	***	***	***
3	190	2900	***	***	***
4	250	3880	***	***	***
*	**	1000	***	***	***
Lanes	**Hourly Volume In Both Directions**				
2	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
*	N/A	N/A	N/A	N/A	N/A
Lanes	**Annual Average Daily Traffic**				
2	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
*	N/A	N/A	N/A	N/A	N/A

*** Service Volumes for the specific facility being analyzed, based on # of lanes from the intersection and segment data screens.**
**** Cannot be achieved based on input data provided.**
***** Not applicable for that level of service letter grade. See generalized tables notes for more details.**
 # Under the given conditions, left turn lane storage is highly likely to overflow. The number of directional thru lanes should be reduced accordingly.
Facility weighted g/C exceeds normally acceptable upper range (0.5); verify that g/C inputs are correct.
Intersection capacity (ies) are exceeded for the full hour; an operational level analysis tool is more appropriate for this situation.

ARTPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	James Kemp	**Arterial Name**	Jenkins Road	**Study Period**	Dir Hr Demand Vol
Date Prepared	7/27/2023 4:56:07 PM	**From**	Orange Ave	**Modal Analysis**	Auto Only
Agency	O'Rourke Engineering	**To**	Okeechobee Rd	**Program**	ARTPLAN 2012
Area Type	Other Urbanized	**Peak Direction**	Southbound	**Version Date**	12/12/2012
Arterial Class	1				
File Name	C:\Users\admin\Documents\Projects\St. Lucie\Regatta\10.19.23\Artplan\C6 - Jenkins Rd - AM - SB - 10.31.23.xap				
User Notes	AM Peak Hour - Southbound				

Arterial Data

K	0.09	**PHF**	0.96	**Control Type**	FullyActuated
D	0.565	**% Heavy Vehicles**	2	**Base Sat. Flow Rate**	1950

Automobile Intersection Data

Cross Street	Cycle Length	Thru g/C	Arr. Type	INT # Dir.Lanes	% Left Turns	% Right Turns	Left Turn Lanes	Left Turn Phasing	# Left Turn Lanes	LT Storage Length	Left g/C	Right Turn Lanes
Okeechobee Rd	150	0.25	3	2	20	40	Yes	Protected	2	470	0.12	Yes

Automobile Segment Data

Segment #	Length	AADT	Hourly Vol.	SEG # Dir.Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
1 (to Okeechobee Rd)	10560	8600	759	1	45	50	None	No	N/A

Automobile LOS

Segment #	Thru Mvmt Flow Rate	Adj. Sat. Flow Rate	v/c	Control Delay	Int. Approach LOS	Queue Ratio	Speed (mph)	Segment LOS
1 (to Okeechobee Rd)	316	1732	0.730	54.96	D	0.20	34.80	B

Arterial Length	2.0114	Weighted g/C	0.25	FFS Delay	64.05	Threshold Delay	0.00	Auto Speed	34.80	Auto LOS	B

Automobile Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1000 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	**	560	***	***	***
2	**	1100	***	***	***
3	**	1640	***	***	***
4	**	2200	***	***	***
*	**	1060	1100	***	***
Lanes	**Hourly Volume In Both Directions**				
2	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
*	N/A	N/A	N/A	N/A	N/A
Lanes	**Annual Average Daily Traffic**				
2	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
*	N/A	N/A	N/A	N/A	N/A

*** Service Volumes for the specific facility being analyzed, based on # of lanes from the intersection and segment data screens.**
**** Cannot be achieved based on input data provided.**
***** Not applicable for that level of service letter grade. See generalized tables notes for more details.**
 # Under the given conditions, left turn lane storage is highly likely to overflow. The number of directional thru lanes should be reduced accordingly.
Facility weighted g/C exceeds normally acceptable upper range (0.5); verify that g/C inputs are correct.
Intersection capacity (ies) are exceeded for the full hour; an operational level analysis tool is more appropriate for this situation.

ARTPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	James Kemp	**Arterial Name**	Jenkins Road	**Study Period**	**Dir Hr Demand Vol**
Date Prepared	7/27/2023 4:56:07 PM	**From**	Okeechobee Rd	**Modal Analysis**	Auto Only
Agency	O'Rourke Engineering	**To**	Orange Ave	**Program**	ARTPLAN 2012
Area Type	Other Urbanized	**Peak Direction**	Northbound	**Version Date**	12/12/2012
Arterial Class	1				
File Name	C:\Users\admin\Documents\Projects\St. Lucie\Regatta\10.19.23\Artplan\C6 - Jenkins Rd - PM - NB - 10.31.23.xap				
User Notes	PM Peak Hour - Northbound				

Arterial Data

K	0.09	**PHF**	0.95	**Control Type**	FullyActuated
D	0.565	**% Heavy Vehicles**	2	**Base Sat. Flow Rate**	1950

Automobile Intersection Data

Cross Street	Cycle Length	Thru g/C	Arr. Type	INT # Dir.Lanes	% Left Turns	% Right Turns	Left Turn Lanes	Left Turn Phasing	# Left Turn Lanes	LT Storage Length	Left g/C	Right Turn Lanes
Orange Ave	150	0.35	3	1	35	30	Yes	ProtPerm	1	235	0.15	Yes

Automobile Segment Data

Segment #	Length	AADT	Hourly Vol.	SEG # Dir.Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
1 (to Orange Ave)	10560	8600	876	1	45	50	None	No	N/A

Automobile LOS

Segment #	Thru Mvmt Flow Rate	Adj. Sat. Flow Rate	v/c	Control Delay	Int. Approach LOS	Queue Ratio	Speed (mph)	Segment LOS
1 (to Orange Ave)	323	1115	0.827	50.91	D	#	35.15	B

Arterial Length	2.0114	Weighted g/C	0.35	FFS Delay	62.03	Threshold Delay	0.00	Auto Speed	35.15	Auto LOS	B

Automobile Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1000 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	190	1100	1140	***	***
2	390	2200	***	***	***
3	620	3340	***	***	***
4	830	4460	***	***	***
*	190	1100	1140	***	***
Lanes	**Hourly Volume In Both Directions**				
2	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
*	N/A	N/A	N/A	N/A	N/A
Lanes	**Annual Average Daily Traffic**				
2	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
*	N/A	N/A	N/A	N/A	N/A

*** Service Volumes for the specific facility being analyzed, based on # of lanes from the intersection and segment data screens.**
**** Cannot be achieved based on input data provided.**
***** Not applicable for that level of service letter grade. See generalized tables notes for more details.**
 # Under the given conditions, left turn lane storage is highly likely to overflow. The number of directional thru lanes should be reduced accordingly.
Facility weighted g/C exceeds normally acceptable upper range (0.5); verify that g/C inputs are correct.
Intersection capacity (ies) are exceeded for the full hour; an operational level analysis tool is more appropriate for this situation.

ARTPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	James Kemp	**Arterial Name**	Jenkins Road	**Study Period**	Dir Hr Demand Vol
Date Prepared	7/27/2023 4:56:07 PM	**From**	Orange Ave	**Modal Analysis**	Auto Only
Agency	O'Rourke Engineering	**To**	Okeechobee Rd	**Program**	ARTPLAN 2012
Area Type	Other Urbanized	**Peak Direction**	Southbound	**Version Date**	12/12/2012
Arterial Class	1				
File Name	C:\Users\admin\Documents\Projects\St. Lucie\Regatta\10.19.23\Artplan\C6 - Jenkins Rd - PM - SB - 10.31.23.xap				
User Notes	PM Peak Hour - Southbound				

Arterial Data

K	0.09	**PHF**	0.99	**Control Type**	FullyActuated
D	0.565	**% Heavy Vehicles**	2	**Base Sat. Flow Rate**	1950

Automobile Intersection Data

Cross Street	Cycle Length	Thru g/C	Arr. Type	INT # Dir.Lanes	% Left Turns	% Right Turns	Left Turn Lanes	Left Turn Phasing	# Left Turn Lanes	LT Storage Length	Left g/C	Right Turn Lanes
Okeechobee Rd	150	0.35	3	2	36	28	Yes	Protected	2	470	0.15	Yes

Automobile Segment Data

Segment #	Length	AADT	Hourly Vol.	SEG # Dir.Lanes	Posted Speed	Free Flow Speed	Median Type	On-Street Parking	Parking Activity
1 (to Okeechobee Rd)	10560	8600	1004	1	45	50	None	No	N/A

Automobile LOS

Segment #	Thru Mvmt Flow Rate	Adj. Sat. Flow Rate	v/c	Control Delay	Int. Approach LOS	Queue Ratio	Speed (mph)	Segment LOS
1 (to Okeechobee Rd)	365	2245	0.053	32.30	C	0.65	38.30	B

Arterial Length	2.0114	Weighted g/C	0.35	FFS Delay	45.06	Threshold Delay	0.00	Auto Speed	38.30	Auto LOS	B

Automobile Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1000 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	210	1180	***	***	***
2	420	2300	***	***	***
3	660	3460	***	***	***
4	890	4640	***	***	***
*	290	1780	2300	***	***
Lanes	**Hourly Volume In Both Directions**				
2	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
*	N/A	N/A	N/A	N/A	N/A
Lanes	**Annual Average Daily Traffic**				
2	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
*	N/A	N/A	N/A	N/A	N/A

*** Service Volumes for the specific facility being analyzed, based on # of lanes from the intersection and segment data screens.**
**** Cannot be achieved based on input data provided.**
***** Not applicable for that level of service letter grade. See generalized tables notes for more details.**
 # Under the given conditions, left turn lane storage is highly likely to overflow. The number of directional thru lanes should be reduced accordingly.
Facility weighted g/C exceeds normally acceptable upper range (0.5); verify that g/C inputs are correct.
Intersection capacity (les) are exceeded for the full hour; an operational level analysis tool is more appropriate for this situation.

APPENDIX E

INTERSECTION ANALYSIS

TURNING MOVEMENT VOLUME COUNTS

N/S STREET: Jenkins Road
E/W STREET: [illegible]
CONTROL: TWSC
FILENAME:
COUNT DATE: [illegible]
DAY: Wednesday
CITY: [illegible]
REPORT DATE: [illegible]
ANALYSIS YEAR: [illegible]
Existing

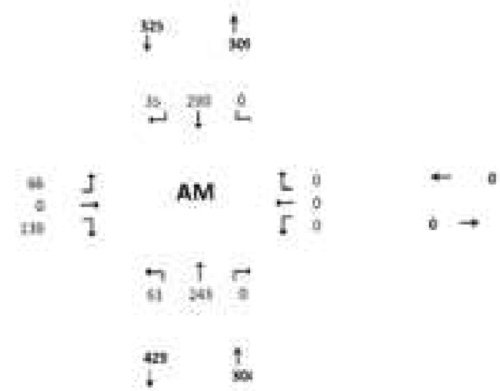
15 Min Period	Northbound NBL	NBT	NBR	Southbound SBL	SBT	SBR	Eastbound EBL	EBT	EBR	Westbound WBL	WBT	WBR	TOTAL	ONE HOUR SUM
7:00-7:15	11	40	0	0	51	9	7	0	17	0	0	0	136	796
7:15-7:30	15	49	0	0	48	7	19	0	31	0	0	0	184	814
7:30-7:45	23	70	0	0	43	8	20	0	40	0	0	0	184	810
7:45-8:00	13	75	0	0	66	10	15	0	36	0	0	0	211	775
8:00-8:15	8	49	0	0	73	8	6	0	28	0	0	0	174	744
8:15-8:30	15	57	0	0	57	7	7	0	32	0	0	0	175	
8:30-8:45	15	40	0	0	53	5	10	0	41	0	0	0	159	
8:45-9:00	15	38	0	0	61	7	7	0	30	0	0	0	161	

AM PEAK HOUR STARTS: 7:15AM TO 8:15AM

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Volumes	61	243	0	0	280	35	66	0	139	0	0	0	824
Season Factor	61	243	0	0	280	35	66	0	139	0	0	0	824
Growth	61	243	0	0	280	35	66	0	139	0	0	0	824
In/Out													
Percentage	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PROJECT	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	61	243	0	0	280	35	66	0	139	0	0	0	824

Seasonal Factor: 1
Growth Rate: 1
Years Grown: 0
PHF: 0.93
Trips In: 0
Trips Out: 0

← 96
205 →



Jackson & Graham
Existing

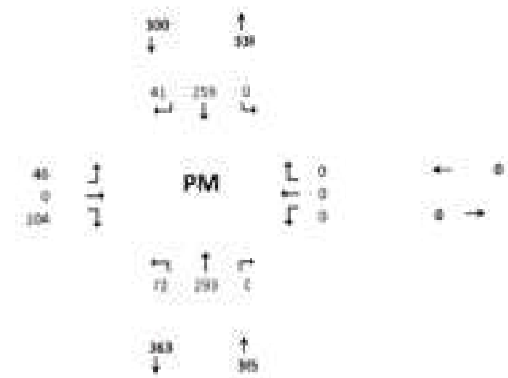
15 Min Period Begin	Northbound NBL	NBT	NBR	Southbound SBL	SBT	SBR	Eastbound EBL	EBT	EBR	Westbound WBL	WBT	WBR	TOTAL	ONE HOUR SUM
4:00-4:15	23	81	0	0	60	6	16	0	34	0	0	0	220	813
4:15-4:30	17	71	0	0	63	18	13	0	14	0	0	0	198	814
4:30-4:45	16	68	0	0	64	13	11	0	30	0	0	0	199	798
4:45-5:00	19	73	0	0	51	12	8	0	28	0	0	0	199	774
5:00-5:15	21	77	0	0	51	14	13	0	24	0	0	0	218	742
5:15-5:30	18	55	0	0	37	17	8	0	22	0	0	0	172	
5:30-5:45	14	69	0	0	42	9	18	0	21	0	0	0	175	
5:45-6:00	13	80	0	0	41	7	8	0	13	0	0	0	127	

PM PEAK HOUR STARTS: 4:00PM TO 5:00PM

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Volumes	72	293	0	0	259	41	46	0	104	0	0	0	815
Season Factor	72	293	0	0	259	41	46	0	104	0	0	0	815
Growth	72	293	0	0	259	41	46	0	104	0	0	0	815
In/Out													
Percentage	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PROJECT	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	72	293	0	0	259	41	46	0	104	0	0	0	815

Seasonal Factor: 1
Growth Rate: 1
Years Grown: 0
PHF: 0.93
Trips In:
Trips Out:

← 113
150 →



HCS Two-Way Stop-Control Report

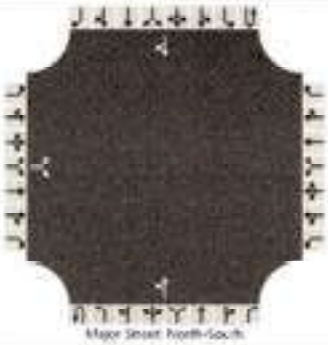
General Information

Analyst	James Kemp
Agency/Co.	O'Rourke Engineering
Date Performed	7/26/2023
Analysis Year	2022
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	Existing

Site Information

Intersection	Graham & Jenkins
Jurisdiction	St. Lucie
East/West Street	Graham Road
North/South Street	Jenkins Ave
Peak Hour Factor	0.85
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		66		139						61	243				290	35
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			241							72						
Capacity, c (veh/h)			508							1171						
v/c Ratio			0.47							0.06						
95% Queue Length, Q_{95} (veh)			2.5							0.2						
Control Delay (s/veh)			18.3							8.3	0.6					
Level of Service (LOS)			C							A	A					
Approach Delay (s/veh)		18.3								2.1						
Approach LOS		C								A						

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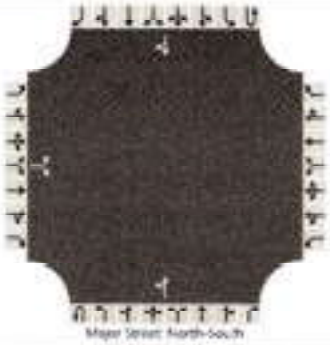
HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	James Kemp	Intersection	Graham & Jenkins
Agency/Co.	O'Rourke Engineering	Jurisdiction	St. Lucie
Date Performed	7/26/2023	East/West Street	Graham Road
Analysis Year	2022	North/South Street	Jenkins Ave
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.85
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Existing		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		46		104						72	293				259	41
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			176							85						
Capacity, c (veh/h)			504							1200						
v/c Ratio			0.35							0.07						
95% Queue Length, Q_{95} (veh)			1.6							0.2						
Control Delay (s/veh)			16.0							8.2	0.7					
Level of Service (LOS)			C							A	A					
Approach Delay (s/veh)		16.0								2.2						
Approach LOS		C								A						

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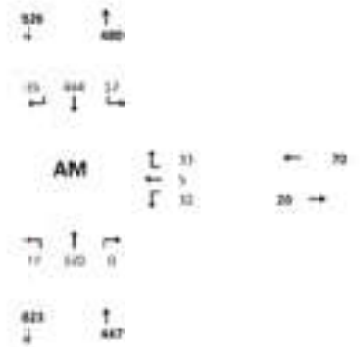
TURNING MOVEMENT VOLUME COUNTS



E-4

HCS Two-Way Stop-Control Report

General Information

Analyst	James Kerrigi
Agency/Co.	O'Rourke Engineering
Date Performed	7/26/2023
Analysis Year	2026
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	Background without Project

Site Information

Intersection	Graham & Jenkins
Jurisdiction	St. Lucie
East/West Street	Graham Road
North/South Street	Jenkins Ave
Peak Hour Factor	0.85
Analysis Time Period (hrs)	0.25

Lanes

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume (veh/h)		77	3	148		32	5	33		77	370	0		17	444	65
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized									No							
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			268				82			91				20		
Capacity, c (veh/h)			241				140			973				1119		
v/c Ratio			1.11				0.59			0.09				0.02		
95% Queue Length, Q_{95} (veh)			11.9				3.6			0.3				0.1		
Control Delay (s/veh)			135.9				61.9			9.1	0.7			8.3	0.2	0.2
Level of Service (LOS)			F				F			A	A			A	A	A
Approach Delay (s/veh)	135.9				61.9				2.1				0.5			
Approach LOS	F				F				A				A			

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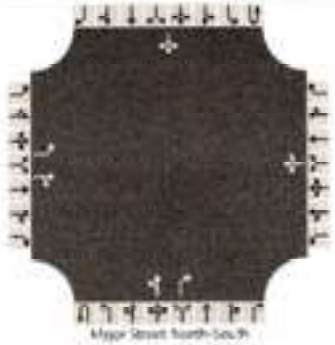
HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	James Kemp	Intersection	Graham & Jenkins
Agency/Co.	O'Rourke Engineering	Jurisdiction	St. Lucie
Date Performed	7/26/2023	East/West Street	Graham Road
Analysis Year	2026	North/South Street	Jenkins Ave
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.85
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Background without Project + Improvements		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration		L		TR			LTR			LT		R			LTR	
Volume (veh/h)		77	3	148		32	5	33		77	370	0		17	444	65
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized										No						
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		91		178			82			91				20		
Capacity, c (veh/h)		119		502			140			973				1119		
v/c Ratio		0.76		0.35			0.59			0.09				0.02		
95% Queue Length, Q_{95} (veh)		4.3		1.6			3.0			0.3				0.1		
Control Delay (s/veh)		96.3		16.0			61.9			9.1	0.7			8.3	0.2	0.2
Level of Service (LOS)		F		C			F			A	A			A	A	A
Approach Delay (s/veh)		43.2				61.9				2.1				0.5		
Approach LOS		E				F				A				A		

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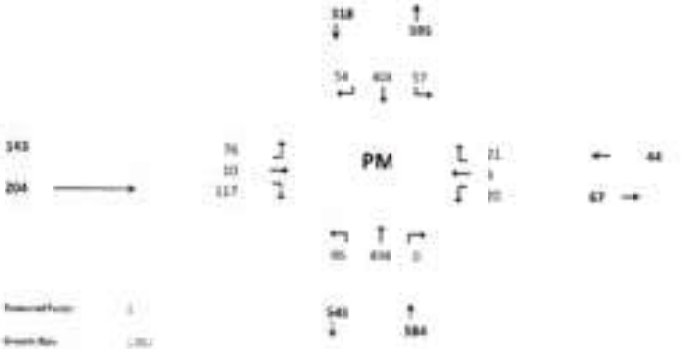
TURNING MOVEMENT VOLUME COUNTS



HCS Two-Way Stop-Control Report

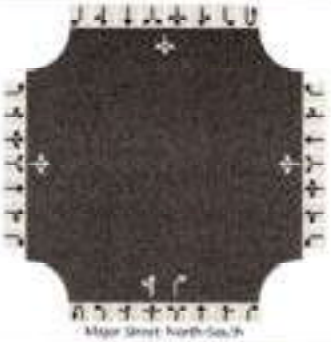
General Information

Analyst	James Kemp
Agency/Co.	O'Rourke Engineering
Date Performed	7/26/2023
Analysis Year	2026
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	Background without Project

Site Information

Intersection	Graham & Jenkins
Jurisdiction	St. Lucie
East/West Street	Graham Road
North/South Street	Jenkins Ave
Peak Hour Factor	0.85
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume (veh/h)		76	10	117		20	3	21		86	498	0		57	408	54
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized										No						
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			239				52			101				67		
Capacity, c (veh/h)			162				99			1020				984		
v/c Ratio			1.48				0.52			0.10				0.07		
95% Queue Length, Q_{95} (veh)			15.5				2.3			0.3				0.2		
Control Delay (s/veh)			297.3				75.5			8.9	0.8			8.9	0.9	0.9
Level of Service (LOS)			F				F			A	A			A	A	A
Approach Delay (s/veh)		297.3				75.5				2.0				1.8		
Approach LOS		F				F				A				A		

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HCS Two-Way Stop-Control Report

General Information

Analyst	James Kemp
Agency/Co.	O'Rourke Engineering
Date Performed	7/26/2023
Analysis Year	2026
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	Background without Project + Improvements

Site Information

Intersection	Graham & Jenkins
Jurisdiction	St. Lucie
East/West Street	Graham Road
North/South Street	Jenkins Ave
Peak Hour Factor	0.85
Analysis Time Period (hrs)	0.25

Lanes

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration		L		TR			LTR			LT		R			LTR	
Volume (veh/h)		76	10	117		20	3	21		86	498	0		57	408	54
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized										No						
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		89		149			52			101				67		
Capacity, c (veh/h)		80		419			99			1020				984		
v/c Ratio		1.12		0.36			0.52			0.10				0.07		
95% Queue Length, Q_{95} (veh)		6.4		1.6			2.3			0.3				0.2		
Control Delay (s/veh)		230.8		18.3			75.5			8.9	0.8			8.9	0.9	0.9
Level of Service (LOS)		F		C			F			A	A			A	A	A
Approach Delay (s/veh)		97.9				75.5				2.0				1.8		
Approach LOS		F				F				A				A		

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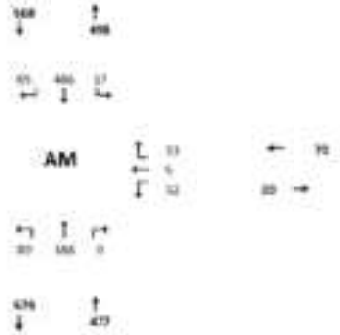
TURNING MOVEMENT VOLUME COUNTS



HCS Two-Way Stop-Control Report

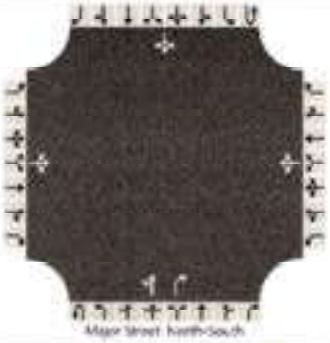
General Information

Analyst	James Kemp
Agency/Co.	O'Rourke Engineering
Date Performed	7/26/2023
Analysis Year	2026
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	Future Total with Project

Site Information

Intersection	Graham & Jenkins
Jurisdiction	St. Lucie
East/West Street	Graham Road
North/South Street	Jenkins Ave
Peak Hour Factor	0.85
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume (veh/h)		77	3	158		32	5	33		89	388	0		17	486	65
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized										No						
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			280				82			105				20		
Capacity, c (veh/h)			211				110			933				1099		
v/c Ratio			1.32				0.75			0.11				0.02		
95% Queue Length, Q_{95} (veh)			15.4				4.1			0.4				0.1		
Control Delay (s/veh)			219.7				99.5			9.3	0.8			8.3	0.2	0.2
Level of Service (LOS)			F				F			A	A			A	A	A
Approach Delay (s/veh)		219.7				99.5				2.4				0.5		
Approach LOS		F				F				A				A		

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HCS Two-Way Stop-Control Report

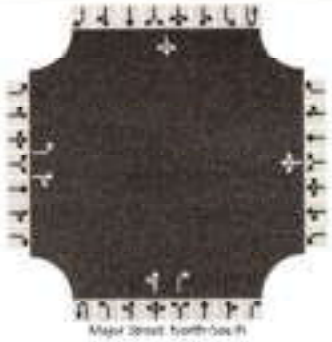
General Information

Analyst	James Kemp
Agency/Co.	O'Rourke Engineering
Date Performed	7/26/2023
Analysis Year	2026
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	Future Total with Project + Improvements

Site Information

Intersection	Graham & Jenkins
Jurisdiction	St. Lucie
East/West Street	Graham Road
North/South Street	Jenkins Ave
Peak Hour Factor	0.85
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration		L		TR			LTR			LT		R			LTR	
Volume (veh/h)		77	3	158		32	5	33		89	388	0		17	486	65
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized										No						
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		91		189			82			105				20		
Capacity, c (veh/h)		98		469			110			933				1099		
v/c Ratio		0.92		0.40			0.75			0.11				0.02		
95% Queue Length, Q_{95} (veh)		5.4		1.9			4.1			0.4				0.1		
Control Delay (s/veh)		148.3		17.8			99.5			9.3	0.8			8.3	0.2	0.2
Level of Service (LOS)		F		C			F			A	A			A	A	A
Approach Delay (s/veh)		60.0				99.5				2.4				0.5		
Approach LOS		F				F				A				A		

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TURNING MOVEMENT VOLUME COUNTS

	Northbound			Southbound			Eastbound			Westbound				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	ONE HOUR SUM
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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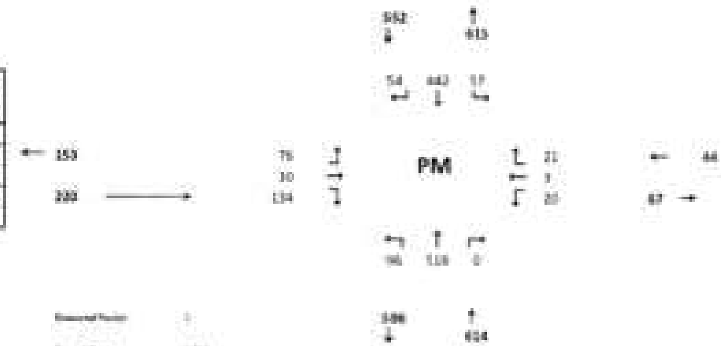

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HCS Two-Way Stop-Control Report

General Information

Analyst	James Kemp
Agency/Co.	O'Rourke Engineering
Date Performed	7/26/2023
Analysis Year	2026
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	Future Total with Project

Site Information

Intersection	Graham & Jenkins
Jurisdiction	St. Lucie
East/West Street	Graham Road
North/South Street	Jenkins Ave
Peak Hour Factor	0.85
Analysis Time Period (hrs)	0.25

Lanes

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume (veh/h)		76	10	134		20	3	21		96	518	0		57	442	54
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized										No						
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			259				52			113				67		
Capacity, c (veh/h)			147				78			986				964		
v/c Ratio			1.76				0.66			0.11				0.07		
95% Queue Length, Q_{95} (veh)			19.1				3.1			0.4				0.2		
Control Delay (s/veh)			420.7				115.2			9.1	0.9			9.0	0.9	0.9
Level of Service (LOS)			F				F			A	A			A	A	A
Approach Delay (s/veh)	420.7				115.2				2.2				1.8			
Approach LOS	F				F				A				A			

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HCS Two-Way Stop-Control Report

General Information

Analyst	James Kemp
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Time Analyzed	PM Peak Hour
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Site Information

Intersection	Graham & Jenkins
Jurisdiction	St. Lucie
East/West Street	Graham Road
North/South Street	Jenkins Ave
Peak Hour Factor	0.85
Analysis Time Period (hrs)	0.25

Lanes

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6
Number of Lanes		1	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration		L		TR			LTR			LT		R			LTR	
Volume (veh/h)		76	10	134		20	3	21		96	518	0		57	442	54
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized									No							
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		89		169			52			113				67		
Capacity, c (veh/h)		67		398			78			986				964		
v/c Ratio		1.33		0.43			0.66			0.11				0.07		
95% Queue Length, Q_{95} (veh)		7.4		2.1			3.1			0.4				0.2		
Control Delay (s/veh)		328.3		20.6			115.2			9.1	0.9			9.0	0.9	0.9
Level of Service (LOS)		F		C			F			A	A			A	A	A
Approach Delay (s/veh)	126.9				115.2				2.2				1.8			
Approach LOS	F				F				A				A			

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TURNING MOVEMENT VOLUME COUNTS

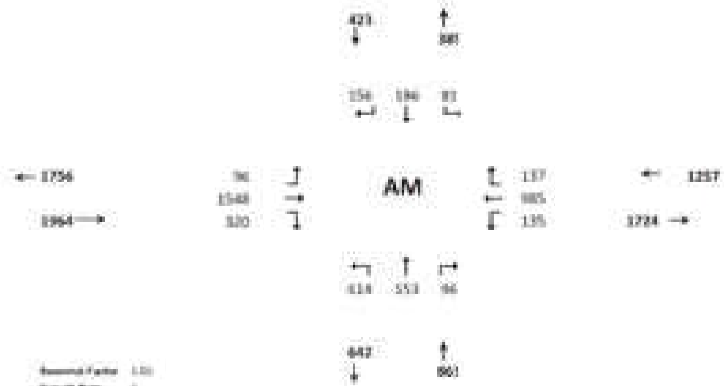
N/S STREET: Jenkins Ave | E/W STREET: Okeechobee Rd | CONTROL: Signalized
FILENAME:
COUNT DATE: [illegible] | DAY: Wednesday | CITY: St Lucie
REPORT DATE: [illegible] | ANALYSIS YEAR: [illegible] | Existing

15 Min Period	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	ONE HOUR SUM
7:00-7:15	108	25	17	12	27	38	11	377	42	9	174	17	878	3594
7:15-7:30	114	35	19	19	36	28	19	330	52	20	199	12	927	4144
7:30-7:45	127	43	19	20	41	30	13	344	74	26	229	18	1008	4332
7:45-8:00	140	35	26	21	33	40	21	418	68	29	227	21	1091	4172
8:00-8:15	152	32	29	16	45	39	27	379	84	31	255	26	1118	4055
8:15-8:30	164	36	17	17	40	44	24	333	77	43	227	33	1075	
8:30-8:45	117	41	21	24	32	20	22	320	67	29	214	47	993	
8:45-9:00	90	34	14	22	34	28	17	298	76	24	207	45	905	

AM PEAK HOUR IS FROM: 7:30 AM TO 8:30AM

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Volumes	583	146	91	77	171	149	91	1474	305	129	938	130	4292
Season Factor	614	553	96	81	186	156	96	1548	320	135	985	137	4507
Growth	614	553	96	81	186	156	96	1548	320	135	985	137	4507
In/Out	-	-	-	-	-	-	-	-	-	-	-	-	
Percentage	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PROJECT	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	614	553	96	81	186	156	96	1548	320	135	985	137	4507

Seasonal Factor: 1.05
Growth Rate: 1
Years Grown: 0
Net: 0.96
Trips In: 0 | Trips Out: 0



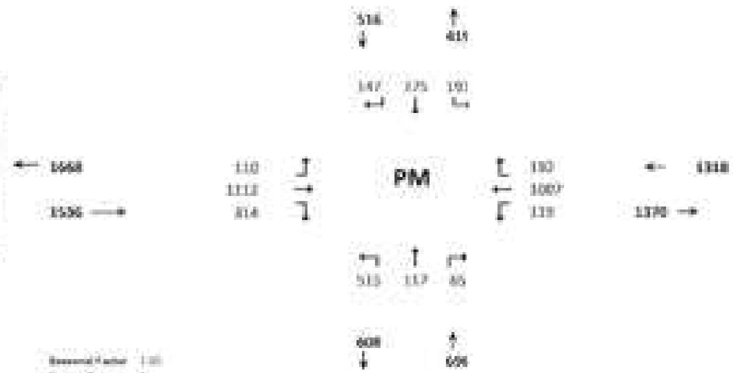
Jenkins & Okeechobee
Existing

15 Min Period Ending	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	ONE HOUR SUM
4:00-4:15	146	32	7	41	38	24	24	315	63	19	307	34	830	3602
4:15-4:30	123	36	11	42	53	30	18	307	33	28	302	42	869	3710
4:30-4:45	143	32	19	44	42	46	33	290	48	27	279	33	873	3872
4:45-5:00	119	29	16	57	58	29	29	340	58	30	314	41	936	3853
5:00-5:15	135	36	16	47	37	20	29	289	64	33	355	36	982	3762
5:15-5:30	122	25	13	41	51	37	30	294	75	28	341	41	953	
5:30-5:45	108	33	11	41	36	31	26	288	76	28	252	33	951	
5:45-6:00	100	28	7	30	32	33	31	243	47	24	235	23	845	

PM PEAK HOUR IS FROM: 4:30 PM TO 5:30PM

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Volumes	490	112	62	184	167	140	105	1059	299	113	959	160	3817
Season Factor	515	117	65	193	175	147	110	1112	314	119	1007	130	4006
Growth	515	117	65	193	175	147	110	1112	314	119	1007	130	4006
In/Out	-	-	-	-	-	-	-	-	-	-	-	-	
Percentage	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PROJECT	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	515	117	65	193	175	147	110	1112	314	119	1007	130	4006

Seasonal Factor: 1.05
Growth Rate: 1
Years Grown: 0
Net: 0.95
Trips In | Trips Out



LS - TMC - Jenkins & Okeechobee

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION

Districtwide Signal Retiming-St. Lucie County

FM 230017-3-32-01

Local Controller Settings

Okeechobee Road and Jenkins Road	Prepared By: ESJ	Date: 6/16/2008	Location: FP 4-05

FDOT DISTRICT 4 - CRITERIA

MIN GREEN (Through) = INITIAL + PASSAGE = 15 sec (may be reduced to 10 sec for low volume movements)

MIN GREEN (Left Turn) = INITIAL + PASSAGE = 10 sec

WALK (sec)	Coord Phase	Side Street	Ped Walk Speed (fps)
City of Fort Pierce	7	5	4.0 / 3.5
City of Port St. Lucie	7	7	3.5
St. Lucie County	7	7	3.5

Vehicle clearance intervals will not be programmed to be shorter than existing values.

Speed (mph)	Through Movement Yellow (sec)	Permissive Left Yellow (sec)	Protected Left Yellow (sec)	All Red (sec)
25	3.9	3.5	3.5	1.0
30	3.5	3.5	3.5	1.0
35	4.0	4.0	4.0	1.0
40	4.0	4.0	4.0	1.0
45	4.3	4.3	4.3	1.0
50	4.7	4.7	4.7	1.0
55	5.0	5.0	5.0	2.0
60	5.4	5.4	5.4	2.0
65	5.8	5.8	5.8	2.0

Ped Clearance: Ped Clear = D / Vp where: D = Ped Exposure Distance from Curb to Curb (ft); Vp = Pedestrian crossing speed (fps)

CALCULATIONS

North-South Roadway	Jenkins Road	East-West Roadway	Okeechobee Road

Walking Speed (fps)	Input	Yellow			Red
3.5	Approach Speed (mph)	Through Movement (sec)	Permissive Left (sec)	Protected Left (sec)	All Red (sec)
Walking Direction					
Northbound	45	4.3	4.3	4.3	1.0
Southbound	45	4.3	4.3	4.3	1.0
Eastbound	45	4.3	4.3	4.3	1.0
Westbound	45	4.3	4.3	4.3	1.0

Pedestrian Clearance Interval

Direction/ Crossing	Northbound East Approach	Southbound West Approach	Eastbound South Approach	Westbound North Approach
Distance (ft)	123	118	128	75
Ped Clearance (sec)	35	34	37	22

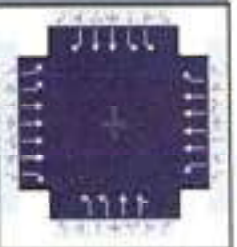
PROPOSED LOCAL CONTROLLER SETTINGS

MOVEMENT	1	2	3	4	5	6	7	8
DIRECTION	EBL	WB	SBL	NB	WBL	EB	NBL	SB
LEFT TURN PROT	Protected	Permissive	Protected	Permissive	Protected	Permissive	Protected	Permissive
INITIAL	7.0	12.0	6.0	11.0	7.0	12.0	6.0	11.0
PASSAGE	3.0	3.0	4.0	4.0	3.0	3.0	4.0	4.0
YELLOW	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
RED CLEARANCE	2.0	2.0	2.5	2.5	2.0	2.0	2.5	2.5
MAX GREEN 1	20	60	30	40	20	60	25	40
MAX GREEN 2	25	60	30	45	25	60	25	45
WALK	0	7	0	5	0	7	0	5
PED CLEARANCE	0	37	0	35	0	37	0	34
MIN PHASE TIME	14	66	13	53	14	66	13	52

Intersection Timings FP4 Implemented

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering and Planning			Duration, h	0.250
Analyst	James Kemp	Analysis Date	Jul 27, 2023	Area Type	Other
Jurisdiction	St. Lucie	Time Period	AM Peak Hour	PHF	0.96
Urban Street	Okeechobee Road	Analysis Year	2023	Analysis Period	1> 7.00
Intersection	Okeechobee & Jenkins	File Name	C5 - Okeechobee & Jenkins - Existing - AM.xus		
Project Description	Existing				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	96	1548	320	135	985	137	614	153	96	81	186	156

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.8	5.3		48.2	6.7	10.7	15.7					
Yellow	4.8	0.0		4.8	4.8	4.8	4.8					
Red	2.5	0.0		2.5	2.5	2.5	2.5					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0
Phase Duration, s	14.1	55.6	19.4	60.8	32.0	41.1	14.0	23.0
Change Period, ($Y+R_c$), s	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Max Allow Headway (MAH), s	4.0	0.0	4.0	0.0	4.0	4.1	4.0	4.1
Queue Clearance Time (g_s), s	5.6		11.9		25.4	9.9	5.0	14.1
Green Extension Time (g_e), s	0.3	0.0	0.3	0.0	0.0	2.3	0.2	1.7
Phase Call Probability	0.97		0.99		1.00	1.00	0.95	1.00
Max Out Probability	0.00		0.01		1.00	0.00	0.00	0.14

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	100	1613	333	141	1026	143	640	134	126	84	194	163
Adjusted Saturation Flow Rate (s), veh/h/ln	1757	1725	1610	1810	1725	1610	1757	1900	1662	1757	1809	1610
Queue Service Time (g_s), s	3.6	24.9	21.3	9.9	13.4	7.4	23.4	7.3	7.9	3.0	6.5	12.1
Cycle Queue Clearance Time (g_c), s	3.6	24.9	21.3	9.9	13.4	7.4	23.4	7.3	7.9	3.0	6.5	12.1
Green Ratio (g/C)	0.05	0.37	0.37	0.09	0.41	0.41	0.19	0.26	0.26	0.05	0.12	0.17
Capacity (c), veh/h	184	2561	598	169	2642	663	668	494	432	180	438	279
Volume-to-Capacity Ratio (X)	0.543	0.630	0.558	0.834	0.361	0.215	0.958	0.271	0.291	0.468	0.442	0.582
Back of Queue (Q), ft/ln (95 th percentile)	73.8	388.7	337.5	214	230	130.5	452.5	152	143.7	61.9	131.6	213.2
Back of Queue (Q), veh/ln (95 th percentile)	3.0	15.5	13.5	8.6	9.2	5.2	18.1	6.1	5.7	2.5	5.3	8.5
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	60.1	33.5	32.4	58.0	26.4	24.7	52.1	38.3	38.5	59.9	53.1	49.4
Incremental Delay (d_2), s/veh	2.5	1.2	3.7	10.2	0.4	0.7	24.8	0.3	0.4	1.9	0.7	1.9
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	62.6	34.7	36.2	68.1	26.8	25.4	76.9	38.6	38.9	61.8	53.8	51.3
Level of Service (LOS)	E	C	D	E	C	C	E	D	D	E	D	D
Approach Delay, s/veh / LOS	36.3	D		31.1	C		65.9	E		54.4	D	
Intersection Delay, s/veh / LOS	42.2						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.44	B	2.58	C	2.97	C	3.09	C
Bicycle LOS Score / LOS	1.33	A	1.03	A	1.23	A	0.85	A

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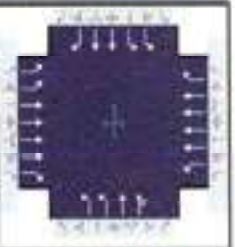
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering and Planning			Duration, h	0.250
Analyst	James Kemp	Analysis Date	Jul 27, 2023	Area Type	Other
Jurisdiction	St. Lucie	Time Period	PM Peak Hour	PHF	0.99
Urban Street	Okeechobee Road	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Okeechobee & Jenkins	File Name	C5 - Okeechobee & Jenkins - Existing - PM.xus		
Project Description	Existing				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	110	1112	314	119	1007	192	515	117	65	193	175	147

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.9	3.5		55.8	9.6	3.8	13.9					
Yellow	4.8	0.0		4.8	4.8	4.8	4.8					
Red	2.5	0.0		2.5	2.5	2.5	2.5					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0
Phase Duration, s	14.2	63.1	17.7	66.6	28.0	32.4	16.9	21.2
Change Period, ($Y+R_c$), s	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Max Allow Headway (MAH), s	4.0	0.0	4.0	0.0	4.0	4.1	4.0	4.1
Queue Clearance Time (g_s), s	6.0		10.5		21.0	7.9	9.1	13.1
Green Extension Time (g_e), s	0.3	0.0	0.0	0.0	0.0	1.8	0.5	0.9
Phase Call Probability	0.98		0.99		1.00	1.00	1.00	1.00
Max Out Probability	0.00		1.00		1.00	0.00	0.00	0.80

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	111	1123	317	120	1017	194	520	94	90	195	177	148
Adjusted Saturation Flow Rate (s), veh/h/ln	1757	1725	1610	1810	1725	1610	1757	1900	1679	1757	1809	1610
Queue Service Time (g_s), s	4.0	14.4	18.2	8.5	12.2	9.7	19.0	5.5	5.9	7.1	6.0	11.1
Cycle Queue Clearance Time (g_c), s	4.0	14.4	18.2	8.5	12.2	9.7	19.0	5.5	5.9	7.1	6.0	11.1
Green Ratio (g/C)	0.05	0.43	0.43	0.08	0.46	0.46	0.16	0.19	0.19	0.07	0.11	0.16
Capacity (c), veh/h	186	2960	691	145	3147	734	560	366	324	259	388	258
Volume-to-Capacity Ratio (X)	0.598	0.380	0.459	0.830	0.323	0.264	0.930	0.256	0.278	0.753	0.455	0.576
Back of Queue (Q), ft/ln (95 th percentile)	82.7	243.5	288.6	214.2	211.7	167.6	376.5	115.5	111.3	146	122	200.2
Back of Queue (Q), veh/ln (95 th percentile)	3.3	9.7	11.5	8.6	8.5	6.7	15.1	4.6	4.5	5.8	4.9	8.0
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	60.2	25.3	26.4	58.9	22.6	21.9	53.9	44.6	44.7	59.0	54.5	50.5
Incremental Delay (d_2), s/veh	3.1	0.4	2.2	27.5	0.3	0.9	22.2	0.4	0.5	4.4	0.8	2.0
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.3	25.7	28.6	86.4	22.8	22.7	76.2	44.9	45.2	63.4	55.3	52.5
Level of Service (LOS)	E	C	C	F	C	C	E	D	D	E	E	D
Approach Delay, s/veh / LOS	29.0	C		28.6	C		68.0	E		57.6	E	
Intersection Delay, s/veh / LOS	39.2						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.43	B	2.57	C	2.97	C	3.09	C
Bicycle LOS Score / LOS	1.13	A	1.04	A	1.07	A	0.92	A

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TURNING MOVEMENT VOLUME COUNTS

N/S STREET [illegible] E/W STREET [illegible] CONTROL [illegible]
FILENAME
COUNT DATE [illegible] DAY [illegible] CITY [illegible]
REPORT DATE [illegible] ANALYSIS YEAR [illegible]

15 Min Period	Northbound NBL	NBT	NBR	Southbound SBL	SBT	SBR	Eastbound EBL	EBT	EBR	Westbound WBL	WBT	WBR	TOTAL	ONE HOUR SUM
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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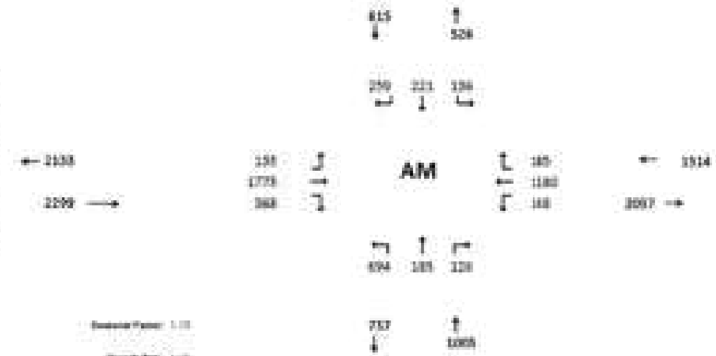
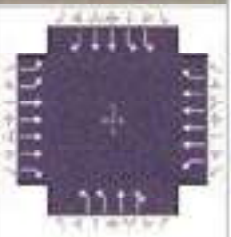


E-19

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering and Planning			Duration, h	0.250
Analyst	James Kemp	Analysis Date	Jul 27, 2023	Area Type	Other
Jurisdiction	St. Lucie	Time Period	AM Peak Hour	PHF	0.96
Urban Street	Okeechobee Road	Analysis Year	2026	Analysis Period	1> 7:00
Intersection	Okeechobee & Jenkins	File Name	C5 - Okeechobee Jenkins - Background - AM.xus		
Project Description	Background without Project				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	155	1775	368	148	1180	185	694	185	126	136	221	259

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	8.1	4.8	40.5	7.5	9.9	22.6	
Yellow	4.8	0.0	4.8	4.8	4.8	4.8	
Red	2.5	0.0	2.5	2.5	2.5	2.5	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0
Phase Duration, s	15.4	47.8	20.2	52.6	32.0	47.1	14.8	29.9
Change Period, ($Y+R_c$), s	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Max Allow Headway (MAH), s	4.0	0.0	4.0	0.0	4.0	4.1	4.0	4.1
Queue Clearance Time (g_s), s	7.9		12.9		26.7	11.4	7.1	22.0
Green Extension Time (g_e), s	0.3	0.0	0.1	0.0	0.0	3.2	0.4	0.7
Phase Call Probability	1.00		1.00		1.00	1.00	0.99	1.00
Max Out Probability	0.08		1.00		1.00	0.00	0.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	161	1849	383	154	1229	193	723	169	155	142	230	270
Adjusted Saturation Flow Rate (s), veh/h/ln	1757	1725	1610	1810	1725	1610	1757	1900	1649	1757	1809	1610
Queue Service Time (g_s), s	5.9	32.7	28.0	10.9	18.3	11.5	24.7	8.8	9.4	5.1	7.3	20.0
Cycle Queue Clearance Time (g_c), s	5.9	32.7	28.0	10.9	18.3	11.5	24.7	8.8	9.4	5.1	7.3	20.0
Green Ratio (g/C)	0.06	0.31	0.31	0.10	0.35	0.35	0.19	0.31	0.31	0.06	0.17	0.24
Capacity (c), veh/h	220	2152	502	180	2407	562	668	582	505	203	630	381
Volume-to-Capacity Ratio (X)	0.735	0.859	0.763	0.857	0.511	0.343	1.083	0.290	0.308	0.696	0.366	0.708
Back of Queue (Q), ft/ln (95 th percentile)	121.7	507.7	447.5	256.2	302.7	203.8	590.2	180.6	168.1	106.5	146.7	327.6
Back of Queue (Q), veh/ln (95 th percentile)	4.9	20.3	17.9	10.2	12.1	8.2	23.6	7.2	6.7	4.3	5.9	13.1
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	59.9	42.0	40.4	57.6	33.5	31.3	52.7	34.3	34.5	60.1	47.4	45.5
Incremental Delay (d_2), s/veh	4.7	4.7	10.5	25.9	0.8	1.7	59.4	0.3	0.3	4.3	0.4	5.6
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	64.6	46.8	50.9	83.5	34.3	33.0	112.0	34.6	34.9	64.4	47.7	51.1
Level of Service (LOS)	E	D	D	F	C	C	F	C	C	E	D	D
Approach Delay, s/veh / LOS	48.7	D		39.0	D		88.1	F		52.8	D	
Intersection Delay, s/veh / LOS	53.7						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.58	C	2.96	C	3.09	C
Bicycle LOS Score / LOS	1.48	A	1.14	A	1.35	A	1.02	A

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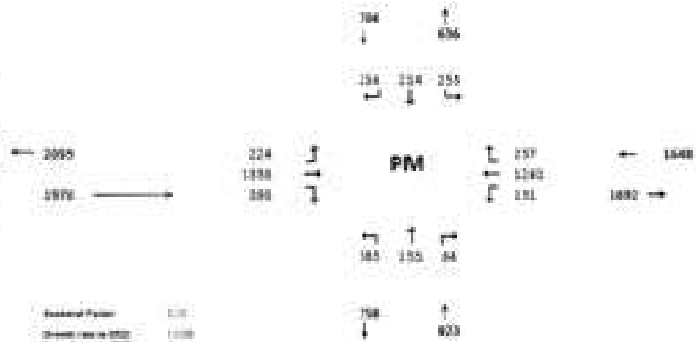
TURNING MOVEMENT VOLUME COUNTS

[illegible]

[illegible]	Northbound			Southbound			Eastbound			Westbound				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	ONE HOUR [illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

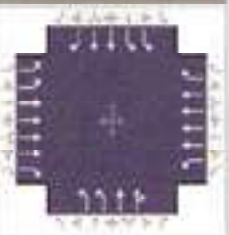


[illegible]

[illegible]	[illegible]	[illegible]	[illegible]

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering and Planning			Duration, h	0.250
Analyst	James Kemp	Analysis Date	Jul 27, 2023	Area Type	Other
Jurisdiction	St. Lucie	Time Period	PM Peak Hour	PHF	0.99
Urban Street	Okeechobee Road	Analysis Year	2026	Analysis Period	1> 7:00
Intersection	Okeechobee & Jenkins	File Name	C5 - Okeechobee Jenkins - Background - PM.xus		
Project Description	Background without Project				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	224	1353	393	151	1241	257	585	155	84	255	214	234

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	7.7	3.0		51.7	12.0	1.4	17.7					
Yellow	4.8	0.0		4.8	4.8	4.8	4.8					
Red	2.5	0.0		2.5	2.5	2.5	2.5					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0
Phase Duration, s	18.0	62.0	15.0	59.0	28.0	33.7	19.3	25.0
Change Period, ($Y+R_c$), s	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Max Allow Headway (*MAH*), s	4.0	0.0	4.0	0.0	4.0	4.1	4.0	4.1
Queue Clearance Time (g_s), s	10.2		9.7		22.7	9.8	11.3	19.5
Green Extension Time (g_e), s	0.5	0.0	0.0	0.0	0.0	2.4	0.7	0.0
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.08		1.00		1.00	0.02	0.02	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	226	1367	397	153	1254	260	591	124	117	258	216	236
Adjusted Saturation Flow Rate (s), veh/h/ln	1757	1725	1610	1810	1725	1610	1757	1900	1681	1757	1809	1610
Queue Service Time (g_s), s	8.2	18.6	24.6	7.7	17.4	15.0	20.7	7.2	7.8	9.3	7.1	17.5
Cycle Queue Clearance Time (g_c), s	8.2	18.6	24.6	7.7	17.4	15.0	20.7	7.2	7.8	9.3	7.1	17.5
Green Ratio (g/C)	0.08	0.42	0.42	0.06	0.40	0.40	0.16	0.20	0.20	0.09	0.14	0.22
Capacity (c), veh/h	289	2904	678	107	2745	641	560	386	342	324	493	352
Volume-to-Capacity Ratio (X)	0.783	0.471	0.586	1.423	0.457	0.405	1.056	0.321	0.344	0.795	0.439	0.672
Back of Queue (Q), ft/ln (95 th percentile)	169.5	299.9	374.5	434.7	285.7	249.2	488	152.8	145.8	191.3	144.7	293.7
Back of Queue (Q), veh/ln (95 th percentile)	6.8	12.0	15.0	17.4	11.4	10.0	19.5	6.1	5.8	7.7	5.8	11.7
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	58.5	27.2	28.9	61.2	28.8	28.1	54.7	44.2	44.4	57.8	51.6	46.5
Incremental Delay (d_2), s/veh	4.6	0.5	3.7	236.0	0.5	1.9	53.7	0.5	0.6	4.4	0.6	4.9
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.2	27.7	32.6	297.1	29.4	30.0	108.3	44.6	45.0	62.2	52.2	51.5
Level of Service (LOS)	E	C	C	F	C	C	F	D	D	E	D	D
Approach Delay, s/veh / LOS	32.7	C		54.0	D		89.9	F		55.6	E	
Intersection Delay, s/veh / LOS	51.8						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.43	B	2.58	C	2.97	C	3.09	C
Bicycle LOS Score / LOS	1.31	A	1.17	A	1.17	A	1.07	A

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TURNING MOVEMENT VOLUME COUNTS

	Southbound			Southbound			Eastbound			Westbound					
	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	TOTAL	ONE HOUR SUM
7:00-7:15	116	0	17	24	17	17	11	137	41	0	116	12	409	1814
7:15-7:30	124	0	23	24	19	28	18	125	52	11	129	13	467	1944
7:30-7:45	127	0	21	23	42	15	11	148	74	15	154	12	2292	1922
7:45-8:00	142	0	22	21	21	11	11	418	98	13	157	11	1941	1677
8:00-8:15	121	1	23	19	42	14	17	179	84	11	153	18	1113	1410
8:15-8:30	104	0	17	17	41	44	14	114	77	44	147	15	1133	
8:30-8:45	117	0	12	24	15	14	11	118	89	16	114	47	861	
8:45-9:00	93	1	14	23	44	18	17	144	74	14	117	10	973	

Min Total Vol (1 hr Peak)	7:00 AM TO 8:00AM														
Volume	502	1.0	91	77	127	104	61	1474	313	124	577	110	5211		
Approach Factor	0.1	1.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Growth	0.1	1.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
HHVs	-	-	-	0.1	0.1	0.1	0.1	-	-	-	-	0.1			
Peak Hour Factor	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
PEDS	0	1	0	0	0	0	0	0	0	0	0	0	0		
Total	0.1	1.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		

Other Projects															
Peak Hour	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Subtotal	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Total	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		

Project Name															
Peak Hour Factor	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Trips In	Trips Out
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering and Planning			Duration, h	0.250
Analyst	James Kemp	Analysis Date	Jul 27, 2023	Area Type	Other
Jurisdiction	St. Lucie	Time Period	AM Peak Hour	PHF	0.96
Urban Street	Okeechobee Road	Analysis Year	2026	Analysis Period	1> 7:00
Intersection	Okeechobee & Jenkins	File Name	C5 - Okeechobee Jenkins - Future Total - AM.xus		
Project Description	Future Total with Project				

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	166	1775	368	148	1180	192	694	185	126	145	222	291

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

	EB		WB			NB			SB		
Green	8.5	44	39.5	7.9	9.5	23.7					
Yellow	4.8	0.0	4.8	4.8	4.8	4.8					
Red	2.5	0.0	2.5	2.5	2.5	2.5					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0
Phase Duration, s	15.8	46.8	20.2	51.2	32.0	47.8	15.2	31.0
Change Period, ($Y+R_c$), s	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Max Allow Headway (MAH), s	4.0	0.0	4.0	0.0	4.0	4.1	4.0	4.1
Queue Clearance Time (g_s), s	8.3		12.9		26.7	11.3	7.5	24.7
Green Extension Time (g_e), s	0.3	0.0	0.0	0.0	0.0	3.4	0.5	0.0
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.30		1.00		1.00	0.00	0.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	173	1849	383	154	1229	200	723	169	155	151	231	303
Adjusted Saturation Flow Rate (s), veh/h/ln	1757	1725	1610	1810	1725	1610	1757	1900	1649	1757	1809	1610
Queue Service Time (g_s), s	6.3	33.1	28.3	10.9	18.7	12.2	24.7	8.7	9.3	5.5	7.3	22.7
Cycle Queue Clearance Time (g_c), s	6.3	33.1	28.3	10.9	18.7	12.2	24.7	8.7	9.3	5.5	7.3	22.7
Green Ratio (g/C)	0.07	0.30	0.30	0.10	0.34	0.34	0.19	0.31	0.31	0.06	0.18	0.25
Capacity (c), veh/h	231	2097	489	179	2329	543	668	592	514	214	660	399
Volume-to-Capacity Ratio (X)	0.750	0.882	0.783	0.859	0.528	0.368	1.083	0.285	0.303	0.707	0.351	0.759
Back of Queue (Q), ft/ln (95 th percentile)	130.5	517.1	456.3	261.8	308.3	214.7	590.2	179.1	166.7	113.4	145.6	371
Back of Queue (Q), veh/ln (95 th percentile)	5.2	20.7	18.3	10.5	12.3	8.6	23.6	7.2	6.7	4.5	5.8	14.8
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	59.7	43.0	41.3	57.7	34.7	32.6	52.7	33.8	34.0	59.9	46.4	45.3
Incremental Delay (d_2), s/veh	4.8	5.8	11.9	29.3	0.9	1.9	59.4	0.3	0.3	4.2	0.3	8.2
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	64.5	48.8	53.2	86.9	35.6	34.5	112.0	34.1	34.3	64.2	46.7	53.5
Level of Service (LOS)	E	D	D	F	D	C	F	C	C	E	D	D
Approach Delay, s/veh / LOS	50.6	D		40.4	D		87.9	F		53.6	D	
Intersection Delay, s/veh / LOS	55.0						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.59	C	2.96	C	3.09	C
Bicycle LOS Score / LOS	1.48	A	1.14	A	1.35	A	1.05	A

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TURNING MOVEMENT VOLUME COUNTS

Jenkins & Cheechobee
Future Total

15 Min Period Start	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	ONE HOUR SUM
	Northbound			Southbound			Eastbound			Westbound				
4:00-4:15	106	32	7	47	58	24	14	213	63	27	207	54	850	3667
4:15-4:30	121	56	12	47	53	26	14	207	73	24	201	52	869	3759
4:30-4:45	107	35	19	44	40	26	15	218	88	22	229	55	872	3813
4:45-5:00	119	39	14	52	54	25	16	196	68	30	224	45	856	3853
5:00-5:15	105	26	16	67	77	31	29	189	64	31	203	58	862	3762
5:15-5:30	120	25	23	41	51	32	30	206	79	20	245	45	880	
5:30-5:45	104	33	11	43	36	37	16	244	70	20	212	33	853	
5:45-6:00	100	29	7	39	31	27	11	245	47	17	231	25	845	

PM PEAK HOUR IS FROM 4:30 PM TO 5:30 PM

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Volumes	450	111	63	194	167	140	105	1050	299	123	934	182	3872
Season Factor	513	117	66	195	175	147	110	1112	314	129	1007	192	4066
Growth	570	120	67	199	181	151	113	1148	323	132	1037	198	4189
In/Out	-	IN	-	OUT	OUT	OUT	IN	-	-	-	-	IN	
Percentage	0%	2%	0%	10%	2%	56%	56%	0%	0%	0%	0%	10%	
PROJECT	0	2	0	6	1	21	35	0	0	0	0	10	75
Total	570	122	67	205	182	172	148	1148	323	132	1037	208	4263

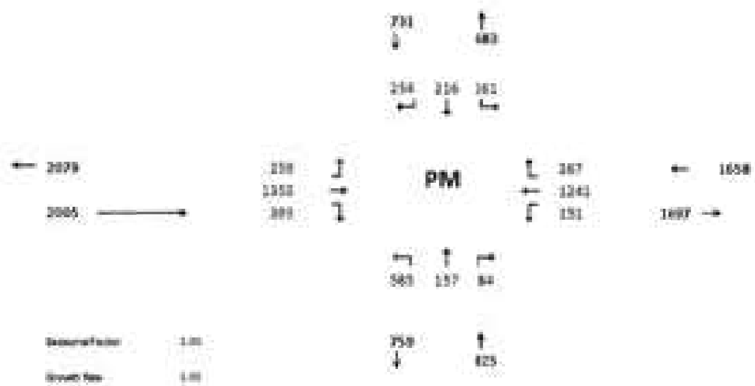
Seasonal Factor 1.05
Growth Rate 1.00
Years Grown 3
PHF 0.99
Trips In / Trips Out
38 / 37

Other Projects

Project	Trips In	Trips Out
Pineapple Grove	215	237
Sunnyland	201	154
Project Hunt	19	17
???	151	189
Whispering Oaks	172	96
Reed Creek	199	113
Creekside	116	236
Woodspring Suites	31	30
Kings Highway Commerce Park	111	172
Jenkins Expansion / Wawa	182	107
Project Hurricane	21	17
Celebration Point	100	57
Silverwood	70	152
Orange 95 Parcel B, D & E	54	206
Visual Treasure Coast East / West	142	81

(Per-project % / In/Out / Volume rows by movement: [illegible])

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Subtotal	15	37	17	52	35	103	146	207	70	20	203	69	864
Total	585	157	84	258	216	274	259	1355	393	152	1241	267	4893



HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering and Planning			Duration, h	0.250
Analyst	James Kemp	Analysis Date	Jul 27, 2023	Area Type	Other
Jurisdiction	St. Lucie	Time Period	PM Peak Hour	PHF	0.99
Urban Street	Okeechobee Road	Analysis Year	2026	Analysis Period	1> 7:00
Intersection	Okeechobee & Jenkins	File Name	C5 - Okeechobee Jenkins - Future Total - PM.xus		
Project Description	Future Total with Project				

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	259	1353	393	151	1241	267	585	157	84	261	216	254

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	7.7	4.3		50.4	12.2	1.2	17.7					
Yellow	4.8	0.0		4.8	4.8	4.8	4.8					
Red	2.5	0.0		2.5	2.5	2.5	2.5					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0
Phase Duration, s	19.3	62.0	15.0	57.7	28.0	33.5	19.5	25.0
Change Period, ($Y+R_c$), s	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Max Allow Headway (*MAH*), s	4.0	0.0	4.0	0.0	4.0	4.1	4.0	4.1
Queue Clearance Time (g_s), s	11.5		9.7		22.7	9.9	11.6	19.7
Green Extension Time (g_e), s	0.5	0.0	0.0	0.0	0.0	2.5	0.7	0.0
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.22		1.00		1.00	0.03	0.03	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	262	1367	397	153	1254	270	591	125	118	264	218	257
Adjusted Saturation Flow Rate (s), veh/h/ln	1757	1725	1610	1810	1725	1610	1757	1900	1683	1757	1809	1610
Queue Service Time (g_s), s	9.5	18.6	24.6	7.7	17.7	16.0	20.7	7.3	7.9	9.6	7.2	17.7
Cycle Queue Clearance Time (g_c), s	9.5	18.6	24.6	7.7	17.7	16.0	20.7	7.3	7.9	9.6	7.2	17.7
Green Ratio (g/C)	0.09	0.42	0.42	0.06	0.39	0.39	0.16	0.20	0.20	0.09	0.14	0.23
Capacity (c), veh/h	324	2904	678	107	2675	624	560	383	339	330	493	368
Volume-to-Capacity Ratio (X)	0.807	0.471	0.586	1.423	0.469	0.432	1.056	0.327	0.349	0.798	0.443	0.697
Back of Queue (Q), ft/ln (95 th percentile)	196.3	299.9	374.5	434.7	290.4	263.2	488	154.8	147.5	194.5	146.1	315.8
Back of Queue (Q), veh/ln (95 th percentile)	7.9	12.0	15.0	17.4	11.6	10.5	19.5	6.2	5.9	7.8	5.8	12.6
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	57.9	27.2	28.9	61.2	29.8	29.3	54.7	44.4	44.6	57.7	51.6	46.0
Incremental Delay (d_2), s/veh	6.3	0.5	3.7	236.0	0.6	2.2	53.7	0.5	0.6	4.4	0.6	5.7
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	64.1	27.7	32.6	297.1	30.4	31.4	108.3	44.9	45.2	62.1	52.2	51.7
Level of Service (LOS)	E	C	C	F	C	C	F	D	D	E	D	D
Approach Delay, s/veh / LOS	33.4	C		54.8	D		89.9	F		55.6	E	
Intersection Delay, s/veh / LOS	52.2						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.43	B	2.58	C	2.97	C	3.09	C
Bicycle LOS Score / LOS	1.32	A	1.18	A	1.18	A	1.10	A

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TURNING MOVEMENT VOLUME COUNTS

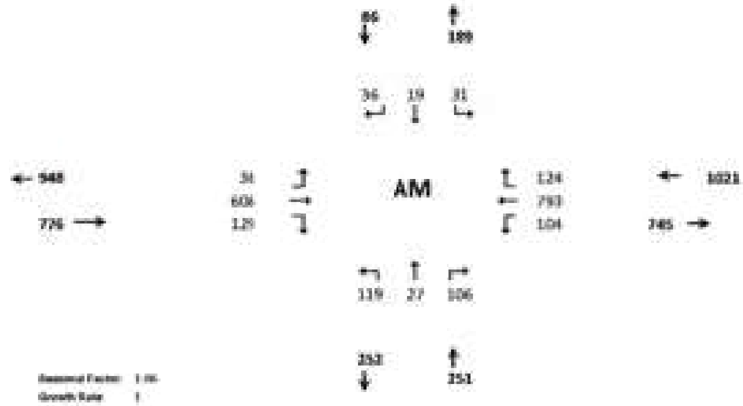
N/S STREET: Jenkins Ave | E/W STREET: Orange Ave | CONTROL: Signalized
FILENAME:
COUNT DATE: [illegible] | DAY: Wednesday | CITY: St Lucie
REPORT DATE: [illegible] | ANALYSIS YEAR: 2023 | Existing

15 Min Period	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	ONE HOUR SUM
	Northbound			Southbound			Eastbound			Westbound				
7:00-7:15	18	2	16	7	1	4	8	111	11	16	142	15	374	1896
7:15-7:30	29	6	17	6	1	5	9	131	25	20	198	25	473	1999
7:30-7:45	38	4	20	9	2	5	16	155	36	23	213	19	539	2013
7:45-8:00	36	8	25	6	5	9	10	139	33	18	212	19	519	1962
8:00-8:15	29	5	30	6	4	8	8	142	29	27	167	37	492	1823
8:15-8:30	23	8	25	8	7	12	8	128	35	30	136	47	447	
8:30-8:45	19	6	24	6	5	6	9	113	30	24	112	38	409	
8:45-9:00	21	9	25	9	2	8	10	104	30	17	147	35	423	

AM PEAK HOUR & FROM: 7:30 AM TO 8:30AM

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Volumes	112	25	100	29	18	34	36	574	122	98	748	117	2013
Season Factor	119	27	106	31	19	36	38	608	129	104	793	124	2134
Growth	119	27	106	31	19	36	38	608	129	104	793	124	2134
In/Out	-	-	-	-	-	-	-	-	-	-	-	-	
Percentage	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PROJECT	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	119	27	106	31	19	36	38	608	129	104	793	124	2134

Seasonal Factor: 1.06
Growth Rate: 1
Years Grown: 0
PHF: 0.97
Trips In: 0 | Trips Out: 0



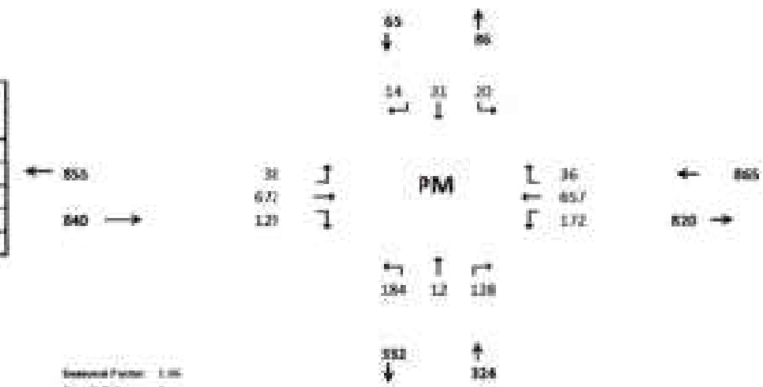
[illegible]
Evening

15 Min Period	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	ONE HOUR SUM
	Northbound			Southbound			Eastbound			Westbound				
4:00-4:15	22	4	26	4	3	4	5	131	25	28	156	4	378	1749
4:15-4:30	25	2	25	6	6	4	9	152	27	28	178	8	423	1895
4:30-4:45	28	2	26	2	4	2	6	175	32	35	166	4	475	1958
4:45-5:00	24	2	36	4	8	4	8	168	33	54	148	8	499	1975
5:00-5:15	52	5	30	4	4	5	8	153	32	40	175	9	520	1909
5:15-5:30	44	2	26	6	6	2	10	152	23	28	150	9	478	
5:30-5:45	54	2	29	5	9	2	10	145	24	27	147	8	496	
5:45-6:00	45	2	25	8	6	3	8	130	27	29	138	5	448	

PM PEAK HOUR & FROM: 4:45PM TO 5:45PM

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Volumes	174	11	121	19	29	13	36	634	122	162	620	34	1975
Season Factor	184	12	128	20	31	14	38	672	129	172	657	36	2094
Growth	184	12	128	20	31	14	38	672	129	172	657	36	2094
In/Out	-	-	-	-	-	-	-	-	-	-	-	-	
Percentage	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PROJECT	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	184	12	128	20	31	14	38	672	129	172	657	36	2094

Seasonal Factor: 1.06
Growth Rate: 1
Years Grown: 0
PHF: 0.95
Trips In | Trips Out



ECONOLITE

St. Lucie County

00032 - ORANGE AVE @ JENKINS RD - Econolite Type - Cobalt

Controller Timing Plan (MM) 2-1

Q - in use 1-8

Plan 1 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	E-L	W-T	S-L	N-T	W-L	E-T	N-L	S-T	N	N	N	N	N	N	N	N
Min Green	7	11	7	12	7	11	6	12	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	7	0	7	0	7	0	7	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	17	0	27	0	15	0	26	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	3.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	12	45	12	18	12	45	12	18	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	James Kemp	Analysis Date	May 30, 2023	Area Type	Other
Jurisdiction	St. Lucie County	Time Period	AM Peak Hour	PHF	0.97
Urban Street	Orange Avenue	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Orange & Jenkins	File Name	C6 - Orange Jenkins - Existing - AM.xus		
Project Description	2023				

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	38	608	129	104	793	124	119	27	106	31	19	36

Signal Information			
Cycle, s	60.1	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

	EB			WB			NB			SB		
Green	3.4	2.5		16.2	2.9	2.3	11.7					
Yellow	4.3	0.0		4.3	4.3	0.0	4.3					
Red	1.0	0.0		1.0	1.0	0.0	1.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	8.7	21.5	11.1	23.9	10.5	19.4	8.2	17.0
Change Period, ($Y+R_c$), s	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Max Allow Headway (MAH), s	3.0	3.0	3.0	3.0	3.0	3.2	3.0	3.2
Queue Clearance Time (g_s), s	2.9	11.4	4.4	14.4	5.2	5.4	2.8	3.2
Green Extension Time (g_e), s	0.0	4.3	0.1	4.2	0.1	0.3	0.0	0.3
Phase Call Probability	0.48	1.00	0.83	1.00	0.87	0.99	0.41	0.98
Max Out Probability	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	39	627	133	107	816	128	123	28	109	32	20	37
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1781	1585	1781	1781	1585	1781	1870	1585	1781	1870	1585
Queue Service Time (g_s), s	0.9	9.4	4.0	2.4	12.4	3.6	3.2	0.7	3.4	0.8	0.5	1.2
Cycle Queue Clearance Time (g_c), s	0.9	9.4	4.0	2.4	12.4	3.6	3.2	0.7	3.4	0.8	0.5	1.2
Green Ratio (g/C)	0.32	0.27	0.27	0.37	0.31	0.31	0.28	0.23	0.23	0.24	0.19	0.19
Capacity (c), veh/h	267	957	426	383	1103	491	534	437	370	467	365	309
Volume-to-Capacity Ratio (X)	0.147	0.655	0.312	0.280	0.741	0.260	0.230	0.064	0.295	0.068	0.054	0.120
Back of Queue (Q), ft/ln (95 th percentile)	14.4	151.8	58.1	37.3	194.9	51.1	51.2	12.1	50.2	13.6	9	17.4
Back of Queue (Q), veh/ln (95 th percentile)	0.6	6.0	2.3	1.5	7.7	2.0	2.0	0.5	2.0	0.5	0.4	0.7
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	15.3	19.5	17.6	13.7	18.6	15.6	16.7	17.9	19.0	17.5	19.7	20.0
Incremental Delay (d_2), s/veh	0.1	0.3	0.2	0.1	0.4	0.1	0.1	0.0	0.2	0.0	0.0	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	15.4	19.8	17.7	13.9	19.0	15.7	16.7	18.0	19.1	17.6	19.7	20.0
Level of Service (LOS)	B	B	B	B	B	B	B	B	B	B	B	C
Approach Delay, s/veh / LOS	19.2	B		16.1	B		17.9	B		19.1	B	
Intersection Delay, s/veh / LOS	18.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.10	B	2.10	B	2.43	B	2.43	B
Bicycle LOS Score / LOS	1.15	A	1.36	A	0.92	A	0.63	A

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HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	James Kemp	Analysis Date	May 30, 2023	Area Type	Other
Jurisdiction	St. Lucie County	Time Period	PM Peak Hour	PHF	0.95
Urban Street	Orange Avenue	Analysis Year	2023	Analysis Period	1> 4:00
Intersection	Orange & Jenkins	File Name	C6 - Orange Jenkins - Existing - PM.xus		
Project Description	2023				

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	38	672	129	172	657	36	184	12	126	20	31	14

Signal Information			
Cycle, s	64.4	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.6	3.1		17.5	2.2	5.0	11.7					
Yellow	4.3	0.0		4.3	4.3	0.0	4.3					
Red	1.0	0.0		1.0	1.0	0.0	1.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	8.9	22.8	12.0	26.9	12.5	22.1	7.5	17.0
Change Period, ($Y+R_c$), s	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Max Allow Headway (MAH), s	3.0	3.0	3.0	3.0	3.0	3.2	3.0	3.2
Queue Clearance Time (g_s), s	3.0	13.6	6.5	12.5	7.3	6.4	2.6	2.9
Green Extension Time (g_e), s	0.0	3.8	0.1	3.8	0.1	0.3	0.0	0.3
Phase Call Probability	0.51	1.00	0.96	1.00	0.97	1.00	0.31	0.98
Max Out Probability	0.00	0.00	0.07	0.00	0.17	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	40	707	136	181	692	38	194	13	135	21	33	15
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1781	1585	1781	1781	1585	1781	1870	1585	1781	1870	1585
Queue Service Time (g_s), s	1.0	11.6	4.4	4.5	10.5	1.1	5.3	0.3	4.4	0.6	0.9	0.5
Cycle Queue Clearance Time (g_c), s	1.0	11.6	4.4	4.5	10.5	1.1	5.3	0.3	4.4	0.6	0.9	0.5
Green Ratio (g/C)	0.33	0.27	0.27	0.38	0.32	0.32	0.32	0.26	0.26	0.22	0.18	0.18
Capacity (c), veh/h	305	966	430	365	1140	508	543	488	413	428	341	289
Volume-to-Capacity Ratio (X)	0.131	0.732	0.316	0.495	0.606	0.075	0.357	0.026	0.326	0.049	0.096	0.051
Back of Queue (Q), ft/ln (95 th percentile)	16.1	193.4	65	71.5	170	15.4	85.9	5.7	65.9	10.2	17	7.6
Back of Queue (Q), veh/ln (95 th percentile)	0.6	7.6	2.6	2.8	6.7	0.6	3.4	0.2	2.6	0.4	0.7	0.3
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	15.6	21.3	18.7	15.3	18.5	15.2	16.7	17.7	19.2	20.0	21.9	21.7
Incremental Delay (d_2), s/veh	0.1	0.4	0.2	0.4	0.2	0.0	0.1	0.0	0.2	0.0	0.0	0.0
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	15.7	21.7	18.8	15.7	18.7	15.3	16.8	17.7	19.4	20.0	21.9	21.7
Level of Service (LOS)	B	C	B	B	B	B	B	B	B	C	C	C
Approach Delay, s/veh / LOS	21.0	C		17.9	B		17.9	B		21.3	C	
Intersection Delay, s/veh / LOS	19.3						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.10	B	2.10	B	2.43	B	2.43	B
Bicycle LOS Score / LOS	1.22	A	1.24	A	1.05	A	0.60	A

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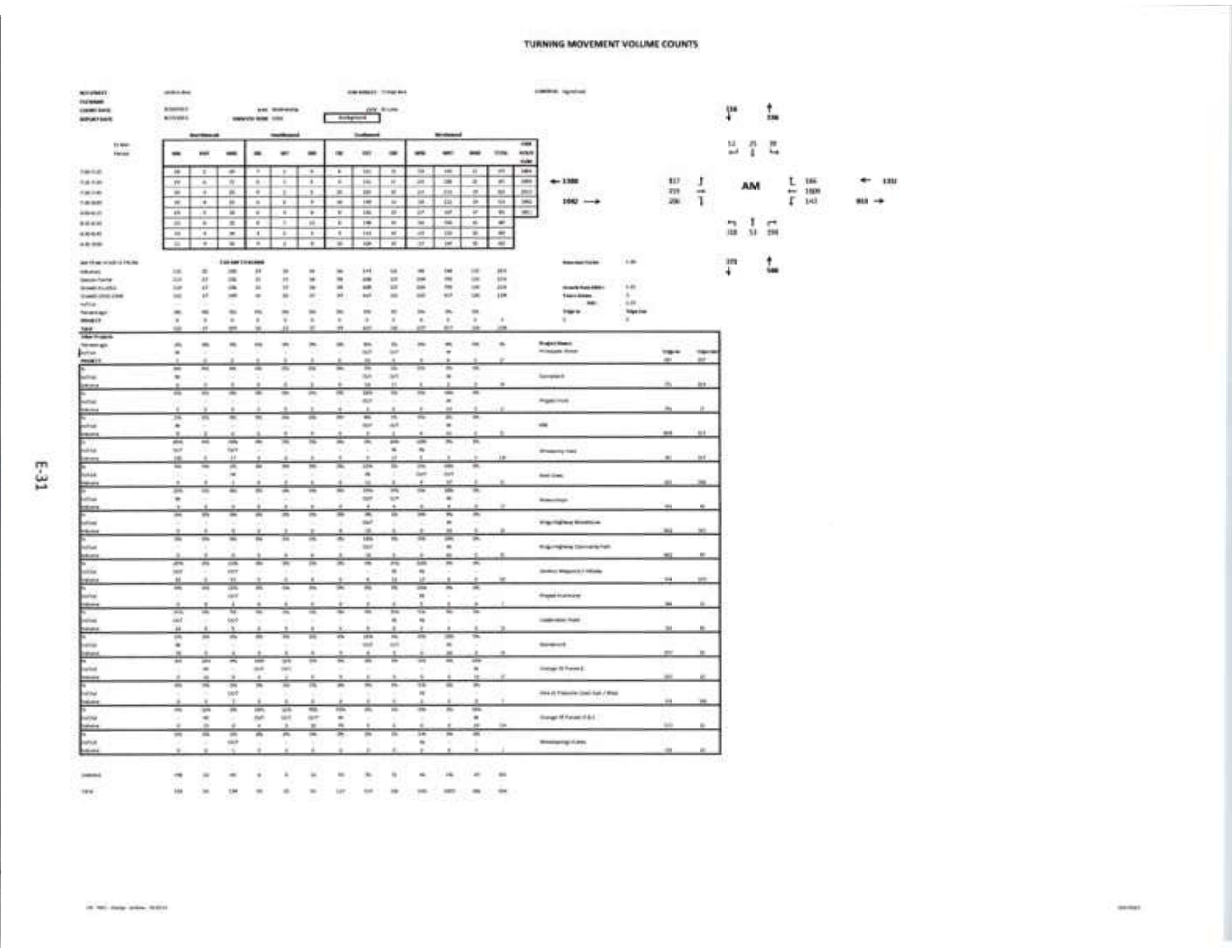
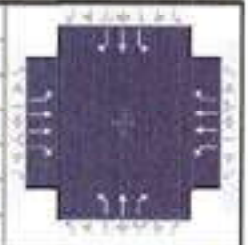
TURNING MOVEMENT VOLUME COUNTS



E3.1

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	James Kemp	Analysis Date	Jul 26, 2023	Area Type	Other
Jurisdiction	St. Lucie County	Time Period	AM Peak Hour	PHF	0.97
Urban Street	Orange Avenue	Analysis Year	2026	Analysis Period	1> 7:00
Intersection	Orange & Jenkins	File Name	C6 - Orange Jenkins - Without Project AM.xus		
Project Description	Background Without Project				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	117	719	206	143	1009	166	318	53	194	39	25	53

Signal Information			
Cycle, s	80.1	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

	EB			WB			NB			SB		
Green	6.5	0.2		28.6	4.1	2.6	11.6					
Yellow	4.3	0.0		4.3	4.3	4.3	4.3					
Red	1.0	0.0		1.0	1.0	1.0	1.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	11.8	33.9	12.0	34.2	17.3	24.7	9.4	16.9
Change Period, ($Y+R_c$), s	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Max Allow Headway (MAH), s	3.0	3.0	3.0	3.0	3.0	3.2	3.0	3.2
Queue Clearance Time (g_s), s	5.3	15.5	6.0	23.2	14.0	10.8	3.5	4.4
Green Extension Time (g_e), s	0.1	5.9	0.1	5.7	0.0	0.4	0.0	0.1
Phase Call Probability	0.93	1.00	0.96	1.00	1.00	1.00	0.59	1.00
Max Out Probability	0.01	0.02	0.03	0.06	1.00	0.05	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	121	741	212	147	1040	171	328	55	200	40	26	55
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1781	1585	1781	1781	1585	1781	1870	1585	1781	1870	1585
Queue Service Time (g_s), s	3.3	13.5	8.0	4.0	21.2	6.2	12.0	1.8	8.8	1.5	1.0	2.4
Cycle Queue Clearance Time (g_c), s	3.3	13.5	8.0	4.0	21.2	6.2	12.0	1.8	8.8	1.5	1.0	2.4
Green Ratio (g/C)	0.44	0.36	0.36	0.44	0.36	0.36	0.32	0.24	0.24	0.20	0.14	0.14
Capacity (c), veh/h	273	1272	566	375	1282	571	540	453	384	377	270	229
Volume-to-Capacity Ratio (X)	0.441	0.583	0.375	0.393	0.811	0.300	0.607	0.120	0.520	0.107	0.095	0.239
Back of Queue (Q), ft/ln (95 th percentile)	54.1	221.9	121.1	66.2	319.6	94.2	215.5	34.5	142	27.1	18.7	40.5
Back of Queue (Q), veh/ln (95 th percentile)	2.1	8.7	4.8	2.6	12.6	3.7	8.5	1.4	5.6	1.1	0.7	1.6
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	17.7	20.9	19.1	15.1	23.2	18.4	22.9	23.7	26.3	26.5	29.7	30.4
Incremental Delay (d_2), s/veh	0.4	0.2	0.2	0.2	0.7	0.1	1.4	0.0	0.6	0.0	0.1	0.2
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.2	21.1	19.3	15.3	23.9	18.5	24.3	23.7	26.9	26.5	29.8	30.6
Level of Service (LOS)	B	C	B	B	C	B	C	C	C	C	C	C
Approach Delay, s/veh / LOS	20.4	C		22.3	C		25.2	C		29.1	C	
Intersection Delay, s/veh / LOS	22.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.10	B	2.10	B	2.44	B	2.45	B
Bicycle LOS Score / LOS	1.37	A	1.61	B	1.45	A	0.69	A

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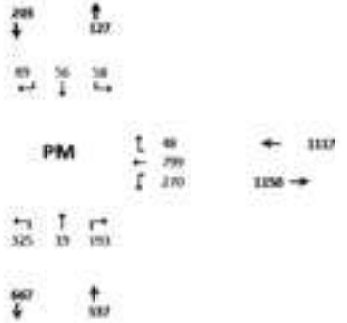
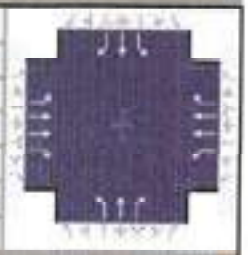
TURNING MOVEMENT VOLUME COUNTS



HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	James Kemp	Analysis Date	Jul 26, 2023	Area Type	Other
Jurisdiction	St. Lucie County	Time Period	PM Peak Hour	PHF	0.95
Urban Street	Orange Avenue	Analysis Year	2026	Analysis Period	1> 4:00
Intersection	Orange & Jenkins	File Name	C6 - Orange Jenkins - Without Project PM.xus		
Project Description	Background without Project				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	60	900	341	270	799	48	325	19	193	58	56	89

Signal Information					EB			WB			NB			SB		
Cycle, s	83.0	Reference Phase	2													
Offset, s	0	Reference Point	End	Green	5.4	4.9		27.9	5.3	1.4	11.6					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.3	0.0		4.3	4.3	4.3	4.3					
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	0.0		1.0	1.0	1.0	1.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	10.7	33.2	15.6	38.1	17.3	23.7	10.6	16.9
Change Period, ($Y+R_c$), s	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Max Allow Headway (MAH), s	3.0	3.0	3.0	3.0	3.0	3.2	3.0	3.2
Queue Clearance Time (g_s), s	3.8	22.0	10.2	17.5	14.0	11.5	4.3	6.5
Green Extension Time (g_e), s	0.0	5.9	0.1	6.0	0.0	0.5	0.0	0.2
Phase Call Probability	0.77	1.00	1.00	1.00	1.00	1.00	0.76	1.00
Max Out Probability	0.00	0.05	1.00	0.03	1.00	0.10	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	63	947	359	284	841	51	342	20	203	61	59	94
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1781	1585	1781	1781	1585	1781	1870	1585	1781	1870	1585
Queue Service Time (g_s), s	1.8	20.0	16.1	8.2	15.5	1.7	12.0	0.7	9.5	2.3	2.3	4.5
Cycle Queue Clearance Time (g_c), s	1.8	20.0	16.1	8.2	15.5	1.7	12.0	0.7	9.5	2.3	2.3	4.5
Green Ratio (g/C)	0.40	0.34	0.34	0.48	0.40	0.40	0.31	0.22	0.22	0.20	0.14	0.14
Capacity (c), veh/h	322	1195	532	364	1407	626	495	414	350	395	262	222
Volume-to-Capacity Ratio (X)	0.196	0.792	0.675	0.781	0.598	0.081	0.691	0.048	0.580	0.154	0.225	0.421
Back of Queue (Q), ft/ln (95 th percentile)	31.1	309.7	238.4	165.5	245.7	24.9	244.1	13.4	160.5	43	45.7	75.2
Back of Queue (Q), veh/ln (95 th percentile)	1.2	12.2	9.4	6.5	9.7	1.0	9.6	0.5	6.3	1.7	1.8	3.0
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	16.5	25.0	23.7	17.8	19.9	15.7	25.2	25.5	28.9	27.2	31.7	32.6
Incremental Delay (d_2), s/veh	0.1	0.5	0.6	7.6	0.2	0.0	3.4	0.0	1.6	0.1	0.2	0.5
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	16.6	25.4	24.2	25.5	20.0	15.7	28.6	25.5	30.5	27.3	31.8	33.1
Level of Service (LOS)	B	C	C	C	C	B	C	C	C	C	C	C
Approach Delay, s/veh / LOS	24.7	C		21.2	C		29.2	C		31.1	C	
Intersection Delay, s/veh / LOS	24.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.10	B	2.10	B	2.44	B	2.45	B
Bicycle LOS Score / LOS	1.62	B	1.46	A	1.42	A	0.84	A

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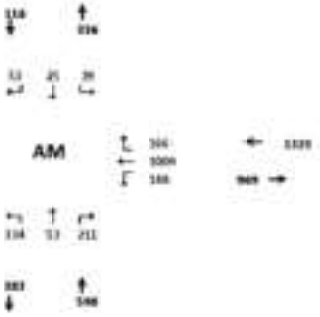
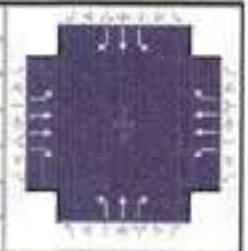
TURNING MOVEMENT VOLUME COUNTS



HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	James Kemp	Analysis Date	Jul 26, 2023	Area Type	Other
Jurisdiction	St. Lucie County	Time Period	AM Peak Hour	PHF	0.97
Urban Street	Orange Avenue	Analysis Year	2026	Analysis Period	1> 7:00
Intersection	Orange & Jenkins	File Name	C6 - Orange Jenkins - With Project AM.xus		
Project Description	Future Total with Project				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	117	719	211	148	1009	166	334	53	211	39	25	53

Signal Information			
Cycle, s	80.1	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.5	0.2	28.6	4.1	2.6	11.5	
Yellow	4.3	0.0	4.3	4.3	4.3	4.3	
Red	1.0	0.0	1.0	1.0	1.0	1.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	11.6	33.9	12.1	34.2	17.3	24.7	9.4	16.8
Change Period, ($Y+R_c$), s	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Max Allow Headway (MAH), s	3.0	3.0	3.0	3.0	3.0	3.2	3.0	3.2
Queue Clearance Time (g_s), s	5.3	15.5	6.2	23.2	14.0	11.7	3.5	4.4
Green Extension Time (g_e), s	0.1	6.0	0.1	5.7	0.0	0.4	0.0	0.1
Phase Call Probability	0.93	1.00	0.97	1.00	1.00	1.00	0.59	1.00
Max Out Probability	0.01	0.02	0.04	0.06	1.00	0.10	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	121	741	218	153	1040	171	344	55	218	40	26	55
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1781	1585	1781	1781	1585	1781	1870	1585	1781	1870	1585
Queue Service Time (g_s), s	3.3	13.5	8.2	4.2	21.2	6.2	12.0	1.8	9.7	1.5	1.0	2.4
Cycle Queue Clearance Time (g_c), s	3.3	13.5	8.2	4.2	21.2	6.2	12.0	1.8	9.7	1.5	1.0	2.4
Green Ratio (g/C)	0.44	0.36	0.36	0.44	0.36	0.36	0.32	0.24	0.24	0.20	0.14	0.14
Capacity (c), veh/h	274	1272	566	376	1283	571	540	453	384	376	269	228
Volume-to-Capacity Ratio (X)	0.441	0.583	0.384	0.406	0.811	0.300	0.638	0.121	0.567	0.107	0.096	0.239
Back of Queue (Q), ft/ln (95 th percentile)	54	221.9	124.6	68.5	319.5	94.2	228	34.5	159.4	27.1	18.7	40.5
Back of Queue (Q), veh/ln (95 th percentile)	2.1	8.7	4.9	2.7	12.6	3.7	9.0	1.4	6.3	1.1	0.7	1.6
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	17.7	20.9	19.2	15.1	23.2	18.4	23.4	23.7	26.7	26.5	29.8	30.4
Incremental Delay (d_2), s/veh	0.4	0.2	0.2	0.3	0.7	0.1	1.9	0.0	1.2	0.0	0.1	0.2
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.2	21.1	19.3	15.4	23.9	18.5	25.3	23.7	27.9	26.6	29.8	30.6
Level of Service (LOS)	B	C	B	B	C	B	C	C	C	C	C	C
Approach Delay, s/veh / LOS	20.4	C		22.2	C		26.1	C		29.1	C	
Intersection Delay, s/veh / LOS	22.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.10	B	2.10	B	2.44	B	2.45	B
Bicycle LOS Score / LOS	1.38	A	1.61	B	1.50	B	0.69	A

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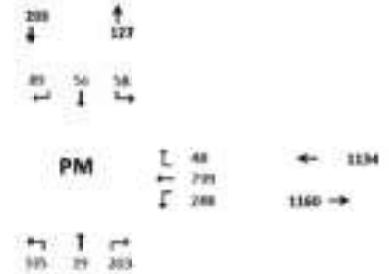
TURNING MOVEMENT VOLUME COUNTS



HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	James Kemp	Analysis Date	Jul 26, 2023	Area Type	Other
Jurisdiction	St. Lucie County	Time Period	PM Peak Hour	PHF	0.95
Urban Street	Orange Avenue	Analysis Year	2026	Analysis Period	1> 4:00
Intersection	Orange & Jenkins	File Name	C6 - Orange Jenkins - With Project PM.xus		
Project Description	2025 With Project				

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	60	900	357	288	799	48	335	19	203	58	56	89

Signal Information			
Cycle, s	83.8	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	5.4	0.2	28.1	5.3	1.4	11.6						
Yellow	4.3	4.3	4.3	4.3	4.3	4.3						
Red	1.0	1.0	1.0	1.0	1.0	1.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	10.7	33.4	16.2	38.9	17.3	23.6	10.6	16.9
Change Period, ($Y+R_c$), s	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Max Allow Headway (MAH), s	3.0	3.0	3.0	3.0	3.0	3.2	3.0	3.2
Queue Clearance Time (g_s), s	3.8	22.2	10.8	17.5	14.0	12.2	4.4	6.5
Green Extension Time (g_e), s	0.0	5.9	0.1	6.1	0.0	0.4	0.0	0.2
Phase Call Probability	0.77	1.00	1.00	1.00	1.00	1.00	0.76	1.00
Max Out Probability	0.00	0.06	1.00	0.03	1.00	0.16	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	63	947	376	303	841	51	353	20	214	61	59	94
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1781	1585	1781	1781	1585	1781	1870	1585	1781	1870	1585
Queue Service Time (g_s), s	1.8	20.2	17.3	8.8	15.5	1.7	12.0	0.7	10.2	2.4	2.3	4.5
Cycle Queue Clearance Time (g_c), s	1.8	20.2	17.3	8.8	15.5	1.7	12.0	0.7	10.2	2.4	2.3	4.5
Green Ratio (g/C)	0.40	0.34	0.34	0.49	0.40	0.40	0.31	0.22	0.22	0.20	0.14	0.14
Capacity (c), veh/h	326	1195	532	373	1427	635	490	409	346	392	259	220
Volume-to-Capacity Ratio (X)	0.194	0.793	0.707	0.813	0.589	0.080	0.720	0.049	0.617	0.156	0.227	0.426
Back of Queue (Q), ft/ln (95 th percentile)	31.5	313.1	253.1	186.5	246	24.9	258.4	13.6	176	43.6	46.4	76.3
Back of Queue (Q), veh/ln (95 th percentile)	1.2	12.3	10.0	7.4	9.7	1.0	10.2	0.5	6.9	1.7	1.8	3.0
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	16.6	25.2	24.2	17.9	19.7	15.5	26.1	25.9	29.6	27.6	32.1	33.0
Incremental Delay (d_2), s/veh	0.1	0.5	0.7	10.5	0.1	0.0	4.4	0.0	2.4	0.1	0.2	0.5
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	16.7	25.7	24.9	28.4	19.8	15.6	30.5	25.9	32.0	27.7	32.3	33.5
Level of Service (LOS)	B	C	C	C	B	B	C	C	C	C	C	C
Approach Delay, s/veh / LOS	25.0	C		21.8	C		30.9	C		31.5	C	
Intersection Delay, s/veh / LOS	25.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.11	B	2.10	B	2.44	B	2.45	B
Bicycle LOS Score / LOS	1.63	B	1.47	A	1.46	A	0.84	A

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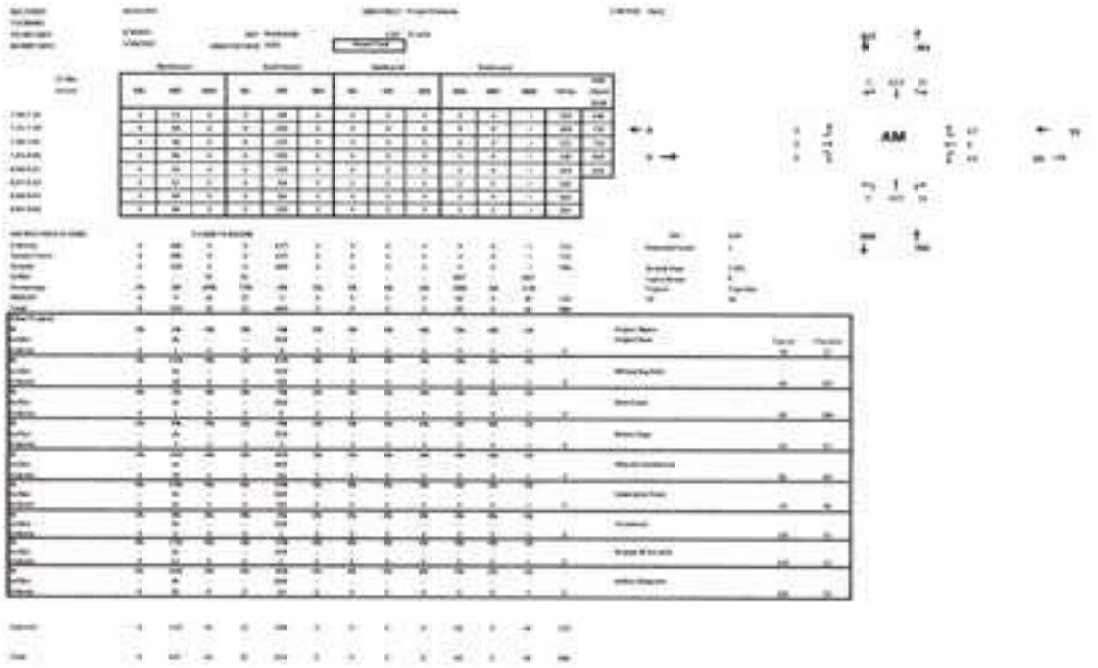
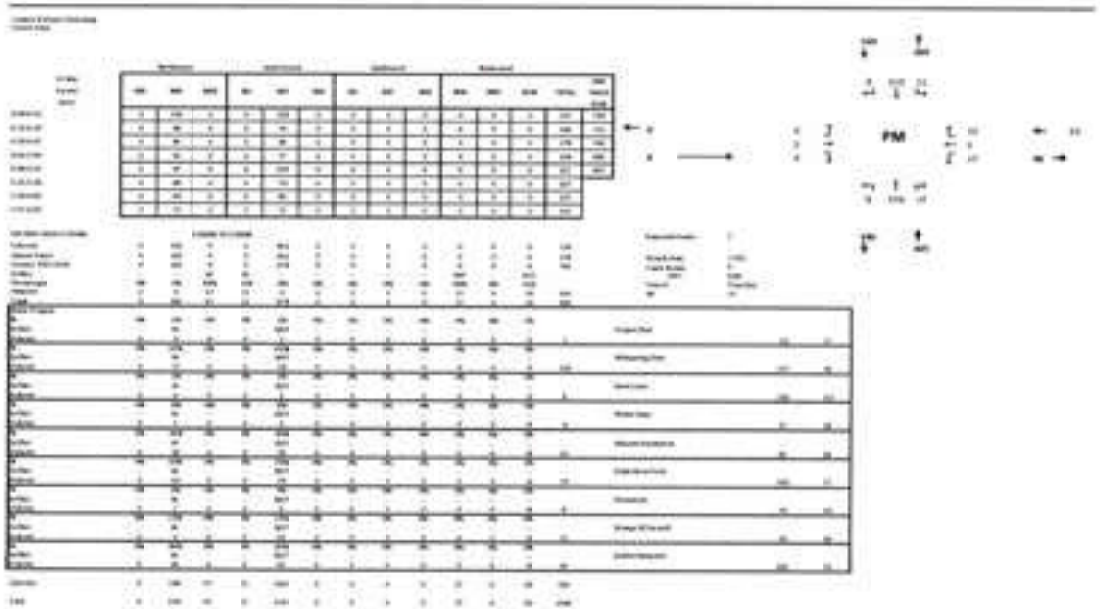
APPENDIX F

DRIVEWAY ANALYSIS





HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	James Kemp	Intersection	Jenkins Rd & Project Driveway
Agency/Co.	O'Rourke Engineering	Jurisdiction	St. Lucie
Date Performed	7/27/2023	East/West Street	Project Driveway
Analysis Year	2026	North/South Street	Jenkins Road
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.84
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Future Total with Project		

Lanes

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	1	1	0
Configuration							LR					TR		L	T	
Volume (veh/h)						44		47			437	14		15	612	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							108							18		
Capacity, c (veh/h)							271							1026		
v/c Ratio							0.40							0.02		
95% Queue Length, Q_{95} (veh)							1.8							0.1		
Control Delay (s/veh)							26.9							8.6		
Level of Service (LOS)							D							A		
Approach Delay (s/veh)					26.9								0.2			
Approach LOS					D								A			

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HCS Two-Way Stop-Control Report

General Information

Analyst	James Kemp
Agency/Co.	O'Rourke Engineering
Date Performed	7/27/2023
Analysis Year	2026
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	Future Total with Project

Site Information

Intersection	Jenkins Rd & Project Driveway
Jurisdiction	St. Lucie
East/West Street	Project Driveway
North/South Street	Jenkins Road
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	1	1	0
Configuration							LR					TR		L	T	
Volume (veh/h)						27		30			578	47		51	519	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							61							54		
Capacity, c (veh/h)							253							920		
v/c Ratio							0.24							0.06		
95% Queue Length, Q_{95} (veh)							0.9							0.2		
Control Delay (s/veh)							23.7							9.2		
Level of Service (LOS)							C							A		
Approach Delay (s/veh)						23.7							0.8			
Approach LOS						C							A			

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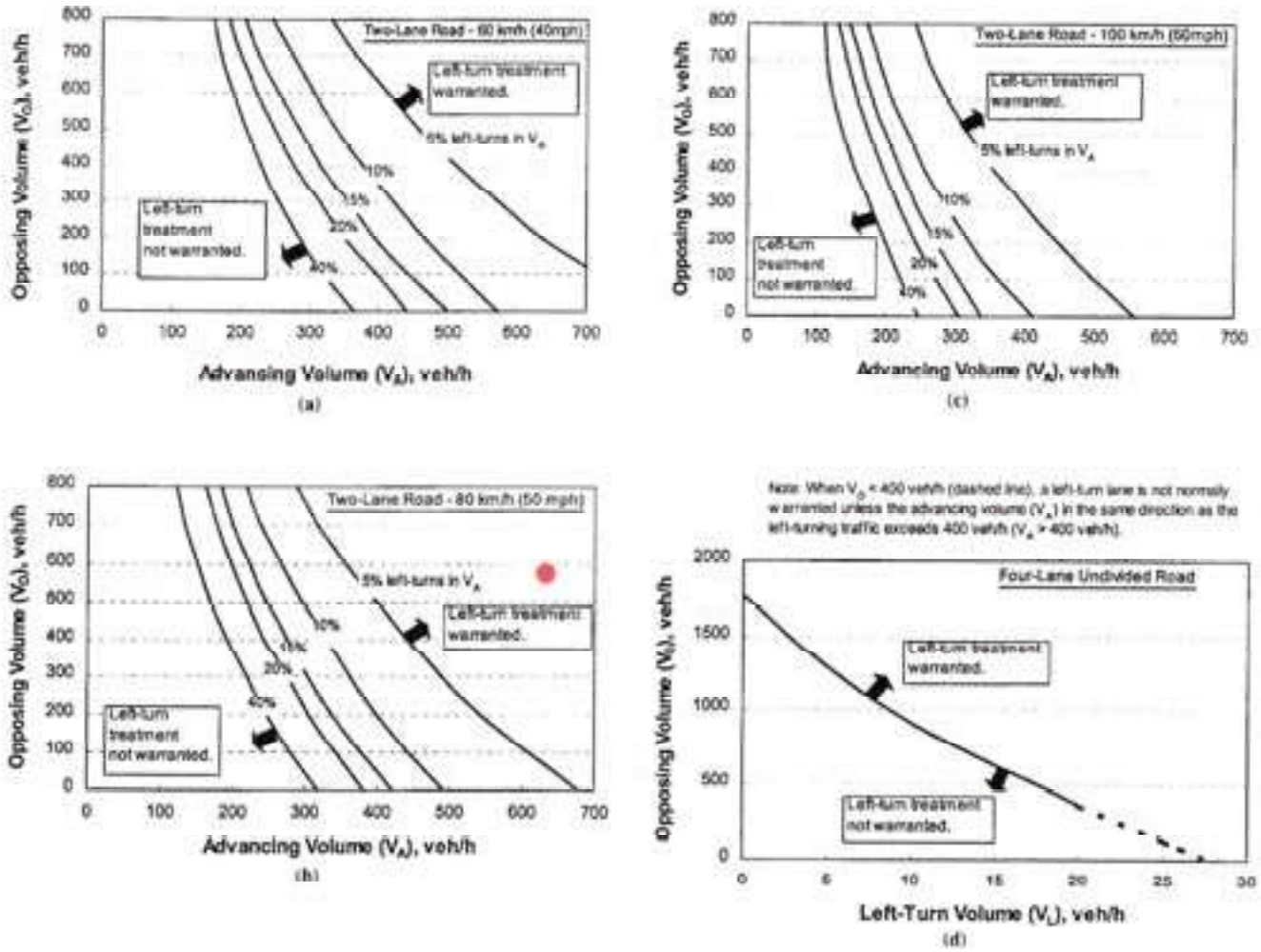

Figure 2-5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

Application. The guidance stated in the preceding section defines the conditions that may justify the provision of a left-turn bay. Application of this guidance requires two types of data:

1. Major-road turn movement volume for the peak hour of the average day and
2. Major-road 85th percentile speed (posted speed can be substituted if data are unavailable).

Use of Figure 2-5 requires determination of the opposing volume, the advancing volume, and the operating speed. The opposing volume should include only the right-turn and through movements on the approach across from (and heading in the opposite direction of) the subject major-road approach. The advancing volume should include the left-turn, right-turn, and through movements on the subject approach. The operating speed can be estimated as the 85th percentile speed. If the operating speed does not coincide with 60, 80, or 100 km/h (i.e., 40, 50, or 60 mph), then interpolation can be used or, as a more conservative approach, the operating speed can be rounded up to the nearest speed for which a figure is provided.

In application, Figure 2-5 is used once for each major-road approach to the intersection. The appropriate trend line is identified on the basis of the percentage of left-turns on the subject major-road approach. If the advancing and opposing volume combination intersects above or to the right of this trend line, a left-turn bay should be considered for the subject approach. If a bay is included at the intersection, it should be long enough to store left-turn vehicles 99.5 percent of the time (i.e., the bay should not overflow more than 0.5 percent of the time). Techniques for estimating this storage length are provided in the section, Increase the Length of the Turn Bay.

Add a Right-Turn Bay on the Major Road

Introduction. Provision of a right-turn bay on the major road to a two-way stop-controlled intersection can signifi-

cantly improve operations and safety at the intersection. A right-turn bay effectively separates those vehicles that are slowing or stopped to turn from those vehicles in the through traffic lanes. This separation minimizes turn-related collisions (e.g., angle, rear-end, and same-direction-sideswipe) and eliminates unnecessary delay to through vehicles.

One disadvantage of adding a bay to the major-road approach is that it may require reallocating the existing pavement or widening of the approach cross section. Sometimes the pavement width needed for the additional lane is available within the existing roadway cross section. However, in downtown settings this reallocation may require the removal of some curb parking stalls and can affect adjacent business significantly. Occasionally, the cross section must be widened to provide for the turn bay. If the needed width can be provided within the available right-of-way, the cost may be limited to that of construction. However, if additional right-of-way is needed, the costs of acquiring this property in urban settings can be high.

Guidance. Hasan and Stokes (*22*) developed guidelines for determining when to provide a right-turn bay on the major road of a two-way stop-controlled intersection. These guidelines were based on an evaluation of the operating and collision costs associated with the right-turn maneuver relative to the cost of constructing a right-turn bay. The operating costs included those of road-user fuel and delay. Separate guidelines were developed for two-lane and four-lane roadways. These guidelines are shown in Figure 2-6.

Application. The guidance described in the preceding section defines conditions that may justify the provision of a right-turn bay. Application of this guidance requires two types of data:

1. Major-road turn movement volume for the peak hour of the average day and
2. Major-road 85th percentile speed (posted speed can be substituted if data are unavailable).

Figure 2-6 should be consulted once for each major-road approach. If the combination of major-road approach volume and right-turn volume intersects above or to the right of the trend line corresponding to the major-road operating speed, then a right-turn bay is a viable alternative.

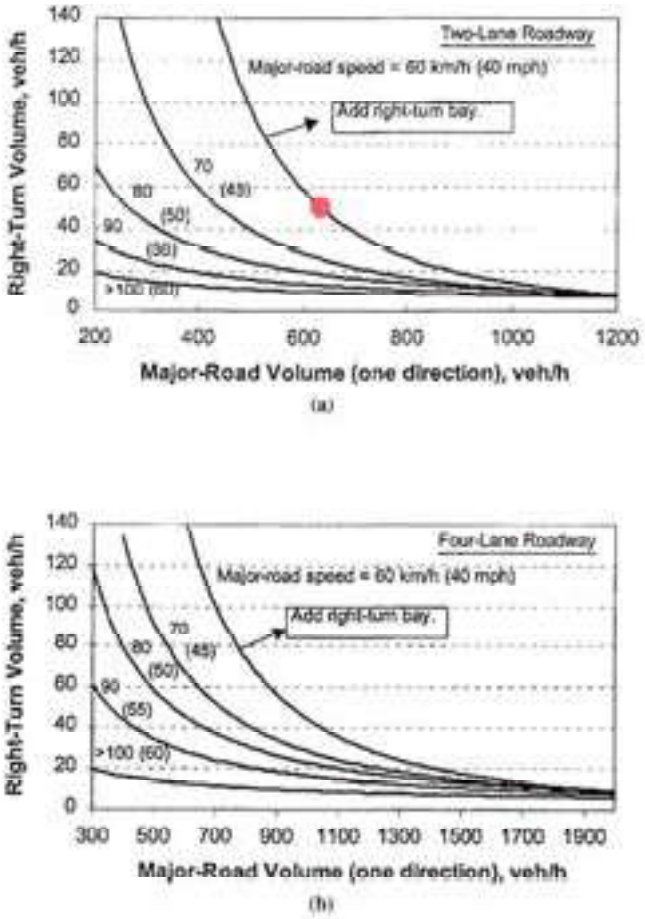

Figure 2-6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

Increase Length of Turn Bay

Introduction. Turn bay length can affect the safety and operation of the intersection approach significantly. This effect becomes more negative as the frequency with which vehicles exceed the available storage increases. Also, for unstopped approaches, this effect becomes more negative as more of the turning vehicle's deceleration occurs in the through lane, prior to the bay. The need to provide adequate storage length, deceleration length, or both is dependent on the type of approach control used and whether the vehicle is turning left or right. Table 2-13 identifies the appropriate bay

TABLE 2-13 Turn-bay length components at unsignalized intersections

Approach Control	Length Components	
	Left-Turn Bay	Right-Turn Bay
Unstopped	Storage Length + Deceleration Length	Deceleration Length
Stopped	Storage Length	Storage Length

TABLE 3a - Link Analysis - AM Peak Hour

Segment	From	To	Direction	IN/OUT	Greater than 3% (1% on Adjacent Links)	D Factor (1)	2023 Peak Hour Volumes (From 2023 TPO)	2023 Directional Peak Hour Volumes	Growth Rate (2)	2026 Peak Hour Volumes w/ Growth Factor	2026 Peak Hour w/ 1% Growth	AM Peak Hour Committed Projects Directional	2026 1% Growth + Committed Peak Direction	Higher of Growth Rate or 1% + Commited	Resultant Growth Rate	Peak Hour Service Capacity (E+C)	Project Volume Peak Direction	Total Traffic (Peak Direction)	% Project of Capacity-Peak Hour	Does Project Meet Concurrency ?	Project Percent Assignment
Jenkins Rd	Okeechobee Rd	Project Driveway	NB	IN	YES	0.603	567	567	1.10%	586	584	191	775	775	10.99%	920	14	789	1.52%	YES	48%
	Okeechobee Rd	Project Driveway	SB	OUT	YES	0.397	567	373	1.10%	386	385	214	599	599	17.05%	920	44	643	4.78%	YES	48%
	Project Driveway	Graham Rd	NB	OUT	YES	0.603	567	567	1.10%	586	584	191	775	775	10.99%	920	47	822	5.11%	YES	52%
	Project Driveway	Graham Rd	SB	IN	YES	0.397	567	373	1.10%	386	385	214	599	599	17.05%	920	15	614	1.63%	YES	52%
	Graham Rd	Peterson Rd	NB	OUT	YES	0.423	567	416	1.10%	430	428	259	687	687	18.25%	630	32	719	5.08%	YES(3)	35%
	Graham Rd	Peterson Rd	SB	IN	NO	0.577	567	567	1.10%	586	584	165	749	749	9.73%	630	10	759	1.59%	YES(3)	35%
	Peterson Rd	Orange Ave	NB	OUT	YES	0.539	567	567	1.10%	586	584	352	936	936	18.19%	920	32	968	3.48%	YES(3)	35%
	Peterson Rd	Orange Ave	SB	IN	NO	0.461	567	485	1.10%	501	500	171	671	671	11.41%	920	10	681	1.09%	YES	35%

Note: TPO Provides Peak Direction, off-peak derived from D Factor

(1) FDOT 2022 Annual Average Daily Traffic Report

(2) Growth rate calculated from St Lucie County Traffic Counts and Level of Service Reports

(3) 2026 and Commited Project trips cause the roadway to exceed service capacity

IN: 29

OUT: 91

Years Grown: 3

TABLE 3b - Link Analysis - PM Peak Hour

Segment	From	To	Direction	IN/OUT	Greater than 3% (1% on Adjacent Links)	D Factor (1)	2023 Peak Hour Volumes (From 2023 TPO)	2023 Peak Hour Volumes (From 2023 TPO)	Growth Rate (2)	2026 Peak Hour Volumes w/ Growth Factor	2026 Peak Hour w/ 1% Growth	PM Peak Hour Committed Projects Directional	2026 1% Growth + Committed Peak Direction	Higher of Growth(1) Rate or 1% + Commited	Resultant Growth Rate	Peak Hour Service Capacity (E+C)	Project Volume Peak Direction	Total Traffic (Peak Direction)	% Project of Capacity-Peak Hour	Does Project Meet Concurrency ?	Project Percent Assignment
Jenkins Rd	Okeechobee Rd	Project Driveway	NB	IN	YES	0.495	574	563	1.10%	581	580	249	829	829	13.78%	920	47	876	5.11%	YES	48%
	Okeechobee Rd	Project Driveway	SB	OUT	YES	0.505	574	574	1.10%	593	591	237	828	828	13.01%	920	27	855	2.93%	YES	48%
	Project Driveway	Graham Rd	NB	OUT	YES	0.495	574	563	1.10%	581	580	249	829	829	13.78%	920	30	859	3.26%	YES	52%
	Project Driveway	Graham Rd	SB	IN	YES	0.505	574	574	1.10%	593	591	237	828	828	13.01%	920	51	879	5.54%	YES	52%
	Graham Rd	Peterson Rd	NB	OUT	YES	0.530	574	574	1.10%	593	591	231	822	822	12.73%	630	20	842	3.17%	YES(3)	35%
	Graham Rd	Peterson Rd	SB	IN	YES	0.470	574	509	1.10%	526	524	289	813	813	16.91%	630	34	847	5.40%	YES(3)	35%
	Peterson Rd	Orange Ave	NB	OUT	NO	0.437	574	446	1.10%	460	459	265	724	724	17.57%	920	20	744	2.17%	YES	35%
	Peterson Rd	Orange Ave	SB	IN	YES	0.563	574	574	1.10%	593	591	379	970	970	19.13%	920	34	1004	3.70%	YES(3)	35%

Note: TPO Provides Peak Direction, off-peak derived from D Factor

(1) FDOT 2022 Annual Average Daily Traffic Report

(2) Growth rate calculated from St Lucie County Traffic Counts and Level of Service Reports

(3) 2026 and Commited Project trips cause the roadway to exceed service capacity

IN: 98

OUT: 57

Years Grown: 3