THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT
Florida

DEVELOPMENT REVIEW

Property address or Location 2496 South Kings Highway, Fort Pierce

Parcel ID #(s) See attached

Project description Kings Highway Commerce Park 109.46 Acre, office warehouse and distribution development See attached location map

See attached	Kings Highway Development Partners.LLC Jeff H. Iravani- Authoized Agent
Property Owner(s)	**Applicant/Representative, Title, Company**
	1934 Commerce Lane Suite 5
Street Address	Street Address
City State Zip	Jupiter FL 33458
	City State Zip
Phone Number	561-575-6030
	Phone Number
Email Address	jhi@bellsouth.net
	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.*

Jeff H. Iravani - Authorized Agent

Property Owner(s) Signature(s)

STATE OF FLORIDA -- COUNTY

The foregoing instrument was acknowledged before me this 30 day of April, 2021, by Jeff H. Iravani who is personally known to me or has produced _____ as identification.

Signature of Notary

(seal)

Jenna L. Jenkins
COMMISSION # GG270322
EXPIRES: October 23, 2022
Bonded Thru Aaron Notary

INTAKE MEETINGS ARE REQUIRED FOR ALL SUBMITTALS. CALL (772) 467-3729

TO BE COMPLETED BY STAFF

Zoning	Future Land Use	Total Acres	Historic District	Historic Designation
				Contributing Individual Non-Contributing None

Pre-Application Meeting Date_____

Intake Planner_____

Planner Assigned_____

Approved By_____ Date _____

Comments_____

Fees_____ Control #_____ B. Permit #_____

Intake Date Stamp

❑ DEVELOPMENT REVIEW

General Information

- ❑ Incomplete application packets cannot be accepted.
- ❑ Site Plan approval is valid for one (1) year following City Commission approval. In order to maintain site plan approval, vertical improvements, permitted by the Building Department must commence prior to the 12-month expiration date, and building permits must be maintained until site plan is completed, per plans, or approval shall lapse.

Choose Application Type:

Application Type		
■ Site Plan	❑ Conditional Use with New Const.	❑ Major Amendment
❑ Conceptual Development Plan		❑ Minor Amendment

Site Information:

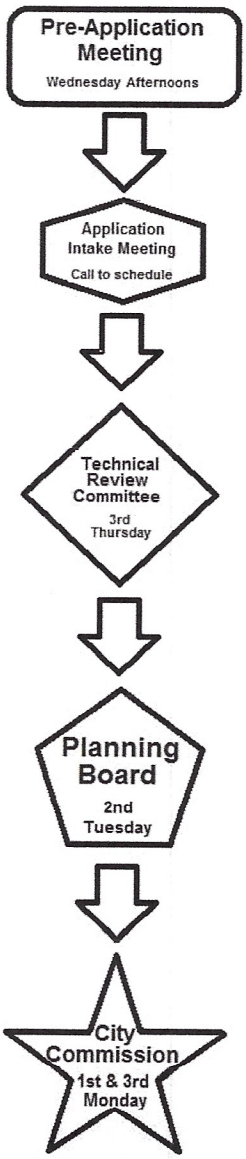
Non-Residential: Proposed Sq. Ft.: 485,000SF

Residential: Proposed Units:_____

Surrounding Uses: *(i.e. single family home, retail, industrial, etc.)*

North	South	East	West
Vacant	Vacant/RV Park	Vacant	Vacant

Application Outlook



Site Plan submittal requirements:

Submit one (1) original & thirteen (13) hard copies and one (1) CD of the following. Additional copies will be required of subsequent submittals.

- ☒ Complete notarized application
- ☒ Warranty Deed
- ☒ SLC Property Record Card
- ☒ Statements of ownership & control of proposed development. Statement describing in detail: character & intended use.
- ☒ General location map (see Section 22-58.d.2)
- ☒ Survey (see Section 22-58.d.3)
- ☒ Site Plan (see Section 22-58.d.4)
- ☒ Landscaping Plan (see Section 22-187)
- ☒ Storm Drainage Plan (see Section 22-58.d.6)
- ☒ Environmental Impact Report
- ❑ Beach/Dune System protection plan, if applicable (see Section 22-58.d.7)
- ☒ Lighting Plan (see Section 22-58.d.8)
- ☒ Design Review submittals (see Design Review application)
- ☒ Traffic Impact Report
- ☒ Concurrency Review submittals (see Concurrency Review application)

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT
Florida

Design Review

Property address or Location 2496 South Kings Highway, Fort Pierce

Parcel ID #(s) Please see attached

Project Description Kings Highway Commerce Park 109.46 Acre, office warehouse and distribution development. See attached location map

See attached	Kings Highway Development Partners, LLC - Jeff H. Iravani, Inc Authorized Agent
Property Owner(s)	Applicant/Representative, Title, Company
	1934 Commerce Lane Suite 5
Street Address	Street Address
	Jupiter Florida 33457
City State Zip	City State Zip
	561-575-6030
Phone Number	Phone Number
	jhi@bellsouth.net
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 Application (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.*

Property Owner(s) Signature(s)

STATE OF FLORIDA -- COUNTY Palm Beach

The foregoing instrument was acknowledged before me this 29 day of April, 2021, by Jeff H. Iravani who is personally known to me or has produced _____ as identification.

Signature of Notary

Jenna L. Jenkins
COMMISSION # GG270322
EXPIRES: October 23, 2022
Bonded Thru Aaron Notary

TO BE COMPLETED BY STAFF

Zoning	Future Land Use	Total Acres	Historic Districts	Historic Designation

Pre-Application Meeting Date _____ Fees _____ Control # _____ B. Permit _____

Intake Planner _____

Planner Assigned _____

Approved _____ Date _____

Comments _____

Intake Date Stamp

Design Review Application Checklist
(City Code of Ordinances 22-59)

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 22-194, 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 22-58(e) 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 22-58
c. A final site lighting plan that meets the requirements of subsection 22-58(d)(8).
d. A final landscape plan that meets the requirements of Article XII, Landscaping and Trees.
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 / AG	COM / RL / RU	AG-1 / RL / AR-1
South	VACANT / RV PARK	MXD / GC / MXD	RS-1 / C-3 / RS-2
East	VACANT / RESIDENTIAL	MXD / GC	RS-2 / C-3
West	VACANT	RM	R4

	Future Land Use	Zoning Classification	Maximum Intensity Residential: Dwelling Units per Acre Other: Square Footage	Total Acreage	Flood Zone
Current	CG	C-3 / RS-2	1,736 ksf comm 85 residentail DU	109.46	
****Proposed**	CG	CP-1	1,900 ksf office/whse	108.12	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
Current Zoning/FLU	Total gallons per day 239,215
**Proposed Zoning/FLU	Total gallons per day 90,300
**Change in Demand	Total gallons per day (-)148,915

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
Current Zoning/FLU	Total gallons per day 195,809
**Proposed Zoning/FLU	Total gallons per day 90,300
**Change in Demand	Total gallons per day 105,509

C. Parks and Recreation (Residential Classifications Only):
(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			
Urban District	5 acres per 1,000 people			
Community	2.5 acres per 1,000 people			
Neighborhood	1.36 acres per 1,000 people			

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)

	K-8	High
School Name		
City		
Distance		
Current Zoning/FLU Enrollment Demand		
****Proposed Zoning/FLU Enrollment Demand**		
****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	43,436
****Proposed Zoning/FLU**	47,524
***Change in Demand**	4,088

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	Per NSLRWCD, maximum discharge is based on the acreage and not proposed use or zoning. Therefore, tehr is no impact on the the receiving canal.

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	3,361	334/373
****Proposed Zoning/FLU**	4,108	452/486
***Change in Demand**	Trips +747	Trips +118/+113
Impact to Capacity		

IV. Project Description

PHASING
Is this project (phase) part of a larger project? [X] 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**
Office/Whse	I	485 K	53	Sept 2021	Sept 2022
Office / Whse	future	1,415 K	55,12	TBD	TBD

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? 4-signlr family homes

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

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

Grady Sapp
2421 Peters Road
Fort Pierce, FL 34945

February 16, 2021

RE: Parcel ID # 2324-241-0002-000-6

Kings Highway Commerce Park
Southeast corner of Kings Highway and White Road
Fort Pierce, Florida

To Whom It May Concern:

Grady Sapp, the owner of the above referenced parcel, hereby authorizes Jeff H. Iravani, Inc to be the applicant to obtain all the required site and subdivision plans approvals and civil permits for the above referenced project.

Sincerely,

Signature: _____

Name: Grady Sapp

Title: Owner

STATE OF FLORIDA
COUNTY OF ~~PALM BEACH~~ St Lucie

The foregoing instrument was acknowledged before me this 26th day of February, 2021, by Grady Sapp who is personally known to me (or) produced a drivers' license as identification and who did (did not) take an oath.

Cheryl A Howe
Notary Public

Seal

CHERYL A HOWE
Notary Public - State of Florida
Commission # GG 260038
My Comm. Expires Nov 30, 2022

Great American RV Prop, LLC
547 Wash Roberts LN
McMinnville, TN 37110

February 16, 2021

Parcel ID # 2324-241-0004-000-0
Kings Highway Commerce Park
Southeast corner of Kings Highway and White Road
Fort Pierce, Florida

To Whom It May Concern:

Great American RV Prop, LLC, the owner of the above referenced parcels, hereby authorizes Jeff H. Iravani, Inc to be the applicant to obtain all the required site and subdivision plans approvals and civil permits for the above referenced project.

Sincerely,

Signature: _____

Name: JAMES A WYNNE III

Title: MANAGING PARTNER

STATE OF FLORIDA
COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this 19th day of February, 2021, by James A. Wynne II who is personally known to me (or) produced a drivers' license as identification and who did (did not) take an oath.

_____
Notary Public

Seal

DEANNA GIVENS
Notary Public - State of Florida
Commission # HH 086359
My Comm. Expires Jan 28, 2025
Bonded through National Notary Assn.

Kings Highway Commercial South, LLC
18860 Loxahatchee River Road
Jupiter, FL 33458

February 17, 2021

RE: Parcel ID # 2324-232-0000-000-4

Kings Highway Commerce Park
Southeast corner of Kings Highway and White Road
Fort Pierce, Florida

To Whom It May Concern:

Kings Highway Commercial South, LLC, the owner of the above referenced parcels, hereby authorizes Jeff H. Iravani, Inc to be the applicant to obtain all the required site and subdivision plans approvals and civil permits for the above referenced project.

Sincerely,

Signature: _____

Name: Edward A. Sasso

Title: Mgr

STATE OF FLORIDA
COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this 18th day of February, 2021, by Edward Sasso who is personally known to me (or) produced a drivers' license as identification and who did (did not) take an oath.

_____
Notary Public

Seal

Jenna L. Jenkins
COMMISSION # GG270322
EXPIRES: October 23, 2022
Bonded Thru Aaron Notary

Kings Highway Development Partners, LLC
4923 W. Cypress Street
Tampa, FL 33607

March 4, 2021

RE: Kings Highway Commerce Park
Southeast corner of Kings Highway and White Road
Fort Pierce, Florida

To Whom It May Concern:

Kings Highway Development Partners, LLC, the applicant for the above referenced project, hereby authorizes Jeff H. Iravani, Inc to be our authorized agent to obtain all the required re-zoning, site plan approvals & civil related permits and to sign on our behalf on all applicable applications for the above referenced project.

Sincerely,

Signature: _____

Name: KENNETH I. MORIN

Title: MANAGER

STATE OF FLORIDA
COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this 4th day of March, 2021, by Kenneth Morin who is personally known to me (or) produced a drivers' license as identification and who did (did not) take an oath.

_____
Notary Public

Seal

Jenna L. Jenkins
COMMISSION # GG270322
EXPIRES: October 23, 2022
Bonded Thru Aaron Notary

Australian Properties, LLC
P.O. Box 14049
Fort Pierce, FL 34979

February 17, 2021

RE: Parcel ID # 2324-211-0002-000-3
Kings Highway Commerce Park
Southeast corner of Kings Highway and White Road
Fort Pierce, Florida

To Whom It May Concern:

Australian Properties, LLC, the owner of the above referenced parcels, hereby authorizes Jeff H. Iravani, Inc to be the applicant to obtain all the required site and subdivision plans approvals and civil permits for the above referenced project.

Sincerely,

Signature: _____

Name: George Tantuso

Title: MGR

STATE OF FLORIDA
COUNTY OF ~~PALM BEACH~~ St. Lucie

The foregoing instrument was acknowledged before me this 18th day of February, 2021, by George Tantuso who is personally known to me (or) produced a drivers' license as identification and who did (did not) take an oath.

Rhonda J. Vincent
Notary Public #GG 348412

Seal

RHONDA J. VINCENT
Notary Public - State of Florida
Commission # GG 348412
My Comm. Expires Aug 28, 2023
Bonded through National Notary Assn.

RV Development, LLC
547 Wash Roberts LN
McMinnville, TN 37110

February 16, 2021

RE: Parcel ID #'s
2324-211-0001-000-6
2324-214-0001-000-5
2324-214-0002-000-2
2324-241-0003-000-3
Kings Highway Commerce Park
Southeast corner of Kings Highway and White Road
Fort Pierce, Florida

To Whom It May Concern:

RV Development, LLC, the owner of the above referenced parcels, hereby authorizes Jeff H. Iravani, Inc to be our authorized agent to obtain all the required annexation, re-zoning, site plan approvals & civil related permits and to sign on our behalf on all applicable applications for the above referenced project.

Sincerely,

Signature: _____

Name: JAMES A WYNNE III

Title: MANAGING PARTNER

STATE OF FLORIDA
COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this 19th day of February, 2021, by James A Wynne II who is personally known to me (or) produced a drivers' license as identification and who did (did not) take an oath.

_____
Notary Public

Seal

DEANNA GIVENS
Notary Public - State of Florida
Commission # HH 086359
My Comm. Expires Jan 28, 2025
Bonded through National Notary Assn.

Jeff H. Iravani, Inc.
Consulting Engineers
1934 Commerce Lane, Suite 5 Jupiter, Fl 33458
Tel: (561) 575-6030 Fax: (561) 575-6088
JHI@bellsouth.net

Ownership and Control Statement
For
Kings Highway Commerce Park

I. Ownership

The site is located at the southeast corner of Kings Hwy and White Road approximately 1/2 mile north of Okeechobee Rd (SR-70) and consist of 109.46 ac of land. See Exhibit-A

There are 6 separate owners controlling 9 separate lots per below:

2324-211-0001-000-6 RV Development, LLC
2324-214-0002-000-2 "
2324-241-0003-000-3 "
2324-211-0001-000-5 "
2324-241-0004-000-0 Great American RV Prop LLC
2324-241-0002-000-6 Sapp (LF EST) Grady
2324-210-0000-000-6 Kings Highway Commerce Park, LLC
2324-232-0000-000-4 Kings highway Commercial South, LLC
2324-211-0002-000-3 Australian Properties, LLC

Kings Highway Partners Development LLC, the applicant is the contract purchaser of all the above properties.

II. Intended Use

A commercial & industrial development is proposed with 1.9 msf of building area and required infrastructure. The proposed area will include offices, warehouses, and distribution centers.

Jeff H. Iravani, Inc.
Consulting Engineers
1934 Commerce Lane, Suite 5 Jupiter, Fl 33458
Tel: (561) 575-6030 Fax: (561) 575-6088
JHI@bellsouth.net

Project Narrative
For
Kings Highway Commerce Park

The site is located at the southeast corner of Kings Hwy and White Road approximately 1/2 mile north of Okeechobee Rd (SR-70) and consist of 109.46 ac of land. See Exhibit-A

A commercial and industrial development is proposed with 1.9 msf of building area at buildout and the required infrastructure. Zoning shall be CP-1.

The intent of this project is to provide an industrial/commercial development as outlined under CP-1 zoning section 125-207a. The goal is to build a trend setting development considering the proximity to I-95 and Florida turnpike.

Phase-I of the project consists of 485ksf of office warehouse. See Exhibit-B.
Future phases shall be developed based on market needs similar to what is proposed in Phase-I. Other uses as allowed under CP-1 zoning, may also be incorporated in future phases.

The intersection of Kings Hwy & White Road shall be improved to full access with signals to be installed in the future as warranted.

We believe this project will be a model for future developments along King's Highway in this area considering the enormous growth of on-line commerce and the similar need for processing, storage and distribution facilities that are required to meet the broad variety of products that consumers demand.

Jeff H. Iravani, Inc.
Consulting Engineers
1934 Commerce Lane, Suite 5 Jupiter, Fl 33458
Tel: (561) 575-6030 Fax: (561) 575-6088
JHI@bellsouth.net

Site Analysis
For
Kings Highway Commerce Park

I. Introduction

The site is located at the southeast corner of Kings Hwy and White Road approximately 1/2 mile north of Okeechobee Rd (SR-70) and consist of 109.46 ac of land. See Exhibit-A

II. Property Description.

The attached Environmental Impact report describes in detail the existing land coverage including specimen trees and natural vegetation.

There are five single family residences along Peters Road on the eastern portion of the site.
There was a 6-ac industrial development along Kings Hwy which is now demolished.
The remainder and vast majority of the site was previously utilized for citrus groves and now being used as unimproved pasture for cattle.
The topography is typical of abandoned citrus groves with ditches for drainage purposes.

There are no wetlands on the site.

The surrounding land are generally vacant with previous use being citrus groves or agricultural use. There is a RV park along the south property line and a motel at the south east corner across Peters Road.

III. Proposed Development

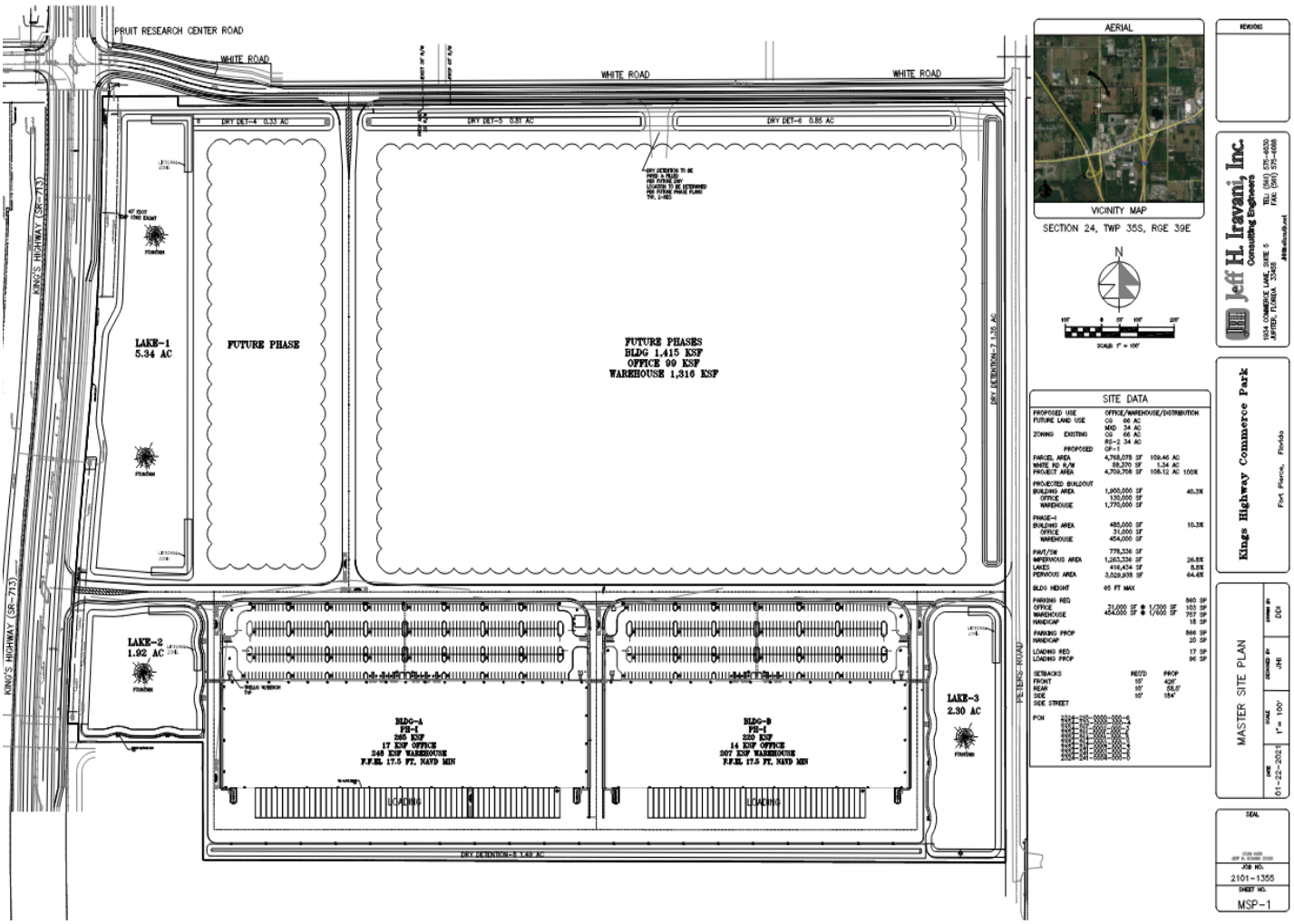
A commercial & industrial development is proposed with 1.9 MSF of building area and required infrastructure. The proposed area will include offices, warehouses, and distribution centers.
Zoning shall be CP-1.
The proposed setbacks are per CP-1 zoning requirement.
Landscape buffers shall be per CP-1 zoning. A minimum of 10' landscape buffer is proposed along the entire site property lines. There are also 3-lakes with water features along the west, east and south property lines. See Exhibit-B for site plan.

Intersection of Kings Hwy & White Road shall be improved to provide full access with signal in the future as warranted.

Exhibit A
Aerial



Exhibit B
Master Site Plan



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

Property Identification

Site Address: 2306 KINGS HWY
Sec/Town/Range: 24/35S/39E
Parcel ID: 2324-211-0002-000-3
Jurisdiction: Fort Pierce

Use Type: 6000
Account #: 14254
Map ID: 23/24N
Zoning: General Co

Ownership

Australian Properties LLC
PO Box 14049
Fort Pierce, FL 34979



Legal Description

24 35 39 S 400 FT OF N 938.20 FT OF E 750 FT OF W 775 FT- LESS THAT PART FOR RD R/W MPDAF: FROM NW COR OF SEC, TH S 00 07 03 E ALG W SEC LI 538.44 FT, TH N 89 52 57 E 25 FT TO POB; TH N 89 44 39 E 95.42 FT TO CURVE CONC W, R OF 8,468 FT, TH SLY ALG ARC 401.48 FT, TH S 89 44 39 W 62.37 FT, TH N 00 07 03 W 400 FT TO POB- (6.151 AC - 267,938 SF) (OR 2650-1994)

Current Values

Just/Market Value:	$423,800
Assessed Value:	$274,488
Exemptions:	$0
Taxable Value:	$274,488

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):	6.15
Land Size (SF):	267,938

Building Design Wind Speed

Occupancy Category	I	II	III & IV
Speed	140	150	160

Sources/links:

Sale History

Date:	Aug 29, 2006
Book/Page:	2650 / 1994
Sale Code:	XX00
Deed:	WD
Grantor:	MBK Masters Inc
Price:	$1,250,000
Date:	Sep 14, 1993
Book/Page:	0859 / 0867
Sale Code:	XX01
Deed:	CT
Grantor:	HAFFIELD CITRUS INC
Price:	$498,700

Date:	Nov 7, 1989
Book/Page:	0662 / 2394
Sale Code:	XX00
Deed:	WD
Grantor:	William A Wright
Price:	$400,000
Date:	Sep 1, 1983
Book/Page:	0410 / 2479
Sale Code:	XX00
Deed:	CV
Grantor:	
Price:	$231,500

Special Features and Yard Items

Type	Qty	Units	Year Blt

Current Year Values

Current Values Breakdown

Building:	$0
Land:	$423,800
Just/Market:	$423,800
Ag Credit:	$149,312
Save Our Homes or 10% Cap:	$0
Assessed:	$274,488
Exemption(s):	$0
Taxable:	$274,488

Current Year Exemption Value Breakdown

Current Year Special Assessment Breakdown

Start Year	AssessCode	Units	Description	Amount
2017	0054	6.151	North St. Lucie Water Management District	$113.79

Start Year	AssessCode	Units	Description	Amount
2017	0041	58.6	Fort Pierce Stormwater Charge	$4,043.40

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
2020	$423,800	$274,488	$0	$274,488
2019	$423,800	$274,488	$0	$274,488
2018	$423,800	$274,488	$0	$274,488

Permits

Number	Issue Date	Description	Amount	Fee
C94-03649	Jul 18, 1994	Additions to existing construction	$20,000	$20,000
BP16-2804	Oct 31, 2016	Demolition	$51,200	$0
BP18-0820	Mar 8, 2018	Fence	$9,700	$0
BP18-1016	Oct 25, 2018	Electric	$2,475	$0

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Property Identification

Site Address: 2421 PETERS RD
Sec/Town/Range: 24/35S/39E
Parcel ID: 2324-241-0002-000-6
Jurisdiction: Saint Lucie County

Use Type: 0100
Account #: 14262
Map ID: 23/24N
Zoning: RS-2 - Cou

Ownership

Grady Sapp (LF EST)
2421 Peters RD
Fort Pierce, FL 34945



Legal Description

24 35 39 N 1/2 OF NE 1/4 OF SE 1/4 OF NW 1/4-LESS S 60 FT OF E 125 FT AND LESS E 30 FT- (4.64 AC)(OR 718-2723: 2981-2561; 3688-925)

Current Values

Just/Market Value:	$401,400
Assessed Value:	$401,400
Exemptions:	$401,400
Taxable Value:	$0

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):	1,404
Gross Sketched Area (SF):	2,004
Land Size (acres):	4.64
Land Size (SF):	202,118.4

Building Design Wind Speed

Occupancy Category	I	II	III & IV
Speed	140	150	160

Sources/links:

Sale History

Date:	Nov 6, 2014
Book/Page:	3688 / 0925
Sale Code:	0114
Deed:	WD
Grantor:	Sapp Grady
Price:	$100

Date:	Apr 11, 1990
Book/Page:	0718 / 2723
Sale Code:	XX01
Deed:	WD
Grantor:	Sapp Lounette
Price:	$100

Building Information (1 of 2)

Finished Area: 1,404 SF

Gross Sketched Area: 1,404 SF

Exterior Data

View:
Building Type: HC-
Grade: C-
Story Height: 1 Story

Roof Cover: Fibrglss Shg
Year Built: 1983
Effective Year: 1983
No. Units: 1

Roof Structure: Gable
Frame:
Primary Wall: CB Stucco
Secondary Wall:

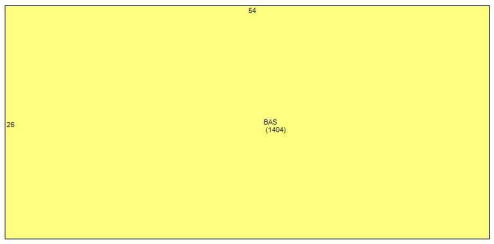
Interior Data

Bedrooms: 3
Full Baths: 1
Half Baths: 0
A/C %: 100%

Electric: MAXIMUM
Heat Type: FrcdHotAir
Heat Fuel: ELEC
Heated %: 100%

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors: Carpet
Sprinkled %: 0%





Building Information (2 of 2)

Finished Area: 0 SF

Gross Sketched Area: 600 SF

Exterior Data

View:
Building Type: DGAR
Grade: DG
Story Height: 1 Story

Roof Cover: Fibrglss Shg
Year Built: 1999
Effective Year: 1999
No. Units: 0

Roof Structure: Gable
Frame:
Primary Wall: Wood/Sheath
Secondary Wall:

Interior Data

Bedrooms: 0
Full Baths: 0
Half Baths: 0
A/C %: %

Electric:
Heat Type:
Heat Fuel:
Heated %: %

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors:
Sprinkled %: %

Image or Sketch unavailable for display



Special Features and Yard Items

Type	Qty	Units	Year Blt

Current Year Values

Current Values Breakdown

Building:	$76,600
Land:	$324,800
Just/Market:	$401,400
Ag Credit:	$0
Save Our Homes or 10% Cap:	$0
Assessed:	$401,400
Exemption(s):	$401,400
Taxable:	$0

Current Year Exemption Value Breakdown

Tax Year	Grant Year	Code	Description	Amount
2020	2006	0500	Homestead Exemption	$25,000
Tax Year	Grant Year	Code	Description	Amount
2020	2008	0550	Homestead Exemption over $ 50,000	$0
Tax Year	Grant Year	Code	Description	Amount
2020	2006	2200	Paraplegic,Blind,Confined to Wheel Chair	$376,400

Current Year Special Assessment Breakdown

Start Year	AssessCode	Units	Description	Amount
2009	2009	12	County Solid Waste	$276.14
Start Year	AssessCode	Units	Description	Amount
2013	0054	4.64	North St. Lucie Water Management District	$85.84

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
2020	$401,400	$401,400	$401,400	$0
2019	$396,900	$396,391	$396,391	$0
2018	$389,000	$389,000	$389,000	$0

Permits

Number	Issue Date	Description	Amount	Fee
C05010518	Jan 12, 2005	Roof	$5,210	$0

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Property Identification

Site Address: 7001 WHITE RD
Sec/Town/Range: 24/35S/39E
Parcel ID: 2324-210-0000-000-6
Jurisdiction: Fort Pierce

Use Type: 6000
Account #: 14251
Map ID: 23/24N
Zoning: General Co

Ownership

Kings Hwy Commerce Park LLC
18860 Loxahatchee River RD
Jupiter, FL 33458

Legal Description

24 35 39 NW 1/4 OF NW 1/4-LESS S 400 FT OF N 938.20 FT OF E 750 FT OF W 775 FT- AND W 1/2 OF W 1/2 OF NE 1/4 OF NW 1/4-LESS W 25 FT AND LESS N 35 FT AND LESS ADDL RD R/W AS IN OR 3917-899- (39.02 AC - 1,699,711 SF) (OR 2382-1143)



Current Values

Just/Market Value:	$2,487,525
Assessed Value:	$10,731
Exemptions:	$0
Taxable Value:	$10,731

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):	39.02
Land Size (SF):	1,699,711

Building Design Wind Speed

Occupancy Category	I	II	III & IV
Speed	140	150	160

Sources/links:

Sale History

Date:	Sep 14, 2005
Book/Page:	2382 / 1143
Sale Code:	XX00
Deed:	WD
Grantor:	Craig Steven L
Price:	$4,600,000
Date:	May 1, 1986
Book/Page:	0500 / 2004
Sale Code:	XX00
Deed:	CV
Grantor:	
Price:	$771,700

Date:	Feb 1, 1980
Book/Page:	0326 / 1420
Sale Code:	XX00
Deed:	CV
Grantor:	
Price:	$200,000

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%



Image or Sketch unavailable for display

Special Features and Yard Items

Type	Qty	Units	Year Blt

Current Year Values

Current Values Breakdown

Building:	$0
Land:	$2,487,525
Just/Market:	$2,487,525
Ag Credit:	$2,476,794
Save Our Homes or 10% Cap:	$0
Assessed:	$10,731
Exemption(s):	$0
Taxable:	$10,731

Current Year Exemption Value Breakdown

Current Year Special Assessment Breakdown

Start Year	AssessCode	Units	Description	Amount
2016	0054	39.02	North St. Lucie Water Management District	$721.87

Start Year	AssessCode	Units	Description	Amount
2017	0041	106.1	Fort Pierce Stormwater Charge	$7,320.90

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
2020	$2,487,525	$10,731	$0	$10,731
2019	$2,487,525	$10,731	$0	$10,731
2018	$2,487,525	$10,731	$0	$10,731

Permits

Number	Issue Date	Description	Amount	Fee
200441	Dec 7, 2004	Property Off '04 Fire List St Lucie Co Fire Dept	$30,000	$0

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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Property Identification

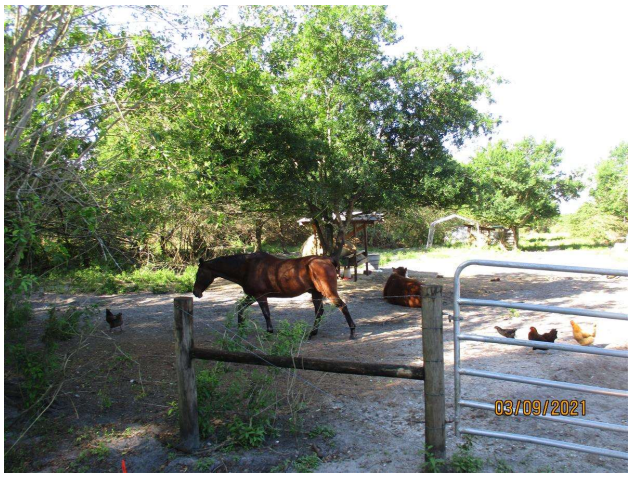
Site Address: 2496 S KINGS HWY
Sec/Town/Range: 24/35S/39E
Parcel ID: 2324-232-0000-000-4
Jurisdiction: Fort Pierce

Use Type: 6000
Account #: 14257
Map ID: 23/24N
Zoning: General Co

Ownership

Kings Highway Commercial South LLC

18860 Loxahatchee River RD
Jupiter, FL 33458



Legal Description

24 35 39 N 1/2 OF S 1/2 OF NW 1/4-LESS E 1118.54 FT AND LESS W 25 FT AND THE N 60 FT OF THE W 1088.54 FT OF THE E 1118.54 FT OF THE S ½ OF N ½ OF S ½ OF NW 1/4 - LESS ADDL RD R/W MPDAF: FROM W 1/4 COR OF SEC, TH N 00 07 03 W 1296.38 FT, TH N 89 52 57 E 25 FT TO POB; TH S 89 58 23 E 28.42 FT TO CURVE CONC E, R OF 8,308 FT, TH SELY ALG ARC 308.79 FT, TH N 89 52 57 E 30.02 FT TO CURVE CONC E, R OF 8,278 FT, TH SELY ALG ARC 45.13 FT, TH S 89 49 51 E 343.82 FT, TH S 00 07 03 E 295 FT, TH N 89 49 54 W 383.80 FT, TH N 00 07 03 W 648.28 FT TO POB- (19.624 AC - 854,821 SF) (OR 3487-76)

Current Values

Just/Market Value:	$1,251,030
Assessed Value:	$5,397
Exemptions:	$0
Taxable Value:	$5,397

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):	19.62
Land Size (SF):	854,821

Building Design Wind Speed

Occupancy Category	I	II	III & IV
Speed	140	150	160

Sources/links:

Sale History

Date:	Feb 12, 2013
Book/Page:	3487 / 0076
Sale Code:	0002
Deed:	WD
Grantor:	Southern Specialty Properties LLC
Price:	$363,500

Date:	Jun 11, 2012
Book/Page:	3402 / 2041
Sale Code:	0112
Deed:	SP
Grantor:	Bank of America NA (TR)
Price:	$220,000

Date:	Nov 8, 2011
Book/Page:	3339 / 0352
Sale Code:	0112
Deed:	CT
Grantor:	Interstate Business Center LLC
Price:	$100

Date:	Feb 20, 2009
Book/Page:	3116 / 1769
Sale Code:	0111
Deed:	QC
Grantor:	Kirco Acquistions LLC
Price:	$100

Date:	Jul 17, 2006
Book/Page:	2618 / 1609
Sale Code:	XX00
Deed:	WD
Grantor:	Six Kings LLC
Price:	$6,000,000

Date:	Apr 29, 2005
Book/Page:	2233 / 2350
Sale Code:	XX00
Deed:	WD
Grantor:	Blake Glenn M
Price:	$2,640,000

Date:	Feb 25, 2000
Book/Page:	1282 / 194
Sale Code:	XX01
Deed:	TR
Grantor:	Wolf William L
Price:	$526,300

Date:	Apr 2, 1999
Book/Page:	1215 / 2035
Sale Code:	XX04
Deed:	WD
Grantor:	William L Wolf
Price:	$70,000

Date:	Aug 23, 1994
Book/Page:	0916 / 2154
Sale Code:	XX02
Deed:	WD
Grantor:	William L Wolf
Price:	$100

Date:	Jul 7, 1992
Book/Page:	0798 / 1462
Sale Code:	XX01
Deed:	WD
Grantor:	
Price:	$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%



Image or Sketch unavailable for display

Special Features and Yard Items

Type	Qty	Units	Year Blt

Current Year Values

Current Values Breakdown

Building:	$0
Land:	$1,251,030
Just/Market:	$1,251,030
Ag Credit:	$1,245,633
Save Our Homes or 10% Cap:	$0
Assessed:	$5,397
Exemption(s):	$0
Taxable:	$5,397

Current Year Exemption Value Breakdown

Current Year Special Assessment Breakdown

Start Year	AssessCode	Units	Description	Amount
2016	0054	19.624	North St. Lucie Water Management District	$363.04

Start Year	AssessCode	Units	Description	Amount
2017	0041	53.4	Fort Pierce Stormwater Charge	$3,684.60

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
2020	$1,251,030	$5,397	$0	$5,397
2019	$1,251,030	$5,397	$0	$5,397
2018	$1,251,030	$5,397	$0	$5,397

Permits

Number	Issue Date	Description	Amount	Fee
DM2005153	Jul 12, 2006	Demolition	$20,000	$260
DM2006197	Dec 4, 2006	Demolition	$10,000	$130
DM200727	Mar 23, 2007	Demolition	$3,000	$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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Property Identification

Site Address: S KINGS HWY
Sec/Town/Range: 24/35S/39E
Parcel ID: 2324-241-0004-000-0
Jurisdiction: Saint Lucie County

Use Type: 6000
Account #: 153212
Map ID: 23/24N
Zoning: RS-2 - Cou

Ownership

Great American RV Prop LLC

%Bud Wynne
547 Wash Roberts Ln
McMinnville, TN 37110



Legal Description

24 35 39 W 455.58 FT OF E 1118.54 FT OF N 1/2 OF S 1/2 OF NW 1/4 AND W 1088.54 FT OF E 1118.54 FT OF S 264.18 FT OF S 1/2 OF N 1/2 OF S 1/2 OF NW 1/4 OF SEC (10.29 AC) (OR 1798-2252)

Current Values

Just/Market Value:	$668,850
Assessed Value:	$2,830
Exemptions:	$0
Taxable Value:	$2,830

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):	10.29
Land Size (SF):	448,232

Building Design Wind Speed

Occupancy Category	I	II	III & IV
Speed	140	150	160

Sources/links:

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Property Identification

Site Address: 2371 PETERS RD
Sec/Town/Range: 24/35S/39E
Parcel ID: 2324-214-0002-000-2
Jurisdiction: Saint Lucie County

Use Type: 0100
Account #: 14256
Map ID: 23/24N
Zoning: RS-2 - Cou

Ownership

RV Development LLC
%Bud Wynne
547 Wash Roberts Ln
McMinnville, TN 37110

Legal Description

24 35 39 FROM SE COR OF NE 1/4 OF NW 1/4 RUN N 100 FT, TH W 30 FT FOR POB, TH CONT W 208.71 FT, TH N 208.71 FT, TH E 208.71 FT, TH S 208.71 FT TO POB (1.00 AC) (OR 1959-2516)



Current Values

Just/Market Value:	$152,000
Assessed Value:	$126,578
Exemptions:	$0
Taxable Value:	$126,578

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):	1,450
Gross Sketched Area (SF):	1,690
Land Size (acres):	1
Land Size (SF):	43,560

Building Design Wind Speed

Occupancy Category	I	II	III & IV
Speed	140	150	160

Sources/links:

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Property Identification

Site Address: 2315 PETERS RD
Sec/Town/Range: 24/35S/39E
Parcel ID: 2324-214-0001-000-5
Jurisdiction: Saint Lucie County

Use Type: 0100
Account #: 14255
Map ID: 23/24N
Zoning: RS-2 - Cou

Ownership

R V Development Llc

%Bud Wynne
547 Wash Roberts Ln
McMinnville, TN 37110



Legal Description

24 35 39 FROM INTERIOR 1/4 SEC COR RUN N ALG E LI OF NW 1/4 1790.5 FT, TH W 25 FT FOR POB, TH RUN W 155 FT, TH N 150 FT, TH E 155 FT, TH S 150 FT TO POB (0.53 AC) (OR 1828-2808)

Current Values

Just/Market Value:	$57,800
Assessed Value:	$45,786
Exemptions:	$0
Taxable Value:	$45,786

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):	1,962
Gross Sketched Area (SF):	2,738
Land Size (acres):	0.53
Land Size (SF):	23,086.8

Building Design Wind Speed

Occupancy Category	I	II	III & IV
Speed	140	150	160

Sources/links:

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Property Identification

Site Address: 2261 PETERS RD
Sec/Town/Range: 24/35S/39E
Parcel ID: 2324-211-0001-000-6
Jurisdiction: Saint Lucie County

Use Type: 6000
Account #: 14253
Map ID: 23/24N
Zoning: RS-2 - Cou

Ownership

RV Development LLC

%Bud Wynne
547 Wash Roberts Ln
McMinnville, TN 37110

Legal Description

24 35 39 E 3/4 OF NE 1/4 OF NW 1/4-LESS TRACT 150 FT X 155 FT AS IN DBK 206-141 AND IN OR 492-1228 AND LESS TRACT 208.71 FTX 208.71 FT AS IN DBK 207-165 AND LESS N 35 FT AND LESS E 25 FT- (26.91 AC) (OR 1868-2876 thru 2879 ERROR IN LEGAL)



Current Values

Just/Market Value:	$1,634,000
Assessed Value:	$83,735
Exemptions:	$0
Taxable Value:	$83,735

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):	1,946
Gross Sketched Area (SF):	4,707
Land Size (acres):	26.91
Land Size (SF):	1,172,199.6

Building Design Wind Speed

Occupancy Category	I	II	III & IV
Speed	140	150	160

Sources/links:

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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JOSEPH E. SMITH, CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY
FILE # 4011532 OR BOOK 3688 PAGE 925, Recorded 11/06/2014 at 03:13 PM
Doc Tax: $0.70

WARRANTY DEED
INDIVID. TO INDIVID.

RAMCO FORM 01

Return to: (enclose self-addressed stamped envelope)

Name: Grady Sapp

Address: 2421 PETERS Rd.
Ft. PIERCE, FL 34945

This Instrument Prepared by:

Name: JOYCE SMITH

Address: 1828 Copenhaver Rd.
Ft. Pierce, FL 34945

Property Appraisers Parcel Identification 2324-241-0002-000/6

Folio Number(s):

Grantee[s] S.S. # (s)

SPACE ABOVE THIS LINE FOR PROCESSING DATA

SPACE ABOVE THIS LINE FOR RECORDING DATA

This Warranty Deed, *Made the* 6th *day of* NOV 6, 2014, *by* Sapp, Grady, *hereinafter called the Grantor, to* Joyce K. Smith *whose post office address is* 2421 Peters Rd. Ft. Pierce, Fl 34945, *hereinafter called the Grantee.*

(Wherever used herein the terms "Grantor" and "Grantee" include all the parties to this instrument and the heirs, legal representatives, and assigns of individuals, and the successors and assigns of corporations, wherever the context so admits or requires.)

Witnesseth, *That the Grantor, for and in consideration of the sum of $* 10.00 *and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the Grantee all that certain land, situate in* _____ *County, State of* Florida, *viz:*

24 35 39 N½ OF NE ¼ OF SE ¼ OF NW ¼ - LESS S60 FT OF E 125 FT AND LESS E 30 FT - (4.64 AC) (OR 718-2723: 2981-2561)

Grady Sapp RESERVES UNTO HIMSELF A LIFE ESTATE IN THE ABOVE DESCRIBED PROPERTY

Together, *with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.* **To Have and to Hold,** *the same in fee simple forever.*

And *the Grantor hereby covenants with said grantee that the grantor is lawfully seized of said land in fee simple; that the grantor has good right and lawful authority to sell and convey said land, and hereby warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except taxes accruing subsequent to December 31,*

In Witness Whereof, *the said Grantor has signed and sealed these presents the day and year first above written.*

Signed, sealed and delivered in the presence of:

Witness Signature (as to first Grantor)

PETE WELLS
Printed Name

Witness Signature (as to first Grantor)

Pam Cawyer
Printed Name

Witness Signature (as to Co-Grantor, if any)

Printed Name

Witness Signature (as to Co-Grantor, if any)

Printed Name

Grady Sapp
Grantor Signature L.S.

Grady Sapp
Printed Name

2421 Peters Rd Ft. Pierce, Fl
Post Office Address

Co-Grantor Signature, (if any) L.S.

Printed Name

Post Office Address

STATE OF Florida)
COUNTY OF St. Lucie)

I hereby Certify that on this day, before me, an officer duly authorized to administer oaths and take acknowledgments, personally appeared _____ known to me to be the person ✓ described in and who executed the foregoing instrument, who acknowledged before me that she executed the same, and an oath was not taken. (Check one:) ☒ Said person(s) is/are personally known to me. ☐ Said person(s) provided the following type of identification: _____.

NOTARY RUBBER STAMP SEAL

MARY E. BENDER
Commission # EE 157135
Expires April 11, 2016
Bonded Thru Troy Fain Insurance 800-385-7019

Witness my hand and official seal in the County and State last aforesaid this 6th day of November, A.D. 2014

Mary E Bender
Notary Signature

Mary E Bender
Printed Name

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07 23 99

JOSEPH E. SMITH, CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY
FILE # 3802970 OR BOOK 3487 PAGE 76, Recorded 02/20/2013 at 08:35 AM
Doc Tax: $2544.50

Warranty Deed

This Indenture, made , February 19, 2013 A.D.

Between

Southern Specialty Properties, LLC, a Georgia limited liability company whose post office address is:3611 Braselton Hwy., Ste 203, Dacula, GA 30019, Grantor and **Kings Highway Commercial South, LLC, a Florida limited liability company** whose post office address is: 340 S. US Highway 1, Apt 607, Jupiter, Florida 33477, Grantee,

Witnesseth, that the said Grantor, for and in consideration of the sum of Ten and No/100 Dollars ($10.00), to it in hand paid by the said Grantee, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said Grantee forever, the following described land, situate, lying and being in the County of St. Lucie, State of Florida, to wit:

The North half of the South half of the Northwest quarter of Section 24, Township 35 South, Range 39 East, St. Lucie County, Florida, Less the East 1118.54 feet and the West 25 feet thereof;

And

The North 60 feet of the West 1088.54 feet of the East 1118.54 feet of the South half of the North half of the South half of the Northwest quarter of Section 24, Township 35 South, Range 39 East, St. Lucie County, Florida.

Subject to taxes for the current year, covenants, restrictions and easements of record, if any.

Parcel Identification Number: **2324-232-0000-000/4**

And the said Grantor does hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons whomsoever.

In Witness Whereof, the said Grantor has caused this instrument to be executed in its name by its duly authorized officer and caused its corporate seal to be affixed the day and year first above written.

Signed and Sealed in Our Presence:

Southern Specialty Properties, LLC, a Georgia limited liability company

By: _____ /manager.
John Moore Cole
Its: Managing Member

_____
Witness Print Name: Daniel Steven.

_____
Witness Print Name: Joel Williams.

State of Georgia.
County of Gwinnett.

The foregoing instrument was acknowledged before me this 19th day of February, 2013, by John Moore Cole, the Managing Member of Southern Specialty Properties, LLC, a Georgia limited liability company who is personally known to me or has produced drivers license as identification.

_____ (Seal)
Notary Public
Notary Printed Name: Steven Webreich

My Commission Expires::
12/27/15

Prepared by and Return to:
Cindy Lou Wilhoite, an employee of
Down Home Title Services, Inc.,
439 SE Port St. Lucie Blvd, Suite 107
Port St. Lucie, Florida 34984

File Number: DH1301-005

PURCHASE PRICE: $363,440.00

NOTARY ACKNOWLEDGMENT

State of: Georgia.

County of: Gwinnett.

I am a notary public of the State of Georgia and my commission expires: 12/27/15.

The foregoing instrument was acknowledged before me this 12 day of February, 2013 by John Moore Cole, Managing Member of Southern Specialty Properties, LLC, a Georgia limited liability company who is/are personally known to me or who has produced drivers license, as identification.

Notary Public
Print notary name: Steven Webreck.
Notary seal



EDWIN M. FRY, Jr., CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY
FILE # 2923462 OR BOOK 2650 PAGE 1994, Recorded 09/06/2006 at 04:31 PM
Doc Tax: $8750.00

This Instrument Prepared by:
R. N. Koblegard, III, Esquire
200 S. Indian River Drive, Suite 201
Fort Pierce, Florida 34950

Return to:
R. N. Koblegard, III, Esq.
Courthouse Box 145

Parcel I.D. No.: 2324-211-0002-000/3

18.50
8750.00
8768.50
Clerk
Doc STS

WARRANTY DEED

THIS WARRANTY DEED, executed this 29th day of August, 2006, by

MBK MASTERS, INC., a Florida corporation
2306 S. Kings Highway
Fort Pierce, FL 34945-2642

hereinafter called the Grantor, to

AUSTRALIAN PROPERTIES, LLC, a Florida
Limited Liability Company
Post Office Box 14049
Fort Pierce, FL 34979

hereinafter called the Grantee:

(Wherever used herein, the terms "Grantor" and "Grantee" shall include singular and plural, heirs, legal representatives, and assigns of individuals, and the successors and assigns of corporations, wherever the context so admits or requires."

WITNESSETH, That the Grantor, for and in consideration of the sum of $10.00 in hand paid by the said second party, the receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the Grantee forever, all that certain land situate, lying and being in the County of St. Lucie, State of Florida, to-wit:

A parcel of land lying in Section 24, Township 35 South, Range 39 East, St. Lucie County, Florida, more particularly described as follows:

The South 400 feet of the North 903.20 feet of the East 750 feet of the West 775 feet, LESS road and canal right of way;

TOGETHER WITH the South 35.30 feet of the North 938.50 feet of the East 750 feet of the West 775 feet;

LESS the South 35.30 feet of the North 538.50 feet of the East 750 feet of the West 775 feet.

SUBJECT TO an easement from the Southern Bell Telephone and Telegraph, as recorded in Deed Book 220, page 436 of the Public Records of St. Lucie County, Florida.

TOGETHER with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD the same in fee simple forever.

AND the Grantor hereby covenants with the Grantee that the Grantor is lawfully seized of said land in fee simple; that the Grantor has good right and lawful authority to sell and convey said land; that the Grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except taxes accruing subsequent to December 31, 2006.

IN WITNESS WHEREOF, the Grantor has caused these presents to be executed the day and year first above written.

Signed, Sealed and Delivered in the Presence of:

Print Name: Richard V. Neill, Jr.

Print Name: Susan M. Burban

MBK MASTERS, INC., a Florida corp.

By _____
Akio Mizuno, President

STATE OF FLORIDA
COUNTY OF ST. LUCIE

I HEREBY CERTIFY that the foregoing instrument was acknowledged before me this 30th day of August, 2006, by **Akio Mizuno**, known to me to be the President of **MBK MASTERS, INC.,** the corporation in whose name the foregoing instrument was executed, and that he acknowledged executing the same for such corporation, freely and voluntarily, under authority duly vested in him by said corporation, and that the seal affixed thereto is the true corporate seal of said corporation, and that I relied upon the following form of identification of the above-named person: Personal Knowledge, that an oath was not taken.

Print Name: Susan M. Burban, Notary Public, State of Florida at Large

Susan M. Burban
MY COMMISSION # DD269844 EXPIRES
December 12, 2007
BONDED THRU TROY FAIN INSURANCE, INC.

JOANNE HOLMAN, CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY
File Number: 2271016 OR BOOK 1798 PAGE 2252
Recorded:09/15/03 15:31

* Doc Assump: $ 0.00
* Doc Tax : $ 2,625.00
* Int Tax : $ 0.00

Prepared by
Roberta Carter, an employee of
First American Title Insurance Company
109 North Second St.
Fort Pierce, Florida 34950
(772) 464-7837

Return to: Grantee

File No.: 1083-226013

WARRANTY DEED

This indenture made on **September 12, 2003** A.D., by

Glenn M. Blake and Frances P. Blake, husband and wife

whose address is: **1575 48th Avenue, Vero Beach, FL 32966**
hereinafter called the "grantor", to

Great American RV Properties LLC

whose address is: **2560 SE 12th Street, Pompano Beach, FL 33062**
hereinafter called the "grantee":

(Which terms "Grantor" and "Grantee" shall include singular or plural, corporation or individual, and either sex, and shall include heirs, legal representatives, successors and assigns of the same)

Witnesseth, that the grantor, for and in consideration of the sum of Ten Dollars, ($10.00) and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the grantee, all that certain land situate in **St. Lucie** County, **Florida**, to-wit:

Parcel I:

The West 455.58 feet of the East 1118.54 feet of the North Half of the North Half of the South Half of the Northwest Quarter of Section 24, Township 35 South, Range 39 East, St. Lucie County, Florida.

AND PARCEL II:

The West 1088.54 feet of the East 1118.54 feet of the South 264.18 feet of the South Half of the North Half of the South Half of the Northwest Quarter of Section 24, Township 35 South, Range 39 East, St. Lucie County, Florida.

Parcel Identification Number: **2324-232-0000-000/4**

For the consideration hereinbefore set forth, Grantors do additionally grant and convey unto Grantee and easement and right-of-way for the purpose of ingress and egress across the following described tract of land:

The North 60 feet of the West 1088.54 feet of the East 1118.54 feet of the South ½ of the North ½ of the South ½ of the Northwest ¼ of Section 24, Township 35 South, Range 39 East, St. Lucie County, Florida.

The easement herein granted shall be deemed appurtenant to and run with the ownership of Parcel I and Parcel II and their respective heirs, successors and assigns in title to all or part of Parcel I and Parcel II. Grantors reserve and retain the right to convey similar rights and easements to such other persons as Grantors may deem proper.

Grantors also retain, reserve, and shall continue to enjoy use of the surface of such property for any and all purposes which do not interfere with and prevent the use by Grantee of the within easement, including the right to build and use the surface of the herein granted easement for drainage ditches and private streets, roads, driveways, alleys, walks, gardens, lawns, planting or parking areas, and other like uses and/or to dedicate all or any part of the property affected by this easement to any city for use as a public street, road, or alley. If the Grantors, or any of Grantors' successors or assigns, shall dedicate all or any part of the property affected by this easement, the Grantee, and its successors and assigns shall execute all instruments that may be necessary or appropriate to effectuate such dedication, without, however, extinguishing the easement rights herein granted.

Subject to all reservations, covenants, conditions, restrictions and easements of record and to all applicable zoning ordinances and/or restrictions imposed by governmental authorities, if any.

Together with all the tenements, hereditaments and appurtenances thereto belonging or in any way appertaining.

To Have and to Hold, the same in fee simple forever.

And the grantor hereby covenants with said grantee that the grantor is lawfully seized of said land in fee simple; that the grantor has good right and lawful authority to sell and convey said land; that the grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances except taxes accruing subsequent to December 31st of 2002.

In Witness Whereof, the grantor has hereunto set their hand(s) and seal(s) the day and year first above written.

Glenn M. Blake
Glenn M. Blake

Frances P. Blake
Frances P. Blake

Signed, sealed and delivered in our presence:

Witness Signature

Print Name: Roberta Carter

Witness Signature

Print Name: Terry T. Torres

State of **Florida**

County of **St. Lucie**

The Foregoing Instrument Was Acknowledged before me on **September 12, 2003**, by **Glenn M. Blake and Frances P. Blake, husband and wife** who is/are personally known to me or who has/have produced a valid driver's license as identification.

NOTARY PUBLIC

Notary Print Name
My Commission Expires: _____

ROBERTA A CARTER

(6)

EDWIN M. FRY, Jr., CLERK OF THE CIRCUIT COURT
SAINT LUCIE COUNTY
FILE # 2722143 10/05/2005 at 01:02 PM
OR BOOK 2382 PAGE 1143 - 1146 Doc Type: DEED
RECORDING: $35.50
D DOC STAMP COLLECTION: $32200.00

Return to:
Howard E. Googe, Esq.
401 E. Osceola Street
Stuart, FL 34994

Prepared by:
Landmark Title of Florida, Inc.
2701 Okeechobee Blvd., Suite 200
West Palm Beach, FL 33409
Our File No.: W05-4007

Property Appraisers Parcel No.: 2324-210-000-000/6

Grantee SS#:

_____ (Space Above This Line for Recording Data) _____

WARRANTY DEED

THIS WARRANTY DEED made and executed the **14th** day of **September, 2005**, by **STEVEN L. CRAIG, AS TRUSTEE UNDER TRUST AGREEMENT DATED MAY 17, 1986, AS TO AN UNDIVIDED 1/2 INTEREST and CHRISTOPHER H. COOK AS TRUSTEE UNDER TRUST AGREEMENT DATED MAY 17, 1986, AS TO AN UNDIVIDED 1/2 INTEREST,** hereinafter called the grantors, to **KINGS HIGHWAY COMMERCE PARK, LLC, a Florida limited liability company,** whose post office address is

903 S.E. Central Parkway, Stuart, FL 34994

hereinafter called the grantee:

(Wherever used herein the terms "grantor" and "grantee" include all the parties to this instrument and the heirs, legal representatives and assigns of individuals, and the successors and assigns of corporations)

WITNESSETH: That the grantor, for and in consideration of the sum of $10.00 and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys, and confirms unto the grantee, all that certain land situate in **St. Lucie** County, Florida, viz:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF FOR ALL PURPOSES.

TOGETHER with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.

SUBJECT TO restrictions, reservations, covenants, and easements of record, if applicable.

TO HAVE AND TO HOLD, the same in fee simple forever.

AND the grantor hereby covenants with said grantee that she is lawfully seized of said land in fee simple; that the grantor has good right and lawful authority to sell and convey said land; that the grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except those of record and taxes accruing subsequent to **December 31, 2004**.

IN WITNESS WHEREOF, the said grantor has signed and sealed these presents the day and year first above written.

Signed, sealed, and delivered in our presence:

First Witness Signature

Christa J. Simmons
Printed Name

Second Witness Signature

Printed Name

STEVEN L. CRAIG, AS TRUSTEE UNDER TRUST AGREEMENT DATED MAY 17, 1986
Address: 2761 Okeechobee Blvd #200
West Palm Beach FL 33409

First Witness Signature

Cindy A. Collins
Printed Name

Second Witness Signature

Linda R. Koch
Printed Name

CHRISTOPHER H. COOK AS TRUSTEE UNDER TRUST AGREEMENT DATED MAY 17, 1986
Address: 205 Datura St.
West Palm Beach FL 33401

THE STATE OF FLORIDA
COUNTY OF PALM BEACH

The foregoing instrument was executed this 16th day of September, **2005**, by **STEVEN L. CRAIG, AS TRUSTEE UNDER TRUST AGREEMENT DATED MAY 17, 1986,** who is personally known to me, or who has produced _____ as identification.

(Seal)

CHRISTA J. SIMMONS
MY COMMISSION # DD 175921
EXPIRES: May 5, 2007
Bonded Thru Notary Public Underwriters

Notary Public
Printed Name:_____
My Commission Expires:_____

* * * * *

THE STATE OF FLORIDA
COUNTY OF PALM BEACH

The foregoing instrument was executed this 14th day of September, 2005, by **CHRISTOPHER H. COOK AS TRUSTEE UNDER TRUST AGREEMENT DATED MAY 17, 1986,** who is personally known to me, or who has produced _____ as identification.

(Seal)



Notary Public
Printed Name: Cindy A. Collins
My Commission Expires: 7-25-08

LEGAL DESCRIPTION

7001 WHITE ROAD
THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER AND THE WEST HALF OF THE WEST HALF OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA; LESS AND EXCEPTING THERE FROM THE SOUTH 400 FEET OF THE NORTH 903.20 FEET OF THE EAST 750 FEET OF THE WEST 775 FEET OF SAID SECTION 24; LESS RIGHT-OF-WAY FOR KINGS HIGHWAY AND WHITE ROAD.

TOGETHER WITH THE FOLLOWING DESCRIBED
PARCEL "A"
A PARCEL OF LAND LYING IN SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA; MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THE SOUTH 35.30 FEET OF THE NORTH 538.50 FEET OF THE EAST 750 FEET OF THE WEST 775 FEET OF THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA.
CONTAINING 26477 SQUARE FEET MORE OR LESS.

LESS THE FOLLOWING DESCRIBED
PARCEL "B"
A PARCEL OF LAND LYING IN SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA; MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THE SOUTH 35.30 FEET OF THE NORTH 938.50 FEET OF THE EAST 750 FEET OF THE WEST 775 FEET OF THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA.
CONTAINING 26477 SQUARE FEET MORE OR LESS.

ALL TOGETHER CONTAINING 40.595 ACRES MORE OR LESS.

CERTIFIED TO:
ATTORNEYS' TITLE INSURANCE FUND, INC.
KINGS HIGHWAY COMMERCE PARK, L.L.C.,
McCARTHY, SUMMERS, BOBKO, WOOD, SAWYER & PERRY, P.A.
FIRST PEOPLES BANK, ISAOA
LANDMARK TITLE OF FLORIDA, INC.
CORNETT, GOOGE & ASSOCIATES, P.A.

JOANNE HOLMAN, CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY
File Number: 2326041 OR BOOK 1868 PAGE 2876
Recorded:12/26/03 08:23

(E)
Box 34

THIS INSTRUMENT PREPARED BY AND RETURN TO:
Douglas E. Gonano, Esq.
GONANO & HARRELL
1600 S. FEDERAL HIGHWAY, #200
FT. PIERCE, FLORIDA 34950-5194
Property Appraisers Parcel Identification (Folio) Numbers: **2324-211-0001-000/6**

_____ Space Above This Line For Recording Data _____

THIS WARRANTY DEED, made the **22nd** day of **December, 2003** by **Melanie Fuller, a married woman,** herein called the Grantor, to **R.V. Development, LLC, a Florida limited liability company** whose post office address is **2560 SE 12th Street, Pompano Beach, Florida 33062,** hereinafter called the Grantee:
(Wherever used herein the terms "Grantor" and "Grantee" include all the parties to this instrument and the heirs, legal representatives and assigns of individuals, and the successors and assigns of corporations)

W I T N E S S E T H: That the Grantor, for and in consideration of the sum of TEN AND 00/100'S ($10.00) Dollars and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the Grantee Grantor's undivided one-fourth interest in certain land situate in ST. LUCIE County, State of Florida, viz.:

The East Three Quarters (3/4) of the Northeast Quarter (NE 1/4) of the Northwest Quarter (NW 1/4) of Section Twenty-four (24) Township Thirty-five(35) South Range Thirty-nine (39) East, containing approximately 26.9 acres.

Grantor hereby certifies that the above property does not constitute the homestead of Grantor nor is it contiguous thereto.

TOGETHER, with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD, the same in fee simple forever.

AND, the Grantor hereby covenant with said Grantee that the Grantor is lawfully seized of said land in fee simple; that the Grantor has good right and lawful authority to sell and convey said land, and hereby fully warrant the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except taxes accruing subsequent to December 31, 2003.

IN WITNESS WHEREOF, the said Grantor has signed and sealed these presents the day and year first above written.

Signed, sealed and delivered in the presence of:

Witness #1 Signature
JULIA S. PRICE
Witness #1 Printed Name

Brenda L Sharpton
Witness #2 Signature
BRENDA L. SHARPTON
Witness #2 Printed Name

Melanie Fuller
Melanie Fuller
1465 Cherokee Trail, Conley, GA 30288

STATE OF GEORGIA
COUNTY OF DEKALB

The foregoing instrument was acknowledged before me this 19 day of December, 2003, by **Melanie Fuller, a married woman,** who is personally known to me or has produced GA DL 049000545 as identification.

SEAL

NOTARY PUBLIC E.P. Mar. 06 2005

Brenda L Sharpton
Notary Public
BRENDA L. SHARPTON
Printed Notary Name

* Doc Tax : $ 0.00
* Int Tax : $ 1,177.40
* : $ 0.00

JOANNE HOLMAN, CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY
File Number: 2294955 OR BOOK 1828 PAGE 2808
Recorded:10/24/03 16:00

* Doc Assump:	$	0.00
* Doc Tax :	$	630.00
* Int Tax :	$	0.00

THIS INSTRUMENT PREPARED BY AND RETURN TO:
Douglas E. Gonano, Esq.
GONANO & HARRELL
34 1600 S. FEDERAL HIGHWAY, #200
FT. PIERCE, FLORIDA 34950-5194
Property Appraisers Parcel Identification (Folio) Numbers: **2324-214-0001-000/5**

_____ Space Above This Line For Recording Data _____

THIS WARRANTY DEED, made the **26th** day of **September, 2003** by **Frances A. Swiatocha,** a single woman, herein called the Grantor, to **R.V. Development, L.L.C., a Florida limited liability company** whose post office address is **2650 SE 12th Street, Pompano Beach, Florida 33062,** hereinafter called the Grantee:
(Wherever used herein the terms "Grantor" and "Grantee" include all the parties to this instrument and the heirs, legal representatives and assigns of individuals, and the successors and assigns of corporations)

W I T N E S S E T H: That the Grantor, for and in consideration of the sum of TEN AND 00/100'S ($10.00) Dollars and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the Grantee all that certain land situate in ST. LUCIE County, State of Florida, viz.:

From the Interior Quarter Section Corner of Section 24, Township 35 South, Range 39 East, run North along the East line of the Northwest 1/4 of said Section 1790.5 feet; thence West 25 feet to the Point of Beginning: from said Point of Beginning run West 155 feet: thence North 150 feet; thence East 155 feet; thence South 150 feet to the Point of Beginning; being a part of the Northeast 1/4 of the Northwest 1/4 of Section 24, Township 35 South, Range 39 East, St. Lucie County, Florida.

Subject to restrictions, reservations, easements and rights of way of record, if any.

TOGETHER, with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD, the same in fee simple forever.

AND, the Grantor hereby covenants with said Grantee that the Grantor is lawfully seized of said land in fee simple; that the Grantor has good right and lawful authority to sell and convey said land, and hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except taxes accruing subsequent to December 31, 2002.

IN WITNESS WHEREOF, the said Grantor has signed and sealed these presents the day and year first above written.

Signed, sealed and delivered in the presence of:

Stacy Ewing Consalvo
Witness #1 Signature
Stacy Ewing Consalvo
Witness #1 Printed Name

Valerie M Canant
Witness #2 Signature
VALERIE M CANANT
Witness #2 Printed Name

Frances A. Swiatocha
Frances A. Swiatocha
2315 Peters Road, Fort Pierce, Florida

STATE OF FLORIDA
COUNTY OF ST. LUCIE

The foregoing instrument was acknowledged before me this 26th day of September, 2003 by Frances A. Swiatocha who is personally known to me or has produced Florida drivers license as identification.

SEAL

Stacy Ewing Consalvo
Notary Public

_____
Printed Notary Name

Stacy Ewing Consalvo
MY COMMISSION # DD121441 EXPIRES
May 28, 2006
BONDED THRU TROY FAIN INSURANCE, INC.

Stacy Ewing Consalvo
DD121441 EXPIRES
INSURANCE, INC.

File No: 1600-003

EDWIN M. FRY, Jr., CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY
FILE # 2733028 OR BOOK 2398 PAGE 108, Recorded 10/27/2005 at 02:34 PM
Doc Tax: $1435.00

Prepared By
& Return to:

W.R. Leonard, 230200
Litigation Building, Suite 402
633 S. Andrews Avenue
Ft. Lauderdale, FL 33301

Tax Folio: 2324-241-0003-000/3

Warranty Deed (§689.02, Fla. Stat.)

THIS Indenture made the 17th day of October, 2005 by and between Paul Browning and Bertie Lou Browning, husband and wife, hereafter Grantor, and R. V. Development, L.L.C., a Florida limited liability company, hereafter Grantee whose post office address is 2560 SE 12th Street, Pompano Beach FL 33062.

WITNESSETH: That the said Grantor, for and in consideration of the sum of $10.00 in hand paid by the second party, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said Grantee, and Grantee's heirs and assigns forever the following described land, lying, situate and being in the County of St. Lucie, State of Florida, to-wit:

SEE EXHIBIT A ATTACHED HERETO AND MADE A PART HEREOF.

Subject to: restrictions, reservations and easements of record, taxes for the year of conveyance and all subsequent years, and all valid zoning ordinances.

Property address: 2449 Peters Road, Fort Pierce, FL 34945

And said Grantor does hereby fully warrant the title to said land, and will defend same against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, the said Grantors have hereunto set their hands and seals the day and year first above written.

Paul Browning

Bertie Lou Browning

7007 Paso Robles Blvd.
Fort Pierce, FL 34951-1223

Signed, sealed and delivered in the presence of:

WILLIAM ROBERT LEONARD

(Printed Name)

Regina Orms

(Printed Name)

STATE OF FLORIDA
COUNTY OF BROWARD

I HEREBY CERTIFY that on this day, before me, an officer duly authorized to administer oaths and take acknowledgments personally appeared Paul Browning and Bertie Lou Browning [ ] known to me to be the persons described in and who executed the foregoing instrument, who acknowledged before me that (s/he) executed the same, or [✓] relied upon the following form of identification: FLDL and that an oath (was) ~~(was not)~~ taken.

WITNESS my hand and official seal in the County and State last aforesaid this 17 day of October, 2005.

Notaries Signature:
Printed Name: Regina Orms
Notary Public State of Florida
Commission Expires:

NOTARY PUBLIC * STATE OF FLORIDA *
Regina Orms
Commission # DD323205
Expires June 24, 2008
Bonded Troy Fain - Insurance, Inc. 800-385-7019

C:\files\Transactions\Wynne\Browning.RV\WD.wpd

EXHIBIT A

The South 60 feet of the East 125 feet of the following described property:

The North 1/2 of NE¼ of SE¼ of Section 24, Township 35 South, Range 39 East, containing 5 acres, more or less, the same being the North 1/2 of Lot 9, of the NW¼, according to the Boston and Florida Atlantic Coast Land Company's Subdivision as per plat thereof on file in Plat Book 3, at page 32, of the Public Records of Saint Lucie County, Florida.

Less and excepting therefrom the East 25 feet for road right-of-way.

* Doc Assump:	$	0.00
* Doc Tax :	$	1,645.00
* Int Tax :	$	0.00

THIS INSTRUMENT PREPARED BY AND RETURN TO: Box 34
Douglas E. Gonano, Esq.
GONANO & HARRELL
1600 S. FEDERAL HIGHWAY, #200
FT. PIERCE, FLORIDA 34950-5194
Property Appraisers Parcel Identification (Folio) Numbers: **2324-214-0002-000/2**

_____ Space Above This Line For Recording Data _____

THIS WARRANTY DEED, made the **30th** day of **April, 2004** by **John W. Norvell and Deborah H. Norvell, his wife**, herein called the Grantor, to **R.V. Development, LLC, a Florida limited liability company** whose post office address is **2560 SE 12th Street, Pompano Beach, Florida 33062**, hereinafter called the Grantee:
(Wherever used herein the terms "Grantor" and "Grantee" include all the parties to this instrument and the heirs, legal representatives and assigns of individuals, and the successors and assigns of corporations)

W I T N E S S E T H: That the Grantor, for and in consideration of the sum of TEN AND 00/100'S ($10.00) Dollars and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the Grantee all that certain land situate in ST. LUCIE COUNTY, State of Florida, viz.:

From the Southeast corner of the Northeast quarter of the Northwest quarter of Section 24, Township 35 South, Range 39 East, St. Lucie County, Florida; thence run North 100 feet; thence run West 25 feet to the Point of Beginning; continue West 213.71 feet; thence North 208.71 feet; thence East 213.71 feet; thence South 208.71 feet to the Point of Beginning.

Subject to the right of way for Peters Road and reservations, restrictions, easements and rights of way of record, if any, provided this reference shall not operate to reimpose the same.

TOGETHER, with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD, the same in fee simple forever.

AND, the Grantor hereby covenants with said Grantee that the Grantor is lawfully seized of said land in fee simple; that the Grantor has good right and lawful authority to sell and convey said land, and hereby fully warrant the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except taxes accruing subsequent to December 31, 2003.

IN WITNESS WHEREOF, the said Grantor has signed and sealed these presents the day and year first above written.

Signed, sealed and delivered in the presence of:

Witness #1 Signature
Elizabeth K Jorgensen
Witness #1 Printed Name

Witness #2 Signature
Richard McClure
Witness #2 Printed Name

John W. Norvell
John W. Norvell
2371 Peters Road, Fort Pierce, Florida 34945

Deborah H Norvell
Deborah H. Norvell
2371 Peters Road, Fort Pierce, Florida 34945

STATE OF FLORIDA
COUNTY OF ST. LUCIE

The foregoing instrument was acknowledged before me this 30th day of April, 2004 by John W. Norvell and Deborah H. Norvell, his wife, who are personally known to me or have produced their drivers licenses as identification.

SEAL

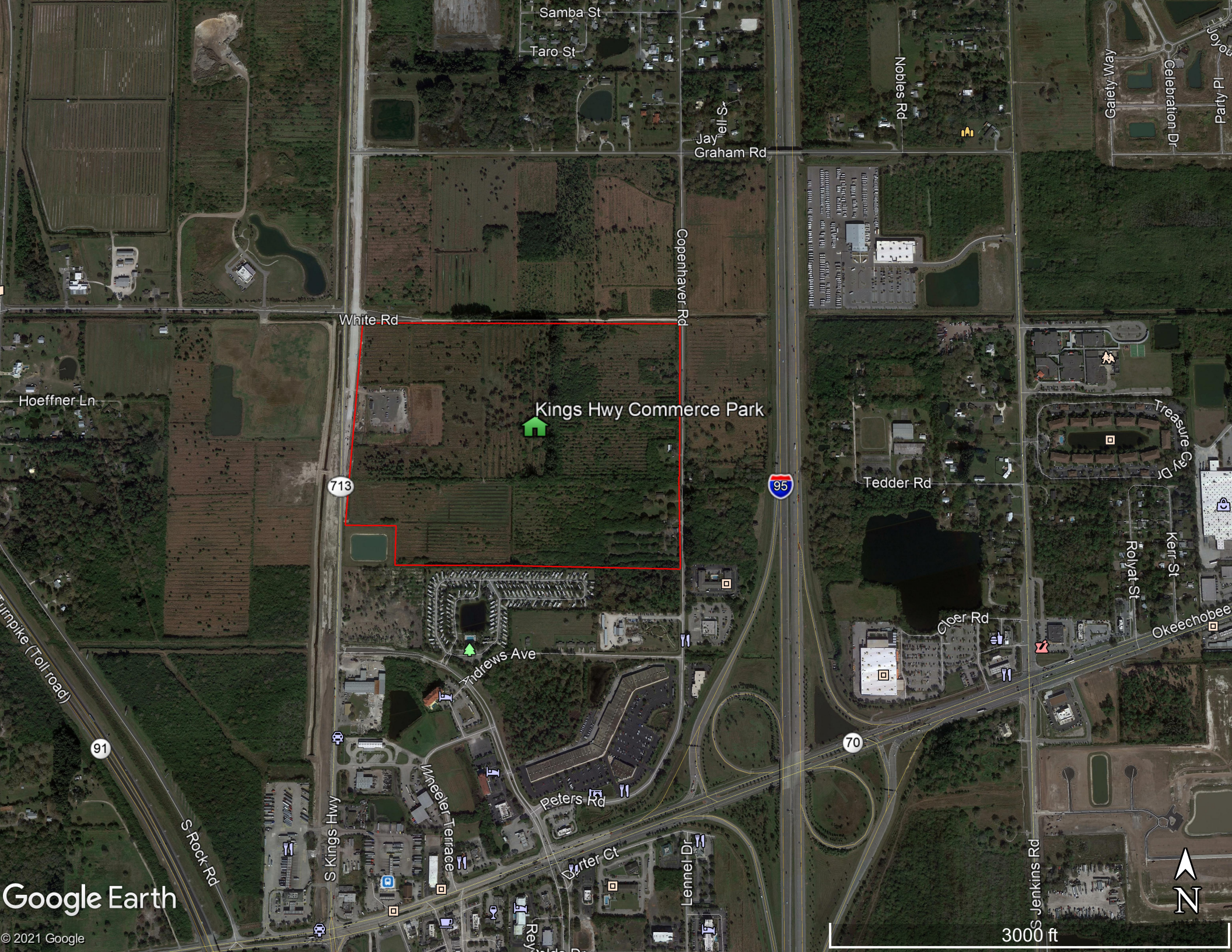
Elizabeth K Jorgensen
Notary Public

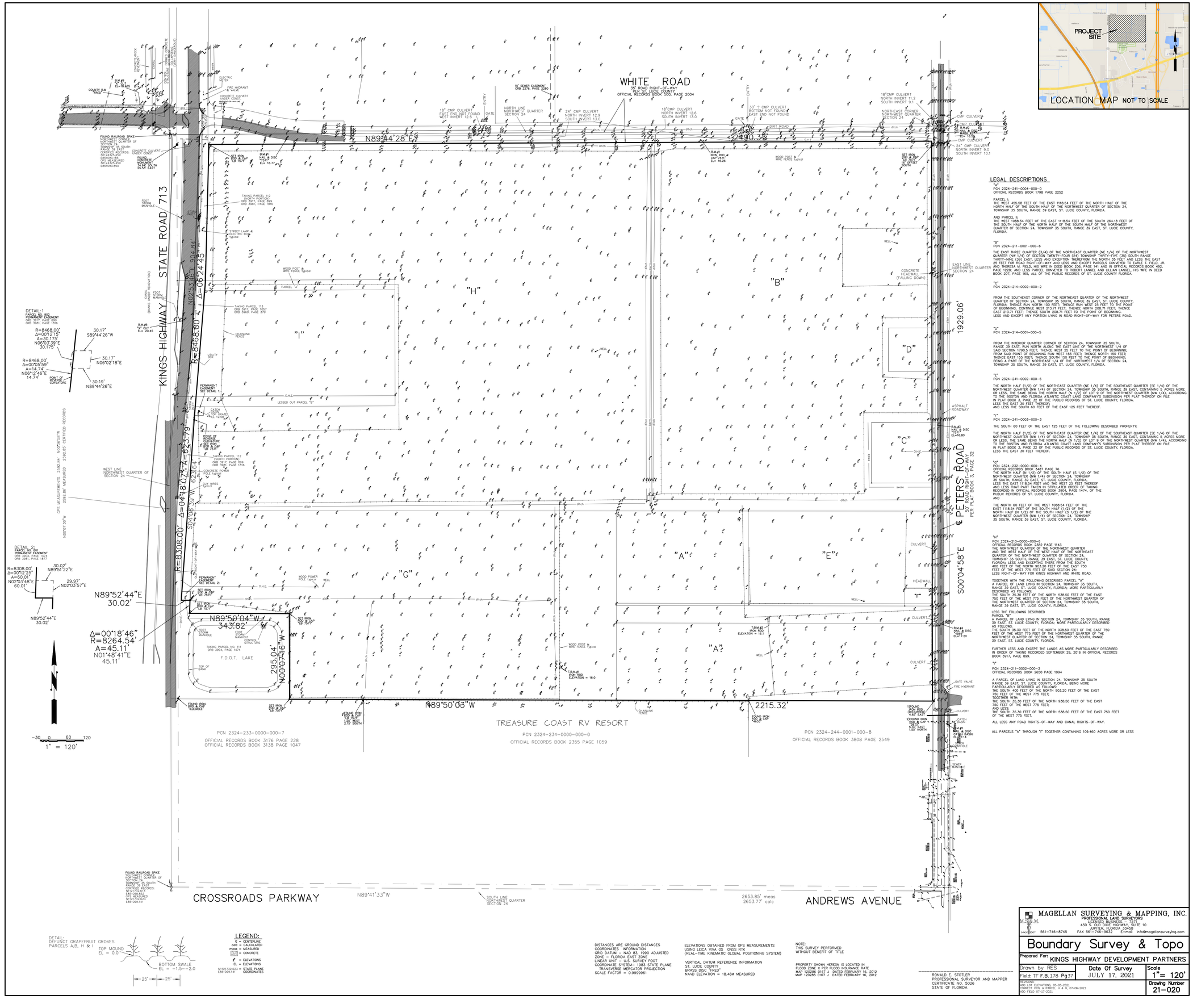
Printed Notary Name

Elizabeth K. Jorgensen
MY COMMISSION # DD079507 EXPIRES
January 25, 2006
BONDED THRU TROY FAIN INSURANCE, INC.

JOANNE HOLMAN, CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY
File Number: 2397518 OR BOOK 1959 PAGE 2516
Recorded:05/06/04 12:49

File No: **1600-005**


Samba St
Taro St
Nobles Rd
Gaiety Way
Celebration Dr
Party Pl
Jay Graham Rd
Copenhaver Rd
White Rd
Hoeffner Ln
Kings Hwy Commerce Park
713
95
Tedder Rd
Treasure Cay Dr
Rolyat St
Kerr St
Okeechobee
Andrews Ave
Peters Rd
Wheeler Terrace
Porter Ct
Lennet Dr
S Kings Hwy
S Rock Rd
S Jenkins Rd
91
70
N
3000 ft
Google Earth
© 2021 Google


WHITE ROAD
35' ROAD RIGHT-OF-WAY
PER ST. LUCIE COUNTY
OFFICIAL RECORDS BOOK 500, PAGE 2004
N89°44'28"E
2490.37'
KINGS HIGHWAY - STATE ROAD 713
R=8468.00'
Δ=06°24'45"
N02°53'46"E
904.84'
R=8308.00'
Δ=04°46'07"
A=623.79'
S04°06'39"W
623.64'
N00°07'16"W
295.04'
N89°50'04"W
343.82'
N89°50'03"W
2215.32'
S00°04'58"E
1929.06'
PETERS ROAD
(50' ROAD RIGHT-OF-WAY
PER PLAT BOOK 3, PAGE 32)
CROSSROADS PARKWAY
N89°41'33"W
2653.85' meas
2653.77' calc
ANDREWS AVENUE
TREASURE COAST RV RESORT
PCN 2324-234-0000-000-0
OFFICIAL RECORDS BOOK 2355 PAGE 1059
PCN 2324-233-0000-000-7
OFFICIAL RECORDS BOOK 3176 PAGE 228,
OFFICIAL RECORDS BOOK 3138 PAGE 1047
PCN 2324-244-0001-000-8
OFFICIAL RECORDS BOOK 3808 PAGE 2549
F.D.O.T. LAKE
"A"
"B"
"C"
"D"
"E"
"F"
"G"
"H"
"I"
PARCEL "A"
LESSED OUT PARCEL "B"
PROJECT SITE
LOCATION MAP NOT TO SCALE
DETAIL:1
PARCEL NO. 902
PERMANENT EASEMENT
ORB 3917, PAGE 899
ORB 3981, PAGE 1877
R=8468.00'
Δ=00°12'15"
A=30.175'
N06°53'39"E
30.175'
30.17'
S89°44'26"W
R=8468.00'
Δ=00°05'59"
A=14.74'
N06°12'46"E
14.74'
30.17'
N06°02'18"E
30.19'
N89°44'26"E
POINT OF REVERSE CURVATURE
DETAIL:2
PARCEL NO. 901
PERMANENT EASEMENT
ORB 3904, PAGE 1474
ORB 3981, PAGE 1877
R=8308.00'
Δ=00°12'25"
A=60.01'
N02°53'48"E
60.01'
30.02'
N89°51'22"E
29.97'
N02°03'57"E
N89°52'44"E
30.02'
Δ=00°18'46"
R=8264.54'
A=45.11'
N01°48'41"E
45.11'
N89°52'44"E
30.02'
-30 0 60 120
1" = 120'
DETAIL:
DEFUNCT GRAPEFRUIT GROVES
PARCELS A,B, H & I
TOP MOUND
EL = 0.0
BOTTOM SWALE
EL = -1.5~-2.0
25'
25'
FOUND RAILROAD SPIKE
NORTHWEST QUARTER OF
SECTION 24
TOWNSHIP 35 SOUTH
RANGE 39 EAST
CERTIFIED RECORDS
E851093.812
GPS MEASURED
E851093.141
WEST LINE NORTHWEST QUARTER OF SECTION 24
GPS MEASUREMENTS 2592.84' N00°08'58"W
2592.85' MEASURED
2592.86' CERTIFIED RECORDS
N00°07'50"W
SOUTH LINE NORTHWEST QUARTER SECTION 24
EAST LINE NORTHWEST QUARTER SECTION 24
NORTH LINE NORTHWEST QUARTER SECTION 24
NORTHEAST CORNER NORTHWEST QUARTER SECTION 24
15' HOMER EASEMENT
ORB 3276, PAGE 2280
18" CMP CULVERT
EAST END NOT FOUND
WEST INVERT 12.5
24" CMP CULVERT
NORTH INVERT 12.9
SOUTH INVERT 13.0
18"CMP CULVERT
NORTH INVERT 12.6
SOUTH INVERT 13.0
30" ? CMP CULVERT
BOTTOM NOT FOUND
EAST END NOT FOUND
18"CMP CULVERT
NORTH INVERT 11.2
SOUTH INVERT 9.1
24" CMP CULVERT
NORTH INVERT 9.0
SOUTH INVERT 10.1
CMP CULVERT
T.B.M.#1
NAIL & DISC
ELEV.=16.77
T.B.M.#2
IRON ROD
ELEVATION = 16.1
T.B.M.#3
IRON ROD & CAP
ELEVATION = 16.0
T.B.M.#4
NAIL & DISC
ELEV.=17.20
T.B.M.#5
IRON ROD & CAP
"LB 7577"
ELEV.=16.26
T.B.M.#6
NAIL & DISC
"7577"
ELEV.=16.80
T.B.M.#7
"X" CUT
ELEV.= 20.45
T.B.M.#8
NAIL & DISC
CATCH BASIN
ELEV.=17.14
SET IRON ROD & CAP "LB 7577" 18" OFFSET SOUTH
FOUND IRON ROD & CAP "LB 4655" 4.85' EAST
FOUND IRON ROD & CAP "LB 4655" 1.50' NORTH
FOUND IRON ROD & CAP "LB 4655" 2.15' WEST 2.15' SOUTH
FOUND IRON ROD & CAP "ILLEGIBLE"
SET IRON ROD & CAP "LB 7577"
FOUND NAIL & DISC "LB 4655"
FOUND PK NAIL & DISC "LB 4655"
FOUND CONCRETE MONUMENT 34.84' SOUTH 25.57' EAST
CONCRETE HEADWALL (FALLING DOWN)
ASPHALT ROADWAY
CONCRETE CULVERT UNDER CONST.
FIRE HYDRANT & VALVE
ELECTRIC METER
COUNTY B.M. "FRED"
CONCRETE PADS
ASPHALT
CONCRETE
(BROKEN & MISSING)
(VERY UNSTABLE)
CRACK
EDGE
STORM MANHOLE
STORM INLET
CATCH BASIN
STREET LAMP & ELECTRIC BOX Typical
WOOD POST & WIRE FENCE Typical
CHAINLINK FENCE
UTILITY BOX
WELL
WOOD POWER POLE Typical
CONCRETE POWER POLE Typical
GUY WIRES Typical
O.H.E.
DITCH
SWALE
CULVERT
GATE VALVE
FIRE HYDRANT
SEWER MANHOLE
SEWER MAIN S.E.
TAKING PARCEL 112
(NORTH PORTION)
ORB 3917, PAGE 899
ORB 3981, PAGE 1816
TAKING PARCEL 113
ORB 3917, PAGE 1057
ORB 3969, PAGE 379
TAKING PARCEL 112
(SOUTH PORTION)
ORB 3917, PAGE 899
ORB 3981, PAGE 1816
TAKING PARCEL NO. 111
ORB 3904, PAGE 1474
PERMANENT EASEMENT
SEE DETAIL 2
PERMANENT EASEMENT
SEE DETAIL 1
POINT OF BEGINNING
LESSED OUT PARCEL "B"
TOP OF BANK
EDGE OF WATER
LEGAL DESCRIPTIONS
"A"
PCN 2324-241-0004-000-0
OFFICIAL RECORDS BOOK 1798 PAGE 2252
PARCEL I:
THE WEST 455.58 FEET OF THE EAST 1118.54 FEET OF THE NORTH HALF OF THE NORTH HALF OF THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA.
AND PARCEL II:
THE WEST 1088.54 FEET OF THE EAST 1118.54 FEET OF THE SOUTH 264.18 FEET OF THE SOUTH HALF OF THE NORTH HALF OF THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA.
"B"
PCN 2324-211-0001-000-6
THE EAST THREE QUARTER (3/4) OF THE NORTHEAST QUARTER (NE 1/4) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION TWENTY-FOUR (24) TOWNSHIP THIRTY-FIVE (35) SOUTH RANGE THIRTY-NINE (39) EAST, LESS AND EXCEPTION THEREFROM THE NORTH 35 FEET AND LESS THE EAST 25 FEET FOR ROAD RIGHT-OF-WAY AND LESS AND EXCEPT PARCELS CONVEYED TO EARLE T. FIELD, JR. AND THERESA M. FIELD, HIS WIFE IN DEED BOOK 206, PAGE 141 AND IN OFFICIAL RECORDS BOOK 4362, PAGE 1228; AND LESS PARCEL CONVEYED TO ROBERT LANGEL AND LILLIAN LANGEL, HIS WIFE IN DEED BOOK 207, PAGE 165, ALL OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY FLORIDA.
"C"
PCN 2324-214-0002-000-2
FROM THE SOUTHEAST CORNER OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA; THENCE RUN NORTH 100 FEET; THENCE RUN WEST 25 FEET TO THE POINT OF BEGINNING; CONTINUE WEST 213.71 FEET; THENCE NORTH 208.71 FEET; THENCE EAST 213.71 FEET; THENCE SOUTH 208.71 FEET TO THE POINT OF BEGINNING. LESS AND EXCEPT ANY PORTION LYING IN ROAD RIGHT-OF-WAY FOR PETERS ROAD.
"D"
PCN 2324-214-0001-000-5
FROM THE INTERIOR QUARTER CORNER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, RUN NORTH ALONG THE EAST LINE OF THE NORTHWEST 1/4 OF SAID SECTION 1790.5 FEET; THENCE WEST 25 FEET TO THE POINT OF BEGINNING; FROM SAID POINT OF BEGINNING RUN WEST 155 FEET; THENCE NORTH 150 FEET; THENCE EAST 155 FEET; THENCE SOUTH 150 FEET TO THE POINT OF BEGINNING. BEING A PART OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4 OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA.
"E"
PCN 2324-241-0002-000-6
THE NORTH HALF (1/2) OF THE NORTHEAST QUARTER (NE 1/4) OF THE SOUTHEAST QUARTER (SE 1/4) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, CONTAINING 5 ACRES MORE OR LESS, THE SAME BEING THE NORTH HALF (N 1/2) OF LOT 9 OF THE NORTHWEST QUARTER (NW 1/4), ACCORDING TO THE BOSTON AND FLORIDA ATLANTIC COAST LAND COMPANY'S SUBDIVISION PER PLAT THEREOF ON FILE IN PLAT BOOK 3, PAGE 32 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA.
LESS THE EAST 30 FEET THEREOF.
AND LESS THE SOUTH 60 FEET OF THE EAST 125 FEET THEREOF.
"F"
PCN 2324-241-0003-000-3
THE SOUTH 60 FEET OF THE EAST 125 FEET OF THE FOLLOWING DESCRIBED PROPERTY:
THE NORTH HALF (1/2) OF THE NORTHEAST QUARTER (NE 1/4) OF THE SOUTHEAST QUARTER (SE 1/4) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, CONTAINING 5 ACRES MORE OR LESS, THE SAME BEING THE NORTH HALF (N 1/2) OF LOT 9 OF THE NORTHWEST QUARTER (NW 1/4), ACCORDING TO THE BOSTON AND FLORIDA ATLANTIC COAST LAND COMPANY'S SUBDIVISION PER PLAT THEREOF ON FILE IN PLAT BOOK 3, PAGE 32 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA.
LESS THE EAST 30 FEET THEREOF.
"G"
PCN 2324-232-0000-000-4
OFFICIAL RECORDS BOOK 3487 PAGE 76
THE NORTH HALF (N 1/2) OF THE SOUTH HALF (S 1/2) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA.
LESS THE EAST 1118.54 FEET AND THE WEST 25 FEET THEREOF
AND LESS THAT PART TAKEN IN STIPULATED ORDER OF TAKING RECORDED IN OFFICIAL RECORDS BOOK 3904, PAGE 1474, OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA.
AND
THE NORTH 60 FEET OF THE WEST 1088.54 FEET OF THE EAST 1118.54 FEET OF THE SOUTH HALF (1/2) OF THE NORTH HALF (N 1/2) OF THE SOUTH HALF (S 1/2) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA.
"H"
PCN 2324-210-0000-000-6
OFFICIAL RECORDS BOOK 2382 PAGE 1143
THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER AND THE WEST HALF OF THE WEST HALF OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA; LESS AND EXCEPTING THERE FROM THE SOUTH 400 FEET OF THE NORTH 903.20 FEET OF THE EAST 750 FEET OF THE WEST 775 FEET OF SAID SECTION 24; LESS RIGHT-OF-WAY FOR KINGS HIGHWAY AND WHITE ROAD.
TOGETHER WITH THE FOLLOWING DESCRIBED PARCEL "A"
A PARCEL OF LAND LYING IN SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA; MORE PARTICULARLY DESCRIBED AS FOLLOWS:
THE SOUTH 35.30 FEET OF THE NORTH 538.50 FEET OF THE EAST 750 FEET OF THE WEST 775 FEET OF THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA.
LESS THE FOLLOWING DESCRIBED
PARCEL "B"
A PARCEL OF LAND LYING IN SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA; MORE PARTICULARLY DESCRIBED AS FOLLOWS:
THE SOUTH 35.30 FEET OF THE NORTH 938.50 FEET OF THE EAST 750 FEET OF THE WEST 775 FEET OF THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA.
FURTHER LESS AND EXCEPT THE LANDS AS MORE PARTICULARLY DESCRIBED IN ORDER OF TAKING RECORDED SEPTEMBER 29, 2016 IN OFFICIAL RECORDS BOOK 3917, PAGE 899.
"I"
PCN 2324-211-0002-000-3
OFFICIAL RECORDS BOOK 2650 PAGE 1994
A PARCEL OF LAND LYING IN SECTION 24, TOWNSHIP 35 SOUTH RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
THE SOUTH 400 FEET OF THE NORTH 903.20 FEET OF THE EAST 750 FEET OF THE WEST 775 FEET;
TOGETHER WITH:
THE SOUTH 35.30 FEET OF THE NORTH 938.50 FEET OF THE EAST 750 FEET OF THE WEST 775 FEET;
AND LESS:
THE SOUTH 35.30 FEET OF THE NORTH 538.50 FEET OF THE EAST 750 FEET OF THE WEST 775 FEET.
ALL LESS ANY ROAD RIGHTS-OF-WAY AND CANAL RIGHTS-OF-WAY.
ALL PARCELS "A" THROUGH "I" TOGETHER CONTAINING 109.460 ACRES MORE OR LESS
LEGEND:
℄ = CENTERLINE
calc = CALCULATED
meas = MEASURED
CONC = CONCRETE
℄ = ELEVATIONS
EL = ELEVATIONS
N1121732.623 = STATE PLANE
E851093.141 = COORDINATES
DISTANCES ARE GROUND DISTANCES
COORDINATES INFORMATION
GRID DATUM – NAD 83, 1990 ADJUSTED
ZONE – FLORIDA EAST ZONE
LINEAR UNIT – U.S. SURVEY FOOT
COORDINATE SYSTEM– 1983 STATE PLANE TRANSVERSE MERCATOR PROJECTION
SCALE FACTOR = 0.9999961
ELEVATIONS OBTAINED FROM GPS MEASUREMENTS USING LEICA VIVA GS GNSS RTK (REAL–TIME KINEMATIC GLOBAL POSITIONING SYSTEM)
VERTICAL DATUM REFERENCE INFORMATION
ST. LUCIE COUNTY
BRASS DISC "FRED"
NAVD ELEVATION = 18.46M MEASURED
NOTE:
THIS SURVEY PERFORMED WITHOUT BENEFIT OF TITLE
PROPERTY SHOWN HEREON IS LOCATED IN FLOOD ZONE X PER FLOOD INSURANCE RATE MAP 120286 0167 J DATED FEBRUARY 16, 2012 MAP 120285 0167 J DATED FEBRUARY 16, 2012
RONALD E. STOTLER
PROFESSIONAL SURVEYOR AND MAPPER
CERTIFICATE NO. 5026
STATE OF FLORIDA
MAGELLAN SURVEYING & MAPPING, INC.
PROFESSIONAL LAND SURVEYORS
LICENSED BUSINESS # 7577
450 S. OLD DIXIE HIGHWAY, SUITE 10
JUPITER, FLORIDA 33458
561-746-8745 FAX 561-746-9632 E-mail info@magellansurveying.com
Boundary Survey & Topo
Prepared For: KINGS HIGHWAY DEVELOPMENT PARTNERS
Drawn by RES
Date Of Survey JULY 17, 2021
Field: TF F.B.178 Pg.37
Scale 1"= 120'
REVISIONS:
ADD LOT ELEVATIONS, 05-05-2021.
CORRECT PCN, & PARCEL H & I), 07-06-2021
ADD FIELD: 07-27-2021
Drawing Number 21-020

Site Plan
For
Kings Highway Commerce Park

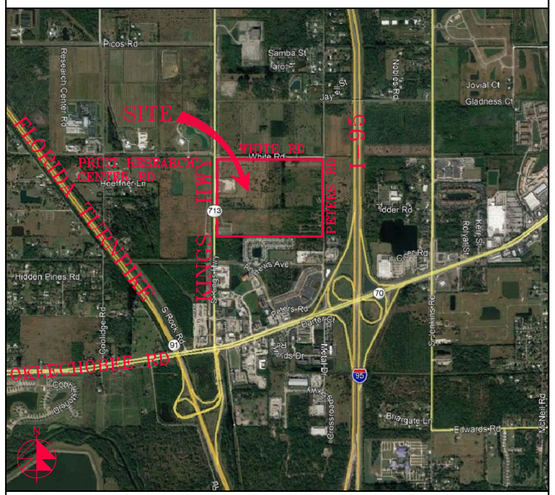
Section 24 Township 35S Range 39E

Fort Pierce, Florida

Developer

Kings Highway Developement Partners, LLC
4923 W. Cypress Street
Tampa, Florida 33607

Aerial


SITE
I-95
KINGS HWY
FLORIDA TURNPIKE
PEAVY RD
PRUITT RESEARCH CENTER RD
Samba St
Jovial Ct
Gladness Ct
Hidden Pines Rd
Edwards Rd
Bingegate Ln
Heather Ln
Research Center Rd
Cypress Ave
Gallridge Rd
Glades Rd
Oak Ridge Dr
Old Dixie Hwy
Kings Ave
Tudor Rd
Glades Rd
Glades Rd
Glades

PRUIT RESEARCH CENTER ROAD

WHITE ROAD

WHITE ROAD

WHITE ROAD

EXIST 35 R/W

PROP 60' R/W

PROP ADDL 25' R/W

KING'S HIGHWAY (SR-713)

DRY DET-4
0.19 AC
(BIO-SWALE)

DRY DET-5 0.99 AC (BIO-SWALE)

DRY DET-6 0.85 AC (BIO-SWALE)

DRY DETENTION-7 1.35 AC (BIO-SWALE)

LITTORAL ZONE

43' FDOT TEMP CONS EASMT

FOUNTAIN

LAKE-1
5.34 AC

FUTURE DWY TO BE CONSTRUCTED IN FUTURE PHASES LOCATION TO BE DETERMINED PER FUTURE PHASE PLANS TYP, 2-REQ

FUTURE PHASES
BLDG 1,415 KSF
OFFICE 99 KSF
WAREHOUSE 1,316 KSF

LAKE-2
1.93 AC

LITTORAL ZONE

FOUNTAIN

TRELLIS W/BENCH TYP

BIKE RACK 6 SPACES

LS

BENCH W/TRASH BIN TYP

BLDG-A
PH-I
265 KSF
17 KSF OFFICE
248 KSF WAREHOUSE
F.F.EL 20.9 FT, NAVD
17.0 ft, NAVD MIN

BLDG-B
PH-I
220 KSF
14 KSF OFFICE
207 KSF WAREHOUSE
F.F.EL 20.9 FT, NAVD
17.0 ft, NAVD MIN

LITTORAL ZONE

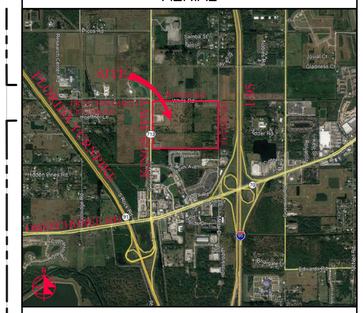
LAKE-3
2.30 AC

FOUNTAIN

PETERS ROAD

DRY DETENTION-8 1.49 AC

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

100' 0 50' 100' 200'

SCALE: 1" = 100'

SITE DATA

PROPOSED USE		OFFICE/WAREHOUSE/DISTRIBUTION		
FUTURE LAND USE		CG 66 AC MXD 34 AC		
ZONING	EXISTING	CG 66 AC RS-2 34 AC		
	PROPOSED	CP-1		
PARCEL AREA		4,768,078 SF	109.46 AC	
WHITE RD R/W		58,370 SF	1.34 AC	
PROJECT AREA		4,709,708 SF	108.12 AC	100%
PROJECTED BUILDOUT				
BUILDING AREA		1,900,000 SF		40.3%
OFFICE		130,000 SF		
WAREHOUSE		1,770,000 SF		
PHASE-I				
BUILDING AREA		485,000 SF		10.3%
OFFICE		31,000 SF		
WAREHOUSE		454,000 SF		
PAVT/SW		799,230 SF		
IMPERVIOUS AREA		1,284,230 SF		27.3%
LAKES		416,434 SF		8.8%
PERVIOUS AREA		3,009,043 SF		63.9%
BLDG HEIGHT		65 FT MAX		
PARKING REQ				251 SP
OFFICE	ITE RATE	31,000 SF @ 2.39/KSF		74 SP
WAREHOUSE	ITE RATE	454.000 SF @ 0.39/KSF		177 SP
HANDICAP				7 SP
PARKING PROP				591 SP
HANDICAP				20 SP
LOADING REQ				17 SP
LOADING PROP				66 SP

SETBACKS	REQ'D	PROP
FRONT	15'	426.0'
REAR	10'	58.5'
SIDE	10'	184.0'
SIDE STREET	20'	1,384.0'

PCN
2324-210-0000-000-6
2324-232-0000-000-4
2324-211-0002-000-3
2324-211-0001-000-6
2324-214-0001-000-5
2324-214-0002-000-4
2324-241-0003-000-3
2324-241-0002-000-6
2324-241-0004-000-0

REVISIONS

REV PER CITY 06-25-21

Jeff H. Iravani, Inc.
Consulting Engineers
1934 COMMERCE LANE, SUITE 5
JUPITER, FLORIDA 33458
TEL: (561) 575-6030
FAX: (561) 575-6088
JHI@bellsouth.net

Kings Highway Commerce Park
Fort Pierce, Florida

MASTER SITE PLAN

DRAWN BY: DDI
DESIGNED BY: JHI
SCALE: 1" = 100'
DATE: 01-22-2021

SEAL

FR 6986
JEFF H. IRAVANI 33155

JOB NO.
2101-1355

SHEET NO.
MSP-1

SEE SHT SP-6

KING'S HIGHWAY (SR-713)

CANAL R/W LINE

CANAL NO.40

E DITCH 5

E DITCH 4

E CONST. KINGS HWY

TEMP. CONST. EASEMENT

PERMANENT EASEMENT

CHAIN LINK FENCE

FDOT R/W

SIGN

STOP SIGN & BAR, TYP
RT TURN ONLY SIGN

STOP SIGN & BAR
TYP

LITTORAL
ZONE

LAKE-2
1.93 AC

FOUNTAIN

BENCH W/TRASH BIN
TYP

TRELLIS W/BENCH
TYP

RAMP

SEE SHT SP-2

248

F.F.E

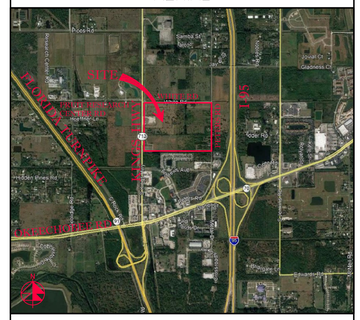
17.

48 HOURS BEFORE DIGGING
CALL TOLL FREE
811
CALL SUNSHINE
NOTIFICATION CENTER

LEGEND

⊕19.7	PROP PAV'T EL
19.7	EXIST EL
✳	CONTRACTOR TO FIELD VERIFY
INV EL	INVERT EL
CB	CATCH BASIN
YD	YARD DRAIN
BC	BOTTOM OF CURB
BE	BOTTOM EL
TC	TOP OF CURB
TE	TOP EL
EXF	EXFILTRATION TRENCH
WM	WATER MAIN
FM	FORCE MAIN
FIM	FIRE MAIN
SAN	WASTEWATER GRAVITY
	FIRE HYDRANT
GV	GATE VALVE
	GATE VALVE
	SIAMESE CONN.
	CHECK VALVE
	DOUBLE DETECTOR CHECK VALVE
	WATER METER W/ REDUCED PRESSURE BACKFLOW PREV.
S	SAMPLE POINT
MES	MITERED END SECTION
F.F.EL	FIN FLOOR ELEV
F.L.EL	FLOW LINE ELEV
TOB	TOP OF BANK
TOS	TOE OF SLOPE
TOC	TOP OF CONCRETE
TV	TAPPING VAVLE
CO	CLEANOUT
B1	BORING NO. AND LOCATION
/AE	APPROVED EQUIVALENT

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

REVISIONS

06/25/21 REV/CITY

Jeff H. Iravani, Inc.
Consulting Engineers
1934 COMMERCE LANE, SUITE 5
JUPITER, FLORIDA 33458
TEL: (561) 575-6030
FAX: (561) 575-6088
Jill@bellsouth.net

Kings Highway Commerce Park

Fort Pierce, Florida

SITE PLAN

JOB NO.	2101-1355
DRAWN BY	DDI
DESIGNED BY	JHI
SCALE	1"=40'
DATE	01-22-21

SEAL

COA 6986

SHEET NO.

SP-1

SEE SHT SP-6

SEE SHT SP-1

SEE SHT SP-3

BLDG-A
PH-I
265 KSF
17 KSF OFFICE
248 KSF WAREHOUSE
F.F.EL 20.9 FT, NAVD
17.0 ft, NAVD MIN

LS

BIKE RACK
8 SPACES

DRY DETENTION-8 1.49 AC

806'

85'

35.9'

92'

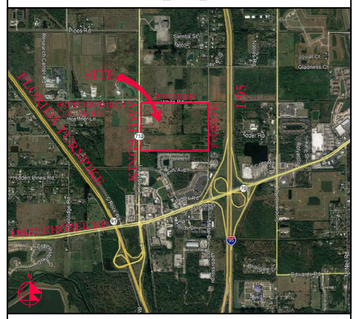
80'

12'

63'

RAMP

AERIAL



VICINITY MAP

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N

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SCALE: 1" = 40'

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TC	TOP OF CURB
TE	TOP EL
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FM	FORCE MAIN
FIM	FIRE MAIN
SAN	WASTEWATER GRAVITY
FH	FIRE HYDRANT
GV	GATE VALVE
GV	GATE VALVE
	SIAMESE CONN.
	CHECK VALVE
	DOUBLE DETECTOR CHECK VALVE
	WATER METER W/ REDUCED PRESSURE BACKFLOW PREV.
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TV	TAPPING VAVLE
CO	CLEANOUT
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Kings Highway Commerce Park

Fort Pierce, Florida

SITE PLAN

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

SHEET NO.

SP-2

SEE SHT SP-8

SEE SHT SP-2

BLDG-B
PH-I
220 KSF
14 KSF OFFICE
207 KSF WAREHOUSE
F.F.EL 20.9 FT, NAVD
17.0 ft, NAVD MIN

LITTORAL ZONE

LAKE-3
2.30 AC

FOUNTAIN

PETERS ROAD

636'

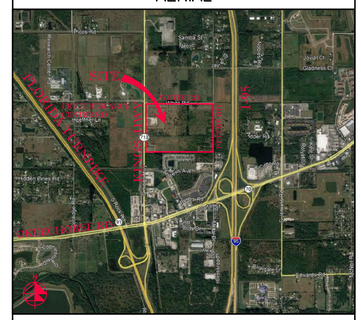
240.9'

63'

36'

45.5'

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

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Kings Highway Commerce Park
Fort Pierce, Florida

SITE PLAN

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

SHEET NO.

SP-3

48 HOURS BEFORE DIGGING
CALL TOLL FREE
811
CALL SUNSHINE
NOTIFICATION CENTER

LEGEND

19.7	PROP PAV'T EL
19.1	EXIST EL
*	CONTRACTOR TO FIELD VERIFY
INV EL	INVERT EL
CB	CATCH BASIN
YD	YARD DRAIN
BC	BOTTOM OF CURB
BE	BOTTOM EL
TC	TOP OF CURB
TE	TOP EL
EXF	EXFILTRATION TRENCH
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FM	FORCE MAIN
FIM	FIRE MAIN
SAN	WASTEWATER GRAVITY
	FIRE HYDRANT
GV	GATE VALVE
	GATE VALVE
	SIAMESE CONN.
	CHECK VALVE
	DOUBLE DETECTOR CHECK VALVE
	WATER METER W/ REDUCED PRESSURE BACKFLOW PREV.
	SAMPLE POINT
MES	MITERED END SECTION
F.F.EL	FIN FLOOR ELEV
F.L.EL	FLOW LINE ELEV
TOB	TOP OF BANK
TOS	TOE OF SLOPE
TOC	TOP OF CONCRETE
TV	TAPPING VAVLE
CO	CLEANOUT
B1	BORING NO. AND LOCATION
/AE	APPROVED EQUIVALENT

SEE SHT SP-5

LAKE-1
5.34 AC

FOUNTAIN

LITTORAL ZONE

SIGN

STOP SIGN & BAR, TYP
RT TURN ONLY SIGN

STOP SIGN & BAR
TYP

LAKE-2

HWAY (SR-713)

CANAL NO.40

CANAL R/W LINE

CANAL BOTTOM

E CONST. KINGS HWY

E DITCH 5

PROP. R/W LINE

PERMANENT EASEMENT

R132'

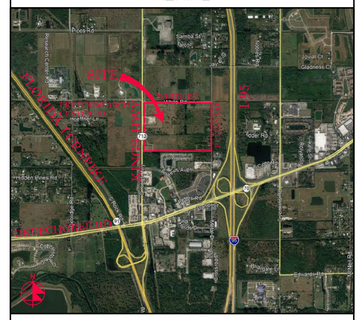
R150'

R61.3'

SEE SHT SP-31

SEE SHT SP-6

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

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40' 0 20' 40' 80'

SCALE: 1" = 40'

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Kings Highway Commerce Park

Fort Pierce, Florida

SITE PLAN

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01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

SHEET NO.

SP-4

PRUIT RESEARCH CENTER ROAD

WHITE ROAD

KING'S HIGHWAY (SR-713)

CANAL NO.40

CANAL BOTTOM

SIGN

SIGN

DRY DET-4

0.19 AC
(BIO-SWALE)

LITTORAL
ZONE

43' FDOT
TEMP CONS EASMT

FOUNTAIN

LAKE-1
5.34 AC

96' TYP

25'

15'

15.3'

10'

78' TYP

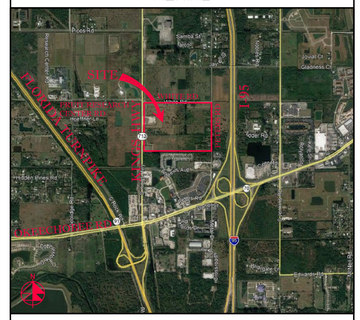
35'

37.3'

SEE SHT SP-7

SEE SHT SP-4

AERIAL

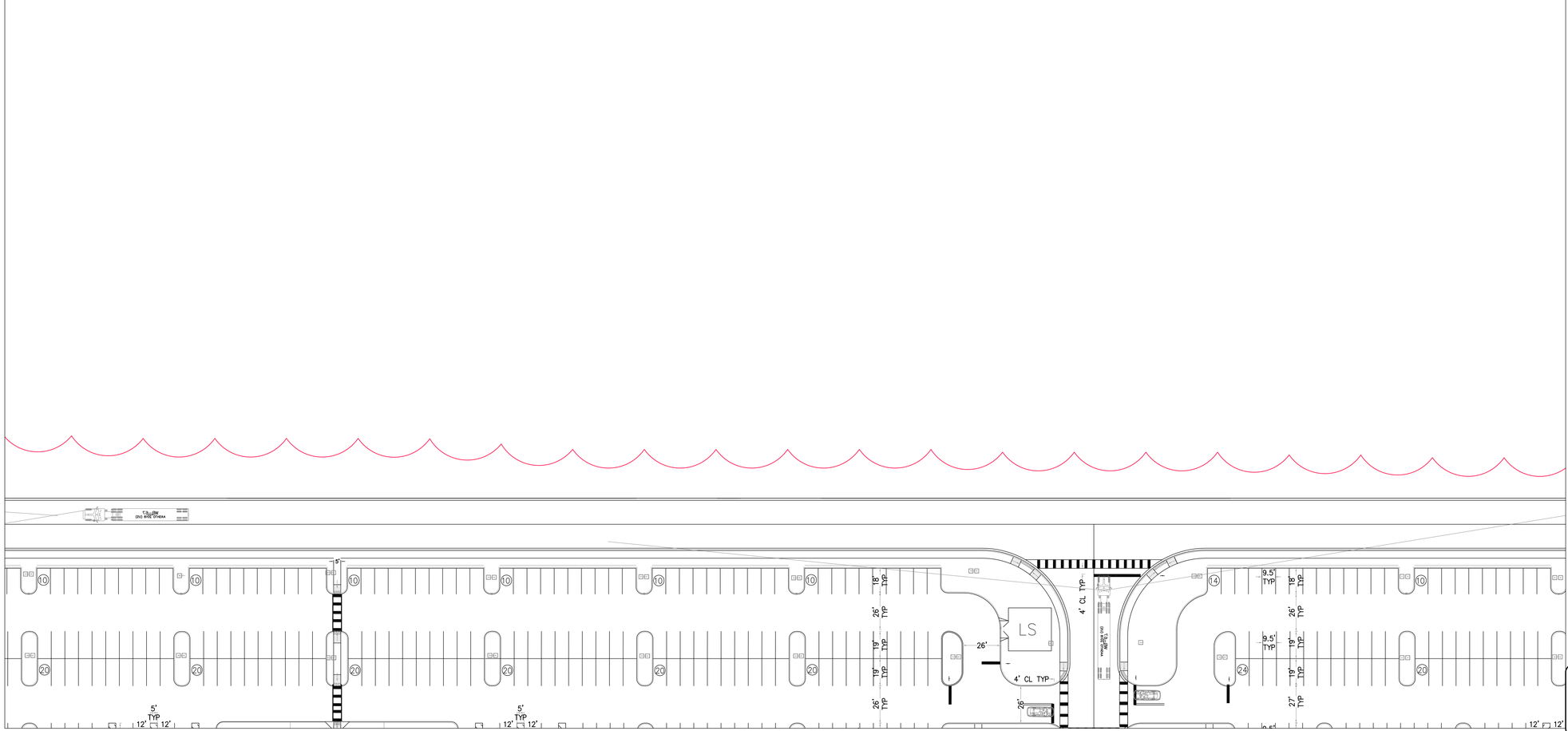

SITE
SECTION 24
SECTION 25
SECTION 19
SECTION 30
SECTION 29
SECTION 20
SECTION 21
SECTION 28
SECTION 33
SECTION 32
SECTION 31
SECTION 4
SECTION 5
SECTION 8
SECTION 9
SECTION 16
SECTION 17
SECTION 18
SECTION 7
SECTION 6
SECTION 1
SECTION 12
SECTION 13
SECTION 24
SECTION 25
SECTION 36
SECTION 35
SECTION 34
SECTION 27
SECTION 26
SECTION 23
SECTION 22
SECTION 15
SECTION 14
SECTION 11
SECTION 10
SECTION 3
SECTION 2

SEE SHT SP-7

FUTURE PHASES
BLDG 1,415 KSF
OFFICE 99 KSF
WAREHOUSE 1,316 KSF

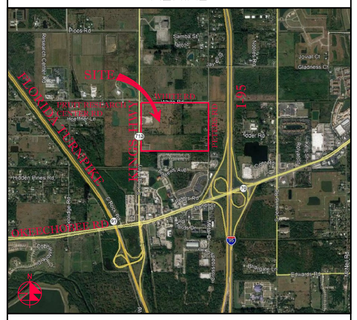
SEE SHT SP-4

SEE SHT SP-8



SEE SHT SP-42

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

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SCALE: 1" = 40'

48 HOURS BEFORE DIGGING
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FIM	FIRE MAIN
SAN	WASTEWATER GRAVITY
FH	FIRE HYDRANT
GV	GATE VALVE
GV	GATE VALVE
SC	SIAMESE CONN.
	CHECK VALVE
	DOUBLE DETECTOR CHECK VALVE
	WATER METER W/ REDUCED PRESSURE BACKFLOW PREV.
S	SAMPLE POINT
MES	MITERED END SECTION
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F.L.EL	FLOW LINE ELEV
TOB	TOP OF BANK
TOS	TOE OF SLOPE
TOC	TOP OF CONCRETE
TV	TAPPING VAVLE
CO	CLEANOUT
B1	BORING NO. AND LOCATION
/AE	APPROVED EQUIVALENT

REVISIONS

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Kings Highway Commerce Park

Fort Pierce, Florida

SITE PLAN

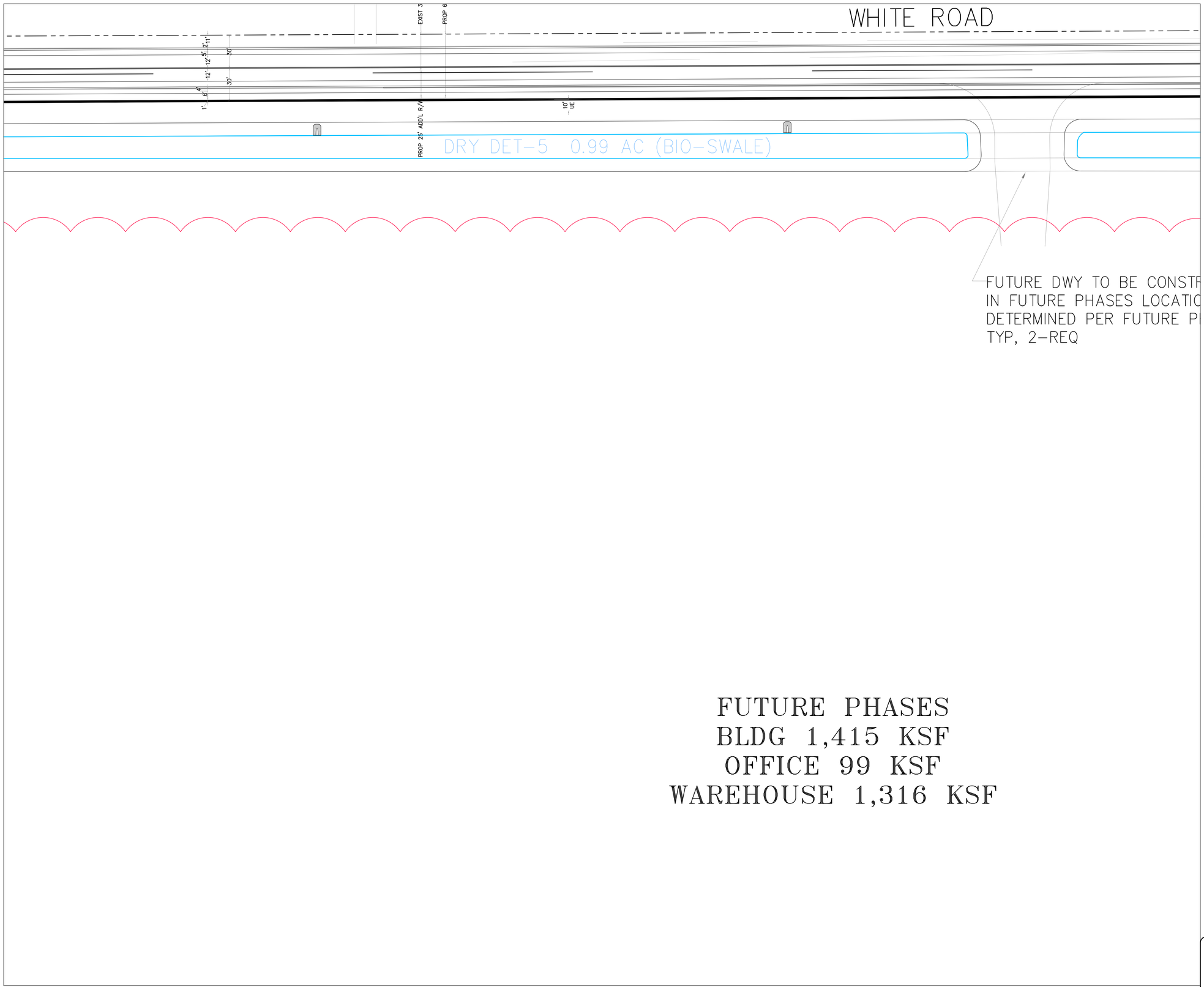
DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

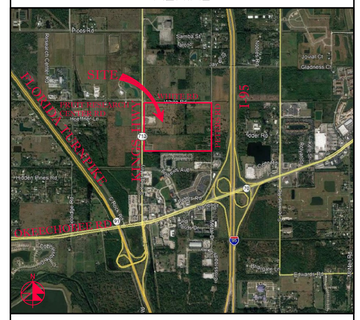
SHEET NO.

SP-6



FUTURE PHASES
BLDG 1,415 KSF
OFFICE 99 KSF
WAREHOUSE 1,316 KSF

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

LEGEND

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Kings Highway Commerce Park
Fort Pierce, Florida

SITE PLAN

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01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

SHEET NO.
SP-7

SEE SHT SP-9

SEE SHT SP-6

KSF

DRY DETENTION-7 1.35 AC (BIO-

16+00
17+00
18+00
19+00
20+00
21+00
22+00
23+00

10' TYP.

5'

17' 22' 17'

60' R/W

9.5' TYP 18' TYP 26' TYP 19' TYP 19' TYP 27' TYP

9.5' TYP 18' TYP 26' TYP 19' TYP 19' TYP 27' TYP

RCO'

4' CL TYP

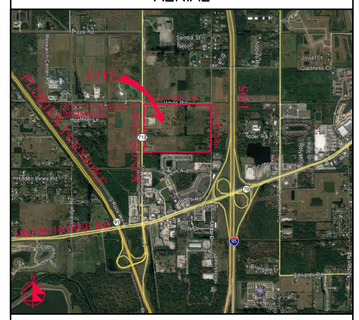
4' CL TYP

20'

LITTORAL ZONE

SEE SHT SP-3

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

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Fort Pierce, Florida

SITE PLAN

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SEAL

COA 6986

SHEET NO.

SP-8

AD

WHITE ROAD

DIRT ROAD

35'x35' SAFE CORNER

R=25'

DRY DET-6 0.85 AC (BIO-SWALE)

17' 22' 17'

60' R/W

5'

10' TYP.

FUTURE DWY TO BE CONSTRUCTED
IN FUTURE PHASES LOCATION TO BE
DETERMINED PER FUTURE PHASE PLANS
TYP, 2-REQ

10+00

11+00

12+00

13+00

14+00

15+00

16+00

17+00

18+00

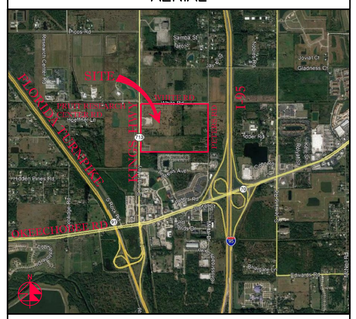
DRY DETENTION-7 1.35 AC (BIO-SWALE)

SEE SHT SP-7

SF

SEE SHT SP-8

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

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Kings Highway Commerce Park

Fort Pierce, Florida

SITE PLAN

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SEAL

COA 6986

SHEET NO.

SP-9

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PRUIT RESEARCH CENTER ROAD

WHITE ROAD

WHITE ROAD

WHITE ROAD

EXIST 35' R/W

PROP 60' R/W

PROP ADOT 25' R/W

KING'S HIGHWAY (SR-713)

DRY DET-4 0.19 AC (BIO-SWALE)

DRY DET-5 0.99 AC (BIO-SWALE)

DRY DET-6 0.85 AC (BIO-SWALE)

LITTORAL ZONE

43' FDOT TEMP CONS EASMT

FOUNTAIN

LAKE-1
5.34 AC

FUTURE PHASES
BLDG 1,415 KSF
OFFICE 99 KSF
WAREHOUSE 1,316 KSF

DRY DETENTION-7 1.35 AC (BIO-SWALE)

LAKE-2
1.93 AC

BENCH W/TRASH BIN TYP

LS

BLDG-A
PH-I
265 KSF
17 KSF OFFICE
248 KSF WAREHOUSE
F.F.EL 20.9 FT, NAVD
17.0 ft, NAVD MIN

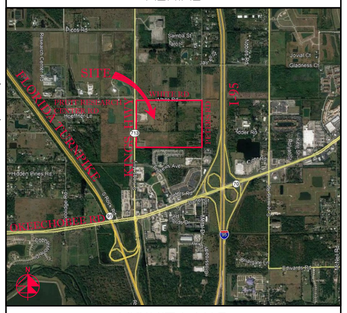
BLDG-B
PH-I
220 KSF
14 KSF OFFICE
207 KSF WAREHOUSE
F.F.EL 20.9 FT, NAVD
17.0 ft, NAVD MIN

LAKE-3
2.30 AC

DRY DETENTION-8 1.49 AC

PETERS ROAD

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

100' 0 50' 100' 200'

SCALE: 1" = 100'

REVISIONS

REV PER CITY 06-25-21

Jeff H. Iravani, Inc.
Consulting Engineers
1934 COMMERCE LANE, SUITE 5
JUPITER, FLORIDA 33458
TEL: (561) 575-6030
FAX: (561) 575-6088
JHI@bellsouth.net

Kings Highway Commerce Park

Fort Pierce, Florida

TRUCK CIRCULATION PLAN

DRAWN BY: DDI

DESIGNED BY: JHI

SCALE: 1" = 100'

DATE: 01-22-2021

SEAL

FR 6086
JEFF H. IRAVANI 33155

JOB NO.
2101-1355

SHEET NO.
TCP-1

KING'S HIGHWAY (SR-713)

CANAL R/W LINE

CANAL NO.40

E DITCH 5

E DITCH 4

E CONST. KINGS HWY

TEMP. CONST. EASEMENT

PERMANENT EASEMENT

20' LME

CHAIN LINK FENCE

FDOT R/W

LITTORAL ZONE

LAKE-2
1.93 AC

LITTORAL ZONE

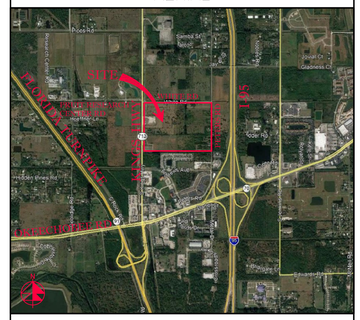
FOUNTAIN

BENCH W/TRASH BIN TYP

RAMP

1
248
F.F.
17.

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

REVISIONS

06/25/21 REV/CITY

Jeff H. Iravani, Inc.
Consulting Engineers
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TEL: (561) 575-6030
FAX: (561) 575-6088
JHI@bellsouth.net

Kings Highway Commerce Park

Fort Pierce, Florida

TRUCK CIRCULATION PLAN

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

SHEET NO.

TCP-2

PRUIT RESEARCH CENTER ROAD

WHITE ROAD

KING'S HIGHWAY (SR-713)

DRY DET-4

0.19 AC
(BIO-SWALE)

LITTORAL
ZONE

43' FDOT
TEMP CONS EASMT

FOUNTAIN

LAKE-1
5.34 AC

CANAL NO.40

CANAL BOTTOM

E DITCH 6

E DITCH 7

E DITCH 8

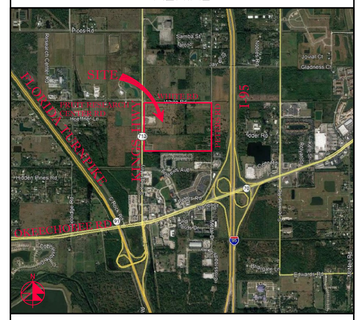
TEMP. CONST. EASEMENT

CONST. KINGS HWY

15.3'

27.6'

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

REVISIONS

06/25/21 REV/CITY

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TEL: (561) 575-6030
FAX: (561) 575-6088
JHI@bellsouth.net

Kings Highway Commerce Park

Fort Pierce, Florida

TRUCK CIRCULATION PLAN

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

SHEET NO.

TCP-3

PRUIT RESEARCH CENTER ROAD

WHITE ROAD

KING'S HIGHWAY (SR-713)

DRY DET-4

0.19 AC
(BIO-SWALE)

LITTORAL
ZONE

43' FDOT
TEMP CONS EASMT

FOUNTAIN

LAKE-1
5.34 AC

CANAL NO.40

CANAL BOTTOM

E DITCH 6

E DITCH 7

E DITCH 8

TEMP. CONST. EASEMENT

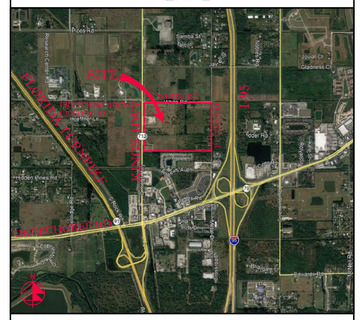
CONST. KINGS HWY

15.3'

27.6'

3' TYP

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

REVISIONS

06/25/21 REV/CITY

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FAX: (561) 575-6088
JHI@bellsouth.net

Kings Highway Commerce Park

Fort Pierce, Florida

TRUCK CIRCULATION PLAN

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

SHEET NO.

TCP-4

MATCHLINE SEE SHEET 8

KINGS HWY.

℄ CONST. KINGS HWY

℄ DITCH 5

℄ DITCH 4

PROPOSED EASEMENT

713-2

LAKE
1.97 AC.

LITTORAL PLANTING (5,394 sf)
(299) GREAT SPIKE RUSH
(212) PICKEREL WEED
(208) FIRE FLAG

LITTORAL ZONE

FOUNTAIN

FIRE HYDRANT

STOP SIGN AND BAR

WATER MAIN

BACKFLOW

TYPE F CURB

CATCH BASIN

SOD

20' LME

LIGHTING

TYPE D CURB TYP

19'

9.5'

5' WALKWAY

BLDG-A
PH-1
265 KSF
17 KSF OFFICE
248 KSF WAREHOUSE

RAMP

5'

TYPE D CURB

WHEEL STOP TYP

TYPE D CURB TYP

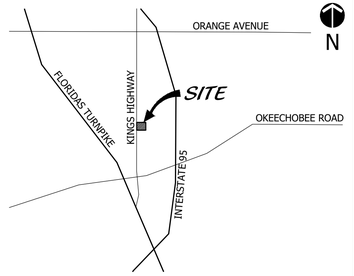
TYPE F CURB

LIGHTING

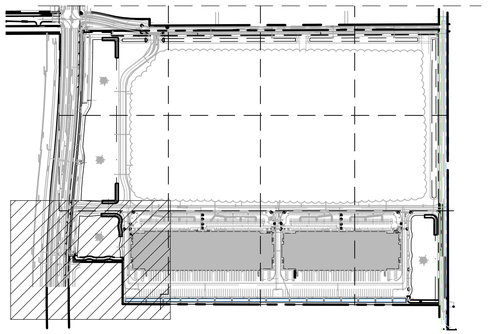
FIRE HYDRANT TYP

MATCHLINE SEE SHEET 2

LOCATION MAP



SHEET LAYOUT MAP



48 HOURS BEFORE DIGGING
CALL TOLL FREE
811
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

Landscape Plan

0' 15' 30' 60' 90' 120'

Scale: 1" = 30'-0"

North

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Environmental Consultants
1934 Commerce Lane
Suite 1
Jupiter, Florida 33458
561.747.6336 · Fax 747.1377
www.cotleurhearing.com
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King's Highway Commerce Park

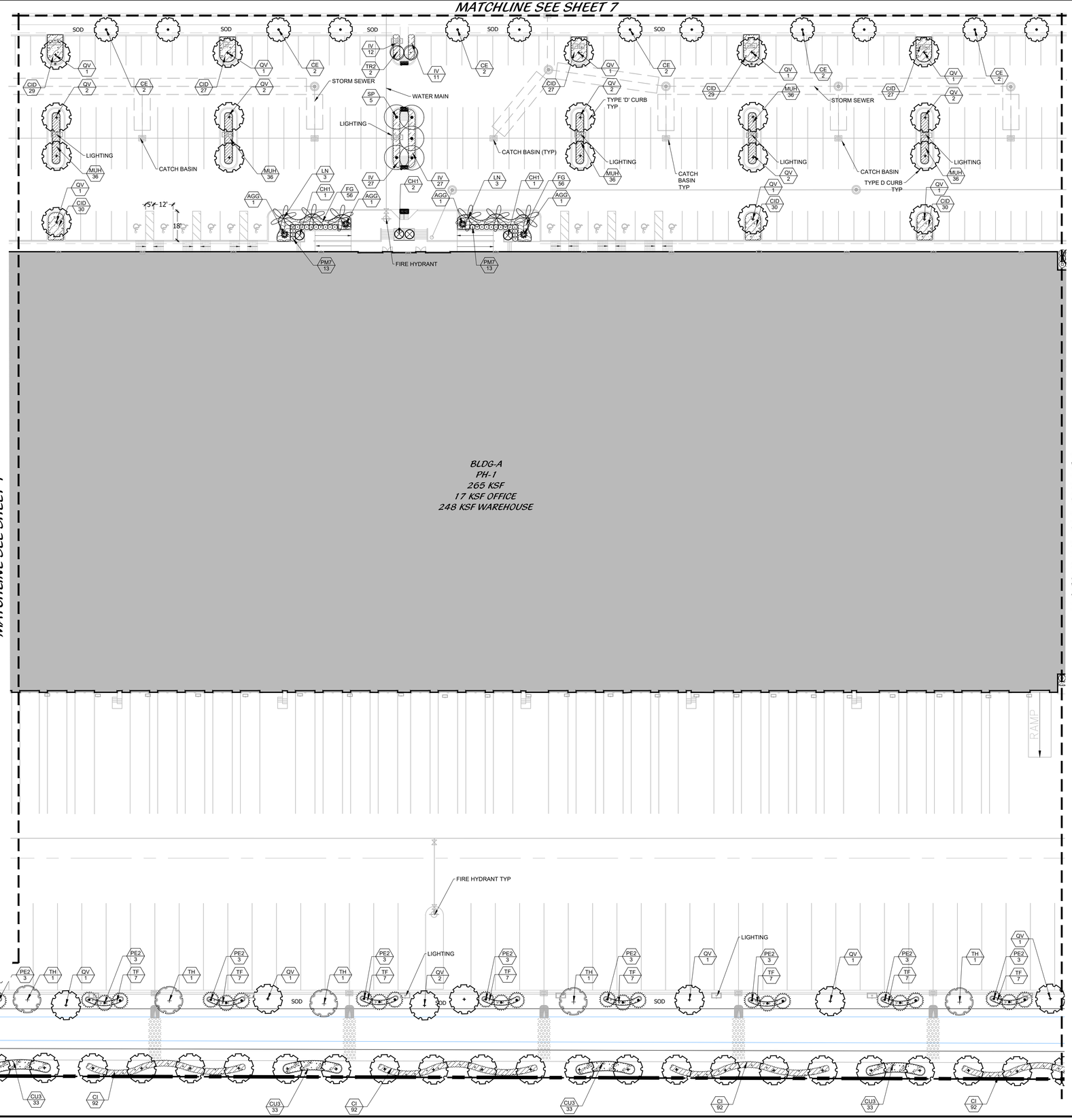
Landscape Plan
City of Fort Pierce, Florida

DESIGNED	DEH
DRAWN	AGB
APPROVED	DEH
JOB NUMBER	21-0130
DATE	04-28-21
REVISIONS	06-25-21

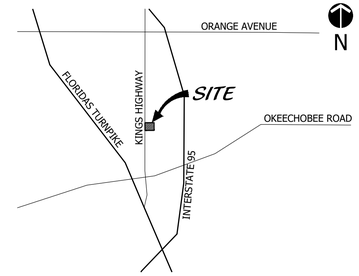
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Drawing: 21-0130 LP.DWG

SHEET 1 OF 13

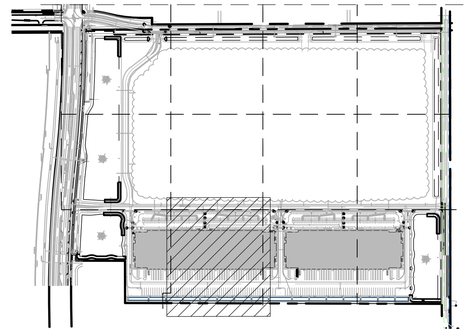
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LOCATION MAP



SHEET LAYOUT MAP



Landscape Plan

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Lic# LC-26000535

King's Highway Commerce Park

Landscape Plan

City of Fort Pierce, Florida

0' 15' 30' 60'

Scale: 1" = 30'-0"

DESIGNED	DEH
DRAWN	AGB
APPROVED	DEH
JOB NUMBER	21-0130
DATE	04-28-21
REVISIONS	06-25-21

June 25, 2021 1:56:14 p.m.
Drawing: 21-0130 LP.DWG

SHEET 2 OF 13

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MATCHLINE SEE SHEET 6

MATCHLINE SEE SHEET 2

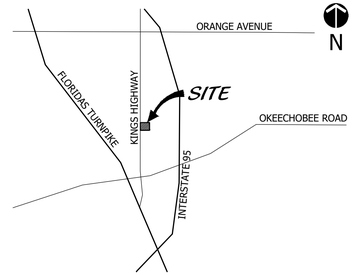
MATCHLINE SEE SHEET 4

BLDG-A
PH-1
265 KSF
17 KSF OFFICE
248 KSF WAREHOUSE

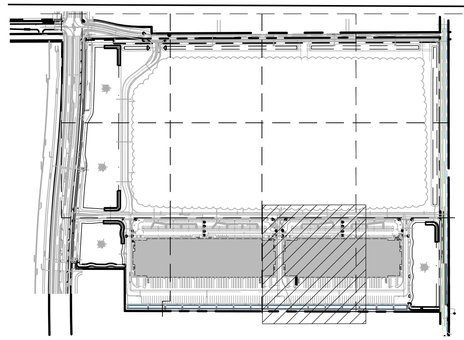
BLDG-B
PH-1
220 KSF
14 KSF OFFICE
207 KSF WAREHOUSE

RAMP

LOCATION MAP



SHEET LAYOUT MAP



Landscape Plan

48 HOURS BEFORE DIGGING
CALL TOLL FREE
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King's Highway Commerce Park

Landscape Plan

City of Fort Pierce, Florida

0' 15' 30' 60'
Scale: 1" = 30'-0"

DESIGNED	DEH
DRAWN	AGB
APPROVED	DEH
JOB NUMBER	21-0130
DATE	04-28-21
REVISIONS	06-25-21

June 25, 2021 1:56:14 p.m.
Drawing: 21-0130 LP.DWG

SHEET 3 OF 13

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MATCHLINE SEE SHEET 5

MATCHLINE SEE SHEET 3

BLDG-B
PH-1
220 KSF
14 KSF OFFICE
207 KSF WAREHOUSE

PETER'S ROAD

20' LME

RAMP

6' CROSS WALK

FIRE HYDRANT TYP

BACKFLOW

FDC TYP

WATER MAIN

BENCH WITH TRASH CAN TYP

BENCH

EXISTING OAK TREE TO REMAIN

STOP SIGN AND BAR

TYPE F CURB TYP

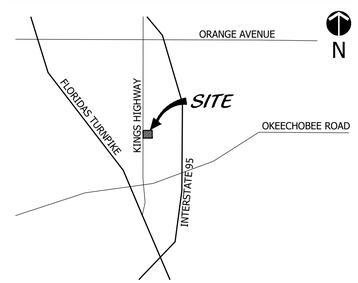
LITTORAL ZONE

LITTORAL PLANTING (3,947 sf)
(219) GREAT SPIKE RUSH
(155) PICKEREL WEED
(152) FIRE FLAG

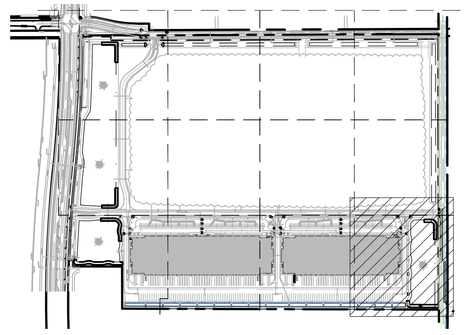
LIGHTING

SOD

LOCATION MAP



SHEET LAYOUT MAP



Landscape Plan

48 HOURS BEFORE DIGGING
CALL TOLL FREE
811
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

North

Scale: 1" = 30'-0"

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561.747.6336 · Fax 747.1377
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King's Highway Commerce Park

Landscape Plan

City of Fort Pierce, Florida

DESIGNED	DEH
DRAWN	AGB
APPROVED	DEH
JOB NUMBER	21-0130
DATE	04-28-21
REVISIONS	06-25-21

June 25, 2021 1:56:14 p.m.
Drawing: 21-0130 LP.DWG

SHEET 4 OF 13

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MATCHLINE SEE SHEET 12

MATCHLINE SEE SHEET 6

FUTURE PHASES
BLDG 1,415 KSF
OFFICE 99 KSF
WAREHOUSE 1,316 KSF

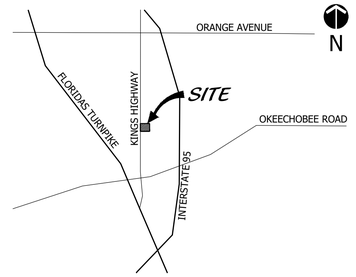
BIO SWALE PLANTINGS (15,199 sf)
(1,567) WIREGRASS
(2,340) SEAOXEYE DAISY
(1,343) PINK MUHLY GRASS

QV 2
SOD
PEZ 5
MUH 56
QV 3
PEZ 5
HD 56
QV 3
PEZ 5
MUH 54
QV 3
PEZ 5
HD 56
QV 3
MDD 1
CI 240
LJ3 5
PHM 1
LJ65 4
FG 199
ER 94
CH1 2
AGG 3
MDD 3
QV 10
SOD
SOD
SOD

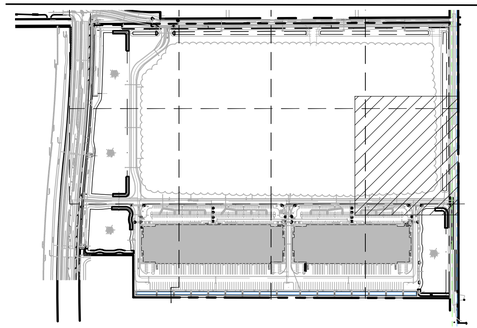
PETER'S ROAD

MATCHLINE SEE SHEET 4

LOCATION MAP



SHEET LAYOUT MAP



Landscape Plan

48 HOURS BEFORE DIGGING
CALL TOLL FREE
811
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

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Lic# LC-26000535

King's Highway Commerce Park
Landscape Plan
City of Fort Pierce, Florida

0' 15' 30' 60'
Scale: 1" = 30'-0"

DESIGNED	DEH
DRAWN	AGB
APPROVED	DEH
JOB NUMBER	21-0130
DATE	04-28-21
REVISIONS	06-25-21

June 25, 2021 1:56:14 p.m.
Drawing: 21-0130 LP.DWG

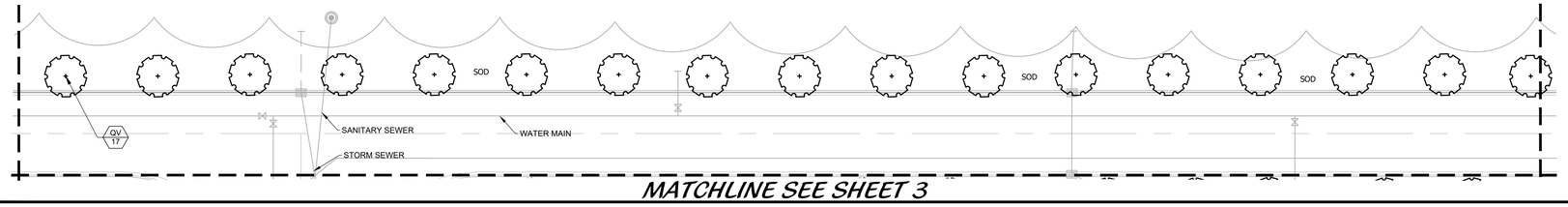
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MATCHLINE SEE SHEET 11

MATCHLINE SEE SHEET 7

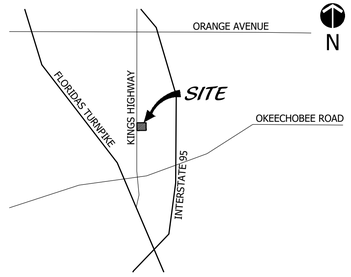
FUTURE PHASES
BLDG 1,415 KSF
OFFICE 99 KSF
WAREHOUSE 1,316 KSF

MATCHLINE SEE SHEET 5

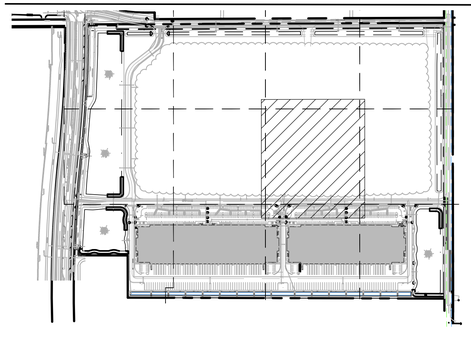


MATCHLINE SEE SHEET 3

LOCATION MAP



SHEET LAYOUT MAP



Landscape Plan

48 HOURS BEFORE DIGGING
CALL TOLL FREE
811
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

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Lic# LC-26000535

King's Highway Commerce Park

Landscape Plan
City of Fort Pierce, Florida

0' 15' 30' 60'
Scale: 1" = 30'-0"

DESIGNED	DEH
DRAWN	AGB
APPROVED	DEH
JOB NUMBER	21-0130
DATE	04-28-21
REVISIONS	06-25-21

June 25, 2021 1:56:14 p.m.
Drawing: 21-0130 LP.DWG

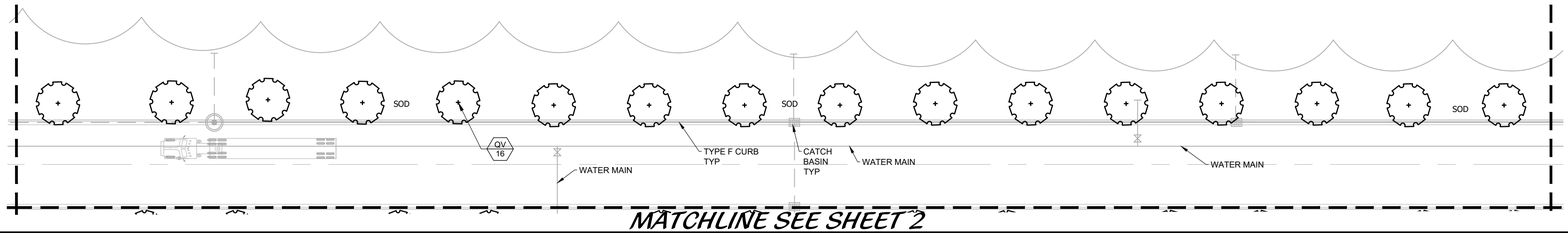
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MATCHLINE SEE SHEET 10

MATCHLINE SEE SHEET 8

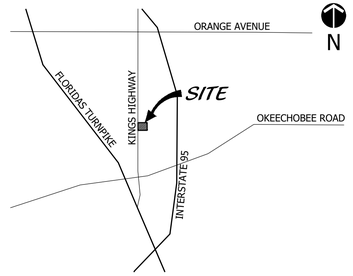
MATCHLINE SEE SHEET 6

FUTURE PHASES
BLDG 1,415 KSF
OFFICE 99 KSF
WAREHOUSE 1,316 KSF

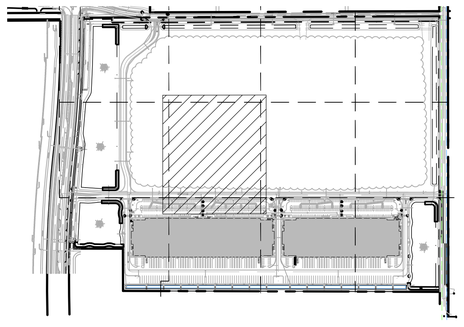


MATCHLINE SEE SHEET 2

LOCATION MAP



SHEET LAYOUT MAP



Landscape Plan

48 HOURS BEFORE DIGGING
CALL TOLL FREE
811
SUNSHINE STATE ONE CALL
OF FLORIDA, INC.

North

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Jupiter, Florida 33458
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www.cotleurhearing.com
Lic# LC-26000535

King's Highway Commerce Park
Landscape Plan
City of Fort Pierce, Florida

0' 15' 30' 60'
Scale: 1" = 30'-0"

DESIGNED	DEH
DRAWN	AGB
APPROVED	DEH
JOB NUMBER	21-0130
DATE	04-28-21
REVISIONS	06-25-21

June 25, 2021 1:56:14 p.m.
Drawing: 21-0130 LP.DWG

SHEET 7 OF 13

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MATCHLINE SEE SHEET 9

KING'S HWY.

SOD

QV 1

MUH 92

PE2 3

SOD

QV 2

QV 1

CU3 70

SP 5

QV 1

SOD

MUH 92

PE2 3

SOD

QV 2

TF 19

CU3 70

SP 5

SOD

QV 2

LI3 2

SOD

QV 2

PE2 3

MUH 92

LI3 4

QV 1

RL 125

PD 89

RHM 1

SOD

MONUMENT SIGN LOCATION 1

MDD 5

SOD

QV 3

STORM SEWER

STOP SIGN AND BAR TYP

WATER MAIN

℄ DITCH 5

LAKE 1
5.49 AC.

FOUNTAIN

LITTORAL ZONE

20'

30'

LITTORAL PLANTING (4,514 sf)
(251) GREAT SPIKE RUSH
(178) PICKEREL WEED
(174) FIRE FLAG

8'

12'

QV 19

QV 19

CU3 72

CU3 69

FG 60

AGG 3

XP 3

FG 60

AGG 3

XP 3

QV 6

CATCH BASIN TYP

STORM SEWER

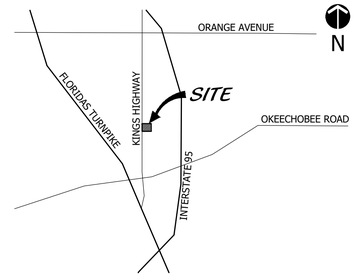
WATER MAIN

FUTURE PHASES
BLDG 1,415 KSF
OFFICE 99 KSF
WAREHOUSE 1,316 KSF

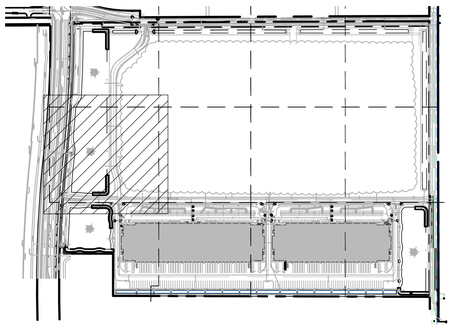
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LOCATION MAP



SHEET LAYOUT MAP



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King's Highway Commerce Park
Landscape Plan
City of Fort Pierce, Florida

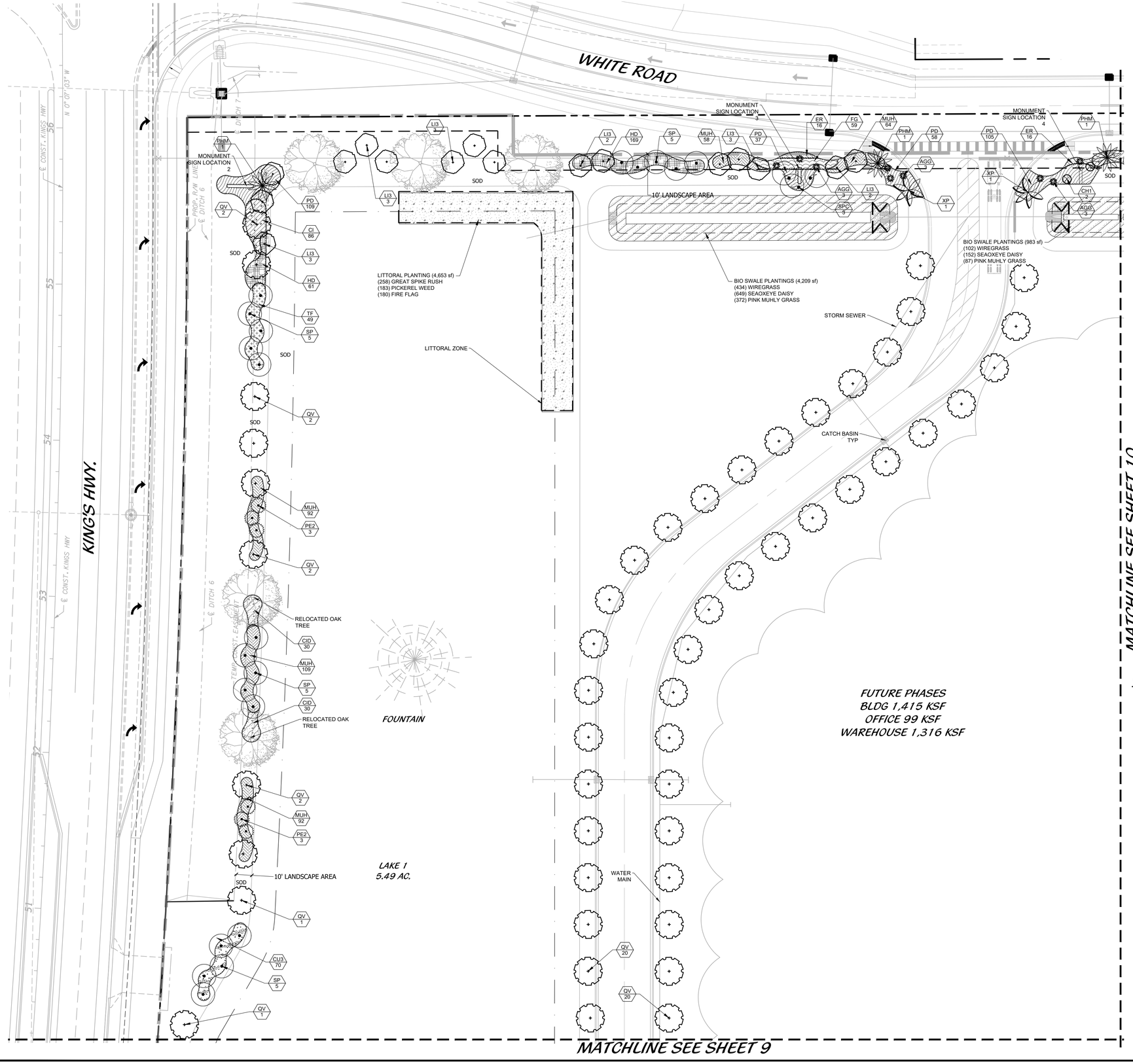
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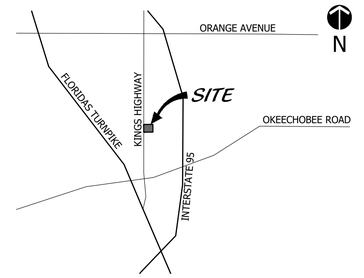
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SHEET 8 OF 13

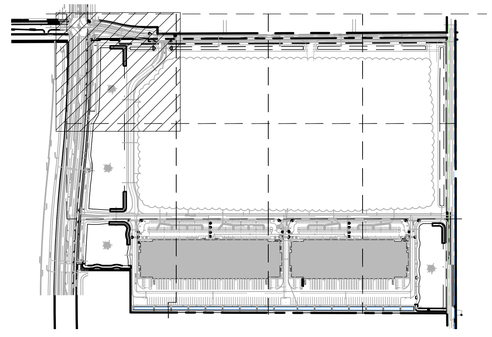
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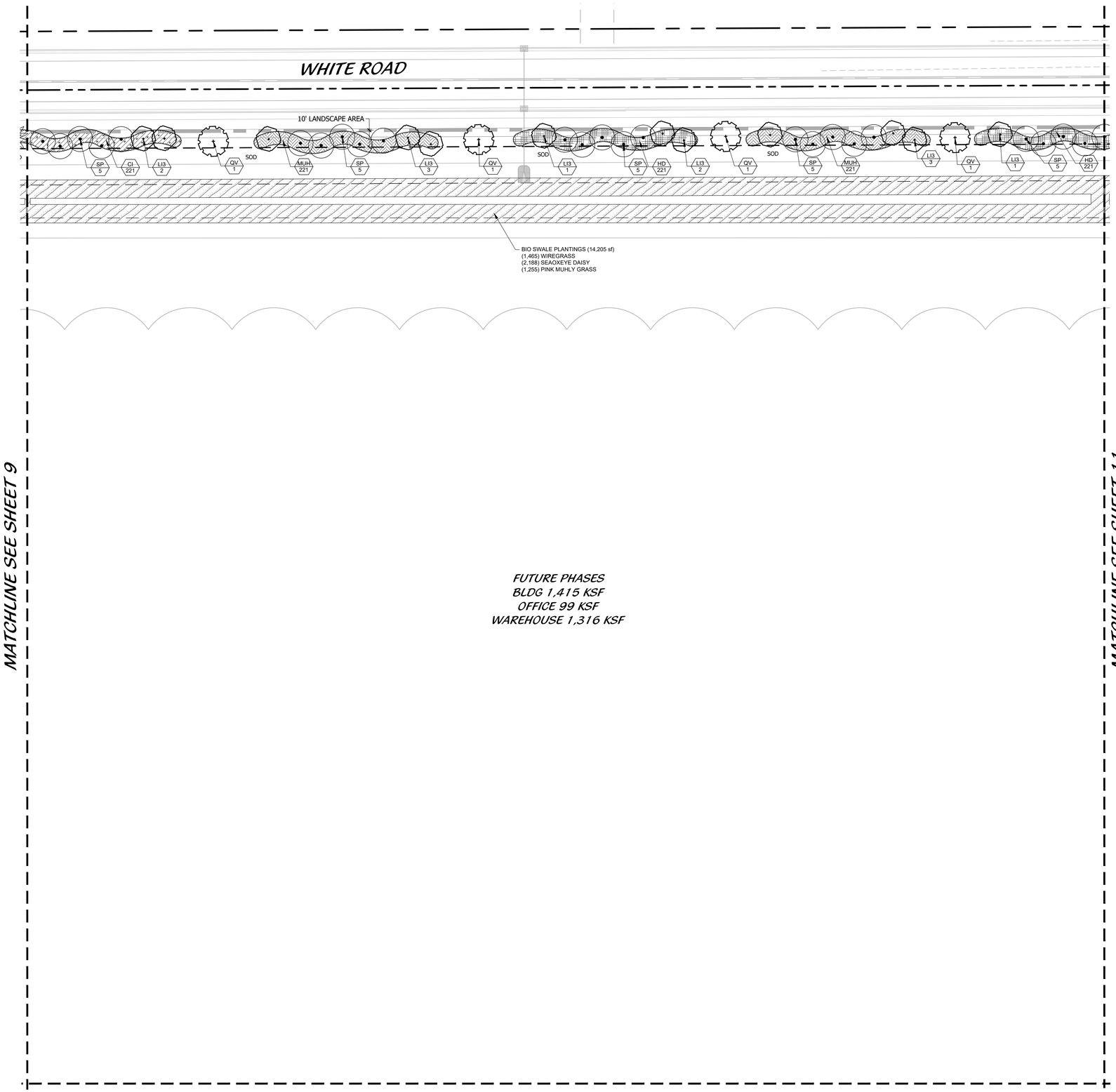
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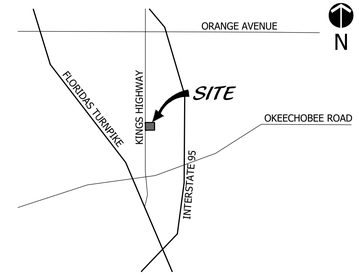
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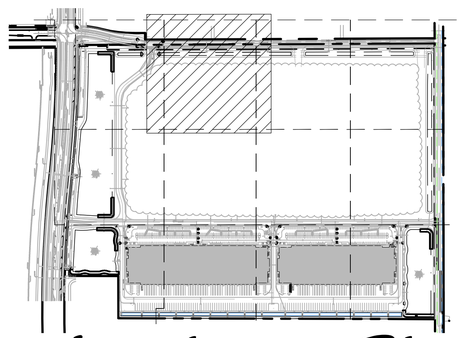
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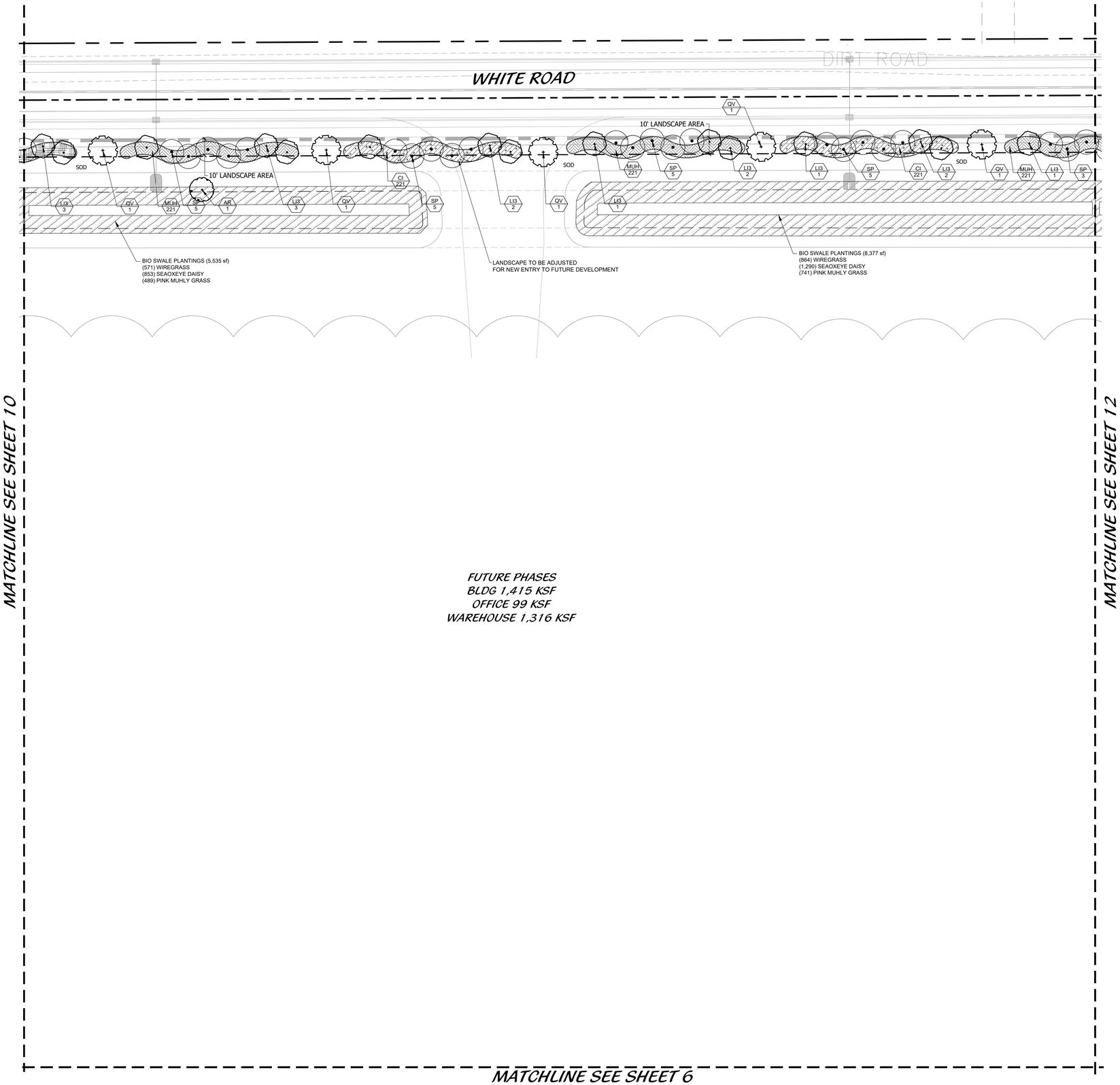
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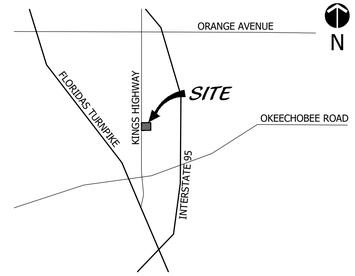
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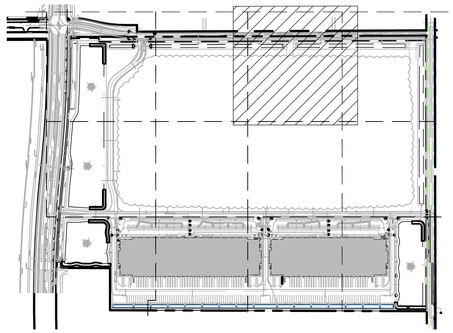
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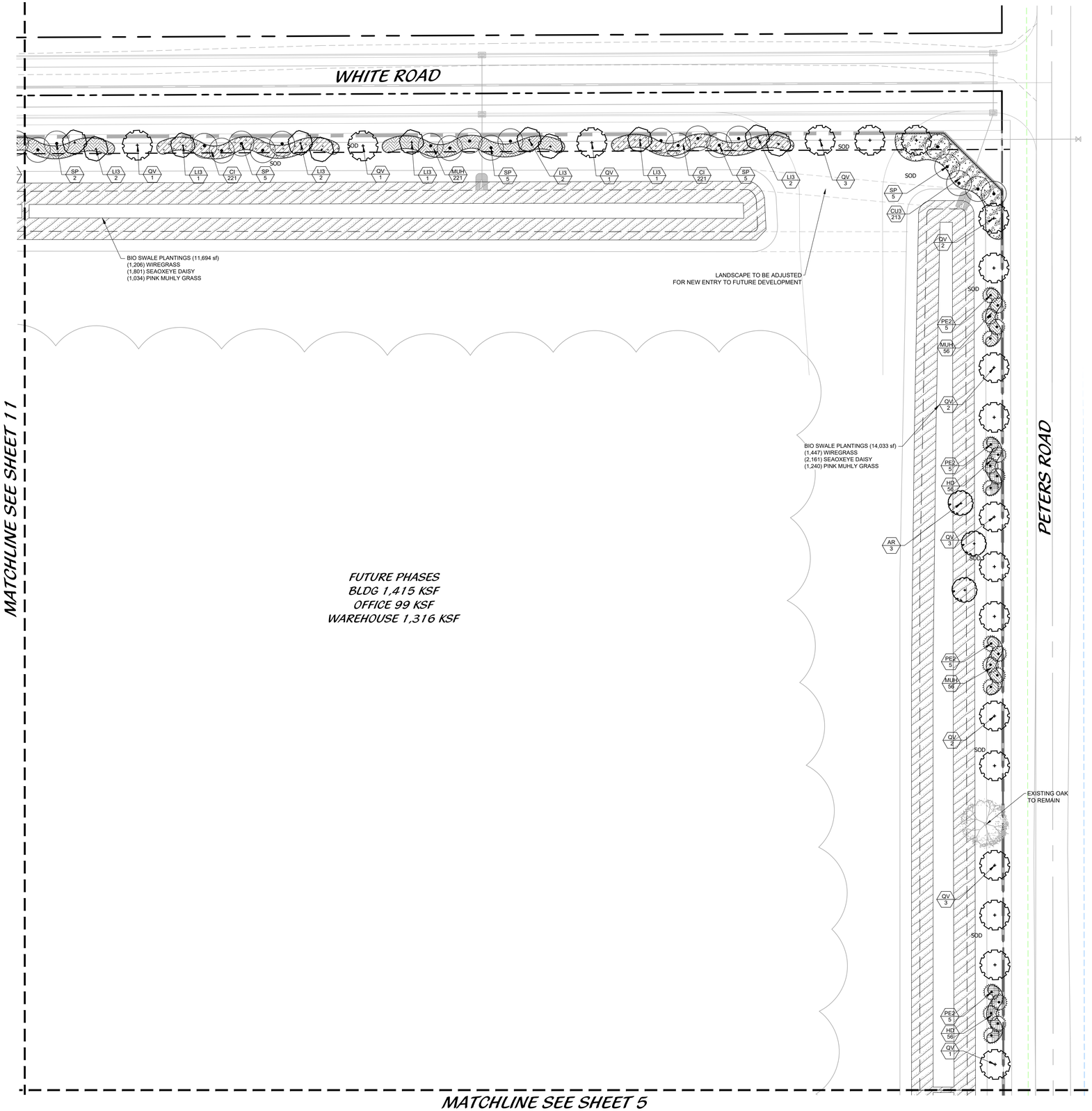
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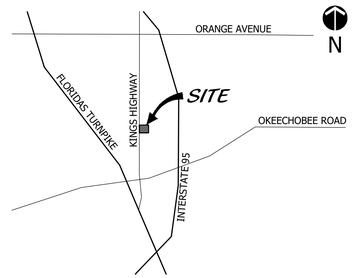
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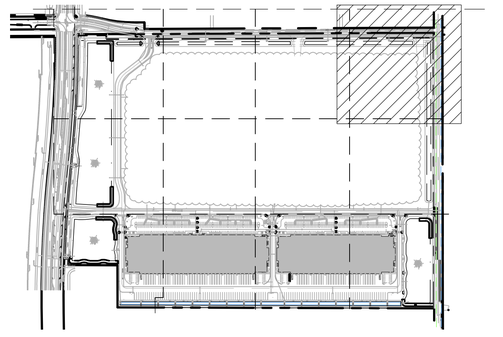
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LANDSCAPE NOTES

ALL PLANT MATERIAL SHALL BE FLORIDA NUMBER 1 OR BETTER AS DEFINED BY THE DIVISION OF PLANT INDUSTRY 'FLORIDA GRADES AND STANDARDS' LATEST EDITION.

ALL LANDSCAPE SHALL CONFORM TO THE REQUIREMENTS OF THE TOWN OF JUPITER LAND DEVELOPMENT REGULATIONS. THE TOWN OF JUPITER LANDSCAPE CODE (LDRs) SHALL GOVERN IN THE EVENT OF A CONFLICT.

VEGETATION REMOVAL PERMITS ARE REQUIRED PRIOR TO REMOVING, CLEARING OR STRIPPING ANY VEGETATION FROM THE PROPERTY.

AT THE TIME OF BUILDING PERMIT, THE APPLICANT SHALL EXECUTE HOLD HARMLESS AGREEMENTS WITH ALL APPLICABLE UTILITIES FOR LANDSCAPING WITHIN UTILITY EASEMENTS.

THE LANDSCAPE CONTRACTOR SHALL NOT MAKE ANY SUBSTITUTIONS AND/ OR CHANGES WITHOUT THE AUTHORIZATION OF TOWN OF JUPITER, THE OWNER AND THE LANDSCAPE ARCHITECT.

THE LANDSCAPE CONTRACTOR SHALL REVIEW THE PROJECT DRAINAGE AND UTILITY PLANS PRIOR TO CONSTRUCTION AND AVOID ALL CONFLICTS. THE LANDSCAPE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCING WORK.

THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS.

THE CONTRACTOR SHALL COORDINATE THE PLANTING AND TRIMMING OF STREET TREES TO ENSURE FULL VISIBILITY TO TRAFFIC CONTROL AND SAFETY SIGNAGE

TREES SHALL BE POSITIONED TO AVOID CONFLICTS WITH SIGNAGE AND SITE LIGHTING. LARGER TREES WILL BE PROVIDED AT INTERSECTIONS WHERE DEEMED NECESSARY.

ALL VEGETATION SHALL BE SELECTED AND POSITIONED SO THAT IT DOES NOT PRESENT OBSTRUCTIONS TO THE LINE OF SIGHT AT INTERSECTIONS PURSUANT TO SECTION 27-126(a)(9)(c) OF THE TOWN OF JUPITER CODE.

ALL ABOVE GROUND UTILITIES I.E. TRANSFORMERS, SWITCH BOXES, AC CONDENSERS AND ALIKE SHALL BE FULLY SCREENED FROM VIEW ON THREE SIDES WITH LANDSCAPING. THE LANDSCAPING SHALL TO THE TALLEST POINT OF SAID EQUIPMENT AT TIME OF PLANTING.

ALL TREES SHALL BE LOCATED WITHIN A MULCH PLANTING BED WITH A MINIMUM OF TWO (2) FEET OF CLEARANCE TO THE EDGE OF THE BED.

SOD AND IRRIGATION SHALL BE INSTALLED IN ANY ADJACENT RIGHT OF WAY BETWEEN THE SIDEWALK AND THE CURB.

ALL SOD SHALL BE STENOTAPHRUM SECONDATUS FLORITAM-PALMETTO (ST. AUGUSTINE SOD).

TREES WITHIN PLANTING ISLANDS LESS THAN FIVE (5) FEET IN WIDTH SHALL BE LOCATED TO AVOID CONFLICTS WITH THE OVERHANG OF VEHICLES.

TYPE D RAISED CONCRETE CURBING SHALL BE PROVIDED AROUND ALL PLANTING ISLANDS WITHIN VEHICULAR USE AREAS.

TREES AT ENTRANCE WAYS AND WITHIN SIGHT TRIANGLES SHALL BE TRIMMED IN SUCH A FASHION TO MINIMIZE SITE VISIBILITY CONFLICTS. CLEAR VISIBILITY SHALL BE MAINTAINED BETWEEN 30 INCHES AND 7 FEET. TEN FOOT BY THIRTY FOOT SIGHT VISIBILITY TRIANGLES SHALL BE PROVIDED AT THE INTERSECTIONS WITH THE PUBLIC RIGHT OF WAY. IN ADDITION ALL LANDSCAPING SHALL CONFORM TO THE REQUIREMENTS OF FOOT INDEX 546.

EARTH BERMS SHALL NOT EXCEED A 3:1 SLOPE 4:1 SLOPES OR GREATER ARE PREFERABLE.

ALL TREES PLANTED UNDER OR ADJACENT TO FPL POWER LINES WILL COMPLY WITH THE FPL RIGHT TREE IN THE RIGHT PLACE GUIDELINES (REV 5/95)

PERIMETER TREES AT THE TIME OF PLANTING SHALL BE SPACED IN A WAY THAT COMPLEMENTS THE SPACING OF ANY EXISTING TREES ON ADJACENT DEVELOPED AREAS.

ALL LANDSCAPE ISLANDS AND BEDS SHALL BE FREE FROM SHELL ROCK AND CONSTRUCTION DEBRIS, EXCAVATED TO A DEPTH OF 30 INCHES OR TO CLEAN NATIVE SOILS AND FILLED WITH THE SPECIFIED BACKFILL MIXTURE.

ALL LANDSCAPE ISLANDS SHALL INCORPORATE THE INSTALLATION OF MOUNDING OF NATIVE SOILS A MINIMUM OF SIX INCHES (6") ABOVE THE TOP OF CURB.

19.5" 'BIO BARRIER' ROOT BARRIER SHALL BE PROVIDED FOR SHADE TREES PLANTED WITHIN SIX (6') FEET OF PUBLIC CURBS, SIDEWALKS OR PUBLIC RIGHT OF WAYS. ALL ROOT BARRIER SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATIONS. THE TOTAL LENGTH OF THE ROOT BARRIERS SHALL BE 20' ADJACENT TO THE SIDEWALK AND 20' ADJACENT TO THE CURB.

ALL AREAS SHALL BE FULLY IRRIGATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWN OF JUPITER. THE IRRIGATION WATER SOURCE SHALL BE WELL WATER FOR COMMON AREAS AND POTABLE WATER AROUND THE BUILDING FOUNDATION.

CATCH BASINS AND DRAINAGE SHALL NOT BE LOCATED WITH IN REQUIRED PERIMETER BUFFERS OR PRESERVE AREAS.

THE IRRIGATION SYSTEM SHALL BE DESIGNED TO PROVIDE 100% OVERLAP COVERAGE TO ALL LANDSCAPE AND SOD AREAS.

THE IRRIGATION SYSTEM SHALL BE EQUIPPED WITH A RAIN SENSOR/CUT OFF SWITCH IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS.

EXISTING TREES AND VEGETATION TO REMAIN SHALL BE STAKED AND BARRICADED PRIOR TO ANY LAND CLEARING. TREES TO BE RELOCATED SHALL BE ROOT PRUNED AND PROTECTED DURING CONSTRUCTION.

ALL TREES PROPOSED TO BE PRESERVED ON SITE SHALL BE PROTECTED IN ACCORDANCE WITH THE PROCEDURES OUTLINED IN DIVISION IV., VEGETATION REMOVAL REQUIREMENTS IN THE TOWN OF JUPITER CODE PRIOR TO THE ISSUANCE OF A C.O.

ANY AREA DESIGNATED WITH EXISTING VEGETATION TO REMAIN THAT IS DISTURBED DURING CONSTRUCTION WILL BE RESTORED WITH NATIVE PLANTINGS.

EXISTING TREES PRESERVED OR RELOCATED ON SITE SHALL BE PRUNED ACCORDING TO ANSI A300 STANDARDS OR BY AN ISA CERTIFIED ARBORIST.

ALL EXISTING LANDSCAPING AND TREES TO REMAIN SHALL BE BARRICADED WITH ORANGE CONSTRUCTION BARRICADE. THE BARRICADE SHALL BE INSTALLED AT THE DRIP LINE OF THE TREE/PALM OR AT THE EDGE OF THE SHRUB MASS. BARRICADES SHALL REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.

EXISTING, SUITABLE NATIVE VEGETATION LOCATED WITHIN THE PROPOSED DEVELOPMENT AREAS SHALL BE RELOCATED TO SUPPLEMENT THE LANDSCAPING. NATIVE VEGETATION SHALL BE RELOCATED BY TREE SPADE OR CRANE. PRIOR TO THE CLEARING OF THE SITE THE APPLICANT SHALL IDENTIFY ALL NATIVE VEGETATION TO BE RELOCATED.

RELOCATION METHODOLOGY: EXISTING NATIVE VEGETATION DETERMINED TO BE SUITABLE FOR RELOCATION SHALL BE RELOCATED TO TARGET AREAS USING HYDROLOGIC TREE SPADES. THE SIZE OF SPADE SHALL VARY FROM 90" TO 45" DEPENDING ON THE SIZE AND TYPE OF VEGETATION TO BE MOVED. THE APPLICANT SHALL IDENTIFY PRIOR TO THE CLEARING OF THE SITE ALL EXISTING NATIVE VEGETATION TO BE RELOCATED. FOLLOWING RELOCATION, VEGETATION SHALL BE WATERED DAILY FOR A PERIOD NOT LESS THAN 90 DAYS AFTER WHICH IT SHALL BE WATERED ON AN AS NEED BASIS TO INSURE SURVIVAL. AT A MINIMUM THE APPLICANT SHALL INSURE 60% SURVIVAL FOR ALL RELOCATED PLANT MATERIAL.

LANDSCAPE SPECIFICATIONS

1. GENERAL LANDSCAPE REQUIREMENTS

LANDSCAPE CONTRACT WORK INCLUDES, BUT IS NOT LIMITED TO, SOIL PREPARATION, FINE OR FINISH GRADING, FURNISHING AND INSTALLING PLANT MATERIAL, WATERING, STAKING, GUYING AND MULCHING.

PLANT SIZE AND QUALITY

TREES, PALMS, SHRUBS, GROUNDCOVERS:
PLANT SPECIES AND SIZES SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS, NOMENCLATURE SHALL CONFORM TO STANDARD PLANT NAMES, 1942 EDITION. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS PARTS I & II, LATEST EDITION PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, UNLESS SPECIFIED OTHERWISE. ALL PLANTS SHALL BE FLORIDA GRADE NUMBER 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY.

ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS OF GOOD QUALITY AND BE IN A HEALTHY GROWING CONDITION.

AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG ENOUGH FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER.

STANDARD PLANTING MIXTURE SHALL BE ONE (1) PART RECYCLED ORGANIC MATERIAL ADDED TO THREE (3) PARTS EXISTING NATIVE SOIL.

REPLACEMENT SOIL SHALL BE USED AS SPECIFIED TO REPLACE EXISTING SOILS THAT ARE DETERMINED BY THE LANDSCAPE ARCHITEC TO BE UNSUITABLE FOR PLANTING, IE. ROAD BASE, PAVEMENT, ETC. REPLACEMENT SOIL MIX SHALL CONTAIN 60% SAND AND 40% MUCK. SAND SHALL BE 100% CLEAN NATIVE SAND SCREENED TO 1/4" AND MUCK SHALL BE 100% CLEAN ORGANIC NATIVE MUCK SCREENED TO 1/2". ALL SOIL SHALL BE MIXED PRIOR TO DELIVERY ON SITE.

MULCH SHALL BE SHREDDED MELALEUCA, EUCALYPTUS OR GRADE "A" RECYCLED. ALL MULCH IS TO BE APPLIED TO A DEPTH OF 3", EXCEPT AS OTHERWISE NOTED.

FERTILIZER IN BACKFILL MIXTURE FOR ALL PLANTS SHALL CONSIST OF MILORGANITE ACTIVATED SLUDGE MIXED WITH THE BACKFILL AT A RATE OF NOT LESS THAN 50 LBS. PER CUBIC YARD.

FERTILIZER FOR TREES AND SHRUBS MAY BE TABLET FORM OR GRANULAR. GRANULAR FERTILIZER SHALL BE UNIFORM IN COMPOSITION, DRY AND FREE-FLOWING. THIS FERTILIZER SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL UNOPENED BAGS, EACH BEARING THE MANUFACTURER'S STATEMENT OF ANALYSIS, AND SHALL MEET THE FOLLOWING REQUIREMENTS: 16% NITROGEN, 7% PHOSPHORUS, 12% POTASSIUM, PLUS IRON. TABLET FERTILIZER (AGRIFORM OR EQUAL) IN 21 GRAM SIZE SHALL MEET THE FOLLOWING REQUIREMENTS: 20% NITROGEN, 10% PHOSPHORUS AND 5% POTASSIUM.

FERTILIZER WILL BE APPLIED AT THE FOLLOWING RATES:

PLANT SIZE	16-7-12	AGRIFORM TABLETS (21 GRAM)
1 GAL.	1/4 LB.	1
3 GAL.	1/3 LB.	3
7-15 GAL.	1/2 LB.	6
1"-6" CALIPER	2 LBS./1" CALIPER	2 PER 1" CALIPER
6" AND LARGER	3 LBS./1" CALIPER	2 PER 1" CALIPER

"FLORIDA EAST COAST PALM SPECIAL" SHALL BE APPLIED TO ALL PALMS AT INSTALLATION AT A RATE OF ½ LB. PER INCH OF TRUNK UNLESS OTHERWISE SPECIFIED.

FIELD GROWN TREES AND PALMS PREVIOUSLY ROOT PRUNED SHALL OBTAIN A ROOT BALL WITH SUFFICIENT ROOTS FOR CONTINUED GROWTH WITHOUT RESULTING SHOCK.

CONTRACTOR SHALL NOT MARK OR SCAR TRUNK IN ANY FASHION.

PLANTS SHALL BE WATERED AS NECESSARY OR WITHIN 24 HOURS AFTER NOTIFICATION BY THE LANDSCAPE ARCHITECT.

THE LOCATIONS OF PLANTS, AS SHOWN IN THESE PLANS, ARE APPROXIMATE. THE FINAL LOCATIONS MAY BE ADJUSTED TO ACCOMMODATE UNFORESEEN FIELD CONDITIONS. MAJOR ADJUSTMENTS TO THE LAYOUT ARE TO BE APPROVED BY THE LANDSCAPE ARCHITECT.

ALL PLASTIC FABRIC SHALL BE REMOVED FROM PLANT MATERIAL AT TIME OF INSTALLATION.

ALL TREES MUST BE STAKED AS SHOWN ON THE PLANTING DETAILS WITHIN 24 HOURS OF PLANTING. STAKES TO REMAIN FOR A MINIMUM OF 9 MONTHS, BUT NO LONGER THAN 18 MONTHS. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND REMOVAL OF THE STAKES.

ALL TREES MUST BE PRUNED AS PER LANDSCAPE ARCHITECT'S DIRECTION. SABAL PALMS MAY BE HURRICANE CUT.

ALL SHRUBS, TREES AND GROUND COVER WILL HAVE IMPROVED SOIL AS PER PLANTING SOIL NOTES. THE SOILS SHALL BE PLACED IN THE HOLE DURING PLANTING. TOP DRESSING ONLY IS NOT ACCEPTABLE.

DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING. ALL TREES SHALL BE SPIKED IN UTILIZING WATER AND A TREE BAR.

THE LANDSCAPE CONTRACTOR SHALL WATER, MULCH, WEED, PRUNE, AND OTHERWISE MAINTAIN ALL PLANTS, INCLUDING SOD, UNTIL COMPLETION OF CONTRACT OR ACCEPTANCE BY LANDSCAPE ARCHITECT. SETTLED PLANTS SHALL BE RESET TO PROPER GRADE, PLANTING SAUCERS RESTORED, AND DEFECTIVE WORK CORRECTED.

THE LANDSCAPE CONTRACTOR SHALL AT ALL TIMES KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS OR DEBRIS CAUSED BY HIS CREWS DURING THE PERFORMANCE OF THE WORK. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL PROMPTLY REMOVE ALL WASTE MATERIALS, DEBRIS, UNUSED PLANT MATERIAL, EMPTY PLANT CONTAINERS AND ALL EQUIPMENT FROM THE PROJECT SITE.

UPON COMPLETION OF THE WORK, THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AND REQUEST A FINAL INSPECTION. ANY ITEMS THAT ARE JUDGED INCOMPLETE OR UNACCEPTABLE BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE SHALL BE CORRECTED BY THE LANDSCAPE CONTRACTOR WITHIN 14 DAYS.

ALL LABOR AND MATERIAL FOR SOIL AMENDMENTS AND FERTILIZER THAT IS REQUIRED TO INSURE THE SUCCESSFUL ESTABLISHMENT AND SURVIVAL OF THE PROPOSED VEGETATION, AS WELL AS ALL THE COST FOR THE REMOVAL OF UNSUITABLE OR EXCESS BACKFILL MATERIAL, SHALL BE INCLUDED IN THE CONTRACTOR'S BID TO PERFORM THE WORK REPRESENTED IN THIS PLAN SET.

2. PLANTING TREES

EXCAVATE PIT AS PER PLANTING DETAILS.

BACKFILL AROUND BALL WITH STANDARD PLANTING MIXTURE AND SLIGHTLY COMPACT, WATER THOROUGHLY AS LAYERS ARE PLACED TO ELIMINATE VOIDS AND AIR POCKETS. BUILD A 6" HIGH BERM OF STANDARD PLANTING MIXTURE BEYOND EDGE OF EXCAVATION. APPLY 3" (AFTER SETTLEMENT) OF MULCH EXCEPT WITHIN 6" OF TRUNK.

PRUNE TREE TO REMOVE DAMAGED BRANCHES, IMPROVE NATURAL SHAPE AND THIN OUT STRUCTURE. DO NOT REMOVE MORE THAN 15% OF BRANCHES. DO NOT PRUNE BACK TERMINAL LEADER.

GUY AND STAKE TREE IN ACCORDANCE WIT THE STAKING DETAILS IMMEDIATELY AFTER PLANTING.

3. PLANTING SHRUBS

LAYOUT SHRUBS TO CREATE A CONTINUOUS SMOOTH FRONT LINE AND FILL IN BEHIND.

EXCAVATE PIT OR TRENCH TO 1-1/2 TIMES THE DIAMETER OF THE BALLS OR CONTAINERS OR 1'-0" WIDER THAN THE SPREAD OF ROOTS FOR POSITIONING AT PROPER HEIGHT. BACKFILL AROUND PLANTS WITH STANDARD PLANTING MIXTURE, COMPACTED TO ELIMINATE VOIDS AND AIR POCKETS. FORM GRADE SLIGHTLY DISHED AND BERMED AT EDGES OF EXCAVATION. APPLY 3" OF MULCH EXCEPT WITHIN 3" OF STEMS.

PRUNE SHRUBS TO REMOVE DAMAGED BRANCHES, IMPROVE NATURAL SHAPE AND THIN OUT STRUCTURE. DO NOT REMOVE MORE THAN 15% OF BRANCHES.

4. PLANTING GROUND COVER

LOOSEN SUBGRADE TO DEPTH OF 4" IN AREAS WHERE TOPSOIL HAS BEEN STRIPPED AND SPREAD SMOOTH.

SPACE PLANTS AS OTHERWISE INDICATED. DIG HOLES LARGE ENOUGH TO ALLOW SPREADING OF ROOTS. COMPACT BACKFILLTO ELIMINATE VOIDS AND LEAVE GRADE SLIGHTLY DISHED AT EACH PLANT. WATER THOROUGHLY. APPLY 3" OF MULCH OVER ENTIRE PLANTING BED, LIFTING PLANT FOLIAGE ABOVE MULCH.

DURING PERIODS OF HOT SUN AND/OR WIND AT TIME OF PLANTING, PROVIDE PROTECTIVE COVER FOR SEVERAL DAYS OR AS NEEDED.

5. PLANTING LAWNS

SODDING: SOD TYPE SPECIFIED ON PLANT LIST SHALL BE MACHINE STRIPPED NOT MORE THAN 24 HOURS PRIOR TO LAYING.

LOOSEN SUBGRADE TO DEPTH OF 4" AND GRADE WITH TOPSOIL EITHER PROVIDED ON SITE OR IMPORTED STANDARD PLANTING MIX TO FINISH DESIGN ELEVATIONS. ROLL PREPARED LAWN SURFACE. WATER THOROUGHLY, BUT DO NOT CREATE MUDDY SOIL CONDITION.

FERTILIZE SOIL AT THE RATE OF APPROXIMATELY 10 LBS. PER 1,000 S.F. SPREAD FERTILIZER OVER THE AREA TO BE LAWNED BY USING AN APPROVED DISTRIBUTION DEVICE CALIBRATED TO DISTRIBUTE THE APPROPRIATE QUANTITY. DO NOT FERTILIZE WHEN WIND VELOCITY EXCEEDS 15 M.P.H. THOROUGHLY MIX FERTILIZER INTO THE TOP 2" OF TOPSOIL.

LAY SOD STRIPS WITH TIGHT JOINTS, DO NOT OVERLAP, STAGGER STRIPS TO OFFSET JOINTS IN ADJACENT COURSES. WORK SIFTED STANDARD PLANTING MIXTURE INTO MINOR CRACKS BETWEEN PIECES OF SOD AND REMOVE EXCESS SOIL DEPOSITS FROM SODDED AREAS. SOD ON SLOPES GREATER THAN 3:1 SHALL BE STAKED IN PLACE. ROLL OR STAMP LIGHTLY AND WATER THOROUGHLY WITH A FINE SPRAY IMMEDIATELY AFTER PLANTING.

6. MISCELLANEOUS LANDSCAPE WORK

LANDSCAPE MAINTENANCE

MAINTAIN LANDSCAPE WORK UNTIL FINAL ACCEPTANCE IS ISSUED BY THE OWNER'S REPRESENTATIVE. INCLUDE WATERING, WEEDING, CULTIVATING, RESTORATION OF GRADE, MOWING AND TRIMMING GRASS, PRUNING TREES AND SHRUBS, PROTECTION FROM INSECTS AND DISEASES, FERTILIZING AND SIMILAR OPERATIONS AS NEEDED TO INSURE NORMAL GROWTH AND GOOD HEALTH FOR LIVE PLANT MATERIAL.

PLANT MATERIAL SUBSTITUTION

NO SUBSTITUTION OF PLANT MATERIAL, TYPE OR SIZES WILL BE PERMITTED WITHOUT AUTHORIZATION FROM THE LANDSCAPE ARCHITECT.

PLANTING BED PREPARATION

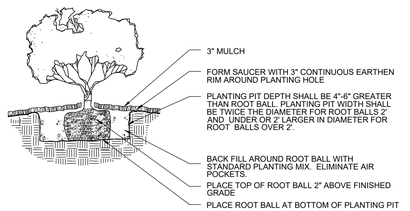
ALL PLANTING BEDS SHALL BE PROPERLY PREPARED PRIOR TO THE COMMENCEMENT OF ANY PLANTING. PLANTING AREAS, INCLUDING LAWNS SHALL BE FREE OF ALL WEEDS AND NUISANCE VEGETATION. IF TORPEDO GRASS (PANICUM REPENS) IS PRESENT OR ENCOUNTERED DURING PLANTING, THE LANDSCAPE CONTRACTOR SHALL STOP ALL PLANTING UNTIL IT CAN BE DEMONSTRATED THAT IT HAS BEEN COMPLETELY REMOVED OR ERADICATED. THERE SHALL BE NO EXCEPTIONS TO THIS PROVISION.

ALL LANDSCAPE ISLANDS AND BEDS WILL BE FREE OF SHELL ROCK AND CONSTRUCTION DEBRIS AND WILL BE EXCAVATED TO A DEPTH OF 30 INCHES OR TO CLEAN, NATIVE SOIL AND FILLED WITH THE SPECIFIED REPLACEMENT SOIL.

LANDSCAPE WARRANTY

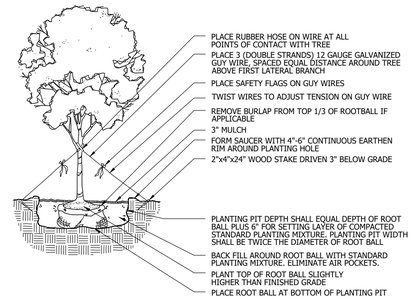
THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF SIX (6) MONTHS FROM THE DATE OF CONDITIONAL ACCEPTANCE IN WRITING FROM THE LANDSCAPE ARCHITECT. AT THE TIME OF CONDITIONAL ACCEPTANCE, THE SIX (6) MONTH PERIOD SHALL COMMENCE. ANY MATERIALS WHICH HAVE DIED OR DECLINED TO THE POINT WHERE THEY NO LONGER MEET FLORIDA #1 CONDITION DURING THIS PERIOD SHALL BE PROMPTLY REPLACED WITH SPECIMENS THAT MEET THE MINIMUM REQUIREMENTS CALLED FOR ON THE DRAWINGS. THE LANDSCAPE CONTRACTOR SHALL NOT BE HELD RESPONSIBLE FOR THE DEATH OR DAMAGE RESULTING FROM ACTS OF GOD SUCH AS LIGHTNING, VANDALISM, AND AUTOMOBILES OR FROM NEGLIGENCE BY THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING AND OTHERWISE MAINTAINING PLANTS UP TO THE CONDITIONAL ACCEPTANCE PERIOD, UNLESS A WRITTEN AGREEMENT WITH THE LANDSCAPE ARCHITECT PROVIDES FOR A DIFFERENT ARRANGEMENT.

PLANTING DETAILS



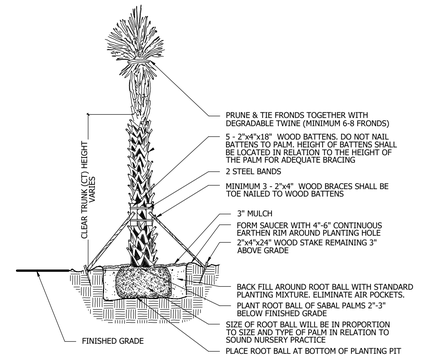
SHRUB/GROUNDCOVER PLANTING DETAIL

NTS



LARGE TREE PLANTING DETAIL

NTS

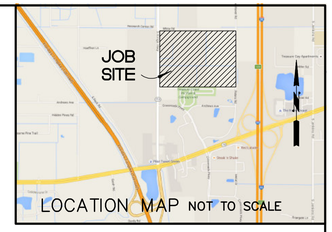


PALM PLANTING DETAIL

NTS

PLANT SCHEDULE

TREES	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	NATIVE	LOW MAINT	REMARKS
AR	4	ACER RUBRUM	RED MAPLE	25 GAL	2" CAL	12` O.A.X 5` SPRD	Y	Y	FULL CANOPY, 5` C.T. MIN.
CE	32	CONOCARPUS ERECTUS	GREEN BUTTONWOOD	30 GAL. OR F.G.	2.5" CAL	12` O.A.	Y		FULL CANOPY
LI3	76	LAGERSTROEMIA INDICA `MUSKOGEE`	CRAPE MYRTLE	65 GAL. MIN.	2.5" CAL.	12` O.A.X 5` SPRD	N	N	FULL & THICK CANOPY, FLORIDA FANCY, 5` C.T.
LJ65	8	LIGUSTRUM JAPONICUM	JAPANESE PRIVET	65 GAL	3 TRK MIN., 1"-2" CAL. EA.	8` HT, 8` SPRD.	N		FULL CANOPY, 4` CT., MULTI-TRUNK, FF
MDD	21	MAGNOLIA GRANDIFLORA `D.D. BLANCHARD`	SOUTHERN MAGNOLIA	100 GAL	5" CAL	18`-20` O.A.	Y		FULL CANOPY, SOUTH GROWN, MATCHING,FF
PE2	132	PINUS ELLIOTTII `DENSA`	SLASH PINE	N.A.		10-12` OA	Y		FULL CANOPY; PLANTED IN PRESERVE
PE3	5	PINUS ELLIOTTII `DENSA`	SLASH PINE	N.A.		8-10` OA	Y		FULL CANOPY
PP	24	POLYALTHIA LONGIFOLIA PENDULA	INDIAN MAST TREE	45 GAL	2" CAL. MIN	12`-14` HT.	N		FULL & THICK, MATCHED
QV	402	QUERCUS VIRGINIANA	LIVE OAK	30 GAL. OR F.G.	2" CAL. MIN	12` HT. X 5` SPRD.	Y		FULL CANOPY, 4` CT MIN.
TH	26	TABEBUIA HETEROPHYLLA	PINK TABEBUIA	45 GAL	2" CAL. MIN	12` HT X 4`-5` SPRD	N		FULL CANOPY, 4` CT
PALM TREES	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	NATIVE	LOW MAINT	REMARKS
CH1	35	CHAMAEROPS HUMILIS ~	EUROPEAN FAN PALM	FIELD GROWN	N.A.	5`-6` O.A.		N	3 STEMS MIN., 2` STEM FOOTAGE PER TRUNK; LIMB UP 2`. FULL & THICK, MATCHED.
LN	38	LIVISTONA NITIDA ^	NITIDA PALM	FIELD GROWN	N.A.	14`-16` OA			FULL CANOPY, DIAMOND CUT, FLORIDA FANCY.
PHM	9	PHOENIX DACTYLIFERA `MEDJOOL`	MEDJOOL DATE PALM	FIELD GROWN	N.A.	10`-12` WD.	N		STRAIGHT TRUNK, FULL CANOPY, DIAMOND CUT. HT.
SPC	43	SABAL PALMETTO	CABBAGE PALM	FIELD GROWN	N.A.	14`, 18`, 22` CT., STGG.			SLICK, CURVED TRUNK, STAGGER HEIGHTS IN CLUSTERS
SP	150	SABAL PALMETTO	CABBAGE PALM	N.A.	N.A.	14`, 18`, 22` STGG.	Y		RELOCATED FROM ON SITE
TR2	4	THRINAX RADIATA	FLORIDA THATCH PALM	FG	N.A.	8` - 10` HT.	Y		FULL & THICK,
AD3	12	VEITCHIA MERRILLII-ADONIDIA	TRIPLE CHRISTMAS PALM	FIELD GROWN	N.A.	12`-14` HT.	N	N	FULL CANOPY, TRIPLE TRUNK
VM2	4	VEITCHIA MONTGOMERYANA	DOUBLE MONTGOMERY PALM	FIELD GROWN	N.A.	14`-16` OA			FULL CANOPY, DOUBLE TRUNK
SIGNATURE PALM	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	NATIVE	LOW MAINT	REMARKS
XP	25	X BUTIAGRUS NABONNANDII	MULE PALM	FG		8` CT.			MATCHING
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACE	NATIVE	LOW MAINT	REMARKS
AGG	25	AGAVE AMERICANA `GAINESVILLE BLUE`	GAINESVILLE BLUE AGAVE	30 GAL	4`-5` O.A. X 3`-4` SPRD.	A.S.	N		FULL & THICK
CLD15	33	CLUSIA GUTTIFERA	CLUSIA	15 GAL	6` HT. X 3` SPRD.	3` O.C.	N		FULL & THICK
PM7	283	PODOCARPUS MAKII	PODOCARPUS	7 GAL	3` X 2`	2` O.C.	N		FULL & THICK
PM15	161	PODOCARPUS MAKII~	PODOCARPUS	15 GAL	5` O.A., 2` SPRD	2` O.C.	N		FULL & THICK
PM30	52	PODOCARPUS MAKII~	PODOCARPUS	30 gal	6` X 3`	3` O.C.	N	N	FULL & THICK. SHRUB FORM
TJ	62	TRACHELOSPERMUM JASMINOIDES	JASMINE VINE	25 GAL	10-12` O.A.	A.S.			CLIMBING
GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACE	NATIVE	LOW MAINT	REMARKS
	18,508 sf	LITTORAL PLANTING							
EP	1,026	ELEOCHARIS PALUSTRIS	GREAT SPIKE RUSH	1 GAL	6" X 6"	3` OC	N		FULL & THICK
PC	727	PONTEDERIA CORDATA	PICKEREL WEED	1 GAL	6" HT	3` OC	Y		FULL & THICK
TG	713	THALIA GENICULATA	FIRE FLAG	1 GAL	6" HT	3` OC	Y		FULL & THICK
	74,235 sf	BIO SWALE PLANTINGS							
WIR	7,651	ARISTADA STRICTA BEYRICHIANA	WIREGRASS	1 GAL	12" x 6"	18" O.C.			FULL
BA2	11,430	BORRICHIA ARBORESCENS	SEAOXEYE DAISY	1 GAL	6" X 6"	18" OC	Y		FULL
MUH2	6,558	MUHLENBERGIA CAPILLARIS	PINK MUHLY GRASS	3 GAL	24" X 24"	24" O.C.	Y		FULL &THICK
CI	2,901	CHRYSOBALANUS ICACO	COCOPLUM	3 GAL	18" X18"	30" O.C.	Y		FULL & THICK
CID	730	CHRYSOBALANUS ICACO `HORIZONTAL`



LEGAL DESCRIPTIONS

"A"
PCN 2324-241-0004-000-0
OFFICIAL RECORDS BOOK 1798 PAGE 2252

PARCEL I:
THE WEST 455.58 FEET OF THE EAST 111.8.54 FEET OF THE NORTH HALF OF THE NORTH HALF OF THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 24, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA.

AND PARCEL II:
THE WEST 1088.54 FEET OF THE EAST 1118.54 FEET OF THE SOUTH 264.18 FEET OF THE SOUTH HALF OF THE NORTH HALF OF THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA.

"B"
PCN 2324-211-0001-000-6
OFFICIAL RECORDS BOOK 1868 PAGE 2879

THE EAST THREE QUARTERS (3/ 4) OF THE NORTHEAST QUARTER (NE 1/ 4) OF THE NORTHWEST QUARTER (NW 1/ 4) OF SECTION TWENTY-FOUR (24) TOWNSHIP THIRTY FIVE (35) SOUTH RANGE THIRTY-NINE (39) EAST, CONTAINING APPROXIMATELY 26.9 ACRES.

"C"
PCN 2324-214-0002-000-2
OFFICIAL RECORDS BOOK 1959 PAGE 2516

FROM THE SOUTHEAST CORNER OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA; THENCE RUN NORTH 100 FEET; THENCE RUN WEST 25 FEET TO THE POINT OF BEGINNING; CONTINUE WEST 213.71 FEET; THENCE NORTH 208.71 FEET; THENCE EAST 213.71 FEET; THENCE SOUTH 208.71 FEET TO THE POINT OF BEGINNING.

"D"
PCN 2324-214-0001-000-5
OFFICIAL RECORDS BOOK 1828 PAGE 2808

FROM THE INTERIOR QUARTER CORNER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, RUN NORTH ALONG THE EAST LINE OF THE NORTHWEST 1/ 4 OF SAID SECTION 1790.5 FEET; THENCE WEST 25 FEET TO THE POINT OF BEGINNING; FROM SAID POINT OF BEGINNING RUN WEST 155 FEET; THENCE NORTH 150 FEET; THENCE EAST 155 FEET; THENCE SOUTH 150 FEET TO THE POINT OF BEGINNING; BEING A PART OF THE NORTHEAST 1/ 4 OF THE NORTHWEST 1/ 4 OF SECTION 24, TOWNSHIP 3 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA.

"E"
PCN 2324-241-0002-000-6
OFFICIAL RECORDS BOOK 2981 PAGE 2561

THE NORTH 1/ 2 OF THE NORTHEAST 1/ 4 OF THE SOUTHEAST 1/ 4 OF THE NORTHWEST 1/ 4, LESS THE SOUTH 60 FEET OF THE EAST 125 FEET AND LESS THE EAST 30 FEET, SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, LYING AND BEING IN ST. LUCIE COUNTY, FLORIDA.

"F"
PCN 2324-241-0003-000-3
OFFICIAL RECORDS BOOK 2398 PAGE 108; ERRONEOUS LEGAL
PER ST. LUCIE COUNTY, CLERK OF THE COURT)
DESCRIPTION PER THIS OFFICE
THE SOUTH 60.00 FEET OF THE EAST 125 FEET OF THE
PER DESCRIPTION DESCRIBED IN OFFICIAL RECORDS BOOK 718, PAGE 2723

"G"
PCN 2324-232-0000-000-4
OFFICIAL RECORDS BOOK 3487 PAGE 76
THE SOUTH HALF OF THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA, LESS THE EAST 118.54 FEET AND THE WEST 25 FEET THEREOF;
AND
THE NORTH 60 FEET OF THE WEST 1088.54 FEET OF THE EAST 1118.54 FEET OF THE SOUTH HALF OF THE NORTH HALF OF THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 35 SOUTH, RAGNE 39 EAST, ST. LUCIE COUNTY, FLORIDA.

LESS THOSE TAKING PARCELS PER ORDER OF TAKINGS.

"H"
PCN 2324-210-0000-000-6
OFFICIAL RECORDS BOOK 2382 PAGE 1143
THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER AND THE WEST HALF OF THE WEST HALF OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA; LESS AND EXCEPTING THERE FROM THE SOUTH 400 FEET OF THE NORTH 903.20 FEET OF THE EAST 750 FEET OF THE WEST 775 FEET OF SAID SECTION 24;
LESS RIGHT-OF-WAY FOR KINGS HIGHWAY AND WHITE ROAD.

TOGETHER WITH THE FOLLOWING DESCRIBED PARCEL "A"
A PARCEL OF LAND LYING IN SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA; MORE PARTICULARLY DESCRIBED AS FOLLOWS:
THE SOUTH 35.30 FEET OF THE NORTH 538.50 FEET OF THE EAST 750 FEET OF THE WEST 775 FEET OF THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA.

LESS THE FOLLOWING DESCRIBED
PARCEL "B"
A PARCEL OF LAND LYING IN SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA; MORE PARTICULARLY DESCRIBED AS FOLLOWS:
THE SOUTH 35.30 FEET OF THE NORTH 938.50 FEET OF THE EAST 750 FEET OF THE WEST 775 FEET OF THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA.

LESS THOSE TAKING PARCELS PER ORDER OF TAKINGS.

"H"
PCN 2324-210-0002-000-3
OFFICIAL RECORDS BOOK 2650 PAGE 1994
A PARCEL OF LAND LYING IN SECTION 24, TOWNSHIP 35 SOUTH RANGE 39 EAST, ST. LUCIE COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
THE SOUTH 400 FEET OF THE NORTH 903.20 FEET OF THE EAST 750 FEET OF THE WEST 775 FEET;
TO GETHER WITH:
THE SOUTH 35.30 FEET OF THE NORTH 938.50 FEET OF THE EAST 750 FEET OF THE WEST 775 FEET;
AND LESS:
THE SOUTH 35.30 FEET OF THE NORTH 538.50 FEET OF THE WEST 775 FEET.

ADD PARCELS A THROGH I CONTAINING
THE SOUTH 35.30 FEET OF THE NORTH 538.50 FEET OF THE WEST 775 FEET.

ALL PARCELS "A" THOUGH "I" CONTAINING 109.439 ACRES MORE OR LESS

DETAIL:
R=8468.00'
Δ=00°12'15"
A=30.175'
N06°03'39"E
30.175'
30.17'
S89°44'26"W
R=8468.00'
Δ=00°05'59"
A=14.74'
N06°12'46"E
14.74'
30.17'
N06°02'18"E
POINT OF REVERSE CURVATURE
30.19'
N89°44'26"E

KINGS HIGHWAY STATE ROAD 713
R=8468.00'
N02°53'46"E 904.84'
Δ=06°24'45"

WHITE ROAD
35' ROAD RIGHT-OF-WAY
PER ST. LUCIE COUNTY
OFFICIAL RECORDS BOOK 300, PAGE 2004

N89°44'28"E 2490.37'

15' SEWER EASEMENT ORB 2276, PAGE 2280

NORTH LINE NORTHWEST QUARTER SECTION 24

24" CMP CULVERT NORTH INVERT 12.9 SOUTH INVERT 13.0

18"CMP CULVERT NORTH INVERT 12.6 SOUTH INVERT 13.0

CMP CULVERT

DIRT ROAD

18"CMP CULVERT NORTH INVERT 11.2 SOUTH INVERT 9.1

NORTHEAST CORNER NORTHWEST QUARTER SECTION 24

CMP CULVERT
CMP CULVERT
B.M.#2 NAIL & DISC MAGA 45
CMP CULVERT
24" CMP CULVERT NORTH INVERT 9.0 SOUTH INVERT 10.1

FOUND RAILROAD SPIKE NORTHWEST CORNER NORTHWEST QUARTER OF SECTION 24 TOWNSHIP 35 SOUTH RANGE 39 EAST

CONCRETE CULVERT UNDER CONST.

FOUND CONCRETE MONUMENT 24.34' SOUTH 23.37' EAST

SET IRON ROD & CAP LB 7571

B.M.#1 NAIL & DISC "7571"

B.M.#1 IRON ROD & CAP "7571"

SET IRON ROD & CAP LB 7571" 16' OFFSET SOUTH

WOOD POST & WIRE FENCE typical

ELECTRIC METER

FIRE HYDRANT & VALVE

CONCRETE CULVERT UNDER CONST.

CANAL

FDOT STORM MANHOLE

STORM INLET

STREET LAMP & ELECTRIC BOX typical

CANAL (BANKS UNDER RENOVATION)

FDOT STORM MANHOLE

B.M.#5 "X" CUT

PARCEL "A"

CHAINLINK FENCE

UTILITY BOX

PERMANENT EASEMENT SEE DETAIL:

LESSED OUT PARCEL "B"

CATCH BASIN TOP GRATE EL 12.58

POINT OF REVERSE CURVATURE SET IRON ROD & CAP LB 7571

CONCRETE POWER POLE typical

GUY WIRES typical

WEST LINE NORTHWEST QUARTER OF SECTION 24

GPS MEASUREMENTS 2592.78' N00°07'07"W
2592.86' MEASURED N00°07'30"W
2592.85' CERTIFIED RECORDS

R=8308.00'
Δ=04°05'42"
A=593.78'
N04°12'52"E
533.66'

OLD RIGHT-OF-WAY LINE

O.H.E.

WOOD POWER POLE typical

WELL

N89°51'22"E
30.02'
29.97'
N02°03'57"E
Δ=00°18'46"
R=8264.54'
A=45.11'
N01°48'41"E
45.11'

SET IRON ROD & CAP LB 7571

N89°50'04"W
343.82'

FDOT STORM MANHOLE

FDOT STORM MANHOLE CONTROL STRUCTURE

F.D.O.T. LAKE

TOP OF BANK

295.04'
N00°07'16"W

FOUND IRON ROD & CAP "ILLEGIBLE"

SET IRON ROD & CAP LB 7571

FOUND IRON ROD & CAP LB 7571 1.25' WEST 2.15' SOUTH

N89°50'03"W 2215.32'

TREASURE COAST RV RESORT

CHAINLINK FENCE

1' FOUND IRON ROD & CAP "4658" 4.80' EAST

2' FOUND IRON ROD & CAP "4658" 5.30' EAST 1.55' NORTH

FOUND IRON ROD & CAP "4658"

"A" "B" "C" "D" "E" "F" "G" "H" "I"

T.B.M.#1 IRON ROD

T.B.M.#2 IRON ROD

B.M.#3 NAIL & DISC "7571"

B.M.#4 NAIL & DISC "4069"

B.M.#5 NAIL & DISC CATCH BASIN

EAST LINE NORTHWEST QUARTER SECTION 24

1929.06'

ASPHALT ROADWAY

S00°04'58"E

℄ PETERS ROAD
50' ROAD RIGHT-OF-WAY
PER PLAT BOOK 3, PAGE 32

GATE VALVE
FIRE HYDRANT
CULVERT
CATCH BASIN
SEWER MANHOLE
SEWER MANHOLE

PCN 2324-233-0000-000-7
OFFICIAL RECORDS BOOK 3176 PAGE 228
OFFICIAL RECORDS BOOK 3138 PAGE 1047

PCN 2324-234-0000-000-0
OFFICIAL RECORDS BOOK 2355 PAGE 1059

PCN 2324-244-0001-000-8
OFFICIAL RECORDS BOOK 3808 PAGE 2549

FOUND RAILROAD SPIKE SOUTHWEST CORNER NORTHWEST QUARTER OF SECTION 24 TOWNSHIP 35 SOUTH RANGE 39 EAST

-30 0 60 120
1" = 120'

TREE LEGEND:
SABAL/CABBAGE PALM
OAK
ACADIA
YELLOW POINCIANA
BOTTLEBRUSH
MIMOSA
QUEEN PALM
UNKNOWN
18" GIRTH

TREES CALCULATIONS

SABAL/CABBAGE PALMS	623
OAK	92
YELLOW POINCIANA	5
QUEEN PALMS	9
ACACIA	3
BOTTLE BRUSH	2
MIMOSA	1
UNKNOWN	1
TOTAL TREES	736

SURVEY REPORT:
PROPERTY IS AN OVERGROWN DEFUNCT ORANGE, GRAPEFRUIT FARM. OVERGROWN MOSTLY BY BRAZZIALINA PEPPERS, AT THE SOUTHWEST PORTION OF PROPERTY MYRTLES EXIST. MATURE SABLES/CABBAGE PALMS LOCATED, APPROXIMATELY 150-200 CABBAGE PALMS UNDER 6 OR 7 FEET NOT LOCATED. TREES IDENTIFIED AS YELLOW POINCIANA, SHOULD BE VERIFIED BY AN ARBORIST. ONE OTHER UNKOWN TREE LOCATED NORTH OF OLD JUICE PLAT, IN NORTHWEST QUARTER. AUSTRALIAN PINES NOT LOCATED, MOSTLY ALONG DITCHES RUNNING NORTH AND SOUTH MIDDLE OF PROJECT AND ALONG WHITE ROAD. SOME OAK TREES SEEM TO HAVE ROT ALONG THE SIDE OF TREE. SEVERAL ACACIA ARE GROWING IN ALL DIRECTIONS. AFTER GRUBBING MORE TREE LOCATION MAY NEEDED TO BE PERFORMED. THERE MAY BE OTHER TREES NOT DISCOVERED, LOT IS VERY OVERGROWN IN SOME AREAS WITH DEAD BRAZZILAIN PEPPERS.

DISTANCES ARE GROUND DISTANCES
COORDINATES INFORMATION
GRID DATUM – NAD 83, 1990 ADJUSTED
ZONE – FLORIDA EAST ZONE
LINEAR UNIT – U.S. SURVEY FOOT
COORDINATE SYSTEM– 1983 STATE PLANE TRANSVERSE MERCATOR PROJECTION
SCALE FACTOR = ~~1.000032451~~

VERTICAL DATUM INFORMATION
ST. LUCIE COUNTY
BRASS DISC "FRED"
NAVD ELEVATION = ~~17.722~~

BOUNDARY CLOSURE REPORT:
~~CLOSURE S39°05'27"W, 0.004'~~
~~0.004'/1578.57 OR 0.0127/5000'~~

PROPERTY SHOWN HEREON IS LOCATED IN FLOOD ZONE X PER FLOOD INSURANCE RATE MAP 120192 YYYY F DATED OCTOBER 5, 2017

NOTE:
THIS SURVEY PERFORMED WITHOUT BENEFIT OF TITLE

RONALD E. STOTLER
PROFESSIONAL SURVEYOR AND MAPPER
CERTIFICATE NO. 5026
STATE OF FLORIDA

MAGELLAN SURVEYING & MAPPING, INC.
PROFESSIONAL LAND SURVEYORS
LICENSED BUSINESS – 7571
450 S. OLD DIXIE HIGHWAY, SUITE 10
JUPITER, FLORIDA 33458
561-746-8745 FAX 561-746-9632 E-mail info@magellansurveying.com

Special Purpose Survey Boundary & Tree Survey

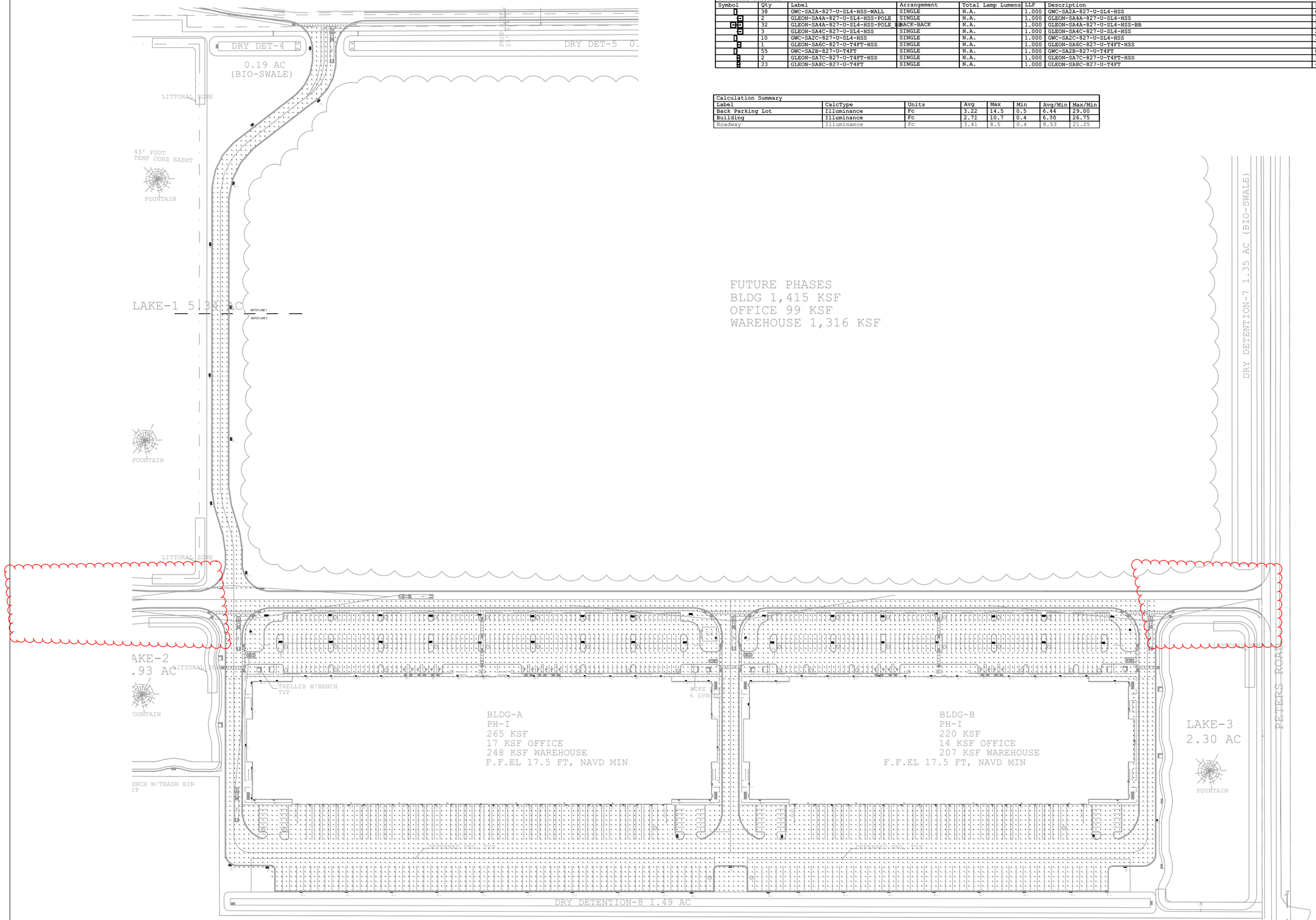
Prepared For: KINGS HIGHWAY DEVELOPMENT PARTNERS

Drawn by RES
Field: TF F.B.180 Pg09
REVISIONS:

Date Of Survey
APRIL 13, 2021

Scale
1"= 120'

Drawing Number
21-020



Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description	Lum. Watts
	38	GWC-SA2A-827-U-SL4-HSS-WALL	SINGLE	N.A.	1.000	GWC-SA2A-827-U-SL4-HSS	66
	2	GLEON-SA4A-827-U-SL4-HSS-POLE	SINGLE	N.A.	1.000	GLEON-SA4A-827-U-SL4-HSS	129
	32	GLEON-SA4A-827-U-SL4-HSS-POLE	BACK-BACK	N.A.	1.000	GLEON-SA4A-827-U-SL4-HSS-BB	129
	3	GLEON-SA4C-827-U-SL4-HSS	SINGLE	N.A.	1.000	GLEON-SA4C-827-U-SL4-HSS	225
	10	GWC-SA2C-827-U-SL4-HSS	SINGLE	N.A.	1.000	GWC-SA2C-827-U-SL4-HSS	111
	1	GLEON-SA6C-827-U-T4FT-HSS	SINGLE	N.A.	1.000	GLEON-SA6C-827-U-T4FT-HSS	333
	55	GWC-SA2B-827-U-T4FT	SINGLE	N.A.	1.000	GWC-SA2B-827-U-T4FT	85
	2	GLEON-SA7C-827-U-T4FT-HSS	SINGLE	N.A.	1.000	GLEON-SA7C-827-U-T4FT-HSS	391
	23	GLEON-SA8C-827-U-T4FT	SINGLE	N.A.	1.000	GLEON-SA8C-827-U-T4FT	445

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Back Parking Lot	Illuminance	Fc	3.22	14.5	0.5	6.44	29.00
Building	Illuminance	Fc	2.72	10.7	0.4	6.80	26.75
Roadway	Illuminance	Fc	3.41	8.5	0.4	8.53	21.25

1 PHOTOMETRIC PLAN
SCALE: 1/8" = 1'-0"

RGD
CONSULTING ENGINEERS
JUPITER | ORLANDO
561-743-0165 | 407-845-6630
WWW.RGDENGINEERS.COM

MEP ENGINEER: RGD CONSULTING ENGINEERS
2151 SOUTH HIGHWAY A1A ALT
SUITE 2000, JUPITER, FL 33477

STRUCTURAL ENGINEER: XXX
XXX
XXX

ARCHITECT: XXX
XXX
XXX

CLIENT: XXX
XXX
XXX

DATE 6.25.2021

REVISIONS:

NO.	DESCRIPTION	DATE

KEY PLAN
AREA DESCRIPTION
N

CLIENT PROJECT NO. XX-XXXX

PROJECT ADDRESS:
XXX

PROJECT NAME:
KINGS HIGHWAY
COMMERCE PARK

DATE: 08/10/2020

RGD PROJ. NO: 21-1089

SCALE: AS SHOWN

DRAWN:

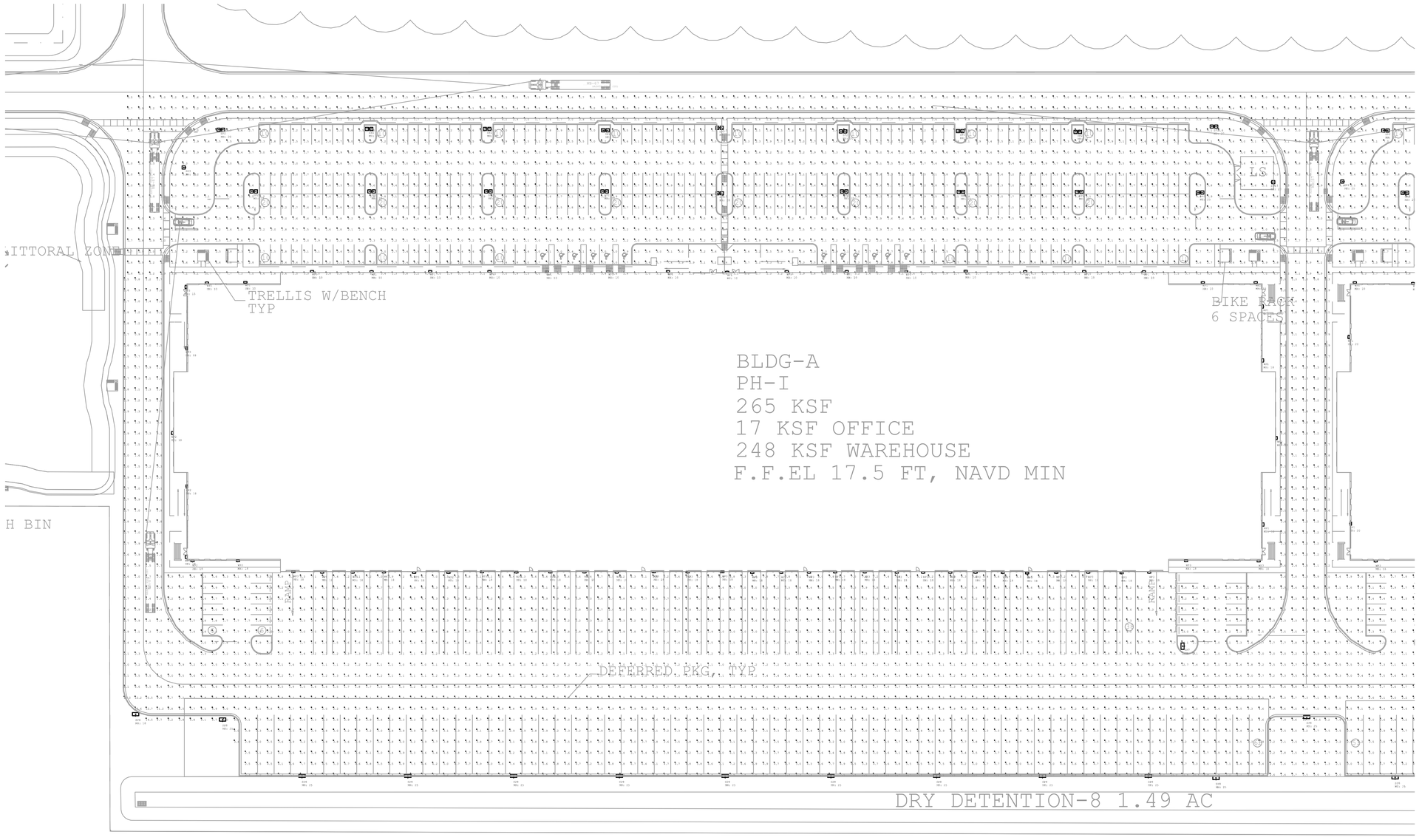
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SHEET NAME:
PHOTOMETRIC PLAN

SHEET NO.
E-01

PROJECT PHASE:
100% CONSTRUCTION DOCUMENTS

These Drawings are NOT VALID for any purpose which requires the original signature and seal of the engineer unless the original signature and seal are affixed. Drawings not signed and sealed by the engineer shall not be submitted to any authority or used for any purpose where signed and sealed documents are required.



1 ENLARGED PLAN - BUILDING A
SCALE: 1/4"=1'-0"

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ENGINEERS

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WWW.RGDENGINEERS.COM

MEP ENGINEER: RGD CONSULTING ENGINEERS
2151 SOUTH HIGHWAY A1A ALT
SUITE 2000, JUPITER, FL 33477

STRUCTURAL ENGINEER: XXX
XXX
XXX

ARCHITECT: XXX
XXX
XXX

CLIENT: XXX
XXX
XXX

DATE 6.25.2021

REVISIONS:

NO.	DESCRIPTION	DATE

KEY PLAN
AREA DESCRIPTION

N

CLIENT PROJECT NO. XX-XXXX

PROJECT ADDRESS:
XXX

PROJECT NAME:
KINGS HIGHWAY
COMMERCE PARK

DATE: 08/10/2020

RGD PROJ. NO: 21-1089

SCALE: AS SHOWN

DRAWN:

CHECKED:

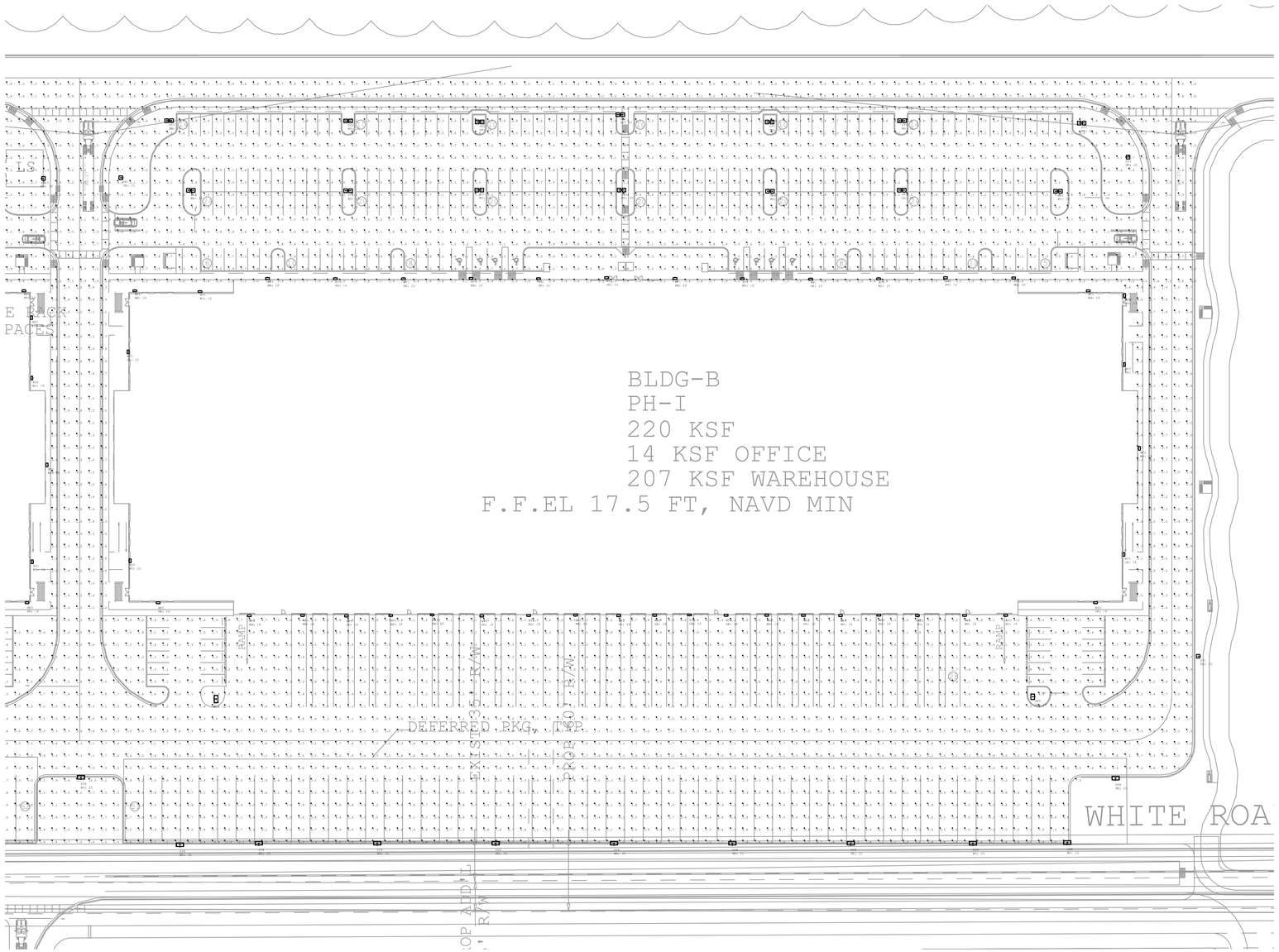
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ENLARGED PLAN - BUILDING A

SHEET NO. E-01A

PROJECT PHASE:
100% CONSTRUCTION DOCUMENTS

These Drawings are NOT VALID for any purpose which requires the original signature and seal of the engineer unless the original signature and seal are affixed. Drawings not signed and sealed by the engineer shall not be submitted to any authority or used for any purpose where signed and sealed documents are required.



1 ENLARGED PLAN - BUILDING B
SCALE: 1/4"=1'-0"

RGD
CONSULTING ENGINEERS

JUPITER | ORLANDO
561-743-0165 | 407-845-6630
WWW.RGDENGINEERS.COM

MEP ENGINEER: RGD CONSULTING ENGINEERS
2151 SOUTH HIGHWAY A1A ALT
SUITE 2000, JUPITER, FL 33477

STRUCTURAL ENGINEER: XXX
XXX
XXX

ARCHITECT: XXX
XXX
XXX

CLIENT: XXX
XXX
XXX

DATE 6.25.2021

REVISIONS:

NO.	DESCRIPTION	DATE

KEY PLAN
AREA DESCRIPTION

CLIENT PROJECT NO. XX-XXXX

PROJECT ADDRESS:
XXX

PROJECT NAME:
KINGS HIGHWAY
COMMERCE PARK

DATE: 08/10/2020

RGD PROJ. NO: 21-1089

SCALE: AS SHOWN

DRAWN:

CHECKED:

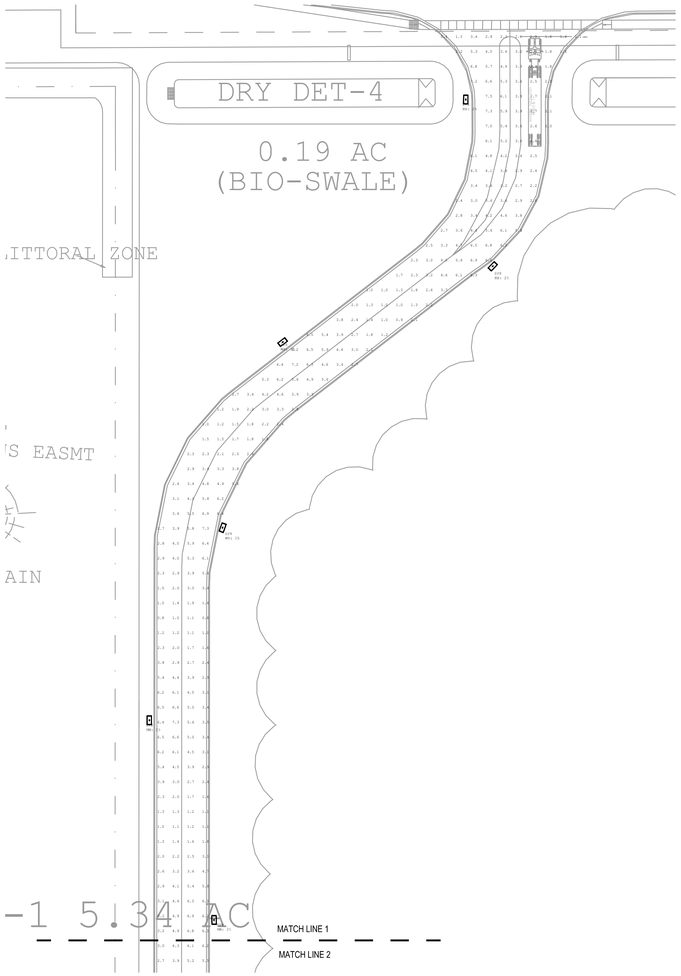
SHEET NAME:

ENLARGED PLAN - BUILDING B

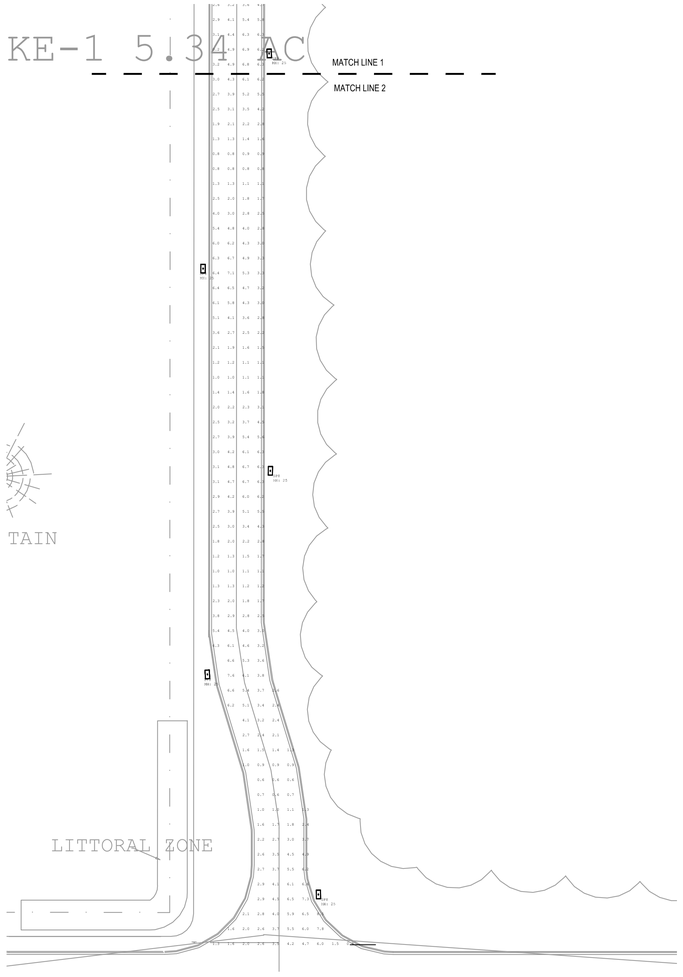
SHEET NO.
E-01B

PROJECT PHASE:
100% CONSTRUCTION DOCUMENTS

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1 ENLARGED PARTIAL PLAN - ROADWAY
SCALE: 1/4" = 1'-0"



2 ENLARGED PARTIAL PLAN - ROADWAY
SCALE: 1/4" = 1'-0"

RGD
CONSULTING
ENGINEERS

JUPITER | ORLANDO
561-743-0165 | 407-845-6630
WWW.RGDENGINEERS.COM

MEP ENGINEER: RGD CONSULTING ENGINEERS
2151 SOUTH HIGHWAY A1A ALT
SUITE 2000, JUPITER, FL 33477

STRUCTURAL ENGINEER: XXX
XXX
XXX

ARCHITECT: XXX
XXX
XXX

CLIENT: XXX
XXX
XXX

DATE 6.25.2021

REVISIONS:

NO.	DESCRIPTION	DATE

KEY PLAN
AREA DESCRIPTION

N

CLIENT PROJECT NO. XX-XXXX

PROJECT ADDRESS:
XXX

PROJECT NAME:
KINGS HIGHWAY
COMMERCE PARK

DATE: 08/10/2020

RGD PROJ. NO: 21-1089

SCALE: AS SHOWN

DRAWN:

CHECKED:

SHEET NAME:

ENLARGED PLAN - ROADWAY

SHEET NO. E-01C

PROJECT PHASE:
100% CONSTRUCTION DOCUMENTS

These Drawings are NOT VALID for any purpose which requires the original signature and seal of the engineer unless the original signature and seal are affixed. Drawings not signed and sealed by the engineer shall not be submitted to any authority or used for any purpose where signed and sealed documents are required.

Project		Catalog #		Type	
Prepared by		Notes		Date	



McGraw-Edison

GLEON Galleon

Area / Site Luminaire

Typical Applications

Outdoor • Parking Lots • Walkways • Roadways • Building Areas

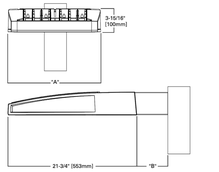
Interactive Menu

- Ordering Information page 2
- Mounting Details page 3
- Optical Distributions page 4
- Product Specifications page 4
- Energy and Performance Data page 4
- Control Options page 5

Quick Facts

- Lumen packages range from 4,200 - 80,800 (34W - 640W)
- Efficacy up to 156 lumens per watt

Dimensional Details



Product Certifications

Product Features

Luminaire Technology · Enlighted · Wireless · Light Advisor™

Connected Systems

- WaveLinx
- Enlighted

Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Extended Arm Length	"B" Quick Mount Arm Length	"B" Quick Mount Extended Arm Length
1-4	15-1/2"	7"	10"	10-5/8"	16-9/16"
5-6	21-5/8"	7"	10"	10-5/8"	16-9/16"
7-8	27-5/8"	7"	13"	10-5/8"	--
9-10	33-3/4"	7"	16"	--	--

NOTES:
For arm selection requirements and additional line art, see Mounting Details section.

McGraw-Edison

GLEON Galleon

Ordering Information

SAMPLE NUMBER: **GLEON-SA4C-740-U-T4FT-GM**

Product Family [1, 2]	Light Engine: Configuration	Light Engine: Drive Current	Color Temperature	Voltage	Distribution	Mounting	Finish
GLEON–Galleon	**SA1**=1 Square **SA2**=2 Squares **SA3**=3 Squares **SA4**=4 Squares **SA5**=5 Squares * **SA6**=6 Squares **SA7**=7 Squares * **SA8**=8 Squares * **SA9**=9 Squares * **SA10**=10 Squares *	**A**=600mA **B**=800mA **C**=1000mA **D**=1200mA [3]	**722**=720CRI, 2200K **727**=730CRI, 2700K **730**=730CRI, 3000K **735**=730CRI, 3500K **740**=730CRI, 4000K **750**=730CRI, 5000K **760**=730CRI, 6000K **727**=730CRI, 2700K **835**=80CRI, 3500K **AMB**=Amber, 590nm [4, 5]	**U**=120-277V **1**=120V **2**=208V **3**=240V **4**=277V **5**=347V **8**=480V [7, 8] **9**=347V *	**T2**=Type II **T2R**=Type II Roadway **T3**=Type III **T3R**=Type III Roadway **T4FT**=Type IV Forward Throw **T4W**=Type IV Wide **SNQ**=Type V Narrow **SMQ**=Type V Square Medium **SWQ**=Type V Square Wide **SLD**=Type V Short Control **SLT**=Type IV w/Spill Control **SL4**=Type IV w/Spill Control **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right **RW**=Rectangular Wide Type I **AFR**=Automotive Frontline **AFL**=Automotive Frontline	**[Blank]**=Arm for Round or Square Pole **EA**=Extended Arm * **QA**=Quick Mount Adapter [9] **MA**=Wall Mount **QM**=Quick Mount Arm (Standard Length) [9] **QMEA**=Quick Mount Arm (Extended Length) [9] *	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White

Options (Add as Suffix)	Controls and Systems Options (Add as Suffix)	Accessories (Order Separately)
DIM=External 0-10V Dimming Leads [10, 28] **F**=Single Fuse (120, 277 or 347V Specify Voltage) **FF**=Double Fuse (208, 240 or 480V Specify Voltage) **20K**=Series 20kV UL 1449 Surge Protective Device **HA**=50°C High Ambient [11] **HSS**=Installed House Side Shield [12] **HSSF**=Factory Installed Visor Shield, BK [1, 27] **GRSBW**=Factory Installed Glare Shield, Wht [1, 27] **UPL**=Uplight Housing [13] **HA-UT**=High Ambient [11] **LCF**=Light Square Trim Plate Painted to Match Housing [29] **SF**=Single Fuse (120V) [14] **CC**=Coastal Construction [15] **CE**=CE Marking and Small Terminal Block [28] **AHD14S**=After Hours Dim, 5 Hours [16] **AHD24S**=After Hours Dim, 6 Hours [16] **AHD34S**=After Hours Dim, 7 Hours [16] **AHD35S**=After Hours Dim, 8 Hours [16] **DALI-DALI Driver** [17]	**BPC**=Button Type Photocontrol **PR**=NEMA 3-PIN Photocontrol Receptacle [18] **PRT**=NEMA 7-PIN Twistlock Photocontrol Receptacle [18] **SPB3**=Dimming Occupancy Sensor with Bluetooth Interface, 8' - 15' Mounting [19, 20] **SPB4**=Dimming Occupancy Sensor with Bluetooth Interface, 15' - 40' Mounting [19, 20] **MS-L20**=Motion Sensor for ON/OFF Operation, 8' - 20' Mounting Height [18] **MS-L40W**=Motion Sensor for ON/OFF Operation, 21' - 40' Mounting Height [18] **MSX-L20**=Bi-Level Motion Sensor, 8' - 20' Mounting Height [18, 20] **MSX-L40W**=Bi-Level Motion Sensor, 21' - 40' Mounting Height [18, 20] **MS/DIM-L20**=Motion Sensor for Dimming Operation, 8' - 20' Mounting Height [18, 20] **MS/DIM-L40W**=Motion Sensor for Dimming Operation, 21' - 40' Mounting Height [18, 20] **ZW**=WaveLine-enabled 4-PIN Twistlock Receptacle [18, 20] **ZD**=WaveLine Module with DALI driver and 4-PIN Receptacle [18, 20] **SWPD4XX**=WaveLine Sensor Only, 7'-15' [18, 20, 30] **SWPD5XX**=WaveLine Sensor Only, 15'-40' [18, 20, 30] **WDBXX**=WaveLine Sensor with Bluetooth, 7'-15' [18, 20] **WSBXX**=WaveLine Sensor with Bluetooth, 15'-40' [18, 20] **LWR-L20**=Enlighted Sensor, 8' - 15' Mounting Height [18, 20] **LWR-L40**=Enlighted Sensor, 16' - 40' Mounting Height [18, 20] **DMF0-MS/DIM-L20**=Synapse Occupancy Sensor Left Mounting [18, 20] **DMT0-MS/DIM-L20**=Synapse Occupancy Sensor (8'-20' Mounting) [18, 20] **DMF0-MS/DIM-L40**=Synapse Occupancy Sensor (21'-40' Mounting) [18, 20]	**DA/RA1010**=NEMA Photocontrol Multi-Tap - 105-285V **DA/RA1027**=NEMA Photocontrol - 480V **DA/RA1201**=NEMA Photocontrol - 347V **DA/RA1013**=Photocontrol Shorting Cap **MA1020**=10kV Surge Module Replacement **MA1252**=12kV Surge Module Replacement **MA1036-XX**=Single Tenon Adapter for 2-3/8" O.D. Tenon **MA1037-XX**=(2)180° Tenon Adapter for 2-3/8" O.D. Tenon **MA1157-XX**=(3)120° Tenon Adapter for 2-3/8" O.D. Tenon **MA1188-XX**=(4)90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1189-XX**=(2)180° Tenon Adapter for 2-3/8" O.D. Tenon **MA1190-XX**=(3)120° Tenon Adapter for 2-3/8" O.D. Tenon **MA1191-XX**=(4)120° Tenon Adapter for 2-3/8" O.D. Tenon **MA1038-XX**=Single Tenon Adapter for 3-1/2" O.D. Tenon **MA1039-XX**=(2)180° Tenon Adapter for 3-1/2" O.D. Tenon **MA1192-XX**=(3)120° Tenon Adapter for 3-1/2" O.D. Tenon **MA1193-XX**=(4)90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1194-XX**=(2)180° Tenon Adapter for 3-1/2" O.D. Tenon **MA1195-XX**=(3)90° Tenon Adapter for 3-1/2" O.D. Tenon **FSIR-100**=Wireless Configuration Tool for Occupancy Sensor [24] **GLEON-WT1**=Field Installed Mesh Top for 1-4 Light Squares **GLEON-WT2**=Field Installed Mesh Top for 5-6 Light Squares **GLEON-WT3**=Field Installed Mesh Top for 7-8 Light Squares **GLEON-WT4**=Field Installed Mesh Top for 9-10 Light Squares **GLEON-QM**=Quick Mount Arm Kit [9] **GLEON-QMEA**=Quick Mount Extended Arm Kit [9] **LSX10S**=Field Installed House Side Shield [12, 26] **LSXGRSBK**=Glare Reducing Shield, Black [26, 27] **LSXGRSBW**=Glare Reducing Shield, White [26, 27] **LSXPS**=Perimeter Shield, Black [1] **WCLC-TP-10A**=WaveLinx Outdoor Control Module [18, 31] **SWPD4-XX**=Wireless Wireless Sensor, 7' - 15' Mounting Height [18, 19, 20, 30] **SWPD5-XX**=Wireless Wireless Sensor, 15' - 40' Mounting Height [18, 19, 20, 30]

NOTES:
1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP213001EN for additional support information.
2. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
3. Coastal construction finish salt spray tested to over 5,000 hours per ASTM B117, with a scribe rating of 9 per ASTM D1654.
4. Not available with fusing.
5. Not available with 480V (U) or 347V (1) LCE sensors.
6. Not compatible with extended quick mount arm (QMEA).
7. Not compatible with standard quick mount arm (QM) or extended quick mount arm (QMEA).
8. 480V must utilize Wye system only. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
9. Not available when two or more luminaires are oriented on a 90° or 120° drilling pattern. Refer to arm mounting requirement table.
10. Factory installed.
11. Maximum 8 light squares.
12. Not available with HSS.
13. Requires CW or ZD receptacle.
14. Narrow-band 590nm +/- 5nm for wildlife and observatory use. Choose drive current A, supplied at 500mA drive current. Not available with BPC, PR, PRT, DMG, DMF, DMT, ZD, ZW, 3-4 distributions. Can be used with HSS option.
15. Not available with HA option.
16. Not available with 347V (1) or MS/DIM at 347V or 480V (8). In 5AS through 8AS requires a larger housing, normally used for 5AS or 6AS. Extended arm option may be required when mounting two or more fixtures per pole at 90° or 120°. Refer to arm mounting requirement table.
17. Not available with Enlighted wireless sensors.
18. Cannot be used with other control options.
19. Low voltage control lead brought out 10' outside fixture.
20. Requires CW, ZD, ZW, PR, PRT, SPB or MS/DIM. Sensor has an integral photocell.
21. Requires the use of BPC photocontrol or the PRT or PR photocontrol receptacle with photocontrol accessory. See After Hours Dim supplemental guide for additional information.
22. 5A, 6A, 7A, 8A, 9A, 10A, 1B, 2B, 3B or 4B. Refer to SLA optics. See IES files for details.
23. The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Cooper Lighting Solutions for more information.
24. The FSIR-100 configuration tool is required to enable field-configurability.
25. Enlighted wireless sensors are factory installed only requiring network components (4IP-EM-1, LWP-GW-1 and LWP-PoE8 in appropriate quantities.
26. Cannot be used in conjunction with additional photocontrol or other controls systems (BPC, PR, PRT, MS, LWR).
27. Not available with HSS or DSS options.
28. Not for use with SWQ, SWS, SWQ or RW optics. The light square trim plate is painted black when the HSS option is selected.
29. CE is not available with the 120V, DALI, LWR, MS, MS/DIM, BPC, PR or PRT options. Available in 120-277V only.
30. One required for each Light Square.
31. Not for use with T4FT.
32. Not for use with T4FT, T4W or SL4 optics.
33. Replace KK with sensor color (WH, BZ or BK).
34. WAC Gateway required to enable field-configurability. Order WAC-PoE and NPOE-120 (120 to PoE injector) power supply if needed.
35. Specify 120V or 277V.
36. Smart device with mobile application required to change system defaults. See controls section for details.

LumenSafe Integrated Network Security Camera Technology Options (Add as Suffix)

Product Family	Camera Type	Data Backhaul
L=LumenSafe Technology	**D**=Standard Dome Camera **H**=Hi-Res Dome Camera **Z**=Remote PTZ Camera	**C**=Cellular, No SIM **A**=Cellular, AT&T **V**=Cellular, Verizon **S**=Cellular, Sprint	**R**=Cellular, Rogers **W**=Wi-Fi Networking w/ Omni-Directional Antenna **E**=Ethernet Networking

Project		Catalog #		Type	
Prepared by		Notes		Date	



McGraw-Edison

GWC Galleon Wall

Wall Mount Luminaire

Typical Applications

Exterior Wall • Walkway

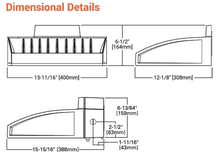
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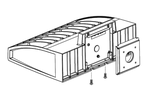
- Ordering Information page 2
- Product Specifications page 2
- Optical Configurations page 3
- Energy and Performance Data page 4
- Control Options page 6

Quick Facts

- Choice of thirteen high-efficiency, patented Accu.LED Optics™
- Downward and inverted wall mounting configurations
- Eight lumen packages from 3,215 up to 17,056
- Efficacies up to 154 lumens per watt

Dimensional Details





Product Certifications

Connected Systems

- WaveLinx
- Enlighted

McGraw-Edison

GWC Galleon Wall

Ordering Information

SAMPLE NUMBER: **GWC-SA2C-740-U-T4FT-GM**

Product Family [1]	Light Engine: Configuration	Light Engine: Drive Current	Color Temperature	Voltage	Distribution	Finish
GWC–Galleon Wall	**SA1**=1 Square **SA2**=2 Squares *	**A**=615mA **B**=800mA **C**=1000mA **D**=1200mA *	**722**=70CRI, 2200K **727**=70CRI, 2700K **730**=70CRI, 3000K **735**=70CRI, 3500K **740**=70CRI, 4000K **750**=70CRI, 5000K **760**=70CRI, 6000K **727**=80CRI, 2700K **835**=80CRI, 3500K **AMB**=Amber, 590nm [3, 4]	**U**=120-277V **1**=120V **2**=208V **3**=240V **4**=277V **5**=347V **8**=480V [5, 6] **9**=347V *	**T2**=Type II **T3**=Type III **T4FT**=Type IV Forward Throw **T4W**=Type IV Wide **SLD**=Type V w/Spill Control **SLT**=Type IV w/Spill Control **SL4**=Type IV w/Spill Control **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right **RW**=Rectangular Wide Type I **SNQ**=Type V Square Narrow **SMQ**=Type V Square Medium **SWQ**=Type V Square Wide	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White

Options (Add as Suffix)	Controls and Systems Options (Add as Suffix)	Accessories (Order Separately)
F=Single Fused (120, 277 or 347V. Must Specify Voltage) **FF**=Double Fused (208, 240 or 480V. Must Specify Voltage) **10K**=10kV Surge Module **20K**=Series 20kV UL 1449 Surge Protective Device **DIM**=External 0-10V Dimming Leads [3, 7] **CBP**=Battery Pack with Back Box, Cold Weather Rated [3, 4, 14, 24] **CBPT**=Battery Pack with Back Box, Cold Weather Rated, CEC compliant [3, 4, 14, 24] **L90**=Optics Rotated 90° Left **R90**=Optics Rotated 90° Right **HSS**=Factory Installed House Side Shield [8] **HSSF**=Factory Installed Visor Shield, BK [1, 27] **GRSBW**=Factory Installed Glare Shield, Wht [1, 27] **UPL**=Uplight Housing [15] **HA-UT**=50°C High Ambient [9] **LCF**=Light Square Trim Plate Painted to Match Housing [28] **SF**=Single Fuse (120V) [10] **CC**=Coastal Construction [11] **AHD14S**=After Hours Dim, 5 Hours [12] **AHD24S**=After Hours Dim, 6 Hours [12] **AHD34S**=After Hours Dim, 7 Hours [12] **AHD35S**=After Hours Dim, 8 Hours [12] **DALI-DALI Driver** [13]	**BPC**=Button Type Photocontrol (120, 208, 240 or 277V. Must Specify Voltage) **PR**=NEMA 3-PIN Photocontrol Receptacle [16] **PRT**=NEMA 7-PIN Twistlock Photocontrol Receptacle [16] **SPB1**=Dimming Occupancy Sensor with Bluetooth Interface, -8' Mounting [16, 24] **SPB2**=Dimming Occupancy Sensor with Bluetooth Interface, 8' - 20' Mounting [16, 24] **MSX-L20**=Bi-Level Motion Sensor, 8' - 20' Mounting Height [16, 24] **MSX-L40W**=Bi-Level Motion Sensor, 21' - 40' Mounting Height [16, 24] **MS/DIM-L20**=Motion Sensor for Dimming Operation, 8' - 20' Mounting Height [16, 24] **MS/DIM-L40W**=Motion Sensor for Dimming Operation, 21' - 40' Mounting Height [16, 24] **ZW**=WaveLine-enabled 4-PIN Twistlock Receptacle [16, 24] **ZD**=WaveLine Module with DALI driver and 4-PIN Receptacle [16, 24] **SWPD4XX**=WaveLine Sensor Only, 7'-15' [16, 24, 29] **SWPD5XX**=WaveLine Sensor Only, 15'-40' [16, 24, 29] **WDBXX**=WaveLine Sensor with Bluetooth, 7'-15' [16, 24] **WSBXX**=WaveLine Sensor with Bluetooth, 15'-40' [16, 24] **WOFXX**=WaveLine Sensor with Bluetooth, 15'-40' [16, 24] **LWR-L20**=Enlighted Wireless Sensor, Wide Lens for 8'-16' Mounting Height [16, 24, 25] **LWR-L40**=Enlighted Wireless Sensor, Narrow Lens for 16'-40' Mounting Height [16, 24, 25]	**DA/RA1010**=Photocontrol Shorting Cap [29] **DA/RA1027**=NEMA Photocontrol - 480V [29] **DA/RA1201**=NEMA Photocontrol - 347V [29] **DA/RA1027**=NEMA Photocontrol - 480V [29] **MA1020**=10kV Surge Module Replacement **MA1252**=12kV Surge Module Replacement **LSXHSS**=Field Installed House Side Shield [8, 26] **LSXGRSBK**=Glare Shield, Black [1, 8, 26, 27] **LSXGRSBW**=Glare Shield, White [1, 8, 26, 27] **LSXPS**=Perimeter Shield, Black [1] **FSIR-100**=Wireless Configuration Tool for Occupancy Sensor [17] **WCLC-TP-10A**=WaveLinx Outdoor Control Module [18, 31] **SWPD4-XX**=Wireless Wireless Sensor, 7' - 15' Mounting Height [16, 19, 20, 30] **SWPD5-XX**=Wireless Wireless Sensor, 15' - 40' Mounting Height [16, 19, 20, 30]

NOTES:
1. Single Light Consortium® Qualified. Refer to www.designlights.org, Qualified Products List under Family Models for details.
2. Two light squares with CBP option limited to 25°C. Not available in combination with sensor options at 1200mA.
3. Narrow-band 590nm +/- 5nm for wildlife and observatory use. Choose drive current A, supplied at 350mA drive current only. Available with SWQ, SWS, SL2, SL3 and SL4 distributions. Can be used with HSS option.
4. Not available with HA option.
5. Coastal construction finish salt spray tested to over 5,000 hours per ASTM B117, with a scribe rating of 9 per ASTM D1654.
6. Require the use of a step down transformer. Not available in combination with sensor options at 1200mA.
7. 480V must use Wye system only. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
8. Not available with 1200mA.
9. Cannot be used with other control options.
10. Low voltage control leads extended 10" from fixture.
11. Not available in 1200mA. When used with CBP or HA options, only available with single light square.
12. Not available in 1200mA, UPL or CBP options. Available with single light square.
13. Not available with SL2, SL3, SL4, HA, CBP, PR or PRT options.
14. Operates a single light square only. Operates at -20°C to +45°C. Backbox is non-IP rated. Control option limited to BPC.
15. Compatible with standard 3-PIN photocontrols, 5-PIN or 7-PIN ANSI controls.
16. Requires the use of BPC photocontrol or the PRT or PR photocontrol receptacle with photocontrol accessory. See After Hours Dim supplemental guide for additional information.
17. The FSIR-100 configuration tool is required to adjust parameters such as high and low modes, sensitivity, time delay and cutoff. Consult your lighting representative at Cooper Lighting Solutions for more information.
18. Replace LX with LSI (-8' mounting), L20 (8'-20' mounting) or L40W (21'-40' mounting.)
19. Includes integral photosensor.
20. Enlighted wireless sensors are factory installed requiring network components in appropriate quantities.
21. White sensor shipped on all housing color options.
22. Not available with HSS or DSS options.
23. Not for use with SNQ, SWQ, SWQ or RW optics. The light square trim plate is painted black when the HSS option is selected.
24. CE is not available with the 120V, DALI, LWR, MS, MS/DIM, BPC, PR or PRT options. Available in 120-277V only.
25. One required for each light square.
26. Not for use with T4FT.
27. Not for use with T4FT, T4W or SL4 optics.
28. Cannot be used in conjunction with additional photocontrol or other controls systems (BPC, PR, PRT, MS, LWR).
29. WAC Gateway required to enable field-configurability. Order WAC-PoE and NPOE-120 (120 to PoE injector) power supply if needed.
30. Requires CW or ZD receptacle.
31. Replace KK with sensor color (WH, BZ or BK).
32. Specify 120V or 277V.
33. Smart device with mobile application required to change system defaults. See controls section for details.

Product Specifications

Construction
- Driver enclosure thermally isolated from optics for optimal thermal performance
- Die-cast aluminum heat sinks
- IP66 rated housing
- 1.5G vibration rated

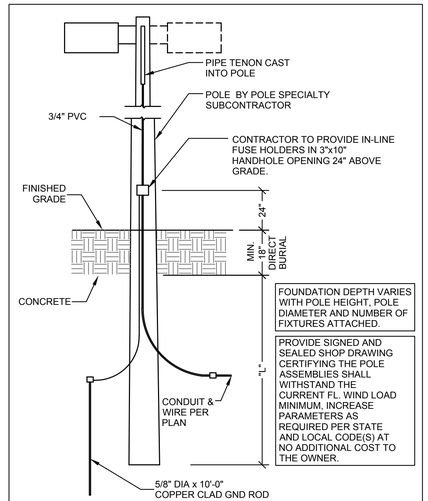
Optics
- Patented, high-efficiency injection-molded Accu.LED Optics technology
- 13 optical distributions
- IDA Certified (3000K CCT and warmer only)

Electrical
- LED driver assembly mounted for ease of maintenance
- Standard with 0-10V dimming
- Optional 10kV or 20kV surge module
- Suitable for operation in -40C to 40C ambient environments. Optional 50C high ambient (HA) configuration.

Mounting
- Gasketed and zinc plated rigid steel mounting attachment
- "Hook-N-Lock" mechanism for easy installation

Finish
- Housing finished in super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness
- Heat sink is powder coated black
- RAL and custom color matches available
- Coastal Construction (CC) option available

Warranty
- Five-year warranty



NOTE:

DIRECT BURIAL POLES REQUIRE A MINIMUM OF 18 ' OF THE POLE BE SUBMERGED INTO THE CONCRETE PAD FOR PROPER INSTALLATION. INSTALLERS MUST CHECK LOCAL CODES AND ORDINANCES FOR MINIMUM DEPTH REQUIRED FOR SAFE INSTALLATION. "

2 SITE POLE BASE DIRECT BURIAL DETAIL
N.T.S

1 DATA SHEETS AND DETAILS
SCALE: NTS

RGD CONSULTING ENGINEERS
JUPITER | ORLANDO
561-743-0165 | 407-845-6630
WWW.RGDENGINEERS.COM

MEP ENGINEER:	RGD CONSULTING ENGINEERS 2151 SOUTH HIGHWAY A1A ALT SUITE 2000, JUPITER, FL 33477
STRUCTURAL ENGINEER:	XXX XXX XXX
ARCHITECT:	XXX XXX XXX
CLIENT:	XXX XXX XXX

DATE 6.25.2021

REVISIONS:

NO.	DESCRIPTION	DATE



CLIENT PROJECT NO. XX-XXXX

PROJECT ADDRESS:
XXX

PROJECT NAME:
KINGS HIGHWAY
COMMERCE PARK

DATE: 08/10/2020

RGD PROJ. NO: 21-1089

SCALE: AS SHOWN

DRAWN:

CHECKED:

SHEET NAME:

DATA SHEETS AND DETAILS

SHEET NO.
E-02

PROJECT PHASE:
100% CONSTRUCTION DOCUMENTS

These Drawings are NOT VALID for any purpose which requires the original signature and seal of the engineer unless the original signature and seal are affixed. Drawings not signed and sealed by the engineer shall not be submitted to any authority or used for any purpose where signed and sealed documents are required.

Construction Plans & Specifications
For
Kings Highway Commerce Park

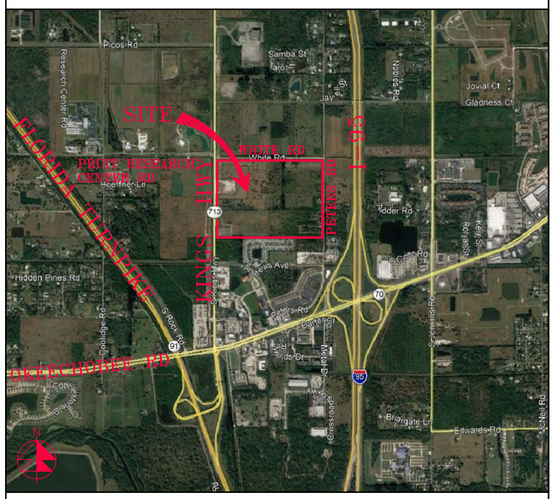
Section 24 Township 35S Range 39E

Fort Pierce, Florida

Developer

Kings Highway Developement Partners, LLC
4923 W. Cypress Street
Tampa, Florida 33607

Aerial



Vicinity Map

Drawing Index

C-1	Cover Sheet
~~C-2~~	~~Pavement Marking Overall Plan~~
~~C3-C11~~	~~Pavement Marking Plans~~
C-12	Grading, Paving, & Drainage Overall Plan
C13-C21	Grading, Paving, & Drainage Plans
~~C-22~~	~~Water & Wastewater Overall Plan~~
~~C23-C31~~	~~Water & Wastewater Plans~~
C-32	Sections
C-33	Grading, Paving, & Drainage Details
C-34	Grading, Paving, & Drainage Details
C-35	Grading, Paving, & Drainage Details
~~C-36~~	~~Water Details~~
~~C-37~~	~~Wastewater Details~~
~~C-38~~	~~Wastewater Details~~
~~C-39~~	~~Lift Station Details~~
~~C-40~~	~~Lift Station Details~~
C-41	Pollution Prevention Plan
~~C-42~~	~~Truck Routing Plan~~

REVISIONS

Jeff H. Iravani, Inc.
Consulting Engineers
1934 COMMERCE LANE SUITE 5
JUPITER, FLORIDA 33458
TEL: (561) 575-6030
FAX: (561) 575-6088
JHI@bellsouth.net
www.JHIinc.com

Kings Highway Commerce Park
Fort Pierce, Florida

Cover Sheet

JOB NO.	DRAWN BY	DESIGNED BY	SCALE	DATE
2101-1355	CLJ	JHI	NA	01/22/21

SEAL

FR # 6986

SHEET NO.
C-1

PRUIT RESEARCH CENTER ROAD

WHITE ROAD

WHITE ROAD

WHITE ROAD

KING'S HIGHWAY (SR-713)

DRY DET-4

0.19 AC
(BIO-SWALE)

DRY DET-5 0.99 AC (BIO-SWALE)

DRY DET-6 0.85 AC (BIO-SWALE)

LITTORAL ZONE

43' FDOT TEMP CONS EASMT

FOUNTAIN

LAKE-1
5.34 AC

FUTURE PHASES
BLDG 1,415 KSF
OFFICE 99 KSF
WAREHOUSE 1,316 KSF

DRY DETENTION-7 1.35 AC (BIO-SWALE)

PETERS ROAD

LAKE-2
1.93 AC

BENCH W/TRASH BIN TYP

LS

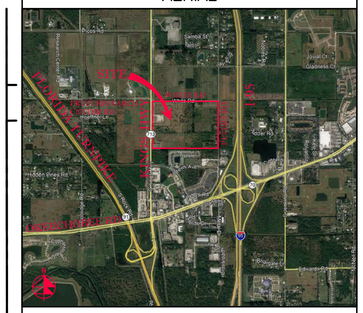
BLDG-A
PH-I
265 KSF
17 KSF OFFICE
248 KSF WAREHOUSE
F.F.EL 20.9 FT, NAVD
17.0 ft, NAVD MIN

BLDG-B
PH-I
220 KSF
14 KSF OFFICE
207 KSF WAREHOUSE
F.F.EL 20.9 FT, NAVD
17.0 ft, NAVD MIN

LAKE-3
2.30 AC

DRY DETENTION-8 1.49 AC

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

100' 0 50' 100' 200'

SCALE: 1" = 100'

REVISIONS

REV PER CITY 06-25-21

Jeff H. Iravani, Inc.
Consulting Engineers
1934 COMMERCE LANE, SUITE 5
JUPITER, FLORIDA 33458
TEL: (561) 575-6030
FAX: (561) 575-6088
JHI@bellsouth.net

Kings Highway Commerce Park
Fort Pierce, Florida

Overall Drainage Plan

DRAWN BY: DDI
DESIGNED BY: JHI
SCALE: 1" = 100'
DATE: 01-22-2021

SEAL

FR 6986
JEFF H. IRAVANI 33155

JOB NO.
2101-1355

SHEET NO.
C-12

SEE SHT C-16

KING'S HIGHWAY (SR-713)

CANAL R/W LINE

LITTORAL ZONE

INV EL 4.0

CONST CB-4 "J9"
GRT EL 15.5
INV EL 5.5 N
6.0 E
7.0 S

CONST 49-LF 60" HP @ 3%

CONST 200-LF @ 0.83%

CONST 54-LF @ 2%

CONST CB-3 "J9"
GRT EL 15.5
INV EL 7.0

CONST 35-LF 42" RCP @ 0%

CONST 131-LF @ 0.84%

CONST 175-LF @ 0.63%

CONST 25-LF @ 0.8%

CONST 307-LF 60" RCP @ 0%

CONST CB-75 "J9"
GRT EL 15.5
INV EL 6.0 E
6.0 W
9.0 S

CONST 197-LF 60" RCP @ 0%

PLUG & BLOCK
INV EL 9.0

CONST 24-LF 30" RCP @ 0%

CONST 24-LF 30" RCP @ 0%

PLUG & BLOCK
INV EL 9.0

CONST M-65
RIM EL 16.5
INV EL 6.5 W
6.0 E
8.0 N
9.0 S

CONST CB-74 "C9"
GRT EL 15.5
INV EL 9.0 N
11.4 S

CONST 35-LF 24" RCP @ 0%

CONST 197-LF @ 0.36%

CONST 200-LF @ 0.45%

CONST 93-LF @ 0.86%

CONST 120-LF @ 0.42%

CONST 52-LF 42" HP @ 3%

TOB 15.5

INV EL 5.5

CONST 36-LF
18" RCP @ 1.4%

INV EL 5.5

CONST 45-LF 18" HP @ 2%

CONST CB-8 "C-9"
GRT EL 15.85
INV EL 9.0

CONST CB-9 "C-9"
GRT EL 15.85
INV EL 9.5

CONST 44-LF 24" RCP @ 0.2%

CONST 30-LF EXF
W/10-LF 18" RCP
@ 0.0%

CONST 74-LF EXF
W/10-LF 24" RCP
@ 0%

CONST 96-LF EXF
W/10-LF 24" RCP
@ 0%

CONST 96-
W/10-LF 1

CONST CB-72 "C9"
GRT EL 15.5
INV EL 12.0

CONST CS-73
RIM EL 16.5
INV EL 12.0 S
11.5 E
11.5 N

CONST CB-70 "C9"
GRT EL 15.5
INV EL 12.0

CONST M-71
RIM EL 16.6
INV EL 12.0 S
11.5 E
11.5 W

CONST CB-68 "C9"
GRT EL 15.5
INV EL 12.0

CONST M-69
RIM EL 16.2
INV EL 12.0 S
12.0 E
11.5 W

CONST CB-66 "C9"
GRT EL 15.5
INV EL 12.0

LAKE-2
1.93 AC

LITTORAL ZONE

FOUNTAIN

CONST HIGH SIDE
F-CURB

CONST 54-LF 42" HP @ 0.8%

INV EL 5.5

O.H.E.

CONST CB-7 "J9"
GRT EL 15.55
INV EL 5.8

CONST 12-LF 24" RCP @ 0.3%

REMOVE/RELOC EXIST TYPE 6 TOP
CONST MH TOP
RIM EL 18.77*

CONST TYPE 6 TOP
GRT EL 18.29*
INV EL 13.84*

CONST CS-2 "E"
GRT EL 16.1
INV EL 7.0

20' LME

BENCH W/TRASH BIN
TYP

CONST 216-LF 42"
RCP @ 0.5%

CONST CB-6 "J9"
GRT EL 15.35
INV EL 6.8

19.25*
GC TO VIELD VERIFY

CONST CS-5 "H"
W/ USF 6609 GRATE/AE

OHD @ DOCK HEIGHT
EL 20.9
TYP

RAMP

CONST 154-LF 42" RCP @ 0.8%

CONST CB-10 "C9"
GRT EL 15.4
INV EL 12.5

CONST CB-11 "C9"
GRT EL 15.4
INV EL 12.5

CONST CB-12 "C9"
GRT EL 15.4
INV EL 12.5

CONST CB-13
GRT EL
INV EL

CONST 14-LF
18" RCP @ 0%

CONST 14-LF
18" RCP @ 0%

CONST 14-LF
18" RCP @ 0%

BTM EL 12.5

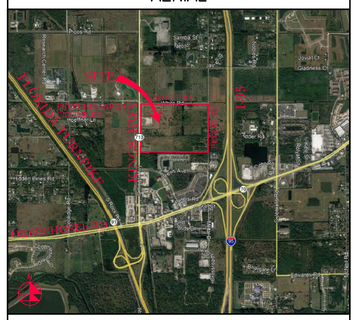
CONST MIT END
INV EL 12.5
TYP, 9-REQ

CONST 8'x26'x12"
RIP RAP (4"-8")

SEE SHT C-14

248
F.F.
17.

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

NOTES:

1. GRT EL OF TYPE-9 INLETS ARE AT THE GUTTER FLOWLINE.
2. TYPE "C-9" STRUCTURES SHALL BE TYPE "C" BOX WITH TYPE "9" GRATE PER FDOT INDEX 425-052.
3. ALL OTHER INLET GRATES SHALL BE USF HEAVY DUTY LOADING GRATES. CS-5, CS-24, CS-26, CS-83 SHALL USE STEEL USF 6609 GRATE /AE.
4. ALL EXIST INFO & TOPO ARE PER MAGELLAN SURVEYING & MAPPING, INC., DWG # 21-020. ALL ELEV'S ARE IN FT, NAVD 1988.
5. THE FINAL LANDSCAPE GRADE AT BLDG SHALL BE 6" TYP, 3" MIN BELOW FIN FL ELEV.
6. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL DRAINAGE STRUCTURES, PIPES, SUBGRADE MATERIAL, BASE MATERIAL, ASPHALT PAVEMENT SPEC, CONCRETE MIX DESIGN AT THE MINIMUM PRIOR TO CONSTRUCTION.
7. INLETS SHALL BE PROTECTED DURING CONSTRUCTION PER FLORIDA STORMWATER, ERROSION, & SEDIMENTATION CONTROL INSPECTORS MANUAL.
8. ALL CATCH BASINS LOCATED IN E/F-CURB SHALL HAVE USF 6168 FRAME & GRATE.
9. ALL CATCH BASINS AND MANHOLES SHALL HAVE TURBIDITY CONTROL BARRIERS PER DETAIL DURING THE CONST PHASE OF THE PROJECT.
10. CONTRACTOR SHALL CONSTRUCT SILT FENCE AT P/L.
11. ACCESSIBLE ROUTES INCL SW'S, HANDICAP RAMPS & DET WARNINGS SHALL CONFORM TO 2010 US DOJ "STD'S FOR ACCESSIBLE DESIGN", FBC CHAPTER 11, & FDOT INDEX 522-002.
12. CONTRACTOR SHALL PROTECT ALL INLETS & SITE PERIMETERS DURING CONSTRUCTION PER FLORIDA STORMWATER, ERROSION, & SEDIMENTATION CONTROL INSPECTORS MANUAL.
13. PAVT SHALL BE ½" ABOVE THE INLET GRATE & E/F-CURB
14. ALL D-CURBS SHALL TERMINATE WITH 2' TAPER.
15. ALL CATCH BASINS TYPES REFER TO FDOT INDEX 425-052.
16. ADS HP STORM PIPE MAY BE SUBSTITUTED FOR RCP PIPE PENDING EOR APPROVAL. CONTRACTOR TO PROVIDE AN ALTERNATE BID FOR ADS PIPE.

LEGEND

⊕19.7	PROP PAVT EL
19.7	EXIST EL
*	CONTRACTOR TO FIELD VERIFY
INV EL	INVERT EL
CB	CATCH BASIN
YD	YARD DRAIN
BC	BOTTOM OF CURB
BE	BOTTOM EL
TC	TOP OF CURB
TE	TOP EL
EXF	EXFILTRATION TRENCH
WM	WATER MAIN
FM	FORCE MAIN
FIM	FIRE MAIN
SAN	WASTEWATER GRAVITY
	FIRE HYDRANT
GV	GATE VALVE
	GATE VALVE
	SIAMESE CONN.
	CHECK VALVE
	DOUBLE DETECTOR CHECK VALVE
	WATER METER W/ REDUCED PRESSURE BACKFLOW PREV.
S	SAMPLE POINT
MES	MITERED END SECTION
F.F.EL	FIN FLOOR ELEV
F.L.EL	FLOW LINE ELEV
TOB	TOP OF BANK
TOS	TOE OF SLOPE
TOC	TOP OF CONCRETE
TV	TAPPING VAVLE
CO	CLEANOUT
B1	BORING NO. AND LOCATION
/AE	APPROVED EQUIVALENT

48 HOURS BEFORE DIGGING
CALL TOLL FREE
811
CALL SUNSHINE
NOTIFICATION CENTER

REVISIONS

Jeff H. Iravani, Inc.
Consulting Engineers
1934 COMMERCE LANE, SUITE 5
JUPITER, FLORIDA 33458
TEL: (561) 575-6030
FAX: (561) 575-6088
JHI@bellsouth.net

Kings Highway Commerce Park
Fort Pierce, Florida

Grading, Paving & Drainage Plan

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

SHEET NO.
C-13

SEE SHT C-18

SEE SHT C-13

SEE SHT C-15

PLUG & BLOCK INV EL 9.0
CONST M-65 RIM EL 16.5 INV EL 6.5 W 6.0 E 8.0 N 9.0 S
T 24-LF 30" RCP @ 0%
CONST 243-LF 54" RCP @ 0%
CONST 24-LF 30" RCP @ 0%
CONST 35-LF 24" RCP @ 0%
CONST CB-64 "J9" GRT EL 15.5 INV EL 6.5 E/W 9.0 S
CONST 185-LF 54" RCP @ 0%
CONST CB-54 "J9" GRT EL 16.25 INV EL 6.5 E/W 9.0 N/S
CONST 24-LF 30" RCP @ 0%
CONST 24-LF 30" RCP @ 0%
CONST CB-53 "J9" GRT EL 15.6 INV EL 6.5 E/W 9.5 S
CONST 197-LF 54" RCP @ 0%
CONST 335-LF 54" RCP @ 0%
CONST CB-50 "J9" GRT EL 15.5 INV EL 6.5 W 7.0 E 9.0 N/S
0.36%
CONST 243-LF @ 0.3%
CONST CB-63 "C9" GRT EL 15.5 INV EL 9.0 N 11.4 S
CONST 44-LF 24" RCP @ 0.2%
CONST 286-LF @ 0.38%
CONST CS-41 "C9" GRT EL 15.45 INV EL 9.0 N 12.0 S
CONST 153-LF @ 0.59%
CONST 109-LF 18" RCP @ 0%
CONST 153-LF @ 0.59%
CONST 181-LF @ 0.61%
CONST CB-49 "C9" GRT EL 15.35 INV EL 9.0 N 11.4 S
CONST 96-LF EXF W/10-LF 24" RCP @ 0%
CONST 96-LF EXF W/10-LF 18" RCP @ 0%
CONST M-67 RIM EL 16.2 INV EL 12.0
CONST CS-62 RIM EL 16.5 INV EL 12.0 S 11.5 E 11.5 N
CONST 62-LF EXF W/10-LF 24" RCP @ 0%
CONST M-60 RIM EL 16.18 INV EL 12.0 S 11.5 E 11.5 W
CONST M-56 RIM EL 16.18 INV EL 12.0
CONST 35-LF 18" RCP @ 0%
CONST 22-LF EXF W/10-LF 18" RCP @ 0.0%
CONST 96-LF EXF-1 W/10-LF 18" RCP @ 0%
CONST 96-LF EXF-2 W/10-LF 24" RCP @ 0%
CONST 43-LF EXF W/10-LF 18" RCP @ 0%
CONST CB-68 "C9" GRT EL 15.5 INV EL 12.0
CONST CB-66 "C9" GRT EL 15.5 INV EL 12.0
CONST CB-61 "C9" GRT EL 15.5 INV EL 12.0
CONST CB-59 "C9" GRT EL 15.5 INV EL 12.0
CONST CB-57 "C9" GRT EL 15.5 INV EL 12.0
CONST M-58 RIM EL 16.18 INV EL 12.0 S 12.0 E 11.5 W
CONST CB-55 "C9" GRT EL 15.5 INV EL 12.0
CONST CB-51 "C9" GRT EL 15.35 INV EL 9.5
CONST CB-52 "C9" GRT EL 15.35 INV EL 9.5
CONST CB-43 "C9" GRT EL 15.5 INV EL 12.0
CONST M-44 RIM EL 16.18 INV EL 12.0
CONST CB-45 "C9" GRT EL 15.5 INV EL 12.0
CONST M-69 RIM EL 16.2 INV EL 12.0 S 12.0 E 11.5 W
CONST 90-LF @ 0.33%
CONST 115-LF @ 0.96%
CONST 94-LF @ 0.43%
CONST 154-LF @ 0.43%
LS
RAMP
RAMP

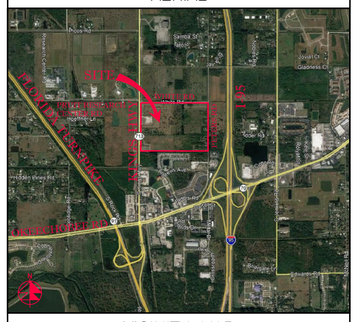
BLDG-A
PH-I
265 KSF
17 KSF OFFICE
248 KSF WAREHOUSE
F.F.EL 20.9 FT, NAVD
17.0 ft, NAVD MIN

OHD @ DOCK HEIGHT EL 20.9 TYP

CONST CB-18 "C9" GRT EL 16.2 INV EL 10.0
CONST 35-LF 18" RCP @ 0.0%
CONST CB-19 "C9" GRT EL 16.2 INV EL 10.0 W 12.5 S
CONST 152-LF 18" RCP @ 0.0%
CONST CB-20 "C9" GRT EL 16.75 INV EL 12.5 N 10.0 S
CONST MIT END INV EL 12.5 TYP, 9-REQ
CONST 8'x26'x12'

CONST CB-12 "C9" GRT EL 15.4 INV EL 12.5
CONST CB-13 "C9" GRT EL 15.4 INV EL 12.5
CONST CB-14 "C9" GRT EL 15.4 INV EL 12.5
CONST CB-15 "C9" GRT EL 15.4 INV EL 12.5
CONST CB-16 "C9" GRT EL 15.4 INV EL 12.5
CONST CB-17 "C9" GRT EL 15.4 INV EL 12.5
CONST CB-21 "C9" GRT EL 15.4 INV EL 10.0 N 12.5 S
CONST 180-LF 18" RCP @ 0%
CONST CB-22 "C9" GRT EL 15.4 INV EL 12.5
CONST CB-23 "C9" GRT EL 15.4 INV EL 12.5
CONST 14-LF 18" RCP @ 0%
BTM EL 12.5
DRY DETENTION-8.149 AC

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

NOTES:

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LEGEND

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19.1	EXIST EL
*	CONTRACTOR TO FIELD VERIFY
INV EL	INVERT EL
CB	CATCH BASIN
YD	YARD DRAIN
BC	BOTTOM OF CURB
BE	BOTTOM EL
TC	TOP OF CURB
TE	TOP EL
EXF	EXFILTRATION TRENCH
WM	WATER MAIN
FM	FORCE MAIN
FIM	FIRE MAIN
SAN	WASTEWATER GRAVITY
FH	FIRE HYDRANT
GV	GATE VALVE
	GATE VALVE
	SIAMESE CONN.
	CHECK VALVE
	DOUBLE DETECTOR CHECK VALVE
	WATER METER W/ REDUCED PRESSURE BACKFLOW PREV.
S	SAMPLE POINT
MES	MITERED END SECTION
F.F.EL	FIN FLOOR ELEV
F.L.EL	FLOW LINE ELEV
TOB	TOP OF BANK
TOS	TOE OF SLOPE
TOC	TOP OF CONCRETE
TV	TAPPING VAVLE
CO	CLEANOUT
B1	BORING NO. AND LOCATION
/AE	APPROVED EQUIVALENT

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JHI@bellsouth.net

Kings Highway Commerce Park
Fort Pierce, Florida

Grading, Paving & Drainage Plan

JOB NO.	2101-1355
DRAWN BY	DDI
DESIGNED BY	JHI
SCALE	1"=40'
DATE	01-22-21

SEAL

COA 6986

SHEET NO.
C-14

SEE SHT C-20

SEE SHT C-14

BLDG-B
PH-I
220 KSF
14 KSF OFFICE
207 KSF WAREHOUSE
F.F.EL 20.9 FT, NAVD
17.0 ft, NAVD MIN

LITTORAL ZONE

LAKE-3
2.30 AC

FOUNTAIN

PETERS ROAD

CONST 335-LF 54" RCP @ 0%
CONST 181-LF @ 0.61%
CONST 24-LF 30" RCP @ 0%
CONST 227-LF 48" RCP @ 0%
CONST 225-LF @ 0.33%
CONST 24-LF 30" RCP @ 0%
CONST 51-LF 24" RCP @ 0%
CONST 198-LF @ 0.38%
CONST 52-LF 18" RCP @ 0.2%
CONST 24-LF 30" RCP @ 0%
CONST 128-LF @ 0.86%
CONST 102-LF @ 0.35%
CONST 61-LF 42" RCP @ 0.6%
CONST 35-LF 48" RCP @ 0.6%
CONST 59-LF 48" HP @ 3.1%
CONST 101-LF @ 0.64%
CONST 40-LF @ 2%
CONST 148-LF @ 0.34%
CONST 190-LF @ 0.37%
CONST 143-LF 18" RCP @ 0%
CONST 60-LF @ 1.67%
CONST 60-LF 36" HP @ 3.3%
CONST 14-LF 18" RCP @ 0%
CONST 35-LF 24" RCP @ 0%
CONST 54-LF 24" RCP @ 0.2%
CONST 96-LF EXF-1 W/10-LF 18" RCP @ 0%
CONST 96-LF EXF-2 W/10-LF 24" RCP @ 0%
CONST 34-LF EXF-1 W/10-LF 18" RCP @ 0%
CONST 20-LF EXF-1 W/10-LF 18" RCP @ 0%
CONST 2-LF EXF 18" RCP @ 0.0%
CONST 96-LF EXF-1 W/10-LF 18" RCP @ 0%
CONST 96-LF EXF-2 W/10-LF 24" RCP @ 0%

PLUG & BLOCK INV EL 9.0

CONST CB-42 "J9" GRT EL 16.25 INV EL 7.0 E/W 9.0 N/S
CONST CB-41 "C9" GRT EL 15.5 INV EL 7.0 E/W 9.0 N/S
CONST CB-50 "J9" GRT EL 15.5 INV EL 6.5 W 7.0 E 9.0 N/S
CONST CB-49 "C9" GRT EL 15.35 INV EL 9.0 N 11.4 S
CONST CB-40 "C9" GRT EL 15.5 INV EL 9.0 N 11.4 S
CONST CB-32 "C9" GRT EL 16.3 INV EL 7.0
CONST CB-33 "C9" GRT EL 16.32 INV EL 6.8
CONST CB-31 "C9" GRT EL 15.35 INV EL 6.2
CONST CB-30 "C9" GRT EL 15.35 INV EL 9.5
CONST CB-29 "C9" GRT EL 15.5 INV EL 12.5
CONST CB-22 "C9" GRT EL 15.4 INV EL 12.5
CONST CB-23 "C9" GRT EL 15.4 INV EL 12.5
CONST CB-24 "C9" GRT EL 15.4 INV EL 12.5
CONST CB-25 "C9" GRT EL 15.4 INV EL 12.5
CONST CB-26 "C9" GRT EL 15.4 INV EL 12.5
CONST CB-27 "C9" GRT EL 15.4 INV EL 12.5
CONST CB-43 "C9" GRT EL 15.5 INV EL 12.0
CONST CB-45 "C9" GRT EL 15.5 INV EL 12.0
CONST CB-47 "C9" GRT EL 15.5 INV EL 12.0
CONST CB-34 "C9" GRT EL 15.5 INV EL 12.0
CONST CB-36 "C9" GRT EL 15.5 INV EL 12.0
CONST CB-38 "C9" GRT EL 15.5 INV EL 12.0

CONST M-44 RIM EL 16.18 INV EL 12.0
CONST M-46 RIM EL 16.6 INV EL 12.0 S 11.5 E 12.0 W
CONST CS-48 RIM EL 16.5 INV EL 12.0 S 11.5 W 11.5 N
CONST M-35 RIM EL 15.45 INV EL 12.0
CONST M-37 RIM EL 15.45 INV EL 12.0 S 11.5 E 11.5 W
CONST CS-39 RIM EL 16.5 INV EL 11.5 N 12.0 S
CONST CS-103 "H" W/ USF 6609 GRATE/AE GRT EL 13.75 BLDR EL 11.5 INV EL 7.2
CONST CS-28 "H" W/ USF 6609 GRATE/AE

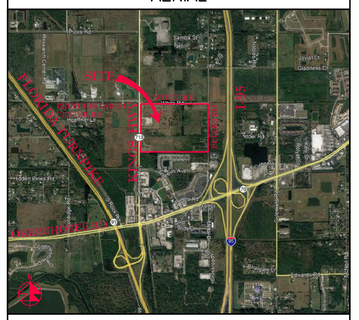
CONST HIGH SIDE F-CURB

BTM EL 12.5
INV EL 5.0
INV EL 5.0
BTM EL 12.5
INV EL 5.0

RAMP
RAMP

20' LAKE

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

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LEGEND

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19.1	EXIST EL
*	CONTRACTOR TO FIELD VERIFY
INV EL	INVERT EL
CB	CATCH BASIN
YD	YARD DRAIN
BC	BOTTOM OF CURB
BE	BOTTOM EL
TC	TOP OF CURB
TE	TOP EL
EXF	EXFILTRATION TRENCH
WM	WATER MAIN
FM	FORCE MAIN
FIM	FIRE MAIN
SAN	WASTEWATER GRAVITY
FH	FIRE HYDRANT
GV	GATE VALVE
GV	GATE VALVE
SIAMESE CONN.	
CHECK VALVE	
DOUBLE DETECTOR CHECK VALVE	
WATER METER W/ REDUCED PRESSURE BACKFLOW PREV.	
SAMPLE POINT	
MES	MITERED END SECTION
F.F.EL	FIN FLOOR ELEV
F.L.EL	FLOW LINE ELEV
TOB	TOP OF BANK
TOS	TOE OF SLOPE
TOC	TOP OF CONCRETE
TV	TAPPING VAVLE
CO	CLEANOUT
B1	BORING NO. AND LOCATION
/AE	APPROVED EQUIVALENT

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Kings Highway Commerce Park
Fort Pierce, Florida

Grading, Paving & Drainage Plan

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

SHEET NO.
C-15

SEE SHT C-17

EXIST DWY TO BE REMOVED TYP

LAKE-1
5.34 AC

CONST 150-LF @ 0.4%

CONST 35-LF 30" RCP @ 0%
CONST 40-LF 30" CAP @ 5%
INV EL 7.0

CONST CB-78 "J9"
GRT EL 15.5
INV EL 11.0 N
9.0 S

INV EL 9.0

CONST 24-LF 30" RCP @ 0%
PLUG & BLOCK

CONST CB-79 "J9"
GRT EL 15.5
INV EL 9.0

CONST CS-1 "E"
GRT EL 16.1
INV EL 7.0

FOUNTAIN

CONST 35-LF 30" RCP @ 0%
CONST 40-LF 30" CAP @ 5%
INV EL 7.0

CONST CB-76 "J9"
GRT EL 15.5
INV EL 11.0 N
9.0 S

INV EL 9.0

CONST 24-LF 30" RCP @ 0%
PLUG & BLOCK

CONST CB-77 "J9"
GRT EL 15.5
INV EL 9.0

LITTORAL ZONE

CONST 200-LF @ 0.45%

CONST CB-4 "J9"
GRT EL 15.5
INV EL 5.5 N
6.0 E
7.0 S

INV EL 4.0

CONST 49-LF 60" HP @ 3%

CONST 25-LF @ 0.8%
CONST 307-LF 60" RCP @ 0%

CONST CB-75 "J9"
GRT EL 15.5
INV EL 6.0 E
6.0 W
9.0 S

PLUG & BLOCK
INV EL 9.0

CONST 24-LF 30" RCP @ 0%
CONST 197-LF 60" RCP @ 0%

CONST 24-LF 30" RCP @ 0%

PLUG & BLOCK
INV EL 9.0

CONST M-65
RIM EL 16.5
INV EL 6.5 W
6.0 E
8.0 N
9.0 S

CONST 243-LF 54
@ 0%

CONST 54-LF @ 2%

CONST 200-LF @ 0.83%

CONST CB-3 "J9"
GRT EL 15.5
INV EL 7.0

CONST 131-LF @ 0.84%

CONST 35-LF 42" RCP @ 0%

CONST 175-LF @ 0.63%

CONST CB-74 "C9"
GRT EL 15.5
INV EL 9.0 N
11.4 S

CONST 35-LF 24" RCP
@ 0%

CONST 197-LF @ 0.36%

CONST 243-LF

CONST 93-LF @ 0.86%

CONST CB-9 "C-9"
GRT EL 15.85
INV EL 9.5

CONST 44-LF 24" RCP
@ 0.2%

CONST 74-LF EXF
W/10-LF 24" RCP
@ 0%

CONST 96-LF EXF
W/10-LF 24" RCP
@ 0%

CONST 96-LF EXF
W/10-LF 18" RCP
@ 0%

CONST M-
RIM EL 16.
INV EL 12.

CONST 30-LF EXF
W/10-LF 18" RCP
@ 0.0%

CONST 52-LF 42" HP @ 3%

TOB 15.5

INV EL 5.5

CONST 36-LF
18" RCP @ 1.4%

INV EL 5.5

CONST 45-LF 18" HP @ 2%

CONST CB-72 "C9"
GRT EL 15.5
INV EL 12.0

CONST CB-70 "C9"
GRT EL 15.5
INV EL 12.0

CONST CB-68 "C9"
GRT EL 15.5
INV EL 12.0

CONST CB-66 "C9"
GRT EL 15.5
INV EL 12.0

CONST CB-8 "C-9"
GRT EL 15.85
INV EL 9.0

CONST CS-73
RIM EL 16.5
INV EL 12.0 S

CONST M-71

CONST M-69

LAKE-2

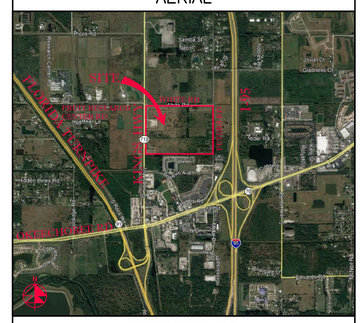
CANAL R/W LINE
PROP. R/W LINE
CANAL BOTTOM
PERMANENT EASEMENT
E. DITCH 5
E. CONST. KINGS HWY
CANAL NO.40

HWAY (SR-713)

SEE SHT C-13

SEE SHT C-18

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

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GV	GATE VALVE
	GATE VALVE
	SIAMESE CONN.
	CHECK VALVE
	DOUBLE DETECTOR CHECK VALVE
	WATER METER W/ REDUCED PRESSURE BACKFLOW PREV.
	SAMPLE POINT
MES	MITERED END SECTION
F.F.EL	FIN FLOOR ELEV
F.L.EL	FLOW LINE ELEV
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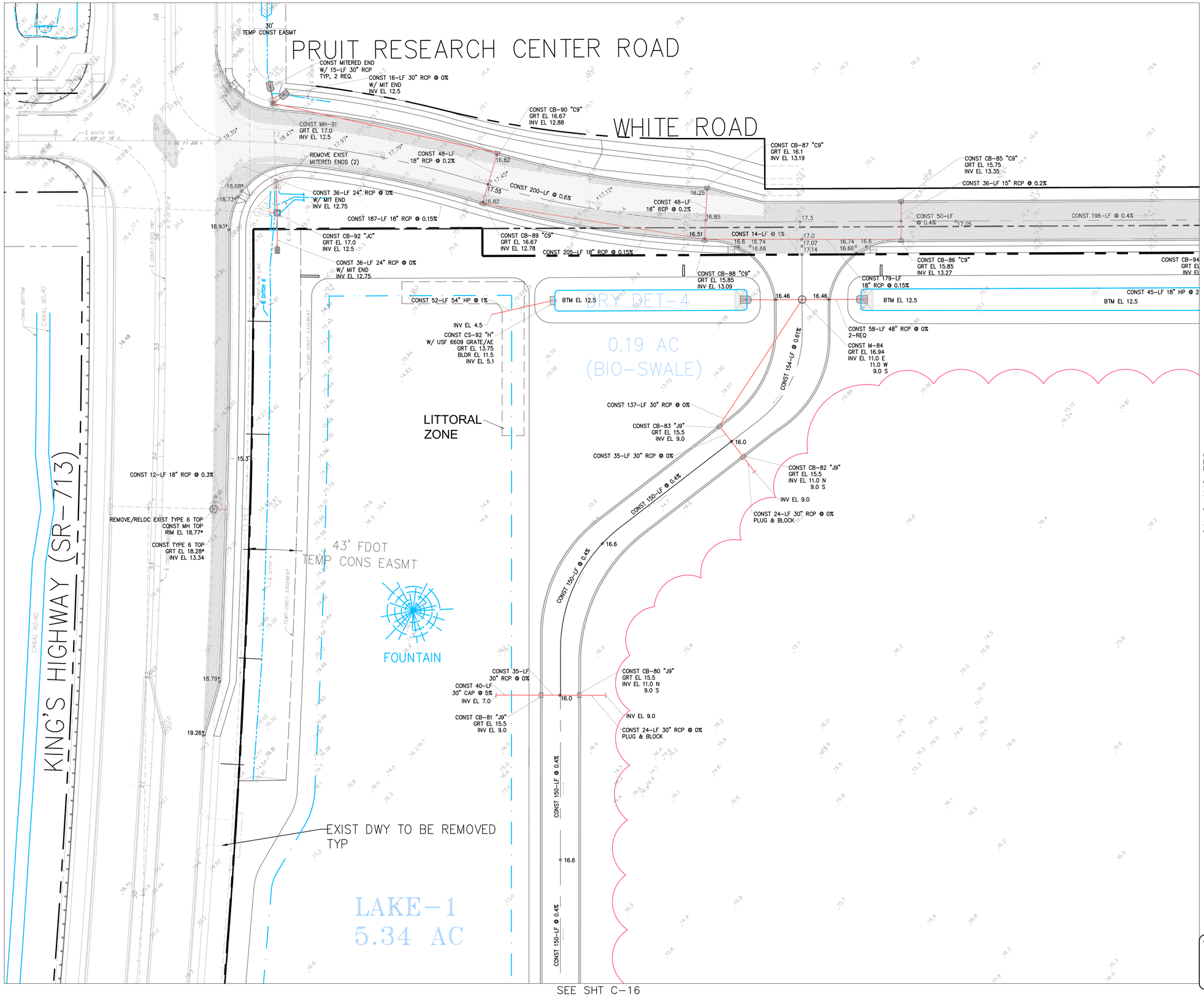
Grading, Paving & Drainage Plan

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

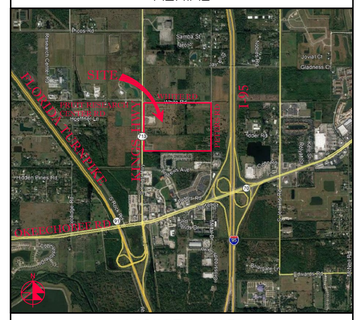
SEAL

COA 6986

SHEET NO.
C-16



AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

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SCALE: 1" = 40'

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NOTIFICATION CENTER

LEGEND

@19.7	PROP PAV'T EL
19.1*	EXIST EL
*	CONTRACTOR TO FIELD VERIFY
INV EL	INVERT EL
CB	CATCH BASIN
YD	YARD DRAIN
BC	BOTTOM OF CURB
BE	BOTTOM EL
TC	TOP OF CURB
TE	TOP EL
EXF	EXFILTRATION TRENCH
WM	WATER MAIN
FM	FORCE MAIN
FIM	FIRE MAIN
SAN	WASTEWATER GRAVITY
	FIRE HYDRANT
GV	GATE VALVE
	GATE VALVE
	SIAMESE CONN.
	CHECK VALVE
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	WATER METER W/ REDUCED PRESSURE BACKFLOW PREV.
	SAMPLE POINT
MES	MITERED END SECTION
F.F.EL	FIN FLOOR ELEV
F.L.EL	FLOW LINE ELEV
TOB	TOP OF BANK
TOS	TOE OF SLOPE
TOC	TOP OF CONCRETE
TV	TAPPING VAVLE
CO	CLEANOUT
B1	BORING NO. AND LOCATION
/AE	APPROVED EQUIVALENT

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Kings Highway Commerce Park
Fort Pierce, Florida

Grading, Paving & Drainage Plan

JOB NO.	DRAWN BY	DESIGNED BY	SCALE	DATE
2101-1355	DDI	JHI	1"=40'	01-22-21

SEAL

COA 6986

SHEET NO.

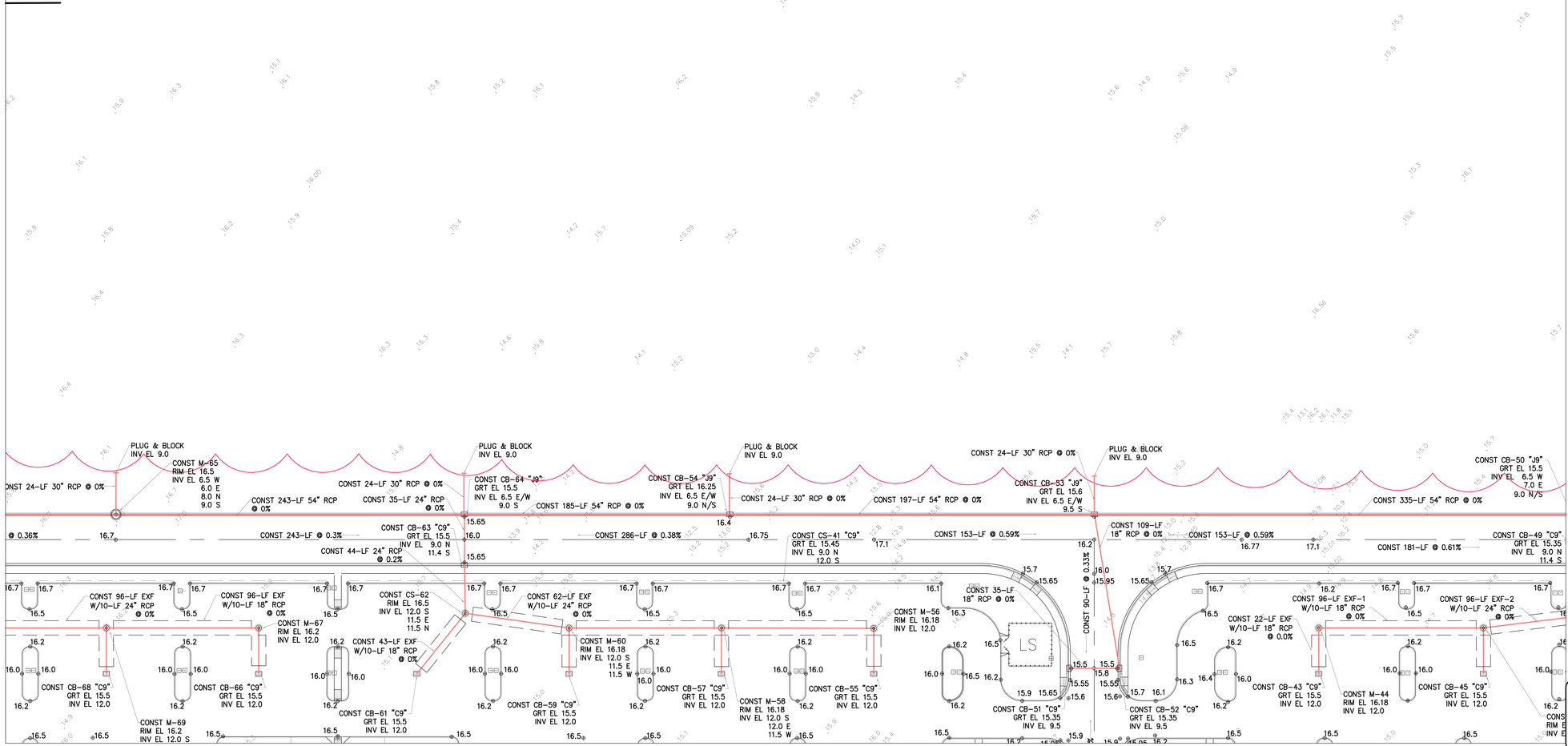
C-17

SEE SHT C-19

FUTURE PHASES
BLDG 1,415 KSF
OFFICE 99 KSF
WAREHOUSE 1,316 KSF

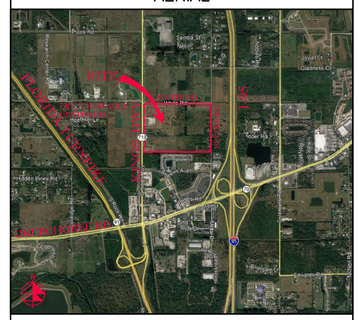
SEE SHT C-16

SEE SHT C-20



SEE SHT C-14

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

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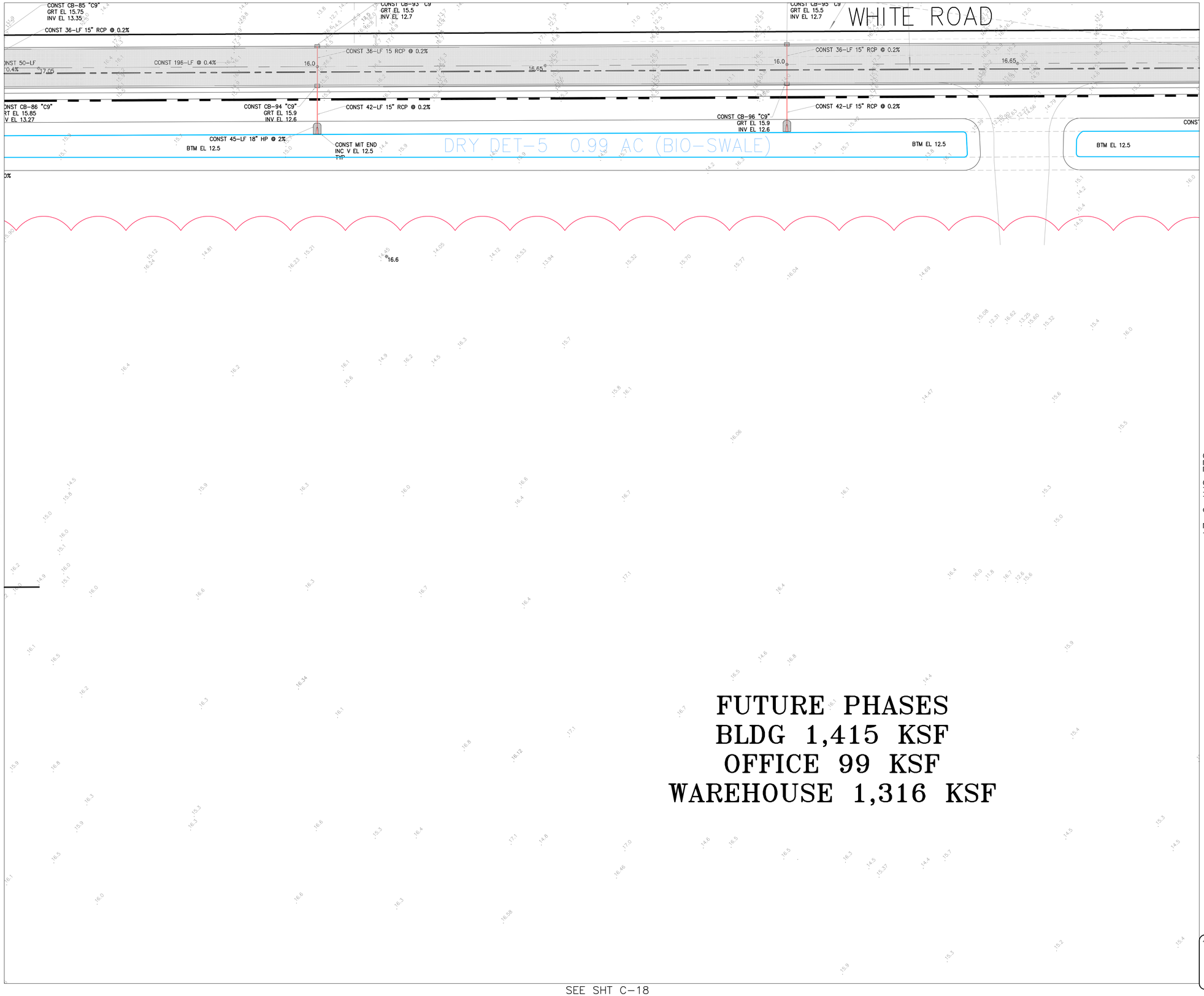
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COA 6986

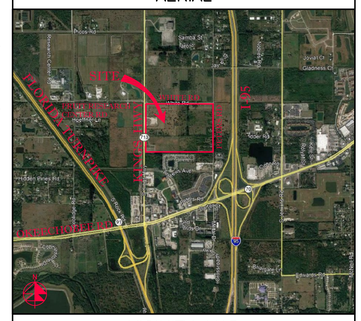
SHEET NO.

C-18



FUTURE PHASES
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OFFICE 99 KSF
WAREHOUSE 1,316 KSF

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

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DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

SHEET NO.

C-19

SEE SHT C-21

SEE SHT C-18

KSF

DRY DETENTION-7 1.35 AC (BIO-

CONST CS-103 "H" W/ USF 6609 GRATE/AE GRT EL 13.75 BLDR EL 11.5 INV EL 7.2

BTM EL 12.5

CONST CB-50 "J9" GRT EL 15.5 INV EL 6.5 W 7.0 E 9.0 N/S

PLUG & BLOCK INV EL 9.0

CONST 335-LF 54" RCP @ 0%

CONST 24-LF 30" RCP @ 0%

CONST 227-LF 48" RCP @ 0%

CONST CB-42 "J9" GRT EL 16.25 INV EL 7.0 E/W 9.0 N/S

PLUG & BLOCK INV EL 9.0

CONST 51-LF 24" RCP @ 0%

CONST 192-LF 48" RCP @ 0%

CONST CB-41 "C9" GRT EL 15.5 INV EL 7.0 E/W 9.0 N/S

PLUG & BLOCK INV EL 9.0

CONST 24-LF 30" RCP @ 0%

CONST 331-LF 48" RCP @ 0%

CONST 61-LF 42" RCP @ 0.6%

CONST CB-32 "C9" GRT EL 16.3 INV EL 7.0

CONST 35-LF 48" RCP @ 0.6%

CONST 40-LF @ 2%

CONST 181-LF @ 0.61%

CONST CB-49 "C9" GRT EL 15.35 INV EL 9.0 N 11.4 S

CONST 35-LF 24" RCP @ 0%

CONST 54-LF 24" RCP @ 0.2%

CONST 225-LF @ 0.33%

CONST 198-LF @ 0.38%

CONST CB-40 "C9" GRT EL 15.5 INV EL 9.0 N 11.4 S

CONST 52-LF 18" RCP @ 0.2%

CONST 35-LF 24" RCP @ 0%

CONST 128-LF @ 0.86%

CONST 102-LF @ 0.35%

CONST 101-LF @ 0.64%

CONST CB-33 "C9" GRT EL 16.32 INV EL 6.8

CONST 59-LF 48" HP @ 3.1%

CONST 96-LF EXF-1 W/10-LF 18" RCP @ 0%

CONST 96-LF EXF-2 W/10-LF 24" RCP @ 0%

CONST CS-48 RIM EL 16.5 INV EL 12.0 S 11.5 W 11.5 N

CONST 34-LF EXF-1 W/10-LF 18" RCP @ 0%

CONST M-35 RIM EL 15.45 INV EL 12.0

CONST 20-LF EXF-1 W/10-LF 18" RCP @ 0%

CONST M-37 RIM EL 15.45 INV EL 12.0 S 11.5 E 11.5 W

CONST CS-39 RIM EL 16.5 INV EL 11.5 N 12.0 S

CONST 60-LF @ 1.67%

CONST CB-31 "C9" GRT EL 15.35 INV EL 6.2

INV EL 5.0

CONST 61-LF 18" HP @ 2%

CONST CB-30 "C9" GRT EL 15.35 INV EL 9.5

CONST CB-43 "C9" GRT EL 15.5 INV EL 12.0

CONST M-44 RIM EL 16.18 INV EL 12.0

CONST CB-45 "C9" GRT EL 15.5 INV EL 12.0

CONST CB-47 "C9" GRT EL 15.5 INV EL 12.0

CONST M-46 RIM EL 16.6 INV EL 12.0 S

CONST CB-34 "C9" GRT EL 15.5 INV EL 12.0

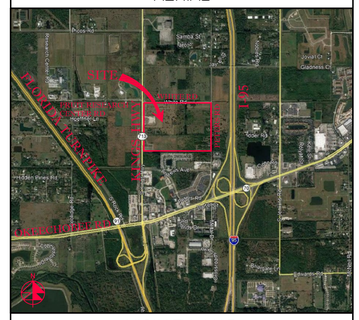
CONST CB-36 "C9" GRT EL 15.5 INV EL 12.0

CONST CB-38 "C9" GRT EL 15.5 INV EL 12.0

LITTORAL ZONE

SEE SHT C-15

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

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SEAL

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SHEET NO.

C-20

AD

WHITE ROAD

CONST CB-97 "C9"
GRT EL 15.5
INV EL 12.7

CONST CB-99 "C9"
GRT EL 15.5
INV EL 12.7

GRT EL 15.9
INV EL 12.8

CONST 36-LF 15" RCP @ 0.2%

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16.65

16.0

16.65

16.0

16.5

16.0

CONST 42-LF 15" RCP @ 0.2%

CONST CB-98 "C9"
GRT EL 15.9
INV EL 12.6

CONST CB-100 "C9"
GRT EL 15.9
INV EL 12.6

CONST 42-LF 15" RCP @ 0.2%

CONST CB-102 "C9"
GRT EL 15.9
INV EL 12.7

BTM EL 12.5

DRY DET-6 0.85 AC (BIO-SWALE)

BTM EL 12.5

CONST 60-LF 15 RCP @ 0.3%

BTM EL
12.5

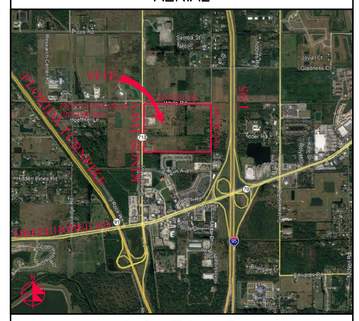
DRY DETENTION-7 1.35 AC (BIO-SWALE)

SEE SHT C-19

SEE SHT C-20

SF

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

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Fort Pierce, Florida

Grading, Paving & Drainage Plan

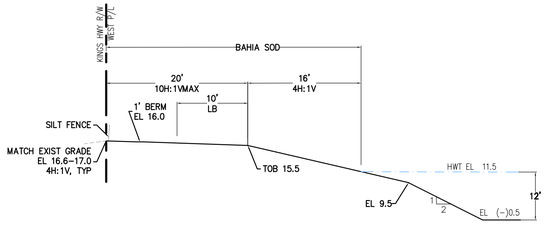
DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

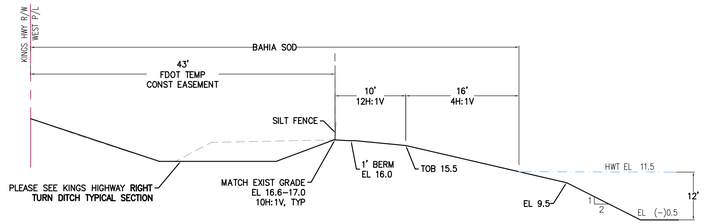
COA 6986

SHEET NO.

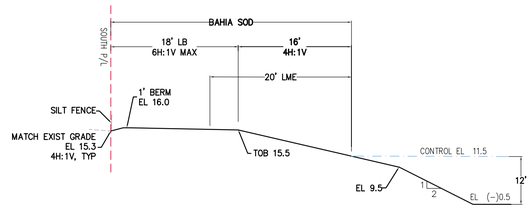
C-21



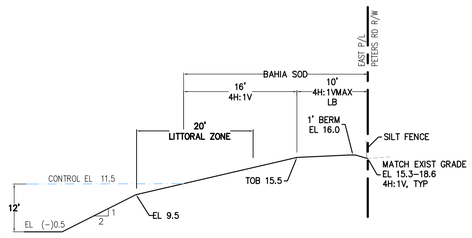
LAKE-1 SECTION
@ WEST P/L



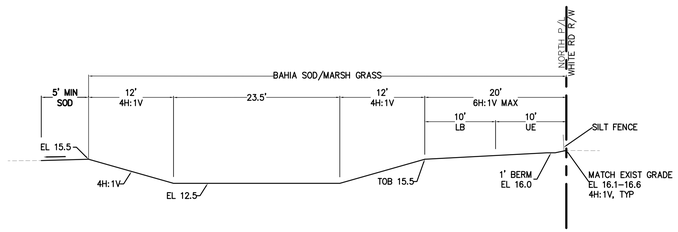
LAKE-1 SECTION
@ WEST P/L



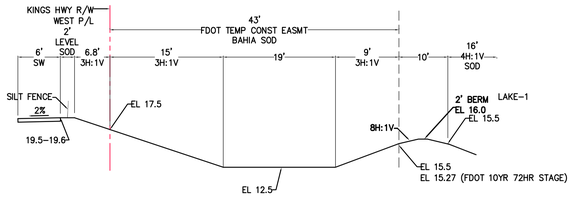
LAKE-3 SECTION
@ SOUTH P/L



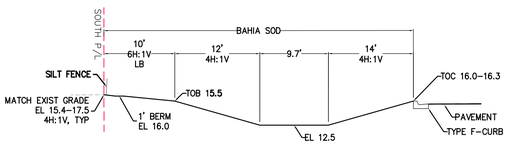
LAKE-3 SECTION
@ EAST P/L



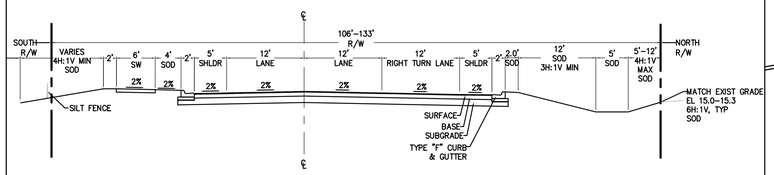
DRY DETENTION / BIO-SWALE @ NORTH P/L



FDOT TEMP CONST EASMT
KINGS HIGHWAY RIGHT TURN DITCH
TYPICAL SECTION



DRY DETENTION @ SOUTH P/L



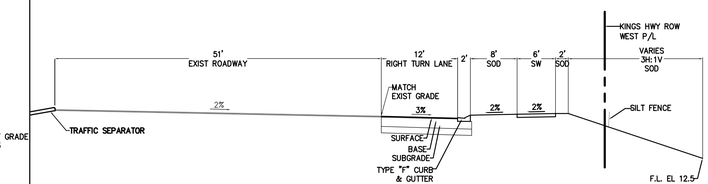
PAVEMENT SECTION:

SURFACE: 2 X 1.5" TYPE SP-12.5

BASE: 10" LIMEROCK / COQUINA ROCK / CRUSHED CONCRETE

SUBGRADE: 12" COMPACTED 98% MAX D.D. (AASHTO T-180)

WHITE ROAD W/ RIGHT TURN LANE
TYPICAL SECTION



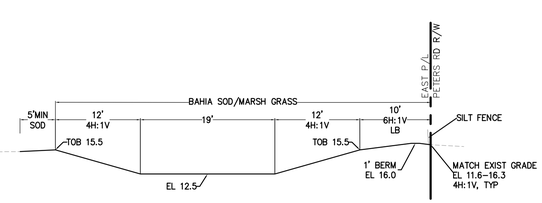
PAVEMENT SECTION:

SURFACE: 1.5" TYPE SP STRUCTURAL COURSE (TRAFFIC D)
1.5" TYPE SP STRUCTURAL COURSE (TRAFFIC D) (PG 76-22)
¾" FRICTION COURSE FC-5 (PG 76-22)

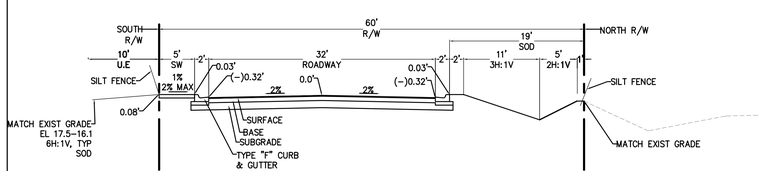
BASE: 17.5" LIMEROCK / COQUINA ROCK / CRUSHED CONCRETE

SUBGRADE: 12" STABILIZED LBR-40

KINGS HWY RIGHT TURN
TYPICAL SECTION



DRY DETENTION / BIO-SWALE @ EAST P/L



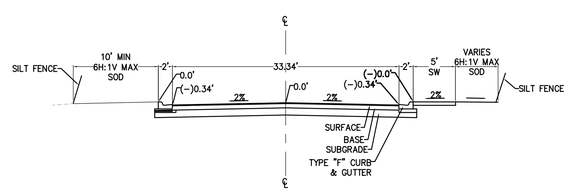
PAVEMENT SECTION:

SURFACE: 2 X 1.5" TYPE SP-12.5

BASE: 10" LIMEROCK / COQUINA ROCK / CRUSHED CONCRETE

SUBGRADE: 12" COMPACTED 98% MAX D.D. (AASHTO T-180)

WHITE ROAD
TYPICAL SECTION



PAVEMENT SECTION:

SURFACE: 2.5" TYPE S-1 / S-3 ACSC

BASE: 8" LIMEROCK / COQUINA ROCK / CRUSHED CONCRETE

SUBGRADE: 12" STABILIZED LBR-40

MAIN DRIVE
TYPICAL SECTION

REVISIONS

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TEL: (561) 575-6030
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jhi@bellsouth.net

Kings Highway Commerce Park
Fort Pierce, Florida

SECTIONS

JOB NO.	2101-1355
DRAWN BY	CLJ
DESIGNED BY	JHI
SCALE	NA
DATE	01/22/2021

SEAL

FR # 6986

SHEET NO.
C-32

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING ABOVE GROUND, UNDERGROUND, AND ON THE SURFACE STRUCTURES AND UTILITIES AGAINST THE CONSTRUCTION OPERATION THAT MAY CAUSE DAMAGE TO SAID FACILITIES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED TESTS TO BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY APPROVED BY THE ENGINEER.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 24 HOURS PRIOR TO ANY REQUIRED INSPECTIONS AND SHALL SUPPLY ALL EQUIPMENT NECESSARY FOR INSPECTION AND/OR TEST.
4. THE CONTRACTOR SHALL GIVE ADEQUATE NOTIFICATION TO ALL AFFECTED UTILITY OWNERS FOR REMOVAL, RELOCATION AND ALTERATION OF THEIR EXISTING FACILITIES.
5. WHERE ENCOUNTERED, UNSUITABLE MATERIAL SHALL BE REMOVED TO A DEPTH AN AREA DETERMINANT BY THE ENGINEER AND BACKFILLED WITH CLEAN GRANULAR SAND OR SELECT MATERIAL APPROVED BY THE ENGINEER. BACKFILLING SHALL BE IN LAYERS NOT GREATER THAN 8" THICKNESS AND COMPACTED TO 100 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO T99-C. FILL UNDER BUILDING SHALL BE PLACED IN ACCORDANCE WITH SOIL ENGINEER'S RECOMMENDATIONS.
6. ALL WORK SHALL BE PERFORMED IN A WORKMANSHIP MANNER AND SHALL MEET WITH ALL APPLICABLE CITY, COUNTY, STATE, AND FEDERAL REGULATIONS AND/OR CODES, INCLUDING OSHA.
7. THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND/OR LICENSES TO COMMENCE CONSTRUCTION.
8. ALL CONCRETE SHALL DEVELOP A 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI OR OTHERWISE NOTED.
9. ALL REINFORCING STEEL SHALL CONFORM TO ASTM-615 AND HAVE A TENSILE STRENGTH OF 60,000 PSI OR OTHERWISE NOTED.
10. THE CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR A PERIOD OF ONE YEAR FORM THE DATE THAT PROJECT HAS BEEN ACCEPTED. ALL FAULTY CONSTRUCTION AND/OR MATERIALS DURING FORESAID PERIOD SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

DRAINAGE

1. ALL DRAINAGE STRUCTURES SHALL BE CONSTRUCTED AS PER DETAIL AND IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
2. PIPE TRENCH SHALL BE DRY WHILE PIPE IS BEING LAID AND TO BE BEDDED PER DETAIL AND IN CONFORMANCE WITH SECTION 430, FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
3. PIPE TRENCHES TO EXCAVATED AND BACKFIELD IN ACCORDANCE WITH SECTION 125, FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
4. THE FOLLOWING PIPES SHALL CONFORM WITH THE APPROPRIATE FOLLOWING SECTIONS OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION:
   1. REINFORCED CONCRETE PIPE (RCP) – SECTIONS 430 AND 941
   2. CORRUGATED ALUMINUM PIPE (CAP) – SECTIONS 430 AND 945
   3. CORRUGATED STEEL PIPE (CMP) – SECTIONS 430 AND 943
5. ALL CORRUGATED PIPES SHALL BE INSTALLED WITH MAXIMUM LENGTHS IN ORDER TO MINIMIZE JOINTS.
6. ALL CONNECTION BANDS, FOR CORRUGATED PIPES, SHALL BE CORRUGATED, LAP-TYPE, IN CONFORMANCE WITH AASHTO M-196, AND TO BE MADE WATER-TIGHT BY USING A GASKET AT LEAST SIX (6) INCHES WIDE BY 3/4" THICK.
7. HDPE PIPE MATERIALS:
   HDPE PIPES 12" THROUGH 36" NOMINAL DIAMETER:
   TYPE "S" SMOOTH INTERIOR PIPE IN CONFORMACE WITH AASHTO M294.
   NOTE: CORRUGATIONS SHALL BE ANNULAR CONFIGURATION ONLY.
   HDPE PIPES 42" AND 48" NOMINAL DIAMETER:
   TYPE "D" SMOOTH INTERIOR, SMOOTH EXTERIOR PIPE IN CONFORMANCE MP46-95 TYPE "D".
8. ALL SOD LAID WITHIN SLOPES OF BERMS, DRAINAGE SWALES, AND RETENTION AREAS SHALL BE PINNED PER ENGINEERS DIRECTION.
9. ALL PIPE JOINTS SHALL BE WRAPPED WITH FILTER FABRIC.
10. ALL ROOF DRAINS AND YARD DRAINS SHALL BE CONNECTED TO STRUCTURES BY THE UNDERGROUND CONTRACTOR.

ROADWAY

1. SUBGRADE SHALL BE AS SHOWN ON SECTION.
2. BASE SHALL BE AS SHOWN ON SECTION, HAVE A MINIMUM LBR 100 AND TO BE COMPACTED TO 98 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTOT-180.
3. PRIME COAT SHALL BE APPLIED AT THE RATE OF .15 GALLON PER SQ. YARD. WHERE REQUIRED, TACK SHALL BE APPLIED AT THE RATE OF . .08 GALLON PER SQUARE YARD.
4. THE CONTRACTOR IS TO SUBMIT ALL REQUIRED TESTS ON SUBGRADE, BASE AND SURFACE COURSE MATERIAL PRIOR TO ANY REQUEST FOR PAYMENT.
5. IF ANY TEST FAILS TO MEET THEIR SPECIFICATIONS, THE CONTRACTOR, AT HIS EXPENSE, SHALL CORRECT ALL DEFICIENT WORK AND SUBMIT TEST RESULTS INDICATING COMPLIANCE WITH THESE SPECIFICATIONS PRIOR TO ANY REQUEST FOR PAYMENT.
6. ALL UNDERGROUND UTILITIES WITHIN ROADWAY CONSTRUCTION SHALL BE INSTALLED PRIOR TO ROAD CONSTRUCTION.
7. ALL ROADWAY CONSTRUCTION AND MATERIAL SHALL CONFORM TO THE APPLICABLE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
8. ALL CURBING, AND RAISED SIDEWALK IF SHOWN, SHALL BE CONSTRUCTED PRIOR TO ASPHALT PAVING.

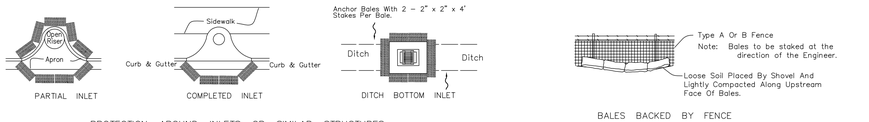
CONSTRUCTION INSPECTION CHECKPOINTS

ROADWAY: THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR INSPECTION AT THE FOLLOWING CHECKPOINTS:

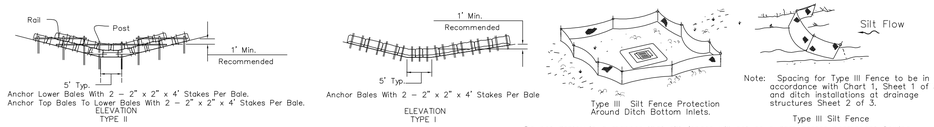
1. PRIOR TO ANY DEVIATION FROM THE APPROVED GRADING, PAVING, AND DRAINAGE PLANS.
2. PRIOR TO BACK FILLING OF TRENCHES CONTAINING HYDRAULIC CONDUITS, SO THAT JOINTS MAY BE INSPECTED.
3. UPON COMPLETION OF THE SUBGRADE COMPACTION.
4. AT THE TIME OF DELIVERY OF BASE MATERIAL.
5. UPON COMPLETION OF THE BASE AND PRIOR TO PRIMING
6. IMMEDIATELY PRIOR TO AND DURING THE FIRST APPLICATION OF THE MIXES WEARING SURFACE.
7. UPON COMPLETION OF CONSTRUCTION A FINAL INSPECTION MAY BE MADE WITH THE CONTRACTOR.

STRIPING

1. ALL PAVEMENT STRIPING SHALL BE TRAFFIC PAINT IN ACCORDANCE WITH FDOT INDEX 17346. STRIPING FOR PEDESTRIAN CROSSING AND STOP BARS SHALL BE THERMOPLASTIC IN ACCORDANCE WITH FDOT INDEX 17346.



PROTECTION AROUND INLETS OR SIMILAR STRUCTURES



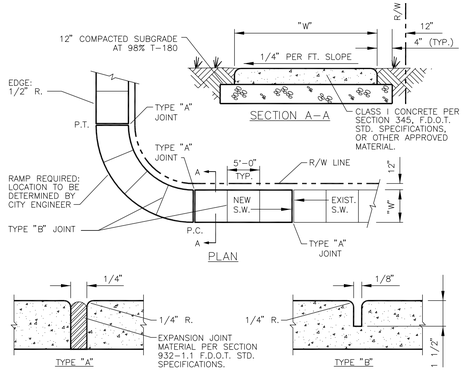
Application and Spacing: The use of Types I & II bale barriers should be limited to the conditions outlined in Chart 1, Sheet 1 of 3, Index No. 102, FDOT standard specifications.

BARRIER FOR UNPAVED DITCHES

Do not deploy in a manner that silt fences will act as a dam across permanent flowing watercourses. Silt fences are to be used at upland locations and turbidity barriers used at permanent bodies of water.

SILT FENCE APPLICATIONS
8" MIN EMBEDMENT

BALED HAY OR STRAW BARRIERS AND SILT FENCES



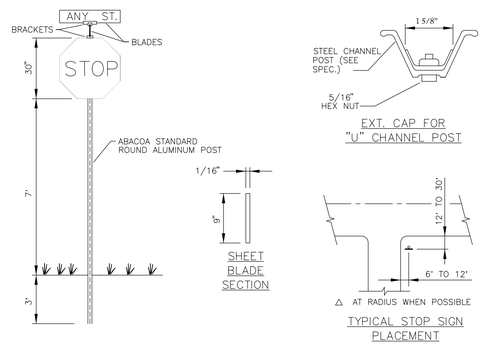
SIDEWALK JOINT

TABLE OF SIDEWALK THICKNESS – "t"	
RESIDENTIAL AREAS	4"
WITHIN 10' OF CROSS-STREETS, AT DRIVEWAYS & OTHER AREAS	6"
TABLE OF SIDEWALK WIDTHS – "W"	
NON-VEHICULAR AREAS	4'*
THIS PROJECT WILL BE	5'
OTHER AREAS AS SPECIFIED BY THE LAND DEVELOPMENT REGULATIONS.	

* MINIMUM.

TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
"A"	P.C. AND P.T. OF CURVES, JUNCTION OF EXISTING & NEW SIDEWALKS & EVERY 30'.
"B"	5'-0" CENTER TO CENTER ON SIDEWALKS SCORED DURING PLACEMENT OR SAWCUT WITHIN 24 HOURS OF PLACEMENT
"A"	WHERE SIDEWALK ABUTS CONCRETE CURBS, DRIVEWAYS, AND SIMILAR STRUCTURES

SIDEWALK CONSTRUCTION DETAIL



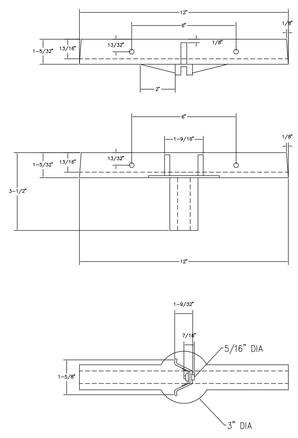
GENERAL SPECIFICATIONS

FLAT BLADE: ALCOA #86054.6063-T6 ALLOY ETCHED, DEGREASED WITH #1200 ALODINE FINISH WITH #2277 GREEN SCOTCHLITE BACKGRAOUND OR EQUAL DIMENSIONS – 9" & 12" MIN H., 24",30" OR 36" L.
LETTER: NAME – 6" & 9" SERIES 'B' #2270 SCOTCHLITE (SILVER) OR EQUAL – SUFFIX – 4.5" SERIES AS ABOVE.
BRACKETS: SEE DETAILS
POST: STEEL FLANGED CHANNEL POST WITH BAKED GREEN ALKYD FINISH PER A.S.T.M. – A – 123 WITHOUT ANCHOR PLATES.
STOP SIGN: R1-1 MUTCD – 30"x30" (HIGH INTENSITY)
LOCATION: ONE PER INTERSECTION AS INDICATED ON THE PLANS.
POLICY: 9" BLADE WITH 6" LETTERS FOR TWO LANE ROADS WITH A SPEED LIMIT UNDER 45 MPH.

12" BLADES WITH 9" LETTERS:
–THOROUGHFARE ROADS FOUR LANES OR WIDER
–TWO LANE ROADS WITH A POSTED SPEED LIMIT 45 MPH OR MORE.

DIMENSION TOL.	2.00	3.00
'A' ± 3/32"	1-15/32"	1-7/8"
'B' ± 1/8"	3-1/16"	3-1/2"
'C' ± 1/16"	1-9/32"	1-5/16"
'D' ± 1/32"	3/16"	7/32"

STREET SIGN/STOP SIGN DETAIL



9"-12" SNS (D-3) BRACKET DETAIL

A- ALL DIMENSIONS AND SPECIFICATIONS CONTAINED IN DRAWINGS

B- MATERIALS: ALUMINUM HIGH STRENGTH ALLOY 380 ASTM B95-60T. HARDWARE SHALL BE SMOOTHLY FINISHED AND PRECISION MACHINED TO FIT STANDARD FLAT BLADE SECTION. ALLOWING CLEARANCE FOR REFLECTIVE FACING ACCORDING TO REQUIREMENTS

C- POST TO SIGN BRACKET: THEY SHALL BE ATTACHED FIRMLY ON STANDARD ROUND TUBING OR U-CHANNEL POSTS BY MEANS OF (2) 5/16" DIAMETER HEX HEAD SCREWS

D- SIGN TO SIGN BRACKET: THEY SHALL BE 90 OR 45 DEGREE TYPE WITH MINIMUM REQUIREMENTS EQUAL TO THE POST TO SIGN BRACKET

REVISIONS

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Fort Pierce, Florida

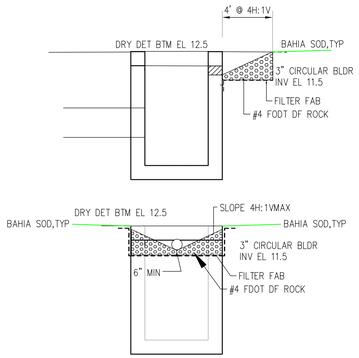
PAVING, GRADING, & DRAINAGE DETAILS

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01/22/2021	NA	JHI	CLJ	2101-1355

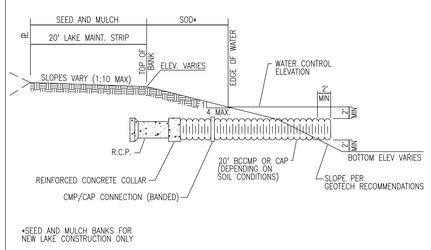
SEAL

COA # 6986

SHEET NO.
C-33



CS-5, CS-28, CS-92, CS-103

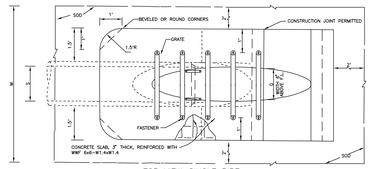


TYPICAL LAKE BANK AND DRAINAGE OUTFALL

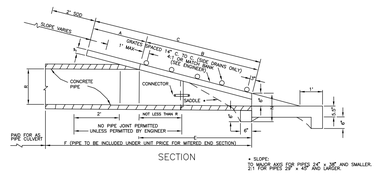
4 TO 1 SLOPE

	D	X	A	B	C	E	F	G	M SINGLE PIPE	M DOUBLE PIPE	M TRIPLE PIPE	M QUAD PIPE	N	GRATE STANDARD WEIGHT PIPE
15"	2'-0"	2.33'	5.00'	8'-3"	4.63'	6"	1'-4"	4.63'	7.93'	8.76'	14'-3"	1'9"	15"
18"	2'-0"	2.58'	5.25'	8'-6"	5.00'	9"	1'-5"	4.83'	7.93'	10.56'	14'-6"	2'1"	15"
24"	3'-0"	2.83'	6.18 A	9'-11"	7.00 A	11"	1'-7"	5.50'	8.96'	12.33'	16'-10"	2'5"	15"
30"	3'-6"	3.00'	6.25' ◇	11'-9"	9.00'	13"	2'-0"	6.08'	10.10' ◇	14.58' ◇	18.83' ◇	2'9"	15"

△ 6.42' △ 6.25' DIMENSIONS PERMITTED TO ALLOW USE OF 8' STANDARD PIPE LENGTHS.
◇ 10.40' ◇ 10.10' DIMENSIONS PERMITTED TO ALLOW USE OF 12' STANDARD PIPE LENGTHS.
△◇ CONCRETE SLAB SHALL BE DEEPENED TO FORM BRIDGE ACROSS CROWN OF PIPE. SEE SECTION BELOW.



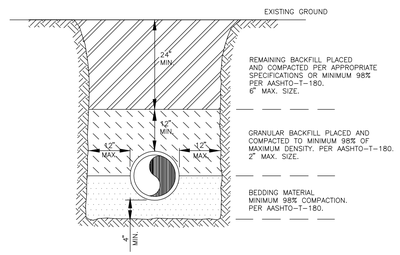
NOTE:
1. GRATE SHALL BE UTILIZED ONLY FOR CROSS DRAIN UNDER PUBLIC RIGHT OF WAY.



* SLOPE:
TO MAJOR AXIS FOR PIPES 24" x 38" AND SMALLER.
2:1 FOR PIPES 29" x 45" AND LARGER.

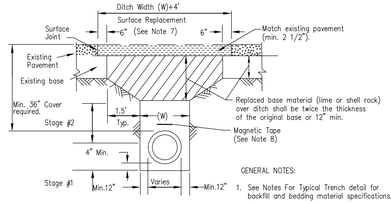
MITERED END DETAIL

SEE LATEST FDOT ROADWAY & TRAFFIC DESIGN STANDARDS MANUAL
SIDE DRAIN MITERED END SECTION FOR SINGLE AND MULTIPLE ROUND CONCRETE PIPE



NOTES:
1. BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8"-7/8" SIZING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.
2. THE PIPE SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH WITH APPROPRIATE COMPACTION UNDER THE PIPE HAUNCHES.
3. THE PIPE SHALL BE PLACED IN A DRY TRENCH.
4. BACKFILL SHALL BE FREE OF UNSUITABLE MATERIAL SUCH AS LARGE ROCK, MUCK, AND DEBRIS.
5. DENSITY TESTS ARE REQUIRED IN 1 FOOT LIFTS ABOVE THE PIPE AT INTERVALS OF 400' MAXIMUM, OR AS DIRECTED BY THE INSPECTOR.

TYPICAL TRENCH DETAIL



DENSITY PROCEDURES:

The backfill for the first and second stages shall be placed in 6" layers (compacted thickness) and shall be compacted to 100% of maximum density as determined by AASHTO T-99.

Stage #1

The contractor shall provide adequate compacted fill beneath the haunches of the pipe, using mechanical tamps suitable for this purpose. This compaction applies to the material placed beneath the haunches of the pipe and above any bedding required.

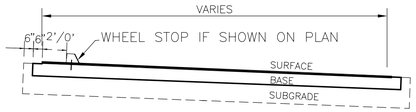
Stage #2

The contractor shall obtain a well compacted bed and fill along the sides of the pipe and to a point indicating the top of sub-grade material.

GENERAL NOTES:

1. See Notes For Typical Trench detail for backfill and bedding material specifications.
2. Base material shall be placed in 6" layers and each layer compacted to 98% of maximum density per AASHTO T-180.
3. Asphalt concrete pavement joints shall be mechanically sawed (butt joints only).
4. Surface material will be consistent with the existing surface. The affected area shall be restored to equal or better condition.
5. The developer/contractor shall be responsible for compliance regarding any additional specifications as required by the property owner. (FDOT, County, City, etc....)
6. Excavatable "Flowable Fill" with ultimate compressive strength between 50 and 150 psi may be used to substitute for the backfill and base materials.
7. Pavement overlay on both sides of the cut maybe required per owner specification.
8. Magnetic Tape is required for all Potable Water Mains and all PVC/HDPE Force Mains and Reclaimed Water Mains. (See Trenching Detail for installation instructions).
9. The contractor shall be compliant with applicable trench safety regulations (OSHA, etc.)

PIPE INSTALLATION UNDER EXISTING PAVEMENT - OPEN CUT



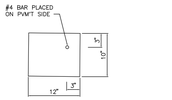
FLEXIBLE PAVEMENT
SURFACE: 2" TYPE S-1/S-3 ACSC
BASE: 10" LIMEROCK / COQUINA ROCK COMP MIN LBR 100
SUBGRADE: 12" COMP
COMP: COMPACTED TO 98% MAX D.D. AASHTO T-180

CONC SLAB
SURFACE: 6" 3KSI W/2-6X6 W1.4XW1.4 WWM OR FIBER MESH W/1.5" SAW-CUTS @ 12' MAX O.C. E.W.
SAW CUT SLAB DIM'S PROPORTION SHALL BE 1.5:1MIN
ALL JOINTS SHALL BE IN ACCORD W/ FDOT INDEX 305
BASE: 4" LIMEROCK / COQUINA ROCK COMP MIN LBR 100
SUBGRADE: 12" COMP

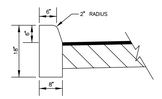
CONCRETE SPECIFICATIONS

1. ALL CONCRETE SHALL REACH COMP STRENGTH OF 3,000 PSI MIN IN 28 DAYS. MIX DESIGN SHALL INCLUDE MINIMUM CEMENT CONTENT OF 470 LBS OF PORTLAND CEMENT TYPE II PER ASTM C-150 & 120 LB OF FLY ASH /AE PER CY AND ADMIXTURES SHALL CONFORM TO ASTM C-494. WATER/CEMENT=0.5 MAX.
2. SLUMP AND CYLINDER TESTS (ASTM C-31) SHALL BE MADE BY AN INDEPENDENT TESTING LABORATORY. PROVIDE 4 TESTS WITH EACH CONCRETE POUR AND/OR EACH 50 YD OF CONCRETE PLACED. SLUMP @ POUR SHALL BE 5 IN MAX. (6" FOR PUMP MIX). NO WATER IS TO BE ADDED ON THE JOB SITE.
3. CONTRACTOR SHALL SUBMIT THE MIX DESIGN TO ENGINEER FOR REVIEW.

PAVEMENT TYP SECTION

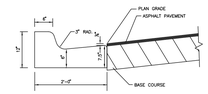


TYPE 'C' CURB



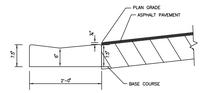
NOTES:
1. SEE F.D.O.T. INDEX NO. 300 FOR ADDITIONAL INFORMATION.
2. CONCRETE TO BE A MINIMUM OF 3000 PSI CONCRETE AT 28 DAYS
3. CURB TO BE IN PLACE PRIOR TO SURFACE COURSE BEING PLACED.
4. SAWCUTS TO BE MADE AT 10' O.C. THROUGHOUT CURB CONST.

TYPE "D" CURB
NOT TO SCALE



NOTE:
1. INSTALL CURB IN ACCORDANCE WITH F.D.O.T. INDEX NO. 300
2. CURB TO BE IN PLACE PRIOR TO SURFACE COURSE BEING PLACED.

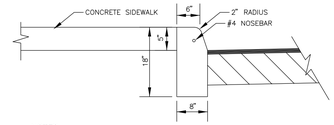
TYPE "F" CURB
NOT TO SCALE



NOTE:
1. INSTALL CURB IN ACCORDANCE WITH F.D.O.T. INDEX NO. 300
2. CURB TO BE IN PLACE PRIOR TO SURFACE COURSE BEING PLACED.

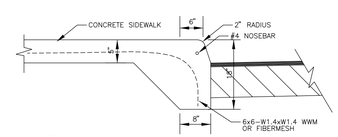
DROP CURB
NOT TO SCALE

CURB DETAILS



NOTES:
1. SEE F.D.O.T. INDEX NO. 300 FOR ADDITIONAL INFORMATION.
2. CONCRETE TO BE A MINIMUM OF 3000 PSI CONCRETE AT 28 DAYS
3. CURB TO BE IN PLACE PRIOR TO SURFACE COURSE BEING PLACED.
4. SAWCUTS TO BE MADE AT 10' O.C. THROUGHOUT CURB CONST.
5. SIDEWALK TO BE POURED AFTER CURB CONSTRUCTION
6. SEE SIDEWALK DETAIL FOR JOINT PLACEMENT

RAISED SIDEWALK W/ CURB
NOT TO SCALE



NOTES:
1. SEE F.D.O.T. INDEX NO. 300 FOR ADDITIONAL INFORMATION.
2. CONCRETE TO BE A MINIMUM OF 3000 PSI CONCRETE AT 28 DAYS
3. SEE SIDEWALK DETAIL FOR JOINT PLACEMENT

MONOLITHIC RAISED SIDEWALK
NOT TO SCALE

SIDEWALK DETAILS

REVISIONS
REV PER CLT 06-25-21

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Kings Highway Commerce Park
Fort Pierce, Florida

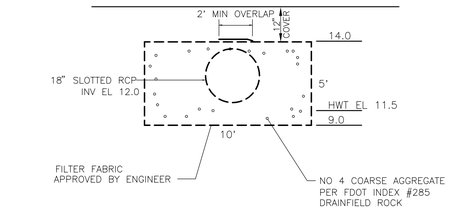
PAVING, GRADING, & DRAINAGE DETAILS

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01/22/2021	NA.	JHI	CLJ	2101-1355

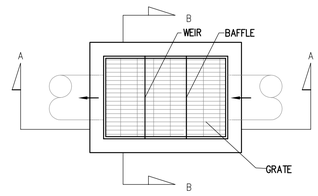
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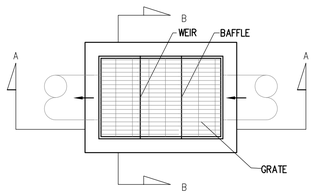
COA # 6986

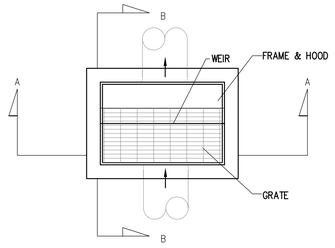
SHEET NO.
C-34

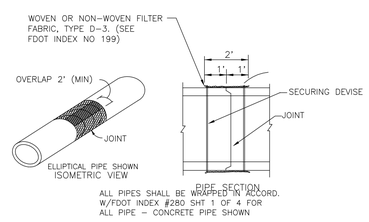


EXFILTRATION TRENCH





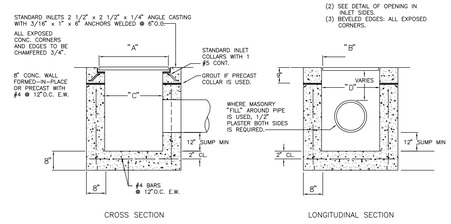




FILTER FABRIC JACKET

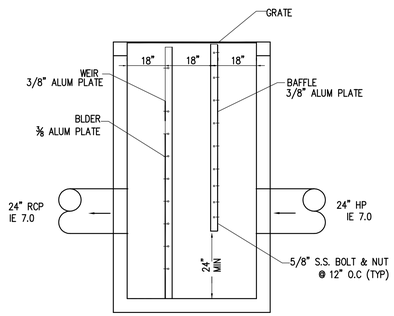
MAX. Q (cfs)	TYPE INLET	"A"	"B"	"C"	"D"	GRATE APPROX. WT
15.66	C	2'-4"	3'-0"	2'-0"	3'-1"	230 LBS.
23.93	D	4'-4"	3'-0"	4'-0"	3'-1"	280 LBS.
43.53	G	6'-4"	3'-0"	6'-0"	3'-1"	330 LBS.
58.20	H	8'-4"	3'-0"	8'-0"	3'-1"	725 LBS.

NOTES:(1) GRATES TO BE CAST IRON WITH ONE (1) SHOP COAT OF RED LEAD PAINT AND WITH ONE (1) FIELD COAT IN INLET FDOT STANDARD SPECIFICATIONS, LATEST EDITION.
(2) SEE DETAIL OF OPENING IN INLET SIDES.
(3) BEVELED EDGES: ALL EXPOSED CORNERS.

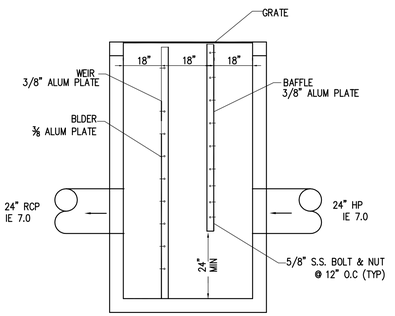


INLET DETAILS

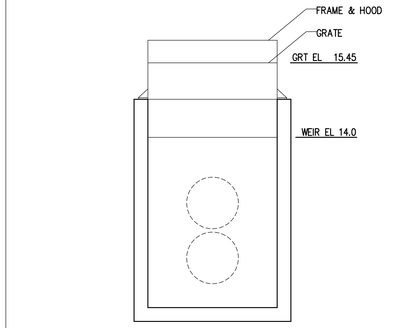
N.T.S.



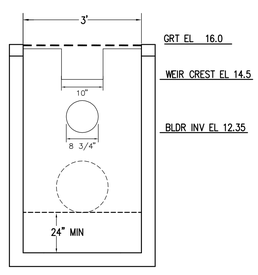
SECTION A-A



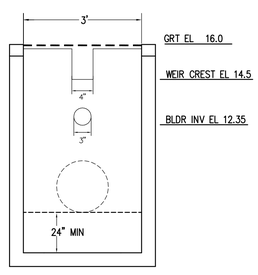
SECTION A-A



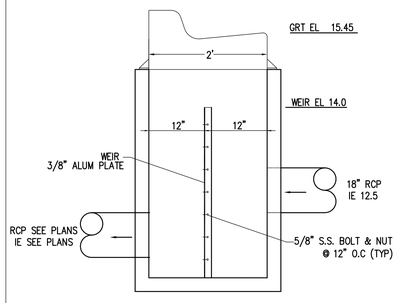
SECTION A-A



SECTION B-B



SECTION B-B

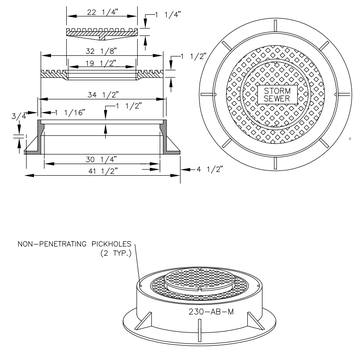


SECTION B-B

CS-1 TYPE "E" CONTROL STRUCTURE

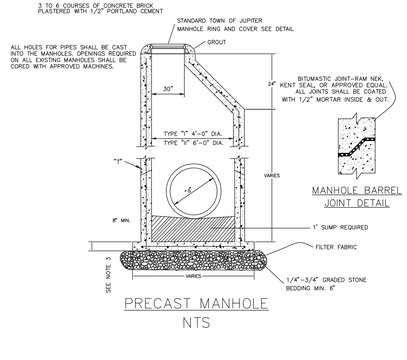
CS-2 TYPE "E" CONTROL STRUCTURE

CS-39,48,62,73 CONTROL STRUCTURE



NOTES:
1. U.S.F. #230-AB-M MANHOLE RING & DOUBLE COVER. APPROX. TOTAL WEIGHT 605 POUNDS.
2. MANHOLE COVER SHALL BE IMPRINTED WITH "STORM SEWER" AND WITH NOTE "CONFINED SPACE".
3. PAVED AREAS - SET FRAMES AT FINISH GRADE, UNPAVED AREAS - SET FRAMES AT FINISH GRADE + 0.15'.

MANHOLE FRAME AND RING DETAIL



NOTES:
1. MANHOLE SHALL CONFORM TO ASTM C478, WITH 4000 PSI CONCRETE.
2. CONE SECTION MAY BE ECCENTRIC OR CONCENTRIC.
3. BASE SHALL BE A MINIMUM OF 8" AND PRECAST WITH BOTTOM SECTION.
4. ADJUSTMENT RINGS SHALL BE MAXIMUM OF 12" HIGH AT CENTER WALL.
5. COMPLETELY FILL ANNULUS BETWEEN PIPE AND M.H. WALL WITH CLAY BRICK AND PORTLAND TYPE II CEMENT.
6. WALL THICKNESS "T" SHALL BE A MINIMUM OF 8".
7. FOR ADDITIONAL INFORMATION AND CLARIFICATION CONCERNING MANHOLE AND INLET CONSTRUCTION DETAILS AND SPECIFICATIONS, REFER TO FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS (STANDARD INDEX MANUAL) LATEST EDITION.

STORM SEWER PRECAST MANHOLE

REVISIONS
REV PER CLT 06-25-21

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Kings Highway Commerce Park
Fort Pierce, Florida

PAVING, GRADING, & DRAINAGE DETAILS

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01/22/2021	NA	JHI	CLJ	2101-1355

SEAL

CDA # 6986

SHEET NO.
C-35

PRUIT RESEARCH CENTER ROAD

WHITE ROAD

WHITE ROAD

WHITE ROAD

KING'S HIGHWAY (SR-713)

DRY DET-4

0.19 AC
(BIO-SWALE)

DRY DET-5 0.99 AC (BIO-SWALE)

DRY DET-6 0.85 AC (BIO-SWALE)

CONST SILT FENCE
TYP

LITTORAL
ZONE

43' FDOT
TEMP CONS EASMT

FOUNTAIN

LAKE-1
5.34 AC

FUTURE PHASES
BLDG 1,415 KSF
OFFICE 99 KSF
WAREHOUSE 1,316 KSF

DRY DETENTION-7 1.35 AC (BIO-SWALE)

FOUNTAIN

LITTORAL
ZONE

CONST SILT FENCE
TYP

20'X50' CONSTRUCTION ENTRANCE
12" DEEP #4 FDOT AGGREGATE

LAKE-2
1.93 AC

LITTORAL
ZONE

FOUNTAIN

LS

BLDG-A
PH-I
265 KSF
17 KSF OFFICE
248 KSF WAREHOUSE
F.F.EL 20.9 FT, NAVD
17.0 ft, NAVD MIN

BLDG-B
PH-I
220 KSF
14 KSF OFFICE
207 KSF WAREHOUSE
F.F.EL 20.9 FT, NAVD
17.0 ft, NAVD MIN

LITTORAL
ZONE

LAKE-3
2.30 AC

FOUNTAIN

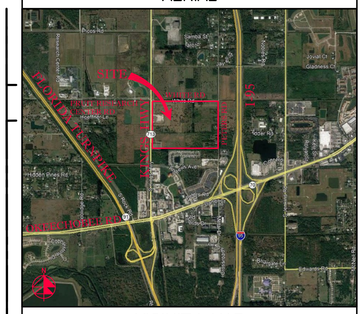
PETERS ROAD

BENCH W/TRASH BIN
TYP

DRY DETENTION-8 1.49 AC

CONST SILT FENCE
TYP

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

100' 0 50' 100' 200'

SCALE: 1" = 100'

REVISIONS

REV PER CITY 06-25-21

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Kings Highway Commerce Park

Fort Pierce, Florida

Pollution Prevention Plan

DRAWN BY: DDI

DESIGNED BY: JHI

SCALE: 1" = 100'

DATE: 01-22-2021

SEAL

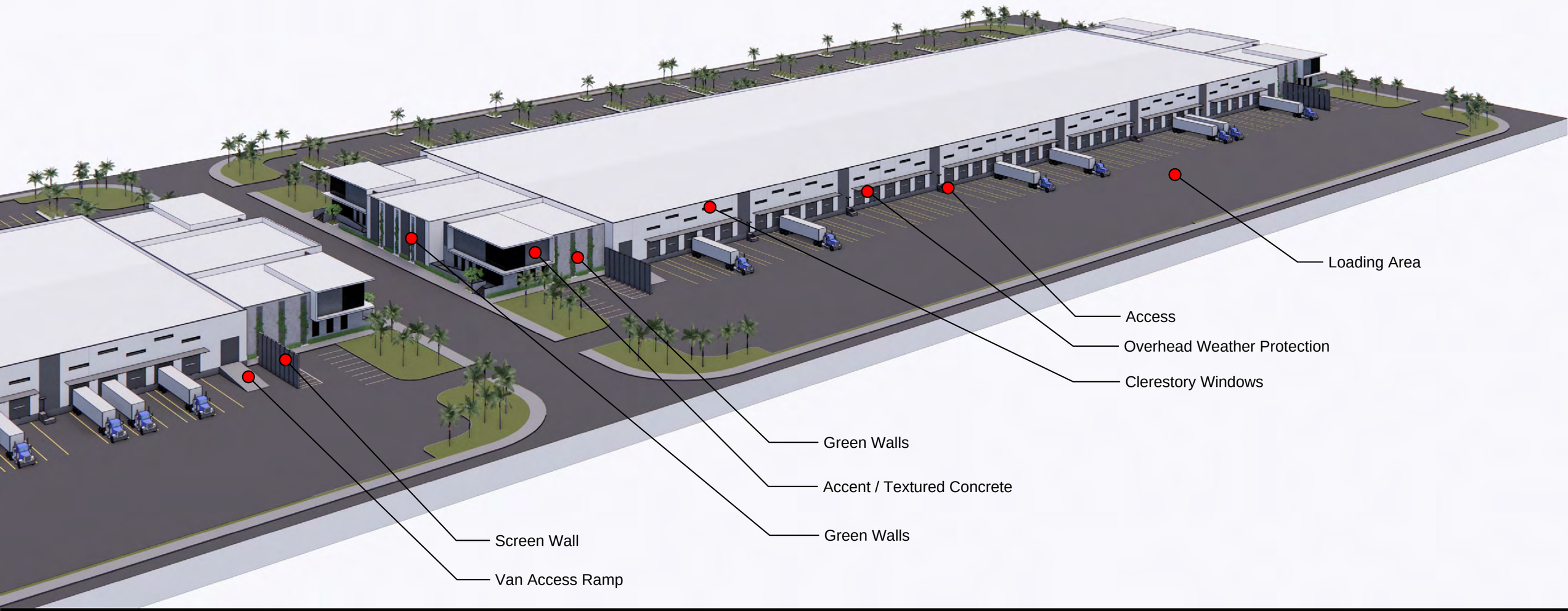
FR 6986
JEFF H. IRAVANI 33155

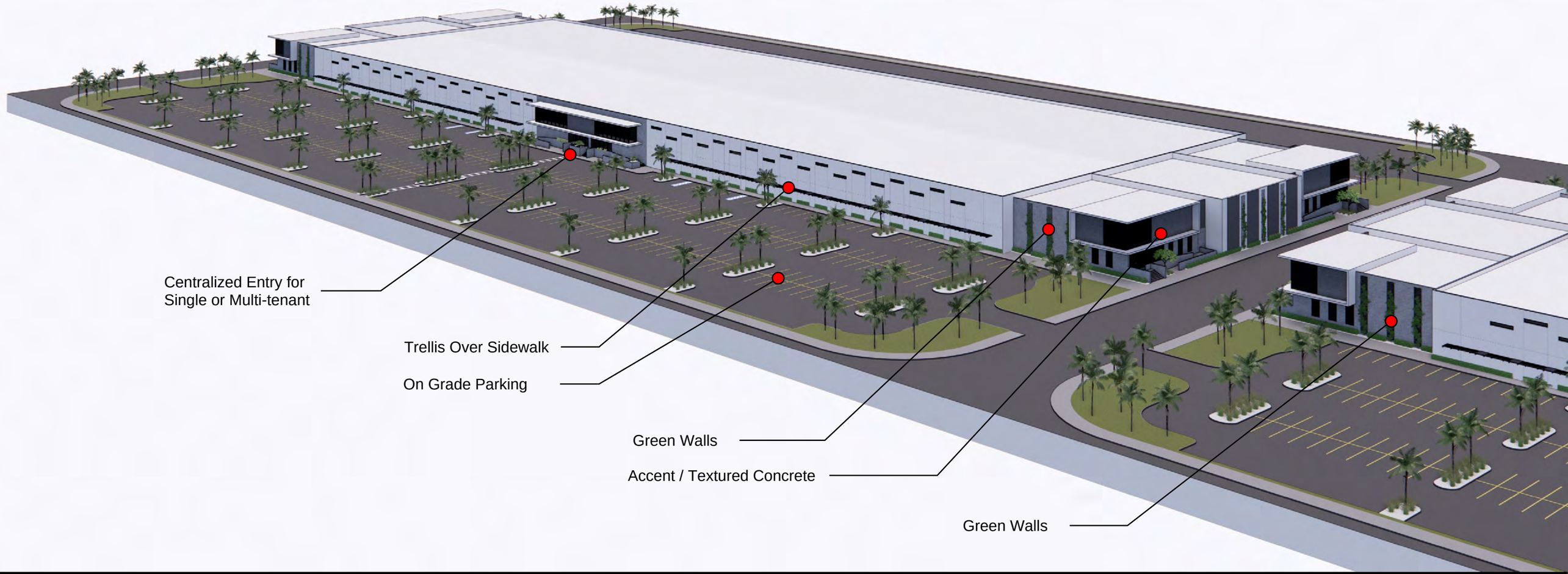
JOB NO.
2101-1355

SHEET NO.
C-41

Kings Highway Commerce Park

Schematic Design Package


Loading Area
Access
Overhead Weather Protection
Clerestory Windows
Green Walls
Accent / Textured Concrete
Green Walls
Screen Wall
Van Access Ramp


Centralized Entry for
Single or Multi-tenant
Trellis Over Sidewalk
On Grade Parking
Green Walls
Accent / Textured Concrete
Green Walls



Kings Highway Commerce Park
Schematic Design Package



Kings Highway Commerce Park
Schematic Design Package



Kings Highway Commerce Park
Schematic Design Package



Kings Highway Commerce Park
Schematic Design Package



Kings Highway Commerce Park
Schematic Design Package



Kings Highway Commerce Park
Schematic Design Package



Kings Highway Commerce Park
Schematic Design Package



Kings Highway Commerce Park
Schematic Design Package

Kings Highway Commerce Park
Schematic Design Package

Kings Highway Commerce Park
Schematic Design Package

Kings Highway Commerce Park
Schematic Design Package





Kings Highway Commerce Park
Schematic Design Package

Kings Highway Commerce Park
Schematic Design Package

The proposed design looks to integrate non-typical warehouse/tilt building architectural features to reduce the scale of the buildings and create an office building scale and asethetic.



Kings Highway Commerce Park
Schematic Design Package

The proposed design looks to integrate non-typical warehouse/tilt building architectural features to reduce the scale of the buildings and create an office building scale and asethetic.

Sherwin Williams Pure White SW 7005

Sherwin Williams Cyberspace SW 7076



Precast board formed concrete-exposed

Kings Highway Commerce Park
Schematic Design Package

Stormwater Management Report

For

Kings Highway Commerce Park

Ft. Pierce, Florida

04/26/2021

Prepared By:

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Jeff H. Iravani, P.E.
Florida Registration # 33155
FR#6986

Contents

I. Introduction 3

II. Site Data 4

III. Off-site Discharge 5

IV. Wetlands 5

V. Water Table 5

VI. Design Criteria 5

VII. Allowable Discharge 6

VIII. Bleeder Design 7

IX. Utilities 7

X. Maintenance Entity 7

XI. Irrigation 7

XII. ICPR Flood Routing 7

XI. Nutrient Removal 8

I. Introduction

The project is located in the southeast quadrant of Kings Hwy (SR-513) and White Road and extends east to Peters Road. The site is approximately 1 mile north of Okeechobee Rd (SR-70) and consist of 109.46 ac of land. See Exhibit-A

A commercial & industrial development with ultimate buildout of 43.61 ac of buildings and supporting infrastructure is proposed.

The site historical discharge is to North St. Lucie River Water Control District (NSLRWCD) Canal-40 along the west side of Kings Hwy via 2-24" CMP and then into the Ten Mile Creek and ultimately into the St. Lucie River North Fork which is considered impaired.
These 2 pipes are now replaced by Florida Department of Transportation (FDOT) with 2-30" RCP as a part of Kings Hwy improvements.

Portions of this project, 2 separate parcels at the time, were previously permitted by South Florida Water Management District (SFWMD). The 39.87 ac parcel to the northwest of the site was permitted under 56-03026-P which is now expired. The 21.27-ac parcel to the southwest was permitted under 56-103824-P which is active.

The proposed master drainage system consists of 3 lakes, with wet retention/detention, totaling 9.56 ac and 5 dry detention areas totaling 4.83 ac.

The dry detention area shall provide the pre-treatment requirements along with exfiltration trenches.

There are 2 control structures that connect to NSLRWCD canal-40 via the 2-existing 30" RCP outfalls. CS-1 is in Lake-1 with CS-2 located in Lake-2.

The construction of this project shall be phased. Phase-1 includes the master drainage system, the main roadway, one drive from White Road to the main roadway and 2-buildings totaling 11.13 ac with supporting infrastructure.

Off-site improvements include 2-right turn lanes on Kings Hwy, widening White Road east approach at the intersection with Kings Hwy, as improved by FDOT, and extending White Road to Peters Road.
The runoff from Kings Hwy improvements including White Road east approach is being detained in the area designated as FDOT Temporary construction easement.
The runoff from the remainder of White Road is routed to the project master drainage system.

Section 24, Township 35S, Range 39E, City of Fort Pierce, St. Lucie County, Florida

II. Site Data

Project area	109.46 ac
White Rd R/W Ded	(-)1.34 ac
Project net area	108.12 ac
White Rd off-site	+2.10 ac
Total area	**110.22 ac**

Bldg area	43.61 ac @ 100%	= 43.61 ac
Pavt	35.84 ac @ 100%	= 35.84 ac
Sidewalk	2.27 ac @ 100%	= 2.27 ac
Lake TOB	11.56 ac	
Water @ el 11.5	9.56 ac @ 100%	= 9.56 ac
Bank	2.00 ac	
Dry Det	4.83 ac	
Imp site w/lake	90.32 ac	
Perv site	17.80 ac	
Imp White Rd	1.93 ac	

Total Imp	**92.25 ac**
Total Perv	**17.97 ac**
Imp w/o lake	**82.69 ac**
Perv w/o Dry Det	**13.14 ac**

% Imp	83.7%
% Imp w/o lake	75.0%

S = 6.8" (Depressional) x (1-0.837) x 0.75 = 0.83 in
CN = 92.3

Phase-I

Bldg. area	11.13 ac
Pavt	16.82 ac
Sidewalk	1.05 ac
Impervious area	29.00 ac

All lakes & dry detention area shall also be constructed in Ph-1.
See Ph-I plan.

III. Off-site Discharge

This project has Kings Hwy to the west, White Road to the north and Peter's road to the east. There are 2 vacant parcels to the south and a RV park.
The only off-site discharge into this project is portion of the White Road from the driveway on White Rd to Peters Road which are conveyed to the master drainage system as identified under s Site Data in Section-II

IV. Wetlands

There are no wetlands on this property**.** As per aerial photograph of the site, the entire site was previously utilized as citrus grove exception of the 5 single family Homes along Peters Road and the 6-ac site on Kings Hwy which was developed as an industrial site. The building on this site was demolished during the Kings Hwy Improvements by FDOT.

V. Water Table

As per attached soil report/boring, the average high-water table is 11.47 FT, NAVD. The report also mentions the water table may be perched. The control elevation in the NSLRWCD canal is 4.5 FT, NAVD. HWT of 11.5 FT, NAVD/13.0 FT, NGVD is assumed for this project which is the same as previous permits referenced under section-I Introduction.
Lake control el is set at 12.35 to provide for 0.85' of wet retention. See Sect XIV.

VI. Design Criteria

Water Quality
CS-1 & 2 at Lake-1 & 2
Control el is set @ 12.35 to provide 0.85' of wet retention for nutrient treatment.
Weir el is set @ el 14.5 to provide 2.05' of wet detention.
Littoral planting is provided so add 'l 50% treatment for impaired waters is not req'd.

Required water quality is the greater of:

a. 2.5" wet detention over impervious area.
b. 1.25" wet retention over impervious area.
c. 1" over the entire project area.

V req wet det = (82.69-43.69 bldg.) x 2.5"/12 = 8.13 A-F
110.22 x 1"/12 = 9.17 A-F
9.17 A-F req'd
V **prop wet det** = 2.05' (lake area (@ 12.35 + @ 14.5)/2 = 2.05'(9.96+11.06)/2 = **21.55 A-F**
Prop wet detention is 235% of req'd. 21.55/9.17 = 235%

VI. Design Criteria, cont'd

Pre-treatment
Vreq pre-treat = 82.69 x 0.5"/12 = **3.45 A-F**
Dry detention and exfiltration trenches will be utilized.
1' of dry detention is proposed at all dry detentions
V dry det = dry det area (@ 12.5 + @13.5)/2 = (2.06+2.98)/2= 2.52 A-F
V Exfiltration = 1.0 A-F
V prop pre-treat = 2.52 dry det + 1.0 exf = **3.52 A-F**

Nutrient treatment
Wet retention and exfiltration/dry retention shall be utilized.
V prop wet ret = 0.85(lake area @ 11.5+lake area @ 12.35)/2= 0.85(9.56+9.96)/2 = **8.3 A-F**
V Exfiltration = 1.0 A-F
V total = 8.3+1.0 = 9.3 A-F
Prop retention = 9.3x12/ (110.22-9.56 lake) = **1.11"**

Design Elevations
Min Pavt EL
10yr-24hr storm peak stage 15.20 FT, NAVD
Min Pavt EL 15.5 FT

Perimeter Berm EL
10yr-72hr storm peak stage 15.94 FT, NAVD (NSLRWCD req't)
Min perim berm EL 16.0 FT

Min Fin Floor EL
100yr-72hr storm peak stage 16.64 FT, NAVD
Min F.F. EL 17.50 FT

VII. Allowable Discharge

NSLRWCD allowable discharge is 2" per day for a 10yr-72hr storm. This is a volume-based limitation. There is no limitation on the peak discharge rate.
V allowable (10yr-72hr) = 110.22 ac x 2"/12 = 18.4 A-F /day
V max prop (10yr-72hr) = 17.1 A-F from 60.0-hr to 84.0 hr (see 10yr-72hr storm routing)

VIII. Bleeder Design

(SFWMD) Bleeder is to discharge 1/2" in 24 hr.
Q SFWMD = 110.22 ac x 1/2" x 43,560/(12 x 3600 x 24) = 2.32 cfs

$Q = 4.8 \times A \times (H)^{0.5}$
H avg = 1.075'
$2.32 = 4.8 \times A \times 1.075^{0.5}$
A = 0.466 sf = 67.13 sq in

CS-2 bleeder is 3" dia
CS-1 bleeder area = $67.13-(3/2)^2)3.14 = 60.07$ sq in
CS-1 bleeder dia = $2(60.07/3.14)^{0.5} = 8.75$"

IX. Utilities

Fort Pierce Utility Authority would be providing water & wastewater services to the proposed development.

X. Maintenance Entity

The applicant shall be the maintenance entity.

XI. Irrigation

The lake surface water shall be utilized for irrigation purposes. A water use permit shall be obtained from SFWMD.

XII. ICPR Flood Routing

The retention volumes are not included in flood routing calculations to be conservative and due to low soil hydraulic conductivity.

Grading assumption for ICPR Input:
1. Surface el's except sidewalk 15.5-17.0
2. Sidewalk el 17.0-17.5
3. F,F, el 17.5

See node/basin diagram.

XIII. Nutrient Removal

St. Lucie River is considered impaired so post development nutrient loading rates, nitrogen (TN) & phosphorus (TP), need to match pre-development.

"Evaluation of Current **S**tormwater **D**esign **C**riteria within **S**tate of **F**lorida "final report (**FSDC**) dated June 2007 is utilized in this section. The referenced portions of FSDC are attached under Appendix. The 2012 South Florida Environmental Report Appendix 10-1 (**SFER**) for land use categories in the St. Lucie River Watershed will be used for the nutrient concentrations. SFWMD Vol IV Manual 2012 reference is shown as **SFWMD.**

The project is in Zone-2 per FSDC Fig 4-3

Per FSDC Fig 6.1, BOD removal in excess of 95% shall be achieved if removal efficiency is provided for both nitrogen & phosphorus.

The proposed development is considered low intensity commercial. FSDC 4.1.5.
The site was previously developed as citrus groves from before 1968 to mid-1990's & now is used as a pasture. Therefore, unimproved pasture, as defined in Florida Fish & Wildlife "Florida Land Use Classification…, December 2012, is assumed for the pre-development land use.
Existing soil is assumed to be depressional.

Pre Dev-Nutrient Loading Basin 110.22 ac
Post Dev Nutrient Loading Basin = 110.22-9.56 lake-4.83 dry det = **95.83 ac**

Pre-Development
Type D soil
Avg WT depth = 2'+
Pasture in good condition,
NDCIA CN = 80 SCS TR 55 (SCS) Table 2-2c

Post Development
Avg WT depth > 4'
Open Space in good condition
Pervious area CN = 80 SCS Table 2-2a
NDCIA Imp = 0
NDCIA Total = 13.14 ac Perv w/o dry det Sec II
NDCIA CN = 80
DCIA = 82.69 ac Imp w/o lake Sec II
DCIA % = (82,69/(110.22) = **75.0%**

XIII. Nutrient Removal, cont'd

Pre Dev Mean Annual C = 0.111 FSDC Appendix C Zone-2
Post Dev Mean Annual C = 0.635

Pre-dev vs post dev loading
TN 1.19 mg/l vs 1.48 mg/l SFER
Req % removal = ((1.48 x0.635x95.83) -(1.19 x0.111 x110.22))/ (1.48x0.635x95.83) = 83.83%

TP 0.25 mg/l vs 0.24 mg/l SFER
Req % removal = ((0.24x0.635x95.83) -(0.25 x0.111 x110.22))/ (0.24 x0.635x95.83) = 79.06%

Annual rainfall = 53.5" FSDC Appendix A-3
Mean annual runoff = 0.635 x 53.5 = 33.97"
V_{runoff} = 33.97"(95.83ac)/(12x365) = 0.743 A-F /day
$V_{perm\ pool}$ = 93.96 a-f
$T_{wet\ det\ residence}$ = 93.96/0.743 = 126 days

Removal Efficiency (RE)
1.1" of retention shall be provided
It is proposed to provide 1.1" of retention & wet detention w/ 126 days residency

1" retention has 75% RE FSDC Appendix-D
Wet detention w/ 126 days residency has 75.93% RE TP FSDC Fig 5-9
42.28% RE TN FSDC Fig 5-10
Overall Removal Efficiency (ORE)
ORE TN = 0.75 + (1-0.75) (0.423) = **85.58% > 83.83%** FSDC 6.1.2 Eq-1
ORE TP = 0.75 + (1-0.75) (0.759) = **93.98% > 79.06%**

==========
==== Basins ====
==========

Name: A-DET 6 Node: A-DET 6 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: SFWMD72 Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 30.00
Area(ac): 8.000 Time Shift(hrs): 0.00
Curve Number: 92.30 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: B-DET 65 Node: B-DET 65 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: SFWMD72 Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 30.00
Area(ac): 4.400 Time Shift(hrs): 0.00
Curve Number: 92.30 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: C-DET 5 Node: C-DET 5 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: SFWMD72 Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 30.00
Area(ac): 8.000 Time Shift(hrs): 0.00
Curve Number: 92.30 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: D-DET 54 Node: D-DET 54 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: SFWMD72 Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 30.00
Area(ac): 4.600 Time Shift(hrs): 0.00
Curve Number: 92.30 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: E-DET 4 Node: E-DET 4 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: SFWMD72 Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 30.00
Area(ac): 1.900 Time Shift(hrs): 0.00
Curve Number: 92.30 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: F-DET 7 Node: F-DET 7 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0

Rainfall File: SFWMD72 Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 30.00
Area(ac): 7.500 Time Shift(hrs): 0.00
Curve Number: 92.30 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: G-DET 8 Node: G-DET 8 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: SFWMD72 Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 30.00
Area(ac): 15.500 Time Shift(hrs): 0.00
Curve Number: 92.30 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: H-LAKE 3 Node: H-LAKE 3 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: SFWMD72 Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 30.00
Area(ac): 18.700 Time Shift(hrs): 0.00
Curve Number: 92.30 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: J-LAKE 2 Node: J-LAKE-2 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: SFWMD72 Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 30.00
Area(ac): 10.450 Time Shift(hrs): 0.00
Curve Number: 92.30 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: K-LAKE 1 Node: K-LAKE-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: SFWMD72 Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 30.00
Area(ac): 31.170 Time Shift(hrs): 0.00
Curve Number: 92.30 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

==========
==== Nodes ==========
==========

Name: A-DET 6 Base Flow(cfs): 0.000 Init Stage(ft): 12.500
Group: BASE Warn Stage(ft): 17.500
Type: Stage/Area

Stage(ft)	Area(ac)
12.490	0.0000
12.500	0.4200

15.500	0.8500
17.000	4.6700
17.500	4.8300

Name: B-DET 65 Base Flow(cfs): 0.000 Init Stage(ft): 12.500
Group: BASE Warn Stage(ft): 17.500
Type: Stage/Area

Stage(ft)	Area(ac)
12.490	0.0000
12.500	0.0008
15.500	0.0008
17.000	2.5600
17.500	2.6600

Name: C-DET 5 Base Flow(cfs): 0.000 Init Stage(ft): 12.500
Group: BASE Warn Stage(ft): 17.500
Type: Stage/Area

Stage(ft)	Area(ac)
12.490	0.0000
12.500	0.3700
15.500	0.8100
17.000	4.6700
17.500	4.8300

Name: D-DET 54 Base Flow(cfs): 0.000 Init Stage(ft): 12.500
Group: BASE Warn Stage(ft): 17.500
Type: Stage/Area

Stage(ft)	Area(ac)
12.490	0.0000
12.500	0.0008
15.500	0.0008
17.000	2.6900
17.500	2.7800

Name: E-DET 4 Base Flow(cfs): 0.000 Init Stage(ft): 12.500
Group: BASE Warn Stage(ft): 17.500
Type: Stage/Area

Stage(ft)	Area(ac)
12.490	0.0000
12.500	0.1600
15.500	0.3300
17.000	1.1100
17.500	1.1500

Name: F-DET 7 Base Flow(cfs): 0.000 Init Stage(ft): 12.500
Group: BASE Warn Stage(ft): 17.500
Type: Stage/Area

Stage(ft)	Area(ac)
12.490	0.0000

12.500	0.7100
15.500	1.3500
17.000	4.3800
17.500	4.5300

Name: G-DET 8 Base Flow(cfs): 0.000 Init Stage(ft): 12.500
Group: BASE Warn Stage(ft): 17.500
Type: Stage/Area

Stage(ft)	Area(ac)
12.490	0.0000
12.500	0.4600
15.500	1.4900
17.000	9.0500
17.500	9.3700

Name: H-LAKE 3 Base Flow(cfs): 0.000 Init Stage(ft): 12.500
Group: BASE Warn Stage(ft): 17.500
Type: Stage/Area

Stage(ft)	Area(ac)
12.340	0.0000
12.350	2.4200
15.500	2.8800
17.000	10.9200
17.500	11.3000

Name: J-LAKE-2 Base Flow(cfs): 0.000 Init Stage(ft): 12.500
Group: BASE Warn Stage(ft): 17.500
Type: Stage/Area

Stage(ft)	Area(ac)
12.340	0.0000
12.350	2.0200
15.500	2.3600
17.000	6.1000
17.500	6.3200

Name: JK-CB 21 Base Flow(cfs): 0.000 Init Stage(ft): 12.500
Group: BASE Warn Stage(ft): 17.500
Type: Stage/Area

Stage(ft)	Area(ac)
12.500	0.0010
17.500	0.0010

Name: K-LAKE-1 Base Flow(cfs): 0.000 Init Stage(ft): 12.500
Group: BASE Warn Stage(ft): 17.500
Type: Stage/Area

Stage(ft)	Area(ac)
12.340	0.0000
12.350	5.5400
15.500	6.3300

17.000	18.1900
17.500	18.8400

Name: L-CANAL Base Flow(cfs): 0.000 Init Stage(ft): 4.500
Group: BASE Warn Stage(ft): 14.500
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	4.500
72.00	14.000
120.00	12.000

Pipes

Name: 54-4 From Node: D-DET 54 Length(ft): 56.00
Group: BASE To Node: E-DET 4 Count: 1
Friction Equation: Automatic
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.00
Exit Loss Coef: 1.00
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	42.00	42.00
Rise(in):	42.00	42.00
Invert(ft):	12.500	12.500
Manning's N:	0.013000	0.013000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name: 54-5 From Node: D-DET 54 Length(ft): 56.00
Group: BASE To Node: C-DET 5 Count: 1
Friction Equation: Automatic
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.00
Exit Loss Coef: 1.00
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	42.00	42.00
Rise(in):	42.00	42.00
Invert(ft):	12.500	12.500
Manning's N:	0.013000	0.013000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name: 65-5 From Node: B-DET 65 Length(ft): 56.00
Group: BASE To Node: C-DET 5 Count: 1
Friction Equation: Automatic
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.00
Exit Loss Coef: 1.00
Bend Loss Coef: 0.00

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	42.00	42.00
Rise(in):	42.00	42.00
Invert(ft):	12.500	12.500

Manning's N:	0.013000	0.013000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	65-6	From Node: B-DET 65	Length(ft):	56.00
Group:	BASE	To Node: A-DET 6	Count:	1
			Friction Equation:	Automatic
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	42.00	42.00	Entrance Loss Coef:	0.00
Rise(in):	42.00	42.00	Exit Loss Coef:	1.00
Invert(ft):	12.500	12.500	Bend Loss Coef:	0.00
Manning's N:	0.013000	0.013000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	LAKE 2-21	From Node: J-LAKE-2	Length(ft):	88.00
Group:	BASE	To Node: JK-CB 21	Count:	1
			Friction Equation:	Automatic
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	42.00	42.00	Entrance Loss Coef:	0.00
Rise(in):	42.00	42.00	Exit Loss Coef:	1.00
Invert(ft):	6.000	6.000	Bend Loss Coef:	0.00
Manning's N:	0.013000	0.013000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	LAKE 21-1	From Node: JK-CB 21	Length(ft):	49.00
Group:	BASE	To Node: K-LAKE-1	Count:	1
			Friction Equation:	Automatic
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	60.00	60.00	Entrance Loss Coef:	0.00
Rise(in):	60.00	60.00	Exit Loss Coef:	1.00
Invert(ft):	6.000	6.000	Bend Loss Coef:	0.00
Manning's N:	0.013000	0.013000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

==========
==== Drop Structures ==========
==========

Name:	CS-1	From Node:	K-LAKE-1
Group:	BASE	To Node:	L-CANAL
Length(ft):	24.00		
Count:	1		

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	24.00	24.00	Solution Algorithm:	Automatic
Rise(in):	24.00	24.00	Flow:	None
Invert(ft):	7.500	7.500	Entrance Loss Coef:	0.000
Manning's N:	0.013000	0.013000	Exit Loss Coef:	0.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Solution Incs:	0

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure CS-1 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Vertical: Mavis	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.130
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	11.00	Invert(ft):	14.500
Rise(in):	24.00	Control Elev(ft):	14.500

*** Weir 2 of 2 for Drop Structure CS-1 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Vertical: Mavis	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.130
Geometry:	Circular	Orifice Disc Coef:	0.600
Span(in):	8.75	Invert(ft):	12.350
Rise(in):	8.75	Control Elev(ft):	12.350

Name:	CS-2	From Node:	J-LAKE-2
Group:	BASE	To Node:	L-CANAL
Length(ft):	24.00		
Count:	1		

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	24.00	24.00	Solution Algorithm:	Automatic
Rise(in):	24.00	24.00	Flow:	None
Invert(ft):	7.500	7.500	Entrance Loss Coef:	0.000
Manning's N:	0.013000	0.013000	Exit Loss Coef:	0.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Solution Incs:	0

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure CS-2 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Vertical: Mavis	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.130
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	4.00	Invert(ft):	14.500
Rise(in):	24.00	Control Elev(ft):	14.500

*** Weir 2 of 2 for Drop Structure CS-2 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Vertical: Mavis	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.130
Geometry:	Circular	Orifice Disc Coef:	0.600
Span(in):	3.00	Invert(ft):	12.350
Rise(in):	3.00	Control Elev(ft):	12.350

Name:	CS-24	From Node:	G-DET 8	Length(ft):	60.00
Group:	BASE	To Node:	H-LAKE 3	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Automatic
Span(in):	36.00	36.00	Solution Algorithm:	Automatic
Rise(in):	36.00	36.00	Flow:	Both
Invert(ft):	5.100	5.000	Entrance Loss Coef:	0.000
Manning's N:	0.010000	0.010000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 1 for Drop Structure CS-24 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Horizontal	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.200
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	39.00	Invert(ft):	12.500
Rise(in):	18.00	Control Elev(ft):	12.500

Name:	CS-26	From Node:	F-DET 7	Length(ft):	156.00
Group:	BASE	To Node:	H-LAKE 3	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Automatic
Span(in):	42.00	42.00	Solution Algorithm:	Automatic
Rise(in):	42.00	42.00	Flow:	Both
Invert(ft):	5.100	5.000	Entrance Loss Coef:	0.000
Manning's N:	0.010000	0.010000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 1 for Drop Structure CS-26 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Horizontal	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.200
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	39.00	Invert(ft):	12.500
Rise(in):	18.00	Control Elev(ft):	12.500

Name:	CS-5	From Node:	G-DET 8	Length(ft):	332.00
Group:	BASE	To Node:	J-LAKE-2	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Automatic
Span(in):	42.00	42.00	Solution Algorithm:	Automatic
Rise(in):	42.00	42.00	Flow:	Both
Invert(ft):	7.000	5.500	Entrance Loss Coef:	0.000
Manning's N:	0.013000	0.013000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 1 for Drop Structure CS-5 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Horizontal	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.200
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	39.00	Invert(ft):	12.500
Rise(in):	18.00	Control Elev(ft):	12.500

Name:	CS-81	From Node:	E-DET 4	Length(ft):	52.00
Group:	BASE	To Node:	K-LAKE-1	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Automatic
Span(in):	54.00	54.00	Solution Algorithm:	Automatic
Rise(in):	54.00	54.00	Flow:	Both
Invert(ft):	5.100	5.000	Entrance Loss Coef:	0.000
Manning's N:	0.010000	0.010000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 1 for Drop Structure CS-81 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Horizontal	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.200
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	39.00	Invert(ft):	12.500
Rise(in):	18.00	Control Elev(ft):	12.500

==========
==== Hydrology Simulations ==========
==========

Name: 100YR-72HR
Filename: C:\ICPRUSER1\100YR-72HR.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: SFWMD72
Rainfall Amount(in): 10.00

Time(hrs)	Print Inc(min)
48.000	60.00
72.000	15.00

Name: 10YR-24HR
Filename: C:\ICPRUSER1\10YR-24HR.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Flmod
Rainfall Amount(in): 5.50

Time(hrs)	Print Inc(min)
8.000	60.00
16.000	30.00
24.000	60.00

Name: 10YR-72HR
Filename: C:\ICPRUSER1\10 yr 72 hr.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: SFWMD72
Rainfall Amount(in): 8.10

Time(hrs)	Print Inc(min)
48.000	60.00
72.000	15.00

Name: 5YR-24HR
Filename: C:\ICPRUSER1\5YR-24HR.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Flmod
Rainfall Amount(in): 4.60

Time(hrs)	Print Inc(min)
8.000	60.00
16.000	30.00
24.000	60.00

==========
==== Routing Simulations ==========
==========

Name: 100YR-72HR Hydrology Sim: 100YR-72HR
Filename: C:\ICPRUSER1\100YR-72HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500

Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 220.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

IBP

Time(hrs)	Print Inc(min)
36.000	720.000
48.000	360.000
60.000	60.000
62.000	60.000
63.000	60.000
96.000	240.000
220.000	2880.000

Group	Run
BASE	Yes

Name: 10YR-24HR Hydrology Sim: 10YR-24HR
Filename: C:\ICPRUSER1\10YR-24HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 100.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	240.000
10.000	60.000
12.000	15.000
24.000	120.000
100.000	240.000

Group	Run
BASE	Yes

Name: 10YR-72HR Hydrology Sim: 10YR-72HR
Filename: C:\ICPRUSER1\25YR72HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 100.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

IBP

Time(hrs)	Print Inc(min)
36.000	60.000
48.000	60.000
60.000	60.000

62.000 60.000
63.000 60.000
96.000 60.000
100.000 60.000

Group	Run
BASE	Yes

Name: 5YR-24HR Hydrology Sim: 5YR-24HR
Filename: C:\ICPRUSER1\5YR-24HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 168.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	240.000
10.000	60.000
12.000	15.000
24.000	120.000
168.000	2880.000

Group	Run
BASE	Yes

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
A-DET 6	BASE	100YR-72HR	72.00	16.644	17.500	0.0003	163948	60.00	20.769	0.00	0.000
B-DET 65	BASE	100YR-72HR	72.00	16.644	17.500	0.0003	85072	60.25	11.591	59.95	9.384
C-DET 5	BASE	100YR-72HR	72.00	16.644	17.500	0.0003	163538	60.00	19.490	0.00	0.000
D-DET 54	BASE	100YR-72HR	72.00	16.644	17.500	0.0003	89390	60.25	12.118	59.96	9.995
E-DET 4	BASE	100YR-72HR	72.00	16.644	17.500	0.0003	40294	60.00	18.809	60.11	12.429
F-DET 7	BASE	100YR-72HR	93.31	16.644	17.500	0.0002	159435	60.25	19.757	61.52	0.054
G-DET 8	BASE	100YR-72HR	94.62	16.644	17.500	0.0002	315984	60.25	40.831	60.13	12.647
H-LAKE 3	BASE	100YR-72HR	93.31	16.644	17.500	0.0002	392472	60.25	50.297	0.00	0.000
J-LAKE-2	BASE	100YR-72HR	93.31	16.644	17.500	0.0002	227022	60.25	35.132	60.79	13.254
JK-CB 21	BASE	100YR-72HR	72.42	16.602	17.500	-0.0299	127	60.79	13.254	0.00	0.000
K-LAKE-1	BASE	100YR-72HR	72.30	16.644	17.500	0.0002	669695	60.25	64.362	0.00	0.000
L-CANAL	BASE	100YR-72HR	72.00	14.000	14.500	0.0022	0	0.00	0.000	0.00	0.000
A-DET 6	BASE	10YR-24HR	13.49	15.198	17.500	0.0002	35221	12.01	13.178	0.00	0.000
B-DET 65	BASE	10YR-24HR	13.49	15.188	17.500	0.0010	279	12.50	7.258	12.30	7.383
C-DET 5	BASE	10YR-24HR	13.54	15.163	17.500	0.0002	33300	12.00	12.018	0.00	0.000
D-DET 54	BASE	10YR-24HR	23.95	15.137	17.500	0.0014	282	12.50	7.588	12.50	7.498
E-DET 4	BASE	10YR-24HR	23.99	15.136	17.500	0.0003	13561	12.67	24.059	12.95	20.038
F-DET 7	BASE	10YR-24HR	24.00	15.162	17.500	0.0001	55663	12.50	12.371	24.18	0.447
G-DET 8	BASE	10YR-24HR	24.00	15.156	17.500	0.0001	59758	12.50	25.567	12.51	13.795
H-LAKE 3	BASE	10YR-24HR	24.00	15.161	17.500	0.0002	123294	12.50	34.481	0.00	0.000
J-LAKE-2	BASE	10YR-24HR	24.00	15.146	17.500	0.0001	101143	12.50	26.888	0.00	0.034
JK-CB 21	BASE	10YR-24HR	24.00	15.177	17.500	0.0327	127	0.00	0.000	12.24	31.684
K-LAKE-1	BASE	10YR-24HR	24.00	15.130	17.500	0.0001	271704	12.50	99.536	24.00	4.559
L-CANAL	BASE	10YR-24HR	72.00	14.000	14.500	0.0011	0	24.00	5.487	0.00	0.000
A-DET 6	BASE	10YR-72HR	62.45	15.930	17.500	0.0003	84726	60.27	18.715	0.00	0.000
B-DET 65	BASE	10YR-72HR	62.46	15.928	17.500	0.0008	31898	60.25	9.323	60.31	10.737
C-DET 5	BASE	10YR-72HR	62.49	15.924	17.500	0.0003	82852	60.25	16.948	0.00	0.000
D-DET 54	BASE	10YR-72HR	62.62	15.913	17.500	-0.0003	32387	60.25	9.747	60.25	9.607
E-DET 4	BASE	10YR-72HR	62.82	15.900	17.500	0.0003	23465	60.37	22.163	60.55	17.183
F-DET 7	BASE	10YR-72HR	68.98	15.944	17.500	0.0002	97846	60.25	15.891	74.33	0.695
G-DET 8	BASE	10YR-72HR	68.82	15.932	17.500	0.0002	159684	60.25	32.842	60.30	13.787
H-LAKE 3	BASE	10YR-72HR	68.96	15.942	17.500	0.0002	228615	60.25	42.397	0.00	0.000
J-LAKE-2	BASE	10YR-72HR	68.69	15.904	17.500	0.0001	146724	60.25	30.967	0.00	0.034
JK-CB 21	BASE	10YR-72HR	68.61	15.931	17.500	0.0327	127	0.00	0.000	75.17	31.831
K-LAKE-1	BASE	10YR-72HR	68.58	15.884	17.500	0.0001	407898	60.25	111.832	64.85	7.826
L-CANAL	BASE	10YR-72HR	72.00	14.000	14.500	0.0011	0	65.09	9.907	0.00	0.000

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	A-DET 6	BASE	0.00	12.500	17.500	18300	0.000	0.000	0.0	0.0
10YR-72HR	B-DET 65	BASE	0.00	12.500	17.500	123	0.000	0.000	0.0	0.0
10YR-72HR	C-DET 5	BASE	0.00	12.500	17.500	16127	0.000	0.000	0.0	0.0
10YR-72HR	D-DET 54	BASE	0.00	12.500	17.500	123	0.000	0.000	0.0	0.0
10YR-72HR	E-DET 4	BASE	0.00	12.500	17.500	6975	0.000	0.000	0.0	0.0
10YR-72HR	F-DET 7	BASE	0.00	12.500	17.500	30928	0.000	0.000	0.0	0.0
10YR-72HR	G-DET 8	BASE	0.00	12.500	17.500	20038	0.000	0.000	0.0	0.0
10YR-72HR	H-LAKE 3	BASE	0.00	12.500	17.500	106369	0.000	0.000	0.0	0.0
10YR-72HR	J-LAKE-2	BASE	0.00	12.500	17.500	88704	0.000	0.034	0.0	0.0
10YR-72HR	K-LAKE-1	BASE	0.00	12.500	17.500	242967	0.000	0.063	0.0	0.0
10YR-72HR	L-CANAL	BASE	0.00	4.500	14.500	0	0.097	0.000	0.0	0.0
10YR-72HR	A-DET 6	BASE	1.00	12.500	17.500	18300	0.000	0.000	0.0	0.0
10YR-72HR	B-DET 65	BASE	1.00	12.500	17.500	123	0.000	0.000	0.0	0.0
10YR-72HR	C-DET 5	BASE	1.00	12.500	17.500	16127	0.000	0.000	0.0	0.0
10YR-72HR	D-DET 54	BASE	1.00	12.500	17.500	123	0.000	0.000	0.0	0.0
10YR-72HR	E-DET 4	BASE	1.00	12.500	17.500	6975	0.000	0.000	0.0	0.0
10YR-72HR	F-DET 7	BASE	1.00	12.500	17.500	30928	0.000	0.000	0.0	0.0
10YR-72HR	G-DET 8	BASE	1.00	12.500	17.500	20038	0.000	0.000	0.0	0.0
10YR-72HR	H-LAKE 3	BASE	1.00	12.500	17.500	106369	0.000	0.000	0.0	0.0
10YR-72HR	J-LAKE-2	BASE	1.00	12.499	17.500	88699	0.000	-12.799	0.0	-0.5
10YR-72HR	K-LAKE-1	BASE	1.00	12.499	17.500	242956	29.683	0.062	1.2	0.0
10YR-72HR	L-CANAL	BASE	1.00	4.632	14.500	0	0.096	0.000	0.0	0.0
10YR-72HR	A-DET 6	BASE	2.00	12.500	17.500	18300	0.000	0.000	0.0	0.0
10YR-72HR	B-DET 65	BASE	2.00	12.500	17.500	123	0.000	0.000	0.0	0.0
10YR-72HR	C-DET 5	BASE	2.00	12.500	17.500	16127	0.000	0.000	0.0	0.0
10YR-72HR	D-DET 54	BASE	2.00	12.500	17.500	123	0.000	0.000	0.0	0.0
10YR-72HR	E-DET 4	BASE	2.00	12.500	17.500	6975	0.000	0.000	0.0	0.0
10YR-72HR	F-DET 7	BASE	2.00	12.500	17.500	30928	0.000	0.000	0.0	0.0
10YR-72HR	G-DET 8	BASE	2.00	12.500	17.500	20038	0.000	0.000	0.0	0.0
10YR-72HR	H-LAKE 3	BASE	2.00	12.500	17.500	106369	0.000	0.000	0.0	0.0
10YR-72HR	J-LAKE-2	BASE	2.00	12.498	17.500	88694	0.000	-12.799	0.0	-1.6
10YR-72HR	K-LAKE-1	BASE	2.00	12.498	17.500	242945	29.683	0.061	3.7	0.0
10YR-72HR	L-CANAL	BASE	2.00	4.764	14.500	0	0.094	0.000	0.0	0.0
10YR-72HR	A-DET 6	BASE	3.00	12.500	17.500	18300	0.000	0.000	0.0	0.0
10YR-72HR	B-DET 65	BASE	3.00	12.500	17.500	123	0.000	0.000	0.0	0.0
10YR-72HR	C-DET 5	BASE	3.00	12.500	17.500	16127	0.000	0.000	0.0	0.0
10YR-72HR	D-DET 54	BASE	3.00	12.500	17.500	123	0.000	0.000	0.0	0.0
10YR-72HR	E-DET 4	BASE	3.00	12.500	17.500	6975	0.000	0.000	0.0	0.0
10YR-72HR	F-DET 7	BASE	3.00	12.500	17.500	30928	0.000	0.000	0.0	0.0
10YR-72HR	G-DET 8	BASE	3.00	12.500	17.500	20038	0.000	0.000	0.0	0.0
10YR-72HR	H-LAKE 3	BASE	3.00	12.500	17.500	106369	0.000	0.000	0.0	0.0
10YR-72HR	J-LAKE-2	BASE	3.00	12.497	17.500	88689	0.000	-12.800	0.0	-2.6
10YR-72HR	K-LAKE-1	BASE	3.00	12.497	17.500	242933	29.684	0.060	6.1	0.0
10YR-72HR	L-CANAL	BASE	3.00	4.896	14.500	0	0.093	0.000	0.0	0.0
10YR-72HR	A-DET 6	BASE	4.00	12.500	17.500	18295	0.000	0.000	0.0	0.0
10YR-72HR	B-DET 65	BASE	4.00	12.500	17.500	113	0.000	0.000	0.0	0.0
10YR-72HR	C-DET 5	BASE	4.00	12.500	17.500	16117	0.000	0.000	0.0	0.0
10YR-72HR	D-DET 54	BASE	4.00	12.500	17.500	113	0.000	0.000	0.0	0.0
10YR-72HR	E-DET 4	BASE	4.00	12.500	17.500	6970	0.000	0.000	0.0	0.0
10YR-72HR	F-DET 7	BASE	4.00	12.500	17.500	30928	0.000	0.000	0.0	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	G-DET 8	BASE	4.00	12.500	17.500	20038	0.000	0.000	0.0	0.0
10YR-72HR	H-LAKE 3	BASE	4.00	12.500	17.500	106369	0.000	0.000	0.0	0.0
10YR-72HR	J-LAKE-2	BASE	4.00	12.496	17.500	88685	0.000	-12.800	0.0	-3.7
10YR-72HR	K-LAKE-1	BASE	4.00	12.496	17.500	242923	29.684	0.060	8.6	0.0
10YR-72HR	L-CANAL	BASE	4.00	5.028	14.500	0	0.092	0.000	0.0	0.0
10YR-72HR	A-DET 6	BASE	5.00	12.500	17.500	18297	0.001	0.000	0.0	0.0
10YR-72HR	B-DET 65	BASE	5.00	12.509	17.500	121	0.001	0.000	0.0	0.0
10YR-72HR	C-DET 5	BASE	5.00	12.500	17.500	16121	0.001	0.000	0.0	0.0
10YR-72HR	D-DET 54	BASE	5.00	12.510	17.500	121	0.001	0.000	0.0	0.0
10YR-72HR	E-DET 4	BASE	5.00	12.500	17.500	6971	0.000	0.000	0.0	0.0
10YR-72HR	F-DET 7	BASE	5.00	12.500	17.500	30928	0.001	0.000	0.0	0.0
10YR-72HR	G-DET 8	BASE	5.00	12.500	17.500	20040	0.002	0.000	0.0	0.0
10YR-72HR	H-LAKE 3	BASE	5.00	12.500	17.500	106370	0.003	0.000	0.0	0.0
10YR-72HR	J-LAKE-2	BASE	5.00	12.495	17.500	88680	0.002	-12.800	0.0	-4.8
10YR-72HR	K-LAKE-1	BASE	5.00	12.495	17.500	242912	29.688	0.059	11.0	0.0
10YR-72HR	L-CANAL	BASE	5.00	5.160	14.500	0	0.091	0.000	0.0	0.0
10YR-72HR	A-DET 6	BASE	6.00	12.502	17.500	18319	0.021	0.000	0.0	0.0
10YR-72HR	B-DET 65	BASE	6.00	12.550	17.500	150	0.009	0.008	0.0	0.0
10YR-72HR	C-DET 5	BASE	6.00	12.503	17.500	16156	0.025	0.000	0.0	0.0
10YR-72HR	D-DET 54	BASE	6.00	12.551	17.500	151	0.009	0.009	0.0	0.0
10YR-72HR	E-DET 4	BASE	6.00	12.502	17.500	6984	0.008	0.002	0.0	0.0
10YR-72HR	F-DET 7	BASE	6.00	12.501	17.500	30937	0.015	0.001	0.0	0.0
10YR-72HR	G-DET 8	BASE	6.00	12.503	17.500	20079	0.032	0.009	0.0	0.0
10YR-72HR	H-LAKE 3	BASE	6.00	12.501	17.500	106374	0.043	0.000	0.0	0.0
10YR-72HR	J-LAKE-2	BASE	6.00	12.494	17.500	88678	0.026	-12.800	0.0	-5.8
10YR-72HR	K-LAKE-1	BASE	6.00	12.494	17.500	242907	29.751	0.058	13.5	0.0
10YR-72HR	L-CANAL	BASE	6.00	5.292	14.500	0	0.090	0.000	0.0	0.0
10YR-72HR	A-DET 6	BASE	7.00	12.509	17.500	18367	0.046	0.000	0.0	0.0
10YR-72HR	B-DET 65	BASE	7.00	12.570	17.500	161	0.020	0.019	0.0	0.0
10YR-72HR	C-DET 5	BASE	7.00	12.512	17.500	16228	0.056	0.000	0.0	0.0
10YR-72HR	D-DET 54	BASE	7.00	12.572	17.500	162	0.021	0.020	0.0	0.0
10YR-72HR	E-DET 4	BASE	7.00	12.505	17.500	7001	0.019	0.012	0.0	0.0
10YR-72HR	F-DET 7	BASE	7.00	12.504	17.500	30962	0.034	0.003	0.0	0.0
10YR-72HR	G-DET 8	BASE	7.00	12.508	17.500	20156	0.071	0.040	0.0	0.0
10YR-72HR	H-LAKE 3	BASE	7.00	12.503	17.500	106390	0.107	0.000	0.0	0.0
10YR-72HR	J-LAKE-2	BASE	7.00	12.495	17.500	88682	0.069	-12.793	0.0	-6.9
10YR-72HR	K-LAKE-1	BASE	7.00	12.495	17.500	242915	29.846	0.059	16.0	0.0
10YR-72HR	L-CANAL	BASE	7.00	5.424	14.500	0	0.091	0.000	0.1	0.0
10YR-72HR	A-DET 6	BASE	8.00	12.520	17.500	18444	0.071	0.000	0.0	0.0
10YR-72HR	B-DET 65	BASE	8.00	12.584	17.500	168	0.031	0.030	0.0	0.0
10YR-72HR	C-DET 5	BASE	8.00	12.528	17.500	16339	0.087	0.000	0.0	0.0
10YR-72HR	D-DET 54	BASE	8.00	12.586	17.500	168	0.032	0.032	0.0	0.0
10YR-72HR	E-DET 4	BASE	8.00	12.508	17.500	7013	0.029	0.024	0.0	0.0
10YR-72HR	F-DET 7	BASE	8.00	12.508	17.500	31005	0.053	0.004	0.0	0.0
10YR-72HR	G-DET 8	BASE	8.00	12.513	17.500	20234	0.109	0.081	0.0	0.0
10YR-72HR	H-LAKE 3	BASE	8.00	12.508	17.500	106420	0.171	0.000	0.0	0.0
10YR-72HR	J-LAKE-2	BASE	8.00	12.497	17.500	88692	0.119	-12.779	0.0	-7.9
10YR-72HR	K-LAKE-1	BASE	8.00	12.497	17.500	242938	29.946	0.061	18.4	0.0
10YR-72HR	L-CANAL	BASE	8.00	5.556	14.500	0	0.094	0.000	0.1	0.0
10YR-72HR	A-DET 6	BASE	9.00	12.536	17.500	18545	0.093	0.000	0.0	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	B-DET 65	BASE	9.00	12.593	17.500	171	0.040	0.040	0.0	0.0
10YR-72HR	C-DET 5	BASE	9.00	12.550	17.500	16487	0.116	0.000	0.0	0.0
10YR-72HR	D-DET 54	BASE	9.00	12.595	17.500	171	0.042	0.042	0.0	0.0
10YR-72HR	E-DET 4	BASE	9.00	12.511	17.500	7020	0.038	0.034	0.0	0.0
10YR-72HR	F-DET 7	BASE	9.00	12.515	17.500	31066	0.069	0.005	0.0	0.0
10YR-72HR	G-DET 8	BASE	9.00	12.518	17.500	20306	0.143	0.114	0.0	0.0
10YR-72HR	H-LAKE 3	BASE	9.00	12.515	17.500	106463	0.219	0.000	0.0	0.0
10YR-72HR	J-LAKE-2	BASE	9.00	12.501	17.500	88709	0.168	-12.763	0.0	-9.0
10YR-72HR	K-LAKE-1	BASE	9.00	12.501	17.500	242977	30.039	0.064	20.9	0.0
10YR-72HR	L-CANAL	BASE	9.00	5.688	14.500	0	0.098	0.000	0.1	0.0
10YR-72HR	A-DET 6	BASE	10.00	12.556	17.500	18673	0.115	0.000	0.0	0.0
10YR-72HR	B-DET 65	BASE	10.00	12.602	17.500	176	0.049	0.048	0.0	0.0
10YR-72HR	C-DET 5	BASE	10.00	12.578	17.500	16672	0.137	0.000	0.0	0.0
10YR-72HR	D-DET 54	BASE	10.00	12.604	17.500	176	0.051	0.051	0.0	0.0
10YR-72HR	E-DET 4	BASE	10.00	12.513	17.500	7027	0.047	0.041	0.0	0.0
10YR-72HR	F-DET 7	BASE	10.00	12.523	17.500	31141	0.084	0.010	0.0	0.0
10YR-72HR	G-DET 8	BASE	10.00	12.524	17.500	20393	0.173	0.134	0.0	0.0
10YR-72HR	H-LAKE 3	BASE	10.00	12.523	17.500	106513	0.247	0.000	0.1	0.0
10YR-72HR	J-LAKE-2	BASE	10.00	12.506	17.500	88733	0.221	-12.742	0.0	-10.0
10YR-72HR	K-LAKE-1	BASE	10.00	12.506	17.500	243029	30.125	0.068	23.4	0.1
10YR-72HR	L-CANAL	BASE	10.00	5.819	14.500	0	0.104	0.000	0.1	0.0
10YR-72HR	A-DET 6	BASE	11.00	12.580	17.500	18828	0.138	0.000	0.0	0.0
10YR-72HR	B-DET 65	BASE	11.00	12.617	17.500	181	0.057	0.056	0.0	0.0
10YR-72HR	C-DET 5	BASE	11.00	12.608	17.500	16878	0.148	0.000	0.0	0.0
10YR-72HR	D-DET 54	BASE	11.00	12.618	17.500	180	0.059	0.058	0.0	0.0
10YR-72HR	E-DET 4	BASE	11.00	12.517	17.500	7039	0.059	0.049	0.0	0.0
10YR-72HR	F-DET 7	BASE	11.00	12.532	17.500	31223	0.097	0.018	0.0	0.0
10YR-72HR	G-DET 8	BASE	11.00	12.531	17.500	20506	0.200	0.154	0.1	0.0
10YR-72HR	H-LAKE 3	BASE	11.00	12.531	17.500	106568	0.264	0.000	0.1	0.0
10YR-72HR	J-LAKE-2	BASE	11.00	12.512	17.500	88762	0.284	-12.712	0.1	-11.1
10YR-72HR	K-LAKE-1	BASE	11.00	12.512	17.500	243095	30.215	0.073	25.9	0.1
10YR-72HR	L-CANAL	BASE	11.00	5.951	14.500	0	0.112	0.000	0.1	0.0
10YR-72HR	A-DET 6	BASE	12.00	12.609	17.500	19012	0.166	0.000	0.0	0.0
10YR-72HR	B-DET 65	BASE	12.00	12.640	17.500	189	0.064	0.062	0.0	0.0
10YR-72HR	C-DET 5	BASE	12.00	12.639	17.500	17084	0.141	0.000	0.1	0.0
10YR-72HR	D-DET 54	BASE	12.00	12.641	17.500	187	0.067	0.065	0.0	0.0
10YR-72HR	E-DET 4	BASE	12.00	12.523	17.500	7057	0.079	0.064	0.0	0.0
10YR-72HR	F-DET 7	BASE	12.00	12.541	17.500	31309	0.108	0.027	0.0	0.0
10YR-72HR	G-DET 8	BASE	12.00	12.540	17.500	20630	0.224	0.176	0.1	0.1
10YR-72HR	H-LAKE 3	BASE	12.00	12.540	17.500	106626	0.274	0.000	0.1	0.0
10YR-72HR	J-LAKE-2	BASE	12.00	12.520	17.500	88798	0.350	-12.678	0.1	-12.1
10YR-72HR	K-LAKE-1	BASE	12.00	12.519	17.500	243175	30.309	0.080	28.4	0.1
10YR-72HR	L-CANAL	BASE	12.00	6.083	14.500	0	0.122	0.000	0.1	0.0
10YR-72HR	A-DET 6	BASE	13.00	12.643	17.500	19230	0.195	0.000	0.1	0.0
10YR-72HR	B-DET 65	BASE	13.00	12.667	17.500	196	0.070	0.068	0.0	0.0
10YR-72HR	C-DET 5	BASE	13.00	12.667	17.500	17267	0.122	0.000	0.1	0.0
10YR-72HR	D-DET 54	BASE	13.00	12.667	17.500	193	0.073	0.072	0.0	0.0
10YR-72HR	E-DET 4	BASE	13.00	12.532	17.500	7082	0.107	0.089	0.0	0.0
10YR-72HR	F-DET 7	BASE	13.00	12.551	17.500	31397	0.119	0.036	0.0	0.0
10YR-72HR	G-DET 8	BASE	13.00	12.548	17.500	20759	0.246	0.196	0.1	0.1

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	H-LAKE 3	BASE	13.00	12.550	17.500	106685	0.279	0.000	0.1	0.0
10YR-72HR	J-LAKE-2	BASE	13.00	12.529	17.500	88840	0.415	-12.644	0.1	-13.2
10YR-72HR	K-LAKE-1	BASE	13.00	12.528	17.500	243269	30.407	0.089	30.9	0.1
10YR-72HR	L-CANAL	BASE	13.00	6.215	14.500	0	0.135	0.000	0.1	0.0
10YR-72HR	A-DET 6	BASE	14.00	12.681	17.500	19469	0.205	0.000	0.1	0.0
10YR-72HR	B-DET 65	BASE	14.00	12.691	17.500	202	0.076	0.074	0.0	0.0
10YR-72HR	C-DET 5	BASE	14.00	12.691	17.500	17426	0.115	0.000	0.1	0.0
10YR-72HR	D-DET 54	BASE	14.00	12.689	17.500	199	0.079	0.078	0.0	0.0
10YR-72HR	E-DET 4	BASE	14.00	12.542	17.500	7109	0.139	0.118	0.0	0.0
10YR-72HR	F-DET 7	BASE	14.00	12.560	17.500	31486	0.129	0.044	0.1	0.0
10YR-72HR	G-DET 8	BASE	14.00	12.557	17.500	20891	0.266	0.214	0.1	0.1
10YR-72HR	H-LAKE 3	BASE	14.00	12.559	17.500	106745	0.284	0.000	0.1	0.0
10YR-72HR	J-LAKE-2	BASE	14.00	12.539	17.500	88888	0.475	-12.614	0.2	-14.2
10YR-72HR	K-LAKE-1	BASE	14.00	12.538	17.500	243378	30.502	0.099	33.4	0.1
10YR-72HR	L-CANAL	BASE	14.00	6.347	14.500	0	0.149	0.000	0.1	0.0
10YR-72HR	A-DET 6	BASE	15.00	12.717	17.500	19697	0.182	0.000	0.1	0.0
10YR-72HR	B-DET 65	BASE	15.00	12.718	17.500	208	0.081	0.079	0.0	0.0
10YR-72HR	C-DET 5	BASE	15.00	12.716	17.500	17593	0.132	0.000	0.1	0.0
10YR-72HR	D-DET 54	BASE	15.00	12.712	17.500	204	0.084	0.083	0.0	0.0
10YR-72HR	E-DET 4	BASE	15.00	12.554	17.500	7140	0.176	0.152	0.1	0.0
10YR-72HR	F-DET 7	BASE	15.00	12.570	17.500	31577	0.138	0.052	0.1	0.0
10YR-72HR	G-DET 8	BASE	15.00	12.566	17.500	21029	0.284	0.229	0.1	0.1
10YR-72HR	H-LAKE 3	BASE	15.00	12.569	17.500	106807	0.289	0.000	0.2	0.0
10YR-72HR	J-LAKE-2	BASE	15.00	12.550	17.500	88941	0.526	-12.589	0.2	-15.3
10YR-72HR	K-LAKE-1	BASE	15.00	12.549	17.500	243499	30.591	0.111	35.9	0.1
10YR-72HR	L-CANAL	BASE	15.00	6.479	14.500	0	0.166	0.000	0.1	0.0
10YR-72HR	A-DET 6	BASE	16.00	12.748	17.500	19896	0.165	0.000	0.1	0.0
10YR-72HR	B-DET 65	BASE	16.00	12.748	17.500	214	0.085	0.084	0.0	0.0
10YR-72HR	C-DET 5	BASE	16.00	12.744	17.500	17778	0.140	0.000	0.1	0.0
10YR-72HR	D-DET 54	BASE	16.00	12.738	17.500	208	0.089	0.088	0.0	0.0
10YR-72HR	E-DET 4	BASE	16.00	12.566	17.500	7173	0.214	0.188	0.1	0.1
10YR-72HR	F-DET 7	BASE	16.00	12.580	17.500	31669	0.146	0.056	0.1	0.0
10YR-72HR	G-DET 8	BASE	16.00	12.576	17.500	21176	0.301	0.241	0.2	0.1
10YR-72HR	H-LAKE 3	BASE	16.00	12.579	17.500	106870	0.301	0.000	0.2	0.0
10YR-72HR	J-LAKE-2	BASE	16.00	12.563	17.500	88999	0.562	-12.574	0.2	-16.3
10YR-72HR	K-LAKE-1	BASE	16.00	12.561	17.500	243632	30.670	0.124	38.5	0.1
10YR-72HR	L-CANAL	BASE	16.00	6.611	14.500	0	0.185	0.000	0.1	0.0
10YR-72HR	A-DET 6	BASE	17.00	12.777	17.500	20077	0.153	0.000	0.1	0.0
10YR-72HR	B-DET 65	BASE	17.00	12.777	17.500	219	0.090	0.088	0.1	0.1
10YR-72HR	C-DET 5	BASE	17.00	12.772	17.500	17960	0.134	0.000	0.1	0.0
10YR-72HR	D-DET 54	BASE	17.00	12.763	17.500	213	0.094	0.092	0.1	0.1
10YR-72HR	E-DET 4	BASE	17.00	12.580	17.500	7208	0.259	0.231	0.1	0.1
10YR-72HR	F-DET 7	BASE	17.00	12.590	17.500	31766	0.153	0.058	0.1	0.0
10YR-72HR	G-DET 8	BASE	17.00	12.587	17.500	21335	0.316	0.250	0.2	0.1
10YR-72HR	H-LAKE 3	BASE	17.00	12.589	17.500	106936	0.321	0.000	0.2	0.0
10YR-72HR	J-LAKE-2	BASE	17.00	12.576	17.500	89060	0.582	-12.572	0.3	-17.4
10YR-72HR	K-LAKE-1	BASE	17.00	12.574	17.500	243775	30.741	0.140	41.0	0.1
10YR-72HR	L-CANAL	BASE	17.00	6.743	14.500	0	0.205	0.000	0.2	0.0
10YR-72HR	A-DET 6	BASE	18.00	12.803	17.500	20243	0.141	0.000	0.1	0.0
10YR-72HR	B-DET 65	BASE	18.00	12.803	17.500	223	0.094	0.092	0.1	0.1

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	C-DET 5	BASE	18.00	12.798	17.500	18128	0.122	0.000	0.1	0.0
10YR-72HR	D-DET 54	BASE	18.00	12.786	17.500	217	0.098	0.097	0.1	0.1
10YR-72HR	E-DET 4	BASE	18.00	12.594	17.500	7245	0.307	0.278	0.1	0.1
10YR-72HR	F-DET 7	BASE	18.00	12.601	17.500	31869	0.160	0.057	0.1	0.0
10YR-72HR	G-DET 8	BASE	18.00	12.598	17.500	21509	0.330	0.258	0.2	0.2
10YR-72HR	H-LAKE 3	BASE	18.00	12.600	17.500	107008	0.348	0.000	0.2	0.0
10YR-72HR	J-LAKE-2	BASE	18.00	12.589	17.500	89124	0.587	-12.581	0.3	-18.4
10YR-72HR	K-LAKE-1	BASE	18.00	12.588	17.500	243925	30.802	0.157	43.6	0.1
10YR-72HR	L-CANAL	BASE	18.00	6.875	14.500	0	0.227	0.000	0.2	0.0
10YR-72HR	A-DET 6	BASE	19.00	12.827	17.500	20393	0.127	0.000	0.1	0.0
10YR-72HR	B-DET 65	BASE	19.00	12.826	17.500	227	0.097	0.096	0.1	0.1
10YR-72HR	C-DET 5	BASE	19.00	12.821	17.500	18279	0.111	0.000	0.1	0.0
10YR-72HR	D-DET 54	BASE	19.00	12.807	17.500	221	0.102	0.100	0.1	0.1
10YR-72HR	E-DET 4	BASE	19.00	12.609	17.500	7283	0.354	0.324	0.1	0.1
10YR-72HR	F-DET 7	BASE	19.00	12.613	17.500	31981	0.166	0.054	0.1	0.0
10YR-72HR	G-DET 8	BASE	19.00	12.611	17.500	21698	0.343	0.264	0.2	0.2
10YR-72HR	H-LAKE 3	BASE	19.00	12.613	17.500	107085	0.378	0.000	0.3	0.0
10YR-72HR	J-LAKE-2	BASE	19.00	12.603	17.500	89191	0.585	-12.596	0.4	-19.4
10YR-72HR	K-LAKE-1	BASE	19.00	12.602	17.500	244082	30.856	0.176	46.1	0.1
10YR-72HR	L-CANAL	BASE	19.00	7.007	14.500	0	0.251	0.000	0.2	0.0
10YR-72HR	A-DET 6	BASE	20.00	12.848	17.500	20526	0.114	0.000	0.2	0.0
10YR-72HR	B-DET 65	BASE	20.00	12.847	17.500	230	0.101	0.099	0.1	0.1
10YR-72HR	C-DET 5	BASE	20.00	12.841	17.500	18413	0.099	0.000	0.1	0.0
10YR-72HR	D-DET 54	BASE	20.00	12.826	17.500	224	0.105	0.104	0.1	0.1
10YR-72HR	E-DET 4	BASE	20.00	12.624	17.500	7322	0.400	0.369	0.2	0.1
10YR-72HR	F-DET 7	BASE	20.00	12.626	17.500	32103	0.171	0.051	0.1	0.0
10YR-72HR	G-DET 8	BASE	20.00	12.625	17.500	21901	0.354	0.270	0.3	0.2
10YR-72HR	H-LAKE 3	BASE	20.00	12.626	17.500	107169	0.405	0.000	0.3	0.0
10YR-72HR	J-LAKE-2	BASE	20.00	12.618	17.500	89259	0.582	-12.609	0.4	-20.5
10YR-72HR	K-LAKE-1	BASE	20.00	12.617	17.500	244244	30.904	0.197	48.7	0.1
10YR-72HR	L-CANAL	BASE	20.00	7.139	14.500	0	0.279	0.000	0.2	0.0
10YR-72HR	A-DET 6	BASE	21.00	12.867	17.500	20645	0.101	0.000	0.2	0.0
10YR-72HR	B-DET 65	BASE	21.00	12.866	17.500	233	0.104	0.103	0.1	0.1
10YR-72HR	C-DET 5	BASE	21.00	12.859	17.500	18532	0.088	0.000	0.1	0.0
10YR-72HR	D-DET 54	BASE	21.00	12.843	17.500	226	0.108	0.107	0.1	0.1
10YR-72HR	E-DET 4	BASE	21.00	12.639	17.500	7361	0.443	0.412	0.2	0.2
10YR-72HR	F-DET 7	BASE	21.00	12.640	17.500	32232	0.177	0.048	0.1	0.0
10YR-72HR	G-DET 8	BASE	21.00	12.639	17.500	22114	0.365	0.276	0.3	0.2
10YR-72HR	H-LAKE 3	BASE	21.00	12.640	17.500	107258	0.429	0.000	0.3	0.0
10YR-72HR	J-LAKE-2	BASE	21.00	12.633	17.500	89330	0.583	-12.619	0.5	-21.5
10YR-72HR	K-LAKE-1	BASE	21.00	12.632	17.500	244409	30.951	0.219	51.2	0.2
10YR-72HR	L-CANAL	BASE	21.00	7.271	14.500	0	0.309	0.000	0.2	0.0
10YR-72HR	A-DET 6	BASE	22.00	12.883	17.500	20749	0.089	0.000	0.2	0.0
10YR-72HR	B-DET 65	BASE	22.00	12.882	17.500	235	0.107	0.106	0.1	0.1
10YR-72HR	C-DET 5	BASE	22.00	12.875	17.500	18636	0.077	0.000	0.1	0.0
10YR-72HR	D-DET 54	BASE	22.00	12.857	17.500	228	0.111	0.110	0.1	0.1
10YR-72HR	E-DET 4	BASE	22.00	12.655	17.500	7401	0.483	0.452	0.2	0.2
10YR-72HR	F-DET 7	BASE	22.00	12.655	17.500	32369	0.182	0.047	0.2	0.0
10YR-72HR	G-DET 8	BASE	22.00	12.654	17.500	22337	0.375	0.282	0.3	0.3
10YR-72HR	H-LAKE 3	BASE	22.00	12.654	17.500	107352	0.448	0.000	0.4	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	J-LAKE-2	BASE	22.00	12.648	17.500	89402	0.587	-12.625	0.5	-22.6
10YR-72HR	K-LAKE-1	BASE	22.00	12.647	17.500	244579	30.998	0.242	53.8	0.2
10YR-72HR	L-CANAL	BASE	22.00	7.403	14.500	0	0.340	0.000	0.3	0.0
10YR-72HR	A-DET 6	BASE	23.00	12.898	17.500	20840	0.078	0.000	0.2	0.0
10YR-72HR	B-DET 65	BASE	23.00	12.896	17.500	237	0.109	0.108	0.1	0.1
10YR-72HR	C-DET 5	BASE	23.00	12.889	17.500	18727	0.068	0.000	0.2	0.0
10YR-72HR	D-DET 54	BASE	23.00	12.870	17.500	230	0.114	0.113	0.1	0.1
10YR-72HR	E-DET 4	BASE	23.00	12.671	17.500	7441	0.520	0.487	0.3	0.3
10YR-72HR	F-DET 7	BASE	23.00	12.670	17.500	32510	0.186	0.046	0.2	0.0
10YR-72HR	G-DET 8	BASE	23.00	12.669	17.500	22567	0.385	0.288	0.4	0.3
10YR-72HR	H-LAKE 3	BASE	23.00	12.670	17.500	107449	0.464	0.000	0.4	0.0
10YR-72HR	J-LAKE-2	BASE	23.00	12.664	17.500	89476	0.593	-12.628	0.6	-23.6
10YR-72HR	K-LAKE-1	BASE	23.00	12.663	17.500	244751	31.044	0.267	56.3	0.2
10YR-72HR	L-CANAL	BASE	23.00	7.535	14.500	0	0.370	0.000	0.3	0.0
10YR-72HR	A-DET 6	BASE	24.00	12.910	17.500	20919	0.068	0.000	0.2	0.0
10YR-72HR	B-DET 65	BASE	24.00	12.908	17.500	239	0.112	0.111	0.1	0.1
10YR-72HR	C-DET 5	BASE	24.00	12.902	17.500	18807	0.060	0.000	0.2	0.0
10YR-72HR	D-DET 54	BASE	24.00	12.881	17.500	232	0.117	0.116	0.1	0.1
10YR-72HR	E-DET 4	BASE	24.00	12.687	17.500	7481	0.553	0.520	0.3	0.3
10YR-72HR	F-DET 7	BASE	24.00	12.686	17.500	32656	0.190	0.046	0.2	0.1
10YR-72HR	G-DET 8	BASE	24.00	12.685	17.500	22804	0.393	0.293	0.4	0.3
10YR-72HR	H-LAKE 3	BASE	24.00	12.685	17.500	107549	0.477	0.000	0.5	0.0
10YR-72HR	J-LAKE-2	BASE	24.00	12.680	17.500	89552	0.601	-12.627	0.6	-24.6
10YR-72HR	K-LAKE-1	BASE	24.00	12.679	17.500	244927	31.091	0.293	58.9	0.2
10YR-72HR	L-CANAL	BASE	24.00	7.667	14.500	0	0.400	0.000	0.3	0.0
10YR-72HR	A-DET 6	BASE	25.00	12.929	17.500	21040	0.153	0.000	0.2	0.0
10YR-72HR	B-DET 65	BASE	25.00	12.928	17.500	241	0.152	0.150	0.1	0.1
10YR-72HR	C-DET 5	BASE	25.00	12.921	17.500	18934	0.138	0.000	0.2	0.0
10YR-72HR	D-DET 54	BASE	25.00	12.902	17.500	235	0.159	0.157	0.1	0.1
10YR-72HR	E-DET 4	BASE	25.00	12.706	17.500	7530	0.634	0.588	0.4	0.3
10YR-72HR	F-DET 7	BASE	25.00	12.705	17.500	32837	0.259	0.051	0.2	0.1
10YR-72HR	G-DET 8	BASE	25.00	12.705	17.500	23098	0.535	0.390	0.4	0.3
10YR-72HR	H-LAKE 3	BASE	25.00	12.705	17.500	107673	0.678	0.000	0.5	0.0
10YR-72HR	J-LAKE-2	BASE	25.00	12.699	17.500	89641	0.769	-12.597	0.7	-25.7
10YR-72HR	K-LAKE-1	BASE	25.00	12.698	17.500	245132	31.468	0.325	61.5	0.3
10YR-72HR	L-CANAL	BASE	25.00	7.799	14.500	0	0.437	0.000	0.4	0.0
10YR-72HR	A-DET 6	BASE	26.00	12.956	17.500	21208	0.159	0.000	0.2	0.0
10YR-72HR	B-DET 65	BASE	26.00	12.955	17.500	245	0.167	0.166	0.1	0.1
10YR-72HR	C-DET 5	BASE	26.00	12.947	17.500	19105	0.141	0.000	0.2	0.0
10YR-72HR	D-DET 54	BASE	26.00	12.927	17.500	238	0.175	0.173	0.1	0.1
10YR-72HR	E-DET 4	BASE	26.00	12.729	17.500	7589	0.720	0.669	0.4	0.4
10YR-72HR	F-DET 7	BASE	26.00	12.729	17.500	33057	0.285	0.060	0.2	0.1
10YR-72HR	G-DET 8	BASE	26.00	12.728	17.500	23448	0.590	0.432	0.5	0.4
10YR-72HR	H-LAKE 3	BASE	26.00	12.728	17.500	107822	0.735	0.000	0.6	0.0
10YR-72HR	J-LAKE-2	BASE	26.00	12.722	17.500	89749	0.865	-12.561	0.8	-26.7
10YR-72HR	K-LAKE-1	BASE	26.00	12.721	17.500	245379	31.689	0.366	64.1	0.3
10YR-72HR	L-CANAL	BASE	26.00	7.931	14.500	0	0.483	0.000	0.4	0.0
10YR-72HR	A-DET 6	BASE	27.00	12.981	17.500	21367	0.138	0.000	0.2	0.0
10YR-72HR	B-DET 65	BASE	27.00	12.979	17.500	248	0.174	0.172	0.1	0.1
10YR-72HR	C-DET 5	BASE	27.00	12.972	17.500	19265	0.119	0.000	0.2	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	D-DET 54	BASE	27.00	12.950	17.500	241	0.182	0.181	0.2	0.2
10YR-72HR	E-DET 4	BASE	27.00	12.755	17.500	7653	0.804	0.750	0.5	0.5
10YR-72HR	F-DET 7	BASE	27.00	12.754	17.500	33287	0.297	0.064	0.3	0.1
10YR-72HR	G-DET 8	BASE	27.00	12.753	17.500	23818	0.613	0.448	0.5	0.4
10YR-72HR	H-LAKE 3	BASE	27.00	12.753	17.500	107980	0.755	0.000	0.6	0.0
10YR-72HR	J-LAKE-2	BASE	27.00	12.747	17.500	89865	0.910	-12.545	0.8	-27.8
10YR-72HR	K-LAKE-1	BASE	27.00	12.745	17.500	245648	31.826	0.411	66.7	0.3
10YR-72HR	L-CANAL	BASE	27.00	8.063	14.500	0	0.534	0.000	0.4	0.0
10YR-72HR	A-DET 6	BASE	28.00	13.002	17.500	21496	0.106	0.000	0.2	0.0
10YR-72HR	B-DET 65	BASE	28.00	12.999	17.500	250	0.178	0.176	0.2	0.2
10YR-72HR	C-DET 5	BASE	28.00	12.991	17.500	19389	0.089	0.000	0.2	0.0
10YR-72HR	D-DET 54	BASE	28.00	12.965	17.500	243	0.186	0.185	0.2	0.2
10YR-72HR	E-DET 4	BASE	28.00	12.781	17.500	7719	0.889	0.833	0.6	0.5
10YR-72HR	F-DET 7	BASE	28.00	12.779	17.500	33523	0.303	0.065	0.3	0.1
10YR-72HR	G-DET 8	BASE	28.00	12.778	17.500	24197	0.626	0.455	0.6	0.4
10YR-72HR	H-LAKE 3	BASE	28.00	12.779	17.500	108142	0.769	0.000	0.7	0.0
10YR-72HR	J-LAKE-2	BASE	28.00	12.772	17.500	89985	0.927	-12.546	0.9	-28.8
10YR-72HR	K-LAKE-1	BASE	28.00	12.771	17.500	245928	31.929	0.461	69.4	0.4
10YR-72HR	L-CANAL	BASE	28.00	8.194	14.500	0	0.590	0.000	0.5	0.0
10YR-72HR	A-DET 6	BASE	29.00	13.017	17.500	21593	0.079	0.000	0.2	0.0
10YR-72HR	B-DET 65	BASE	29.00	13.014	17.500	252	0.181	0.180	0.2	0.2
10YR-72HR	C-DET 5	BASE	29.00	13.005	17.500	19482	0.066	0.000	0.2	0.0
10YR-72HR	D-DET 54	BASE	29.00	12.976	17.500	245	0.189	0.188	0.2	0.2
10YR-72HR	E-DET 4	BASE	29.00	12.807	17.500	7787	0.960	0.904	0.6	0.6
10YR-72HR	F-DET 7	BASE	29.00	12.805	17.500	33763	0.308	0.064	0.3	0.1
10YR-72HR	G-DET 8	BASE	29.00	12.804	17.500	24585	0.637	0.460	0.6	0.5
10YR-72HR	H-LAKE 3	BASE	29.00	12.804	17.500	108306	0.785	0.000	0.8	0.0
10YR-72HR	J-LAKE-2	BASE	29.00	12.799	17.500	90108	0.937	-12.549	1.0	-29.8
10YR-72HR	K-LAKE-1	BASE	29.00	12.797	17.500	246215	32.015	0.513	72.0	0.4
10YR-72HR	L-CANAL	BASE	29.00	8.326	14.500	0	0.648	0.000	0.5	0.0
10YR-72HR	A-DET 6	BASE	30.00	13.028	17.500	21664	0.059	0.000	0.2	0.0
10YR-72HR	B-DET 65	BASE	30.00	13.025	17.500	253	0.184	0.183	0.2	0.2
10YR-72HR	C-DET 5	BASE	30.00	13.016	17.500	19550	0.050	0.000	0.2	0.0
10YR-72HR	D-DET 54	BASE	30.00	12.984	17.500	246	0.192	0.192	0.2	0.2
10YR-72HR	E-DET 4	BASE	30.00	12.834	17.500	7854	1.015	0.958	0.7	0.7
10YR-72HR	F-DET 7	BASE	30.00	12.831	17.500	34007	0.314	0.063	0.3	0.1
10YR-72HR	G-DET 8	BASE	30.00	12.830	17.500	24979	0.648	0.465	0.7	0.5
10YR-72HR	H-LAKE 3	BASE	30.00	12.831	17.500	108474	0.799	0.000	0.8	0.0
10YR-72HR	J-LAKE-2	BASE	30.00	12.825	17.500	90233	0.948	-12.546	1.1	-30.9
10YR-72HR	K-LAKE-1	BASE	30.00	12.824	17.500	246506	32.087	0.568	74.6	0.4
10YR-72HR	L-CANAL	BASE	30.00	8.458	14.500	0	0.708	0.000	0.6	0.0
10YR-72HR	A-DET 6	BASE	31.00	13.037	17.500	21719	0.047	0.000	0.2	0.0
10YR-72HR	B-DET 65	BASE	31.00	13.034	17.500	254	0.187	0.186	0.2	0.2
10YR-72HR	C-DET 5	BASE	31.00	13.024	17.500	19603	0.041	0.000	0.2	0.0
10YR-72HR	D-DET 54	BASE	31.00	12.991	17.500	248	0.195	0.195	0.2	0.2
10YR-72HR	E-DET 4	BASE	31.00	12.861	17.500	7921	1.052	0.995	0.8	0.7
10YR-72HR	F-DET 7	BASE	31.00	12.858	17.500	34255	0.318	0.064	0.4	0.1
10YR-72HR	G-DET 8	BASE	31.00	12.857	17.500	25377	0.658	0.471	0.7	0.5
10YR-72HR	H-LAKE 3	BASE	31.00	12.857	17.500	108643	0.808	0.000	0.9	0.0
10YR-72HR	J-LAKE-2	BASE	31.00	12.852	17.500	90359	0.963	-12.535	1.1	-31.9

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	K-LAKE-1	BASE	31.00	12.851	17.500	246798	32.150	0.624	77.3	0.5
10YR-72HR	L-CANAL	BASE	31.00	8.590	14.500	0	0.769	0.000	0.7	0.0
10YR-72HR	A-DET 6	BASE	32.00	13.044	17.500	21765	0.042	0.000	0.3	0.0
10YR-72HR	B-DET 65	BASE	32.00	13.041	17.500	255	0.189	0.189	0.2	0.2
10YR-72HR	C-DET 5	BASE	32.00	13.031	17.500	19650	0.039	0.000	0.2	0.0
10YR-72HR	D-DET 54	BASE	32.00	12.999	17.500	249	0.198	0.197	0.2	0.2
10YR-72HR	E-DET 4	BASE	32.00	12.887	17.500	7988	1.075	1.018	0.9	0.8
10YR-72HR	F-DET 7	BASE	32.00	12.885	17.500	34504	0.323	0.065	0.4	0.1
10YR-72HR	G-DET 8	BASE	32.00	12.884	17.500	25777	0.667	0.476	0.8	0.6
10YR-72HR	H-LAKE 3	BASE	32.00	12.884	17.500	108814	0.812	0.000	0.9	0.0
10YR-72HR	J-LAKE-2	BASE	32.00	12.879	17.500	90485	0.983	-12.516	1.2	-32.9
10YR-72HR	K-LAKE-1	BASE	32.00	12.877	17.500	247090	32.204	0.681	80.0	0.5
10YR-72HR	L-CANAL	BASE	32.00	8.722	14.500	0	0.831	0.000	0.7	0.0
10YR-72HR	A-DET 6	BASE	33.00	13.051	17.500	21808	0.042	0.000	0.3	0.0
10YR-72HR	B-DET 65	BASE	33.00	13.048	17.500	255	0.192	0.191	0.2	0.2
10YR-72HR	C-DET 5	BASE	33.00	13.038	17.500	19697	0.041	0.000	0.2	0.0
10YR-72HR	D-DET 54	BASE	33.00	13.007	17.500	250	0.200	0.200	0.3	0.2
10YR-72HR	E-DET 4	BASE	33.00	12.913	17.500	8055	1.087	1.030	1.0	0.9
10YR-72HR	F-DET 7	BASE	33.00	12.912	17.500	34753	0.327	0.067	0.4	0.1
10YR-72HR	G-DET 8	BASE	33.00	12.911	17.500	26178	0.675	0.482	0.8	0.6
10YR-72HR	H-LAKE 3	BASE	33.00	12.911	17.500	108985	0.813	0.000	1.0	0.0
10YR-72HR	J-LAKE-2	BASE	33.00	12.906	17.500	90611	1.006	-12.491	1.3	-34.0
10YR-72HR	K-LAKE-1	BASE	33.00	12.904	17.500	247381	32.252	0.738	82.6	0.6
10YR-72HR	L-CANAL	BASE	33.00	8.854	14.500	0	0.893	0.000	0.8	0.0
10YR-72HR	A-DET 6	BASE	34.00	13.059	17.500	21854	0.047	0.000	0.3	0.0
10YR-72HR	B-DET 65	BASE	34.00	13.055	17.500	256	0.194	0.193	0.3	0.3
10YR-72HR	C-DET 5	BASE	34.00	13.046	17.500	19748	0.047	0.000	0.2	0.0
10YR-72HR	D-DET 54	BASE	34.00	13.017	17.500	251	0.203	0.202	0.3	0.3
10YR-72HR	E-DET 4	BASE	34.00	12.939	17.500	8120	1.089	1.032	1.1	1.0
10YR-72HR	F-DET 7	BASE	34.00	12.938	17.500	35002	0.330	0.070	0.4	0.1
10YR-72HR	G-DET 8	BASE	34.00	12.937	17.500	26577	0.682	0.488	0.9	0.7
10YR-72HR	H-LAKE 3	BASE	34.00	12.938	17.500	109155	0.810	0.000	1.1	0.0
10YR-72HR	J-LAKE-2	BASE	34.00	12.932	17.500	90737	1.032	-12.461	1.4	-35.0
10YR-72HR	K-LAKE-1	BASE	34.00	12.930	17.500	247669	32.294	0.794	85.3	0.7
10YR-72HR	L-CANAL	BASE	34.00	8.986	14.500	0	0.954	0.000	0.9	0.0
10YR-72HR	A-DET 6	BASE	35.00	13.067	17.500	21907	0.055	0.000	0.3	0.0
10YR-72HR	B-DET 65	BASE	35.00	13.064	17.500	257	0.196	0.195	0.3	0.3
10YR-72HR	C-DET 5	BASE	35.00	13.055	17.500	19808	0.055	0.000	0.2	0.0
10YR-72HR	D-DET 54	BASE	35.00	13.029	17.500	253	0.205	0.204	0.3	0.3
10YR-72HR	E-DET 4	BASE	35.00	12.965	17.500	8186	1.084	1.028	1.2	1.1
10YR-72HR	F-DET 7	BASE	35.00	12.965	17.500	35250	0.334	0.074	0.5	0.1
10YR-72HR	G-DET 8	BASE	35.00	12.964	17.500	26973	0.689	0.494	1.0	0.7
10YR-72HR	H-LAKE 3	BASE	35.00	12.965	17.500	109324	0.804	0.000	1.2	0.0
10YR-72HR	J-LAKE-2	BASE	35.00	12.959	17.500	90861	1.060	-12.427	1.5	-36.0
10YR-72HR	K-LAKE-1	BASE	35.00	12.957	17.500	247955	32.331	0.849	88.0	0.7
10YR-72HR	L-CANAL	BASE	35.00	9.118	14.500	0	1.013	0.000	1.0	0.0
10YR-72HR	A-DET 6	BASE	36.00	13.077	17.500	21969	0.066	0.000	0.3	0.0
10YR-72HR	B-DET 65	BASE	36.00	13.074	17.500	258	0.198	0.197	0.3	0.3
10YR-72HR	C-DET 5	BASE	36.00	13.066	17.500	19880	0.066	0.000	0.2	0.0
10YR-72HR	D-DET 54	BASE	36.00	13.043	17.500	254	0.207	0.205	0.3	0.3

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	E-DET 4	BASE	36.00	12.991	17.500	8250	1.074	1.018	1.3	1.2
10YR-72HR	F-DET 7	BASE	36.00	12.991	17.500	35495	0.337	0.078	0.5	0.1
10YR-72HR	G-DET 8	BASE	36.00	12.990	17.500	27365	0.696	0.500	1.0	0.8
10YR-72HR	H-LAKE 3	BASE	36.00	12.991	17.500	109492	0.797	0.000	1.2	0.0
10YR-72HR	J-LAKE-2	BASE	36.00	12.985	17.500	90984	1.089	-12.391	1.6	-37.1
10YR-72HR	K-LAKE-1	BASE	36.00	12.982	17.500	248238	32.365	0.902	90.6	0.8
10YR-72HR	L-CANAL	BASE	36.00	9.250	14.500	0	1.070	0.000	1.0	0.0
10YR-72HR	A-DET 6	BASE	37.00	13.089	17.500	22045	0.081	0.000	0.3	0.0
10YR-72HR	B-DET 65	BASE	37.00	13.086	17.500	259	0.201	0.200	0.3	0.3
10YR-72HR	C-DET 5	BASE	37.00	13.079	17.500	19965	0.079	0.000	0.2	0.0
10YR-72HR	D-DET 54	BASE	37.00	13.059	17.500	256	0.210	0.209	0.3	0.3
10YR-72HR	E-DET 4	BASE	37.00	13.016	17.500	8314	1.065	1.008	1.3	1.3
10YR-72HR	F-DET 7	BASE	37.00	13.018	17.500	35738	0.342	0.082	0.5	0.1
10YR-72HR	G-DET 8	BASE	37.00	13.016	17.500	27755	0.707	0.509	1.1	0.8
10YR-72HR	H-LAKE 3	BASE	37.00	13.017	17.500	109658	0.797	0.000	1.3	0.0
10YR-72HR	J-LAKE-2	BASE	37.00	13.011	17.500	91106	1.124	-12.354	1.7	-38.1
10YR-72HR	K-LAKE-1	BASE	37.00	13.008	17.500	248518	32.409	0.951	93.3	0.9
10YR-72HR	L-CANAL	BASE	37.00	9.382	14.500	0	1.124	0.000	1.1	0.0
10YR-72HR	A-DET 6	BASE	38.00	13.103	17.500	22133	0.092	0.000	0.3	0.0
10YR-72HR	B-DET 65	BASE	38.00	13.101	17.500	261	0.203	0.202	0.3	0.3
10YR-72HR	C-DET 5	BASE	38.00	13.095	17.500	20063	0.090	0.000	0.2	0.0
10YR-72HR	D-DET 54	BASE	38.00	13.077	17.500	258	0.212	0.211	0.3	0.3
10YR-72HR	E-DET 4	BASE	38.00	13.041	17.500	8377	1.056	0.999	1.4	1.3
10YR-72HR	F-DET 7	BASE	38.00	13.044	17.500	35980	0.346	0.087	0.5	0.1
10YR-72HR	G-DET 8	BASE	38.00	13.042	17.500	28143	0.715	0.515	1.1	0.8
10YR-72HR	H-LAKE 3	BASE	38.00	13.043	17.500	109824	0.790	0.000	1.3	0.0
10YR-72HR	J-LAKE-2	BASE	38.00	13.037	17.500	91227	1.155	-12.318	1.7	-39.1
10YR-72HR	K-LAKE-1	BASE	38.00	13.034	17.500	248797	32.444	0.997	96.0	1.0
10YR-72HR	L-CANAL	BASE	38.00	9.514	14.500	0	1.174	0.000	1.2	0.0
10YR-72HR	A-DET 6	BASE	39.00	13.119	17.500	22233	0.103	0.000	0.3	0.0
10YR-72HR	B-DET 65	BASE	39.00	13.117	17.500	262	0.204	0.203	0.3	0.3
10YR-72HR	C-DET 5	BASE	39.00	13.111	17.500	20173	0.099	0.000	0.3	0.0
10YR-72HR	D-DET 54	BASE	39.00	13.096	17.500	260	0.214	0.212	0.4	0.4
10YR-72HR	E-DET 4	BASE	39.00	13.066	17.500	8440	1.046	0.989	1.5	1.4
10YR-72HR	F-DET 7	BASE	39.00	13.069	17.500	36220	0.349	0.090	0.6	0.1
10YR-72HR	G-DET 8	BASE	39.00	13.068	17.500	28526	0.720	0.520	1.2	0.9
10YR-72HR	H-LAKE 3	BASE	39.00	13.069	17.500	109988	0.783	0.000	1.4	0.0
10YR-72HR	J-LAKE-2	BASE	39.00	13.062	17.500	91348	1.181	-12.286	1.8	-40.1
10YR-72HR	K-LAKE-1	BASE	39.00	13.059	17.500	249074	32.472	1.038	98.7	1.0
10YR-72HR	L-CANAL	BASE	39.00	9.646	14.500	0	1.219	0.000	1.3	0.0
10YR-72HR	A-DET 6	BASE	40.00	13.136	17.500	22342	0.112	0.000	0.3	0.0
10YR-72HR	B-DET 65	BASE	40.00	13.135	17.500	264	0.206	0.205	0.4	0.4
10YR-72HR	C-DET 5	BASE	40.00	13.130	17.500	20291	0.106	0.000	0.3	0.0
10YR-72HR	D-DET 54	BASE	40.00	13.117	17.500	262	0.215	0.214	0.4	0.4
10YR-72HR	E-DET 4	BASE	40.00	13.091	17.500	8503	1.037	0.980	1.6	1.5
10YR-72HR	F-DET 7	BASE	40.00	13.095	17.500	36457	0.351	0.093	0.6	0.1
10YR-72HR	G-DET 8	BASE	40.00	13.093	17.500	28907	0.725	0.524	1.3	0.9
10YR-72HR	H-LAKE 3	BASE	40.00	13.094	17.500	110150	0.778	0.000	1.5	0.0
10YR-72HR	J-LAKE-2	BASE	40.00	13.088	17.500	91467	1.203	-12.260	1.9	-41.1
10YR-72HR	K-LAKE-1	BASE	40.00	13.084	17.500	249350	32.493	1.069	101.4	1.1

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	L-CANAL	BASE	40.00	9.778	14.500	0	1.254	0.000	1.4	0.0
10YR-72HR	A-DET 6	BASE	41.00	13.155	17.500	22460	0.119	0.000	0.3	0.0
10YR-72HR	B-DET 65	BASE	41.00	13.153	17.500	266	0.207	0.206	0.4	0.4
10YR-72HR	C-DET 5	BASE	41.00	13.149	17.500	20417	0.112	0.000	0.3	0.0
10YR-72HR	D-DET 54	BASE	41.00	13.138	17.500	264	0.217	0.215	0.4	0.4
10YR-72HR	E-DET 4	BASE	41.00	13.116	17.500	8565	1.032	0.976	1.7	1.6
10YR-72HR	F-DET 7	BASE	41.00	13.120	17.500	36692	0.353	0.097	0.6	0.2
10YR-72HR	G-DET 8	BASE	41.00	13.118	17.500	29284	0.730	0.529	1.3	1.0
10YR-72HR	H-LAKE 3	BASE	41.00	13.120	17.500	110311	0.770	0.000	1.5	0.0
10YR-72HR	J-LAKE-2	BASE	41.00	13.113	17.500	91586	1.228	-12.224	2.0	-42.2
10YR-72HR	K-LAKE-1	BASE	41.00	13.109	17.500	249621	32.527	1.134	104.0	1.2
10YR-72HR	L-CANAL	BASE	41.00	9.910	14.500	0	1.322	0.000	1.5	0.0
10YR-72HR	A-DET 6	BASE	42.00	13.174	17.500	22582	0.125	0.000	0.3	0.0
10YR-72HR	B-DET 65	BASE	42.00	13.173	17.500	267	0.208	0.207	0.4	0.4
10YR-72HR	C-DET 5	BASE	42.00	13.169	17.500	20547	0.116	0.000	0.3	0.0
10YR-72HR	D-DET 54	BASE	42.00	13.159	17.500	266	0.218	0.216	0.4	0.4
10YR-72HR	E-DET 4	BASE	42.00	13.140	17.500	8626	1.030	0.974	1.8	1.7
10YR-72HR	F-DET 7	BASE	42.00	13.145	17.500	36924	0.355	0.101	0.7	0.2
10YR-72HR	G-DET 8	BASE	42.00	13.143	17.500	29655	0.734	0.533	1.4	1.0
10YR-72HR	H-LAKE 3	BASE	42.00	13.145	17.500	110470	0.760	0.000	1.6	0.0
10YR-72HR	J-LAKE-2	BASE	42.00	13.138	17.500	91702	1.255	-12.187	2.1	-43.2
10YR-72HR	K-LAKE-1	BASE	42.00	13.134	17.500	249889	32.565	1.197	106.7	1.3
10YR-72HR	L-CANAL	BASE	42.00	10.042	14.500	0	1.390	0.000	1.6	0.0
10YR-72HR	A-DET 6	BASE	43.00	13.194	17.500	22709	0.128	0.000	0.3	0.0
10YR-72HR	B-DET 65	BASE	43.00	13.193	17.500	269	0.210	0.208	0.4	0.4
10YR-72HR	C-DET 5	BASE	43.00	13.190	17.500	20680	0.119	0.000	0.3	0.0
10YR-72HR	D-DET 54	BASE	43.00	13.181	17.500	268	0.219	0.217	0.4	0.4
10YR-72HR	E-DET 4	BASE	43.00	13.164	17.500	8686	1.030	0.975	1.9	1.7
10YR-72HR	F-DET 7	BASE	43.00	13.170	17.500	37153	0.357	0.105	0.7	0.2
10YR-72HR	G-DET 8	BASE	43.00	13.168	17.500	30021	0.738	0.538	1.4	1.1
10YR-72HR	H-LAKE 3	BASE	43.00	13.169	17.500	110626	0.750	0.000	1.7	0.0
10YR-72HR	J-LAKE-2	BASE	43.00	13.162	17.500	91817	1.282	-12.150	2.2	-44.2
10YR-72HR	K-LAKE-1	BASE	43.00	13.158	17.500	250152	32.604	1.260	109.4	1.4
10YR-72HR	L-CANAL	BASE	43.00	10.174	14.500	0	1.456	0.000	1.8	0.0
10YR-72HR	A-DET 6	BASE	44.00	13.215	17.500	22837	0.131	0.000	0.3	0.0
10YR-72HR	B-DET 65	BASE	44.00	13.214	17.500	271	0.211	0.209	0.4	0.4
10YR-72HR	C-DET 5	BASE	44.00	13.211	17.500	20816	0.121	0.000	0.3	0.0
10YR-72HR	D-DET 54	BASE	44.00	13.203	17.500	270	0.220	0.219	0.4	0.4
10YR-72HR	E-DET 4	BASE	44.00	13.188	17.500	8746	1.032	0.977	1.9	1.8
10YR-72HR	F-DET 7	BASE	44.00	13.194	17.500	37378	0.359	0.109	0.7	0.2
10YR-72HR	G-DET 8	BASE	44.00	13.192	17.500	30382	0.742	0.542	1.5	1.1
10YR-72HR	H-LAKE 3	BASE	44.00	13.193	17.500	110780	0.740	0.000	1.7	0.0
10YR-72HR	J-LAKE-2	BASE	44.00	13.186	17.500	91930	1.308	-12.115	2.4	-45.2
10YR-72HR	K-LAKE-1	BASE	44.00	13.181	17.500	250412	32.643	1.322	112.1	1.5
10YR-72HR	L-CANAL	BASE	44.00	10.306	14.500	0	1.521	0.000	1.9	0.0
10YR-72HR	A-DET 6	BASE	45.00	13.236	17.500	22967	0.132	0.000	0.3	0.0
10YR-72HR	B-DET 65	BASE	45.00	13.235	17.500	273	0.212	0.210	0.4	0.4
10YR-72HR	C-DET 5	BASE	45.00	13.232	17.500	20952	0.123	0.000	0.3	0.0
10YR-72HR	D-DET 54	BASE	45.00	13.225	17.500	272	0.221	0.220	0.5	0.5
10YR-72HR	E-DET 4	BASE	45.00	13.211	17.500	8804	1.036	0.981	2.0	1.9

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
10YR-72HR	F-DET 7	BASE	45.00	13.218	17.500	37600	0.361	0.113	0.8	0.2
10YR-72HR	G-DET 8	BASE	45.00	13.215	17.500	30738	0.746	0.547	1.6	1.1
10YR-72HR	H-LAKE 3	BASE	45.00	13.217	17.500	110932	0.730	0.000	1.8	0.0
10YR-72HR	J-LAKE-2	BASE	45.00	13.210	17.500	92041	1.332	-12.081	2.5	-46.2
10YR-72HR	K-LAKE-1	BASE	45.00	13.205	17.500	250668	32.681	1.383	114.8	1.6
10YR-72HR	L-CANAL	BASE	45.00	10.438	14.500	0	1.586	0.000	2.0	0.0
10YR-72HR	A-DET 6	BASE	46.00	13.256	17.500	23098	0.134	0.000	0.4	0.0
10YR-72HR	B-DET 65	BASE	46.00	13.256	17.500	274	0.213	0.211	0.5	0.5
10YR-72HR	C-DET 5	BASE	46.00	13.253	17.500	21089	0.124	0.000	0.3	0.0
10YR-72HR	D-DET 54	BASE	46.00	13.246	17.500	273	0.222	0.221	0.5	0.5
10YR-72HR	E-DET 4	BASE	46.00	13.234	17.500	8862	1.040	0.985	2.1	2.0
10YR-72HR	F-DET 7	BASE	46.00	13.241	17.500	37818	0.362	0.117	0.8	0.2
10YR-72HR	G-DET 8	BASE	46.00	13.239	17.500	31088	0.749	0.551	1.6	1.2
10YR-72HR	H-LAKE 3	BASE	46.00	13.241	17.500	111082	0.720	0.000	1.8	0.0
10YR-72HR	J-LAKE-2	BASE	46.00	13.233	17.500	92151	1.356	-12.048	2.6	-47.2
10YR-72HR	K-LAKE-1	BASE	46.00	13.228	17.500	250920	32.718	1.440	117.5	1.8
10YR-72HR	L-CANAL	BASE	46.00	10.569	14.500	0	1.645	0.000	2.2	0.0
10YR-72HR	A-DET 6	BASE	47.00	13.277	17.500	23229	0.135	0.000	0.4	0.0
10YR-72HR	B-DET 65	BASE	47.00	13.276	17.500	276	0.214	0.212	0.5	0.5
10YR-72HR	C-DET 5	BASE	47.00	13.274	17.500	21225	0.125	0.000	0.3	0.0
10YR-72HR	D-DET 54	BASE	47.00	13.268	17.500	275	0.223	0.222	0.5	0.5
10YR-72HR	E-DET 4	BASE	47.00	13.257	17.500	8920	1.042	0.988	2.2	2.1
10YR-72HR	F-DET 7	BASE	47.00	13.265	17.500	38034	0.364	0.120	0.8	0.2
10YR-72HR	G-DET 8	BASE	47.00	13.262	17.500	31434	0.752	0.553	1.7	1.2
10YR-72HR	H-LAKE 3	BASE	47.00	13.264	17.500	111229	0.714	0.000	1.9	0.0
10YR-72HR	J-LAKE-2	BASE	47.00	13.256	17.500	92260	1.374	-12.025	2.7	-48.2
10YR-72HR	K-LAKE-1	BASE	47.00	13.251	17.500	251171	32.745	1.472	120.2	1.9
10YR-72HR	L-CANAL	BASE	47.00	10.701	14.500	0	1.680	0.000	2.3	0.0
10YR-72HR	A-DET 6	BASE	48.00	13.298	17.500	23361	0.136	0.000	0.4	0.0
10YR-72HR	B-DET 65	BASE	48.00	13.298	17.500	277	0.214	0.213	0.5	0.5
10YR-72HR	C-DET 5	BASE	48.00	13.295	17.500	21363	0.126	0.000	0.3	0.0
10YR-72HR	D-DET 54	BASE	48.00	13.290	17.500	277	0.224	0.222	0.5	0.5
10YR-72HR	E-DET 4	BASE	48.00	13.280	17.500	8977	1.045	0.990	2.3	2.1
10YR-72HR	F-DET 7	BASE	48.00	13.288	17.500	38248	0.365	0.122	0.8	0.2
10YR-72HR	G-DET 8	BASE	48.00	13.285	17.500	31778	0.755	0.556	1.7	1.3
10YR-72HR	H-LAKE 3	BASE	48.00	13.287	17.500	111376	0.709	0.000	2.0	0.0
10YR-72HR	J-LAKE-2	BASE	48.00	13.279	17.500	92368	1.389	-12.006	2.8	-49.2
10YR-72HR	K-LAKE-1	BASE	48.00	13.274	17.500	251420	32.767	1.503	122.9	2.0
10YR-72HR	L-CANAL	BASE	48.00	10.833	14.500	0	1.714	0.000	2.4	0.0
10YR-72HR	A-DET 6	BASE	49.00	13.322	17.500	23510	0.166	0.000	0.4	0.0
10YR-72HR	B-DET 65	BASE	49.00	13.321	17.500	279	0.232	0.230	0.5	0.5
10YR-72HR	C-DET 5	BASE	49.00	13.319	17.500	21517	0.152	0.000	0.4	0.0
10YR-72HR	D-DET 54	BASE	49.00	13.314	17.500	279	0.243	0.241	0.5	0.5
10YR-72HR	E-DET 4	BASE	49.00	13.304	17.500	9037	1.099	1.037	2.4	2.2
10YR-72HR	F-DET 7	BASE	49.00	13.312	17.500	38473	0.396	0.125	0.9	0.2
10YR-72HR	G-DET 8	BASE	49.00	13.309	17.500	32141	0.819	0.595	1.8	1.3
10YR-72HR	H-LAKE 3	BASE	49.00	13.311	17.500	111530	0.787	0.000	2.0	0.0
10YR-72HR	J-LAKE-2	BASE	49.00	13.303	17.500	92481	1.472	-11.982	2.9	-50.1
10YR-72HR	K-LAKE-1	BASE	49.00	13.298	17.500	251681	32.960	1.534	125.7	2.1
10YR-72HR	L-CANAL	BASE	49.00	10.965	14.500	0	1.749	0.000	2.6	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	A-DET 6	BASE	50.00	13.348	17.500	23673	0.171	0.000	0.4	0.0
10YR-72HR	B-DET 65	BASE	50.00	13.347	17.500	281	0.242	0.240	0.5	0.5
10YR-72HR	C-DET 5	BASE	50.00	13.345	17.500	21684	0.157	0.000	0.4	0.0
10YR-72HR	D-DET 54	BASE	50.00	13.340	17.500	280	0.253	0.251	0.6	0.6
10YR-72HR	E-DET 4	BASE	50.00	13.330	17.500	9102	1.150	1.085	2.5	2.3
10YR-72HR	F-DET 7	BASE	50.00	13.338	17.500	38715	0.413	0.127	0.9	0.2
10YR-72HR	G-DET 8	BASE	50.00	13.335	17.500	32531	0.854	0.616	1.9	1.4
10YR-72HR	H-LAKE 3	BASE	50.00	13.337	17.500	111696	0.825	0.000	2.1	0.0
10YR-72HR	J-LAKE-2	BASE	50.00	13.329	17.500	92603	1.524	-11.964	3.0	-51.1
10YR-72HR	K-LAKE-1	BASE	50.00	13.324	17.500	251964	33.091	1.568	128.4	2.3
10YR-72HR	L-CANAL	BASE	50.00	11.097	14.500	0	1.786	0.000	2.7	0.0
10YR-72HR	A-DET 6	BASE	51.00	13.379	17.500	23865	0.221	0.000	0.4	0.0
10YR-72HR	B-DET 65	BASE	51.00	13.378	17.500	283	0.278	0.275	0.6	0.5
10YR-72HR	C-DET 5	BASE	51.00	13.376	17.500	21881	0.201	0.000	0.4	0.0
10YR-72HR	D-DET 54	BASE	51.00	13.370	17.500	282	0.291	0.288	0.6	0.6
10YR-72HR	E-DET 4	BASE	51.00	13.360	17.500	9176	1.272	1.193	2.6	2.4
10YR-72HR	F-DET 7	BASE	51.00	13.367	17.500	38989	0.474	0.130	0.9	0.2
10YR-72HR	G-DET 8	BASE	51.00	13.365	17.500	32971	0.979	0.691	2.0	1.4
10YR-72HR	H-LAKE 3	BASE	51.00	13.367	17.500	111883	0.986	0.000	2.2	0.0
10YR-72HR	J-LAKE-2	BASE	51.00	13.358	17.500	92740	1.676	-11.938	3.2	-52.1
10YR-72HR	K-LAKE-1	BASE	51.00	13.352	17.500	252280	33.469	1.605	131.1	2.4
10YR-72HR	L-CANAL	BASE	51.00	11.229	14.500	0	1.827	0.000	2.9	0.0
10YR-72HR	A-DET 6	BASE	52.00	13.414	17.500	24089	0.247	0.000	0.4	0.0
10YR-72HR	B-DET 65	BASE	52.00	13.414	17.500	285	0.309	0.306	0.6	0.6
10YR-72HR	C-DET 5	BASE	52.00	13.411	17.500	22110	0.226	0.000	0.4	0.0
10YR-72HR	D-DET 54	BASE	52.00	13.405	17.500	285	0.323	0.320	0.6	0.6
10YR-72HR	E-DET 4	BASE	52.00	13.394	17.500	9262	1.407	1.316	2.7	2.5
10YR-72HR	F-DET 7	BASE	52.00	13.402	17.500	39305	0.526	0.133	1.0	0.3
10YR-72HR	G-DET 8	BASE	52.00	13.399	17.500	33481	1.087	0.755	2.0	1.5
10YR-72HR	H-LAKE 3	BASE	52.00	13.401	17.500	112099	1.121	0.000	2.3	0.0
10YR-72HR	J-LAKE-2	BASE	52.00	13.392	17.500	92899	1.811	-11.917	3.3	-53.1
10YR-72HR	K-LAKE-1	BASE	52.00	13.386	17.500	252648	33.825	1.647	133.9	2.5
10YR-72HR	L-CANAL	BASE	52.00	11.361	14.500	0	1.873	0.000	3.0	0.0
10YR-72HR	A-DET 6	BASE	53.00	13.461	17.500	24383	0.355	0.000	0.5	0.0
10YR-72HR	B-DET 65	BASE	53.00	13.460	17.500	288	0.388	0.384	0.6	0.6
10YR-72HR	C-DET 5	BASE	53.00	13.457	17.500	22409	0.322	0.000	0.4	0.0
10YR-72HR	D-DET 54	BASE	53.00	13.450	17.500	287	0.406	0.402	0.6	0.6
10YR-72HR	E-DET 4	BASE	53.00	13.437	17.500	9368	1.687	1.564	2.8	2.6
10YR-72HR	F-DET 7	BASE	53.00	13.444	17.500	39698	0.661	0.136	1.0	0.3
10YR-72HR	G-DET 8	BASE	53.00	13.441	17.500	34117	1.367	0.918	2.1	1.6
10YR-72HR	H-LAKE 3	BASE	53.00	13.443	17.500	112368	1.485	0.000	2.4	0.0
10YR-72HR	J-LAKE-2	BASE	53.00	13.434	17.500	93095	2.139	-11.879	3.5	-54.1
10YR-72HR	K-LAKE-1	BASE	53.00	13.428	17.500	253100	34.662	1.697	136.7	2.7
10YR-72HR	L-CANAL	BASE	53.00	11.493	14.500	0	1.928	0.000	3.2	0.0
10YR-72HR	A-DET 6	BASE	54.00	13.523	17.500	24770	0.459	0.000	0.5	0.0
10YR-72HR	B-DET 65	BASE	54.00	13.522	17.500	291	0.483	0.478	0.6	0.6
10YR-72HR	C-DET 5	BASE	54.00	13.518	17.500	22801	0.418	0.000	0.5	0.0
10YR-72HR	D-DET 54	BASE	54.00	13.510	17.500	291	0.505	0.500	0.7	0.7
10YR-72HR	E-DET 4	BASE	54.00	13.493	17.500	9508	2.067	1.905	3.0	2.8
10YR-72HR	F-DET 7	BASE	54.00	13.499	17.500	40210	0.824	0.139	1.1	0.3

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	G-DET 8	BASE	54.00	13.497	17.500	34944	1.702	1.109	2.3	1.6
10YR-72HR	H-LAKE 3	BASE	54.00	13.498	17.500	112719	1.920	0.000	2.5	0.0
10YR-72HR	J-LAKE-2	BASE	54.00	13.488	17.500	93351	2.530	-11.845	3.7	-55.1
10YR-72HR	K-LAKE-1	BASE	54.00	13.482	17.500	253692	35.702	1.760	139.6	2.8
10YR-72HR	L-CANAL	BASE	54.00	11.625	14.500	0	1.998	0.000	3.3	0.0
10YR-72HR	A-DET 6	BASE	55.00	13.598	17.500	25243	0.561	0.000	0.5	0.0
10YR-72HR	B-DET 65	BASE	55.00	13.597	17.500	295	0.586	0.579	0.7	0.7
10YR-72HR	C-DET 5	BASE	55.00	13.593	17.500	23282	0.514	0.000	0.5	0.0
10YR-72HR	D-DET 54	BASE	55.00	13.583	17.500	294	0.613	0.606	0.7	0.7
10YR-72HR	E-DET 4	BASE	55.00	13.563	17.500	9684	2.495	2.290	3.2	3.0
10YR-72HR	F-DET 7	BASE	55.00	13.568	17.500	40855	0.999	0.138	1.2	0.3
10YR-72HR	G-DET 8	BASE	55.00	13.566	17.500	35984	2.064	1.307	2.4	1.7
10YR-72HR	H-LAKE 3	BASE	55.00	13.568	17.500	113160	2.385	0.000	2.7	0.0
10YR-72HR	J-LAKE-2	BASE	55.00	13.557	17.500	93674	2.942	-11.818	3.9	-56.0
10YR-72HR	K-LAKE-1	BASE	55.00	13.550	17.500	254440	36.830	1.837	142.6	2.9
10YR-72HR	L-CANAL	BASE	55.00	11.757	14.500	0	2.083	0.000	3.5	0.0
10YR-72HR	A-DET 6	BASE	56.00	13.686	17.500	25795	0.662	0.000	0.6	0.0
10YR-72HR	B-DET 65	BASE	56.00	13.685	17.500	298	0.691	0.683	0.7	0.7
10YR-72HR	C-DET 5	BASE	56.00	13.681	17.500	23846	0.611	0.000	0.5	0.0
10YR-72HR	D-DET 54	BASE	56.00	13.670	17.500	298	0.722	0.714	0.8	0.8
10YR-72HR	E-DET 4	BASE	56.00	13.648	17.500	9895	2.934	2.684	3.4	3.2
10YR-72HR	F-DET 7	BASE	56.00	13.652	17.500	41634	1.177	0.133	1.3	0.3
10YR-72HR	G-DET 8	BASE	56.00	13.650	17.500	37242	2.433	1.500	2.6	1.9
10YR-72HR	H-LAKE 3	BASE	56.00	13.651	17.500	113694	2.854	0.000	2.9	0.0
10YR-72HR	J-LAKE-2	BASE	56.00	13.640	17.500	94066	3.353	-11.796	4.2	-57.0
10YR-72HR	K-LAKE-1	BASE	56.00	13.633	17.500	255349	37.975	1.926	145.7	3.1
10YR-72HR	L-CANAL	BASE	56.00	11.889	14.500	0	2.181	0.000	3.7	0.0
10YR-72HR	A-DET 6	BASE	57.00	13.790	17.500	26441	0.804	0.000	0.7	0.0
10YR-72HR	B-DET 65	BASE	57.00	13.789	17.500	302	0.811	0.802	0.8	0.8
10YR-72HR	C-DET 5	BASE	57.00	13.784	17.500	24508	0.746	0.000	0.6	0.0
10YR-72HR	D-DET 54	BASE	57.00	13.773	17.500	302	0.848	0.839	0.8	0.8
10YR-72HR	E-DET 4	BASE	57.00	13.750	17.500	10150	3.392	3.082	3.6	3.4
10YR-72HR	F-DET 7	BASE	57.00	13.751	17.500	42557	1.383	0.123	1.4	0.3
10YR-72HR	G-DET 8	BASE	57.00	13.750	17.500	38731	2.858	1.713	2.8	2.0
10YR-72HR	H-LAKE 3	BASE	57.00	13.751	17.500	114326	3.388	0.000	3.2	0.0
10YR-72HR	J-LAKE-2	BASE	57.00	13.739	17.500	94530	3.822	-11.762	4.5	-58.0
10YR-72HR	K-LAKE-1	BASE	57.00	13.732	17.500	256426	39.248	2.027	148.9	3.3
10YR-72HR	L-CANAL	BASE	57.00	12.021	14.500	0	2.292	0.000	3.9	0.0
10YR-72HR	A-DET 6	BASE	58.00	13.915	17.500	27228	1.073	0.000	0.7	0.0
10YR-72HR	B-DET 65	BASE	58.00	13.914	17.500	305	1.000	0.988	0.9	0.9
10YR-72HR	C-DET 5	BASE	58.00	13.909	17.500	25314	0.995	0.000	0.7	0.0
10YR-72HR	D-DET 54	BASE	58.00	13.898	17.500	305	1.045	1.033	0.9	0.9
10YR-72HR	E-DET 4	BASE	58.00	13.875	17.500	10459	4.019	3.615	3.9	3.7
10YR-72HR	F-DET 7	BASE	58.00	13.870	17.500	43660	1.704	0.103	1.5	0.3
10YR-72HR	G-DET 8	BASE	58.00	13.869	17.500	40514	3.521	2.034	3.1	2.1
10YR-72HR	H-LAKE 3	BASE	58.00	13.870	17.500	115082	4.224	0.000	3.5	0.0
10YR-72HR	J-LAKE-2	BASE	58.00	13.857	17.500	95084	4.536	-11.713	4.8	-59.0
10YR-72HR	K-LAKE-1	BASE	58.00	13.850	17.500	257710	41.145	2.141	152.2	3.4
10YR-72HR	L-CANAL	BASE	58.00	12.153	14.500	0	2.418	0.000	4.1	0.0
10YR-72HR	A-DET 6	BASE	59.00	14.080	17.500	28257	1.621	0.000	0.8	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	B-DET 65	BASE	59.00	14.079	17.500	308	1.342	1.324	1.0	1.0
10YR-72HR	C-DET 5	BASE	59.00	14.074	17.500	26366	1.504	0.000	0.8	0.0
10YR-72HR	D-DET 54	BASE	59.00	14.062	17.500	308	1.403	1.386	1.0	1.0
10YR-72HR	E-DET 4	BASE	59.00	14.035	17.500	10857	5.044	4.452	4.3	4.0
10YR-72HR	F-DET 7	BASE	59.00	14.020	17.500	45053	2.287	0.049	1.7	0.3
10YR-72HR	G-DET 8	BASE	59.00	14.020	17.500	42769	4.727	2.583	3.4	2.3
10YR-72HR	H-LAKE 3	BASE	59.00	14.020	17.500	116037	5.782	0.000	3.9	0.0
10YR-72HR	J-LAKE-2	BASE	59.00	14.005	17.500	95779	5.740	-11.669	5.2	-59.9
10YR-72HR	K-LAKE-1	BASE	59.00	13.997	17.500	259323	44.430	2.276	155.8	3.6
10YR-72HR	L-CANAL	BASE	59.00	12.285	14.500	0	2.568	0.000	4.3	0.0
10YR-72HR	A-DET 6	BASE	60.00	14.748	17.500	32423	17.571	0.000	1.6	0.0
10YR-72HR	B-DET 65	BASE	60.00	14.750	17.500	301	8.420	8.257	1.4	1.4
10YR-72HR	C-DET 5	BASE	60.00	14.733	17.500	30572	16.379	0.000	1.5	0.0
10YR-72HR	D-DET 54	BASE	60.00	14.721	17.500	302	8.802	8.643	1.4	1.4
10YR-72HR	E-DET 4	BASE	60.00	14.615	17.500	12285	17.203	11.275	5.2	4.7
10YR-72HR	F-DET 7	BASE	60.00	14.450	17.500	49049	14.352	-1.355	2.3	0.3
10YR-72HR	G-DET 8	BASE	60.00	14.495	17.500	49871	29.660	11.306	4.8	2.9
10YR-72HR	H-LAKE 3	BASE	60.00	14.456	17.500	118809	38.638	0.000	5.7	0.0
10YR-72HR	J-LAKE-2	BASE	60.00	14.378	17.500	97535	27.093	-11.456	6.6	-60.9
10YR-72HR	K-LAKE-1	BASE	60.00	14.369	17.500	263385	101.513	2.585	161.8	3.8
10YR-72HR	L-CANAL	BASE	60.00	12.417	14.500	0	2.910	0.000	4.5	0.0
10YR-72HR	A-DET 6	BASE	61.00	15.806	17.500	71038	4.600	0.000	2.6	0.0
10YR-72HR	B-DET 65	BASE	61.00	15.803	17.500	22609	4.758	3.299	1.9	1.8
10YR-72HR	C-DET 5	BASE	61.00	15.790	17.500	67926	4.513	0.000	2.4	0.0
10YR-72HR	D-DET 54	BASE	61.00	15.760	17.500	20458	4.974	3.541	2.0	1.9
10YR-72HR	E-DET 4	BASE	61.00	15.707	17.500	19126	17.083	15.505	6.7	5.8
10YR-72HR	F-DET 7	BASE	61.00	15.407	17.500	57945	8.110	-0.733	3.3	0.2
10YR-72HR	G-DET 8	BASE	61.00	15.407	17.500	63520	16.760	7.462	6.8	3.7
10YR-72HR	H-LAKE 3	BASE	61.00	15.410	17.500	124878	18.810	0.000	8.1	0.0
10YR-72HR	J-LAKE-2	BASE	61.00	15.254	17.500	101653	19.438	-10.416	8.5	-61.8
10YR-72HR	K-LAKE-1	BASE	61.00	15.242	17.500	272927	80.042	5.001	169.3	4.1
10YR-72HR	L-CANAL	BASE	61.00	12.549	14.500	0	6.071	0.000	4.9	0.0
10YR-72HR	A-DET 6	BASE	62.00	15.921	17.500	83787	0.929	0.000	2.8	0.0
10YR-72HR	B-DET 65	BASE	62.00	15.919	17.500	31231	2.292	1.935	2.2	2.1
10YR-72HR	C-DET 5	BASE	62.00	15.913	17.500	81649	1.036	0.000	2.6	0.0
10YR-72HR	D-DET 54	BASE	62.00	15.898	17.500	31173	2.397	1.910	2.3	2.2
10YR-72HR	E-DET 4	BASE	62.00	15.875	17.500	22899	11.206	10.736	7.8	6.8
10YR-72HR	F-DET 7	BASE	62.00	15.729	17.500	78937	3.908	0.325	3.8	0.2
10YR-72HR	G-DET 8	BASE	62.00	15.719	17.500	112957	8.076	2.953	7.8	4.1
10YR-72HR	H-LAKE 3	BASE	62.00	15.728	17.500	178641	8.060	0.000	9.2	0.0
10YR-72HR	J-LAKE-2	BASE	62.00	15.662	17.500	120387	10.405	-9.969	9.7	-62.6
10YR-72HR	K-LAKE-1	BASE	62.00	15.652	17.500	328033	57.668	6.900	175.0	4.6
10YR-72HR	L-CANAL	BASE	62.00	12.681	14.500	0	8.612	0.000	5.5	0.0
10YR-72HR	A-DET 6	BASE	63.00	15.922	17.500	83853	-0.512	0.000	2.8	0.0
10YR-72HR	B-DET 65	BASE	63.00	15.921	17.500	31354	1.018	1.202	2.3	2.2
10YR-72HR	C-DET 5	BASE	63.00	15.918	17.500	82181	-0.433	0.000	2.6	0.0
10YR-72HR	D-DET 54	BASE	63.00	15.910	17.500	32141	1.064	1.184	2.5	2.3
10YR-72HR	E-DET 4	BASE	63.00	15.899	17.500	23455	7.472	7.506	8.6	7.6
10YR-72HR	F-DET 7	BASE	63.00	15.826	17.500	87471	1.735	0.399	4.0	0.2
10YR-72HR	G-DET 8	BASE	63.00	15.819	17.500	134851	3.586	1.396	8.3	4.3

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	H-LAKE 3	BASE	63.00	15.825	17.500	201233	3.084	0.000	9.7	0.0
10YR-72HR	J-LAKE-2	BASE	63.00	15.797	17.500	135091	5.454	-10.122	10.4	-63.5
10YR-72HR	K-LAKE-1	BASE	63.00	15.790	17.500	375780	45.098	7.562	179.3	5.2
10YR-72HR	L-CANAL	BASE	63.00	12.813	14.500	0	9.508	0.000	6.2	0.0
10YR-72HR	A-DET 6	BASE	64.00	15.907	17.500	82239	-0.115	0.000	2.8	0.0
10YR-72HR	B-DET 65	BASE	64.00	15.907	17.500	30325	0.818	0.857	2.4	2.3
10YR-72HR	C-DET 5	BASE	64.00	15.905	17.500	80789	-0.083	0.000	2.6	0.0
10YR-72HR	D-DET 54	BASE	64.00	15.902	17.500	31479	0.856	0.866	2.5	2.4
10YR-72HR	E-DET 4	BASE	64.00	15.897	17.500	23390	5.252	5.237	9.1	8.1
10YR-72HR	F-DET 7	BASE	64.00	15.873	17.500	91587	1.395	0.338	4.1	0.2
10YR-72HR	G-DET 8	BASE	64.00	15.867	17.500	145463	2.883	1.209	8.5	4.4
10YR-72HR	H-LAKE 3	BASE	64.00	15.872	17.500	212201	2.448	0.000	9.9	0.0
10YR-72HR	J-LAKE-2	BASE	64.00	15.852	17.500	140992	4.520	-9.876	10.8	-64.3
10YR-72HR	K-LAKE-1	BASE	64.00	15.843	17.500	394041	41.545	7.775	182.8	5.9
10YR-72HR	L-CANAL	BASE	64.00	12.944	14.500	0	9.813	0.000	7.0	0.0
10YR-72HR	A-DET 6	BASE	65.00	15.901	17.500	81558	-0.161	0.000	2.8	0.0
10YR-72HR	B-DET 65	BASE	65.00	15.901	17.500	29889	0.559	0.616	2.5	2.3
10YR-72HR	C-DET 5	BASE	65.00	15.900	17.500	80201	-0.145	0.000	2.6	0.0
10YR-72HR	D-DET 54	BASE	65.00	15.898	17.500	31199	0.584	0.631	2.6	2.4
10YR-72HR	E-DET 4	BASE	65.00	15.895	17.500	23364	3.826	3.852	9.5	8.5
10YR-72HR	F-DET 7	BASE	65.00	15.903	17.500	94253	0.952	0.417	4.2	0.3
10YR-72HR	G-DET 8	BASE	65.00	15.896	17.500	151885	1.968	1.160	8.7	4.5
10YR-72HR	H-LAKE 3	BASE	65.00	15.902	17.500	219221	1.228	0.000	10.0	0.0
10YR-72HR	J-LAKE-2	BASE	65.00	15.879	17.500	143973	4.050	-9.317	11.2	-65.1
10YR-72HR	K-LAKE-1	BASE	65.00	15.867	17.500	402031	38.724	7.825	186.2	6.5
10YR-72HR	L-CANAL	BASE	65.00	13.076	14.500	0	9.907	0.000	7.8	0.0
10YR-72HR	A-DET 6	BASE	66.00	15.897	17.500	81062	-0.050	0.000	2.8	0.0
10YR-72HR	B-DET 65	BASE	66.00	15.896	17.500	29567	0.488	0.506	2.5	2.4
10YR-72HR	C-DET 5	BASE	66.00	15.896	17.500	79741	-0.044	0.000	2.6	0.0
10YR-72HR	D-DET 54	BASE	66.00	15.895	17.500	30932	0.510	0.524	2.6	2.5
10YR-72HR	E-DET 4	BASE	66.00	15.893	17.500	23309	3.110	3.118	9.8	8.8
10YR-72HR	F-DET 7	BASE	66.00	15.919	17.500	95691	0.832	0.484	4.3	0.3
10YR-72HR	G-DET 8	BASE	66.00	15.911	17.500	155114	1.720	1.230	8.9	4.6
10YR-72HR	H-LAKE 3	BASE	66.00	15.918	17.500	222988	0.801	0.000	10.1	0.0
10YR-72HR	J-LAKE-2	BASE	66.00	15.890	17.500	145190	4.147	-8.820	11.5	-65.8
10YR-72HR	K-LAKE-1	BASE	66.00	15.874	17.500	404594	37.832	7.788	189.3	7.1
10YR-72HR	L-CANAL	BASE	66.00	13.208	14.500	0	9.881	0.000	8.7	0.0
10YR-72HR	A-DET 6	BASE	67.00	15.896	17.500	81017	0.027	0.000	2.8	0.0
10YR-72HR	B-DET 65	BASE	67.00	15.896	17.500	29540	0.472	0.462	2.6	2.4
10YR-72HR	C-DET 5	BASE	67.00	15.896	17.500	79710	0.028	0.000	2.6	0.0
10YR-72HR	D-DET 54	BASE	67.00	15.895	17.500	30929	0.494	0.482	2.7	2.5
10YR-72HR	E-DET 4	BASE	67.00	15.893	17.500	23316	2.810	2.800	10.0	9.0
10YR-72HR	F-DET 7	BASE	67.00	15.930	17.500	96685	0.805	0.537	4.4	0.3
10YR-72HR	G-DET 8	BASE	67.00	15.921	17.500	157251	1.664	1.289	9.0	4.7
10YR-72HR	H-LAKE 3	BASE	67.00	15.929	17.500	225587	0.616	0.000	10.2	0.0
10YR-72HR	J-LAKE-2	BASE	67.00	15.897	17.500	145888	4.340	-8.485	11.9	-66.5
10YR-72HR	K-LAKE-1	BASE	67.00	15.878	17.500	405958	37.617	7.729	192.4	7.8
10YR-72HR	L-CANAL	BASE	67.00	13.340	14.500	0	9.825	0.000	9.5	0.0
10YR-72HR	A-DET 6	BASE	68.00	15.899	17.500	81282	0.075	0.000	2.8	0.0
10YR-72HR	B-DET 65	BASE	68.00	15.899	17.500	29718	0.473	0.445	2.6	2.5

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	C-DET 5	BASE	68.00	15.898	17.500	79983	0.074	0.000	2.6	0.0
10YR-72HR	D-DET 54	BASE	68.00	15.897	17.500	31127	0.494	0.464	2.7	2.6
10YR-72HR	E-DET 4	BASE	68.00	15.896	17.500	23377	2.683	2.661	10.3	9.3
10YR-72HR	F-DET 7	BASE	68.00	15.940	17.500	97495	0.805	0.574	4.4	0.4
10YR-72HR	G-DET 8	BASE	68.00	15.929	17.500	159019	1.665	1.330	9.2	4.8
10YR-72HR	H-LAKE 3	BASE	68.00	15.938	17.500	227712	0.535	0.000	10.2	0.0
10YR-72HR	J-LAKE-2	BASE	68.00	15.902	17.500	146497	4.500	-8.283	12.2	-67.2
10YR-72HR	K-LAKE-1	BASE	68.00	15.882	17.500	407393	37.601	7.669	195.5	8.4
10YR-72HR	L-CANAL	BASE	68.00	13.472	14.500	0	9.766	0.000	10.3	0.0
10YR-72HR	A-DET 6	BASE	69.00	15.898	17.500	81163	-0.105	0.000	2.8	0.0
10YR-72HR	B-DET 65	BASE	69.00	15.897	17.500	29639	0.357	0.395	2.6	2.5
10YR-72HR	C-DET 5	BASE	69.00	15.897	17.500	79869	-0.102	0.000	2.6	0.0
10YR-72HR	D-DET 54	BASE	69.00	15.896	17.500	31055	0.374	0.412	2.8	2.6
10YR-72HR	E-DET 4	BASE	69.00	15.895	17.500	23360	2.468	2.497	10.5	9.5
10YR-72HR	F-DET 7	BASE	69.00	15.944	17.500	97846	0.609	0.613	4.5	0.4
10YR-72HR	G-DET 8	BASE	69.00	15.932	17.500	159665	1.259	1.303	9.3	4.9
10YR-72HR	H-LAKE 3	BASE	69.00	15.942	17.500	228614	-0.015	0.000	10.3	0.0
10YR-72HR	J-LAKE-2	BASE	69.00	15.904	17.500	146693	4.299	-8.159	12.6	-67.9
10YR-72HR	K-LAKE-1	BASE	69.00	15.883	17.500	407697	36.699	7.589	198.6	9.1
10YR-72HR	L-CANAL	BASE	69.00	13.604	14.500	0	9.679	0.000	11.1	0.0
10YR-72HR	A-DET 6	BASE	70.00	15.892	17.500	80569	-0.129	0.000	2.7	0.0
10YR-72HR	B-DET 65	BASE	70.00	15.892	17.500	29243	0.321	0.368	2.7	2.5
10YR-72HR	C-DET 5	BASE	70.00	15.892	17.500	79274	-0.126	0.000	2.6	0.0
10YR-72HR	D-DET 54	BASE	70.00	15.891	17.500	30648	0.336	0.384	2.8	2.6
10YR-72HR	E-DET 4	BASE	70.00	15.890	17.500	23245	2.313	2.350	10.7	9.7
10YR-72HR	F-DET 7	BASE	70.00	15.942	17.500	97681	0.548	0.633	4.5	0.5
10YR-72HR	G-DET 8	BASE	70.00	15.929	17.500	159124	1.132	1.290	9.4	5.0
10YR-72HR	H-LAKE 3	BASE	70.00	15.940	17.500	228161	-0.202	0.000	10.2	0.0
10YR-72HR	J-LAKE-2	BASE	70.00	15.901	17.500	146353	4.254	-8.090	12.9	-68.6
10YR-72HR	K-LAKE-1	BASE	70.00	15.879	17.500	406416	36.346	7.480	201.6	9.7
10YR-72HR	L-CANAL	BASE	70.00	13.736	14.500	0	9.554	0.000	11.9	0.0
10YR-72HR	A-DET 6	BASE	71.00	15.887	17.500	79959	-0.114	0.000	2.7	0.0
10YR-72HR	B-DET 65	BASE	71.00	15.887	17.500	28836	0.314	0.355	2.7	2.5
10YR-72HR	C-DET 5	BASE	71.00	15.886	17.500	78662	-0.111	0.000	2.6	0.0
10YR-72HR	D-DET 54	BASE	71.00	15.886	17.500	30226	0.329	0.371	2.8	2.7
10YR-72HR	E-DET 4	BASE	71.00	15.885	17.500	23125	2.230	2.263	10.9	9.9
10YR-72HR	F-DET 7	BASE	71.00	15.938	17.500	97359	0.536	0.642	4.6	0.5
10YR-72HR	G-DET 8	BASE	71.00	15.925	17.500	158262	1.107	1.287	9.5	5.1
10YR-72HR	H-LAKE 3	BASE	71.00	15.936	17.500	227301	-0.249	0.000	10.2	0.0
10YR-72HR	J-LAKE-2	BASE	71.00	15.897	17.500	145887	4.260	-8.069	13.3	-69.3
10YR-72HR	K-LAKE-1	BASE	71.00	15.875	17.500	404842	36.232	7.363	204.6	10.3
10YR-72HR	L-CANAL	BASE	71.00	13.868	14.500	0	9.418	0.000	12.7	0.0
10YR-72HR	A-DET 6	BASE	72.00	15.882	17.500	79440	-0.670	0.000	2.7	0.0
10YR-72HR	B-DET 65	BASE	72.00	15.882	17.500	28490	0.000	0.343	2.7	2.6
10YR-72HR	C-DET 5	BASE	72.00	15.882	17.500	78141	-0.668	0.000	2.5	0.0
10YR-72HR	D-DET 54	BASE	72.00	15.881	17.500	29866	0.000	0.362	2.8	2.7
10YR-72HR	E-DET 4	BASE	72.00	15.880	17.500	23021	2.043	2.208	11.0	10.1
10YR-72HR	F-DET 7	BASE	72.00	15.934	17.500	97009	0.000	0.644	4.6	0.6
10YR-72HR	G-DET 8	BASE	72.00	15.921	17.500	157374	0.000	1.283	9.5	5.2
10YR-72HR	H-LAKE 3	BASE	72.00	15.932	17.500	226372	-1.588	0.000	10.2	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	J-LAKE-2	BASE	72.00	15.893	17.500	145445	3.516	-8.082	13.6	-69.9
10YR-72HR	K-LAKE-1	BASE	72.00	15.871	17.500	403424	33.955	7.246	207.5	10.9
10YR-72HR	L-CANAL	BASE	72.00	14.000	14.500	0	9.282	0.000	13.4	0.0
10YR-72HR	A-DET 6	BASE	73.00	15.852	17.500	76141	-0.591	0.000	2.7	0.0
10YR-72HR	B-DET 65	BASE	73.00	15.852	17.500	26286	0.000	0.204	2.7	2.6
10YR-72HR	C-DET 5	BASE	73.00	15.852	17.500	74823	-0.580	0.000	2.5	0.0
10YR-72HR	D-DET 54	BASE	73.00	15.852	17.500	27572	0.000	0.213	2.8	2.7
10YR-72HR	E-DET 4	BASE	73.00	15.851	17.500	22366	1.588	1.761	11.2	10.2
10YR-72HR	F-DET 7	BASE	73.00	15.908	17.500	94743	0.000	0.693	4.6	0.7
10YR-72HR	G-DET 8	BASE	73.00	15.895	17.500	151524	0.000	1.109	9.5	5.3
10YR-72HR	H-LAKE 3	BASE	73.00	15.906	17.500	220320	-1.612	0.000	10.0	0.0
10YR-72HR	J-LAKE-2	BASE	73.00	15.868	17.500	142728	3.414	-8.030	13.9	-70.6
10YR-72HR	K-LAKE-1	BASE	73.00	15.845	17.500	394582	33.563	7.131	210.3	11.5
10YR-72HR	L-CANAL	BASE	73.00	13.958	14.500	0	9.122	0.000	14.2	0.0
10YR-72HR	A-DET 6	BASE	74.00	15.825	17.500	73082	-0.558	0.000	2.6	0.0
10YR-72HR	B-DET 65	BASE	74.00	15.825	17.500	24242	0.000	0.185	2.7	2.6
10YR-72HR	C-DET 5	BASE	74.00	15.824	17.500	71738	-0.547	0.000	2.4	0.0
10YR-72HR	D-DET 54	BASE	74.00	15.824	17.500	25429	0.000	0.194	2.8	2.7
10YR-72HR	E-DET 4	BASE	74.00	15.824	17.500	21747	1.483	1.650	11.3	10.4
10YR-72HR	F-DET 7	BASE	74.00	15.882	17.500	92395	0.000	0.694	4.6	0.7
10YR-72HR	G-DET 8	BASE	74.00	15.868	17.500	145664	0.000	1.094	9.5	5.4
10YR-72HR	H-LAKE 3	BASE	74.00	15.880	17.500	214086	-1.610	0.000	9.9	0.0
10YR-72HR	J-LAKE-2	BASE	74.00	15.841	17.500	139855	3.398	-8.035	14.2	-71.3
10YR-72HR	K-LAKE-1	BASE	74.00	15.818	17.500	385376	33.475	7.011	213.1	12.1
10YR-72HR	L-CANAL	BASE	74.00	13.917	14.500	0	8.955	0.000	14.9	0.0
10YR-72HR	A-DET 6	BASE	75.00	15.797	17.500	70038	-0.534	0.000	2.6	0.0
10YR-72HR	B-DET 65	BASE	75.00	15.797	17.500	22207	0.000	0.169	2.7	2.6
10YR-72HR	C-DET 5	BASE	75.00	15.797	17.500	68667	-0.523	0.000	2.4	0.0
10YR-72HR	D-DET 54	BASE	75.00	15.797	17.500	23294	0.000	0.177	2.8	2.7
10YR-72HR	E-DET 4	BASE	75.00	15.796	17.500	21130	1.404	1.567	11.4	10.5
10YR-72HR	F-DET 7	BASE	75.00	15.854	17.500	89983	0.000	0.694	4.6	0.8
10YR-72HR	G-DET 8	BASE	75.00	15.841	17.500	139664	0.000	1.072	9.5	5.5
10YR-72HR	H-LAKE 3	BASE	75.00	15.852	17.500	207684	-1.602	0.000	9.8	0.0
10YR-72HR	J-LAKE-2	BASE	75.00	15.814	17.500	136939	3.368	-8.071	14.5	-71.9
10YR-72HR	K-LAKE-1	BASE	75.00	15.791	17.500	376101	33.398	6.891	215.9	12.6
10YR-72HR	L-CANAL	BASE	75.00	13.875	14.500	0	8.788	0.000	15.7	0.0
10YR-72HR	A-DET 6	BASE	76.00	15.770	17.500	66986	-0.515	0.000	2.5	0.0
10YR-72HR	B-DET 65	BASE	76.00	15.770	17.500	20167	0.000	0.155	2.7	2.6
10YR-72HR	C-DET 5	BASE	76.00	15.769	17.500	65588	-0.504	0.000	2.4	0.0
10YR-72HR	D-DET 54	BASE	76.00	15.769	17.500	21152	0.000	0.162	2.8	2.8
10YR-72HR	E-DET 4	BASE	76.00	15.769	17.500	20511	1.336	1.495	11.5	10.6
10YR-72HR	F-DET 7	BASE	76.00	15.826	17.500	87511	0.000	0.691	4.6	0.8
10YR-72HR	G-DET 8	BASE	76.00	15.813	17.500	133537	0.000	1.046	9.5	5.6
10YR-72HR	H-LAKE 3	BASE	76.00	15.824	17.500	201126	-1.587	0.000	9.6	0.0
10YR-72HR	J-LAKE-2	BASE	76.00	15.787	17.500	133982	3.324	-8.125	14.7	-72.6
10YR-72HR	K-LAKE-1	BASE	76.00	15.764	17.500	366737	33.323	6.771	218.6	13.2
10YR-72HR	L-CANAL	BASE	76.00	13.833	14.500	0	8.621	0.000	16.4	0.0
10YR-72HR	A-DET 6	BASE	77.00	15.742	17.500	63906	-0.496	0.000	2.5	0.0
10YR-72HR	B-DET 65	BASE	77.00	15.742	17.500	18107	0.000	0.141	2.7	2.7
10YR-72HR	C-DET 5	BASE	77.00	15.742	17.500	62480	-0.485	0.000	2.3	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	D-DET 54	BASE	77.00	15.741	17.500	18991	0.000	0.147	2.8	2.8
10YR-72HR	E-DET 4	BASE	77.00	15.741	17.500	19886	1.269	1.426	11.6	10.7
10YR-72HR	F-DET 7	BASE	77.00	15.798	17.500	84983	0.000	0.685	4.6	0.9
10YR-72HR	G-DET 8	BASE	77.00	15.784	17.500	127288	0.000	1.017	9.5	5.7
10YR-72HR	H-LAKE 3	BASE	77.00	15.795	17.500	194422	-1.567	0.000	9.5	0.0
10YR-72HR	J-LAKE-2	BASE	77.00	15.759	17.500	130981	3.269	-8.191	15.0	-73.3
10YR-72HR	K-LAKE-1	BASE	77.00	15.737	17.500	357264	33.244	6.650	221.4	13.8
10YR-72HR	L-CANAL	BASE	77.00	13.792	14.500	0	8.453	0.000	17.1	0.0
10YR-72HR	A-DET 6	BASE	78.00	15.714	17.500	60786	-0.479	0.000	2.4	0.0
10YR-72HR	B-DET 65	BASE	78.00	15.714	17.500	16020	0.000	0.126	2.7	2.7
10YR-72HR	C-DET 5	BASE	78.00	15.714	17.500	59330	-0.467	0.000	2.3	0.0
10YR-72HR	D-DET 54	BASE	78.00	15.713	17.500	16800	0.000	0.132	2.8	2.8
10YR-72HR	E-DET 4	BASE	78.00	15.713	17.500	19253	1.205	1.359	11.7	10.9
10YR-72HR	F-DET 7	BASE	78.00	15.768	17.500	82402	0.000	0.678	4.6	0.9
10YR-72HR	G-DET 8	BASE	78.00	15.755	17.500	120917	0.000	0.985	9.5	5.8
10YR-72HR	H-LAKE 3	BASE	78.00	15.766	17.500	187576	-1.544	0.000	9.4	0.0
10YR-72HR	J-LAKE-2	BASE	78.00	15.731	17.500	127931	3.207	-8.267	15.3	-73.9
10YR-72HR	K-LAKE-1	BASE	78.00	15.709	17.500	347658	33.162	6.529	224.1	14.3
10YR-72HR	L-CANAL	BASE	78.00	13.750	14.500	0	8.284	0.000	17.8	0.0
10YR-72HR	A-DET 6	BASE	79.00	15.685	17.500	57615	-0.462	0.000	2.4	0.0
10YR-72HR	B-DET 65	BASE	79.00	15.685	17.500	13899	0.000	0.111	2.7	2.7
10YR-72HR	C-DET 5	BASE	79.00	15.685	17.500	56129	-0.450	0.000	2.2	0.0
10YR-72HR	D-DET 54	BASE	79.00	15.685	17.500	14573	0.000	0.117	2.8	2.8
10YR-72HR	E-DET 4	BASE	79.00	15.684	17.500	18608	1.140	1.293	11.8	11.0
10YR-72HR	F-DET 7	BASE	79.00	15.738	17.500	79767	0.000	0.670	4.6	1.0
10YR-72HR	G-DET 8	BASE	79.00	15.726	17.500	114420	0.000	0.951	9.5	5.9
10YR-72HR	H-LAKE 3	BASE	79.00	15.736	17.500	180588	-1.517	0.000	9.2	0.0
10YR-72HR	J-LAKE-2	BASE	79.00	15.703	17.500	124827	3.138	-8.349	15.5	-74.6
10YR-72HR	K-LAKE-1	BASE	79.00	15.680	17.500	337892	33.077	6.407	226.8	14.8
10YR-72HR	L-CANAL	BASE	79.00	13.708	14.500	0	8.114	0.000	18.5	0.0
10YR-72HR	A-DET 6	BASE	80.00	15.656	17.500	54382	-0.445	0.000	2.4	0.0
10YR-72HR	B-DET 65	BASE	80.00	15.656	17.500	11737	0.000	0.096	2.7	2.7
10YR-72HR	C-DET 5	BASE	80.00	15.656	17.500	52866	-0.433	0.000	2.2	0.0
10YR-72HR	D-DET 54	BASE	80.00	15.656	17.500	12302	0.000	0.101	2.8	2.8
10YR-72HR	E-DET 4	BASE	80.00	15.655	17.500	17951	1.074	1.224	11.9	11.1
10YR-72HR	F-DET 7	BASE	80.00	15.708	17.500	77076	0.000	0.662	4.6	1.0
10YR-72HR	G-DET 8	BASE	80.00	15.695	17.500	107789	0.000	0.915	9.5	5.9
10YR-72HR	H-LAKE 3	BASE	80.00	15.706	17.500	173452	-1.488	0.000	9.1	0.0
10YR-72HR	J-LAKE-2	BASE	80.00	15.674	17.500	121660	3.065	-8.435	15.8	-75.3
10YR-72HR	K-LAKE-1	BASE	80.00	15.652	17.500	327938	32.988	6.284	229.6	15.4
10YR-72HR	L-CANAL	BASE	80.00	13.667	14.500	0	7.942	0.000	19.1	0.0
10YR-72HR	A-DET 6	BASE	81.00	15.626	17.500	51078	-0.428	0.000	2.3	0.0
10YR-72HR	B-DET 65	BASE	81.00	15.626	17.500	9527	0.000	0.080	2.7	2.7
10YR-72HR	C-DET 5	BASE	81.00	15.626	17.500	49531	-0.415	0.000	2.2	0.0
10YR-72HR	D-DET 54	BASE	81.00	15.626	17.500	9982	0.000	0.083	2.8	2.8
10YR-72HR	E-DET 4	BASE	81.00	15.626	17.500	17280	1.006	1.154	12.0	11.2
10YR-72HR	F-DET 7	BASE	81.00	15.676	17.500	74326	0.000	0.653	4.6	1.1
10YR-72HR	G-DET 8	BASE	81.00	15.664	17.500	101010	0.000	0.877	9.5	6.0
10YR-72HR	H-LAKE 3	BASE	81.00	15.674	17.500	166157	-1.459	0.000	9.0	0.0
10YR-72HR	J-LAKE-2	BASE	81.00	15.644	17.500	118423	2.989	-8.524	16.0	-76.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	K-LAKE-1	BASE	81.00	15.622	17.500	317768	32.895	6.159	232.3	15.9
10YR-72HR	L-CANAL	BASE	81.00	13.625	14.500	0	7.768	0.000	19.8	0.0
10YR-72HR	A-DET 6	BASE	82.00	15.596	17.500	47694	-0.410	0.000	2.3	0.0
10YR-72HR	B-DET 65	BASE	82.00	15.596	17.500	7262	0.000	0.062	2.7	2.7
10YR-72HR	C-DET 5	BASE	82.00	15.596	17.500	46114	-0.396	0.000	2.1	0.0
10YR-72HR	D-DET 54	BASE	82.00	15.595	17.500	7604	0.000	0.065	2.8	2.8
10YR-72HR	E-DET 4	BASE	82.00	15.595	17.500	16592	0.934	1.080	12.1	11.3
10YR-72HR	F-DET 7	BASE	82.00	15.644	17.500	71509	0.000	0.644	4.6	1.2
10YR-72HR	G-DET 8	BASE	82.00	15.633	17.500	94068	0.000	0.838	9.5	6.1
10YR-72HR	H-LAKE 3	BASE	82.00	15.642	17.500	158688	-1.428	0.000	8.9	0.0
10YR-72HR	J-LAKE-2	BASE	82.00	15.613	17.500	115106	2.909	-8.615	16.3	-76.7
10YR-72HR	K-LAKE-1	BASE	82.00	15.592	17.500	307349	32.797	6.032	235.0	16.4
10YR-72HR	L-CANAL	BASE	82.00	13.583	14.500	0	7.591	0.000	20.4	0.0
10YR-72HR	A-DET 6	BASE	83.00	15.564	17.500	44215	-0.391	0.000	2.3	0.0
10YR-72HR	B-DET 65	BASE	83.00	15.564	17.500	4934	0.000	0.044	2.7	2.7
10YR-72HR	C-DET 5	BASE	83.00	15.564	17.500	42602	-0.377	0.000	2.1	0.0
10YR-72HR	D-DET 54	BASE	83.00	15.564	17.500	5160	0.000	0.046	2.8	2.8
10YR-72HR	E-DET 4	BASE	83.00	15.564	17.500	15885	0.857	1.001	12.2	11.3
10YR-72HR	F-DET 7	BASE	83.00	15.612	17.500	68619	0.000	0.635	4.6	1.2
10YR-72HR	G-DET 8	BASE	83.00	15.600	17.500	86941	0.000	0.796	9.5	6.1
10YR-72HR	H-LAKE 3	BASE	83.00	15.610	17.500	151023	-1.396	0.000	8.8	0.0
10YR-72HR	J-LAKE-2	BASE	83.00	15.582	17.500	111699	2.827	-8.708	16.5	-77.5
10YR-72HR	K-LAKE-1	BASE	83.00	15.561	17.500	296643	32.695	5.902	237.7	16.9
10YR-72HR	L-CANAL	BASE	83.00	13.542	14.500	0	7.411	0.000	21.0	0.0
10YR-72HR	A-DET 6	BASE	84.00	15.532	17.500	40627	-0.371	0.000	2.2	0.0
10YR-72HR	B-DET 65	BASE	84.00	15.532	17.500	2534	0.000	0.023	2.7	2.7
10YR-72HR	C-DET 5	BASE	84.00	15.532	17.500	38980	-0.356	0.000	2.1	0.0
10YR-72HR	D-DET 54	BASE	84.00	15.532	17.500	2640	0.000	0.024	2.8	2.8
10YR-72HR	E-DET 4	BASE	84.00	15.531	17.500	15155	0.775	0.917	12.2	11.4
10YR-72HR	F-DET 7	BASE	84.00	15.578	17.500	65644	0.000	0.626	4.6	1.3
10YR-72HR	G-DET 8	BASE	84.00	15.567	17.500	79602	0.000	0.752	9.5	6.2
10YR-72HR	H-LAKE 3	BASE	84.00	15.576	17.500	143133	-1.365	0.000	8.6	0.0
10YR-72HR	J-LAKE-2	BASE	84.00	15.550	17.500	108187	2.743	-8.801	16.8	-78.2
10YR-72HR	K-LAKE-1	BASE	84.00	15.529	17.500	285607	32.587	5.770	240.4	17.4
10YR-72HR	L-CANAL	BASE	84.00	13.500	14.500	0	7.228	0.000	21.6	0.0
10YR-72HR	A-DET 6	BASE	85.00	15.501	17.500	37212	-4.231	0.000	2.0	0.0
10YR-72HR	B-DET 65	BASE	85.00	15.497	17.500	250	0.000	-7.852	2.7	2.4
10YR-72HR	C-DET 5	BASE	85.00	15.500	17.500	35420	-8.090	0.000	1.7	0.0
10YR-72HR	D-DET 54	BASE	85.00	15.495	17.500	251	0.000	-7.712	2.8	2.5
10YR-72HR	E-DET 4	BASE	85.00	15.497	17.500	14437	-3.242	0.761	12.1	11.5
10YR-72HR	F-DET 7	BASE	85.00	15.543	17.500	62570	0.000	0.619	4.6	1.3
10YR-72HR	G-DET 8	BASE	85.00	15.532	17.500	72007	0.000	0.711	9.5	6.3
10YR-72HR	H-LAKE 3	BASE	85.00	15.541	17.500	134981	-1.335	0.000	8.5	0.0
10YR-72HR	J-LAKE-2	BASE	85.00	15.516	17.500	104536	2.665	-8.859	17.0	-78.9
10YR-72HR	K-LAKE-1	BASE	85.00	15.495	17.500	275687	32.429	5.633	243.1	17.8
10YR-72HR	L-CANAL	BASE	85.00	13.458	14.500	0	7.037	0.000	22.2	0.0
10YR-72HR	A-DET 6	BASE	86.00	15.468	17.500	36898	-4.132	0.000	1.7	0.0
10YR-72HR	B-DET 65	BASE	86.00	15.464	17.500	254	0.000	-7.588	2.7	1.7
10YR-72HR	C-DET 5	BASE	86.00	15.467	17.500	35213	-7.830	0.000	1.1	0.0
10YR-72HR	D-DET 54	BASE	86.00	15.462	17.500	254	0.000	-7.413	2.8	1.9

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	E-DET 4	BASE	86.00	15.464	17.500	14357	-3.039	0.817	11.9	11.6
10YR-72HR	F-DET 7	BASE	86.00	15.506	17.500	59376	0.000	0.607	4.6	1.4
10YR-72HR	G-DET 8	BASE	86.00	15.497	17.500	64853	0.000	0.645	9.5	6.3
10YR-72HR	H-LAKE 3	BASE	86.00	15.505	17.500	126512	-1.290	0.000	8.4	0.0
10YR-72HR	J-LAKE-2	BASE	86.00	15.482	17.500	102723	2.541	-9.047	17.2	-79.6
10YR-72HR	K-LAKE-1	BASE	86.00	15.462	17.500	275323	32.404	5.499	245.8	18.3
10YR-72HR	L-CANAL	BASE	86.00	13.417	14.500	0	6.850	0.000	22.8	0.0
10YR-72HR	A-DET 6	BASE	87.00	15.435	17.500	36693	-4.006	0.000	1.3	0.0
10YR-72HR	B-DET 65	BASE	87.00	15.431	17.500	258	0.000	-7.343	2.7	1.1
10YR-72HR	C-DET 5	BASE	87.00	15.434	17.500	35005	-7.581	0.000	0.4	0.0
10YR-72HR	D-DET 54	BASE	87.00	15.429	17.500	258	0.000	-7.169	2.8	1.3
10YR-72HR	E-DET 4	BASE	87.00	15.431	17.500	14277	-2.926	0.805	11.6	11.6
10YR-72HR	F-DET 7	BASE	87.00	15.470	17.500	58531	0.000	0.574	4.6	1.4
10YR-72HR	G-DET 8	BASE	87.00	15.461	17.500	64327	0.000	0.620	9.5	6.4
10YR-72HR	H-LAKE 3	BASE	87.00	15.469	17.500	125253	-1.225	0.000	8.3	0.0
10YR-72HR	J-LAKE-2	BASE	87.00	15.448	17.500	102564	2.419	-9.210	17.4	-80.4
10YR-72HR	K-LAKE-1	BASE	87.00	15.429	17.500	274962	32.324	5.368	248.5	18.7
10YR-72HR	L-CANAL	BASE	87.00	13.375	14.500	0	6.669	0.000	23.4	0.0
10YR-72HR	A-DET 6	BASE	88.00	15.402	17.500	36490	-3.882	0.000	1.0	0.0
10YR-72HR	B-DET 65	BASE	88.00	15.398	17.500	261	0.000	-7.110	2.7	0.5
10YR-72HR	C-DET 5	BASE	88.00	15.401	17.500	34799	-7.342	0.000	-0.2	0.0
10YR-72HR	D-DET 54	BASE	88.00	15.397	17.500	261	0.000	-6.938	2.8	0.7
10YR-72HR	E-DET 4	BASE	88.00	15.399	17.500	14199	-2.825	0.787	11.4	11.7
10YR-72HR	F-DET 7	BASE	88.00	15.436	17.500	58209	0.000	0.551	4.6	1.5
10YR-72HR	G-DET 8	BASE	88.00	15.427	17.500	63817	0.000	0.597	9.5	6.4
10YR-72HR	H-LAKE 3	BASE	88.00	15.434	17.500	125033	-1.182	0.000	8.2	0.0
10YR-72HR	J-LAKE-2	BASE	88.00	15.415	17.500	102408	2.330	-9.336	17.6	-81.2
10YR-72HR	K-LAKE-1	BASE	88.00	15.396	17.500	274607	32.258	5.243	251.1	19.2
10YR-72HR	L-CANAL	BASE	88.00	13.333	14.500	0	6.494	0.000	23.9	0.0
10YR-72HR	A-DET 6	BASE	89.00	15.370	17.500	36291	-3.763	0.000	0.7	0.0
10YR-72HR	B-DET 65	BASE	89.00	15.366	17.500	264	0.000	-6.889	2.7	-0.0
10YR-72HR	C-DET 5	BASE	89.00	15.369	17.500	34598	-7.115	0.000	-0.8	0.0
10YR-72HR	D-DET 54	BASE	89.00	15.365	17.500	264	0.000	-6.721	2.8	0.1
10YR-72HR	E-DET 4	BASE	89.00	15.367	17.500	14121	-2.733	0.768	11.2	11.8
10YR-72HR	F-DET 7	BASE	89.00	15.402	17.500	57897	0.000	0.532	4.6	1.5
10YR-72HR	G-DET 8	BASE	89.00	15.394	17.500	63321	0.000	0.578	9.5	6.5
10YR-72HR	H-LAKE 3	BASE	89.00	15.400	17.500	124819	-1.145	0.000	8.1	0.0
10YR-72HR	J-LAKE-2	BASE	89.00	15.382	17.500	102256	2.255	-9.444	17.8	-81.9
10YR-72HR	K-LAKE-1	BASE	89.00	15.364	17.500	274258	32.201	5.123	253.8	19.6
10YR-72HR	L-CANAL	BASE	89.00	13.292	14.500	0	6.327	0.000	24.4	0.0
10YR-72HR	A-DET 6	BASE	90.00	15.339	17.500	36096	-3.649	0.000	0.4	0.0
10YR-72HR	B-DET 65	BASE	90.00	15.335	17.500	267	0.000	-6.678	2.7	-0.6
10YR-72HR	C-DET 5	BASE	90.00	15.338	17.500	34400	-6.898	0.000	-1.4	0.0
10YR-72HR	D-DET 54	BASE	90.00	15.333	17.500	267	0.000	-6.514	2.8	-0.4
10YR-72HR	E-DET 4	BASE	90.00	15.335	17.500	14045	-2.646	0.748	10.9	11.8
10YR-72HR	F-DET 7	BASE	90.00	15.370	17.500	57593	0.000	0.515	4.6	1.5
10YR-72HR	G-DET 8	BASE	90.00	15.362	17.500	62837	0.000	0.559	9.5	6.5
10YR-72HR	H-LAKE 3	BASE	90.00	15.368	17.500	124612	-1.113	0.000	8.0	0.0
10YR-72HR	J-LAKE-2	BASE	90.00	15.351	17.500	102107	2.188	-9.542	18.0	-82.7
10YR-72HR	K-LAKE-1	BASE	90.00	15.333	17.500	273916	32.147	5.007	256.4	20.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	L-CANAL	BASE	90.00	13.250	14.500	0	6.166	0.000	25.0	0.0
10YR-72HR	A-DET 6	BASE	91.00	15.308	17.500	35905	-3.541	0.000	0.1	0.0
10YR-72HR	B-DET 65	BASE	91.00	15.304	17.500	269	0.000	-6.479	2.7	-1.2
10YR-72HR	C-DET 5	BASE	91.00	15.307	17.500	34206	-6.692	0.000	-1.9	0.0
10YR-72HR	D-DET 54	BASE	91.00	15.303	17.500	269	0.000	-6.319	2.8	-1.0
10YR-72HR	E-DET 4	BASE	91.00	15.305	17.500	13971	-2.564	0.728	10.7	11.9
10YR-72HR	F-DET 7	BASE	91.00	15.338	17.500	57298	0.000	0.500	4.6	1.6
10YR-72HR	G-DET 8	BASE	91.00	15.330	17.500	62365	0.000	0.542	9.5	6.6
10YR-72HR	H-LAKE 3	BASE	91.00	15.336	17.500	124410	-1.085	0.000	7.9	0.0
10YR-72HR	J-LAKE-2	BASE	91.00	15.320	17.500	101962	2.127	-9.632	18.1	-83.5
10YR-72HR	K-LAKE-1	BASE	91.00	15.302	17.500	273582	32.098	4.898	259.1	20.4
10YR-72HR	L-CANAL	BASE	91.00	13.208	14.500	0	6.013	0.000	25.5	0.0
10YR-72HR	A-DET 6	BASE	92.00	15.278	17.500	35718	-3.438	0.000	-0.2	0.0
10YR-72HR	B-DET 65	BASE	92.00	15.274	17.500	272	0.000	-6.287	2.7	-1.7
10YR-72HR	C-DET 5	BASE	92.00	15.277	17.500	34016	-6.496	0.000	-2.5	0.0
10YR-72HR	D-DET 54	BASE	92.00	15.273	17.500	272	0.000	-6.132	2.8	-1.5
10YR-72HR	E-DET 4	BASE	92.00	15.275	17.500	13898	-2.486	0.709	10.5	11.9
10YR-72HR	F-DET 7	BASE	92.00	15.307	17.500	57009	0.000	0.486	4.6	1.6
10YR-72HR	G-DET 8	BASE	92.00	15.299	17.500	61903	0.000	0.526	9.5	6.6
10YR-72HR	H-LAKE 3	BASE	92.00	15.305	17.500	124213	-1.058	0.000	7.9	0.0
10YR-72HR	J-LAKE-2	BASE	92.00	15.289	17.500	101819	2.070	-9.716	18.3	-84.3
10YR-72HR	K-LAKE-1	BASE	92.00	15.272	17.500	273254	32.051	4.793	261.8	20.8
10YR-72HR	L-CANAL	BASE	92.00	13.167	14.500	0	5.867	0.000	25.9	0.0
10YR-72HR	A-DET 6	BASE	93.00	15.248	17.500	35535	-3.339	0.000	-0.5	0.0
10YR-72HR	B-DET 65	BASE	93.00	15.245	17.500	274	0.000	-6.105	2.7	-2.2
10YR-72HR	C-DET 5	BASE	93.00	15.247	17.500	33830	-6.308	0.000	-3.0	0.0
10YR-72HR	D-DET 54	BASE	93.00	15.243	17.500	274	0.000	-5.954	2.8	-2.0
10YR-72HR	E-DET 4	BASE	93.00	15.245	17.500	13827	-2.412	0.691	10.3	12.0
10YR-72HR	F-DET 7	BASE	93.00	15.276	17.500	56727	0.000	0.473	4.6	1.7
10YR-72HR	G-DET 8	BASE	93.00	15.269	17.500	61452	0.000	0.511	9.5	6.7
10YR-72HR	H-LAKE 3	BASE	93.00	15.275	17.500	124020	-1.033	0.000	7.8	0.0
10YR-72HR	J-LAKE-2	BASE	93.00	15.260	17.500	101680	2.016	-9.795	18.5	-85.1
10YR-72HR	K-LAKE-1	BASE	93.00	15.243	17.500	272933	32.007	4.693	264.4	21.2
10YR-72HR	L-CANAL	BASE	93.00	13.125	14.500	0	5.727	0.000	26.4	0.0
10YR-72HR	A-DET 6	BASE	94.00	15.219	17.500	35355	-3.245	0.000	-0.7	0.0
10YR-72HR	B-DET 65	BASE	94.00	15.216	17.500	276	0.000	-5.931	2.7	-2.7
10YR-72HR	C-DET 5	BASE	94.00	15.218	17.500	33647	-6.128	0.000	-3.5	0.0
10YR-72HR	D-DET 54	BASE	94.00	15.215	17.500	276	0.000	-5.783	2.8	-2.4
10YR-72HR	E-DET 4	BASE	94.00	15.216	17.500	13756	-2.341	0.674	10.1	12.0
10YR-72HR	F-DET 7	BASE	94.00	15.247	17.500	56451	0.000	0.460	4.6	1.7
10YR-72HR	G-DET 8	BASE	94.00	15.240	17.500	61010	0.000	0.497	9.5	6.7
10YR-72HR	H-LAKE 3	BASE	94.00	15.245	17.500	123831	-1.009	0.000	7.7	0.0
10YR-72HR	J-LAKE-2	BASE	94.00	15.231	17.500	101543	1.966	-9.871	18.6	-85.9
10YR-72HR	K-LAKE-1	BASE	94.00	15.214	17.500	272619	31.965	4.597	267.0	21.6
10YR-72HR	L-CANAL	BASE	94.00	13.083	14.500	0	5.593	0.000	26.9	0.0
10YR-72HR	A-DET 6	BASE	95.00	15.191	17.500	35180	-3.154	0.000	-1.0	0.0
10YR-72HR	B-DET 65	BASE	95.00	15.188	17.500	278	0.000	-5.764	2.7	-3.2
10YR-72HR	C-DET 5	BASE	95.00	15.190	17.500	33469	-5.956	0.000	-4.0	0.0
10YR-72HR	D-DET 54	BASE	95.00	15.187	17.500	279	0.000	-5.620	2.8	-2.9
10YR-72HR	E-DET 4	BASE	95.00	15.188	17.500	13688	-2.273	0.657	9.9	12.1

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	F-DET 7	BASE	95.00	15.218	17.500	56181	0.000	0.448	4.6	1.7
10YR-72HR	G-DET 8	BASE	95.00	15.211	17.500	60578	0.000	0.483	9.5	6.7
10YR-72HR	H-LAKE 3	BASE	95.00	15.216	17.500	123647	-0.986	0.000	7.6	0.0
10YR-72HR	J-LAKE-2	BASE	95.00	15.202	17.500	101409	1.917	-9.943	18.8	-86.8
10YR-72HR	K-LAKE-1	BASE	95.00	15.186	17.500	272311	31.925	4.506	269.7	22.0
10YR-72HR	L-CANAL	BASE	95.00	13.042	14.500	0	5.466	0.000	27.4	0.0
10YR-72HR	A-DET 6	BASE	96.00	15.163	17.500	35007	-3.068	0.000	-1.3	0.0
10YR-72HR	B-DET 65	BASE	96.00	15.160	17.500	280	0.000	-5.604	2.7	-3.6
10YR-72HR	C-DET 5	BASE	96.00	15.162	17.500	33294	-5.792	0.000	-4.5	0.0
10YR-72HR	D-DET 54	BASE	96.00	15.159	17.500	280	0.000	-5.464	2.8	-3.4
10YR-72HR	E-DET 4	BASE	96.00	15.160	17.500	13620	-2.208	0.641	9.7	12.2
10YR-72HR	F-DET 7	BASE	96.00	15.189	17.500	55917	0.000	0.437	4.6	1.8
10YR-72HR	G-DET 8	BASE	96.00	15.182	17.500	60155	0.000	0.470	9.5	6.8
10YR-72HR	H-LAKE 3	BASE	96.00	15.188	17.500	123466	-0.964	0.000	7.5	0.0
10YR-72HR	J-LAKE-2	BASE	96.00	15.174	17.500	101278	1.871	-10.011	19.0	-87.6
10YR-72HR	K-LAKE-1	BASE	96.00	15.158	17.500	272009	31.886	4.420	272.3	22.4
10YR-72HR	L-CANAL	BASE	96.00	13.000	14.500	0	5.344	0.000	27.8	0.0
10YR-72HR	A-DET 6	BASE	97.00	15.136	17.500	34838	-2.985	0.000	-1.5	0.0
10YR-72HR	B-DET 65	BASE	97.00	15.133	17.500	282	0.000	-5.451	2.7	-4.1
10YR-72HR	C-DET 5	BASE	97.00	15.135	17.500	33122	-5.634	0.000	-5.0	0.0
10YR-72HR	D-DET 54	BASE	97.00	15.132	17.500	282	0.000	-5.313	2.8	-3.8
10YR-72HR	E-DET 4	BASE	97.00	15.133	17.500	13554	-2.145	0.626	9.6	12.2
10YR-72HR	F-DET 7	BASE	97.00	15.161	17.500	55658	0.000	0.426	4.6	1.8
10YR-72HR	G-DET 8	BASE	97.00	15.155	17.500	59741	0.000	0.457	9.5	6.8
10YR-72HR	H-LAKE 3	BASE	97.00	15.160	17.500	123289	-0.943	0.000	7.4	0.0
10YR-72HR	J-LAKE-2	BASE	97.00	15.147	17.500	101149	1.826	-10.076	19.1	-88.4
10YR-72HR	K-LAKE-1	BASE	97.00	15.131	17.500	271713	31.850	4.337	275.0	22.7
10YR-72HR	L-CANAL	BASE	97.00	12.958	14.500	0	5.228	0.000	28.2	0.0
10YR-72HR	A-DET 6	BASE	98.00	15.109	17.500	34672	-2.904	0.000	-1.8	0.0
10YR-72HR	B-DET 65	BASE	98.00	15.107	17.500	284	0.000	-5.302	2.7	-4.5
10YR-72HR	C-DET 5	BASE	98.00	15.108	17.500	32953	-5.480	0.000	-5.4	0.0
10YR-72HR	D-DET 54	BASE	98.00	15.105	17.500	284	0.000	-5.167	2.8	-4.3
10YR-72HR	E-DET 4	BASE	98.00	15.107	17.500	13489	-2.084	0.611	9.4	12.3
10YR-72HR	F-DET 7	BASE	98.00	15.134	17.500	55405	0.000	0.416	4.6	1.9
10YR-72HR	G-DET 8	BASE	98.00	15.128	17.500	59335	0.000	0.445	9.5	6.9
10YR-72HR	H-LAKE 3	BASE	98.00	15.133	17.500	123116	-0.923	0.000	7.4	0.0
10YR-72HR	J-LAKE-2	BASE	98.00	15.120	17.500	101023	1.784	-10.139	19.3	-89.2
10YR-72HR	K-LAKE-1	BASE	98.00	15.105	17.500	271422	31.815	4.259	277.6	23.1
10YR-72HR	L-CANAL	BASE	98.00	12.917	14.500	0	5.117	0.000	28.7	0.0
10YR-72HR	A-DET 6	BASE	99.00	15.083	17.500	34509	-2.827	0.000	-2.0	0.0
10YR-72HR	B-DET 65	BASE	99.00	15.080	17.500	285	0.000	-5.158	2.7	-5.0
10YR-72HR	C-DET 5	BASE	99.00	15.082	17.500	32787	-5.333	0.000	-5.9	0.0
10YR-72HR	D-DET 54	BASE	99.00	15.079	17.500	286	0.000	-5.026	2.8	-4.7
10YR-72HR	E-DET 4	BASE	99.00	15.081	17.500	13426	-2.025	0.598	9.2	12.3
10YR-72HR	F-DET 7	BASE	99.00	15.107	17.500	55156	0.000	0.406	4.6	1.9
10YR-72HR	G-DET 8	BASE	99.00	15.101	17.500	58936	0.000	0.434	9.5	6.9
10YR-72HR	H-LAKE 3	BASE	99.00	15.106	17.500	122946	-0.904	0.000	7.3	0.0
10YR-72HR	J-LAKE-2	BASE	99.00	15.094	17.500	100899	1.745	-10.197	19.4	-90.1
10YR-72HR	K-LAKE-1	BASE	99.00	15.079	17.500	271137	31.782	4.184	280.2	23.4
10YR-72HR	L-CANAL	BASE	99.00	12.875	14.500	0	5.012	0.000	29.1	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	A-DET 6	BASE	100.00	15.057	17.500	34349	-2.753	0.000	-2.2	0.0
10YR-72HR	B-DET 65	BASE	100.00	15.055	17.500	287	0.000	-5.021	2.7	-5.4
10YR-72HR	C-DET 5	BASE	100.00	15.056	17.500	32624	-5.191	0.000	-6.3	0.0
10YR-72HR	D-DET 54	BASE	100.00	15.053	17.500	287	0.000	-4.891	2.8	-5.1
10YR-72HR	E-DET 4	BASE	100.00	15.055	17.500	13363	-1.968	0.585	9.1	12.4
10YR-72HR	F-DET 7	BASE	100.00	15.081	17.500	54912	0.000	0.396	4.6	1.9
10YR-72HR	G-DET 8	BASE	100.00	15.075	17.500	58546	0.000	0.423	9.5	6.9
10YR-72HR	H-LAKE 3	BASE	100.00	15.080	17.500	122779	-0.884	0.000	7.2	0.0
10YR-72HR	J-LAKE-2	BASE	100.00	15.068	17.500	100778	1.704	-10.257	19.6	-90.9
10YR-72HR	K-LAKE-1	BASE	100.00	15.053	17.500	270856	31.749	4.112	282.8	23.8
10YR-72HR	L-CANAL	BASE	100.00	12.833	14.500	0	4.911	0.000	29.5	0.0
10YR-72HR	A-DET 6	BASE	100.00	15.057	17.500	34349	-2.753	0.000	-2.2	0.0
10YR-72HR	B-DET 65	BASE	100.00	15.055	17.500	287	0.000	-5.021	2.7	-5.4
10YR-72HR	C-DET 5	BASE	100.00	15.056	17.500	32624	-5.191	0.000	-6.3	0.0
10YR-72HR	D-DET 54	BASE	100.00	15.053	17.500	287	0.000	-4.891	2.8	-5.1
10YR-72HR	E-DET 4	BASE	100.00	15.055	17.500	13363	-1.968	0.585	9.1	12.4
10YR-72HR	F-DET 7	BASE	100.00	15.081	17.500	54912	0.000	0.396	4.6	1.9
10YR-72HR	G-DET 8	BASE	100.00	15.075	17.500	58546	0.000	0.423	9.5	6.9
10YR-72HR	H-LAKE 3	BASE	100.00	15.080	17.500	122779	-0.884	0.000	7.2	0.0
10YR-72HR	J-LAKE-2	BASE	100.00	15.068	17.500	100778	1.704	-10.257	19.6	-90.9
10YR-72HR	K-LAKE-1	BASE	100.00	15.053	17.500	270856	31.749	4.112	282.8	23.8
10YR-72HR	L-CANAL	BASE	100.00	12.833	14.500	0	4.911	0.000	29.5	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	K-LAKE-1	BASE	95.00	15.264	17.500	273031	32.061	4.839	271.8	23.8
10YR-72HR	L-CANAL	BASE	95.00	13.042	14.500	0	5.911	0.000	29.6	0.0
10YR-72HR	A-DET 6	BASE	96.00	15.239	17.500	35479	-3.315	0.000	0.9	0.0
10YR-72HR	B-DET 65	BASE	96.00	15.236	17.500	275	0.000	-6.048	2.7	0.5
10YR-72HR	C-DET 5	BASE	96.00	15.238	17.500	33773	-6.251	0.000	-0.3	0.0
10YR-72HR	D-DET 54	BASE	96.00	15.234	17.500	275	0.000	-5.889	2.9	0.7
10YR-72HR	E-DET 4	BASE	96.00	15.236	17.500	13804	-2.370	0.702	11.7	12.0
10YR-72HR	F-DET 7	BASE	96.00	15.267	17.500	56639	0.000	0.483	4.7	1.7
10YR-72HR	G-DET 8	BASE	96.00	15.260	17.500	61311	0.000	0.521	9.6	6.7
10YR-72HR	H-LAKE 3	BASE	96.00	15.265	17.500	116131	-0.988	0.000	4.4	0.0
10YR-72HR	J-LAKE-2	BASE	96.00	15.251	17.500	101578	1.991	-9.806	22.0	-84.4
10YR-72HR	JK-CB 21	BASE	96.00	15.280	17.500	127	-10.837	31.311	-90.4	243.1
10YR-72HR	K-LAKE-1	BASE	96.00	15.234	17.500	272688	32.013	4.737	274.5	24.2
10YR-72HR	L-CANAL	BASE	96.00	13.000	14.500	0	5.768	0.000	30.1	0.0
10YR-72HR	A-DET 6	BASE	97.00	15.210	17.500	35296	-3.220	0.000	0.6	0.0
10YR-72HR	B-DET 65	BASE	97.00	15.207	17.500	277	0.000	-5.871	2.7	0.0
10YR-72HR	C-DET 5	BASE	97.00	15.209	17.500	33587	-6.069	0.000	-0.8	0.0
10YR-72HR	D-DET 54	BASE	97.00	15.205	17.500	277	0.000	-5.715	2.9	0.3
10YR-72HR	E-DET 4	BASE	97.00	15.207	17.500	13733	-2.297	0.685	11.5	12.1
10YR-72HR	F-DET 7	BASE	97.00	15.236	17.500	56357	0.000	0.470	4.7	1.7
10YR-72HR	G-DET 8	BASE	97.00	15.230	17.500	60860	0.000	0.506	9.6	6.7
10YR-72HR	H-LAKE 3	BASE	97.00	15.235	17.500	114927	-0.958	0.000	4.3	0.0
10YR-72HR	J-LAKE-2	BASE	97.00	15.221	17.500	101431	1.935	-9.888	22.2	-85.3
10YR-72HR	JK-CB 21	BASE	97.00	15.251	17.500	127	-10.880	31.283	-91.3	245.6
10YR-72HR	K-LAKE-1	BASE	97.00	15.205	17.500	272352	31.968	4.640	277.1	24.5
10YR-72HR	L-CANAL	BASE	97.00	12.958	14.500	0	5.632	0.000	30.6	0.0
10YR-72HR	A-DET 6	BASE	98.00	15.181	17.500	35116	-3.128	0.000	0.4	0.0
10YR-72HR	B-DET 65	BASE	98.00	15.178	17.500	279	0.000	-5.702	2.7	-0.5
10YR-72HR	C-DET 5	BASE	98.00	15.180	17.500	33404	-5.895	0.000	-1.3	0.0
10YR-72HR	D-DET 54	BASE	98.00	15.176	17.500	279	0.000	-5.549	2.9	-0.2
10YR-72HR	E-DET 4	BASE	98.00	15.178	17.500	13663	-2.228	0.669	11.4	12.2
10YR-72HR	F-DET 7	BASE	98.00	15.207	17.500	56080	0.000	0.459	4.7	1.7
10YR-72HR	G-DET 8	BASE	98.00	15.200	17.500	60418	0.000	0.493	9.6	6.8
10YR-72HR	H-LAKE 3	BASE	98.00	15.205	17.500	113748	-0.929	0.000	4.3	0.0
10YR-72HR	J-LAKE-2	BASE	98.00	15.192	17.500	101288	1.881	-9.965	22.3	-86.1
10YR-72HR	JK-CB 21	BASE	98.00	15.222	17.500	127	-10.920	31.256	-92.2	248.2
10YR-72HR	K-LAKE-1	BASE	98.00	15.176	17.500	272022	31.925	4.547	279.7	24.9
10YR-72HR	L-CANAL	BASE	98.00	12.917	14.500	0	5.502	0.000	31.0	0.0
10YR-72HR	A-DET 6	BASE	99.00	15.152	17.500	34940	-3.041	0.000	0.1	0.0
10YR-72HR	B-DET 65	BASE	99.00	15.150	17.500	281	0.000	-5.540	2.7	-0.9
10YR-72HR	C-DET 5	BASE	99.00	15.152	17.500	33225	-5.728	0.000	-1.8	0.0
10YR-72HR	D-DET 54	BASE	99.00	15.148	17.500	281	0.000	-5.390	2.9	-0.7
10YR-72HR	E-DET 4	BASE	99.00	15.150	17.500	13594	-2.161	0.654	11.2	12.2
10YR-72HR	F-DET 7	BASE	99.00	15.178	17.500	55810	0.000	0.447	4.7	1.8
10YR-72HR	G-DET 8	BASE	99.00	15.171	17.500	59985	0.000	0.480	9.6	6.8
10YR-72HR	H-LAKE 3	BASE	99.00	15.176	17.500	112592	-0.901	0.000	4.2	0.0
10YR-72HR	J-LAKE-2	BASE	99.00	15.163	17.500	101147	1.828	-10.039	22.5	-86.9
10YR-72HR	JK-CB 21	BASE	99.00	15.194	17.500	127	-10.959	31.230	-93.1	250.8
10YR-72HR	K-LAKE-1	BASE	99.00	15.148	17.500	271698	31.884	4.458	282.4	25.3
10YR-72HR	L-CANAL	BASE	99.00	12.875	14.500	0	5.378	0.000	31.5	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10YR-72HR	A-DET 6	BASE	100.00	15.125	17.500	34767	-2.957	0.000	-0.1	0.0
10YR-72HR	B-DET 65	BASE	100.00	15.122	17.500	283	0.000	-5.383	2.7	-1.4
10YR-72HR	C-DET 5	BASE	100.00	15.124	17.500	33049	-5.567	0.000	-2.2	0.0
10YR-72HR	D-DET 54	BASE	100.00	15.120	17.500	283	0.000	-5.237	2.9	-1.1
10YR-72HR	E-DET 4	BASE	100.00	15.122	17.500	13526	-2.096	0.639	11.0	12.3
10YR-72HR	F-DET 7	BASE	100.00	15.149	17.500	55544	0.000	0.437	4.7	1.8
10YR-72HR	G-DET 8	BASE	100.00	15.143	17.500	59560	0.000	0.468	9.6	6.9
10YR-72HR	H-LAKE 3	BASE	100.00	15.148	17.500	111459	-0.875	0.000	4.1	0.0
10YR-72HR	J-LAKE-2	BASE	100.00	15.135	17.500	101009	1.779	-10.110	22.6	-87.7
10YR-72HR	JK-CB 21	BASE	100.00	15.166	17.500	127	-10.995	31.205	-94.0	253.4
10YR-72HR	K-LAKE-1	BASE	100.00	15.120	17.500	271379	31.844	4.374	285.0	25.7
10YR-72HR	L-CANAL	BASE	100.00	12.833	14.500	0	5.259	0.000	31.9	0.0
10YR-72HR	A-DET 6	BASE	100.00	15.125	17.500	34767	-2.957	0.000	-0.1	0.0
10YR-72HR	B-DET 65	BASE	100.00	15.122	17.500	283	0.000	-5.383	2.7	-1.4
10YR-72HR	C-DET 5	BASE	100.00	15.124	17.500	33049	-5.567	0.000	-2.2	0.0
10YR-72HR	D-DET 54	BASE	100.00	15.120	17.500	283	0.000	-5.237	2.9	-1.1
10YR-72HR	E-DET 4	BASE	100.00	15.122	17.500	13526	-2.096	0.639	11.0	12.3
10YR-72HR	F-DET 7	BASE	100.00	15.149	17.500	55544	0.000	0.437	4.7	1.8
10YR-72HR	G-DET 8	BASE	100.00	15.143	17.500	59560	0.000	0.468	9.6	6.9
10YR-72HR	H-LAKE 3	BASE	100.00	15.148	17.500	111459	-0.875	0.000	4.1	0.0
10YR-72HR	J-LAKE-2	BASE	100.00	15.135	17.500	101009	1.779	-10.110	22.6	-87.7
10YR-72HR	JK-CB 21	BASE	100.00	15.166	17.500	127	-10.995	31.205	-94.0	253.4
10YR-72HR	K-LAKE-1	BASE	100.00	15.120	17.500	271379	31.844	4.374	285.0	25.7
10YR-72HR	L-CANAL	BASE	100.00	12.833	14.500	0	5.259	0.000	31.9	0.0

Exhibit A

Aerial



Appendix

Job No.: 68001-001-02
Report No.: 9650
Date.: 4/18/2005

EXFILTRATION TEST
CONSTANT HEAD OPEN HOLE TEST

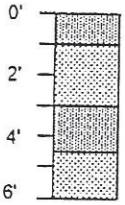
Client: Elite General Contractor & Remodeling, Inc.
3147 Jupiter Park Circle, Suite 2
Jupiter, Florida 33458

Project: Exfiltration Test Results - Kings Landings
2496 S. Kings Highway
Fort Pierce, Florida

Test Date: 4/14/2005

SOIL PROFILE

E-1



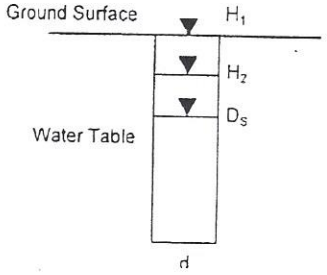
Brown sand with traces of roots [SP]

Light brown sand with traces of silt [SP]
Grayish brown sand with silt [SP-SM]

Gray silty sand [SM]

NOTES: Water table encountered at 6-foot test Depth

CALCULATIONS



0.5	d	= Diameter of Casing (ft)
6	H	= Depth to Water Table (ft)
0	D_s	= Saturated Hole Depth (ft)
0.97	W	= Water added during test interval (Gal)
0	t_1	= Time at Start of Test (sec)
1980	t_2	= Time at End of Test (sec)

$$K = \frac{4 * Q}{\pi * d(2H^2 + 4H * D_s + H * d)}$$

2.2E-06 K = Hydraulic Conductivity (cfs/ft^2 -ft. head)

The next step is to compute the project-specific S-value to use for determining the runoff volume which will be discharged from the site. The depth to the water table will be 3 feet (17.0 - 14.0 = 3.0), consequently the total amount of water which can be stored under pervious surfaces will be 4.95 inches. If 15% of the project will be in lakes and 35% will be covered by impervious surfaces, then the remainder, or 50% will be pervious areas and the appropriate weighted S-value will be:

$$4.95" \times (1 - (.15+.35)) = 2.48" = S$$

Figure E-1 is a graphical representation of the cumulative water storage capabilities of the soil profile for the developed and undisturbed conditions versus the depth to the average wet season water table for the typical sandy soils found within the South Florida Water Management District boundaries.

In about April, 1993, the US SCS furnished the District test data for Immokalee and Riviera soils which show less soil storage than the typical soils described above. The following table shows the average values as compared to the typical values (Coastal). Although the lesser storage values result in higher SCS runoff curve numbers, the depressional and flatwoods soils typically are in flat and depressed areas with standing water, thus the areas have low runoff potential.

SOIL STORAGE

Depth to W.T.	Coastal (1) Stor. (In.)	CN	Flatwoods (2) Stor. (In.)	CN	Depressional (3) Stor. (In.)	CN
1'	0.6	94	0.6	94	0.6	94
2'	2.5	80	2.5	80	2.1	83
3'	6.6	60	5.4	65	4.4	69
4'	10.9	48	9.0	53	6.8	60

(1) Sandy soils 0 - 40" thick with water tables dropping below 40" - St. Lucie series is representative

(2) Water tables 15" - 40" - Immokalee series is representative

(3) Water tables above ground - 15" - Riviera and Pompano series are representative

Figure E-1 is also a graphical comparison of the cumulative water storage capabilities of the soil profile for flatwoods and depressional storage.

Evaluation of Current Stormwater Design Criteria within the State of Florida

Final Report

Prepared for:



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

FDEP Contract No. SO108

June 2007

Prepared By:

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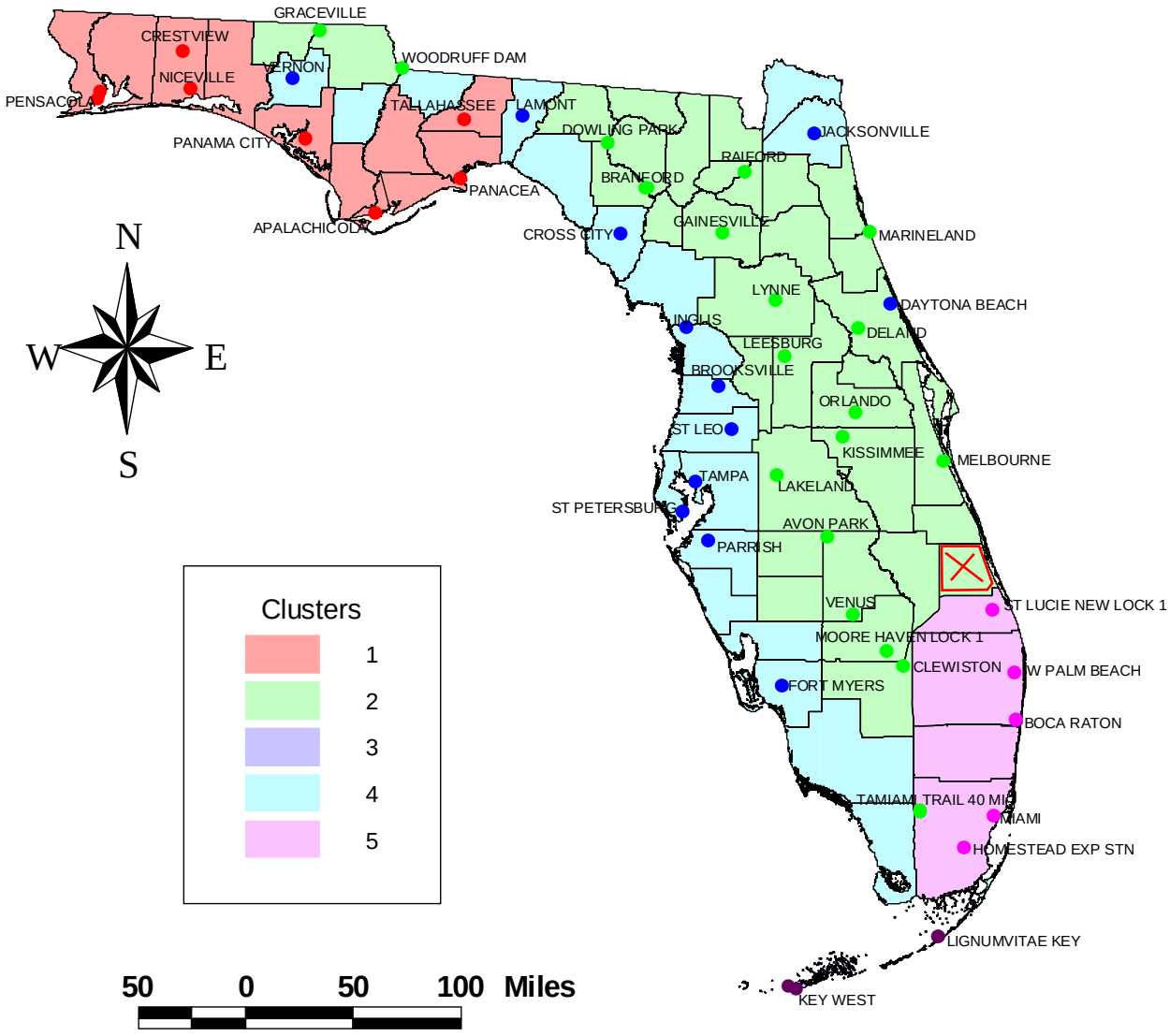


Figure 4-3. Meteorological Zones Identified Using Cluster Analysis.

Unfortunately, not all counties in Florida have long-term meteorological monitoring sites with hourly data. For purposes of designating meteorological zones, counties without a monitoring site were grouped according to the meteorological characteristics of adjacent counties with monitoring sites. The resulting zones appear to be relatively intuitive with respect to meteorological processes. The cluster groupings only have two apparent outliers, Daytona Beach and Tamiami Trail, which appear out of place. However, in a data set containing 45 points, an analysis conducted at a 95% probability level would be expected to have approximately 2-3 outlier values. A listing of counties included in each meteorological zone is given in Table 4-23.

TABLE 4-23

COUNTIES INCLUDED IN THE DESIGNATED METEORLOGICAL ZONES

ZONE				
1	**2**	**3**	**4**	**5**
Okaloosa	St. Lucie	Monroe	Washington	Martin
Liberty	Columbia		Manatee	Broward
Bay	DeSoto		Levy	Miami-Dade
Wakulla	St. Johns		Pasco	Palm Beach
Leon	Seminole		Pinellas	
Santarosa	Sumter		Lee	
Gulf	Flagler		Hillsborough	
Franklin	Suwannee		Hernando	
Escambia	Gadsden		Sarasota	
Walton	Gilchrist		Duval	
	Glades		Dixie	
	Calhoun		Collier	
	Hamilton		Citrus	
	Hardee		Charlotte	
	Hendry		Taylor	
	Union		Nassau	
	Highlands		Jefferson	
	Putnam		Monroe	
	Holmes			
	Indian River			
	Jackson			
	Volusia			
	Lafayette			
	Lake			
	Polk			
	Brevard			
	Bradford			
	Baker			
	Madison			
	Osceola			
	Marion			
	Orange			
	Clay			
	Okeechobee			
	Alachua			

A summary of mean runoff coefficients for each cluster as a function of land use and hydrologic soil group is given in Table 4-24. The values summarized in this table reflect the mean runoff coefficients for each land use and hydrologic soil group and each meteorological monitoring site included in each of the five clusters. The values summarized in Table 4-24 reflect differences in runoff coefficients as a result of frequency distributions of common rain events only. This analysis does not include variability in rainfall depth throughout the State which must be multiplied times the mean runoff coefficients to obtain an estimate of annual runoff volume.

$$BOD_i = BOD_o \times exp(-K \times t)$$

where:

BOD_t = BOD at time, t (mg/l)

BOD_o = initial BOD (mg/l)

t = time (days)

K = decomposition constant ($time^{-1}$)

BOD decomposition constants (K) in surface waters are temperature-dependent but are typically on the order of 0.1/day. A graphical representation of the theoretical removal of BOD as a function of time, based upon a decomposition constant of 0.1/day, is given in Figure 6-1. This relationship can be used to estimate the time required to achieve a certain BOD removal efficiency within a wet detention pond. A removal efficiency of approximately 80% is achieved for BOD after a residence time of approximately 15 days, with removal efficiencies in excess of 95% after approximately 30-35 days. As a result, the removal of BOD in aquatic systems occurs at a much more rapid rate than removal of total nitrogen or total phosphorus, as indicated in Figures 5-10 and 5-11. Therefore, if a stormwater management system provides the required removal efficiency for both total nitrogen and total phosphorus, the system will also easily provide the same pollutant removal efficiency for BOD.

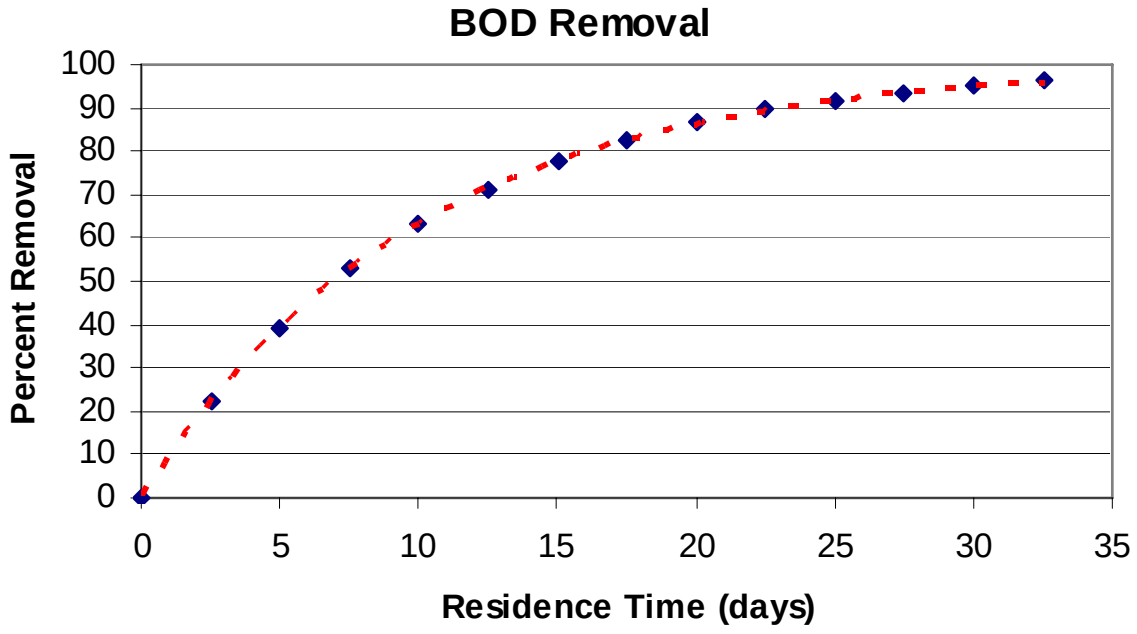


Figure 6-1. Theoretical Removal of BOD as a Function of Residence Time in a Wet Detention Pond.

4.1.5 Low-Intensity Commercial Areas

For the purposes of this evaluation, the term intensity refers to the level of use of the commercial area rather than an indication of the type of business or density of development. Low-intensity commercial areas are defined as areas which receive only a moderate amount of traffic volume and where cars may be parked during the day for extended periods of time. Since most commercial activities themselves generate relatively little pollutant loading, the majority of pollutant deposition occurs as a result of automobiles and trucks operating within the commercial area. Low-intensity commercial areas include schools, churches, professional office sites, and small shopping centers. High-intensity commercial areas include downtown business districts and large regional shopping areas.

A summary of hydrologic characteristics from low-intensity commercial stormwater characterization studies is given in Table B.3. Nine separate studies were identified in the available literature, with watershed areas ranging from 2.17-50.70 acres. Percentage imperviousness for the commercial sites range from 60% to approximately 100%. Eight of the nine studies utilize curb and gutter stormsewer systems, with swales utilized for drainage conveyance at the Florida Aquarium site.

A summary of mean stormwater emc values from low-intensity commercial stormwater studies is given in Table 4-7. Characterization data for total nitrogen, total phosphorus, and TSS are provided for each of the nine studies, with eight of the nine studies providing characterization data for BOD. As observed in previous land use categories, characterization data for heavy metals is somewhat limited. In general, low-intensity commercial areas are characterized by relatively low levels of total nitrogen, total phosphorus, and BOD, although TSS concentrations are somewhat elevated. Runoff characteristics reported by Harper and Herr (1993) are not included in calculation of the mean value since the runoff in this study received pre-treatment in a vegetated swale prior to collection.

TABLE 4-7

SUMMARY OF MEAN STORMWATER CHARACTERISTICS FROM LOW-INTENSITY COMMERCIAL STORMWATER STUDIES

LOCATION	REFERENCE	MEAN emc VALUE (mg/l)										
		TN	TP	BOD	TSS	Cd	Cr	Cu	Fe	Ni	Pb	Zn
Orlando Areawide Study[1]	ECFRPC (1978)	0.89	0.16	3.6	146	--	--	--	--	--	0.068[2]	--
Ft. Lauderdale - Coral Ridge Mall	Miller (1979)	1.10	0.10	5.4	45.0	--	--	0.015	--	--	0.387[2]	0.128
Tampa - Norma Park	U.S. EPA (1983)	1.19	0.15	12.0	22.0	--	--	--	--	--	0.046[2]	0.037
Orlando - International Market Place	Harper (1988)	1.53	0.19	11.6	111	0.008	0.013	0.031	1.10	0.028	0.136[2]	0.168
DeBary[3]	Harper and Herr (1993)	0.761	0.260	6.9	79.1	0.0005	0.003	0.010	0.582	--	0.009	0.028
Bradfordville	ERD (2000)	2.14	0.160	9.0	38.3	--	--	--	--	--	--	--
Tallahassee - Cross Creek Shopping Center	COT and ERD (2002)	0.925	0.15	8.0	15.0	--	--	0.008	--	--	0.002	0.045
Sarasota County	ERD (2004)	0.88	0.31	4.3	39.9	--	--	--	--	--	--	--
Florida Aquarium - Tampa	Teague, et al. (2005)	0.761	0.215	--	42.4	0.003	--	0.019	1.17	--	0.008	0.090
Overall Mean Value		**1.18**	**0.179**	**7.7**	**57.5**	**0.006**	**0.013**	**0.018**	**1.14**	**0.028**	**0.005**	**0.094**

1. Average of studies performed on a parking lot, motel complex, and commercial strip development
2. Data not included in calculation of mean value
3. Values excluded from means due to swale pre-treatment

Zone 2
Mean Annual Runoff Coefficients (C Values) as a Function of DCIA Percentage and Non-DCIA Curve Number (CN)

NDCIA CN	Percent DCIA																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
30	0.002	0.043	0.083	0.123	0.164	0.204	0.244	0.285	0.325	0.366	0.406	0.446	0.487	0.527	0.567	0.608	0.648	0.688	0.729	0.769	0.809
35	0.004	0.044	0.085	0.125	0.165	0.205	0.246	0.286	0.326	0.366	0.407	0.447	0.487	0.528	0.568	0.608	0.648	0.689	0.729	0.769	0.809
40	0.007	0.047	0.087	0.127	0.167	0.207	0.248	0.288	0.328	0.368	0.408	0.448	0.488	0.528	0.569	0.609	0.649	0.689	0.729	0.769	0.809
45	0.010	0.050	0.090	0.130	0.170	0.210	0.250	0.290	0.330	0.370	0.410	0.450	0.490	0.530	0.570	0.610	0.650	0.690	0.729	0.769	0.809
50	0.015	0.055	0.095	0.134	0.174	0.214	0.254	0.293	0.333	0.373	0.412	0.452	0.492	0.531	0.571	0.611	0.651	0.690	0.730	0.770	0.809
55	0.022	0.061	0.101	0.140	0.179	0.219	0.258	0.298	0.337	0.376	0.416	0.455	0.494	0.534	0.573	0.613	0.652	0.691	0.731	0.770	0.809
60	0.030	0.069	0.108	0.147	0.186	0.225	0.264	0.303	0.342	0.381	0.420	0.459	0.498	0.537	0.576	0.615	0.654	0.693	0.731	0.770	0.809
65	0.042	0.080	0.119	0.157	0.195	0.234	0.272	0.311	0.349	0.387	0.426	0.464	0.502	0.541	0.579	0.618	0.656	0.694	0.733	0.771	0.809
70	0.057	0.095	0.133	0.170	0.208	0.245	0.283	0.321	0.358	0.396	0.433	0.471	0.509	0.546	0.584	0.621	0.659	0.697	0.734	0.772	0.809
75	0.079	0.116	0.152	0.189	0.225	0.262	0.298	0.335	0.371	0.408	0.444	0.481	0.517	0.554	0.590	0.627	0.663	0.700	0.736	0.773	0.809
80	0.111	0.146	0.181	0.216	0.251	0.285	0.320	0.355	0.390	0.425	0.460	0.495	0.530	0.565	0.600	0.635	0.670	0.705	0.740	0.774	0.809
85	0.160	0.192	0.225	0.257	0.290	0.322	0.355	0.387	0.420	0.452	0.485	0.517	0.550	0.582	0.614	0.647	0.679	0.712	0.744	0.777	0.809
90	0.242	0.270	0.299	0.327	0.355	0.384	0.412	0.440	0.469	0.497	0.526	0.554	0.582	0.611	0.639	0.667	0.696	0.724	0.753	0.781	0.809
95	0.404	0.424	0.444	0.464	0.485	0.505	0.525	0.546	0.566	0.586	0.606	0.627	0.647	0.667	0.688	0.708	0.728	0.749	0.769	0.789	0.809
98	0.595	0.605	0.616	0.627	0.638	0.648	0.659	0.670	0.680	0.691	0.702	0.713	0.723	0.734	0.745	0.756	0.766	0.777	0.788	0.799	0.809

Table B-4. Estimated runoff and TN and TP loads [in pounds per acre per year (lbs/ac/yr)] and concentrations [in milligrams per liter (mg/L)] for 2004 land use categories in the St. Lucie River Watershed.

Land Use Category	Land Use Description	FLUCCS	Runoff (in/yr)	Unit TN Load (lbs/ ac/yr)	TN Concen- tration (mg/L)	Unit TP Load (lbs/ ac/yr)	TP Concen- tration (mg/L)
Residential Low Density	Residential Low Density[1]	1100	17.5676	4.29	1.08	0.49	0.12
Residential Medium Density	Residential Medium Density[2]	1200	20.7617	6.24	1.33	1.40	0.30
Residential High Density	Residential High Density[2]	1300	23.9558	9.36	1.73	3.00	0.55
Other Urban	Commercial and Services[2]	1400	25.5528	8.58	1.48	1.40	0.24
	Industrial[2]	1500	27.1499	7.80	1.27	2.40	0.39
	Extractive[2]	1600	23.9558	5.46	1.01	0.66	0.12
	Institutional[2]	1700	23.9558	5.46	1.01	2.40	0.44
	Recreational[2]	1800	17.5676	5.46	1.37	0.96	0.24
Improved Pastures	Improved Pastures	2110	19.1646	8.66	2.00	1.90	0.44
Unimproved Pastures	Unimproved Pastures	2120	15.9705	4.29	1.19	0.92	0.25
Woodland Pastures/Rangeland	Woodland Pastures	2130	15.9705	3.20	0.89	0.88	0.24
	Rangeland	3000	15.9705	3.20	0.89	0.28	0.08
Row Crops	Row Crops	2140	22.3587	11.70	2.31	4.50	0.89
Sugar Cane	Sugar Cane	2156	19.1646	6.24	1.44	0.63	0.15
Citrus	Citrus	2210	19.1646	6.63	1.53	1.80	0.42
Sod Farms	Sod Farms	2420	19.1646	7.02	1.62	2.52	0.58
Ornamentals	Ornamentals	2430	19.1646	9.36	2.16	2.90	0.67
Horse Farms	Horse Farms	2510	15.9705	12.48	3.45	1.82	0.50
Dairies	Dairies	2520	15.9705	15.60	4.32	9.38	2.60
Other Areas	Field Crops	2150	15.9705	5.17	1.43	2.96	0.82
	Mixed Crops	2160	19.1646	8.58	1.98	3.50	0.81
	Fruit Orchards	2220	19.1646	7.02	1.62	2.30	0.53
	Other Groves	2230	19.1646	7.02	1.62	2.30	0.53
	Cattle Feeding Operations	2310	19.1646	42.16	9.72	8.96	2.07
	Poultry Feeding Operations	2320	19.1646	7.80	1.80	1.50	0.35
	Tree Nurseries	2410	15.9705	9.36	2.59	2.90	0.80
	Specialty Farms	2500	15.9705	6.24	1.73	1.82	0.50
	Aquaculture	2540	7.98525	7.80	4.32	0.70	0.39
	Fallow Crop Land	2610	19.1646	5.46	1.26	0.70	0.16
Tree Plantations	Tree Plantations	4400	15.9705	2.42	0.67	0.18	0.05
Water	Water	5000	3.1941	0.70	0.97	0.05	0.07
Natural Areas	Upland Forests (not including 4400s)	4000	14.3735	1.95	0.60	0.28	0.09
	Wetlands	6000	1.59705	1.17	3.24	0.01	0.03
	Barren Land	7000	23.9558	5.46	1.01	0.75	0.14
	Open Land	1900	15.9705	3.12	0.86	0.28	0.08
Transportation	Transportation	8100	27.1499	7.18	1.17	1.65	0.27
Communication/Utilities	Communications	8200	15.9705	4.68	1.30	0.48	0.13
	Utilities	8300	15.9705	4.68	1.30	0.48	0.13

[1]Assumed to be on septic systems.

[2]Assumed discharge from wastewater treatment outside of the watershed.

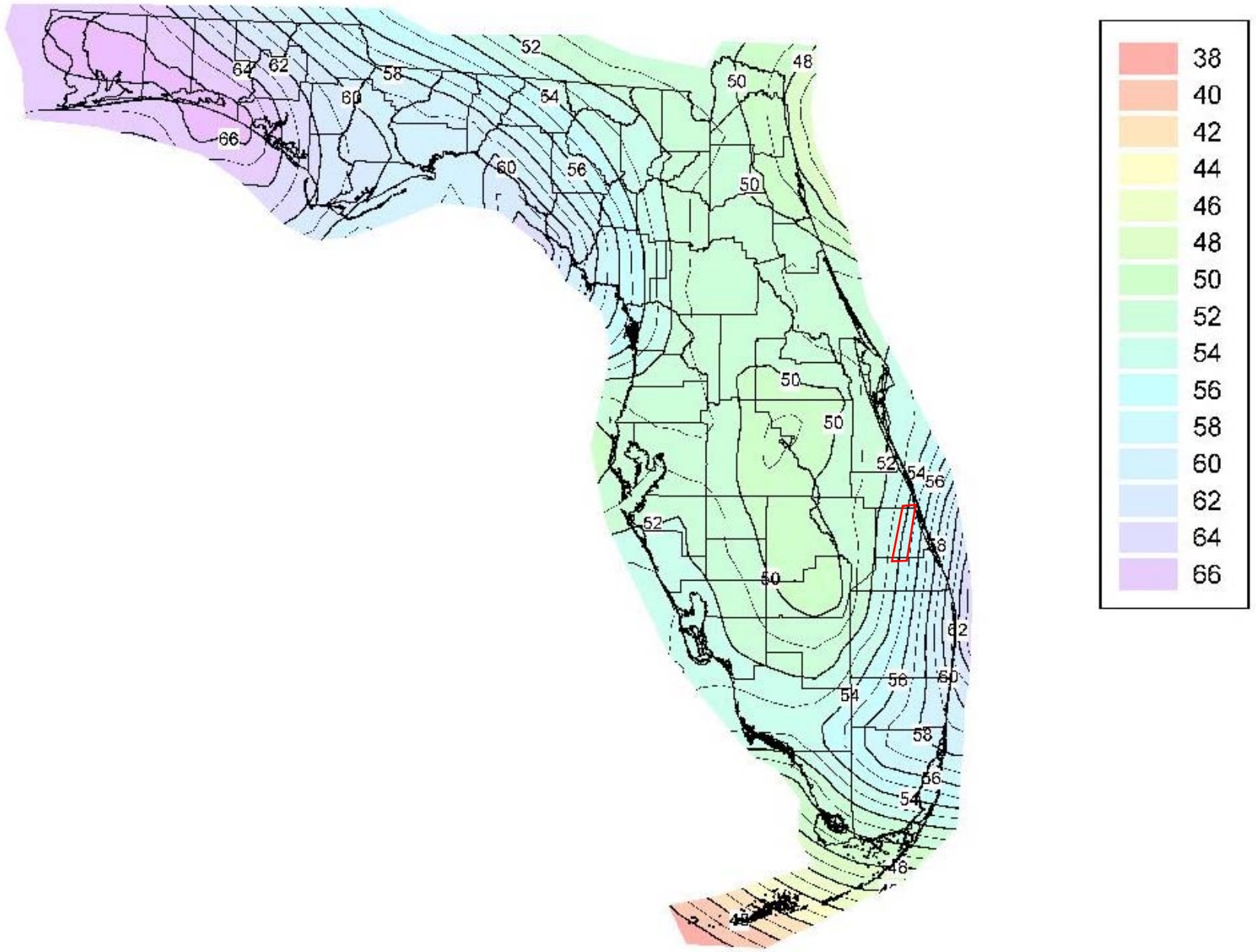
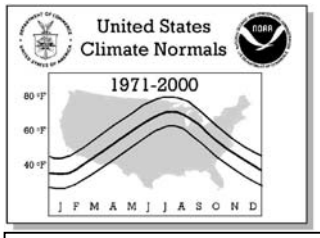


Figure 3-2. Isopleths of Mean Annual Precipitation in Florida from 1971-2000.



CLIMATOGRAPHY OF THE UNITED STATES NO. 81

Monthly Normals of Temperature, Precipitation, and Heating and Cooling Degree Days

1971-2000

FLORIDA

PRECIPITATION NORMALS (Total in Inches)

No.	Station Name	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
001	APALACHICOLA AP	4.87	3.76	4.95	3.00	2.62	4.30	7.31	7.29	7.10	4.18	3.62	3.51	56.51
002	ARCADIA	2.13	2.43	3.10	1.86	3.87	7.81	7.64	7.02	6.77	2.87	2.08	1.76	49.34
003	ARCHBOLD BIO STATION	2.32	2.38	3.25	2.33	3.98	7.74	7.66	7.42	6.50	3.00	2.07	1.95	50.60
004	AVON PARK 2 W	2.48	2.41	3.02	2.17	3.63	8.25	6.81	7.18	5.98	3.02	2.27	1.87	49.09
005	BABSON PARK 1 ENE	2.06	2.56	3.13	1.95	4.10	6.86	8.23	7.29	5.65	2.29	2.48	1.75	48.35
006	BARTOW	2.51	2.82	3.11	2.53	3.81	6.78	8.56	6.52	6.68	2.71	2.18	2.37	50.58
007	BELLE GLADE EXP STN	2.51	1.88	2.65	2.41	5.04	7.33	7.34	7.16	7.09	3.54	2.79	1.82	51.56
008	BITHLO	2.35	2.69	2.81	1.88	3.47	7.26	6.86	8.06	6.14	3.75	2.14	1.87	49.28
009	BRADENTON 5 ESE	2.94	2.66	3.36	1.83	2.85	7.41	8.71	9.43	7.25	2.88	2.35	2.45	54.12
010	BROOKSVILLE CHIN HILL	3.27	3.24	4.22	2.62	3.40	7.24	7.16	8.24	5.96	2.38	2.39	2.45	52.57
011	BUSHNELL 2 E	3.43	3.02	3.93	2.34	3.79	6.18	6.43	7.24	6.00	2.14	2.18	2.52	49.20
012	CANAL POINT USDA	2.60	2.27	3.44	2.42	4.61	7.64	6.22	6.69	7.28	3.91	2.95	2.07	52.10
013	CHIPLEY 3 E	6.09	4.81	6.11	3.84	4.21	5.24	6.92	5.38	4.76	2.90	4.12	3.86	58.24
014	CLERMONT 7 S	3.11	2.58	3.81	2.18	3.67	7.86	6.78	6.96	5.59	2.40	2.40	2.40	49.74
015	CLEWISTON US ENGINEERS	2.38	2.01	2.68	2.16	4.50	7.15	6.58	6.28	4.99	2.87	2.28	1.52	45.40
016	CRESCENT CITY	3.34	2.83	4.06	2.56	3.52	6.53	6.34	6.28	6.11	3.12	2.55	2.55	49.79
017	CRESTVIEW BOB SIKES AP	6.49	4.91	7.06	4.26	4.94	7.41	6.83	6.34	4.88	3.02	4.20	3.60	63.94
018	CROSS CITY 2 WNW	4.41	3.54	4.42	3.48	3.06	6.34	8.92	9.67	6.10	2.93	2.35	3.27	58.49
019	DAYTONA BEACH INTL AP	3.13	2.74	3.84	2.54	3.26	5.69	5.17	6.09	6.61	4.48	3.03	2.71	49.29
020	DE FUNIAK SPRINGS	5.61	5.39	6.23	3.93	4.95	6.60	7.67	6.77	6.03	3.23	4.76	4.35	65.52
021	DELAND 1 SSE	3.35	2.96	3.84	2.80	4.27	7.60	7.88	7.70	7.17	4.09	2.72	2.65	57.03
022	DESOTO CITY 8 SW	2.31	2.57	3.10	2.20	3.61	8.21	7.00	6.97	6.48	2.64	2.30	1.62	49.01
023	DEVILS GARDEN	2.37	2.09	2.78	2.63	4.33	8.58	7.52	8.10	6.53	3.52	2.58	1.64	52.67
024	EVERGLADES	1.71	1.49	1.92	1.93	3.56	9.89	7.34	8.62	8.23	3.80	1.89	1.72	52.10
025	FEDERAL POINT	3.09	2.89	3.68	2.34	3.55	6.67	6.16	6.57	6.83	3.34	2.70	2.72	50.54
026	FERNANDINA BEACH	3.82	3.17	4.01	2.91	2.87	5.30	5.80	5.34	7.73	4.22	2.49	2.73	50.39
027	FLAMINGO RANGER STN	1.94	1.63	1.87	2.06	5.06	7.25	4.73	7.43	7.20	4.26	2.46	1.57	47.46
028	FORT DRUM 5 NW	2.27	2.47	3.78	2.43	4.47	8.05	7.60	7.27	6.60	3.73	2.30	1.86	52.83
029	FORT GREEN 12 WSW	2.43	2.62	3.31	2.09	3.42	8.18	8.29	7.78	6.86	2.62	2.13	2.23	51.96
030	FORT LAUDERDALE	2.94	2.70	2.80	3.91	6.33	10.01	6.70	6.88	8.26	6.44	4.57	2.65	64.19
031	FORT MYERS (PAGE AP)	2.23	2.10	2.74	1.67	3.42	9.77	8.98	9.54	7.86	2.59	1.71	1.58	54.19
032	FORT PIERCE	2.70	2.99	3.27	2.77	4.38	5.84	5.79	6.35	7.81	5.82	3.50	2.28	53.50
033	FOUNTAIN 3 SSE	5.83	4.69	6.38	3.05	4.39	7.20	8.00	6.50	6.61	2.95	4.01	4.41	64.02
034	GAINESVILLE 3 WSW	4.13	3.90	3.94	3.03	3.70	5.87	5.34	6.69	5.33	1.89	2.58	3.05	49.45
035	GAINESVILLE 11 WNW	3.95	2.34	4.31	2.92	3.34	6.20	7.50	7.89	4.05	2.99	1.87	2.20	49.56
036	GAINESVILLE RGNL AP	3.51	3.39	4.26	2.86	3.23	6.78	6.10	6.63	4.37	2.50	2.17	2.56	48.36
037	GLEN ST MARY 1 W	4.34	3.41	4.52	3.29	3.58	6.53	6.33	7.33	5.36	3.10	2.23	2.92	52.94
038	HASTINGS ARC	3.39	2.69	3.94	2.72	3.47	6.98	5.56	6.37	7.40	3.94	2.88	2.65	51.99
039	HIALEAH	2.34	2.22	3.20	3.90	6.08	10.24	7.00	9.20	8.88	6.56	3.83	2.59	66.04
040	HIGH SPRINGS	4.35	3.69	4.33	3.28	3.63	6.88	7.53	7.92	4.56	2.96	2.28	2.74	54.15
041	HILLSBOROUGH RVR ST PK	3.35	3.12	3.41	2.23	3.21	7.87	7.27	8.16	7.23	2.71	2.72	3.28	54.56
042	HOMESTEAD EXP STN	1.94	1.78	1.88	2.74	5.77	9.51	6.82	9.16	8.90	5.49	2.59	1.61	58.19
043	IMMOKALEE 3 NNW	2.33	2.26	2.97	2.36	4.08	7.78	7.27	7.49	6.61	2.88	2.27	1.77	50.07
044	INVERNESS 3 SE	3.55	2.96	4.17	2.40	3.33	7.40	7.05	7.52	5.93	2.63	2.27	2.56	51.77
045	JACKSONVILLE CECIL NAS	3.50	3.20	4.16	2.91	3.25	6.54	6.39	7.07	6.69	3.24	2.28	2.65	51.88
046	JACKSONVILLE INTL AP	3.69	3.15	3.93	3.14	3.48	5.37	5.97	6.87	7.90	3.86	2.34	2.64	52.34
047	JACKSONVILLE NAS	3.39	2.59	3.97	2.77	3.22	5.78	5.99	5.87	7.28	3.30	2.35	2.45	48.96
048	JACKSONVILLE BEACH	3.56	2.84	3.92	2.87	3.03	5.70	5.21	6.11	7.53	5.04	2.36	2.75	50.92
049	JASPER	4.96	4.13	5.16	3.45	3.33	6.03	5.62	6.27	4.20	2.87	2.79	3.43	52.24
050	KEY WEST INTL AP	2.22	1.51	1.86	2.06	3.48	4.57	3.27	5.40	5.45	4.34	2.64	2.14	38.94
051	KEY WEST NAS	2.50	1.65	1.80	2.12	3.88	5.42	4.11	5.48	6.33	4.58	2.62	2.24	42.73
052	KISSIMMEE 2	2.39	2.72	3.32	2.02	3.83	6.02	6.55	7.32	6.01	3.17	2.42	2.24	48.01
053	LA BELLE	2.31	2.16	2.89	2.29	3.91	8.88	7.69	7.78	6.57	3.35	2.34	1.71	51.88
054	LAKE ALFRED EXP STN	2.52	2.75	3.43	1.99	4.12	6.88	7.11	7.43	6.53	2.96	2.29	2.28	50.29
055	LAKE CITY 2 E	4.52	3.61	4.90	3.15	3.71	6.91	6.74	7.19	4.67	2.82	2.42	2.96	53.60
056	LAKELAND	2.45	2.73	3.38	2.04	3.81	7.00	7.51	7.33	6.33	2.29	2.12	2.14	49.13
057	LISBON	3.32	2.87	4.03	2.80	4.13	6.13	5.67	6.20	5.76	2.54	2.53	2.65	48.63
058	LIVE OAK	4.99	4.01	5.33	3.29	3.23	6.06	6.35	6.13	4.64	3.26	2.43	3.11	52.83
059	LOXAHATCHEE	2.99	2.23	2.97	2.27	5.33	8.84	7.30	5.58	9.25	5.18	4.44	2.06	58.44
060	MADISON	5.50	4.11	5.59	3.22	3.10	5.82	6.18	5.38	3.94	2.96	3.31	4.07	53.18
061	MAYPORT PILOT STN	2.70	2.58	3.23	2.41	2.13	4.06	4.21	4.45	7.15	4.16	1.74	2.20	41.02
062	MAYO	4.88	3.66	4.85	3.07	3.19	5.82	7.60	7.97	5.07	3.01	2.52	3.23	54.87
063	MELBOURNE WFO	2.48	2.49	2.92	2.08	3.94	5.83	5.38	5.78	7.20	4.76	3.12	2.31	48.29
064	MIAMI BEACH	2.44	2.14	2.20	2.81	4.90	6.90	3.63	5.44	6.31	4.53	3.32	1.98	46.60
065	MIAMI INTL AP	1.88	2.07	2.56	3.36	5.52	8.54	5.79	8.63	8.38	6.19	3.43	2.18	58.53
066	MILTON EXPERIMENT STN	6.39	5.04	7.32	4.35	4.83	7.11	8.17	6.62	6.12	3.66	5.47	4.40	69.48
067	MONTICELLO 3 W	5.63	4.64	6.00	3.63	4.03	5.60	6.50	6.73	4.70	3.32	3.63	3.90	58.31
068	MOORE HAVEN LOCK 1	2.04	2.05	2.93	2.35	3.70	6.98	6.67	6.80	6.42	2.95	1.91	1.64	46.44
069	MOUNTAIN LAKE	2.38	2.43	3.12	2.02	3.88	7.12	7.45	6.64	5.83	2.50	2.23	2.10	47.70

5.2.2.1 SJRWMD Design Criteria

Wet detention ponds designed according to St. Johns River Water Management District (SJRWMD) criteria are characterized by relatively short residence times, ranging from approximately 14-21 days under wet season conditions. Virtually all existing research studies on wet detention systems, as summarized in Table 5-2, have been performed on shallow ponds with relatively short residence times. Six of the eight studies summarized in Table 5-2 are located in the St. Johns River Water Management District, although designs for some of the earlier studies may be different from current design criteria.

A summary of estimated performance efficiencies of wet detention ponds designed according to SJRWMD criteria is given in Table 5-8. The values summarized in this table reflect the overall mean treatment efficiencies for wet detention systems summarized in Table 5-2. The values summarized in Table 5-8 correspond closely to performance efficiencies measured by Harper and Herr (1993) for a wet detention pond constructed according to SJRWMD criteria. Based upon the estimated performance efficiency summarized in Table 5-8, with the possible exception of TSS, wet detention ponds designed according to SJRWMD criteria fail to meet the 80% removal criteria outlined in Chapter 62-40.

TABLE 5-8

ESTIMATED PERFORMANCE EFFICIENCY OF WET DETENTION PONDS DESIGNED ACCORDING TO SJRWMD CRITERIA

PARAMETER	ANNUAL MASS REMOVAL (%)
Total N	25
Total P	65
TSS	75-85
BOD	65-70

5.2.2.2 SFWMD Design Criteria

As discussed in a previous section, wet detention systems designed within the South Florida Water Management District (SFWMD) are often excavated to water depths of 20 ft or more. The SFWMD does not have any specific limitation on pond depth, and developers often dig deep wet detention ponds to provide additional fill for low areas within a development. This technique can result in ponds with substantially extended detention times, often in excess of 200 days.

Mean Annual Mass Removal Efficiencies for 0.75-inches of Retention in Zone 2

NDCIA	Percent DCIA																			
CN	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
30	97.9	98.2	97.5	96.2	94.4	92.1	89.6	86.9	84.1	81.3	78.5	75.9	73.3	70.9	68.5	66.3	64.2	62.2	60.4	58.6
35	96.7	97.3	96.8	95.6	93.8	91.7	89.2	86.6	83.8	81.1	78.4	75.7	73.2	70.8	68.5	66.3	64.2	62.2	60.4	58.6
40	95.0	96.1	95.9	94.8	93.1	91.1	88.7	86.2	83.5	80.8	78.2	75.6	73.1	70.7	68.4	66.2	64.2	62.2	60.4	58.6
45	93.0	94.7	94.6	93.7	92.2	90.3	88.1	85.6	83.1	80.5	77.9	75.4	72.9	70.6	68.3	66.2	64.1	62.2	60.4	58.6
50	90.7	92.8	93.1	92.4	91.1	89.3	87.3	85.0	82.5	80.0	77.5	75.1	72.7	70.4	68.2	66.1	64.0	62.1	60.3	58.6
55	88.0	90.6	91.1	90.7	89.7	88.1	86.3	84.1	81.8	79.4	77.0	74.7	72.4	70.1	68.0	65.9	64.0	62.1	60.3	58.6
60	84.8	87.9	88.8	88.7	88.0	86.7	85.0	83.0	80.9	78.7	76.5	74.2	72.0	69.8	67.8	65.8	63.8	62.0	60.3	58.6
65	81.5	84.9	86.2	86.3	85.8	84.8	83.4	81.7	79.8	77.8	75.7	73.6	71.5	69.5	67.5	65.5	63.7	61.9	60.2	58.6
70	78.1	81.7	83.1	83.5	83.2	82.5	81.4	80.0	78.4	76.6	74.7	72.8	70.9	68.9	67.1	65.2	63.5	61.8	60.2	58.6
75	74.9	78.1	79.6	80.2	80.2	79.8	79.0	77.9	76.5	75.0	73.4	71.7	70.0	68.3	66.5	64.8	63.2	61.6	60.1	58.6
80	71.6	74.3	75.8	76.5	76.7	76.5	76.0	75.2	74.1	73.0	71.7	70.3	68.8	67.3	65.8	64.3	62.8	61.4	60.0	58.6
85	68.6	70.6	71.8	72.5	72.8	72.7	72.4	71.9	71.2	70.3	69.3	68.3	67.1	65.9	64.7	63.5	62.2	61.0	59.8	58.6
90	65.7	66.9	67.7	68.1	68.3	68.3	68.2	67.9	67.5	66.9	66.3	65.6	64.9	64.0	63.2	62.3	61.4	60.5	59.5	58.6
95	62.7	63.0	63.2	63.3	63.4	63.4	63.3	63.2	63.0	62.8	62.5	62.2	61.8	61.4	61.0	60.5	60.1	59.6	59.1	58.6
98	60.8	60.8	60.8	60.7	60.7	60.6	60.5	60.4	60.3	60.2	60.1	59.9	59.8	59.6	59.5	59.3	59.2	59.0	58.8	58.6

Mean Annual Mass Removal Efficiencies for 1.00-inches of Retention in Zone 2

NDCIA	Percent DCIA																			
CN	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
30	98.5	98.8	98.5	97.9	96.9	95.6	94.1	92.3	90.4	88.4	86.3	84.2	82.1	80.0	77.9	75.9	74.0	72.2	70.3	68.6
35	97.5	98.2	98.0	97.4	96.5	95.3	93.7	92.0	90.2	88.2	86.2	84.1	82.0	79.9	77.9	75.9	74.0	72.1	70.3	68.6
40	96.4	97.3	97.2	96.8	95.9	94.8	93.3	91.7	89.9	87.9	85.9	83.9	81.8	79.8	77.8	75.8	73.9	72.1	70.3	68.6
45	94.8	96.1	96.3	96.0	95.2	94.1	92.7	91.2	89.4	87.6	85.6	83.6	81.6	79.6	77.7	75.8	73.9	72.1	70.3	68.6
50	93.0	94.8	95.2	94.9	94.3	93.3	92.0	90.5	88.9	87.1	85.3	83.3	81.4	79.5	77.5	75.6	73.8	72.0	70.3	68.6
55	91.0	93.2	93.7	93.6	93.1	92.3	91.1	89.8	88.2	86.6	84.8	82.9	81.1	79.2	77.3	75.5	73.7	72.0	70.2	68.6
60	88.8	91.2	92.0	92.0	91.7	91.0	90.0	88.8	87.4	85.9	84.2	82.4	80.7	78.9	77.1	75.3	73.6	71.9	70.2	68.6
65	86.2	88.9	89.9	90.2	90.0	89.5	88.7	87.6	86.4	85.0	83.4	81.8	80.2	78.5	76.8	75.1	73.4	71.8	70.2	68.6
70	83.6	86.4	87.5	88.0	88.0	87.6	86.9	86.1	85.1	83.8	82.5	81.0	79.5	77.9	76.4	74.8	73.2	71.6	70.1	68.6
75	81.0	83.6	84.9	85.5	85.6	85.3	84.9	84.2	83.4	82.4	81.2	80.0	78.6	77.2	75.8	74.3	72.9	71.5	70.0	68.6
80	78.6	80.8	82.0	82.5	82.8	82.7	82.4	81.9	81.3	80.5	79.6	78.5	77.4	76.3	75.0	73.8	72.5	71.2	69.9	68.6
85	76.1	77.7	78.7	79.3	79.6	79.7	79.5	79.2	78.8	78.2	77.5	76.7	75.9	74.9	74.0	72.9	71.9	70.8	69.7	68.6
90	73.9	74.8	75.5	75.9	76.1	76.2	76.2	76.0	75.7	75.3	74.9	74.4	73.8	73.2	72.5	71.8	71.0	70.3	69.4	68.6
95	71.5	71.8	72.0	72.1	72.2	72.2	72.2	72.1	72.0	71.9	71.7	71.4	71.2	70.9	70.6	70.2	69.9	69.5	69.0	68.6
98	70.2	70.2	70.2	70.2	70.1	70.1	70.1	70.0	69.9	69.8	69.7	69.7	69.6	69.4	69.3	69.2	69.0	68.9	68.8	68.6

Each of the four water management districts mentioned previously provides calculations for a treatment volume associated with the wet detention system. This treatment volume is often referred to as the "water quality volume" since the criteria are similar to the water quality treatment criteria for dry retention or dry detention. However, research on wet detention ponds clearly indicates that the most significant factor impacting the performance efficiency of a wet detention pond is the residence time within the system - specifically, the volume of the permanent pool with respect to the volume of runoff entering the pond (Toet, et al., 1990; Harper and Herr, 1993; Rushton, et al., 1995; and DB Environmental, 2005). Since the specified treatment volumes are negligible in comparison to the permanent pool volume contained within the wet detention pond, the treatment volume criteria primarily regulates the drawdown characteristics of the wet detention pond and has little impact on the overall water quality performance efficiency of the system.

Residence time within a wet detention pond is determined by the relationship between the permanent pool volume and the annual runoff inputs, as follows:

$$Detention\ \ Time,\ t_d\ (days) = \frac{PPV}{RO} \times \frac{365\ days}{year}$$

where:

PPV = permanent pool volume (ac-ft)

RO = annual runoff inputs (ac-ft/yr)

For purposes of this calculation, the permanent pool volume is considered to include the total volume of water within the pond below the control elevation.

Criteria related to residence time and pond depth are not included in specific design criteria outlined by the Suwannee River or Southwest Florida Water Management Districts. Wet detention ponds designed in these districts could conceivably have a wide range of detention times and associated performance efficiencies, with some ponds approaching design criteria similar to that used in the St. Johns River Water Management District and other ponds approaching design criteria utilized in the South Florida Water Management District. As a result, estimates of the anticipated performance efficiency of wet detention systems designed in the St. Johns River and South Florida Water Management Districts will be presented in this section, with the anticipated efficiency of wet detention systems designed in the Suwannee River and Southwest Florida Water Management Districts likely to fall somewhere in between.

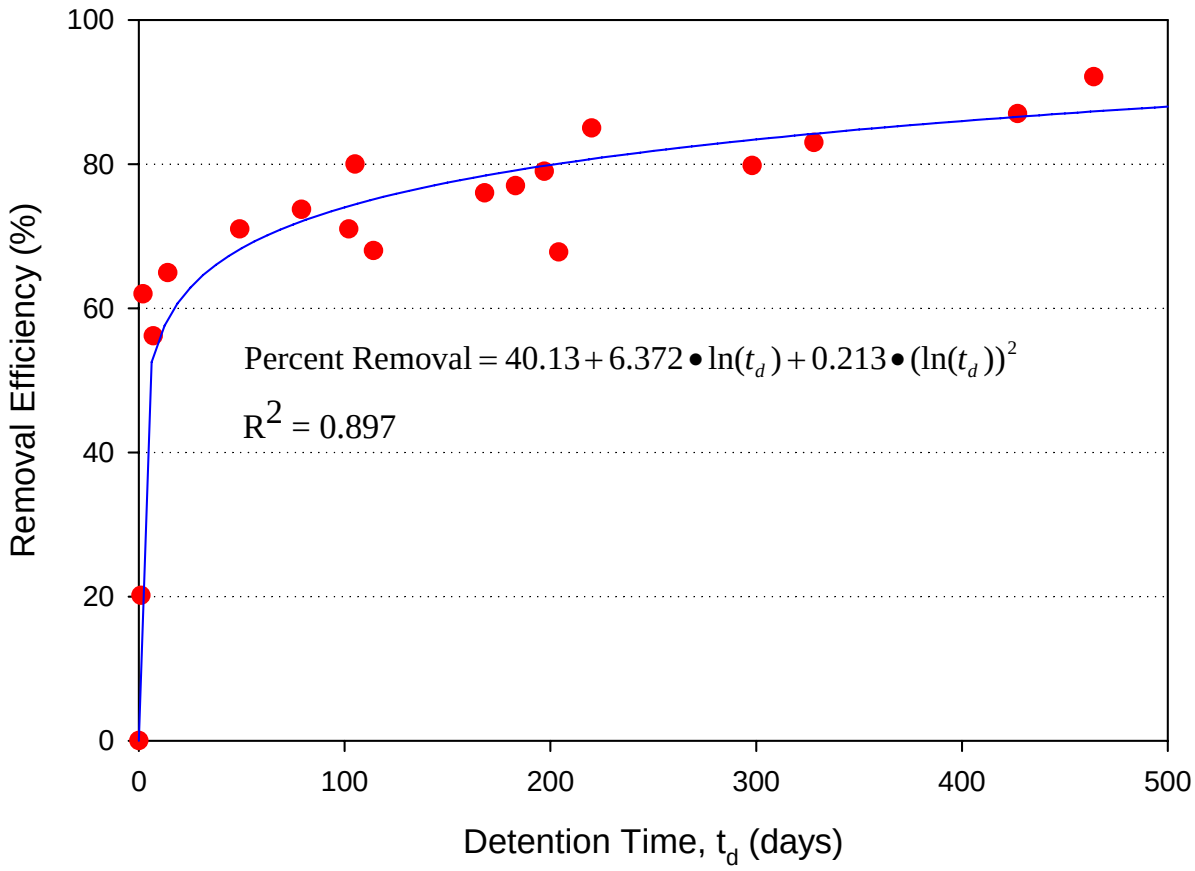


Figure 5-9. Removal Efficiency of Total Phosphorus in Wet Detention Ponds as a Function of Residence Time.

The relationship indicated on Figure 5-9 suggests that removal of phosphorus in wet detention ponds continues to occur, although at a progressively slower rate, with increases in residence time within the system. A removal efficiency of 80% can be achieved at a detention time of about 200 days. The upper limit for removal efficiencies in wet detention ponds appears to be approximately 90%, although removal efficiencies in excess of 90% were achieved at extended detention times in three of the 20 studies. At this point, total phosphorus concentrations within wet detention ponds appear to approach irreducible concentrations which reflect natural background phosphorus levels in surface waterbodies.

Relationships between detention time and removal efficiencies for total nitrogen in wet detention ponds are illustrated on Figure 5-10. The data points presented on this figure are based upon the referenced studies summarized in Table 5-9. The annual mass removal efficiency of 63% reported by Rushton, et al. (1995) for a wet pond with a detention time of 14 days and the removal efficiency of 33% for a 2-day detention time were eliminated from the data set as outliers due to elevated values for the Student T and Cook's D parameters.

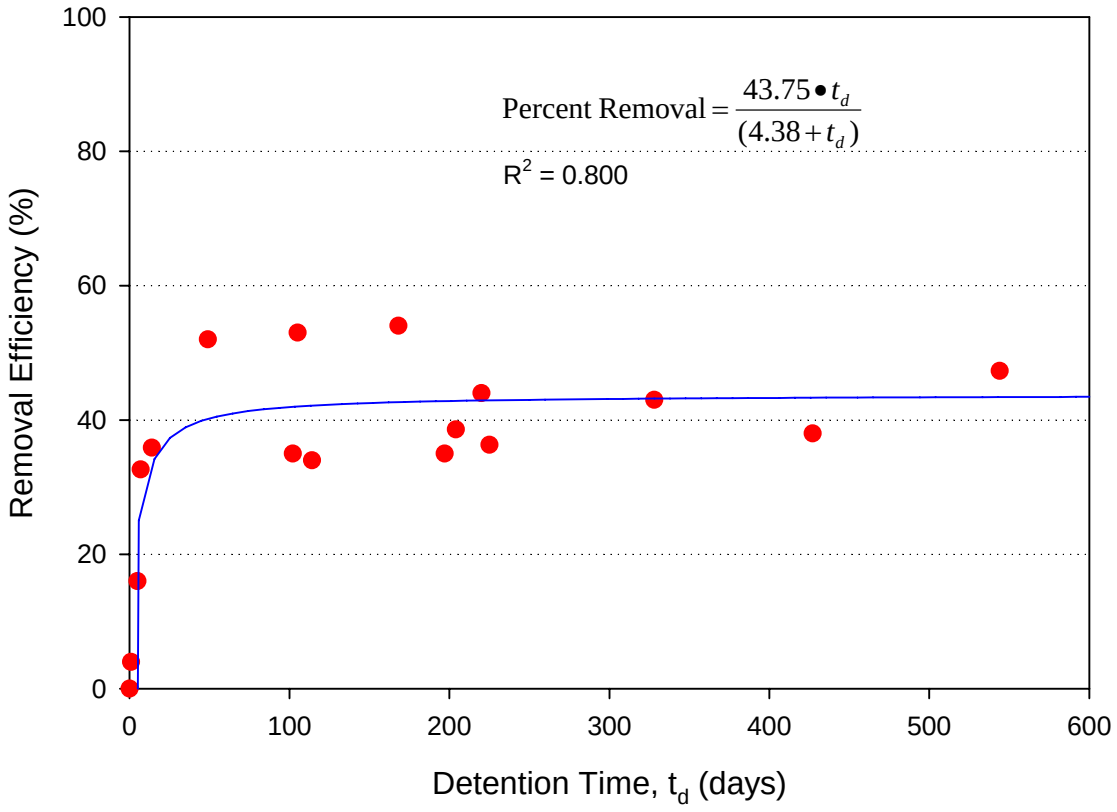


Figure 5-10. Removal Efficiency of Total Nitrogen in Wet Detention Ponds as a Function of Residence Time.

The best-fit for the relationship between removal efficiency and detention time for total nitrogen was obtained using a hyperbolic equation. The final version of this equation is summarized on Figure 5-10. The R^2 value of 0.800 suggests that detention time explains approximately 80% of the observed variability in removal efficiencies for total nitrogen in wet detention ponds. The remaining variability in removal efficiencies for total nitrogen is likely due to variability in methods of analysis between the listed studies as well as variability in the dominant nitrogen form present in the stormwater inflows. In general, inorganic forms of nitrogen (ammonia and NO_x) and particulate nitrogen are removed relatively rapidly in wet detention ponds. The initial rapid removal of nitrogen within the first 10-20 days, indicated on Figure 5-10, is probably a result of the rapid uptake of inorganic nitrogen and the settling of particulate species. Other forms of nitrogen, such as organic nitrogen, are removed at a substantially slower rate and are likely responsible for the dramatic slowdown in removal efficiency observed for total nitrogen after approximately 20-30 days.

The hyperbolic relationship summarized on Figure 5-10 indicates that a removal efficiency of approximately 40% can be achieved for total nitrogen in 50 days, with a maximum efficiency of approximately 45% at extended detention periods. The lack of additional removal efficiencies for total nitrogen observed at extended detention times is probably a reflection of either phosphorus limitation or that irreducible concentrations of total nitrogen have been achieved within the pond.

As indicated previously, wet detention systems must be utilized as part of a treatment train to achieve the required 80% removal efficiency specified under the Water Resource Implementation Rule (Chapter 62-40). When treatment systems are used in series as part of a treatment train, the efficiency of the overall treatment train can be calculated using the following equation:

$$\textit{Overall Treatment Train Efficiency (decimal)} = Eff_1 + (1 - Eff_1) \times Eff_2 \qquad \textit{(Eq. 1)}$$

where:

Eff_1 = efficiency of initial treatment system (decimal)

Eff_2 = efficiency of second treatment system (decimal)

After treatment in the initial system, a load reduction has occurred which is a function of the type of treatment provided. After migrating through the initial treatment system, the remaining load consists of mass which was not removed in the initial system. This mass is then acted upon by the second treatment system with an efficiency associated with the particular type of system used. The overall efficiency can then be calculated according to the above equation.

To achieve an overall annual mass load reduction of 80% using wet detention, a pre-treatment system must first be used to provide a significant portion of the desired pollutant removal effectiveness. For example, assume that a wet detention pond is designed with a detention period of approximately 50 days which is sufficient to achieve a removal efficiency of approximately 40% for total nitrogen. Utilizing the relationship summarized as Eq. 1, and assuming that the efficiency of the wet detention system for total nitrogen (40%) is represented by Eff_2, the efficiency of the initial treatment system (Eff_1) would need to be 67% to achieve an overall treatment efficiency of 80%.

Depending upon the characteristics of the development and the meteorological region, achieving an initial 67% annual mass load reduction using retention will require between 0.25-0.75 inch of dry retention as pre-treatment. When pre-treatment is provided and the remaining stormwater is discharged into the wet detention pond, the overall treatment system will achieve a mass removal efficiency of 80% for total nitrogen. The mass removal efficiency for total phosphorus and other significant pollutants will be substantially in excess of 80%.

SOUTH FLORIDA WATER
MANAGEMENT DISTRICT

BEG. PERMIT NUMBER:

56-02636-P

APPLICATION NUMBER:

060420-15

56-02636-P

FORM #0190
Rev 8/85

APPLICATION/PERMIT FILE RECORD & ACTION SHEET

Name: Interstate Business Park Permit No. 56-02636-A

Application No. 060420-15

This file contains:

☐ ORIGINAL APPLICATION ☐ PERMIT ☐ SPECIAL CONDITION SHEET(S)
☐ STAFF CALCULATION SHEET(S) ☐ DRAWING(S) ☐ STAFF REPORT

Chronological Correspondence/Action Record

Date	Subject	By	Comments
3/27/07	Staff Report Mailed	GH	G. Goeas
4/12/07	Permit Issued		M. Parrott

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE PERMIT NO. 56-02636-P
DATE ISSUED: APRIL 12, 2007

FORM #0145
Rev. 09/95

PERMITTEE: SIX KINGS, L.L.C.
(INTERSTATE BUSINESS PARK (AKA KINGS LANDI
3147 JUPITER PARK CIR.,
JUPITER , FL 33458

PROJECT DESCRIPTION: CONCEPTUAL APPROVAL WITH AUTHORIZATION FOR CONSTRUCTION AND OPERATION OF PHASE 1 OF A SURFACE WATER MANAGEMENT SYSTEM SERVING A 23.74 ACRE COMMERCIAL PROJECT KNOWN AS INTERSTATE BUSINESS PARK.

PROJECT LOCATION: ST LUCIE COUNTY , SECTION 24 TWP 35S RGE 39E

PERMIT DURATION: See Special Condition No:1. See attached Rule 40E-4.321, Florida Administrative Code.

This Permit is issued pursuant to Application No. 060420-15 , dated April 13, 2006. Permittee agrees to hold and save the South Florida Water Management District and its successors harmless from any and all damages, claims or liabilities which may arise by reason of the construction, operation, maintenance or use of activities authorized by this Permit. This Permit is issued under the provisions of Chapter 373 , Part IV Florida Statutes (F.S.), and the Operating Agreement Concerning Regulation Under Part IV, Chapter 373 F.S., between South Florida Water Management District and the Department of Environmental Protection. Issuance of this Permit constitutes certification of compliance with state water quality standards where necessary pursuant to Section 401, Public Law 92-500, 33 USC Section 1341 , unless this Permit is issued pursuant to the net improvement provisions of Subsections 373.414(1)(b), F.S., or as otherwise stated herein.

This Permit may be transferred pursuant to the appropriate provisions of Chapter 373, F.S, and Sections 40E-1.6107(1) and (2), and 40E-4.351(1), (2), and (4), Florida Administrative Code (F.A.C.). This Permit may be revoked, suspended, or modified at any time pursuant to the appropriate provisions of Chapter 373, F.S. and Sections 40E-4.351(1), (2), and (4), F.A.C.

This Permit shall be subject to the General Conditions set forth in Rule 40E-4.381, F.A.C., unless waived or modified by the Governing Board. The Application, and the Environmental Resource Permit Staff Review Summary of the Application, including all conditions, and all plans and specifications incorporated by reference, are a part of this Permit. All activities authorized by this Permit shall be implemented as set forth in the plans, specifications, and performance criteria as set forth and incorporated in the Environmental Resource Permit Staff Review Summary. Within 30 days after completion of construction of the permitted activity, the Permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual, pursuant to the appropriate provisions of Chapter 373, F.S. and Sections 40E-4.361 and 40E-4.381, F.A.C.

In the event the property is sold or otherwise conveyed, the Permittee will remain liable for compliance with this Permit until transfer is approved by the District pursuant to Rule 40E-1.6107, F.A.C.

SPECIAL AND GENERAL CONDITIONS ARE AS FOLLOWS:

SEE PAGES 2 - 3 OF 6 (16 SPECIAL CONDITIONS).
SEE PAGES 4 - 6 OF 6 (19 GENERAL CONDITIONS).

SOUTH FLORIDA WATER MANAGEMENT
DISTRICT, BY ITS GOVERNING BOARD

On ORIGINAL SIGNED BY:

By ELIZABETH VEGUILLA
DEPUTY CLERK

SPECIAL CONDITIONS

1. The conceptual phase of this permit shall expire on April 12, 2009.
   The construction phase of this permit shall expire on April 12, 2012.

2. Operation of the surface water management system shall be the responsibility of the permittee.

3. Discharge Facilities:

   1-9" W X 12" H SHARP CRESTED weir with crest at elev. 16' NGVD 29.
   1-4" dia. CIRCULAR ORIFICE with invert at elev. 13' NGVD 29.

   Receiving body : NSLRWCD Canal No. 40
   Control elev : 13 feet NGVD 29.

4. The permittee shall be responsible for the correction of any erosion, shoaling or water quality problems that result from the construction or operation of the surface water management system.

5. Measures shall be taken during construction to insure that sedimentation and/or turbidity violations do not occur in the receiving water.

6. The District reserves the right to require that additional water quality treatment methods be incorporated into the drainage system if such measures are shown to be necessary.

   Lake side slopes shall be no steeper than 4:1 (horizontal:vertical) to a depth of two feet below the control elevation. ... slopes shall be nurtured or planted from 2 feet below to 1 foot above control elevation to insure vegetative growth, unless shown on the plans.

8. Facilities other than those stated herein shall not be constructed ...thout an approved modification of this permit.

9. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.

10. The permittee shall provide routine maintenance of all of the components of the surface water management system in order to remove all trapped sediments/debris. All materials shall be properly disposed of as required by law. Failure to properly maintain the system may result in adverse flooding conditions.

11. This permit is issued based on the applicant's submitted information which reasonably demonstrates that adverse water resource related impacts will not be caused by the completed permit activity. Should any adverse impacts caused by the completed surface water management system occur, the District will require the permittee to provide appropriate mitigation to the District or other impacted party. The District will require the permittee to modify the surface water management system, if necessary, to eliminate the cause of the adverse impacts.

12. Minimum building floor elevation: BASIN: Site - 19.00 feet NGVD 29.

13. Minimum road crown elevation: Basin: Site - 17.00 feet NGVD 29.

14. All commercial/industrial parcels shall provide a minimum dry pre-treatment volume of 1/2 inch of runoff prior to discharge into the master surface water management system.

15. The work within the Kings Highway right of way is being authorised as a modification of SFWMD permit No 56-01432-P (app. No. 070305-2). No work shall occur within the Kings Highway right-of-way other than the construction of the outfall culvert until the FDOT permit, and an easment for the proposed improvements located on the adjacent property are provided to the District.

16. The permittee (SIX KINGS, L.L.C) has stated they will retain ownership of the property including all parcels/phases and will be responsible for operation and maintenance of all components of the water management system as the sole

owner. Prior to the sale of any portion of the property the permit must be modified to include all appropriate easements and an operating entity approved by the District in accordance within Section 9.0 (Operating Entity Requirements) of the Basis of Review.

GENERAL CONDITIONS

1. All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373. F.S.

2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

3. Activities approved by this permit shall be conducted in a manner which does not cause violations of State water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of State water quality standards. Temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual; A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), incorporated by reference in Rule 40E-4.091, F.A.C. unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.

4. The permittee shall notify the District of the anticipated construction start date within 30 days of the date that this permit is issued. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the District an Environmental Resource Permit Construction Commencement Notice Form Number 0960 indicating the actual start date and the expected construction completion date.

5. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the District on an annual basis utilizing an annual status report form. Status report forms shall be submitted the following June of each year.

6. Within 30 days after completion of construction of the permitted activity, the permitee shall submit a written statement of completion and certification by a professional engineer or other individual authorized by law, utilizing the supplied Environmental Resource/Surface Water Management Permit Construction Completion/Certification Form Number 0881A, or Environmental Resource/Surface Water Management Permit Construction Completion Certification - For Projects Permitted prior to October 3, 1995 Form No. 0881B, incorporated by reference in Rule 40E-1.659, F.A.C. The statement of completion and certification shall be based on onsite observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the District that the system is ready for inspection. Additionally, if deviation from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawings. All surveyed dimensions and elevations shall be certified by a registered surveyor.

7. The operation phase of this permit shall not become effective: until the permittee has complied with the requirements of condition (6) above, and submitted a request for conversion of Environmental Resource Permit from Construction Phase to Operation Phase, Form No. 0920; the District determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the District in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall initiate transfer of the permit to the approved

responsible operating entity if different from the permittee. Until the permit is transferred pursuant to Section 40E-1.6107, F.A.C., the permittee shall be liable for compliance with the terms of the permit.

8. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity.

9. For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and submitted to the District along with any other final operation and maintenance documents required by Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit applications within the South Florida Water Management District, prior to lot or units sales or prior to the completion of the system, whichever comes first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State, county or municipal entities. Final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.

10. Should any other regulatory agency require changes to the permitted system, the permittee shall notify the District in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.

11. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C..

12. The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the State, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.

13. The permittee must obtain a Water Use permit prior to construction dewatering, unless the work qualifies for a general permit pursuant to Subsection 40E-20.302(3), F.A.C., also known as the "No Notice" Rule.

14. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding, unless a specific condition of this permit or a formal determination under Section 373.421(2), F.S., provides otherwise.

16. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of Rules 40E-1.6105 and 40E-1.6107, F.A.C.. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.

17. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

18. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate District service center.

19. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

Last Date For Agency Action: 12-APR-2007

INDIVIDUAL ENVIRONMENTAL RESOURCE PERMIT STAFF REPORT

Project Name: Interstate Business Park (Aka Kings Landing)

Permit No.: 56-02636-P

Application No.: 060420-15 **Associated File:** 060420-12 WU

Application Type: Environmental Resource (Conceptual Approval And New Construction/Operation)

Location: St Lucie County, S24/T35S/R39E

Permittee : Six Kings, L.L.C.

Operating Entity : Six Kings, L.L.C.

Project Area: 23.74 acres

Project Land Use: Commercial
Industrial

Drainage Basin: NORTH ST LUCIE

Receiving Body: NSLRWCD Canal

DRAFT
Subject to Governing
Board Approval

Class: CLASS III

Special Drainage District: North St Lucie River Water Control District

Conservation Easement To District : No

Sovereign Submerged Lands: No

PROJECT PURPOSE:

This application is a request for an Environmental Resource Permit for conceptual approval with construction and operation authorization for Phase 1 of a surface water management system to serve a 23.74 acre commercial project known as Interstate Business Park (fka Kings Landing). Staff recommends approval with conditions.

PROJECT EVALUATION:

PROJECT SITE DESCRIPTION:

The site is located on the east side of Kings Highway approximately 1 mile [illegible] of Okeechobee Road (SR 70). Please see the enclosed location map EXHIBIT 1.00.

There are no permitted surface water management facilities within the project area. The historical use of the property has been agricultural.

There are no wetlands or other surface waters located within the proposed project limits.

PROPOSED PROJECT:

The proposed project is a commercial business park consisting of five (5) parcels with: an access road connecting Kings Highway to Peters Road, a surface water management system, and supporting infrastructure. The Phase 1 construction includes only the internal access road and connection to Peters Road, on site grading, and construction of the master surface water management system and out fall culvert. The proposed improvements within the Kings Highway right-of-way are being reviewed under application no. 070305-2.

LAND USE:

The following tables represent the land use and grading assumptions for the conceptual design and Phase 1 construction authorization. Please see Exhibit 3.00 for the proposed land use assumptions for each lot/phase.

Conceptual:

		Area (ac)	Starting Elev. (ft)	Ending Elev. (ft)
Site	Building Coverage	5.57	19	
	Pervious	5.55	17	18.5
	Pavement	10.92	17	19
	Lake	1.7	13	
	Total:	**23.74**		

Construction:
Project:

	This Phase	Total Project	
Building Coverage	.00	5.57	acres
Lake	1.70	1.70	acres
Pavement	1.95	10.92	acres
Pervious	20.09	5.55	acres
Total:	**23.74**	**23.74**	

WATER QUANTITY :

Discharge Rate :

The project is located within the North St. Lucie River Water Control District (NSLRWCD). Discharges from projects within the NSLRWCD system are limited to a maximum of 2 inches per day within any 24 hour period associated with the 10 year 3 day storm event. The proposed project peak discharge rate shown in the table below is consistent with NSLRWCD criteria.

Discharge Storm Frequency : 10 YEAR-3 DAY Design Rainfall : 7.88 inches

Basin	Allow Disch (cfs)	Method Of Determination	Peak Disch (cfs)	Peak Stage (ft, NGVD 29)
Site	2.14	Discharge Formula	2.14	17.14

Finished Floors :

Building Storm Frequency : 100 YEAR-3 DAY Design Rainfall : 10.9 inches

Basin	Peak Stage (ft, NGVD 29)	Proposed Min. Finished Floors (ft, NGVD 29)	FEMA Elevation (ft, NGVD 29)
Site	18.08	19	N/A

Road Design :

Road Storm Frequency : 5 YEAR-1 DAY Design Rainfall: 4.6 inches

Basin	Peak Stage (ft, NGVD 29)	Proposed Min. Road Crown (ft, NGVD 29)
Site	15.17	17

Control Elevation :

Basin	Area (Acres)	Ctrl Elev (ft, NGVD 29)	WSWT Ctrl Elev (ft, NGVD 29)	Method Of Determination
Site	23.74	13	13.00	Wet Season Soil Borings

Receiving Body :

Basin	Str.#	Receiving Body
Site	CB-18	NSLRWCD Canal 40

Water Quality Structures: Note: The units for all the elevation values of structures are (ft, NGVD 29)

Bleeders: Basin	Str#	Count	Type	Width	Height	Length	Dia.	Invert Angle	Invert Elev.
Site	CB-18	1	Circular Orifice				4"		13

Weirs: Basin	Str#	Count	Type	Width	Height	Length	Dia.	Elev.
Site	CB-18	1	Sharp Crested	9"	12"			16 (crest)

WATER QUALITY :

Water quality treatment equal to 2.5 inches times the percentage of imperviousness (less 0.5 inch that will be provided in each lot as dry treatment) will be provided in the wet detention pond as shown below. One half inch of dry pretreatment will be required within each parcel/phase prior to overflowing into the master surface water management system. No adverse water quality impacts are anticipated as a result of the proposed project.

Basin	Treatment Method		Vol Req.d (ac-ft)	Vol Prov'd
Site	Treatment	Wet Detention	2.13	2.13

CERTIFICATION AND MAINTENANCE OF THE WATER MANAGEMENT SYSTEM:

It is suggested that the permittee retain the services of a Professional Engineer registered in the State of Florida for periodic observation of construction of the surface water management (SWM) system. This will facilitate the completion of construction completion certification Form #0881 which is required pursuant to Section 10 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, and Rule 40E-4.361(2), Florida Administrative Code (F.A.C.).

Pursuant to Chapter 40E-4 F.A.C., this permit may not be converted from the construction phase to the operation phase until certification of the SWM system is submitted to and accepted by this District. Rule 40E-4.321(7) F.A.C. states that failure to complete construction of the SWM system and obtain operation phase approval from the District within the permit duration shall require a new permit authorization unless a permit extension is granted.

For SWM systems permitted with an operating entity who is different from the permittee, it should be noted that until the permit is transferred to the operating entity pursuant to Rule 40E-1.6107, F.A.C., the permittee is liable for compliance with the terms of this permit.

The permittee is advised that the efficiency of a SWM system will normally decrease over time unless the system is periodically maintained. A significant reduction in flow capacity can usually be attributed to partial blockages of the conveyance system. Once flow capacity is compromised, flooding of the project may result. Maintenance of the SWM system is required to protect the public health, safety and the natural resources of the state. Therefore, the permittee must have periodic inspections of the SWM system performed to ensure performance for flood protection and water quality purposes. If deficiencies are found, it is the responsibility of the permittee to correct these deficiencies in a timely manner.

RELATED CONCERNS:

Water Use Permit Status:

The applicant has indicated that the proposed lake will be used as the water source for irrigation. Water Use application number 060420-12 is being processed concurrently for this project.

The applicant has indicated that dewatering may be required for construction of this project. A dewatering permit will be required prior to the commencement of any dewatering activities.

This permit does not release the permittee from obtaining all necessary Water Use authorization(s) prior to the commencement of activities which will require such authorization, including construction dewatering and irrigation, unless the work qualifies for a No-Notice Short-Term Dewatering permit pursuant to Chapter 40E-20.302(3) or is exempt pursuant to Section 40E-2.051, FAC.

CERP:

The propose[illegible] project is not located within or adjacent to a Comprehensive Everglades Restoration Project component.

Potable Water Supplier:

Fort Pierce Utility Authority

Waste Water System/Supplier:

Fort Pierce Utility Authority

Right-Of-Way Permit Status:

A Right-of-Way Permit is not required for this project.

DRI Status:

This project is not a DRI.

Historical/Archeological Resources:

No information has been received that indicates the presence of archaeological or historical resources or that the proposed activities could cause adverse impacts to archaeological or historical resources.

DCA/CZM Co[illegible]A.ency Review:

The District has not received a finding of inconsistency from the Florida Department of Environmental Protection or other commenting agencies regarding the provisions of the federal Coastal Zone Management Plan.

Third Party Interest:

No third party has contacted the District with concerns about this application.

Enforcement:

There has been no enforcement activity associated with this application.

STAFF RECOMMENDATION:

The Staff recommends that the following be issued :

Conceptual approval with authorization for construction and operation of Phase 1 of a surface water management system serving a 23.74 acre commercial project known as Interstate Business Park.

Based on the information provided, District rules have been adhered to.

Staff recommendation is for approval subject to the attached General and Special Conditions.

DRAFT
Subject to Governing Board Approval

STAFF REVIEW:

NATURAL RESOURCE MANAGEMENT DIVISION APPROVAL

ENVIRONMENTAL EVALUATION

Melinda Parrott

SUPERVISOR

Melinda Parrott

DIVISION DIRECTOR :

Anita R. Bain

DATE: 3/22/07

SURFACE WATER MANAGEMENT DIVISION APPROVAL

ENGINEERING EVALUATION

Glen J. Gareau, P.E.

SUPERVISOR

Hugo A. Carter, P.E.

DIVISION DIRECTOR :

Anthony M. Waterhouse, P.E.

DATE: 3/23/07

abandonment or use of any system authorized by the permit.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding, unless a specific condition of this permit or a formal determination under Section 373.421(2), F.S., provides otherwise.

16. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of Rules 40E-1.6105 and 40E-1.6107, F.A.C.. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.

17. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

18. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate District service center.

19. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

SPECIAL CONDITIONS

1. The conceptual phase of this permit shall expire on April 12, 2009.
   The construction phase of this permit shall expire on April 12, 2012.
2. Operation of the surface water management system shall be the responsibility of the permittee.
3. Discharge Facilities:

   1-9" W X 12" H SHARP CRESTED weir with crest at elev. 16' NGVD 29.
   1-4" dia. CIRCULAR ORIFICE with invert at elev. 13' NGVD 29.

   Receiving body : NSLRWCD Canal No. 40
   Control elev · 13 feet NGVD 29.
4. The permittee shall be responsible for the correction of any erosion, shoaling or water quality problems that result from the construction or operation of the surface water management system.
5. Measures shall be taken during construction to insure that sedimentation and/or turbidity violations do not occur in the receiving water.
6. The District reserves the right to require that additional water quality treatment methods be incorporated into the drainage system if such measures are shown to be necessary.
7. Lake side slopes shall be no steeper than 4.1 (horizontal:vertical) to a depth of two feet below the control elevation. Side slopes shall be nurtured or planted from 2 feet below to 1 foot above control elevation to insure vegetative growth, unless shown on the plans.
8. Facilities other than those stated herein shall not be constructed without an approved modification of this permit.
9. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.
10. The permittee shall provide routine maintenance of all of the components of the surface water management system in order to remove all trapped sediments/debris. All materials shall be properly disposed of as required by law. Failure to properly maintain the system may result in adverse flooding conditions.
11. This permit is issued based on the applicant's submitted information which reasonably demonstrates that adverse water resource related impacts will not be caused by the completed permit activity. Should any adverse impacts caused by the completed surface water management system occur, the District will require the permittee to provide appropriate mitigation to the District or other impacted party. The District will require the permittee to modify the surface water management system, if necessary, to eliminate the cause of the adverse impacts.
12. Minimum building floor elevation: BASIN: Site - 19.00 feet NGVD 29.
13. Minimum road crown elevation: Basin: Site - 17.00 feet NGVD 29.
14. All commercial/industrial parcels shall provide a minimum dry pre-treatment volume of 1/2 inch of runoff prior to discharge into the master surface water management system.
15. The work within the Kings Highway right of way is being authorised as a modification of SFWMD permit No 56-01432-P (app. No. 070305-2). No work shall occur within the Kings Highway right-of-way other than the construction of the outfall culvert until the FDOT permit, and an easment for the proposed improvements located on the adjacent property are provided to the District.
16. Tne permittee (SIX KINGS, L.L.C) has stated they will retain ownership of the property including all

SPECIAL CONDITIONS

parcels/phases and will be responsible for operation and maintenance of all components of the water management system as the sole owner. Prior to the sale of any portion of the property the permit must be modified to include all appropriate easements and an operating entity approved by the District in accordance within Section 9.0 (Operating Entity Requirements) of the Basis of Review.

40E-4.321 Duration of Permits.

(1) Unless revoked or otherwise modified the duration of an environmental resource permit issued under this chapter or Chapter 40E-40, F.A.C., is as follows:

(a) For a conceptual approval, two years from the date of issuance or the date specified as a condition of the permit, unless within that period an application for an individual or standard general permit is filed for any portion of the project. If an application for an environmental resource permit is filed, then the conceptual approval remains valid until final action is taken on the environmental resource permit application. If the application is granted, then the conceptual approval is valid for an additional two years from the date of issuance of the permit. Conceptual approvals which have no individual or standard general environmental resource permit applications filed for a period of two years shall expire automatically at the end of the two year period.

(b) For a conceptual approval filed concurrently with a development of regional impact (DRI) application for development approval (ADA) and a local government comprehensive plan amendment, the duration of the conceptual approval shall be two years from whichever one of the following occurs at the latest date:

1. The effective date of the local government's comprehensive plan amendment,

2. The effective date of the local government development order,

3. The date on which the District issues the conceptual approval, or 4. The date on which the District issues a final order pertaining to the resolution of any Section 120.57, F.S., administrative proceeding or other legal appeals.

(c) For an individual or standard general environmental resource permit, the construction phase authorizing construction, removal, alteration or abandonment of a sys-tem shall expire five years from the date of issuance or such amount of time as made a condition of the permit.

(d) For an individual or standard general environmental resource permit, the operational phase of the permit is perpetual for operation and maintenance.

(e) For a noticed general permit issued pursuant to Chapter 40E-400, F.A.C., five years from the date the notice of intent to use the permit is provided to the District.

(2)(a) Unless prescribed by special permit condition, permits expire automatically according to the timeframes indicated in this rule. If application for extension is made by electronic mail at the District's e-Permitting website or in writing pursuant to subsection (3), the permit shall remain in full force and effect until:

1. The Governing Board takes action on an application for extension of an individual permit, or

2. Staff takes action on an application for extension of a standard general permit.

(b) Installation of the project outfall structure shall not constitute a vesting of the permit.

(3) The permit extension shall be issued provided that a permittee files a written request with the District showing good cause prior to the expiration of the permit. For the purpose of this rule, good cause shall mean a set of extenuating circumstances outside of the control of the permittee. Requests for extensions, which shall include documentation of the extenuating circumstances and how they have delayed this project, will not be accepted more than 180 days prior to the expiration date.

(4) Substantial modifications to Conceptual Approvals will extend the duration of the Conceptual Approval for two years from the date of issuance of the modification. For the purposes of this section, the term "substantial modification" shall mean a modification which is reasonably expected to lead to substantially different water resource or environ-mental impacts which require a detailed review.

(5) Substantial modifications to individual or standard general environmental resource permits issued pursuant to a permit application extend the duration of the permit for three years from the date of issuance of the modification. Individual or standard general environmental resource permit modifications do not extend the duration of a conceptual approval.

(6) Permit modifications issued pursuant to paragraph 40E-4.331(2)(b), F.A.C.(letter modifications) do not extend the duration of the permit.

(7) Failure to complete construction or alteration of the surface water management system and obtain operation phase approval from the District within the permit duration shall require a new permit authorization in order to continue construction unless a permit extension is granted.

Specific Authority 373.044, 373.113, 668.003, 668.004, 668.50 FS. Law Implemented373.413, 373.416, 373.419, 373.426, 668.003, 668.004, 668.50 FS. History-New 9-3-81,Amended 1-31-82, 12-1-82, Formerly 16K-4.07(4), Amended 7-1-86, 4-20-94, 10-3-95,5-28-00, 10-1-06.

6.0 **Review of Historical Aerial Photographs**

A review of aerial photographs from 1968, 1972, 1980, 1983, 1986, 1991, 1992, 1994, 1997, 2000, and 2003 indicates that the Site had been a citrus grove from before 1968 until the early to mid 1990's. The packing house was constructed in the 1980's. Most of the general area was in citrus. Interstate 95 was in site development in 1980 and completed by 1983.

7.0 **Site History**

According to the St. Lucie County Property Appraisers Office, the property is owned by Stephen L. Craig, Trustee and Christopher H. Cook, Trustee.

The Chain of title is as follows:

DATE	*INSTRUMENT*	*GRANTOR*	*GRANTEE*
July 1, 1951	*QCD*	*Harriet White McCarthy & Alfred L. McCarthy*	*Herbert Pulitzer, Jr.*
February 27, 1980	*WD*	*Herbert Pulitzer, Jr.*	*Edmund M. Radke and Michael B. Kane, III*
May 19, 1986	*WD*	*Edmund M. Radke and Michael B. Kane, III*	*Stephen L. Craig, Trustee under the Trust Agreement dated May 17, 1986 and Christopher H. Cook, Trustee under the Trust Agreement dated May 17, 1986*

There was no indication from the title search that any former land use of the property was environmentally impacting.

A review of the historical cross-reference directories was not conducted because the Site was a grove and later undeveloped.

Site History

1.0 INTRODUCTION

1.1 GENERAL

This report contains the results of a subsurface exploration conducted for the proposed King's Landing Commercial Center located at 2496 S. Kings Highway in Fort Pierce, St. Lucie County, Florida. Please note, this is a preliminary report only, based upon limited exploration to answer specific questions posed by you. This report has not been prepared to meet the needs of design professional, contractors, or any other parties, and the use of this report by them without the guidance of UES may lead to erroneous assumptions, faulty conclusions and other problems. This report has been divided into the following sections:

- SCOPE OF SERVICES - Defines what services were completed
- FINDINGS - Describes what was encountered
- RECOMMENDATIONS - Describes what we encourage you to do
- LIMITATIONS - Describes the restrictions inherent in this report
- SUMMARY - Reviews the material in this report
- APPENDICES - Presents support materials referenced in this report.

1.2 PROJECT DESCRIPTION

The proposed project consists of the planning and development of four office/warehouses, four storage/warehouses, a 1.9 acre lake; and eight, 1 to 1.3 acre lots. The subject site is located on King's Highway, north of Okeechobee Road in Forth Pierce, Florida. A general location map of the project area appears in Appendix A: Site Location Map.

UES received copies of the general project site layout indicating the locations of the proposed site improvements in relation to property boundaries. This plan was used in preparing the subsurface exploration and preliminary geotechnical report.

Specific structural loading information was not available at the time this report was prepared. It is anticipated that each proposed single-story structure will be built with conventional concrete masonry type construction, with pre-fabricated metal bar joists and metal roof decking. It was also anticipated that the structures and pavements would be supported at or near existing grade.

The preliminary recommendations are based upon the above considerations. If any of this information is incorrect or if any changes are anticipated, UES should be informed so that the recommendations could be reviewed.

2.0 SCOPE OF SERVICES

2.1 PURPOSE

The purposes of this preliminary exploration were:

- to explore and evaluate the subsurface conditions at the site with special attention to potential geotechnical considerations that may affect the proposed design, construction, and serviceability of the proposed improvements; and
- to provide preliminary geotechnical engineering recommendations for groundwater control, foundation and pavement design, and site preparation.

This report presents an evaluation of site conditions on the basis of traditional geotechnical procedures for site characterization. The recovered samples were not examined, either visually or analytically, for chemical composition or environmental hazards. UES would be pleased to perform these services, if you desire.

2.2 FIELD EXPLORATION

The subsurface conditions at the site were explored with a total of eighteen (18) soil borings. The borings (designated as B1 through B8) were advanced to the depth of 20 feet while performing the Standard Penetration Test (SPT). The remaining borings (designated as AB1 through AB10) were advanced to depths of approximately 10 feet with the use of continuous flight augers. The approximate locations of the soil borings are presented in Appendix B: Boring Location Plan. Our drilling crew located the borings based upon estimated distances and relationships to obvious landmarks. Consider the indicated locations and depths to be approximate.

The SPTs were performed according to the procedures of ASTM D-1586; however, continuous sampling was used to detect slight variations in the soil profile at shallow depths. The basic procedure for the SPT is as follows: A standard split-barrel sampler is driven into the soil by a 140-pound hammer falling 30 inches. The number of blows required to drive the sampler one foot, after seating six inches, is designated the penetration resistance, or N-value; this value is an index to soil strength and consistency.

The auger borings were advanced to a depth of 10 feet below existing grade, according to the procedures of ASTM D-1452. We performed the auger borings by advancing a solid stem auger into the soil to the required depth. We evaluated the soil type by visually examining the cuttings recovered from the auger.

2.3 EXFILTRATION TEST RESULTS

The exfiltration tests were performed by advancing a casing to a depth of 6 feet, cleaning the interior of the casing of soil cuttings and residual material and conducting a constant head test as outlined by the South Florida Water Management District (SFWMD). The collected test data was then used in an empirical relationship to estimate the Hydraulic Conductivity or "K"-value. Test results will be sent under separate cover.

2.4 LABORATORY TESTING

The soil samples recovered from the soil test borings were returned to the laboratory where a member of our geotechnical staff visually examined them and reviewed the field descriptions. These soil samples will be held in our laboratory for your inspection for 60 days and then discarded, unless we are otherwise notified.

Tests were performed to aid in classifying the soils and to help evaluate the general engineering characteristics of the site soils. The tests performed included three #200 wash analyses and one Atterberg Limits determinations. See Appendix B: Boring Logs, Key to Boring Logs, for further data and explanations.

3.0 FINDINGS

3.1 SURFACE CONDITIONS

A Universal Engineering Sciences representative performed a visual site inspection of the subject property to gain a "hands-on" familiarity with the project area. The site was an orchard which has recently been cleared. One house and an apartment garage structure are also present on site.

We examined U.S.G.S. topographic quadrangle maps and the USDA Soil Conservation Service Soil Survey of St. Lucie County for relevant information about the site. A review of the St. Lucie County Soil Survey indicates that the surficial soils found on-site are generally classified as Winder sand, depressional. This poorly drained, nearly level soil is in depressional areas. Typically, the subsurface layer is black sand 1 inch thick. The subsurface is sand 9 inches thick. It is grayish brown in the upper 2 inches and light brownish gray in the lower 7 inches. The subsoil is gray sandy clay loam to a depth of 25 inches. The next layer is sandy loam to a depth to a depth of 67 inches. It is light gray in the upper 7 inches, light olive gray in the next 10 inches, and gray in the lower 19 inches. The underlying material, to a depth of 80 inches or more, is greenish gray sandy clay loam overlying sandy loam. The water table is within a depth of 40 inches for most of the rest of the year. Only for short dry periods in dry seasons is the water table below a depth of 40 inches.

3.2 SUBSURFACE CONDITIONS

The boring locations and detailed subsurface conditions are illustrated in Appendix B: Boring Location Plan and Boring Logs. The classifications and descriptions shown on the logs are generally based upon visual characterizations of the recovered soil samples and a limited number of laboratory tests. Also, see Appendix B: Key to Boring Logs, for further explanation of the symbols and placement of data on the Boring Logs.

Table 1: General Soil Profile, summarizes the soil conditions encountered.

TABLE 1: GENERAL SOIL PROFILE

Typical Depths Below Grade* (feet)	Soil Description
0 - 4	Very loose to loose, light brown to dark gray sand, silty sand, clayey sand, sandy clay [SP, SM, SC, CL]
4 - 13	Very loose to medium dense, light gray to gray silty sand, clayey sand, sandy clay, traces of shell fragments [SM, SC, CL]
13 -20**	Very loose to medium dense, gray sand with shell fragments, sandy clay, silty sand [SP, CL, SM]

* Depth measured in feet below existing grade
** Boring Termination

Groundwater was encountered in the bore holes at depths ranging from 3½ to 6½ feet below the existing land surface at the time of exploration. The fluctuation can most likely be attributed to differences in the overall site topography.

Notable features encountered within the general soil profile during the subsurface exploration were the presence of very loose layers of silty sand, clayey sand, and sandy clay from the ground surface to 5 feet below the existing land surface (bls). The sandy clay, clayey sand layer encountered in boring locations B5, B6, B7, AB1, AB3, and AB4 from approximately 1 to 5 feet in depth may adversely affect the bearing capacity of the soil and cause excessive settlements.

These isolated layers of clayey sand should be delineated during the final geotechnical exploration or before construction with either shallow test pits or a small auger boring exploration program. These services should be performed by a Universal or a licensed geotechnical engineer or their designated representative. After the extent of the unsuitable material is determined, they should be removed and replaced with good quality structural fill as described in the site preparation section of this report.

The very loose soil conditions from 1 to 2½ feet bls in boring locations B1, B2, B5, and B7 must be explored during the final geotechnical subsurface exploration study. The final geotechnical study should be implemented once the building locations are set and must include a settlement analysis for each building using the specific structural loading data for each building. The very loose soil conditions are a geotechnical constraint for the proposed structures.

If any organic soils are encountered during construction activities, including excavation of footings, they should be excavated, removed, and replaced according to the recommendations included in this report, and UES should be contacted to evaluate their affect on the proposed construction.

4.0 RECOMMENDATIONS

4.1 GENERAL

The following preliminary recommendations are made based upon a review of the attached soil test data, understanding of the proposed construction, and experience with similar projects and subsurface conditions. Once structural loadings, building location, and grading plans are finalized, a final geotechnical exploration and engineering report must be prepared for each site improvement and building.

Additionally, if subsurface conditions are encountered during construction which were not encountered in the borings, report those conditions immediately to UES for observation and recommendations. In this section of the report, detailed recommendations are presented for groundwater control, building foundations, pavements, site preparation, and construction related services.

4.2 GROUNDWATER CONTROL

The groundwater table will fluctuate seasonally depending upon local rainfall. The rainy season in South Florida is normally between May and October. Based upon the review of U.S.G.S. data, St. Lucie County Soils Survey, and regional hydrogeology, the best estimate for the seasonal high groundwater table is approximately 1½ to 4½ feet below existing grade. While any established drainage will influence the depth to groundwater, it should be noted that the shallow layers of silty to clayey sands will most likely cause a "perched" or "ponded" groundwater condition after periods of heavy or prolonged rainfall. The existing and estimated seasonal high groundwater table at each location appears in Appendix B. Boring Logs.

It should be noted the estimated seasonal high groundwater levels do not provide any assurance that groundwater levels will not exceed these estimated levels during any given year in the future. If the rainfall intensity and duration, or total rainfall quantities, exceed the normally anticipated rainfall quantities, groundwater levels may exceed the seasonal high estimates. It is recommended that positive drainage be established and maintained on the site during construction. UES further recommends permanent measures be constructed to maintain positive drainage from the site throughout the life of the project.

UES recommends all foundation and pavement designs incorporate the seasonal high groundwater conditions.

4.3 BUILDING FOUNDATIONS

Based on the limited subsurface soil data collected to date, it appears that the proposed single-story buildings may be supported on conventional, shallow spread foundations or a thickened edge monolithic slab sized to exert a maximum allowable net soil bearing pressure of 2,500 pounds per square foot (psf). However, a more comprehensive final geotechnical exploration and engineering analysis must be completed for each structure, utilizing specific structural loading information.

Net bearing pressure is defined as the soil bearing pressure at the foundation bearing level in excess of the natural overburden pressure at that level. The foundations should be designed based on the maximum load which could be imposed by all loading conditions. All shallow foundations should be embedded at least 1.5 feet below lowest adjacent grade (finished surrounding grade, for example).

Further, maintain minimum foundation widths of 16 and 24 inches for strip and square footings, respectively, even though the maximum allowable soil bearing pressure may not be developed in all cases. We estimate the foundations will have a minimum factor of safety of two against bearing capacity failure.

Post-construction settlements of the structure will be influenced by several interrelated factors, including: (1) subsurface stratification and strength/compressibility characteristics; (2) footing size, bearing level, applied loads, and resulting bearing pressures beneath the foundations; and (3) site preparation and earthwork construction techniques used by the contractor. Our settlement estimates for the structure are based on the use of site preparation/earthwork construction techniques as recommended above and in Section 4.5 of this report. Any deviation from these recommendations could result in an increase in the estimated post-construction settlements of the structure.

Assuming all soils are properly prepared and using the recommended maximum bearing pressure, maximum structural loads and the field data (which were correlated to geotechnical strength and compressibility characteristics of the subsurface soils), it is estimated that total post construction settlements of the structure will be 1 inch or less.

Differential settlements result from differences in applied bearing pressures and variations in the compressibility characteristics of the subsurface soils. If the recommended site preparation and earthwork construction techniques outlined above and in Section 4.5 are followed, differential settlements of ½ inch or less should be anticipated.

4.4 PAVEMENTS

4.4.1 GENERAL

UES recommends using a flexible pavement section on this project in areas where light autos, pickup trucks and smaller delivery vehicles will travel. Flexible pavements combine the strength and durability of several layer components to produce an appropriate and cost-effective combination of available materials. In the dumpster pad areas and for any tractor trailer delivery, access and pit areas, we recommend using rigid concrete pavement made with Type 1, Portland Cement.

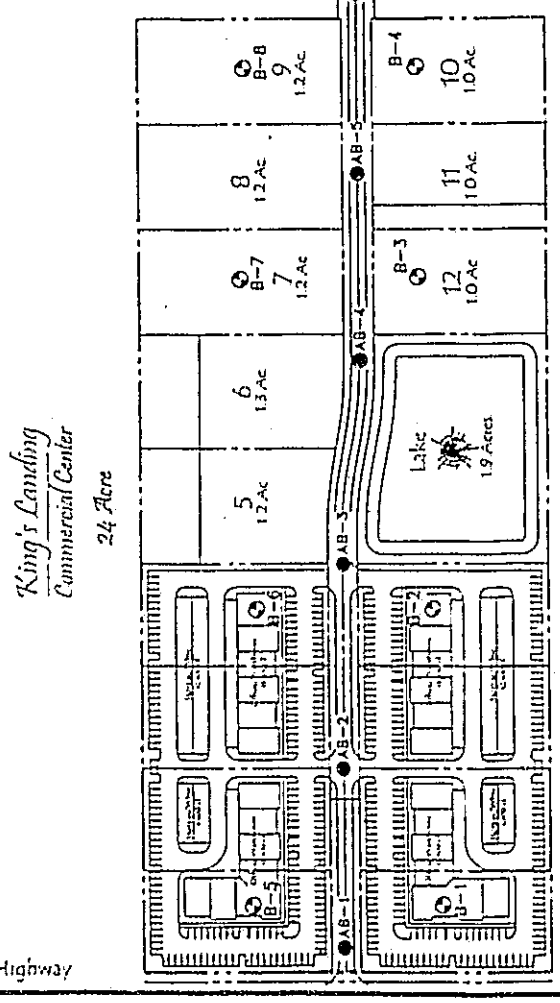
4.4.2 RIGID PAVEMENTS

UES recommends using rigid (concrete) pavement for durability, strength and longer life in the heavy-duty traffic areas and for the dumpster pads. Concrete pavement is a rigid pavement resulting in much lighter load transfer to subgrade soils than flexible (asphalt) pavement. Rigid pavement may be constructed of unreinforced Portland cement concrete providing a minimum 28-day compressive strength of 4,000 psi. In addition, the concrete should provide a minimum 28-day flexural strength (modulus of rupture) of 600 psi, based on the 3rd point loading of concrete beam samples. Portland cement should be Type I. Pavement thickness should be 7 inches.

It is recommended that subgrade materials for concrete pavements be compacted in place according to the requirements in the "Site Preparation" subsection of this report. Pavement sections should be constructed only over stable and smooth subgrades. Rutting of subgrades from concrete trucks and other traffic should be repaired prior to placement of concrete. The subgrade should be thoroughly wetted immediately prior to concrete placement to minimize absorption of moisture from the concrete during curing.

Control joints for crack control should be closely spaced, between 8 to 12 feet apart. Control joints should be provided in a uniform square or rectangular pattern. The joints should be submitted for review and approved prior to construction. Control joints should be sawed as soon as the concrete can withstand traffic, and concrete surface and aggregate raveling can be prevented.

One of the most critical influences on the pavement performance in South Florida is the relationship between the pavement subgrade and the seasonal high groundwater level. It is recommended that the seasonal high groundwater and the bottom of the rigid pavement be separated by at least 18 inches.



UNIVERSAL
ENGINEERING SCIENCES

GEOTECHNICAL EXPLORATION SERVICES
KINGS LANDING
FORT PIERCE, ST. LUCIE COUNTY, FLORIDA

BORING LOCATION MAP

DRAWN BY: A.G.A.	DATE: 3/11/05	CHECKED BY: PR	DATE: 3/11/05
SCALE: 1"=300'	PROJECT NO: 68001-001-02	REPORT NO: 9621	PAGE NO: B-1

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO	55C01-001-02
REPORT NO	9621
PAGE:	B-2

PROJECT: Preliminary Geotechnical Exploration - Kings Landing
2496 S. Kings Highway
Fort Pierce, Florida

CLIENT: Elite General Contractor & Remodeling, Inc.

LOCATION: See Remarks Below

REMARKS

BORING DESIGNATION: B1 SHEET: 1 of
SECTION: TOWNSHIP: RANGE:

G.S. ELEVATION (ft):
WATER TABLE (ft): 4.6
DATE OF READING: 3/24/2005
EST. W.S.W.T. (ft): 2.6

DATE STARTED: 3/24/05
DATE FINISHED: 2/25/05
DRILLED BY: UES (Lake North)
TYPE OF SAMPLING: SPT

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown sand with traces of roots [SP]						
		2-1-1	2	▽		Very loose, light brown sand with traces of silt [SP]						
		1-2-3	5			Loose, grayish brown sand with silt [SP-SM]						
5		5-4-4	8	▼		Loose, gray silty sand with shell fragments [SP]						
		2-3-4	7			Stiff to medium stiff, gray silty clay with sand [CL]						
		3-4-5	9									
10		2-2-3	5			Loose, gray sand trace shell fragments [SP]						
15		6-6-4	10			Medium dense, gray sand [SP]						
20		5-11-13	24			SPT Soil Boring Terminated at 20 Feet in Depth						

BL3

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO	68001-03*-02
REPORT NO	9621
PAGE.	B-3

PROJECT: Preliminary Geotechnical Exploration - Kings Landing
2496 S. Kings Highway
Fort Pierce, Florida

CLIENT: Elite General Contractor & Remodeling, Inc.

LOCATION: See Remarks Below

REMARKS:

BORING DESIGNATION: B2 SHEET: 1 of 1
SECTION: TOWNSHIP: RANGE:

G.S. ELEVATION (ft):
WATER TABLE (ft): 4.1
DATE OF READING: 3/31/2005
EST. W.S.W.T. (ft): 2.1

DATE STARTED: 3/31/05
DATE FINISHED: 3/31/05
DRILLED BY: UES (Lake Worth)
TYPE OF SAMPLING: SPT

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown sand with traces of roots (SP)						
		1-1-2	3	▽		Very loose to loose, gray sand with silt (SP-SM)						
		2-2-3	5	▼								
5		2-3-2	5			Loose, gray sand with silt and traces of shell fragments (SP-SM)						
		4-3-4	7			Loose gray, silty sand (SM)						
		3-3-4	7									
		4-8-8	16			Medium dense, gray sand with silt and traces of cemented sand (SP-SM)						
10												
						Loose, gray sand with traces of shell fragments (SP)						
15		3-3-6	9									
						Medium dense, light gray sand (SP)						
20		6-7-8	15			SPT Soil Boring Terminated at 20 Feet in Depth						

BI 3

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.	58001-001-02
REPORT NO.	9621
PAGE:	B-5

PROJECT: Preliminary Geotechnical Exploration - Kings Landing
2496 S. Kings Highway
Fort Pierce, Florida

CLIENT: Elite General Contractor & Remodeling, Inc.

LOCATION See Remarks Below

REMARKS

BORING DESIGNATION: B4 SHEET: 1 of 1
SECTION: TOWNSHIP: RANGE:

G.S. ELEVATION (ft):
WATER TABLE (ft): 4.9
DATE OF READING: 3/31/2005
EST. W.S.W.T. (ft): 2.9

DATE STARTED: 3/31/05
DATE FINISHED: 3/31/05
DRILLED BY: UES (Lake Worth)
TYPE OF SAMPLING: SPT

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Light brown sand with silt (SP-SM)						
						.....loose						
		2-2-4	6									
						Loose, light brown silty sand (SM)						
		2-3-3	6									
						Loose, gray silty sand with traces of shell fragments (SM)						
5		3-4-3	7									
						Loose, gray clayey sand (SC)						
		2-3-6	9									
		4-4-4	8			.....medium dense with traces of shell fragments						
10		5-5-7	12									
						Medium stiff, dark gray clay with sand (CL)						
15		3-2-3	5									
						Loose, dark gray clayey sand (SC)						
20		2-2-3	5			SPT Soil Boring Terminated at 20 Feet in Depth						

BL3

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO	63001-001-02
REPORT NO	9621
PAGE	B-6

PROJECT: Preliminary Geotechnical Exploration - Kings Landing
2496 S. Kings Highway
Fort Pierce, Florida

CLIENT: Elite General Contractor & Remodeling, Inc.

LOCATION: See Remarks Below

REMARKS:

BORING DESIGNATION: B5 SHEET: 1 of 1
SECTION: TOWNSHIP: RANGE:

G.S. ELEVATION (ft):
WATER TABLE (ft): 3.6
DATE OF READING: 3/31/2005
EST. W.S.W.T. (ft): 1.6

DATE STARTED: 3/31/05
DATE FINISHED: 3/31/05
DRILLED BY: UES (Lake Worth)
TYPE OF SAMPLING: SPT

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown silty sand [SM]						
						.....very loose						
		1-1-1	2									
						Very loose, sandy clay [CL]						
		1-2-2	4									
5		2-1-2	3				58					
						Loose, brown silty sand [SM]						
		3-4-5	9									
		3-4-4	8									
						Loose, gray clayey sand [SC]						
10		3-3-3	6									
						Loose, gray silty sand [SM]						
15		4-3-3	6									
						Loose, gray sand [SP]						
20		4-2-8	10			SPT Soil Boring Terminated at 20 Feet in Depth						

BL3

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO	55001.001.02
REPORT NO.	9621
PAGE:	B-7

PROJECT: Preliminary Geotechnical Exploration - Kings Landing
2496 S. Kings Highway
Fort Pierce, Florida

BORING DESIGNATION: B6 SHEET 1 of 1
SECTION: TOWNSHIP: RANGE

CLIENT: Elite General Contractor & Remodeling, Inc.

LOCATION: See Remarks Below

REMARKS

G.S. ELEVATION (ft):
WATER TABLE (ft): 4.1
DATE OF READING: 3/31/2005
EST. W.S.W.T. (ft): 2.1

DATE STARTED: 3/31/05
DATE FINISHED: 3/31/05
DRILLED BY: UES (Lake Worth)
TYPE OF SAMPLING: SPT

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown to light brown clayey sand [SC]						
						.....loose						
		2-3-2	5	▽		.....very loose						
		3-2-2	4	▼								
5		3-3-2	5									
						Loose, brown silty sand [SM]						
		3-4-3	7									
						Loose, gray clayey sand [SC]						
		3-3-3	6			.....medium dense						
10		4-7-7	14									
						.....traces of shell fragments						
15		5-5-4	9									
						Medium dense, gray sand with shell fragments [SP]						
20		16-13-12	25			SPT Soil Boring Terminated at 20 Feet in Depth						

BT3

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO	63001.001.02
REPORT NO.	5621
PAGE.	B-8

PROJECT: Preliminary Geotechnical Exploration - Kings Landing
2496 S. Kings Highway
Fort Pierce, Florida

CLIENT: Elite General Contractor & Remodeling, Inc.

LOCATION: See Remarks Below

REMARKS:

BORING DESIGNATION: B7 SHEET: 1 of 1
SECTION: TOWNSHIP: RANGE:

G.S. ELEVATION (ft):
WATER TABLE (ft): 4.3
DATE OF READING: 4/1/2005
EST. W.S.W.T. (ft): 2.3

DATE STARTED: 4/1/05
DATE FINISHED: 4/1/05
DRILLED BY: UES (Lake Worth)
TYPE OF SAMPLING: SPT

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown sand (SP)						
						.....very loose						
		1-1-2	3	▽								
						Loose, brown clayey sand (SC)						
		2-2-3	5									
				▼		Very loose, brown silty sand (SM)						
5		1-1-2	3									
						Loose to very loose, gray clayey sand (SC)						
		1-2-3	5									
		3-2-2	4									
						Medium stiff, green clay (CL)						
10		2-3-3	6									
						Loose, gray sand (SP)						
15		3-2-3	5									
						Medium dense, gray sand with shell fragments (SP)						
20		14-12-13	25			SPT Soil Boring Terminated at 20 Feet in Depth						

B13

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO	55001-001-02
REPORT NO.	9621
PAGE.	B-9

PROJECT: Preliminary Geotechnical Exploration - Kings Landing
2496 S. Kings Highway
Fort Pierce, Florida

CLIENT: Elite General Contractor & Remodeling, Inc.

LOCATION: See Remarks Below

REMARKS

BORING DESIGNATION: B8 SHEET: 1 of 1
SECTION: TOWNSHIP: RANGE:

G.S. ELEVATION (ft):
WATER TABLE (ft): 4.6
DATE OF READING: 4/1/2005
EST. W.S.W.T. (ft): 2.6

DATE STARTED: 4/1/05
DATE FINISHED: 4/1/05
DRILLED BY: UES (Lake Worth)
TYPE OF SAMPLING: SPT

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Light brown sand [SP]						
						.....loose						
		2-3-2	5	▽								
						Very loose, brown silty sand [SM]						
		2-2-2	4	▼		.....loose						
5												
		2-3-5	8				22					
						Loose, gray clayey sand [SC]						
		5-4-4	8									
		3-4-5	9			.....medium dense						
10		6-5-7	12									
						Medium dense, gray silty sand [SM]						
15		7-8-6	14									
						Medium dense, gray sand [SP]						
20		2-6-6	12			SPT Soil Boring Terminated at 20 Feet in Depth						

GLB

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO	68001-001-02
REPORT NO	6821
PAGE	5-10

PROJECT: Preliminary Geotechnical Exploration - Kings Landing
2496 S. Kings Highway
Fort Pierce, Florida

CLIENT: Elite General Contractor & Remodeling, Inc.

LOCATION: See Remarks Below

REMARKS:

BORING DESIGNATION: AB1 SHEET 1 of 1
SECTION: TOWNSHIP: RANGE:

G.S. ELEVATION (ft):
WATER TABLE (ft): 3.8
DATE OF READING: 3/24/2005
EST. W.S.W.T. (ft): 1.8

DATE STARTED: 3/24/05
DATE FINISHED: 3/24/05
DRILLED BY: UES (Lake Worth)
TYPE OF SAMPLING: AUGER

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Dark gray clayey sand [SC]						
				▽								
				▼								
5						Gray sand [SP]	13		30	16		
10						Auger Boring Terminated at 10 Feet in Depth						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO	55301-021-02
REPORT NO	9831
PAGE:	B-11

PROJECT: Preliminary Geotechnical Exploration - Kings Landing
2496 S. Kings Highway
Fort Pierce, Florida

CLIENT: Elite General Contractor & Remodeling, Inc.

LOCATION: See Remarks Below

REMARKS:

BORING DESIGNATION: AB2 SHEET: 1 of 1
SECTION: TOWNSHIP: RANGE:

G.S. ELEVATION (ft):
WATER TABLE (ft): 5.1
DATE OF READING: 3/24/2005
EST. W.S.W.T. (ft): 3.1

DATE STARTED: 3/24/05
DATE FINISHED: 3/24/05
DRILLED BY: UES (Lake Worth)
TYPE OF SAMPLING: AUGER

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Dark gray brown silty sand (SM)						
				▽		Light brown slightly silty sand (SP-SM)						
5				▽		Tan silty clayey sand (SM)						
						Gray clay (CL)						
10						Auger Boring Terminated at 10 Feet in Depth						

ALLTERRA
ENGINEERING & TESTING
3600 INVESTMENT LANE • SUITE 104 • WEST PALM BEACH, FLORIDA 33404 • (561) 881-1939

Gino Francavilla
Kings Highway Commerce Park, LLC.
27 Pennock Lane, Suite 205
Jupiter, FL 33458

Subject: Report of Preliminary Subsurface Exploration and Geotechnical Recommendations 40-Acre Site, Kings Highway at White Road, Fort Pierce, Florida

Dear Client;

Allterra Engineering & Testing respectfully submits this report of preliminary subsurface exploration for the subject project site. Allterra's services have been performed to meet certain requirements of chapter 18 of the 2004 edition of the Florida Building Code and local amendments. This report is Allterra's instrument-of-service provided for your sole reliance and use. Third parties may read this report for information purposes only.

Project and Scope

The project is the development of the subject site into 19 commercial building lots ranging from approximately 1.2 to 2.6 acres in size. Allterra has not been provided detailed design load information for the buildings. For purposes of this report, Allterra assumed wall and column loads would not exceed 4000 PLF and 40,000 pounds, respectively. An approximate 4-acre lake is also proposed for the southeast quadrant of the site. Allterra was tasked with performing on-site exfiltration tests and exploratory borings in support of the permitting and design process.

Site Description

The project site is approximately 1630 feet (east-west) by aprxoimately1270 feet (north-south) in plan area. It is bounded on the north by White Road, on the east and south by vacant pasture, and on the west by Kings Highway and Florida Masters Packing, Inc. (approximately 750 feet by 400 feet). At the time of Allerra's field work, the site was an abandoned citrus grove and heavily overgrown with trees and bushes. Ground topography was characterized by alternating row mounds and drainage swales across most of the site.

Summary of Field Work

Allterra mobilized personnel and equipment to the project site on 18 September 2006 to perform exploratory borings and field permeability tests. A Field Test Location Plan is attached to this report for the readers' reference.

Exploratory borings included five 15-foot soil-test borings (designated with the prefix B) and eight 10-foot auger borings (designated with the prefix A). Penetration tests were performed in the soil-test borings by driving a nominal 2-inch diameter steel sampler with blows of a 140-pound hammer free-

falling 30 inches. Auger borings were drilled to ascertain the continuity of subsurface soil strata across the project site. Copies of the boring logs are attached to this report for the reader's reference.

Allterra performed five *open-hole falling-head* field permeability tests (designated with the prefix K) in accordance with technical guidance published by the South Florida Water Management District (*Design of Exfiltration Trenches to Meet SFWMD Regulatory Criteria* dated October 1982, pp 15-16). Copies of the permeability test data are attached to this report for the reader's reference.

Preliminary Findings

With the exception of four borings (A-5, A-7, A-8 and B-5) in the southeast quarter of the site, Allterra encountered generally comparable subsurface conditions at most boring locations. The typical subsurface profile can be described as:

- *Topsoil* sampled as dark gray, medium to fine sand with occasional roots from ground surface to approximately 6 inches below ground surface, underlain by
- *Loose,* dark gray to gray to light brown, medium to fine sand to 3 to 5 feet below ground surface (ft-bgs), underlain by
- *Firm,* gray, medium to fine with occasional marl to 12 to 15 ft-bgs, underlain by
- *Very firm,* gray, marly, medium to fine sand to 15 ft-bgs.

The typical subsurface profile encountered by A-5, A-7, A-8 and B-5 in the southeast quarter of the site can be described as:

- *Topsoil* sampled as dark gray, medium to fine sand with occasional roots from ground surface to approximately 6 inches below ground surface, underlain by
- *Loose,* gray to light brown, medium to fine sand to 7 to 8 feet below ground surface (ft-bgs), underlain by
- *Soft to firm,* gray, medium to fine sandy marl to 9 to 11 ft-bgs, underlain by
- *Firm,* gray medium to fine sand to 15 ft-bgs.

Groundwater was encountered at approximately 5 to 6 ft-bgs at the time of borings. The depth to groundwater may vary at other times due to changes in hydrological conditions. According to the *Soil Survey of the St. Lucie County Area* (issued March 1980 by the USDA Soil Conservation Service), site soil is mapped as Winder Sand (depressional). This soil, under natural conditions, is typically characterized by occasional flooding and seasonal high water table within 10 inches of ground surface for 2 to 4 months of the year.

Hydraulic conductivity calculated from Allterra's field permeability tests are summarized in the following table.

Location	Area	Depth to Groundwater	Hydraulic Conductivity
K-1	Northwest quarter	6 ft-bgs	0.3 x10^{-5} CFS/ft^2-ft
K-2	Northeast quarter	3 ft-bgs	0.1 x10^{-5} CFS/ft^2-ft
K-3	Center	6 ft-bgs	0.5 x10^{-5} CFS/ft^2-ft
K-4	Southwest quarter	5 ft-bgs	0.5 x10^{-5} CFS/ft^2-ft
K-5	Southeast quarter	3½ ft-bgs	0.6 x10^{-5} CFS/ft^2-ft

Notes: ft-bgs *means* feet below ground surface
CFS/ft^2-ft *means* cubic feet per second per square foot of area per foot of head

Preliminary Conclusions

Subsurface soil density appears acceptable for supporting the proposed commercial buildings on a shallow foundation system subject to proper implementation of this report's recommendations. Allterra's borings did not encounter problematic soils such as muck, peat or soft silt.

Subsurface soils encountered in the proposed lake-area borings (A-7 and A-8) are acceptable for structural fill when placed and compacted in accordance with this report's recommendations. De-watering lake excavations may provide a fill material near its optimum moisture content. This would reduce effort necessary to achieve density standards during construction of building pads or roadways. These soils may require stabilization where used for pavement sub-grade.

Preliminary Recommendations

Site Preparation. Allterra recommends:

- Clear and grub all trees, bushes and roots from building areas and properly waste.
- Strip any remaining top soil or organic soil from building areas and properly waste.
- Remove any remaining soft or organic sediment from drainage swales and properly waste.
- Rough grade building areas to cut down row mounds and fill drainage swales.
- Compact the building areas with a heavy (12 to 20 ton), smooth-drum, vibratory roller to densify subsurface soils and prepare the surface. The roller should cover the area with six passes in mutually perpendicular directions.
- Perform field density testing to verify that the near-surface sub-grade achieves 95 percent of the soil's maximum dry density as determined by the Modified Proctor compaction test (ASTM D-1557).

Additional Borings. After the project is cleared and graded, Allterra recommends performing subsurface explorations for individual structures for foundation-design purposes. The number and depth of borings for specific structures will depend upon their geometry and design loads. Upon completion of the additional borings, a geotechnical report may be issued for each structure

Fill. Where fill is needed to achieve a construction-ready grade for structures, Allterra recommends:

- Place and compact fill in a controlled manner at or near optimum moisture content. Cohesionless soils can be placed in 12-inch to 15-inch lifts and compacted to at least 95 percent of the Modified Proctor maximum dry density by multiple passes of a heavy, smooth-drum, vibratory roller. For fill consisting of marly sand or sandy marl, lifts shall not exceed 8-inches (loose measure) and shall be compacted statically.
- Perform field density tests on each lift of fill to verify it achieves at least 95 percent of its Modified Proctor maximum dry density.
- Once the building area has been prepared, the contractor must maintain its condition throughout the construction process.

Slope Stability. Allterra recommends cut or fill slopes be constructed no steeper than 2.5 horizontal to 1 vertical (2.5H:1V) to achieve reasonable stability. For the typical site soils on a 2.5H:1V slope, Allterra estimates a factor-of-safety of approximately 1.5.

Allowable Bearing Pressure. Subject to successful implementation of the Site Preparation and Fill recommendations of this report, Allterra recommends an allowable bearing pressure of 2500 PSF for preliminary design of conventional shallow footings or monolithic slabs-on-grade. Footing surfaces

shall be kept firm, level, and free of standing water, debris, and detritus through the placement of concrete.

Settlement. Subject to this report's recommendations for Site Preparation, Fill, and Allowable Bearing Pressure, Allterra estimates total and differential soil settlements of ¾ and ½ inch, respectively, for footings bearing 18 inches below ground surface under the assumed design loads. The reaction of the new construction to these potential soil settlements may depend upon the structural rigidity of the design. The structural designer should be advised of the settlement estimates in order to assess the ability of the new construction to tolerate them. If the settlements and structural reactions are considered too severe, other types of foundations may have to be considered. The estimated settlements may be reduced to ½ inch total and differential by the addition of 3 feet of well-compacted granular (non-cohesive) fill to building pads.

Pavements. Sub-grade and base-course layers shall be adequately elevated above the wet-season water table. To prepare in-situ soils for pavement sub-grade, Allterra recommends they be compacted to at least 98 percent of the Modified Proctor maximum dry density (AASHTO T-180). Stabilizers (aggregate or sludge, for examples) may be blended with sub-grade soils to improve the design LBR to 40 or FBV to 75. For base course, Allterra recommends clean aggregate (LBR 100) compacted to at least 98 percent of the Modified Proctor maximum dry density. Base course and surface course thicknesses will be determined by the structure designer considering material qualities and project traffic loads. Allterra recommends performing field density tests to validate acceptability of prepared sub-grades and base courses.

Qualification

Allterra has based it recommendations upon certain client-provided information and interpretation of data obtained at discrete points within the limits of exploration. It is possible that conditions may vary between boring locations or beyond the limits of the boring array. Project designs may also change. If additional information about the project or site is discovered that does not appear to conform to the conditions presented in this report, Allterra reserves the right to review the new information and modify its conclusions and/or recommendations where appropriate.

Closing

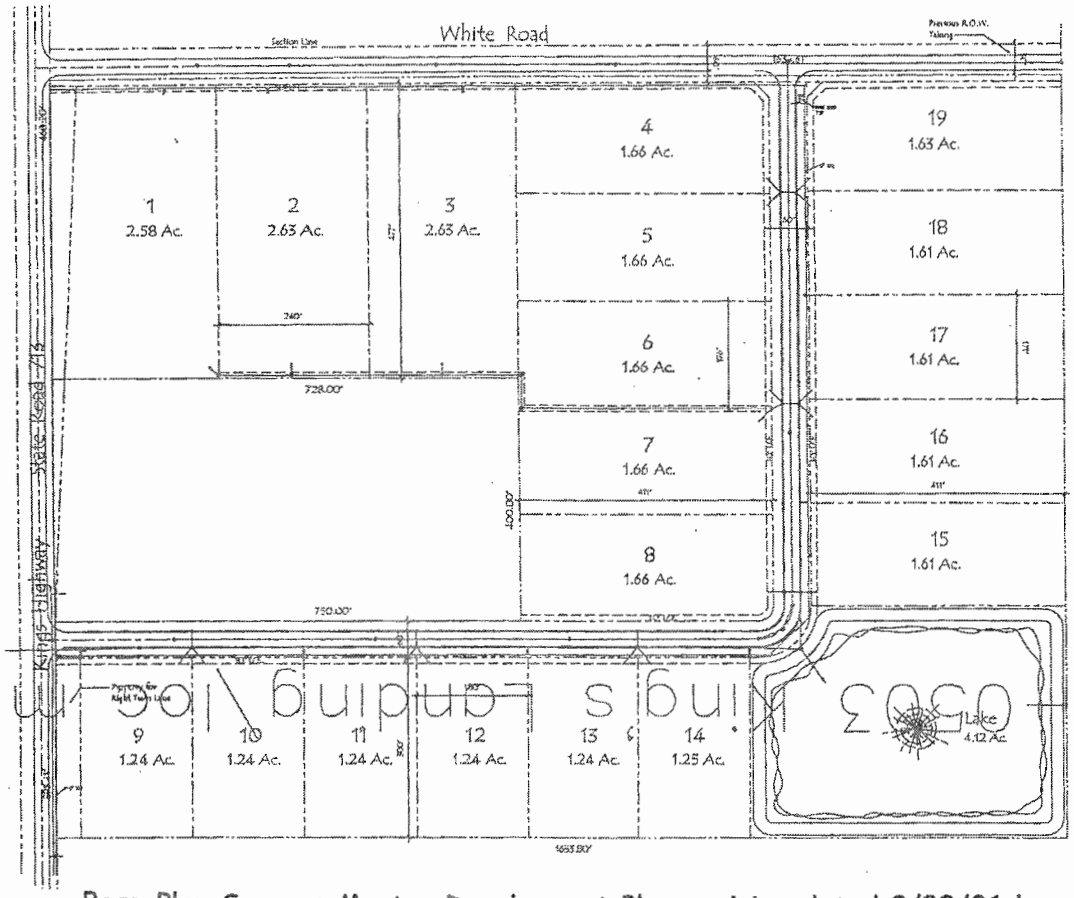
Thank you for engaging Allterra to perform this subsurface exploration. Please call the undersigned if you have questions about this report or need other services.

Yours truly,
Allterra Engineering & Testing

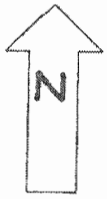
Wendell K. Rodgers, PE
Principal Engineer
FL Lic. No. 55960

Attachments

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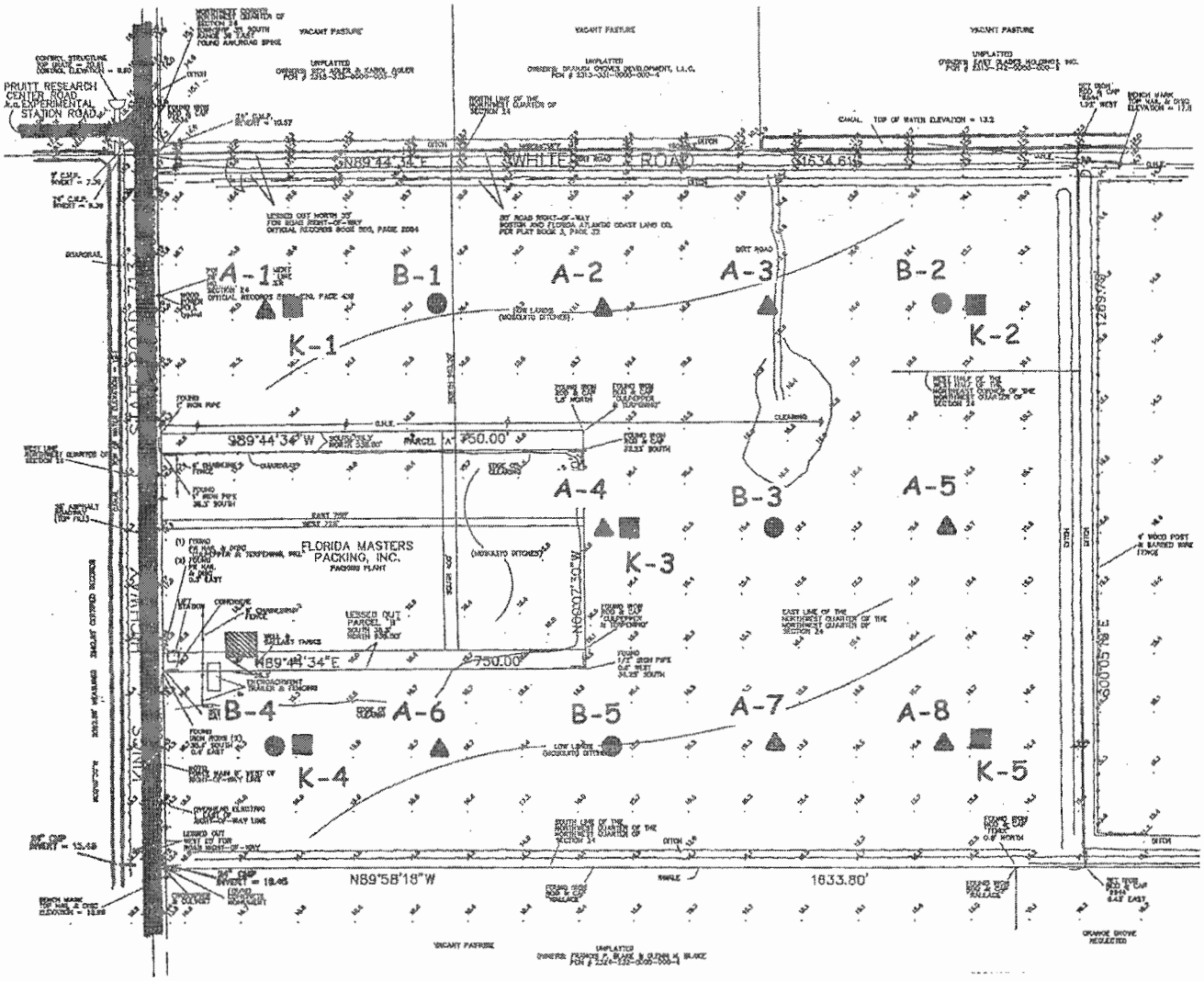


Base Plan Source: Master Development Plan revision dated 3/30/06 by Gentile Holloway O'Mahoney & Associates, Inc.



PROPOSED SITE DEVELOPMENT PLAN

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Base Plan Source: Boundary Survey dated 6/13/05 by Dearlove & Associates

N

Legend

- ● Approximate Location of Soil-Test Boring
- ▲ Approximate Location of Auger Boring
- ■ Approxmate Location of Exfiltration Test

FIELD TEST LOCATION PLAN

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3600 INVESTMENT LANE • SUITE 104 • WEST PALM BEACH, FLORIDA 33404 • (561) 881-1939

PROJECT Preliminary Subsurface Exploration - 40 Acre Site - Ft. Pierce, Florida

LOCATION B - 1 (Approximate) **BORING NO.** 1

7001 WHITE ROAD

DEPTH		DESCRIPTION OF MATERIAL	Sample No	Blows Per Foot	DEPTH
1	0"-6"	Dark Grey Medium Fine Sand, trace of roots (topsoil)		1-1	1
2	6"-1'	Dark Grey Medium Fine Sand		1-2	2
3	1'-2'	Light Brown Medium Fine Sand		2-2	3
4				2-3	4
5	2'-4.5'	Light Brown and Grey Medium Fine Sand (Orange Tint), slight trace of marl		3-5	5
6				4-5	6
7				5-4	7
8				6-7	8
9	4.5'-9'	Grey Medium Fine Sand, some marl		7-9	9
10				9-9	10
11	9'-11'	Grey Medium Fine Sand		4-6	11
12				7-9	12
13				8-11	13
14				10-13	14
15	11'-15'	Grey Medium Fine Sand, some marl		12-14	15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25
26					26
27					27
28					28
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41					41
42					42
43					43
44					44
45					45
46					46
47					47
48					48
49					49
50					50

CLIENT Giardina di Villa Palma, L.C. **JOB NO.** 06-367

DRILLER DG/KS **WATER TABLE** 6' **DATE** 9/18/06

TEST DATA In general accordance with ASTM D-1586

These Soil Boring Tests are Representative of and Apply to the Exact Location and Depth of the Boring.
AUTHORIZATION FOR PUBLICATION OF STATEMENTS, CONCLUSIONS OR EXTRACTS FROM OR REGARDING OUR REPORTS IS RESERVED PENDING OUR WRITTEN APPROVAL.

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PROJECT Preliminary Subsurface Exploration - 40 Acre Site - Ft. Pierce, Florida

LOCATION B - 2 (Approximate) **BORING NO.** 2

7001 WHITE ROAD

DEPTH		DESCRIPTION OF MATERIAL	Sample No	Blows Per Foot	DEPTH
1	0"-6"	Dark Grey Medium Fine Sand, trace of roots (topsoil)		1-1	1
2	6"-2'	Brown Medium Fine Sand		1-3	2
3	2'-3.5'	Grey and Light Brown Medium Fine Sand (Orange Tint), trace of marl		4-4	3
4				5-4	4
5				4-5	5
6				3-4	6
7				4-6	7
8				7-6	8
9	3.5'-9'	Light Grey Medium Fine Sand		6-6	9
10				7-5	10
11				3-6	11
12				9-11	12
13				10-11	13
14				12-14	14
15				13-15	15
16	9'-15'	Grey Medium Fine Sand, some marl			16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25
26					26
27					27
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33					33
34					34
35					35
36					36
37					37
38					38
39					39
40					40
41					41
42					42
43					43
44					44
45					45
46					46
47					47
48					48
49					49
50					50

CLIENT Giardina di Villa Palma, L.C. **JOB NO.** 06-367

DRILLER DG/KS **WATER TABLE** 3' **DATE** 9/18/06

TEST DATA In general accordance with ASTM D-1586

These Soil Boring Tests are Representative of and Apply to the Exact Location and Depth of the Boring.
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PROJECT Preliminary Subsurface Exploration - 40 Acre Site - Ft. Pierce, Florida

LOCATION B - 3 (Approximate) **BORING NO.** 3

7001 WHITE ROAD

DEPTH		DESCRIPTION OF MATERIAL	Sample No	Blows Per Foot	DEPTH
1	0'-1'	Dark Grey Medium Fine Sand, some roots (topsoil)		1-1	1
2	1'-2'	Brown Medium Fine Sand, slight trace of marl		2-3	2
3				4-4	3
4	2'-4'	Light Brown Medium Fine Sand		5-7	4
5				6-6	5
6				2-3	6
7	4'-6'	Grey Medium Fine Sand, trace of marl and shell		4-7	7
8				6-9	8
9				9-6	9
10				6-7	10
12				3-7	12
13	6'-14'	Grey Medium Fine Sand		7-8	13
14	14'-15'	Grey Medium Fine Sand, trace of marl		9-12	14
15				13-11	15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25
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42					42
43					43
44					44
45					45
46					46
47					47
48					48
49					49
50					50

CLIENT Giardina di Villa Palma, L.C. JOB NO. 06-367

DRILLER DG/KS WATER TABLE 6' DATE 9/18/06

TEST DATA In general accordance with ASTM D-1586

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AUTHORIZATION FOR PUBLICATION OF STATEMENTS, CONCLUSIONS OR EXTRACTS FROM

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PROJECT Preliminary Subsurface Exploration - 40 Acre Site - Ft. Pierce, Florida

LOCATION B - 4 (Approximate) **BORING NO.** 4

7001 WHITE ROAD

DEPTH		DESCRIPTION OF MATERIAL	Sample No	Blows Per Foot	DEPTH
1	0'-1'	Dark Grey Medium Fine Sand, slight trace of roots (topsoil)		1-1	1
2	1'-2.5'	Light Brown Medium Fine Sand		1-1	2
3	2.5'-3.5'	Brown Medium Fine Sand (Orange Tint), trace of marl		3-4	3
4				4-6	4
5	3.5'-5'	Brown Medium Fine Sand (Orange Tint)		7-7	5
6				2-2	6
7				3-5	7
8				7-6	8
9	5'-9'	Grey Medium Fine Sand		8-9	9
10				10-12	10
11	9'-11'	Brown Medium Fine Sand		4-6	11
12				7-7	12
13	11'-14'	Brown Medium Fine Sand, some marl		6-9	13
14	14'-15'	Brown Medium Fine Sand		9-6	14
15				6-6	15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25
26					26
27					27
28					28
29					29
30					30
31					31
32					32
33					33
34					34
35					35
36					36
37					37
38					38
39					39
40					40
41					41
42					42
43					43
44					44
45					45
46					46
47					47
48					48
49					49
50					50

CLIENT Giardina di Villa Palma, L.C. **JOB NO.** 06-367

DRILLER DG/KS **WATER TABLE** 5' **DATE** 9/18/06

TEST DATA In general accordance with ASTM D-1586

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OR REGARDING OUR REPORTS IS RESERVED PENDING OUR WRITTEN APPROVAL.

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PROJECT Preliminary Subsurface Exploration - 40 Acre Site - Ft. Pierce, Florida

LOCATION B - 5 (Approximate) **BORING NO.** 5

7001 WHITE ROAD

DEPTH		DESCRIPTION OF MATERIAL	Sample No	Blows Per Foot	DEPTH
1	0'-1'	Dark Grey Medium Fine Sand, some roots (topsoil)		1-1	1
2				1-2	2
3	1'-3'	Light Brown Medium Fine Sand		2-2	3
4	3'-4'	Brown Medium Fine Sand (Orange Tint)		2-3	4
5				3-3	5
6	4'-6'	Grey Medium Fine Sand, trace of marl, slight trace of shell		2-2	6
7				3-6	7
8	6'-8'	Grey Medium Fine Sand		0-2	8
9				2-4	9
10	8'-11'	Grey Medium Fine Sand (Cohesive), some marl		2-1	10
11				0-1	11
12				2-2	12
13	11'-15'	Grey Medium Fine Sand		3-6	13
14				7-5	14
15				5-9	15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25
26					26
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32					32
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36					36
37					37
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40					40
41					41
42					42
43					43
44					44
45					45
46					46
47					47
48					48
49					49
50					50

CLIENT Giardina di Villa Palma, L.C. JOB NO. 06-367

DRILLER DG/KS WATER TABLE 5' DATE 9/18/06

TEST DATA In general accordance with ASTM D-1586

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REPORT OF AUGERS

PROJECT Preliminary Subsurface Exploration - 40 Acre Site - Ft. Pierce, Florida
CLIENT Giardina di Villa Palma, L.C.
SAMPLED BY DG/KS DATE 9/18/06 JOB NO. 06-367

LOCATION	DEPTH	DESCRIPTION	*WATER TABLE
7001 WHITE ROAD			
A - 1	0"-6"	Dark Grey Medium Fine Sand, some roots (topsoil)	
	6"-1.5'	Light Brown Medium Fine Sand	
	1.5'-3'	Brown Medium Fine Sand, trace of marl	
	3'-5'	Tan Medium Fine Sand	
	5'-10'	Grey Medium Fine Sand (Brown Tint), some marl	6'
A - 2	0"-6"	Dark Grey Medium Fine Sand, trace of roots (topsoil)	
	6"-1.5'	Brown Medium Fine Sand	
	1.5'-2'	Light Brown Medium Fine Sand	
	2'-3'	Light Brown Medium Fine Sand (Orange Tint), slight trace of marl	
	3'-4.5'	Grey Medium Fine Sand, trace of marl, slight trace of shell	
	4.5'-9'	Light Grey Medium Fine Sand	
	9'-10'	Brown Medium Fine Sand	6'
A - 3	0"-6"	Dark Grey Medium Fine Sand, trace of roots (topsoil)	
	6"-2'	Light Brown Medium Fine Sand, slight trace of marl	
	2'-3.5'	Brown Medium Fine Sand (Orange Tint)	
	3.5'-6'	Grey Medium Fine Sand, some marl	
	6'-8'	Light Grey Medium Fine Sand	
	8'-10'	Grey Medium Fine Sand, trace of marl	5'

(ALL LOCATIONS APPROXIMATE)

* Immediate Water Table

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REPORT OF AUGERS

PROJECT Preliminary Subsurface Exploration - 40 Acre Site - Ft. Pierce, Florida
CLIENT Giardina di Villa Palma, L.C.
SAMPLED BY DG/KS **DATE** 9/18/06 **JOB NO.** 06-367

LOCATION	DEPTH	DESCRIPTION	*WATER TABLE
7001 WHITE ROAD			
A - 4	0'-1'	Brown Medium Fine Sand, trace of roots (topsoil)	
	1'-3'	Light Brown Medium Fine Sand, trace of marl	
	3'-4'	Brown Medium Fine Sand (Orange Tint)	
	4'-6'	Grey Medium Fine Sand, trace of marl	
	6'-9'	Grey Medium Fine Sand	
	9'-10'	Light Grey Medium Fine Sand	5'
A - 5	0'-1'	Brown Medium Fine Sand	
	1'-2.5'	Light Brown Medium Fine Sand	
	2.5'-3.5'	Brown Medium Fine Sand, trace of marl	
	3.5'-6'	Grey Medium Fine Sand, trace of marl, slight trace of shell	
	6'-7'	Grey Medium Fine Sand	
	7'-10'	Grey Medium Fine Sand (Cohesive), some marl, slight trace of shell	3.5'
A - 6	0"-6"	Dark Grey Medium Fine Sand, trace of roots (topsoil)	
	6"-1'	Dark Grey Medium Fine Sand	
	1'-2.5'	Light Brown Medium Fine Sand, slight trace of marl	
	2.5'-3.5'	Brown Medium Fine Sand (Orange Tint)	
	3.5'-5'	Grey Medium Fine Sand, slight trace of marl and shell	
	5'-8'	Grey Medium Fine Sand	
	8'-10'	Grey Medium Fine Sand, trace of marl	5'

(ALL LOCATIONS APPROXIMATE)

* Immediate Water Table

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REPORT OF AUGERS

PROJECT Preliminary Subsurface Exploration - 40 Acre Site - Ft. Pierce, Florida
CLIENT Giardina di Villa Palma, L.C.
SAMPLED BY DG/KS DATE 9/18/06 JOB NO. 06-367

LOCATION	DEPTH	DESCRIPTION	*WATER TABLE
7001 WHITE ROAD			
A - 7	0"-6"	Dark Grey Medium Fine Sand, some roots (topsoil)	
	6"-1'	Dark Grey Medium Fine Sand	
	1'-3.5'	Light Brown Medium Fine Sand	
	3.5'-5'	Light Brown Medium Fine Sand, trace of marl	
	5'-7'	Grey Medium Fine Sand	
	7'-9'	Grey Medium Fine Sand (Cohesive), some marl, slight trace of shell	
	9'-10'	Grey Medium Fine Sand	2.5'
A - 8	0"-6"	Dark Grey Medium Fine Sand, some roots (topsoil)	
	6"-1'	Dark Grey Medium Fine Sand	
	1'-3.5'	Light Brown Medium Fine Sand	
	3.5'-5'	Light Brown Medium Fine Sand, trace of marl	
	5'-7'	Grey Medium Fine Sand	
	7'-9'	Grey Medium Fine Sand (Cohesive), some marl, slight trace of shell	
	9'-10'	Grey Medium Fine Sand	5'

(ALL LOCATIONS APPROXIMATE)

* Immediate Water Table

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FIELD PERMEABILITY TEST DATA

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REPORT OF FALLING-HEAD OPEN-HOLE TEST **JOB NO.** 06-367

PROJECT Preliminary Subsurface Exploration - 40 Acre Site - 7001 WHITE ROAD - Ft. Pierce, Florida
CLIENT Giardina di Villa Palma, L.C.
NUMBER OF SAMPLES 1 **SOURCE** In Place Material
TESTED BY DG/KS **DATE** 9/18/06 **REPORTED TO** Client
INTENDED USE Hydraulic Conductivity
SPECIFICATIONS GOVERNING South Florida Water Management District

LOCATION	DEPTH	DESCRIPTION
K - 1 (Approximate)	0"-6"	Dark Grey Medium Fine Sand, some roots (topsoil)
	6"-2'	Brown Medium Fine Sand
	2'-4'	Brown Medium Fine Sand, trace of marl
	4'-6'	Grey Medium Fine Sand, some marl

WATER TABLE

6' *(Estimated for Calculation Purposes)*

DEPTH OF HOLE

6'

DIAMETER x LENGTH OF CASING

6" X 5'

HYDRAULIC CONDUCTIVITY

$K = 0.3 \times 10^{-5}$ CFS/FT.^{2} - FT. HEAD

TIME INTERVAL (in seconds)	DROP (in inches)
15	1 1/2"
30	2"
45	2 1/4"
1'00	2 1/2"
1'15	2 3/4"
1'30	2 3/4"
1'45	2 3/4"
2'00	2 3/4"
2'15	2 3/4"
2'30	2 3/4"
2'45	2 3/4"
3'00	2 3/4"
3'15	2 3/4"
3'30	2 3/4"
3'45	2 3/4"
4'00	3"
4'15	3"
4'30	3"
4'45	3"
5'00	3"

Sincerely,
ALLTERRA ENGINEERING & TESTING

WENDELL K. RODGERS, P.E.
President

WKR/bm

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Authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

ALLTERRA
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REPORT OF FALLING-HEAD OPEN-HOLE TEST JOB NO. 06-367

PROJECT Preliminary Subsurface Exploration - 40 Acre Site - 7001 WHITE ROAD - Ft. Pierce, Florida
CLIENT Giardina di Villa Palma, L.C.
NUMBER OF SAMPLES 1 **SOURCE** In Place Material
TESTED BY DG/KS **DATE** 9/18/06 **REPORTED TO** Client
INTENDED USE Hydraulic Conductivity
SPECIFICATIONS GOVERNING South Florida Water Management District

LOCATION	DEPTH	DESCRIPTION
K - 2 (Approximate)	0"-6"	Dark Grey Medium Fine Sand, trace of roots (topsoil)
	6"-1'	Dark Grey Medium Fine Sand
	1'-2.5'	Brown Medium Fine Sand
	2.5'-4'	Grey and Light Brown Medium Fine Sand (Orange Tint), slight trace of marl
	4'-6'	Grey Medium Fine Sand, trace of marl

WATER TABLE

3' *(Estimated for Calculation Purposes)*

DEPTH OF HOLE

6'

DIAMETER x LENGTH OF CASING

6" X 5'

HYDRAULIC CONDUCTIVITY

$K = 0.1 \times 10^{-5}$ CFS/FT.^{2} - FT. HEAD

TIME INTERVAL (in seconds)	DROP (in inches)
15	1/4"
30	1/2"
45	1/2"
1'00	1/2"
1'15	1/2"
1'30	1/2"
1'45	1/2"
2'00	3/4"
2'15	3/4"
2'30	3/4"
2'45	3/4"
3'00	1"
3'15	1"
3'30	1"
3'45	1"
4'00	1"
4'15	1"
4'30	1"
4'45	1"
5'00	1 1/4"

Sincerely,
ALLTERRA ENGINEERING & TESTING

WENDELL K. RODGERS, P.E.
President

WKR/bm

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REPORT OF **FALLING-HEAD OPEN-HOLE TEST** JOB NO. 06-367

PROJECT Preliminary Subsurface Exploration - 40 Acre Site - 7001 WHITE ROAD - Ft. Pierce,
CLIENT Giardina di Villa Palma, L.C. Florida
NUMBER OF SAMPLES 1 SOURCE In Place Material
TESTED BY DG/KS DATE 9/18/06 REPORTED TO Client
INTENDED USE Hydraulic Conductivity
SPECIFICATIONS GOVERNING South Florida Water Management District

LOCATION	DEPTH	DESCRIPTION
K - 3 (Approximate)	0'-1'	Brown Medium Fine Sand, some roots (topsoil)
	1'-1.5'	Brown Medium Fine Sand
	1.5'-3'	Light Brown Medium Fine Sand, trace of marl
	3'-4.5'	Brown Medium Fine Sand (Orange Tint), trace of marl
	4.5'-6'	Light Grey Medium Fine Sand, trace of marl, slight trace of shell

WATER TABLE

6' *(Estimated for Calculation Purposes)*

DEPTH OF HOLE

6'

DIAMETER x LENGTH OF CASING

6" X 5'

HYDRAULIC CONDUCTIVITY

$K = 0.5 \times 10^{-5}$ CFS/FT.^{2} - FT. HEAD

TIME INTERVAL (in seconds)	DROP (in inches)
15	1"
30	1 1/4"
45	1 1/2"
1'00	1 3/4"
1'15	2"
1'30	2 1/4"
1'45	2 1/2"
2'00	2 3/4"
2'15	3"
2'30	3 1/4"
2'45	3 1/4"
3'00	3 1/2"
3'15	3 1/2"
3'30	3 3/4"
3'45	4"
4'00	4 1/4"
4'15	4 1/2"
4'30	4 3/4"
4'45	4 3/4"
5'00	5"

Sincerely,
ALLTERRA ENGINEERING & TESTING

WENDELL K. RODGERS, P.E.
President

WKR/bm

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REPORT OF **FALLING-HEAD OPEN-HOLE TEST** JOB NO. 06-367

PROJECT Preliminary Subsurface Exploration - 40 Acre Site - 7001 WHITE ROAD - Ft. Pierce,
CLIENT Giardina di Villa Palma, L.C. Florida
NUMBER OF SAMPLES 1 SOURCE In Place Material
TESTED BY DG/KS DATE 9/18/06 REPORTED TO Client
INTENDED USE Hydraulic Conductivity
SPECIFICATIONS GOVERNING South Florida Water Management District

LOCATION	DEPTH	DESCRIPTION
K - 4 (Approximate)	0"-6"	Dark Grey Medium Fine Sand, trace of roots (topsoil)
	6"-1'	Brown Medium Fine Sand
	1'-2.5'	Light Brown Medium Fine Sand, slight trace of marl
	2.5'-4'	Brown Medium Fine Sand (Orange Tint)
	4'-6'	Grey Medium Fine Sand, trace of marl, slight trace of shell

WATER TABLE

5' *(Estimated for Calculation Purposes)*

DEPTH OF HOLE

6'

DIAMETER x LENGTH OF CASING

6" X 5'

HYDRAULIC CONDUCTIVITY

$K = 0.5 \times 10^{-5}$ CFS/FT.^{2} - FT. HEAD

TIME INTERVAL (in seconds)	DROP (in inches)
15	1/4"
30	1/2"
45	1/2"
1'00	3/4"
1'15	1"
1'30	1 1/4"
1'45	1 3/4"
2'00	1 3/4
2'15	2"
2'30	2"
2'45	2 1/4"
3'00	3"
3'15	3 1/2"
3'30	3 1/2"
3'45	3 3/4"
4'00	4"
4'15	4 1/2"
4'30	4 1/2"
4'45	4 3/4"
5'00	5"

Sincerely,
ALLTERRA ENGINEERING & TESTING

WENDELL K. RODGERS, P.E.
President

WKR/bm

These tests are representative of and apply only to the location and depth as shown above.
Authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

ALLTERRA
ENGINEERING & TESTING
3600 INVESTMENT LANE • SUITE 104 • WEST PALM BEACH, FLORIDA 33404 • (561) 881-1939

REPORT OF **FALLING-HEAD OPEN-HOLE TEST** JOB NO. 06-367

PROJECT Preliminary Subsurface Exploration - 40 Acre Site - 7001 WHITE ROAD - Ft. Pierce,
CLIENT Giardina di Villa Palma, L.C. Florida
NUMBER OF SAMPLES 1 **SOURCE** In Place Material
TESTED BY DG/KS **DATE** 9/18/06 **REPORTED TO** Client
INTENDED USE Hydraulic Conductivity
SPECIFICATIONS GOVERNING South Florida Water Management District

LOCATION	DEPTH	DESCRIPTION
K - 5 (Approximate)	0'-1'	Dark Grey Medium Fine Sand, some roots (topsoil)
	1'-3'	Light Brown Medium Fine Sand (Orange Tint)
	3'-4'	Brown Medium Fine Sand, trace of marl
	4'-5'	Grey Medium Fine Sand, trace of marl
	5'-6'	Grey Medium Fine Sand, trace of marl and shell

WATER TABLE

3.5' *(Estimated for Calculation Purposes)*

DEPTH OF HOLE

6'

DIAMETER x LENGTH OF CASING

6" X 5'

HYDRAULIC CONDUCTIVITY

$K = 0.6 \times 10^{-5}$ CFS/FT.^{2} - FT. HEAD

TIME INTERVAL (in seconds)	DROP (in inches)
15	1/2"
30	1"
45	1 1/4"
1'00	1 1/2"
1'15	1 3/4"
1'30	2 1/4"
1'45	2 1/2"
2'00	2 3/4"
2'15	3"
2'30	3 1/4"
2'45	3 1/2"
3'00	3 3/4"
3'15	4 1/4"
3'30	4 3/4"
3'45	5"
4'00	5 1/4"
4'15	5 3/4"
4'30	5 3/4"
4'45	6"
5'00	6 1/4"

Sincerely,
ALLTERRA ENGINEERING & TESTING

WENDELL K. RODGERS, P.E.
President

WKR/bm

These tests are representative of and apply only to the location and depth as shown above.
Authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

EW Consultants, Inc.
Natural Resource Management, Wetland, and Environmental Permitting Services

KINGS HIGHWAY PARCEL
ENVIRONMENTAL IMPACT REPORT

Prepared by:

EW CONSULTANTS, INC.

March 2021

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INTRODUCTION

The 109± acre-property covered by this Environmental Impact Report is located in Section 24, Township 35 South, Range 39 East, City of Ft. Pierce, Florida (Figures 1&2). The property is bordered to the north by White Road and agricultural lands, to the east by Peters Road and undeveloped land, to the south by undeveloped land and an RV vacation resort, and to the west by Kings Highway and agricultural lands.

This report has been prepared to document existing conditions, natural resources and potential environmental impacts on a 109 ± acre property referred to as the Kings Highway Parcel. The subject property is mostly undeveloped and currently utilized as unimproved pasture. This report has been prepared in accordance with City of Ft. Pierce, Land Development Ordinances and St. Lucie County, Land Development Code.

PROPERTY DESCRIPTION

The subject property is currently undeveloped except for a few residential structures along Peters Road on the eastern portion of the property, and a road construction staging area on the western portion of the property. The remainder of the land is utilized as unimproved pasture. Management practices and the presence of livestock were observed during the site assessment. Historical aerial imagery from c.1985 indicates that the majority of the property was previously planted with row crops which was likely citrus up to the mid-2000's. The unimproved pastures are now vegetated with typical pasture grasses, ruderal weeds and scattered clumps of trees and shrubs. A system of man-made ditches is present on the property, likely associated with prior agricultural uses for draining and irrigating the land.

SOILS

A soils map obtained from the USDA Web Soil Survey and with the property boundary is attached in the Appendix. According to the soil map, five soil types are found on the subject property. The description of these soils, in their natural state, according to the St. Lucie County Soil Survey is provided below:

Chobee loamy sands – Soils of the Chobee series are fine-loamy, siliceous, nearly level, very poorly drained, very slowly permeable soils that formed in unconsolidated, moderately fine marine sedi-ment. The water table is above the surface for 6 to 9 months in most years and is within 10 inches of the surface for most of the rest of the year except in very dry periods. Slope ranges from O to 2 percent. Under natural conditions, vegetation may consist of arrowhead, cabbage palm, Carolina willow, cypress, maidencane, pickerelweed, lilies, sawgrass, smartweed, wax myrtle, slash pine, water oak, understory of ferns and water tolerant grasses, and scattered swamp maples in treeless areas.

Pineda sand – Soils of the Pineda series are loamy, siliceous, poorly drained, slowly to very slowly permeable soils that formed in unconsolidated marine sandy and loamy materials. The water table is within a depth of 10 inches for 1 to 6 months and between depths of 10 to 40 inches for most of the rest of the year. Slope ranges from 0 to 2 inches. Under natural

conditions, vegetation consists of south Florida slash pine, cypress, myrtle, cabbage palm, blue maidencane, chalky bluestem, saw palmetto sedges, pineland threeawn, and sand cordgrass.

Riviera fine sand, 0 to 2 percent slopes – Soils of the Riviera series are loamy, siliceous, nearly level, poorly drained, slowly to very slowly permeable soils that formed in unconsolidated, marine sandy and loamy materials. The water table is within a depth of 10 inches for 2 to 4 months and between depths of 10 to 30 inches for most of the rest of the year. Depressional areas are ponded for 6 to 9 months or more annually. Nearly all of the acreage has been cleared and is planted to row crops/citrus or managed as pasture. Typical natural vegetation is cabbage palms and scattered longleaf pine and slash pine and an understory of wax myrtle and saw palmetto.

Wabasso sand – Soils of the Wabasso series are sandy, siliceous, nearly level, poorly drained, slowly and very slowly permeable soils that formed in beds of marine sandy and loamy materials. These soils are on broad flatwoods. In most years, the water table is within a depth of 10 inches for 1 to 4 months and between depths of 10 to 40 inches for 6 to 9 months. Slope ranges from 0 to 2 percent. The typical natural vegetation consists of longleaf pine, slash pine, cabbage palm, live oak, with an understory of saw palmetto, laurel oak, wax myrtle, chalky bluestem, creeping bluestem, indiangrass, little bluestem, Florida paspalum, running oak, south Florida slash pine and pineland threeawn.

Winder loamy sand – Soils of the Winder series are fine-loamy, siliceous, nearly level, poorly drained, slowly to very slowly permeable soils that formed in unconsolidated marine sand, and loamy mate-rials These soils are in hammocks, along poorly defined drainageways, and in depressional areas. A water table is within a depth of 10 inches for 2 to 4 months and between depths of 10 to 40 inches for most of the rest of the year. Depressional areas are ponded for 6 to 9 months in most years. Slope ranges from 0 to 2 percent. Typical natural vegetation consists of cordgrass, maidencane, cabbage palmetto, saw palmetto, and pineland threeawn.

NATURAL COMMUNITIES AND LAND COVER

The following is a summary of the land cover and vegetation communities found on the subject site. Land cover and vegetative community classifications were mapped based on the Florida Land Use, Cover and Forms Classification System (FLUCFCS) developed by the Florida Department of Transportation. Field reconnaissance and aerial photograph interpretation were employed in the mapping effort of the vegetative communities on the subject property. Observed and potential listed wildlife species presence and usage of the habitat is further discussed in the subsequent section of this report.

There are four different FLUCFCS classifications currently present on the site including (111) single family units, (140) commercial and services, (212) unimproved pasture, the ditches that network throughout the site are classified as streams and waterways (510).

A land cover map of the observed community types is included as Figure in the Appendix of this report. The land cover types observed on the property are described as follows:

111 Fixed Single Family Units – 9.3 ± acres

There are several single family and associated structures along the eastern portion of the property. Some appear dilapidated and uninhabited, and some appear maintained and inhabited. The property immediately surrounding these structures appears maintained and contains a variety of grasses, shrubs and trees, some landscaping and some natural.

140 Commercial Services – 7.4 ± acres
This area is located along the western portion of the property and appears to be utilized for road construction staging and storage. The area has been cleared of vegetation and the surface leveled and partially graveled.

212 Unimproved Pasture – 91.4 ± acres
This land cover accounts for the majority of the property where citrus and crops once existed. There is still evidence of rows and swales associated with prior uses, however the groundcover has been allowed to fill in and has possibly been supplemented with pasture grasses. Vegetation assemblages within this land cover type is predominantly short, herbaceous grass and ruderal weeds with dominant species including bahia grass, dropseed grass, guinea grass, dog fennel, ragweed, shrubby false buttonweed, pepperweed, Caesarweed and sandspur grass. Taller vegetation and trees consist mainly of Brazilian pepper, live oak, Australian pine, earleaf acacia and sabal palms. The remnant swales contain some wetland vegetation such as primrose willow, marsh purslane, spikerush and dollarweed.

510 Ditches – 0.9 ± acres
A system of drainage ditches extends throughout the property. The ditches are approximately 6-10 feet wide and are typically open water with scattered vegetation such as Carolina willow, primrose willow, cattail, and swamp fern.

WILDLIFE AND LISTED SPECIES

The pasture and ditch areas provide habitat for numerous wildlife species. Observations from the site visit conducted in March, 2021 included sightings or signs of great egret, white Ibis, glossy ibis, northern mocking bird, tri-colored heron, cattle egret, and raccoon.

Of these species observed, only the tri-colored heron is protected and listed by the State as a threatened species. The tri-colored heron was observed foraging in a ditch area and no nests were observed on the site. Although not observed, the site also provides suitable habitat for three Federally listed species, Audubon's crested caracara, wood stork, and eastern indigo snake. During the site plan approval process, the U.S Fish and Wildlife Service should be consulted for guidance and protection measures for these species.

The absence of natural habitat combined with active agricultural and land management practices has left the property unsuitable for most other listed species found in the region.

PROPOSED IMPACTS FROM DEVELOPMENT

Under the development proposal, the majority of the 109-acre site will be occupied with warehouse and office space with associated infrastructure such as parking and surface water

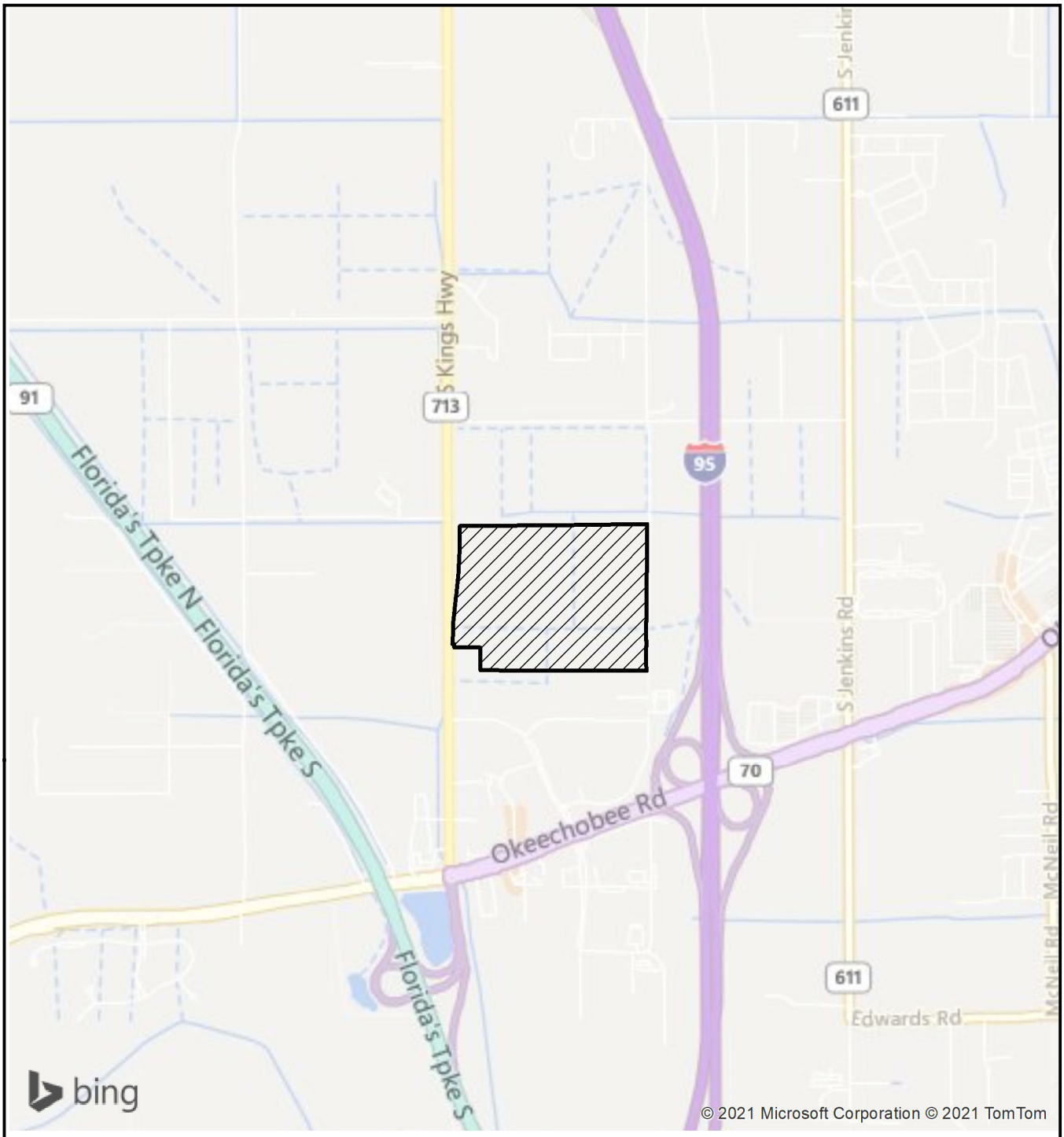
management systems. Because there is no significant native upland or native wetland habitat present on the site, the environmental impacts are minimal.

There are surface waters in the form of drainage ditches. Permits will be obtained from South Florida Water Management District (SFWMD) that will address impacts to surface waters. The proposed surface water management lakes will provide surface water area to offset the ditch impacts. Although federally listed species were not observed during the site assessment, U.S Fish and Wildlife Service will be consulted for guidance and protection measures for listed species habitat that occurs on the property.

APPENDIX

FIGURE 1. LOCATION MAP
FIGURE 2. QUAD MAP
FIGURE 3. AERIAL MAP
FIGURE 4. FLUCFCS MAP

ATTACHMENT
SOILS REPORT



LEGEND

- SITE (109+/- AC)

0 2,000 Feet

N

KINGS HIGHWAY PARCEL LOCATION

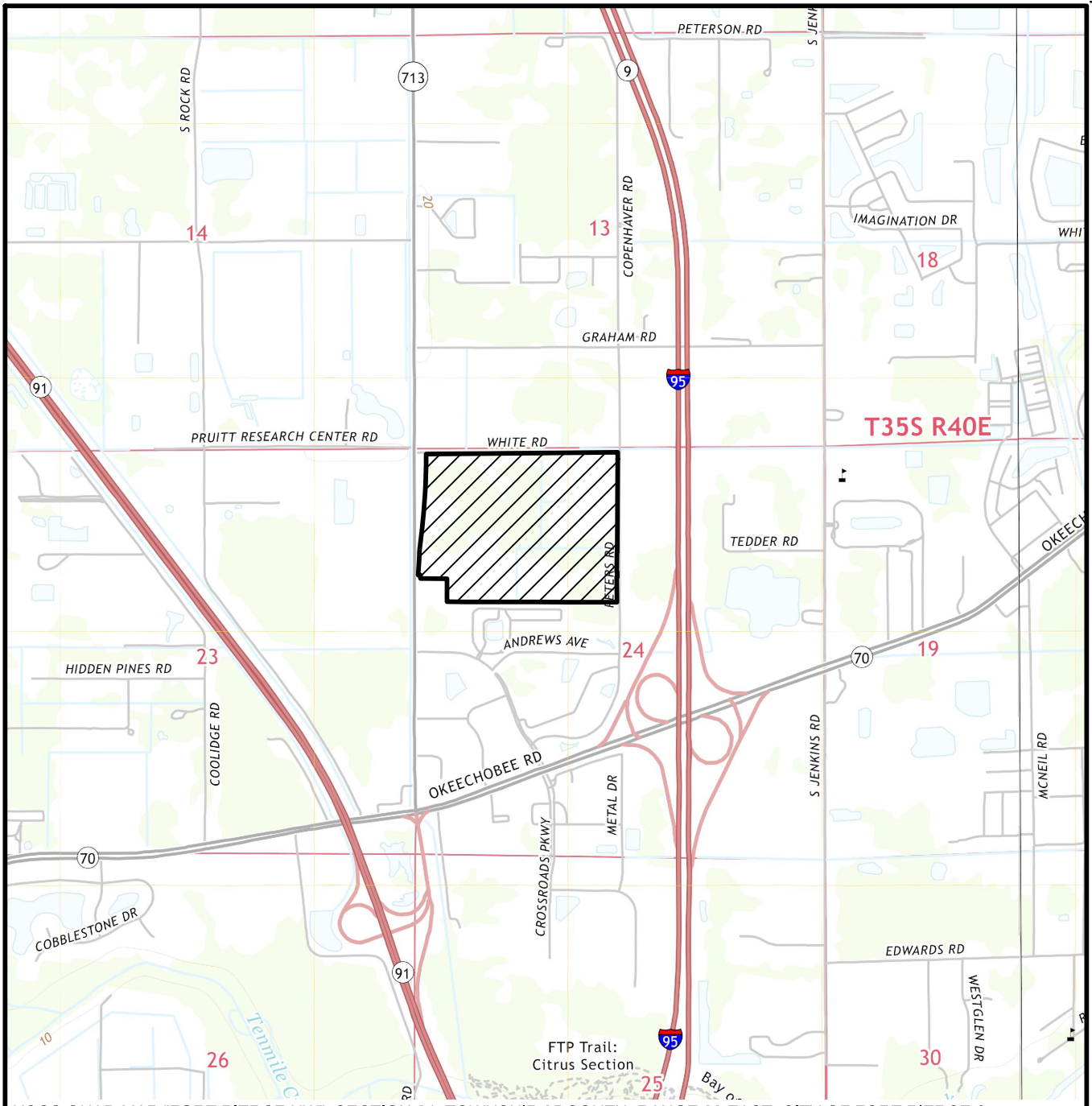
EW CONSULTANTS, INC.

2581 METROCENTRE BLVD., SUITE 1
WEST PALM BEACH, FL 33407
561-291-7950 PHONE 561-530-4908 FAX
WWW.EWCONSULTANTS.COM

MAR 2021

FIGURE

1



USGS QUAD MAP "FORT PIERCE NW", SECTION 24, TOWNSHIP 35 SOUTH, RANGE 39 EAST, CITY OF FORT PIERCE & UNINCORPORATED ST LUCIE COUNTY, FORT PIERCE, ST LUCIE COUNTY, FLORIDA, LATITUDE 27°25'26" LONGITUDE -80°23'42"

LEGEND

▨ - SITE (109± AC)

0 2000

SCALE IN FEET

KINGS HIGHWAY PARCEL

QUAD

EW CONSULTANTS, INC.

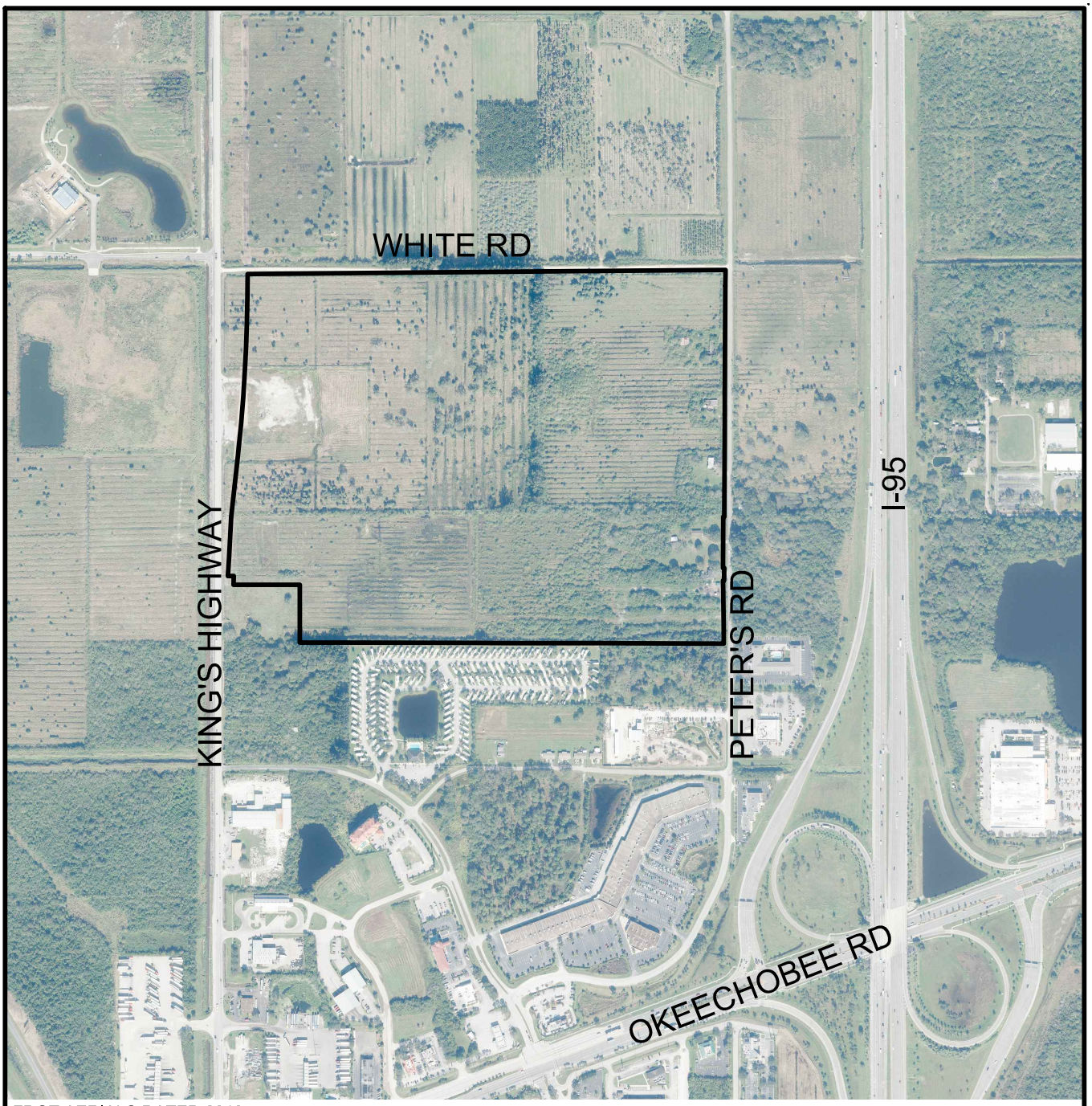
2581 METROCENTRE BLVD., SUITE 1
WEST PALM BEACH, FL 33407
561-291-7950 PHONE 561-530-4908 FAX
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FIGURE

2

Kings Highway Parcel.dwg QUAD



FDOT AERIALS DATED 2018

0 800
SCALE IN FEET

KINGS HIGHWAY PARCEL

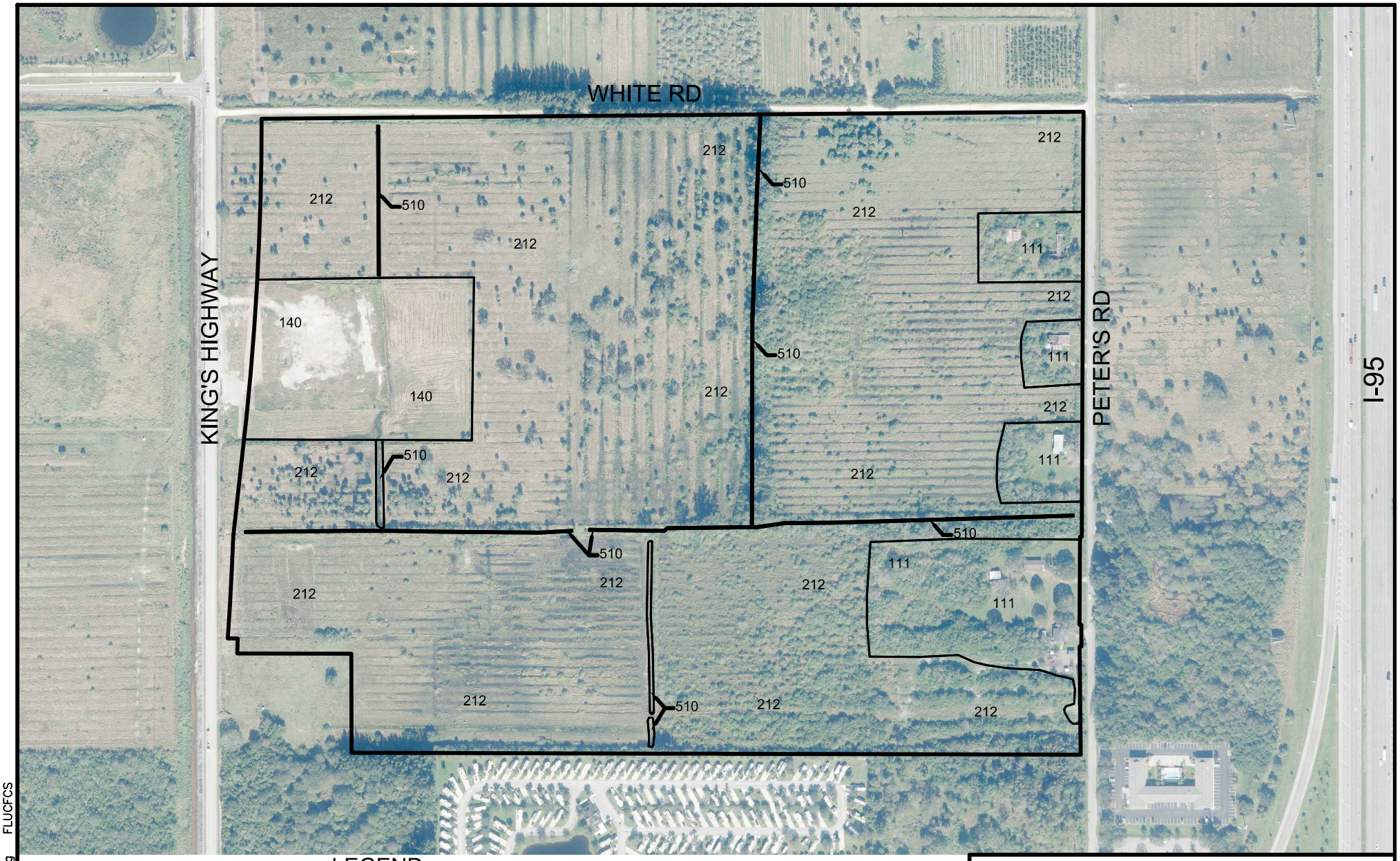
AERIAL

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WEST PALM BEACH, FL 33407
561-291-7950 PHONE 561-530-4908 FAX
WWW.EWCONSULTANTS.COM

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FIGURE
3

Kings Highway Parcel.dwg AERIAL



FDOT AERIALS DATED 2018

LEGEND

111 - FIXED SINGLE FAMILY UNITS (9.3± AC)
140 - COMMERCIAL & SERVICES (7.4± AC)
212 - UNIMPROVED PASTURE (91.4± AC)
510 - DITCHES (0.9± AC)
TOTAL SITE (109± AC)

0 400
SCALE IN FEET

KINGS HIGHWAY PARCEL FLUCFCS MAP

EW CONSULTANTS, INC.
2581 METROCENTRE BLVD., SUITE 1
WEST PALM BEACH, FL 33407
561-291-7950 PHONE 561-530-4908 FAX
WWW.EWCONSULTANTS.COM

MAR 2021

FIGURE 4

Kings Highway Parcel.dwg FLUCFCS

Soil Map—St. Lucie County, Florida
(KINGS HIGHWAY PARCEL)



Map Scale: 1:5,010 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: St. Lucie County, Florida
Survey Area Data: Version 14, Jun 9, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 6, 2019—Mar 23, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
11	Chobee loamy sand, frequently ponded, 0 to 1 percent slopes	0.7	0.6%
32	Pineda sand, 0 to 2 percent slopes	4.6	4.3%
38	Riviera fine sand, 0 to 2 percent slopes	4.2	3.8%
48	Wabasso sand, 0 to 2 percent slopes	8.1	7.4%
55	Winder loamy sand	91.5	83.9%
Totals for Area of Interest		**109.0**	**100.0%**

Thursday, April 15, 2021

Mary Lindgren, Environmental Project Manager
EW Consultants, Inc.
2581 Metrocentre Blvd, Suite 1
West Palm Beach, Florida 33407
561-29107950
561-762-5774
mlindgren@ewconsultants.com

Re: Kings 65 Property Interim Report - Phase I Cultural Resources Assessment Survey (CRAS) (Township 35S, Range 39E, Section 24), Fort Pierce, St. Lucie County, Florida.

Mary Lindgren,

Between Thursday, April 1st and Monday, April 5th Coastal Archaeology & History Research, Inc. (CAHR) conducted field investigations for a Phase I Cultural Resource Assessment Survey (CRAS) of the Kings 65 property. The subject property includes 108+/- acres across nine (9) individual parcels consisting of largely vacant agricultural land (cow pasture) and multiple residential structures. Individual parcels are identified as:

Address	Parcel Number	Description
1. 7001 White Rd	2324-210-0000-000-6	Agricultural
2. 2261 Peter Rd	2324-211-0001-000-6	Residential (abandoned)
3. 2315 Peters Rd	2324-214-0001-000-5	Residential (abandoned)
4. 2371 Peters Rd	2324-214-0002-000-2	Residential (occupied)
5. 2421 Peters Rd	2324-241-0002-000-6	Residential (occupied)
6. 2449 Peters Rd	2324-241-0003-000-3	Residential (unoccupied)
7. n/a S Kings Hwy	2324-241-0004-000-0	Agricultural
8. 2306 S Kings Hwy	2324-211-0002-000-3	Commercial (const. staging)
9. 2496 S Kings Hwy	2324-232-0000-000-4	Agricultural

Purpose

The CRAS fieldwork included architectural and archaeological investigation to locate, delineate, identify, and evaluate all cultural resources occurring within the subject property and to assess their significance and potential eligibility for inclusion in the *National Register of Historic Places* (36 CFR 60.4) and for local historical designation in accordance with Sec. 111 of the Land Development Code of the City of Fort Pierce, St. Lucie County, Florida.

Fieldwork was conducted in anticipation of compliance requirements with local, state and federal permitting entities. The survey was performed by professional staff in accordance with the standards set forth in Chapter 1A-46 *Florida Administrative Code* and will be conducted by professional staff (archaeologists, architectural historians, and historians) who meet the Secretary of the Interior's professional standards (36 CFR Part 61 *as amended*).

Preliminary Findings

a. **Structure Survey:** An architectural inventory of the Kings 65 property identified five (5) standing structures and associated outbuildings. Three (3) structures were identified to be at least fifty (50) years old and warranted recording with the Florida Master Site File (FMSF). It is our opinion however that these three (3) structures do not meet the criteria for eligibility for inclusion on the National Register of Historic Places (NRHP) or the criteria for local municipal historic designation. Each of these structures will be recorded on a FMSF historic structure form and assigned a FMSF structure number (issued by request from the state FMSF); a request for historic structure numbers is pending. The properties are identified as:

Address	Parcel Number	Description
1. 2261 Peter Rd	2324-211-0001-000-6	Residential (abandoned)
2. 2315 Peters Rd	2324-214-0001-000-5	Residential (abandoned)
3. 2371 Peters Rd	2324-214-0002-000-2	Residential (occupied)

Two (2) structures were identified to be less than fifty (50) years old and do not meet the criteria for recording on the FMSF nor do they meet the criteria for either NRHP or local historical designation. These properties will be identified and documented in the CRAS report however no additional documentation will be performed. These properties are identified as:

Address	Parcel Number	Description
1. 2421 Peters Rd	2324-241-0002-000-6	Residential (occupied)
2. 2449 Peters Rd	2324-241-0003-000-3	Residential (unoccupied)

** see attached map **

b. **Archaeological Survey:** An archaeological survey of the Kings 65 property included forty-four (44) of the proposed forty-seven (47) proposed shovel test pits (STP). Three (3) shovel tests were not performed because two (2) were located within the boundaries of currently occupied residential property (2421 Peters Rd) and one was inaccessible (2261 Peters Rd). It was not possible to relocate these three STP to a nearby location as they were already very isolated owing to the 100m STP interval.

No archaeological features or artifacts and no unanticipated discoveries (i.e.: unmarked burials) were encountered during the survey. It is our opinion that the property does not contain any significant archaeological resources.

**** see attached map **

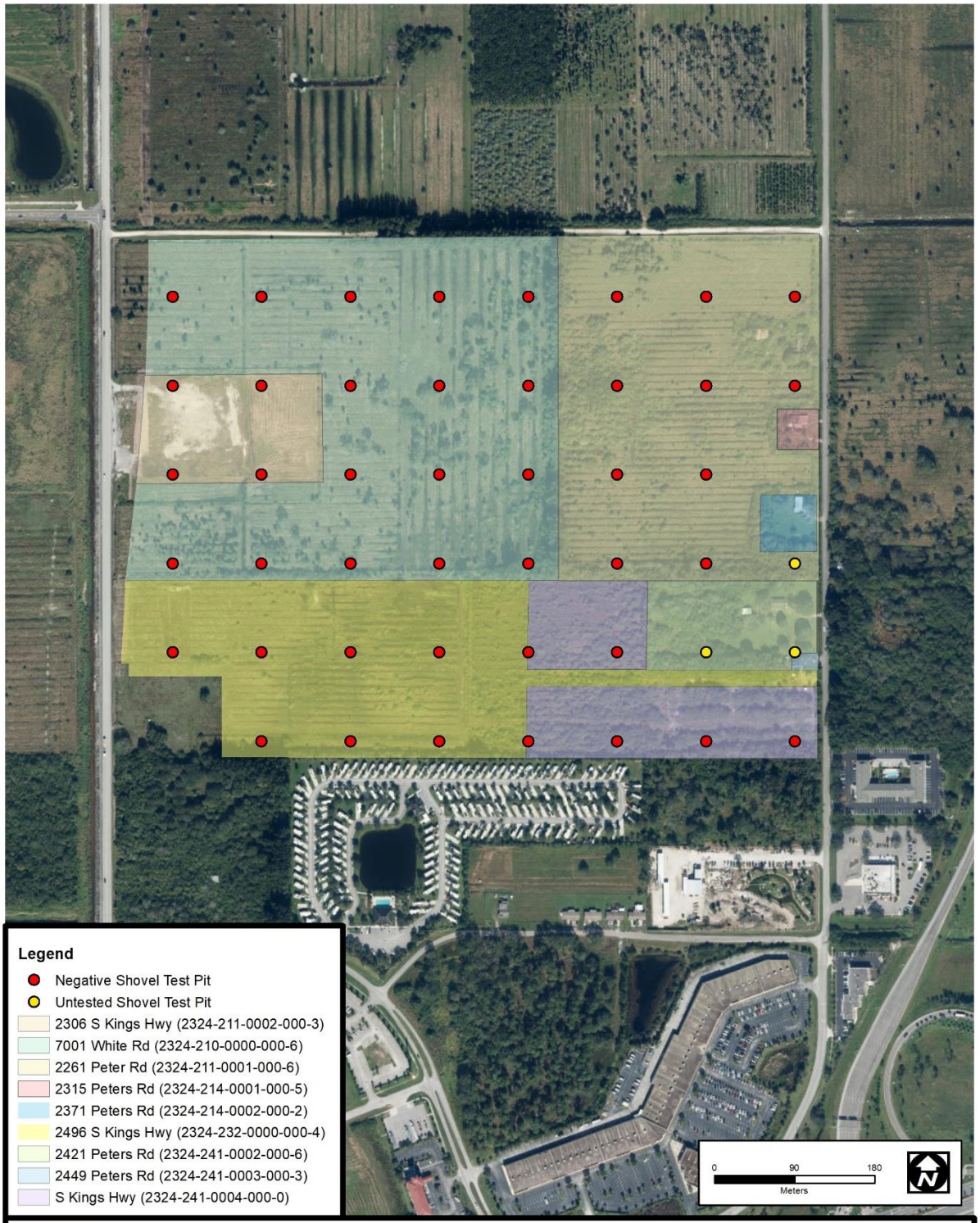
Pending Deliverables

We are compiling a draft CRAS report for your review and will have it you in the next 10 – 12 days. Provided that you and your client find that the report is acceptable, we anticipate that we will submit a final report, complete with FMSF records and documentation, on or about May 5th.

It is my pleasure to provide this work for you and your client. If you have any questions or if you would like to discuss the survey in detail, please contact me via cell-phone at (732) 996-0954 or email at mdefelice@cahresearch.com.

Sincerely,

Matthew A. DeFelice, M.A.
President, Coastal Archaeology & History Research, Inc.


Legend
Negative Shovel Test Pit
Untested Shovel Test Pit
2306 S Kings Hwy (2324-211-0002-000-3)
7001 White Rd (2324-210-0000-000-6)
2261 Peter Rd (2324-211-0001-000-6)
2315 Peters Rd (2324-214-0001-000-5)
2371 Peters Rd (2324-214-0002-000-2)
2496 S Kings Hwy (2324-232-0000-000-4)
2421 Peters Rd (2324-241-0002-000-6)
2449 Peters Rd (2324-241-0003-000-3)
S Kings Hwy (2324-241-0004-000-0)
0
90
180
Meters
CAHR
Interim Findings - Kings 65 Property CRAS
City of Fort Pierce, St. Lucie County, Florida
Proj. 21.001
Date: April 15, 2021
Auth: Matthew A. DeFelice
Client: EW Consultants, Inc.
This map is for conceptual purposes and should not be used for boundary or legal determinations.

O'ROURKE
ENGINEERING & PLANNING

TRAFFIC ANALYSIS

FOR

Kings Highway Commerce Park
Concurrency

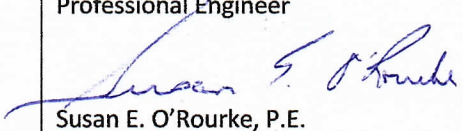
Prepared for:

Mr. Ken Morin
Kings Highway Development Partners, LLC
4923 W. Cypress St.
Tampa, FL 33607

Prepared by:

O'Rourke Engineering & Planning
22 SE Seminole Street
Stuart, Florida 34994
772-781-7918

March 11, 2021
Revised June 4, 2021
Revised July 27, 2021
SR21021.0

Prepared by: O'Rourke Engineering & Planning Certificate of Authorization: #26869 22 SE Seminole Street Stuart, Florida 34994 772-781-7918	Professional Engineer  Susan E. O'Rourke, P.E. Date signed and sealed: 7/27/21 License #: 42684

O'ROURKE
ENGINEERING & PLANNING

March 11, 2021

Mr. Ken Morin
Kings Highway Development Partners, LLC
4923 W. Cypress St.
Tampa, FL 33607

Re: Kings Highway Commerce Park

Dear Mr. Morin:

O'Rourke Engineering & Planning has completed the analysis of the proposed development located east of Kings Highway and south of White Road in Ft. Pierce, 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

Concurrency Report – Kings Highway Commerce Park – 7.27.21

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APPENDIX B: St. Lucie County 2019/2020 Level of Service Report and FDOT 2020 Quality Level of Service
APPENDIX C: Other Project Data/Growth Rate/Historical AADT
APPENDIX D: Arterial Analysis
APPENDIX E: Intersection Analysis Data & Signal Warrant
APPENDIX F: Driveway Analysis Data

INTRODUCTION

O'Rourke Engineering & Planning was retained to prepare a traffic analysis for the proposed development consisting of warehousing and office located east of Kings Highway and south of White Road in Ft. Pierce, St. Lucie County, Florida. The purpose of this report is to determine the projects 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:

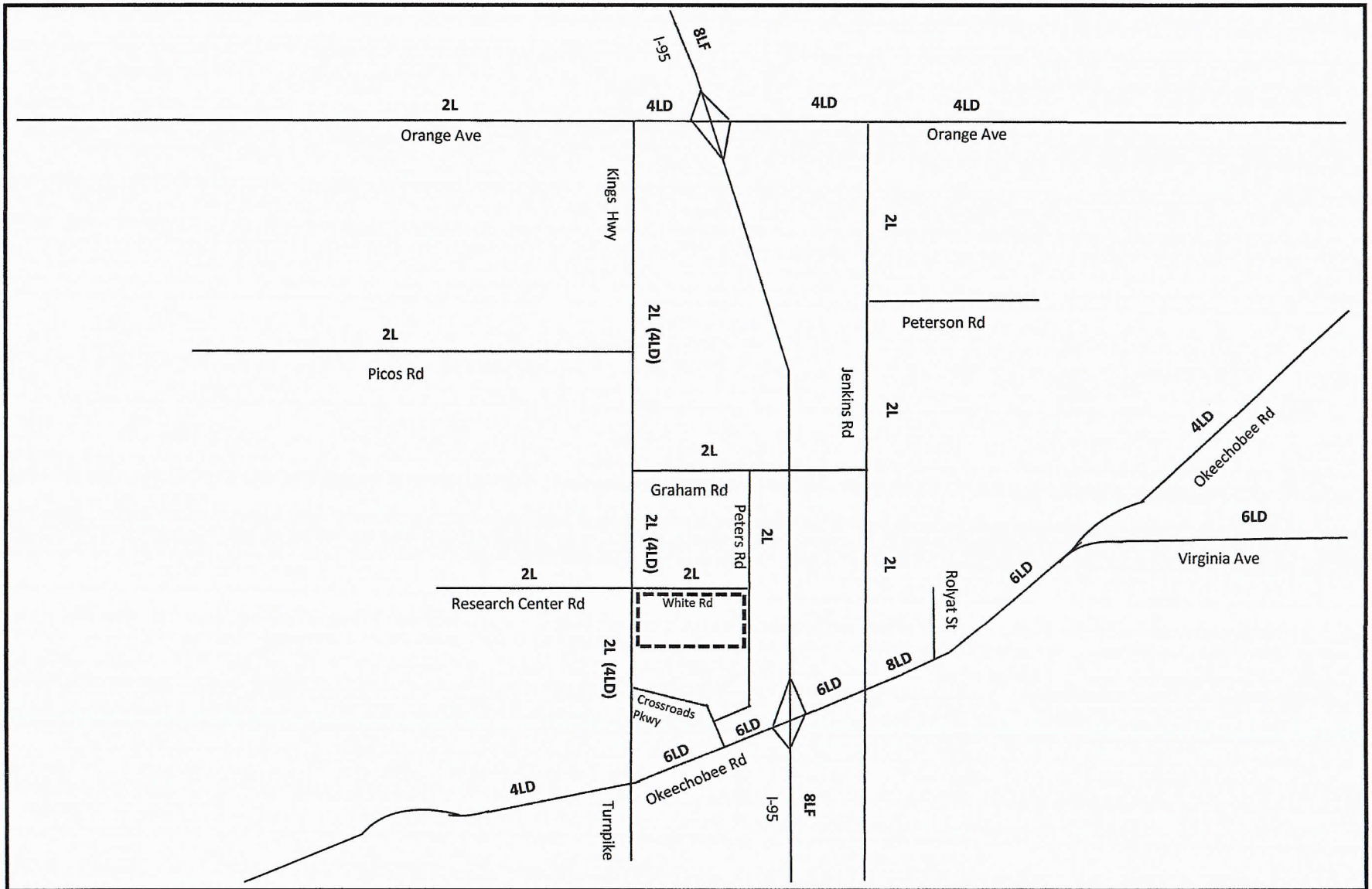
- summary of the project
- summary of existing lane geometries
- summary of the existing traffic volumes
- assessment of project traffic
- determination of impact area
- summary of buildout cumulative traffic volumes
- summary of levels of service with the project traffic added

Each of these steps is outlined herein.

PROJECT DESCRIPTION

The proposed development located east of Kings Highway and south of White Road in Ft. Pierce, St. Lucie County, Florida, will consist of 1,770,000 square feet of warehouse and 130,000 square feet of office. The site is currently vacant. The project location is shown in **Figure 1**. The traffic study is based on the current site plan. However, to ensure there is capacity should the warehouse use become more industrial in nature, all analysis were rerun using industrial park for the 1,770,000 square feet.

Appendix A includes the project site plan and the complete maximum use industrial park analysis.



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O'ROURKE ENGINEERING & PLANNING

22 Seminole Street
Stuart, Fl, 34994

Job Number: SR20121.0 | Date: 7/27/2021

Legend

= Project Location

2L = Existing Lanes
(4LD) = Committed Lanes

Figure 1

Project Location

Kings Hwy Commerce Park

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.

- Peters Road is a two-lane local road with a general north/south alignment.
- S. Jenkins Road is a two-lane arterial with a north/south alignment.
- Graham Road is a two-lane local roadway with an east/west alignment.
- 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.
- Orange Avenue is a four-lane divided arterial with an east/ west alignment.
- 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.

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. The service volumes were developed based on the functional classification contained in the County Comprehensive Plan and the St. Lucie County Traffic Counts and Level of Service Report. The 2020 FDOT Quality Level of Service and St. Lucie TPO 2019/2020 Level of Service Report were used to establish capacity. These documents are included in **Appendix B.**

PROJECT TRAFFIC

To estimate future traffic generated by the development, the ITE Trip Generation, 10th Edition trip rates for Warehouse (Land Use Code 150) and Office (Land Use Code 710) were applied to estimate the trips generated by the proposed development as it is currently site planned. These calculations are shown in **Tables 1a, 1b, and 1c.**

As shown, the project will generate 4,108 new daily trips. There will be 452 AM peak hour trips with 362 entering the project and 90 trips exiting the project. The project will generate 486 new PM peak hour trips. There will be 115 trips entering the project and 371 trips exiting the project in the PM peak hour.

Table 1 - Trip Generation -Kings Highway Commerce Park

Table 1a: Daily

Land Use	ITE Code	Intensity	Units	Trip Generation Rate	Directional Split		Net New Trips		
					In	Out	In	Out	Total
General Office	710	130,000	Sft	T=9.74(X)	50%	50%	633	633	1,266
Warehousing	150	1,770,000	Sft	T = 1.58(X) + 45.54	50%	50%	1,421	1,421	2,842
TOTALS							**2,054**	**2,054**	**4,108**

Source: ITE 10th 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
General Office	710	130,000	Sft	T = 1.16(X)	86%	14%	130	21	151
Warehousing	150	1,770,000	Sft	T = 0.17(X)	77%	23%	232	69	301
TOTALS							**362**	**90**	**452**

Source: ITE 10th 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
General Office	710	130,000	Sft	T = 1.15(X)	16%	84%	24	126	150
Warehousing	150	1,770,000	Sft	T = 0.19(X)	27%	73%	91	245	336
TOTALS							**115**	**371**	**486**

Source: ITE 10th 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 several links.

OTHER PROJECT TRAFFIC/GROWTH RATE

Existing traffic volumes were grown using a 4-year area wide historical growth rate of 2.25%. Other project data includes committed traffic from Creekside, Bent Creek, Celebration Pointe, Whispering Oaks, St. Lucie Commerce Center, Walsh Crossroads, Project Hurricane, Project Hunt, Wawa Kingsgate, Stonemont, and Kings Highway Warehouse. These projects plus a reduced growth rate of 1.5% were applied to estimate background traffic.

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

LINK ANALYSIS / REVIEW

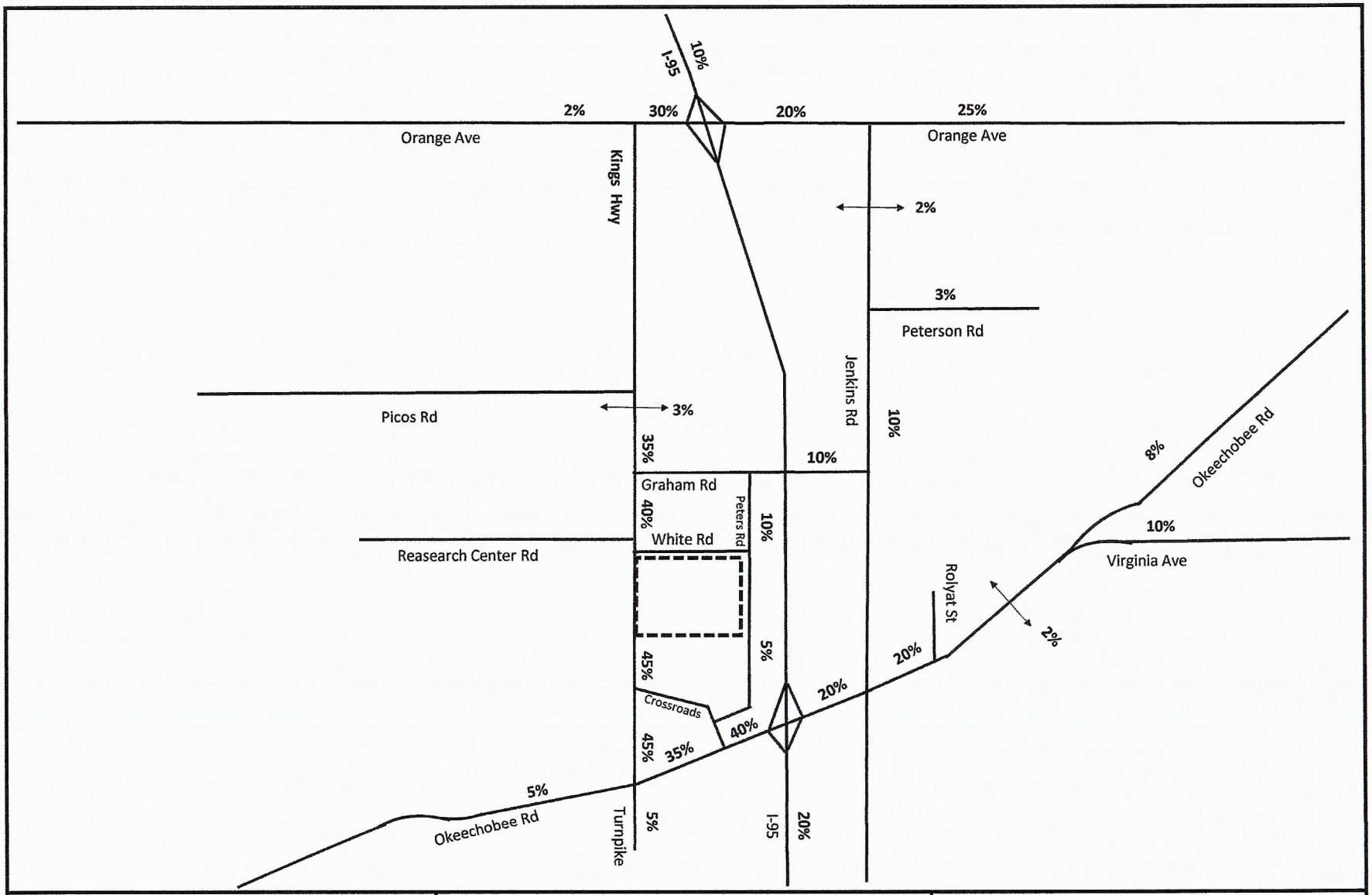
The project is significant on several links, these links were analyzed further to ensure they will meet concurrency. **Table 3a and 3b** summarizes the results of the link analysis. As shown, all roadways will operate at acceptable levels of service at project buildout. Jenkins Road exceeds the theoretical capacity, a detailed analysis using ArtPlan was used to demonstrate concurrency.

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

INTERSECTION ANALYSIS/SIGNAL WARRANT

The intersection of White Road at Kings Highway was analyzed for the AM and PM peak hours using HCS for unsignalized intersections. As part of the Kings Highway widening project, Research Center Road and White Road will be aligned as an unsignalized intersection that will operate at E for the westbound approach. The FDOT has approved a signal when warranted. The intersection will operate at a level of service D at project build out as a signalized intersection. A signal warrant for the intersection was also conducted using the 8-hour, 4-hour and peak hour warrants. At project buildout the intersection of Kings Highway and White Road would satisfy the 8-hour, 4-hour, and peak hour signal warrants at 70% thresholds.

The intersection data and signal warrant are shown in **Appendix E.** The LOS results are included in the next section of the report.



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22 SE Seminole Street
Stuart, Fl, 34994

Job Number: SR20121.0 | Date: 7/27/2021

Legend

= Project Location

Figure 2

Percent Assignment

Kings Highway Commerce Park

TABLE 2a - Project Percent Impact - AM

Segment	From	To	Direction	IN/OUT	Greater than 3% (1% on Adjacent Links)[2]	Peak Hour Service Capacity (E+C)[1]	Project Volume Peak Direction	% Project of Capacity-Peak Hour	Project Percent Assignment
Peters Rd	Crossroads Pkwy	White Rd	NB	IN	YES	920	18	1.96%	5%
	Crossroads Pkwy	White Rd	SB	OUT	NO	920	5	0.54%	5%
	White Rd	Graham Rd	NB	OUT	NO	920	9	0.98%	10%
	White Rd	Graham Rd	SB	IN	YES	920	36	3.91%	10%
Kings Hwy	Okeechobee Rd	Crossroads Pkwy	NB	IN	YES	1800	163	9.06%	45%
	Okeechobee Rd	Crossroads Pkwy	SB	OUT	NO	1800	41	2.28%	45%
	Crossroads Pkwy	Project Entrance	NB	IN	YES	1800	163	9.06%	45%
	Crossroads Pkwy	Project Entrance	SB	OUT	YES	1800	41	2.28%	45%
	Project Entrance	Graham Rd	NB	OUT	YES	1800	36	2.00%	40%
	Project Entrance	Graham Rd	SB	IN	YES	1800	145	8.06%	40%
	Graham Rd	Picos Rd	NB	OUT	NO	1800	32	1.78%	35%
	Graham Rd	Picos Rd	SB	IN	YES	1800	127	7.06%	35%
	Picos Rd	Orange Ave	NB	OUT	NO	1800	29	1.61%	32%
	Picos Rd	Orange Ave	SB	IN	YES	1800	116	6.44%	32%
Graham Rd	Kings Hwy	Jenkins Rd	EB	OUT	NO	630	9	1.43%	10%
	Kings Hwy	Jenkins Rd	WB	IN	YES	630	36	5.71%	10%
Virginia Ave	Okeechobee Rd	Hartman Rd	EB	OUT	NO	3020	9	0.30%	10%
	Okeechobee Rd	Hartman Rd	WB	IN	NO	3020	36	1.19%	10%
Orange Ave	Jenkins Rd	Hartman Rd	EB	OUT	NO	2000	23	1.15%	25%
	Jenkins Rd	Hartman Rd	WB	IN	YES	2000	91	4.55%	25%
	I-95	Jenkins Rd	EB	IN	YES	2000	72	3.60%	20%
	I-95	Jenkins Rd	WB	OUT	NO	2000	18	0.90%	20%
	Kings Hwy	I - 95	EB	OUT	NO	2000	27	1.35%	30%
	Kings Hwy	I - 95	WB	IN	YES	2000	109	5.45%	30%
	Campbell Rd	Kings Hwy	EB	IN	NO	1070	7	0.65%	2%
	Campbell Rd	Kings Hwy	WB	OUT	NO	1070	2	0.19%	2%
Jenkins Rd	Graham Rd	Peterson Rd	NB	OUT	NO	630	9	1.43%	10%
	Graham Rd	Peterson Rd	SB	IN	YES	630	36	5.71%	10%
	Peterson Rd	Orange Ave	NB	OUT	NO	920	9	0.98%	10%
	Peterson Rd	Orange Ave	SB	IN	YES	920	36	3.91%	10%
Okeechobee Rd	McCarty Rd	Florida Turnpike	EB	IN	NO	1810	18	0.99%	5%
	McCarty Rd	Florida Turnpike	WB	OUT	NO	1810	5	0.28%	5%
	Florida Turnpike	Kings Hwy	EB	IN	NO	2010	18	0.90%	5%
	Florida Turnpike	Kings Hwy	WB	OUT	NO	2010	5	0.25%	5%
	Kings Hwy	I - 95	EB	OUT	NO	4170	36	0.86%	40%
	Kings Hwy	I - 95	WB	IN	YES	4170	145	3.48%	40%
	I - 95	Jenkins Rd	EB	OUT	NO	4240	18	0.42%	20%
	I - 95	Jenkins Rd	WB	IN	NO	4240	72	1.70%	20%
	Jenkins Rd	McNeil Ave	EB	OUT	NO	4040	18	0.45%	20%
	Jenkins Rd	McNeil Ave	WB	IN	NO	4040	72	1.78%	20%
I-95	Midway Rd	Okeechobee Rd	NB	IN	NO	7320	72	0.98%	20%
	Midway Rd	Okeechobee Rd	SB	OUT	NO	7320	18	0.25%	20%
	Orange Ave	Indrio Rd	NB	OUT	NO	7320	9	0.12%	10%
	Orange Ave	Indrio Rd	SB	IN	NO	7320	36	0.49%	10%

(1) FDOT 2020 Service Capacity Tables & St. Lucie TPO

(2) According to the Guidelines prepared by the TPO and modified by the City and County

Two-Way: 452
Net In: 362
Net Out: 90

TABLE 2b - Project Percent Impact - PM

Segment	From	To	Direction	IN/OUT	Greater than 3% (1% on Adjacent Links)[2]	Peak Hour Service Capacity (E+C)[1]	Project Volume Peak Direction	% Project of Capacity-Peak Hour	Project Percent Assignment
Peters Rd	Crossroads Pkwy	White Rd	NB	IN	NO	920	6	0.65%	5%
	Crossroads Pkwy	White Rd	SB	OUT	YES	920	19	2.07%	5%
	White Rd	Graham Rd	NB	OUT	YES	920	37	4.02%	10%
	White Rd	Graham Rd	SB	IN	NO	920	12	1.30%	10%
Kings Hwy	Okeechobee Rd	Crossroads Pkwy	NB	IN	NO	1800	52	2.89%	45%
	Okeechobee Rd	Crossroads Pkwy	SB	OUT	YES	1800	167	9.28%	45%
	Crossroads Pkwy	Project Entrance	NB	IN	YES	1800	52	2.89%	45%
	Crossroads Pkwy	Project Entrance	SB	OUT	YES	1800	167	9.28%	45%
	Project Entrance	Graham Rd	NB	OUT	YES	1800	148	8.22%	40%
	Project Entrance	Graham Rd	SB	IN	YES	1800	46	2.56%	40%
	Graham Rd	Picos Rd	NB	OUT	YES	1800	130	7.22%	35%
	Graham Rd	Picos Rd	SB	IN	NO	1800	40	2.22%	35%
	Picos Rd	Orange Ave	NB	OUT	YES	1800	119	6.61%	32%
	Picos Rd	Orange Ave	SB	IN	NO	1800	37	2.06%	32%
Graham Rd	Kings Hwy	Jenkins Rd	EB	OUT	YES	630	37	5.87%	10%
	Kings Hwy	Jenkins Rd	WB	IN	NO	630	12	1.90%	10%
Virginia Ave	Okeechobee Rd	Hartman Rd	EB	OUT	NO	3020	37	1.23%	10%
	Okeechobee Rd	Hartman Rd	WB	IN	NO	3020	12	0.40%	10%
Orange Ave	Jenkins Rd	Hartman Rd	EB	OUT	YES	2000	93	4.65%	25%
	Jenkins Rd	Hartman Rd	WB	IN	NO	2000	29	1.45%	25%
	I-95	Jenkins Rd	EB	OUT	YES	2000	74	3.70%	20%
	I-95	Jenkins Rd	WB	IN	NO	2000	23	1.15%	20%
	Kings Hwy	I - 95	EB	OUT	YES	2000	111	5.55%	30%
	Kings Hwy	I - 95	WB	IN	NO	2000	35	1.75%	30%
	Campbell Rd	Kings Hwy	EB	IN	NO	1070	2	0.19%	2%
	Campbell Rd	Kings Hwy	WB	OUT	NO	1070	7	0.65%	2%
Jenkins Rd	Graham Rd	Peterson Rd	NB	OUT	YES	630	37	5.87%	10%
	Graham Rd	Peterson Rd	SB	IN	NO	630	12	1.90%	10%
	Peterson Rd	Orange Ave	NB	OUT	YES	920	37	4.02%	10%
	Peterson Rd	Orange Ave	SB	IN	NO	920	12	1.30%	10%
Okeechobee Rd	McCarty Rd	Florida Turnpike	EB	IN	NO	1810	6	0.33%	5%
	McCarty Rd	Florida Turnpike	WB	OUT	NO	1810	19	1.05%	5%
	Florida Turnpike	Kings Hwy	EB	IN	NO	2010	6	0.30%	5%
	Florida Turnpike	Kings Hwy	WB	OUT	NO	2010	19	0.95%	5%
	Kings Hwy	I - 95	EB	OUT	YES	4170	148	3.55%	40%
	Kings Hwy	I - 95	WB	IN	NO	4170	46	1.10%	40%
	I - 95	Jenkins Rd	EB	OUT	NO	4240	74	1.75%	20%
	I - 95	Jenkins Rd	WB	IN	NO	4240	23	0.54%	20%
	Jenkins Rd	Virginia Ave	EB	OUT	NO	4040	74	1.83%	20%
	Jenkins Rd	Virginia Ave	WB	IN	NO	4040	23	0.57%	20%
I-95	Midway Rd	Okeechobee Rd	NB	IN	NO	7320	23	0.31%	20%
	Midway Rd	Okeechobee Rd	SB	OUT	NO	7320	74	1.01%	20%
	Orange Ave	Indrio Rd	NB	OUT	NO	7320	37	0.51%	10%
	Orange Ave	Indrio Rd	SB	IN	NO	7320	12	0.16%	10%

(1) FDOT 2020 Service Capacity Tables & St. Lucie TPO

(2) According to the Guidelines prepared by the TPO and modified by the City and County

Two-Way: 486
Net In: 115
Net Out: 371

TABLE 3a - Link Analysis - AM

Segment	From	To	Direction	IN/OUT	Greater than 3% (1% on Adjacent Links)	AADT 2017	D Factor	2017 Peak Hour Directional Volumes	Growth Rate (2)	2023 AM Peak Hour + Growth	AM Peak Hour Committed Projects Directional	2023 Growth + Committed Peak Direction	Peak Hour Service Capacity (1)	Project Volume Peak Direction	Total Traffic (Peak Direction)	% Project of Capacity- Peak Hour	Does Project Satisfy Concurrency?	Project Percent Assignment	
Peters Rd	Crossroads Pkwy	White Rd	NB	IN	YES	2000 (4)	0.562	100 (4)	2.25%	107	23	130	920	18	148	1.96%	YES	5%	
	White Rd	Graham Rd	SB	IN	YES	2000 (4)	0.438	78 (4)	2.25%	83	13	96	920	36	132	3.91%	YES	10%	
Kings Hwy	Okeechobee Rd	Crossroads Pkwy	NB	IN	YES	8234	0.562	361	2.25%	413	251	664	1800	163	827	9.06%	YES	45%	*
	Crossroads Pkwy	Project Entrance	NB	IN	YES	8234	0.562	361	2.25%	413	251	664	1800	163	827	9.06%	YES	45%	*
	Crossroads Pkwy	Project Entrance	SB	OUT	YES	8324	0.438	281	2.25%	321	221	542	1800	41	583	2.28%	YES	45%	*
	Project Entrance	Graham Rd	NB	OUT	YES	8234	0.562	361	2.25%	413	251	664	1800	36	700	2.00%	YES	40%	*
	Project Entrance	Graham Rd	SB	IN	YES	8234	0.438	281	2.25%	321	221	542	1800	145	687	8.06%	YES	40%	*
	Graham Rd	Picos Rd	SB	IN	YES	8216	0.438	315	2.25%	360	221	581	1800	127	708	7.06%	YES	35%	*
	Picos Rd	Orange Ave	SB	IN	YES	8216	0.438	315	2.25%	360	250	610	1800	116	726	6.44%	YES	32%	
Graham Rd	Kings Hwy	Jenkins Rd	WB	OUT	YES	3733	0.509	255	2.25%	291	2	293	630	9	302	1.43%	YES	10%	*
Orange Ave	Jenkins Rd	Hartman Rd	WB	IN	YES	14189	0.509	764	2.25%	873	96	969	2000	91	1060	4.55%	YES	25%	
	I-95	Jenkins Rd	EB	IN	YES	14009	0.491	737	2.25%	842	166	1008	2000	72	1080	3.60%	YES	20%	
	Kings Hwy	I - 95	WB	IN	YES	18112	0.562	780	2.25%	891	302	1193	2000	109	1302	5.45%	YES	30%	
Jenkins Rd	Graham Rd	Peterson Rd	SB	IN	YES	10500 (3)	0.509	593 (3)	2.25%	634	60	694	630	36	730	5.71%	YES (5)	10%	*
	Peterson Rd	Orange Ave	SB	IN	YES	10500 (3)	0.509	593 (3)	2.25%	634	99	733	920	36	769	3.91%	YES	10%	
Okeechobee Rd	Kings Hwy	I - 95	WB	OUT	YES	24585	0.562	1063	2.25%	1215	348	1563	4170	145	1708	3.48%	YES	40%	

(1) St. Lucie County 2019/2020 Traffic Counts and LOS Report
(2) Area wide growth rate calculated from FDOT Historical AADT
(3) 2020 Count
(4) Estimated Existing 2020 Traffic
(5) Detailed Analysis used to demonstrate Concurrency

Two-Way:	452
Net In:	362
Net Out:	90
Years Grown:	6

TABLE 3b - Link Analysis - PM

Segment	From	To	Direction	IN/OUT	Greater than 3% (1% on Adjacent Links)	AADT 2017	D Factor	2017 Peak Hour Directional Volumes	Growth Rate (2)	2023 PM Peak Hour + Growth	PM Peak Hour Committed Projects Directional	2023 Growth + Committed Peak Direction	Peak Hour Service Capacity (1)	Project Volume Peak Direction	Total Traffic (Peak Direction)	% Project of Capacity- Peak Hour	Does Project Satisfy Concurrency?	Project Percent Assignment	
Peters Rd	Crossroads Pkwy	White Rd	SB	OUT	YES	2000 (4)	0.562	100 (4)	2.25%	107	13	120	920	19	139	2.07%	YES	5%	
	White Rd	Graham Rd	NB	OUT	YES	2000 (4)	0.438	78 (4)	2.25%	83	10	93	920	37	130	4.02%	YES	10%	
Kings Hwy	Okeechobee Rd	Crossroads Pkwy	SB	OUT	YES	8234	0.562	369	2.25%	422	125	547	1800	167	714	9.28%	YES	45%	*
	Crossroads Pkwy	Project Entrance	NB	IN	YES	8234	0.438	288	2.25%	329	125	454	1800	52	506	2.89%	YES	45%	*
	Crossroads Pkwy	Project Entrance	SB	OUT	YES	8234	0.562	369	2.25%	422	244	666	1800	167	833	9.28%	YES	45%	*
	Project Entrance	Graham Rd	NB	OUT	YES	8234	0.438	288	2.25%	329	125	454	1800	148	602	8.22%	YES	40%	*
	Project Entrance	Graham Rd	SB	IN	YES	8234	0.562	369	2.25%	422	244	666	1800	46	712	2.56%	YES	40%	*
	Graham Rd	Picos Rd	NB	OUT	YES	8216	0.438	303	2.25%	346	244	590	1800	130	720	7.22%	YES	35%	*
	Picos Rd	Orange Ave	NB	OUT	YES	8216	0.438	303	2.25%	346	271	617	1800	119	736	6.61%	YES	32%	
Graham Rd	Kings Hwy	Jenkins Rd	EB	IN	YES	3733	0.509	243	2.25%	278	4	282	630	37	319	5.87%	YES	10%	*
Orange Ave	Jenkins Rd	Hartman Rd	EB	OUT	YES	14189	0.509	710	2.25%	811	112	923	2000	93	1016	4.65%	YES	25%	
	I-95	Jenkins Rd	EB	OUT	YES	14009	0.509	905	2.25%	1034	219	1253	2000	74	1327	3.70%	YES	20%	
	Kings Hwy	I - 95	EB	OUT	YES	18112	0.562	786	2.25%	898	349	1247	2000	111	1358	5.55%	YES	30%	
Jenkins Rd	Graham Rd	Peterson Rd	NB	OUT	YES	10500 (3)	0.509	569 (3)	2.25%	608	97	705	630	37	742	5.87%	YES (5)	10%	*
	Peterson Rd	Orange Ave	NB	OUT	YES	10500 (3)	0.509	569 (3)	2.25%	608	196	804	920	37	841	4.02%	YES	10%	
Okeechobee Rd	Kings Hwy	I - 95	EB	IN	YES	24585	0.562	1086	2.25%	1241	622	1863	4170	148	2011	3.55%	YES	40%	

(1) St. Lucie County 2019 Traffic Counts and LOS Report
(2) Area wide growth rate calculated from FDOT Historical AADT
(3) 2020 Count
(4) Estimated Existing 2020 Traffic
(5) Detailed Analysis used to demonstrate Concurrency

Two-Way:	486
Net In:	115
Net Out:	371
Years Grown:	6

DRIVEWAY ANALYSIS

The project will have a total of 5 driveways. Driveway 1 will be a directional access driveway on Kings Highway with right-in/left-in/right-out access. Driveways 2, 3, and 4 will be full access driveways located on White Road. Driveway 5 will be a full access driveway located on Peters Road. **Figure 3** shows the driveway volumes for the AM and PM peak hours. These driveways were analyzed using HCS. The analysis shows all 5 driveways will operate at an acceptable level of service at project buildout.

Table 4 summarizes the results. The driveway analysis is shown in **Appendix F.**

Table 4: Intersection Analysis Results

Intersection	2023 with Project				2023 without Project			
	AM		PM		AM		PM	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay(s)	LOS
Kings Highway & White Road	EB - 24.5 WB - 29.4 [18.5]	EB - C WB - D B	EB - 24.5 WB - 59.3 [33.1]	EB - C WB - D C	EB - 19.0 WB - 54.3 [17.7]	EB - C WB - F B	EB - 20.9 WB - 52.5 [30.8]	EB - C WB - F C
Kings Highway & Driveway 1	12.5	B	12.3	B		NOT	APPLICABLE	
White Road & Driveway 2	10.2	B	11	B				
White Road & Driveway 3	9.7	A	10.1	B				
White Road & Driveway 4	9.3	A	9.4	A				
Peters Road & Driveway 5	EB - 9.5 WB-10	EB-A WB- B	EB - 10.4 WB-10.5	EB-B WB- B				
Kings Highway & Orange Avenue	54.6	D	71 (54.7)	E (D)	54.2	D	68.8 (52.7)	E (D)
Kings Highway & Okeechobee	51.5	D	54.9	D	51.3	D	54.9	D

*LOS D as Signalized

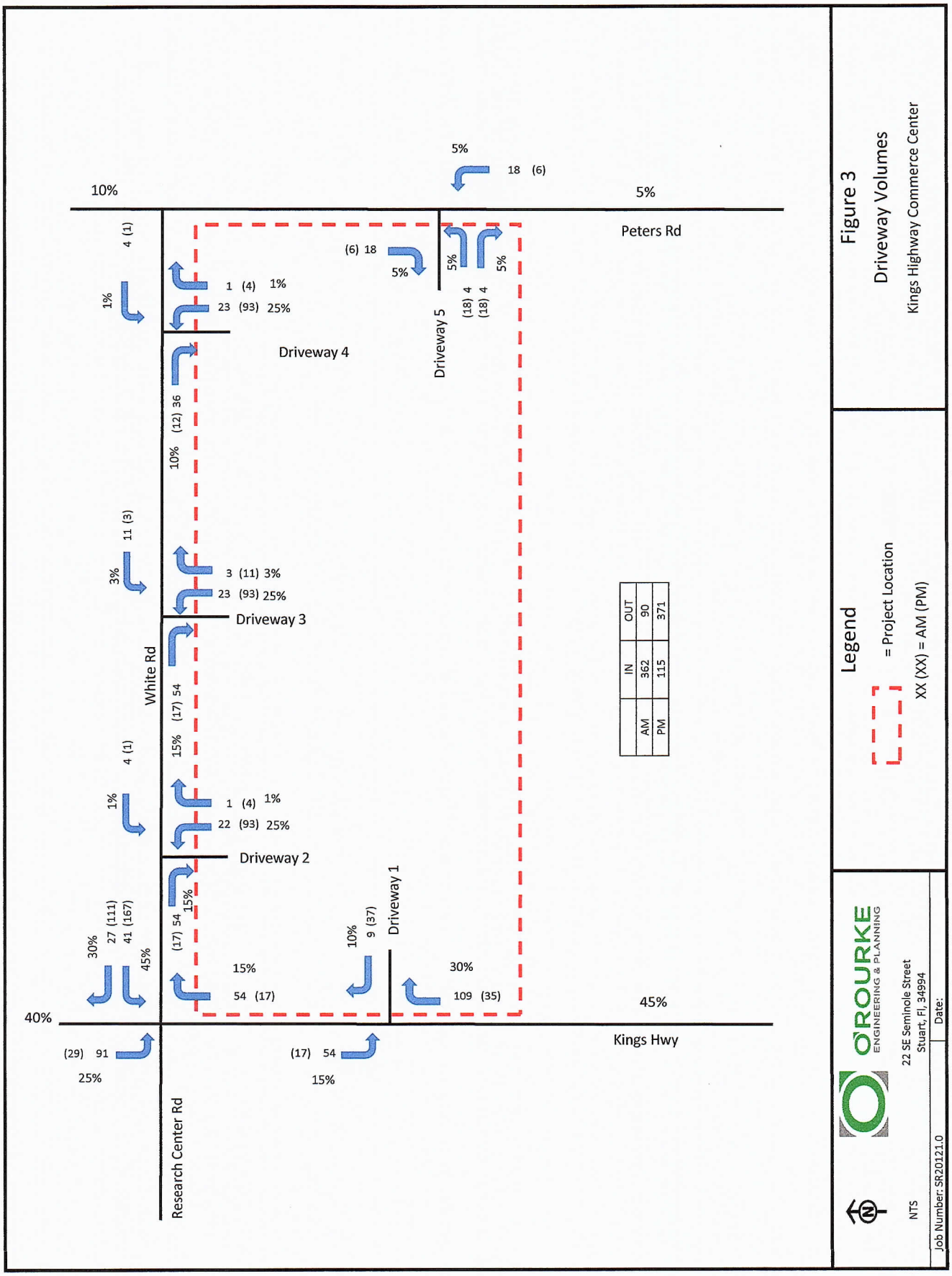
( ) = with restriped dual lefts NB/SB

[ ] = with signal

CONCLUSION

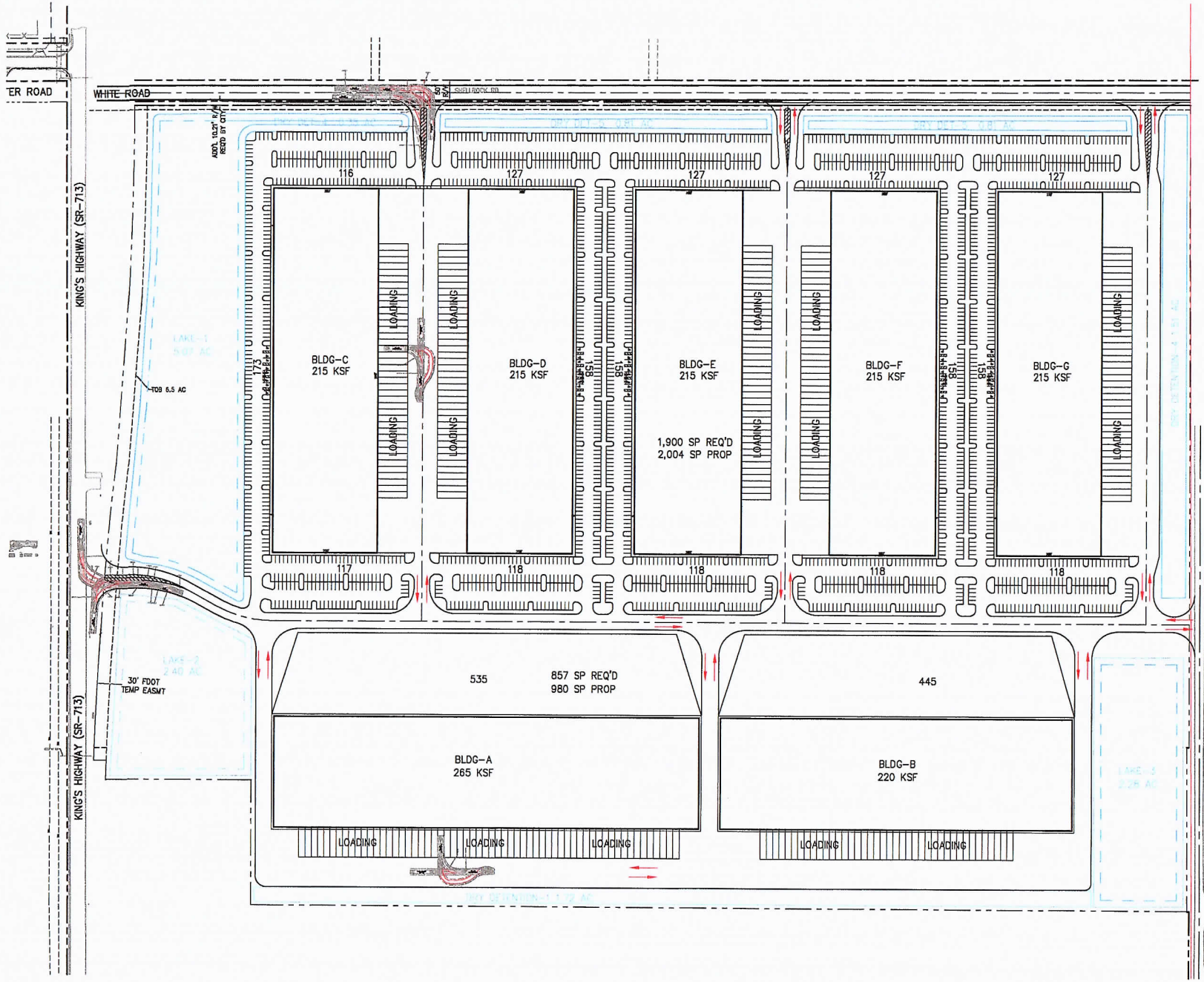
With 452 net new AM peak hour trips and 486 net new PM peak hour trips, all links and intersections operate at acceptable levels of service with the existing roadway network. Therefore, the project meets the requirements for concurrency.

Additionally, with the maximum use/industrial park scenario, level of service is maintained at all links and intersections. The analysis included in **Appendix A** supports this conclusion. Therefore, the project can maintain flexibility if a more traffic intense user than the warehouse use occupies the project.

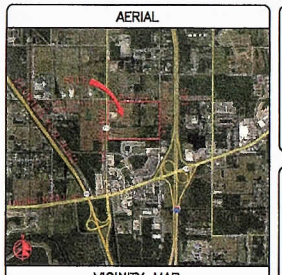

Peters Rd
Kings Hwy
Research Center Rd
White Rd
Driveway 1
Driveway 2
Driveway 3
Driveway 4
Driveway 5
10%
5%
40%
45%
5% 18 (6)
(6) 18 5%
5% 5%
(18) 4
(18) 4
1% 4 (1)
1 (4) 1%
23 (93) 25%
10% (12) 36
3% 11 (3)
3 (11) 3%
23 (93) 25%
15% (17) 54
1% 4 (1)
1 (4) 1%
22 (93) 25%
15% (17) 54
30% 27 (111)
41 (167) 45%
15%
54 (17)
10% 9 (37)
30% 109 (35)
(29) 91 25%
(17) 54 15%
AM IN 362 OUT 90
PM 115 371
Legend
= Project Location
XX (XX) = AM (PM)
Figure 3
Driveway Volumes
Kings Highway Commerce Center
O'ROURKE ENGINEERING & PLANNING
22 SE Seminole Street
Stuart, Fl, 34994
NTS
Job Number: SR20121.0
Date:

APPENDIX A

SITE PLAN
&
MAXIMUM USE/INDUSTRIAL PARK ALTERNATIVE ANALYSIS



AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

100' 0 50' 100' 200'

SCALE: 1" = 100'

LOT AREA	108 AC
BLDG AREA	1,560,000 SF
WAREHOUSE	1,460,000 SF
OFFICE	100,000 SF
PARKING	REQ'D 2,767 SP
	PROP 2,984 SP

Jeff H. Iravani, Inc.
Consulting Engineers
1934 COMMERCE LANE, SUITE 5
JUPITER, FLORIDA 33458
TEL: (561) 575-6030
FAX: (561) 575-6088
JHI@bellsouth.net

Kings Highway Development Partners, LLC

Fort Pierce, Florida

CONCEPTUAL SITE PLAN

DATE 07-13-2006 | SCALE 1" = 100' | DESIGNED BY JHI | DRAWN BY JLT

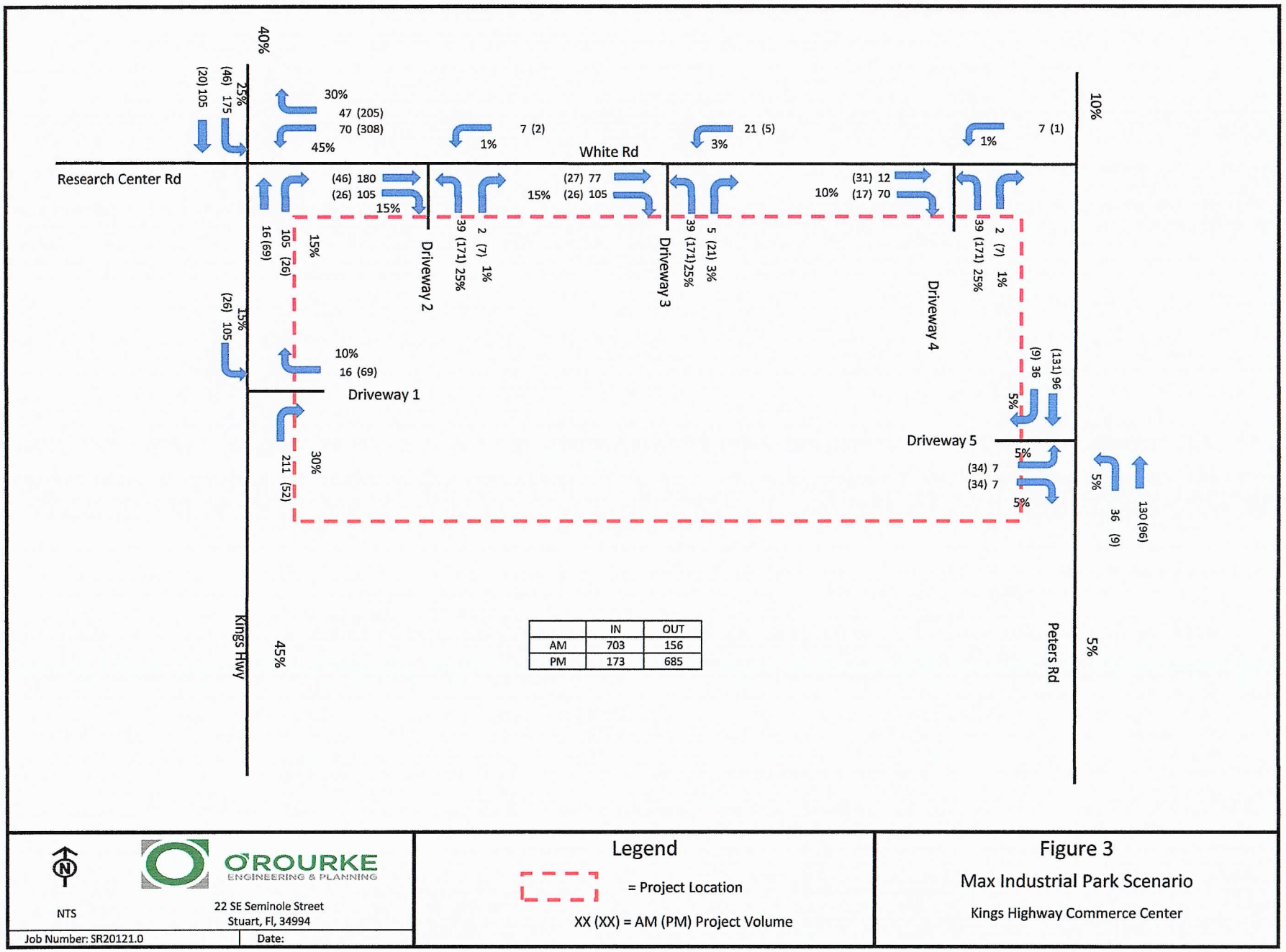
SEAL

JOB NO. 0605-939

SHEET NO. CSP-2

A-1

MAXIMUM USE/INDUSTRIAL PARK ALTERNATIVE ANALYSIS



NTS

O'ROURKE ENGINEERING & PLANNING

22 SE Seminole Street
Stuart, Fl, 34994

Job Number: SR20121.0

Date:

Legend

= Project Location

XX (XX) = AM (PM) Project Volume

Figure 3

Max Industrial Park Scenario

Kings Highway Commerce Center

Table 1 - Trip Generation - Kings Highway Commerce Center

Table 1a: Daily

	Land Use	ITE Code	Intensity	Units	Trip Generation Rate	Directional Split		Gross Trips			Net New Trips		
						In	Out	In	Out	Total	In	Out	Total
Office	General Office	710	130,000	Sft	Ln(T) = 0.97 Ln(X) + 2.50	50%	50%	633	633	1,266	633	633	1,266
Industrial	Industrial Park	130	1,770,000	Sft	Ln(T) = 0.52 Ln(X) + 4.45	50%	50%	2,983	2,982	5,965	2,983	2,982	5,965
	TOTALS							**3,616**	**3,615**	**7,231**	**3,616**	**3,615**	**7,231**

Source: ITE 10th Edition Trip Generation Rates

Table 1b: AM Peak Hour

	Land Use	ITE Code	Intensity	Units	Trip Generation Rate	Directional Split		Gross Trips			Net New Trips		
						In	Out	In	Out	Total	In	Out	Total
Office	General Office	710	130,000	Sft	T = 1.16(X)	86%	14%	130	21	151	130	21	151
Industrial	Industrial Park	130	1,770,000	Sft	T = 0.40(X)	81%	19%	573	135	708	573	135	708
	TOTALS							**703**	**156**	**859**	**703**	**156**	**859**

Source: ITE 10th Edition Trip Generation Rates

Table 1c: PM Peak Hour

	Land Use	ITE Code	Intensity	Units	Trip Generation Rate	Directional Split		Gross Trips			Net New Trips		
						In	Out	In	Out	Total	In	Out	Total
Office	General Office	710	130,000	Sft	T = 1.15(X)	16%	84%	24	126	150	24	126	150
Industrial	Industrial Park	130	1,770,000	Sft	T = 0.40(X)	21%	79%	149	559	708	149	559	708
	TOTALS							**173**	**685**	**858**	**173**	**685**	**858**

Source: ITE 10th Edition Trip Generation Rates

TABLE 2a - Project Percent Impact - AM- Maximum Industrial Park Scenario

Segment	From	To	Direction	IN/OUT	Greater than 3% (1% on Adjacent Links) [2]	Peak Hour Service Capacity (E+C) [1]	Project Volume Peak Direction	% Project of Capacity-Peak Hour	Project Percent Assignment
Peters Rd	Crossroads Pkwy	White Rd	NB	IN	YES	920	35	3.80%	5%
	Crossroads Pkwy	White Rd	SB	OUT	NO	920	8	0.87%	5%
	White Rd	Graham Rd	NB	OUT	NO	920	16	1.74%	10%
	White Rd	Graham Rd	SB	IN	YES	920	70	7.61%	10%
Kings Hwy	Okeechobee Rd	Crossroads Pkwy	NB	IN	YES	1800	316	17.56%	45%
	Okeechobee Rd	Crossroads Pkwy	SB	OUT	YES	1800	70	3.89%	45%
	Crossroads Pkwy	Project Entrance	NB	IN	YES	1800	316	17.56%	45%
	Crossroads Pkwy	Project Entrance	SB	OUT	YES	1800	70	3.89%	45%
	Project Entrance	Graham Rd	NB	OUT	YES	1800	62	3.44%	40%
	Project Entrance	Graham Rd	SB	IN	YES	1800	281	15.61%	40%
	Graham Rd	Picos Rd	NB	OUT	YES	1800	55	3.06%	35%
	Graham Rd	Picos Rd	SB	IN	YES	1800	246	13.67%	35%
	Picos Rd	Orange Ave	NB	OUT	NO	1800	50	2.78%	32%
	Picos Rd	Orange Ave	SB	IN	YES	1800	225	12.50%	32%
Graham Rd	Kings Hwy	Jenkins Rd	EB	OUT	NO	630	16	2.54%	10%
	Kings Hwy	Jenkins Rd	WB	IN	YES	630	70	11.11%	10%
Virginia Ave	Okeechobee Rd	Hartman Rd	EB	OUT	NO	3020	16	0.53%	10%
	Okeechobee Rd	Hartman Rd	WB	IN	NO	3020	70	2.32%	10%
Orange Ave	Jenkins Rd	Hartman Rd	EB	OUT	NO	2000	39	1.95%	25%
	Jenkins Rd	Hartman Rd	WB	IN	YES	2000	176	8.80%	25%
	I-95	Jenkins Rd	EB	IN	YES	2000	141	7.05%	20%
	I-95	Jenkins Rd	WB	OUT	NO	2000	31	1.55%	20%
	Kings Hwy	I - 95	EB	OUT	NO	2000	47	2.35%	30%
	Kings Hwy	I - 95	WB	IN	YES	2000	211	10.55%	30%
	Campbell Rd	Kings Hwy	EB	IN	NO	1070	14	1.31%	2%
	Campbell Rd	Kings Hwy	WB	OUT	NO	1070	3	0.28%	2%
Jenkins Rd	Graham Rd	Peterson Rd	NB	OUT	NO	630	16	2.54%	10%
	Graham Rd	Peterson Rd	SB	IN	YES	630	70	11.11%	10%
	Peterson Rd	Orange Ave	NB	OUT	NO	920	16	1.74%	10%
	Peterson Rd	Orange Ave	SB	IN	YES	920	70	7.61%	10%
Okeechobee Rd	McCarty Rd	Florida Turnpike	EB	IN	NO	1810	35	1.93%	5%
	McCarty Rd	Florida Turnpike	WB	OUT	NO	1810	8	0.44%	5%
	Florida Turnpike	Kings Hwy	EB	IN	NO	2010	35	1.74%	5%
	Florida Turnpike	Kings Hwy	WB	OUT	NO	2010	8	0.40%	5%
	Kings Hwy	I - 95	EB	OUT	NO	4170	62	1.49%	40%
	Kings Hwy	I - 95	WB	IN	YES	4170	281	6.74%	40%
	I - 95	Jenkins Rd	EB	OUT	NO	4240	31	0.73%	20%
	I - 95	Jenkins Rd	WB	IN	YES	4240	141	3.33%	20%
	Jenkins Rd	McNeil Ave	EB	OUT	NO	4040	31	0.77%	20%
	Jenkins Rd	McNeil Ave	WB	IN	YES	4040	141	3.49%	20%
I-95	Midway Rd	Okeechobee Rd	NB	IN	NO	7320	141	1.93%	20%
	Midway Rd	Okeechobee Rd	SB	OUT	NO	7320	31	0.42%	20%
	Orange Ave	Indrio Rd	NB	OUT	NO	7320	16	0.22%	10%
	Orange Ave	Indrio Rd	SB	IN	NO	7320	70	0.96%	10%

(1) FDOT 2020 Service Capacity Tables & St. Lucie TPO

(2) According to the Guidelines prepared by the TPO and modified by the City and County

Two-Way: 859
Net In: 703
Net Out: 156

TABLE 2b - Project Percent Impact - PM- Maximum Industrial Park Scenario

Segment	From	To	Direction	IN/OUT	Greater than 3% (1% on Adjacent Links) [2]	Peak Hour Service Capacity (E+C) [1]	Project Volume Peak Direction	% Project of Capacity-Peak Hour	Project Percent Assignment
Peters Rd	Crossroads Pkwy	White Rd	NB	IN	NO	920	9	0.98%	5%
	Crossroads Pkwy	White Rd	SB	OUT	YES	920	34	3.70%	5%
	White Rd	Graham Rd	NB	OUT	YES	920	69	7.50%	10%
	White Rd	Graham Rd	SB	IN	NO	920	17	1.85%	10%
Kings Hwy	Okeechobee Rd	Crossroads Pkwy	NB	IN	YES	1800	78	4.33%	45%
	Okeechobee Rd	Crossroads Pkwy	SB	OUT	YES	1800	308	17.11%	45%
	Crossroads Pkwy	Project Entrance	NB	IN	YES	1800	78	4.33%	45%
	Crossroads Pkwy	Project Entrance	SB	OUT	YES	1800	308	17.11%	45%
	Project Entrance	Graham Rd	NB	OUT	YES	1800	274	15.22%	40%
	Project Entrance	Graham Rd	SB	IN	YES	1800	69	3.83%	40%
	Graham Rd	Picos Rd	NB	OUT	YES	1800	240	13.33%	35%
	Graham Rd	Picos Rd	SB	IN	YES	1800	61	3.39%	35%
	Picos Rd	Orange Ave	NB	OUT	YES	1800	219	12.17%	32%
	Picos Rd	Orange Ave	SB	IN	YES	1800	55	3.06%	32%
Graham Rd	Kings Hwy	Jenkins Rd	EB	OUT	YES	630	69	10.95%	10%
	Kings Hwy	Jenkins Rd	WB	IN	NO	630	17	2.70%	10%
Virginia Ave	Okeechobee Rd	Hartman Rd	EB	OUT	NO	3020	69	2.28%	10%
	Okeechobee Rd	Hartman Rd	WB	IN	NO	3020	17	0.56%	10%
Orange Ave	Jenkins Rd	Hartman Rd	EB	OUT	YES	2000	171	8.55%	25%
	Jenkins Rd	Hartman Rd	WB	IN	NO	2000	43	2.15%	25%
	I-95	Jenkins Rd	EB	OUT	YES	2000	137	6.85%	20%
	I-95	Jenkins Rd	WB	IN	NO	2000	35	1.75%	20%
	Kings Hwy	I - 95	EB	OUT	YES	2000	206	10.30%	30%
	Kings Hwy	I - 95	WB	IN	NO	2000	52	2.60%	30%
	Campbell Rd	Kings Hwy	EB	IN	NO	1070	3	0.28%	2%
	Campbell Rd	Kings Hwy	WB	OUT	NO	1070	14	1.31%	2%
Jenkins Rd	Graham Rd	Peterson Rd	NB	OUT	YES	630	69	10.95%	10%
	Graham Rd	Peterson Rd	SB	IN	NO	630	17	2.70%	10%
	Peterson Rd	Orange Ave	NB	OUT	YES	920	69	7.50%	10%
	Peterson Rd	Orange Ave	SB	IN	NO	920	17	1.85%	10%
Okeechobee Rd	McCarty Rd	Florida Turnpike	EB	IN	NO	1810	9	0.50%	5%
	McCarty Rd	Florida Turnpike	WB	OUT	NO	1810	34	1.88%	5%
	Florida Turnpike	Kings Hwy	EB	IN	NO	2010	9	0.45%	5%
	Florida Turnpike	Kings Hwy	WB	OUT	NO	2010	34	1.69%	5%
	Kings Hwy	I - 95	EB	OUT	YES	4170	274	6.57%	40%
	Kings Hwy	I - 95	WB	IN	NO	4170	69	1.65%	40%
	I - 95	Jenkins Rd	EB	OUT	YES	4240	137	3.23%	20%
	I - 95	Jenkins Rd	WB	IN	NO	4240	35	0.83%	20%
	Jenkins Rd	Virginia Ave	EB	OUT	YES	4040	137	3.39%	20%
	Jenkins Rd	Virginia Ave	WB	IN	NO	4040	35	0.87%	20%
I-95	Midway Rd	Okeechobee Rd	NB	IN	NO	7320	35	0.48%	20%
	Midway Rd	Okeechobee Rd	SB	OUT	NO	7320	137	1.87%	20%
	Orange Ave	Indrio Rd	NB	OUT	NO	7320	69	0.94%	10%
	Orange Ave	Indrio Rd	SB	IN	NO	7320	17	0.23%	10%

(1) FDOT 2020 Service Capacity Tables & St. Lucie TPO

(2) According to the Guidelines prepared by the TPO and modified by the City and County

Two-Way: 858
Net In: 173
Net Out: 685

TABLE 3a - Link Analysis - AM

Segment	From	To	Direction	IN/OUT	Greater than 3% (1% on Adjacent Links)	AADT 2017	D Factor	2017 Peak Hour Directional Volumes	Growth Rate (2)	2023 AM Peak Hour + Growth	AM Peak Hour Committed Projects Directional	2023 Growth + Committed Peak Direction	Peak Hour Service Capacity (1)	Project Volume Peak Direction	Total Traffic (Peak Direction)	% Project of Capacity- Peak Hour	Does Project Satisfy Concurrency?	Project Percent Assignment
Peters Rd	Crossroads Pkwy	White Rd	NB	IN	YES	2000 (4)	0.562	100 (4)	2.25%	107	23	130	920	35	165	3.80%	YES	5%
	White Rd	Graham Rd	SB	IN	YES	2000 (4)	0.438	78 (4)	2.25%	83	13	96	920	70	166	7.61%	YES	10%
Kings Hwy	Okeechobee Rd	Crossroads Pkwy	NB	IN	YES	8234	0.562	361	2.25%	413	38	451	1800	316	767	17.56%	YES	45%
	Crossroads Pkwy	Project Entrance	NB	IN	YES	8234	0.562	361	2.25%	413	38	451	1800	316	767	17.56%	YES	45%
	Crossroads Pkwy	Project Entrance	SB	OUT	YES	8324	0.438	281	2.25%	321	14	335	1800	70	405	3.89%	YES	45%
	Project Entrance	Graham Rd	NB	OUT	YES	8234	0.562	361	2.25%	413	38	451	1800	62	513	3.44%	YES	40%
	Project Entrance	Graham Rd	SB	IN	YES	8234	0.438	281	2.25%	321	14	335	1800	281	616	15.61%	YES	40%
	Graham Rd	Picos Rd	SB	IN	YES	8216	0.438	315	2.25%	360	14	374	1800	246	620	13.67%	YES	35%
	Picos Rd	Orange Ave	SB	IN	YES	8216	0.438	315	2.25%	360	45	405	1800	225	630	12.50%	YES	32%
Graham Rd	Kings Hwy	Jenkins Rd	WB	OUT	YES	3733	0.509	255	2.25%	291	0	291	630	16	307	2.54%	YES	10%
Orange Ave	Jenkins Rd	Hartman Rd	WB	IN	YES	14189	0.509	764	2.25%	873	68	941	2000	176	1117	8.80%	YES	25%
	I-95	Jenkins Rd	EB	IN	YES	14009	0.491	737	2.25%	842	145	987	2000	141	1128	7.05%	YES	20%
	Kings Hwy	I - 95	WB	IN	YES	18112	0.562	780	2.25%	891	144	1035	2000	211	1246	10.55%	YES	30%
Jenkins Rd	Graham Rd	Peterson Rd	SB	IN	YES	10500 (3)	0.509	593 (3)	2.25%	634	101	735	630	70	805	11.11%	YES (5)	10%
	Peterson Rd	Orange Ave	SB	IN	YES	10500 (3)	0.509	593 (3)	2.25%	634	123	757	920	70	827	7.61%	YES	10%
Okeechobee Rd	Kings Hwy	I - 95	WB	OUT	YES	24585	0.562	1063	2.25%	1215	33	1248	4170	281	1529	6.74%	YES	40%

(1) St. Lucie County 2019/2020 Traffic Counts and LOS Report
(2) Area wide growth rate calculated from FDOT Historical AADT
(3) 2020 Count
(4) Estimated Existing 2020 Traffic
(5) Detailed Analysis used to demonstrate Concurrency

Two-Way:	859
Net In:	703
Net Out:	156
Years Grown:	6

TABLE 3b - Link Analysis - PM

Segment	From	To	Direction	IN/OUT	Greater than 3% (1% on Adjacent Links)	AADT 2017	D Factor	2017 Peak Hour Directional Volumes	Growth Rate (2)	2023 PM Peak Hour + Growth	PM Peak Hour Committed Projects Directional	2023 Growth + Committed Peak Direction	Peak Hour Service Capacity (1)	Project Volume Peak Direction	Total Traffic (Peak Direction)	% Project of Capacity- Peak Hour	Does Project Satisfy Concurrency?	Project Percent Assignment
Peters Rd	Crossroads Pkwy	White Rd	SB	OUT	YES	2000 (4)	0.562	100 (4)	2.25%	107	24	131	920	34	165	3.70%	YES	5%
	White Rd	Graham Rd	NB	OUT	YES	2000 (4)	0.438	78 (4)	2.25%	83	13	96	920	69	165	7.50%	YES	10%
Kings Hwy	Okeechobee Rd	Crossroads Pkwy	SB	OUT	YES	8234	0.562	369	2.25%	422	43	465	1800	308	773	17.11%	YES	45%
	Crossroads Pkwy	Project Entrance	NB	IN	YES	8234	0.438	288	2.25%	329	38	367	1800	78	445	4.33%	YES	45%
	Crossroads Pkwy	Project Entrance	SB	OUT	YES	8234	0.562	369	2.25%	422	43	465	1800	308	773	17.11%	YES	45%
	Project Entrance	Graham Rd	NB	OUT	YES	8234	0.438	288	2.25%	329	38	367	1800	274	641	15.22%	YES	40%
	Project Entrance	Graham Rd	SB	IN	YES	8234	0.562	369	2.25%	422	43	465	1800	69	534	3.83%	YES	40%
	Graham Rd	Picos Rd	NB	OUT	YES	8216	0.438	303	2.25%	346	38	384	1800	240	624	13.33%	YES	35%
	Picos Rd	Orange Ave	NB	OUT	YES	8216	0.438	303	2.25%	346	114	460	1800	219	679	12.17%	YES	32%
Graham Rd	Kings Hwy	Jenkins Rd	EB	IN	YES	3733	0.509	243	2.25%	278	0	278	630	69	347	10.95%	YES	10%
Orange Ave	Jenkins Rd	Hartman Rd	EB	OUT	YES	14189	0.509	710	2.25%	811	79	890	2000	171	1061	8.55%	YES	25%
	I-95	Jenkins Rd	EB	OUT	YES	14009	0.509	905	2.25%	1034	163	1197	2000	137	1334	6.85%	YES	20%
	Kings Hwy	I - 95	EB	OUT	YES	18112	0.562	786	2.25%	898	96	994	2000	206	1200	10.30%	YES	30%
Jenkins Rd	Graham Rd	Peterson Rd	NB	OUT	YES	10500 (3)	0.509	569 (3)	2.25%	608	96	704	630	69	773	10.95%	YES (5)	10%
	Peterson Rd	Orange Ave	NB	OUT	YES	10500 (3)	0.509	569 (3)	2.25%	608	177	785	920	69	854	7.50%	YES	10%
Okeechobee Rd	Kings Hwy	I - 95	EB	IN	YES	24585	0.562	1086	2.25%	1241	51	1292	4170	274	1566	6.57%	YES	40%

(1) St. Lucie County 2019 Traffic Counts and LOS Report
(2) Area wide growth rate calculated from FDOT Historical AADT
(3) 2020 Count
(4) Estimated Existing 2020 Traffic
(5) Detailed Analysis used to demonstrate Concurrency

Two-Way:	858
Net In:	173
Net Out:	685
Years Grown:	6

APPENDIX B

ST. LUCIE COUNTY 2019/2020 LEVEL OF SERVICE REPORT
&
FDOT 2020 QUALITY LEVEL OF SERVICE

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
Fall/Winter 2019/2020

Roadway Name	Location	STATION ID	AADT	Last Count Year	Pk Hr Service Capacity	AM Pk Hr Pk Dir			PM Pk Hr Pk Dir		
						Volume	LOS	V/C	Volume	LOS	V/C
GEORGIA AVE	OKEECHOBEE RD to 17TH ST	667	4,700	2020	750	290	C	0.784	262	C	0.708
GEORGIA AVE	17TH ST to 13TH ST	508	4,733	2019	600	264	C	0.880	268	C	0.893
GEORGIA AVE	13TH ST to 7TH ST	506	2,169	2019	600	134	C	0.447	137	C	0.457
GEORGIA AVE	7TH ST to US 1	504	1,938	2019	600	122	C	0.407	135	C	0.450
GILSON RD	MARTIN C.L. to BECKER RD	111	11,000	2019	710	949	F	1.249	954	F	1.255
GILSON RD	BECKER RD to LAKERIDGE DR	111	11,000	2019	540	949	F	1.636	954	F	1.645
GLADES CUT-OFF RD	RANGE LINE RD to RESERVE BLVD	668	2,833	2017	1,070	200	B	0.526	252	B	0.663
GLADES CUT-OFF RD	RESERVE BLVD to COMMERCE CENTER DR	119	3,585	2016	1,070	332	B	0.874	332	B	0.874
GLADES CUT-OFF RD	CARLTON RD to RANGE LINE RD	668	2,833	2017	390	200	B	0.909	252	C	0.646
GLADES CUT-OFF RD	COMMERCE CENTER DR to MIDWAY RD	940279	2,770	2017	920	210	C	0.241	192	C	0.221
GLADES CUT-OFF RD	MIDWAY RD to JENKINS RD	115	12,500	2020	790	669	D	0.847	687	D	0.870
GLADES CUT-OFF RD	JENKINS RD to SELVITZ RD	113	6,600	2020	830	370	C	0.474	385	C	0.494
GRAHAM RD	KINGS HWY to JENKINS RD	669	3,733	2017	630	255	C	0.425	243	C	0.405
GREEN RIVER PKWY	MARTIN C.L. to CHARLESTON DR	319	4,759	2018	1,070	337	B	0.887	332	B	0.874
GREEN RIVER PKWY	CHARLESTON DR to MELALEUCA BLVD	319	4,759	2018	1,070	337	B	0.887	332	B	0.874
GREEN RIVER PKWY	MELALEUCA BLVD to WALTON RD	319	4,759	2018	1,070	337	B	0.887	332	B	0.874
HARTMAN RD	OKEECHOBEE RD to PETERSON RD	670	5,867	2017	750	388	D	0.517	357	C	0.965
HARTMAN RD	PETERSON RD to DELAWARE AVE	670	5,867	2017	540	388	D	0.719	357	D	0.661
HARTMAN RD	DELAWARE AVE to ORANGE AVE	670	5,867	2017	790	388	C	0.995	357	C	0.915
HEADER CANAL RD	OKEECHOBEE RD to ORANGE AVE	121	560	2019	670	46	B	0.209	56	B	0.255
HILLMOOR DR	US 1 to LENNARD RD	671	5,900	2019	790	306	C	0.785	389	C	0.997
I-95	GATLIN BLVD to ST LUCIE WEST BLVD	941901	79,065	2017	4,580	4,048	C	0.884	3,657	C	0.798
I-95	ST LUCIE WEST BLVD to MIDWAY RD	941904	63,486	2017	4,580	3,571	C	0.780	3,079	B	0.916
I-95	MIDWAY RD to OKEECHOBEE RD	941902	75,846	2017	4,580	4,578	C	10	3,717	C	0.812
I-95	OKEECHOBEE RD to ORANGE AVE	941903	45,500	2009	7,320	1,822	B	0.405	1,894	B	0.421

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I-95	ORANGE AVE to INDRIO RD	941905	43,452	2017	7,320	2,090	B	0.464	1,924	B	0.428
INDIAN RIVER DR	CITRUS AVE to ORANGE AVE	945029	5,228	2017	750	311	C	0.841	356	C	0.962
INDIAN RIVER DR	ORANGE AVE to AVENUE A	940003	5,888	2017	750	344	C	0.930	335	C	0.905
INDIAN RIVER DR	AVENUE D to SEAWAY DR	940004	5,971	2017	790	349	C	0.895	411	D	0.520
INDIAN RIVER DR	AVENUE A to AVENUE D	940004	5,971	2017	540	349	D	0.646	411	D	0.761
INDRIO RD	PRIVATE RD to I-95 W RAMP	940128	951	2017	1,080	69	B	0.168	75	B	0.183
INDRIO RD	I-95 W RAMP to I-95 E RAMP	940128	951	2017	3,240	69	B	0.038	75	B	0.041
INDRIO RD	I-95 E RAMP to KOBLEGARD RD	940038	10,455	2017	3,240	598	B	0.330	629	B	0.348
INDRIO RD	KOBLEGARD RD to JOHNSTON RD	940038	10,455	2017	700	598	C	0.906	629	C	0.953
INDRIO RD	JOHNSTON RD to EMERSON AVE	940038	10,455	2017	880	598	C	0.720	629	C	0.758
INDRIO RD	EMERSON RD to SEMINOLE RD	940281	9,876	2017	920	595	C	0.684	501	C	0.576
INDRIO RD	SEMINOLE RD to KINGS HWY	940281	9,876	2017	790	595	D	0.753	501	D	0.634
INDRIO RD	KINGS HWY to SLASH PINE TRL	114	6,600	2020	790	422	D	0.534	413	D	0.523
INDRIO RD	SLASH PINE TRL to US 1	114	6,600	2020	920	422	C	0.485	413	C	0.475
INDRIO RD	US 1 to OLD DIXIE HWY	672	917	2016	750	64	C	0.173	86	C	0.232
JENNINGS RD	US 1 to LENNARD RD	673	4,600	2016	2,100	304	C	0.151	248	C	0.123
JENKINS RD	EDWARDS RD to OKEECHOBEE RD	133	10,500	2020	880	549	C	0.661	553	C	0.666
JENKINS RD	OKEECHOBEE RD to GRAHAM RD	131	10,500	2020	920	593	C	0.682	569	C	0.654
JENKINS RD	GRAHAM RD to PETERSON RD	131	10,500	2020	630	593	C	0.988	569	C	0.948
JENKINS RD	PETERSON RD to ORANGE AVE	131	10,500	2020	920	593	C	0.682	569	C	0.654
JOHNSTON RD	ANGLE RD to L20	674	2,600	2016	1,070	176	B	0.463	171	B	0.450
JOHNSTON RD	L20 to MEADOWOOD DR	675	2,233	2017	1,070	142	B	0.374	138	B	0.363
JOHNSTON RD	MEADOWOOD DR to OLD JOHNSTON RD	675	2,233	2017	1,070	142	B	0.374	138	B	0.363
JOHNSTON RD	OLD JOHNSTON RD to INDRIO RD	675	2,233	2017	1,070	142	B	0.374	138	B	0.363
JOHNSTON RD	INDRIO RD to RUSSOS RD	135	9,600	2020	1,070	544	C	0.716	545	C	0.717

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JOHNSTON RD	RUSSOS RD to INDIAN RIVER C.L.	135	9,600	2020	1,070	544	C	0.716	545	C	0.717
JUANITA AVE	53RD ST to 25TH ST	122	2,432	2017	750	157	C	0.424	143	C	0.386
JUANITA AVE	25TH ST to US 1	120	3,321	2017	750	185	C	0.500	182	C	0.492
KEEN RD	ANGLE RD to JUANITA AVE	129	2,885	2019	630	174	C	0.290	203	C	0.338
KEEN RD	JUANITA AVE to ST LUCIE BLVD	129	2,885	2019	630	174	C	0.290	203	C	0.338
KINGS HWY	OKEECHOBEE RD to CROSSROADS PKWY	940757	8,234	2017	830	361	C	0.435	369	C	0.445
KINGS HWY	CROSSROADS PKWY to GRAHAM RD	940757	8,234	2017	660	361	C	0.547	369	C	0.559
KINGS HWY	GRAHAM RD to PICOS RD	940076	8,216	2017	660	405	C	0.614	389	C	0.589
KINGS HWY	PICOS RD to ORANGE AVE	940076	8,216	2017	830	405	C	0.488	389	C	0.469
KINGS HWY	ORANGE AVE to ANGLE RD	940077	16,792	2017	870	885	D	0.962	890	D	0.967
KINGS HWY	ANGLE RD to ST LUCIE BLVD	940751	11,394	2017	830	627	C	0.755	630	C	0.759
KINGS HWY	ST LUCIE BLVD to INDRIO RD	940006	13,481	2017	830	836	D	0.950	786	C	0.947
KITTERMAN RD	OLEANDER AVE to US 1	124	3,402	2018	750	224	C	0.605	203	C	0.549
KITTERMAN RD	US 1 to LENNARD EXT	678	2,250	2017	750	128	C	0.346	130	C	0.351
KIRBY LOOP RD	EDWARDS RD to 35TH ST	677	4,479	2016	630	296	C	0.493	362	C	0.603
LENNARD RD	US 1 to MARIPOSA AVE	325	18,500	2019	1,710	953	D	0.557	984	D	0.575
LENNARD RD	MARIPOSA AVE to MELALEUCA BLVD	325	18,500	2019	1,710	953	D	0.557	984	D	0.575
LENNARD RD	MELALEUCA BLVD to JENNINGS RD	325	18,500	2019	1,630	953	D	0.585	984	D	0.604
LENNARD RD	JENNINGS RD to HILLMOOR DR	325	18,500	2019	1,710	953	D	0.557	984	D	0.575
LENNARD RD	HILLMOOR DR to TIFFANY AVE	325	18,500	2019	1,710	953	D	0.557	984	D	0.575
LENNARD RD	TIFFANY AVE to WALTON RD	323	5,765	2016	1,710	301	C	0.391	305	C	0.396
LENNARD RD	WALTON RD to S OF SAVANNA CLUB BLVD	679	4,455	2016	790	390	C	10	381	C	0.977
LYNGATE DR	VETERANS MEMORIAL PKWY to MORNINGSIDE BLVD	306	9,400	2020	920	588	C	0.676	626	C	0.720
LYNGATE DR	MORNINGSIDE BLVD to US 1	306	9,400	2020	920	588	C	0.676	626	C	0.720
MARIPOSA AVE	LENNARD RD to HALLAHAN ST	166	6,400	2019	880	485	C	0.584	686	C	0.827

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						Volume	LOS	V/C	Volume	LOS	V/C
OHIO AVE	SUNRISE BLVD to COLONIAL RD	686	4,250	2017	540	252	C	0.933	246	C	0.911
OHIO AVE	COLONIAL RD to US 1	686	4,250	2017	750	252	C	0.681	246	C	0.665
OKEECHOBEE RD	OKEECHOBEE C.L. to BLUEFIELD RD	687	10,500	2020	1,010	540	B	0.535	528	B	0.523
OKEECHOBEE RD	BLUEFIELD RD to CARLTON RD	687	10,500	2020	1,270	540	B	0.425	528	B	0.416
OKEECHOBEE RD	CARLTON RD to SNEED RD	940039	6,541	2017	1,340	348	B	0.260	340	B	0.254
OKEECHOBEE RD	IDEAL HOLDING RD to HEADER CANAL RD	940039	6,541	2017	1,340	348	B	0.260	340	B	0.254
OKEECHOBEE RD	SNEED RD to IDEAL HOLDING RD	940039	6,541	2017	1,340	348	B	0.260	340	B	0.254
OKEECHOBEE RD	HEADER CANAL RD to MIDWAY RD	940039	6,541	2017	1,740	348	B	0.200	340	B	0.195
OKEECHOBEE RD	MIDWAY RD to SHINN RD	940039	6,541	2017	1,740	348	B	0.200	340	B	0.195
OKEECHOBEE RD	SHINN RD to MCCARTY RD	940195	6,025	2017	1,810	327	B	0.181	327	B	0.181
OKEECHOBEE RD	MCCARTY RD to FLORIDA'S TURNPIKE	940025	7,551	2017	1,810	378	B	0.209	391	B	0.216
OKEECHOBEE RD	FLORIDA'S TURNPIKE to KINGS HWY	940025	7,551	2017	2,010	378	C	0.188	391	C	0.195
OKEECHOBEE RD	KINGS HWY to CROSSROADS PKWY	940748	21,250	2017	4,170	960	C	0.230	1,013	C	0.243
OKEECHOBEE RD	CROSSROADS PKWY to I-95	940106	24,585	2017	4,170	1,063	C	0.255	1,086	C	0.260
OKEECHOBEE RD	I-95 to JENKINS RD	940029	30,244	2017	4,240	1,976	C	0.474	1,709	C	0.410
OKEECHOBEE RD	JENKINS RD to MCNEIL RD	940029	30,244	2017	4,040	1,976	C	0.498	1,709	C	0.430
OKEECHOBEE RD	MCNEIL RD to VIRGINIA AVE	940742	28,870	2017	3,170	1,580	C	0.511	1,649	C	0.534
OKEECHOBEE RD	VIRGINIA AVE to HARTMAN RD	688	12,500	2020	2,100	687	C	0.342	727	C	0.362
OKEECHOBEE RD	HARTMAN RD to 35TH ST	688	12,500	2020	1,630	687	C	0.941	727	C	0.996
OKEECHOBEE RD	35TH ST to 33RD ST	689	17,000	2020	1,630	922	D	0.566	902	D	0.553
OKEECHOBEE RD	33RD ST to 25TH ST	689	17,000	2020	1,630	922	D	0.566	902	D	0.553
OKEECHOBEE RD	25TH ST to GEORGIA AVE	690	13,500	2020	1,630	777	D	0.477	738	D	0.453
OKEECHOBEE RD	GEORGIA AVE to DELAWARE AVE	690	13,500	2020	1,710	777	D	0.454	738	C	0.958
OLD DIXIE HWY	US 1 to SR A1A NORTH	691	5,150	2017	790	400	D	0.506	363	C	0.931
OLD DIXIE HWY	SR A1A NORTH to ST LUCIE BLVD	948521	1,383	2017	750	65	C	0.176	65	C	0.176

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						Volume	LOS	V/C	Volume	LOS	V/C
OLD DIXIE HWY	ST LUCIE BLVD to INDRIO RD	227	2,041	2016	790	150	C	0.385	116	C	0.297
OLD DIXIE HWY	INDRIO RD to INDIAN RIVER C.L.	948523	1,227	2017	870	57	C	0.069	57	C	0.069
OLEANDER AVE	BEACH AVE to KITTERMAN RD	692	2,900	2017	540	175	C	0.648	193	C	0.715
OLEANDER AVE	KITTERMAN RD to MIDWAY RD	141	6,498	2017	750	406	D	0.541	426	D	0.568
OLEANDER AVE	MIDWAY RD to WEATHERBEE RD	139	7,100	2020	750	388	D	0.517	421	D	0.561
OLEANDER AVE	WEATHERBEE RD to BELL AVE	139	7,100	2020	540	388	D	0.719	421	D	0.780
OLEANDER AVE	BELL AVE to FARMER'S MARKET RD	240	12,500	2020	540	671	F	1.157	647	F	1.116
OLEANDER AVE	FARMER'S MARKET RD to EDWARDS RD	240	12,500	2020	750	671	D	0.895	647	D	0.863
OLEANDER AVE	EDWARDS RD to WISTERIA AVE	505	10,000	2020	750	611	D	0.815	554	D	0.739
OLEANDER AVE	WISTERIA AVE to GARDENIA AVE	505	10,000	2020	540	611	F	1.053	554	E	0.955
OLEANDER AVE	GARDENIA AVE to VIRGINIA AVE	505	10,000	2020	790	611	D	0.773	554	D	0.701
OLEANDER AVE	VIRGINIA AVE to SUNRISE BLVD	503	4,561	2019	600	259	C	0.863	270	C	0.900
ORANGE AVE	OKEECHOBEE C.L. to SNEED RD	144	4,780	2019	390	300	C	0.769	293	C	0.751
ORANGE AVE	SNEED RD to HEADER CANAL RD	144	4,780	2019	390	300	C	0.769	293	C	0.751
ORANGE AVE	SHINN RD to CAMPBELL RD	940144	2,722	2017	380	149	B	0.355	149	B	0.355
ORANGE AVE	CAMPBELL RD to KINGS HWY	940144	2,722	2017	1,070	149	B	0.355	149	B	0.355
ORANGE AVE	KINGS HWY to I-95	940041	18,112	2017	2,000	780	C	0.388	786	C	0.391
ORANGE AVE	I-95 to JENKINS RD	940035	14,009	2017	2,000	962	C	0.479	905	C	0.450
ORANGE AVE	JENKINS RD to HARTMAN RD	940028	14,189	2017	2,000	764	C	0.380	710	C	0.353
ORANGE AVE	HARTMAN RD to ANGLE RD	940028	14,189	2017	2,000	764	C	0.380	710	C	0.353
ORANGE AVE	ANGLE RD to 25TH ST	940151	10,749	2013	1,710	847	D	0.495	985	D	0.576
ORANGE AVE	25TH ST to 17TH ST	945040	13,196	2017	1,630	690	C	0.945	757	D	0.464
ORANGE AVE	17TH ST to 13TH ST	945040	13,196	2017	1,710	690	C	0.896	757	C	0.983
ORANGE AVE	13TH ST to 10TH ST	945040	13,196	2017	370	690	D	0.920	757	E	0.946
ORANGE AVE	10TH ST to 7TH ST	940155	8,760	2017	300	443	D	0.738	509	D	0.848

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US 1	AVENUE H to OLD DIXIE HWY	715	33,500	2020	2,000	1,766	C	0.925	1,742	C	0.912
US 1	OLD DIXIE HWY to AVENUE O	940123	22,051	2017	2,000	1,530	C	0.801	1,196	C	0.626
US 1	AVENUE O to SR A1A NORTH	940123	22,051	2017	2,100	1,530	C	0.761	1,196	C	0.595
US 1	SR A1A NORTH to JUANITA AVE	940010	17,583	2017	2,100	1,055	C	0.525	845	C	0.420
US 1	JUANITA AVE to ST LUCIE BLVD	940010	17,583	2017	2,100	1,055	C	0.525	845	C	0.420
US 1	ST LUCIE BLVD to 25TH ST	940009	17,126	2017	2,100	1,020	C	0.507	978	C	0.487
US 1	25TH ST to INDRIO RD	940009	17,126	2017	2,100	1,020	C	0.507	978	C	0.487
US 1	INDRIO RD to TURNPIKE FEEDER RD	940107	20,188	2017	2,100	1,099	C	0.547	1,092	C	0.543
US 1	TURNPIKE FEEDER RD to INDIAN RIVER C.L.	940107	20,188	2017	2,100	1,099	C	0.547	1,092	C	0.543
VETERANS MEMORIAL PKWY	PORT ST LUCIE BLVD to LYNGATE DR	329	14,500	2019	2,100	779	C	0.388	817	C	0.406
VETERANS MEMORIAL PKWY	LYNGATE DR to US 1	327	14,911	2017	2,100	756	C	0.376	804	C	0.400
VILLAGE GREEN DR	US 1 to WALTON RD	716	9,600	2017	2,100	619	C	0.308	575	C	0.286
VILLAGE GREEN DR	WALTON RD to TIFFANY AVE	717	4,633	2017	920	249	C	0.286	235	C	0.270
VIRGINIA AVE	35TH ST to 25TH ST	940032	21,557	2017	3,020	1,111	C	0.378	1,083	C	0.368
VIRGINIA AVE	OKEECHOBEE RD to HARTMAN RD	940030	22,011	2017	3,020	1,169	C	0.398	1,126	C	0.383
VIRGINIA AVE	HARTMAN RD to 35TH ST	940030	22,011	2017	3,020	1,169	C	0.398	1,126	C	0.383
VIRGINIA AVE	25TH ST to 13TH ST	940033	20,913	2017	3,020	1,093	C	0.372	1,164	C	0.396
VIRGINIA AVE	13TH ST to 11TH ST	940794	22,873	2017	3,020	1,101	C	0.374	1,101	C	0.374
VIRGINIA AVE	11TH ST to SUNRISE BLVD	940794	22,873	2017	3,170	1,101	C	0.356	1,101	C	0.356
VIRGINIA AVE	SUNRISE BLVD to OLEANDER AVE	940792	19,519	2017	3,020	1,063	C	0.362	992	C	0.337
VIRGINIA AVE	OLEANDER AVE to COLONIAL RD	940034	18,483	2017	3,170	1,043	C	0.338	1,020	C	0.330
VIRGINIA AVE	COLONIAL RD to US 1	940034	18,483	2017	3,020	1,043	C	0.355	1,020	C	0.347
VILLAGE PKWY	DISCOVERY WAY to TRADITION PKWY	718	14,000	2019	2,650	732	C	0.595	797	C	0.648
VILLAGE PKWY	BECKER RD to DISCOVERY WAY	718	14,000	2019	1,710	732	C	0.951	797	D	0.466
VILLAGE PKWY	TRADITION PKWY to WESTCLIFFE LN	719	23,000	2019	1,710	1,208	D	0.706	1,265	D	0.740

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TABLE 7 Generalized **Peak Hour Directional** Volumes for Florida's Urbanized Areas

January 2020

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
1	Undivided	*	830	880	**
2	Divided	*	1,910	2,000	**
3	Divided	*	2,940	3,020	**
4	Divided	*	3,970	4,040	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
1	Undivided	*	370	750	800
2	Divided	*	730	1,630	1,700
3	Divided	*	1,170	2,520	2,560
4	Divided	*	1,610	3,390	3,420

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
1	Divided	Yes	No	+5%
1	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding directional volumes in this table by 1.2

BICYCLE MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	150	390	1,000
50-84%	110	340	1,000	>1,000
85-100%	470	1,000	>1,000	**

PEDESTRIAN MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	140	480
50-84%	*	80	440	800
85-100%	200	540	880	>1,000

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Core Urbanized

Lanes	B	C	D	E
2	2,230	3,100	3,740	4,080
3	3,280	4,570	5,620	6,130
4	4,310	6,030	7,490	8,170
5	5,390	7,430	9,370	10,220
6	6,380	8,990	11,510	12,760

Urbanized

Lanes	B	C	D	E
2	2,270	3,100	3,890	4,230
3	3,410	4,650	5,780	6,340
4	4,550	6,200	7,680	8,460
5	5,690	7,760	9,520	10,570

Freeway Adjustments

Auxiliary Lane	Ramp Metering
+ 1,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
1	Undivided	580	890	1,200	1,610
2	Divided	1,800	2,600	3,280	3,730
3	Divided	2,700	3,900	4,920	5,600

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
1	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1] Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

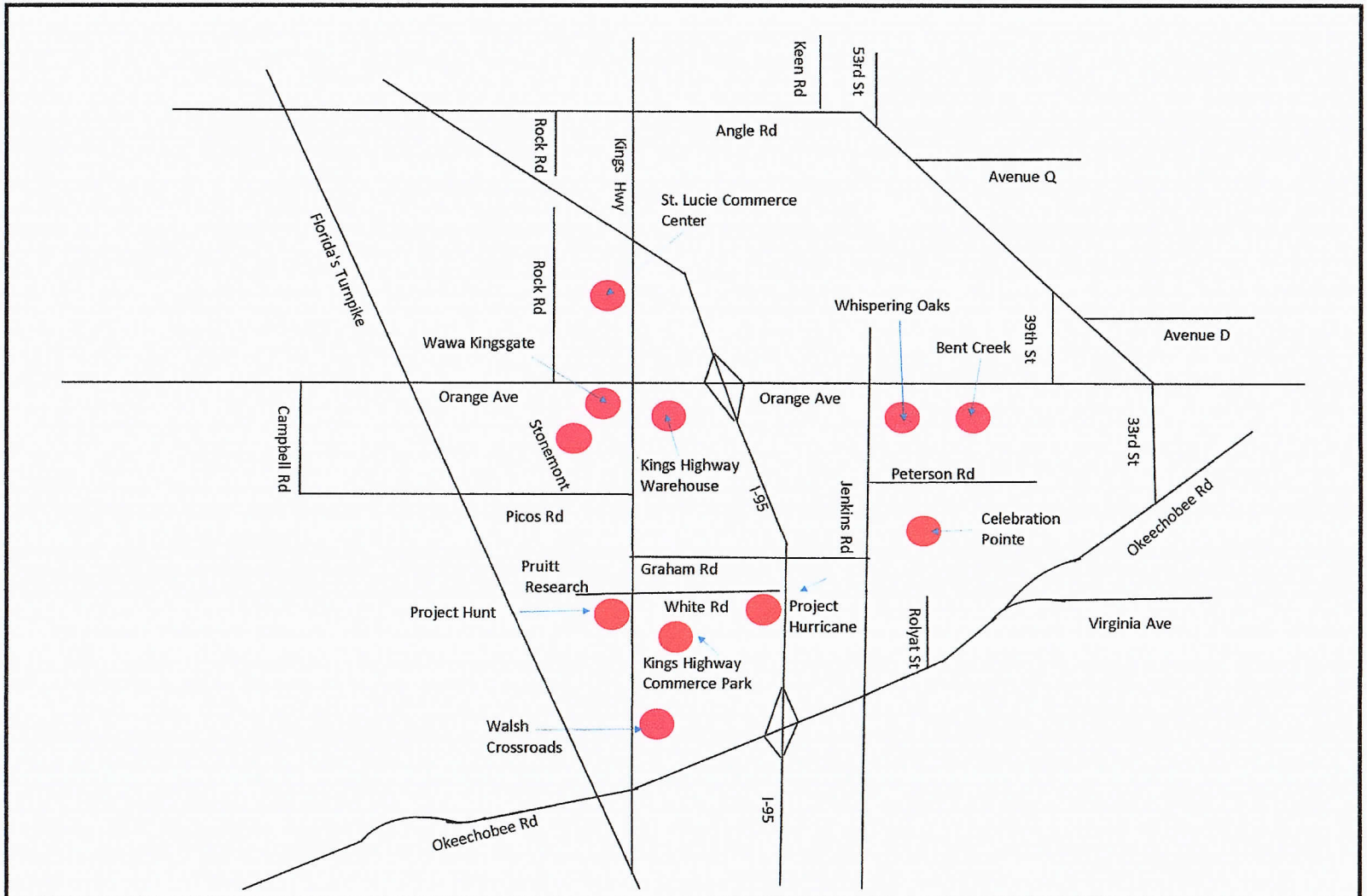
* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Implementation Office
https://www.fdot.gov/planning/systems/

APPENDIX C

OTHER PROJECT DATA/GROWTH RATE



NTS

O'ROURKE ENGINEERING & PLANNING

22 SE Seminole Street
Stuart, Fl, 34994

Job Number: SR | Date: 7/28/2021

Legend

= Project Location

Figure 1

Background Project Location

St. Lucie County

AM APPROVED PROJECTS			Stonemont			Creekside			43 Bent Creek @ 50% Complete City of Fort Pierce			44 Celebration Pointe @25% Complete City of Fort Pierce			37 Whispering Oaks			Project Hunt			Wawa Kings Highway			Kings Highway Warehouse			St. Lucie Commerce Center @25% Complete			Walsh Crossroads			Project Hurricane			SUM Directional N/E		SUM Directional S/W		Directional N/E		Directional S/W	
Road Name	From	To	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	Residential	Non-Residential	Residential	Non-Residential	Double Count	Net	Double Count	Net
25th St	Virginia Ave.	Cortez Blvd.	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	0	0%	0	0	0	0	0	0	0	0
	Cortez Blvd.	Edwards Rd.	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	0	0%	0	0	0	0	0	0	0	0
	Edwards Rd.	Bell Ave.	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	0	0%	0	0	0	0	0	0	0	0
Jenkins Rd	Orange	Peterson	5%	10	3	5%	7	21	2%	1	4	30%	9	29	70%	117	32	2%	2	0	0%	0	0	0%	0	0	30%	42	9	0%	0	0	15%	2	5	134	46	85	18	-9	171	-4	99
	Peterson	Okeechobee	3%	6	2	5%	7	21	2%	1	4	50%	48	15	12%	20	5	5%	4	1	0%	0	0	0%	0	0	30%	42	9	0%	0	0	20%	2	7	77	49	45	19	-10	115	-4	60
	Okeechobee	Edwards	0%	0	0	5%	7	21	0%	0	0	5%	5	2	5%	8	2	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	20	0	25	0	0	20	0	25
Orange Ave	Rock Rd	Kings Hwy	55%	30	108	0%	0	0	0%	0	0	5%	5	2	5%	8	2	3%	1	1	55.0%	23	23	4%	14	14	90%	127	28	0%	0	0	5%	2	1	13	166	4	174	-3	176	-1	177
	Kings Hwy	I-95	65%	36	128	0%	0	0	5%	3	9	10%	10	3	10%	17	5	40%	7	30	55.0%	23	23	26%	89	89	50%	71	16	0%	0	0	10%	1	4	29	190	17	290	-7	212	-4	302
	I-95	Jenkins Rd	15%	8	30	0%	0	0	20%	12	37	25%	24	8	60%	100	27	20%	3	15	20.0%	8	8	3%	10	10	10%	14	3	0%	0	0	0%	0	0	137	36	72	67	-7	166	-13	125
	Jenkins Rd	Hartman Rd	10%	6	20	0%	0	0	25%	16	47	5%	5	2	10%	17	5	18%	3	14	10.0%	4	4	3%	10	10	5%	7	2	0%	0	0	15%	2	5	37	26	53	55	-5	58	-11	96
	Hartman	Angle Rd	5%	3	10	0%	0	0	35%	65	22	15%	5	14	20%	33	9	18%	3	14	10.0%	4	4	3%	10	10	5%	7	2	0%	0	0	15%	2	5	103	26	45	45	-5	124	-9	81
	Angle	25th St	15%	8	30	0%	0	0	33%	61	20	10%	3	10	13%	22	6	0%	0	0	10.0%	4	4	3%	10	10	5%	7	2	0%	0	0	15%	2	5	86	23	36	51	-5	105	-9	78
Kings Hwy	Okeechobee Rd	Picos Rd	20%	39	11	5%	21	7	3%	6	2	2%	2	1	2%	3	1	50%	38	9	20.0%	8	8	52%	177	178	0%	0	0	30%	2	2	15%	2	5	32	227	11	213	-8	251	-3	221
	Picos Rd	Orange Ave	23%	45	13	5%	21	7	3%	6	2	2%	2	1	2%	3	1	43%	33	7	20.0%	8	8	48%	164	164	30%	9	42	30%	2	2	15%	2	5	32	217	11	242	-8	241	-3	250
	Orange Ave	Angle Rd (CR603)	13%	26	7	0%	0	0	2%	4	1	3%	3	1	3%	5	1	0%	0	0	20.0%	8	8	18%	61	62	10%	3	14	0%	0	0	0%	0	0	12	73	3	91	-3	82	-1	94
Edwards Rd.	US 1	Oleander	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%	0	0	0	0	0	0	0	0	0	0	0
	Oleander	25th	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%	0	0	0	0	0	0	0	0	0	0	0
	25th	Jenkins Rd	0%	0	0	0%	0	0	0%	0	0	5%	2	5	5%	8	2	0%	0	0	0.0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	10	0	7	0	0	10	0	7
Okeechobee Rd	Florida's Turnpike	Kings Hwy	5%	10	3	90%	379	129	0%	0	0	5%	2	5	5%	8	2	5%	1	1	5.0%	2	2	4%	14	14	0%	0	0	5%	0	0	5%	2	1	389	19	136	20	-4	404	-4	152
	Kings Hwy	Crossroads Pkwy	5%	3	10	80%	337	114	0%	0	0	5%	2	5	5%	8	2	30%	5	5	5.0%	2	2	11%	38	38	0%	0	0	5%	0	0	0%	0	0	347	45	121	55	-9	383	-11	165
	Crossroads Pkwy	I95	5%	3	10	80%	337	114	0%	0	0	5%	2	5	5%	8	2	30%	5	5	5.0%	2	2	11%	38	38	0%	0	0	45%	2	3	55%	7	20	347	54	121	78	-11	390	-16	183
	I95	Jenkins Rd	5%	3	10	40%	168	57	0%	0	0	5%	2	5	5%	8	2	10%	2	2	0.0%	0	0	6%	20	20	0%	0	0	0%	0	0	40%	5	14	178	27	64	46	-5	200	-9	101
	Jenkins Rd	McNeil Rd	0%	0	0	30%	126	43	0%	0	0	5%	2	5	2%	3	1	11%	2	2	0.0%	0	0	6%	20	20	0%	0	0	0%	0	0	40%	5	14	131	27	49	37	-5	153	-7	78
	McNeil Rd	Virginia Ave	0%	0	0	30%	126	43	0%	0	0	0%	0	0	2%	3	1	9%	2	2	0.0%	0	0	3%	10	10	0%	0	0	0%	0	0	40%	5	14	130	17	44	26	-3	143	-5	65
Peters Road	Crossroads Pkwy	White Road																													0%	0	0	65%	23	8	0	23	0	8	0	23	0	8
	White Road	Graham Rd																													0%	0	0	35%	4	13	0	4	0	13	0	4	0	13
				In	197		In	143		In	62		In	30		In	45		In	76		In	42		In	342		In	141		In	7		In	36								
				Out	55		Out	421		Out	186		Out	96		Out	167		Out	17		Out	42		Out	341		Out	31		Out	5		Out	12								

PM APPROVED PROJECTS			Stonemont			Creekside			43 Bent Creek @ 50% Complete			44 Celebration Pointe @25% Complete			37 Whispering Oaks			Project Hunt			Wawa Kings Highway			Kings Highway Warehouse			St. Lucie Commerce Center @25% Complete			Walsh Crossroads			Project Hurricane			SUM Directional N/E		SUM Directional S/W		Directional N/E		Directional S/W	
Road Name	**From**	**To**	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	%	Directional N/E	Directional S/W	Residential	Non-Residential	Residential	Non-Residential	Double Count	Net	Double Count	Net
25th St.	Virginia Ave.	Cortez Blvd.	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	0	0	0	0	0	0	0	0	0
	Cortez Blvd.	Edwards Rd.	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	0	0	0	0	0	0	0	0	0
	Edwards Rd.	Bell Ave.	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	0
Jenkins Rd	Orange	Peterson	5.0%	3	9	5.0%	25	16	2.0%	4	2	30.0%	30	17	70.0%	117	120	2.0%	0	1	10.0%	5	5	0.0%	0	0	30.0%	16	59	0%	0	0	15%	2	2	176	26	155	76	-5	196	-15	216
	Peterson	Okeechobee	3.0%	2	6	5.0%	25	16	2.0%	4	2	50.0%	29	50	12.0%	20	21	5.0%	1	3	8.0%	4	4	0.0%	0	0	30.0%	16	59	0%	0	0	20%	2	2	77	25	88	73	-5	97	-15	147
	Okeechobee	Edwards	0.0%	0	0	5.0%	25	16	0.0%	0	0	5.0%	3	5	5.0%	8	9	0.0%	0	0	0.0%	0	0	0.0%	0	0	0.0%	0	0	0%	0	0	0%	0	0	36	0	29	0	0	36	0	29
Orange Ave	Rock Rd	Kings Hwy	55.0%	102	37	0.0%	0	0	0.0%	0	0	5.0%	3	5	5.0%	8	9	3.0%	2	2	55.0%	28	29	4.0%	9	9	90.0%	47	176	0%	0	0	5%	1	1	11	188	14	253	-3	196	-3	263
	Kings Hwy	I-95	65.0%	121	44	0.0%	0	0	5.0%	10	6	10.0%	6	10	10.0%	17	17	40.0%	23	8	55.0%	29	28	58.0%	125	266	50.0%	26	98	0%	0	0	10%	1	1	32	325	33	444	-8	349	-8	469
	I-95	Jenkins Rd	15.0%	28	10	0.0%	0	0	20.0%	39	23	25.0%	14	25	60.0%	100	103	20.0%	11	4	20.0%	10	10	13.0%	28	60	10.0%	5	20	0%	0	0	0%	0	0	153	83	151	103	-17	219	-21	233
	Jenkins Rd	Hartman Rd	10.0%	19	7	0.0%	0	0	25.0%	48	28	5.0%	3	5	10.0%	17	17	18.0%	10	3	10.0%	5	5	8.0%	17	37	5.0%	3	10	0%	0	0	15%	2	2	68	56	50	63	-11	112	-13	101
	Hartman	Angle Rd	5.0%	9	3	0.0%	0	0	35.0%	40	67	15.0%	15	9	20.0%	33	34	18.0%	10	3	10.0%	5	5	8.0%	17	37	5.0%	3	10	0%	0	0	15%	2	2	88	46	110	60	-9	125	-12	158
	Angle	25th St	15.0%	28	10	0.0%	0	0	33.0%	37	64	10.0%	10	6	13.0%	22	22	0.0%	0	0	10.0%	5	5	0.0%	0	0	5.0%	3	10	0%	0	0	15%	2	2	69	37	92	27	-7	99	-5	113
Kings Hwy	Okeechobee Rd	Picos Rd	20.0%	14	37	5.0%	16	25	3.0%	6	3	2.0%	1	2	2.0%	3	3	50.0%	10	29	20.0%	10	10	30.0%	65	137	0.0%	0	0	30.0%	6	4	15.0%	2	2	26	106	34	219	-6	125	-8	244
	Picos Rd	Orange Ave	23.0%	16	43	5.0%	16	25	3.0%	6	3	2.0%	1	2	2.0%	3	3	43.0%	8	25	20.0%	10	10	70.0%	151	321	30.0%	59	16	30.0%	6	4	15.0%	2	2	26	252	34	419	-6	271	-8	444
	Orange Ave	Angle Rd (CR603)	13.0%	9	24	0.0%	0	0	2.0%	2	4	3.0%	2	3	3.0%	5	5	0.0%	0	0	20.0%	10	10	10.0%	22	46	10.0%	20	5	0.0%	0	0	0.0%	0	0	9	60	12	86	-2	67	-3	95
Edwards Rd.	US 1	Oleander	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	0.0%	0	0	0.0%	0	0	0.0%	0	0	0	0	0	0	0	0	0	0
	Oleander	25th	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	0.0%	0	0	0.0%	0	0	0.0%	0	0	0	0	0	0	0	0	0	0
	25th	Jenkins Rd	0.0%	0	0	0.0%	0	0	0.0%	0	0	5.0%	5	3	5.0%	8	9	0.0%	0	0	0.0%	0	0	0.0%	0	0	0.0%	0	0	0.0%	0	0	0.0%	0	0	13	0	11	0	0	13	0	11
Okeechobee Rd	Florida's Turnpike	Kings Hwy	5.0%	3	9	90.0%	280	448	0.0%	0	0	5.0%	5	3	5.0%	8	9	5.0%	3	3	5.0%	3	3	4.0%	9	9	0.0%	0	0	5%	1	1	5%	1	1	293	19	460	25	-4	308	-5	479
	Kings Hwy	Crossroads Pkwy	5.0%	9	3	80.0%	249	398	0.0%	0	0	5.0%	5	3	5.0%	8	9	30.0%	17	17	5.0%	3	3	11.0%	24	24	0.0%	0	0	5%	1	1	0%	0	0	262	54	410	47	-11	305	-9	448
	Crossroads Pkwy	I95	5.0%	9	3	80.0%	249	398	0.0%	0	0	5.0%	5	3	5.0%	8	9	30.0%	17	17	5.0%	3	3	11.0%	24	24	0.0%	0	0	45%	9	5	55%	6	6	262	68	410	58	-14	317	-12	456
	I95	Jenkins Rd	5.0%	9	3	40.0%	124	199	0.0%	0	0	5.0%	5	3	5.0%	8	9	10.0%	6	6	0.0%	0	0	6.0%	13	13	0.0%	0	0	0%	0	0	40%	4	4	138	32	211	26	-6	164	-5	232
	Jenkins Rd	McNeil Rd	0.0%	0	0	30.0%	93	149	0.0%	0	0	5.0%	5	3	2.0%	3	3	11.0%	6	6	0.0%	0	0	6.0%	13	13	0.0%	0	0	0%	0	0	40%	4	4	102	24	156	23	-5	121	-5	174
	McNeil Rd	Virginia Ave	0.0%	0	0	30.0%	93	149	0.0%	0	0	0.0%	0	0	2.0%	3	3	9.0%	5	5	0.0%	0	0	3.0%	6	6	0.0%	0	0	0%	0	0	40%	4	4	97	16	153	16	-3	109	-3	165
Peters Road	Crossroads Pkwy	White Road																											50.0%	11	6	65.0%	7	7	0	17	0	13	0	17	0	13
	White Road	Graham Rd																											30.0%	6	4	35.0%	4	4	0	10	0	7	0	10	0	7
				In	68		In	498		In	193		In	100		In	172		In	19		In	51		In	458		In	52		In	12		In	10								
				Out	186		Out	311		Out	113		Out	57		Out	167		Out	57		Out	52		Out	216		Out	196		Out	21		Out	11								

Historical Growth Rate Calculation

Segment	From	To	2015 AADT	2019 AADT	4 Year Historical Growth Rate
Okeechobee Blvd	I-95	McNeil Rd	28,500	33,000	3.73%
	McNeil Rd	Virginia Ave	26,500	30,500	3.58%
Jenkins Rd	Okeechobee Blvd	Orange Ave	9,600	9,200	-1.06%
Kings Hwy	Okeechobee Blvd	Graham Rd	6,300	7,600	4.80%
	Graham Rd	Orange Ave	8,400	7,000	-4.46%
Orange Ave	Kings Hwy	I-95	17,300	19,800	3.43%
	I-95	Jenkins Rd	13,600	15,300	2.99%
Virginia Ave	Okeechobee Blvd	35th St	21,000	21,000	0.00%
		Total	131,200	143,400	2.25%

*Source FDOT Historical Traffic Counts

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 94 - ST.LUCIE

SITE: 0030 - SR 70/VIRGINIA AVE - E OF OKEECHOBEE RD (COUNTY 30)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	21000 C	E 10500	W 10500	9.00	51.00	7.10
2018	21500 C	E 11000	W 10500	9.00	51.30	3.60
2017	20300 C	E 10500	W 9800	9.00	50.90	3.60
2016	22500 C	E 12000	W 10500	9.00	50.90	3.60
2015	21000 C	E 11000	W 10000	9.00	51.00	3.30
2014	20400 C	E 10500	W 9900	9.00	50.80	3.90
2013	21000 C	E 10500	W 10500	9.00	50.80	3.90
2012	21000 C	E 10500	W 10500	9.00	56.80	4.50
2011	23500 C	E 11500	W 12000	9.00	57.20	4.50
2010	22000 C	E 11500	W 10500	10.32	55.40	4.50
2009	22000 C	E 11000	W 11000	10.27	57.35	5.20
2007	16900 C	E 8900	W 8000	10.31	58.74	5.20
2006	20500 C	E 11000	W 9500	10.73	65.89	5.00
2005	22000 C	E 11500	W 10500	10.80	60.70	5.00
2004	20300 C	E 10500	W 9800	10.30	57.70	5.00

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 94 - ST.LUCIE

SITE: 0041 - SR 68 / ORANGE AVE - W OF SR 9/I-95 (COUNTY 41)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	19800 C	E 10500	W 9300	9.00	54.30	22.40
2018	21000 C	E 10500	W 10500	9.00	55.20	22.40
2017	19000 C	E 9800	W 9200	9.00	56.20	22.40
2016	21300 C	E 11500	W 9800	9.00	57.10	25.00
2015	17300 C	E 8500	W 8800	9.00	56.30	25.00
2014	15700 S	E 8000	W 7700	9.00	54.70	16.40
2013	15500 F	E 7900	W 7600	9.00	57.20	16.40
2012	15700 C	E 8000	W 7700	9.00	57.00	16.40
2011	17900 C	E 9000	W 8900	9.00	56.50	24.40
2010	18600 C	E 9400	W 9200	11.51	57.07	24.40
2009	16300 C	E 8200	W 8100	11.11	58.68	24.40
2008	26000 C	E 13000	W 13000	11.51	54.38	22.30
2007	27000 C	E 13500	W 13500	11.51	58.16	22.30
2006	18100 C	E 8700	W 9400	10.78	56.96	22.30
2005	18800 C	E 9700	W 9100	11.10	56.60	20.90
2004	18000 C	E 9000	W 9000	11.10	60.50	20.90

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 94 - ST.LUCIE

SITE: 0035 - SR 68 / ORANGE AVE - E OF SR 9/I-95 (COUNTY 35)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	15300 C	E 7600	W 7700	9.00	51.00	16.60
2018	13100 C	E 7000	W 6100	9.00	51.30	16.60
2017	15400 C	E 7300	W 8100	9.00	50.90	10.80
2016	13900 C	E 6700	W 7200	9.00	50.90	10.80
2015	13600 C	E 6700	W 6900	9.00	51.00	10.80
2014	12600 F	E 6200	W 6400	9.00	50.80	10.40
2013	12600 C	E 6200	W 6400	9.00	50.80	10.40
2012	13700 C	E 6700	W 7000	9.00	56.80	10.40
2011	12900 C	E 6600	W 6300	9.00	57.20	16.30
2010	13800 C	E 6800	W 7000	10.32	55.40	16.30
2009	12200 C	E 6000	W 6200	10.27	57.35	16.30
2008	13200 C	E 6600	W 6600	10.45	58.06	9.70
2007	15100 C	E 7500	W 7600	10.31	58.74	16.60
2006	12800 C	E 6300	W 6500	10.73	65.89	10.20
2005	13000 C	E 6700	W 6300	10.80	60.70	10.20
2004	12700 C	E 6500	W 6200	10.30	57.70	10.20

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 94 - ST.LUCIE

SITE: 0742 - SR 70/OKEECHOBEE RD - SW OF SR 70/VIRGINIA AVE (COUNTY 742)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	30500 C	E 14500	W 16000	9.00	51.00	4.60
2018	31500 C	E 16500	W 15000	9.00	51.30	4.60
2017	31500 C	E 15500	W 16000	9.00	50.90	12.00
2016	26000 C	E 15500	W 10500	9.00	50.90	12.00
2015	26500 C	E 11500	W 15000	9.00	51.00	12.00
2014	30000 C	E 15000	W 15000	9.00	50.80	6.10
2013	27000 C	E 12500	W 14500	9.00	50.80	3.80
2012	33000 C	E 16500	W 16500	9.00	56.80	3.80
2008	32500 C	E 16500	W 16000	10.45	58.06	6.70
2007	31500 C	E 15000	W 16500	10.31	58.74	7.40
2006	35500 C	E 18500	W 17000	10.73	65.89	5.00
2005	32500 C	E 16500	W 16000	10.80	60.70	5.70
2004	30000 C	E 15500	W 14500	10.30	57.70	5.70

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
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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
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COUNTY: 94 - ST.LUCIE

SITE: 0029 - SR 70 / OKEECHOBEE RD - E OF SR 9/I-95 (COUNTY 29)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	33000 C	E 17000	W 16000	9.00	51.00	11.00
2018	31000 C	E 15000	W 16000	9.00	51.30	4.70
2017	34500 C	E 17500	W 17000	9.00	50.90	12.30
2016	28500 F	E 14000	W 14500	9.00	50.90	12.30
2015	28500 C	E 14000	W 14500	9.00	51.00	12.30
2014	25500 F	E 14000	W 11500	9.00	50.80	4.90
2013	25500 C	E 14000	W 11500	9.00	50.80	4.90
2012	28000 C	E 14000	W 14000	9.00	56.80	4.90
2011	30500 C	E 15500	W 15000	9.00	57.20	10.90
2010	30500 C	E 15500	W 15000	10.32	55.40	10.90
2009	26500 C	E 13000	W 13500	10.27	57.35	10.90
2008	29500 C	E 15500	W 14000	10.45	58.06	6.70
2007	33000 C	E 17000	W 16000	10.31	58.74	5.20
2006	31000 C	E 16000	W 15000	10.73	65.89	16.00
2005	26500 C	E 13500	W 13000	10.80	60.70	16.00
2004	28000 C	E 14000	W 14000	10.30	57.70	16.00

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
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FLORIDA DEPARTMENT OF TRANSPORTATION
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COUNTY: 94 - ST.LUCIE

SITE: 0757 - SR 713 / KINGS HWY - N OF SR 70/OKEECHOBEE RD (COUNTY 757)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	7600 C	N 3700	S 3900	9.00	54.30	23.40
2018	13600 C	N 6500	S 7100	9.00	55.20	23.90
2017	12800 C	N 6100	S 6700	9.00	56.20	23.90
2016	6400 C	N 3100	S 3300	9.00	57.10	23.90
2015	6300 C	N 3000	S 3300	9.00	56.30	26.90
2014	9100 C	N 3900	S 5200	9.00	54.70	46.50
2013	6000 C	N 3000	S 3000	9.00	57.20	17.40
2012	5400 C	N 2700	S 2700	9.00	57.00	17.40
2011	6200 C	N 3200	S 3000	9.00	56.50	22.90
2010	13500 C	N 6800	S 6700	11.51	57.07	22.90
2009	8000 C	N 4000	S 4000	11.11	58.68	22.90
2008	7400 C	N 3500	S 3900	11.51	54.38	23.20
2007	8900 C	N 4400	S 4500	11.51	58.16	25.50
2006	7300 C	N 3600	S 3700	10.78	56.96	25.50
2005	7900 C	N 3900	S 4000	11.10	56.60	18.10
2004	7200 C	N 3500	S 3700	11.10	60.50	18.10

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
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COUNTY: 94 - ST.LUCIE

SITE: 0076 - SR 713/KINGS HWY - S OF SR 68/ORANGE AVE (COUNTY 76)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	7000 C	N 3500	S 3500	9.00	54.30	22.80
2018	9700 C	N 4600	S 5100	9.00	55.20	22.80
2017	9500 C	N 4700	S 4800	9.00	56.20	22.80
2016	9600 C	N 4600	S 5000	9.00	57.10	32.40
2015	8400 C	N 4100	S 4300	9.00	56.30	32.40
2014	7900 C	N 3800	S 4100	9.00	54.70	19.90
2013	7200 C	N 3400	S 3800	9.00	57.20	14.20
2012	7100 C	N 3400	S 3700	9.00	57.00	14.20
2011	8000 C	N 3900	S 4100	9.00	56.50	17.20
2010	8900 C	N 4400	S 4500	11.51	57.07	17.20
2009	8000 C	N 3800	S 4200	11.11	58.68	17.20
2008	10600 C	N 5200	S 5400	11.51	54.38	11.20
2007	11100 C	N 5400	S 5700	11.51	58.16	7.90
2006	10600 C	N 5300	S 5300	10.78	56.96	17.30
2005	9900 C	N 4800	S 5100	11.10	56.60	17.30
2004	9400 C	N 4600	S 4800	11.10	60.50	17.30

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
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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
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COUNTY: 94 - ST.LUCIE

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

YEAR	AADT	DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
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

APPENDIX D

ARTERIAL ANALYSIS

ARTPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SOR	**Arterial Name**	Jenkins Road	**Study Period**	**Dir Hr Demand Vol**
Date Prepared	7/28/2021 11:00:15 AM	**From**	Okeechobee Rd	**Modal Analysis**	Auto Only
Agency	O'Rourke Engineering & Planning	**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\SOR2\Documents\Projects\St. Lucie County\JHI Acreage\Artplan Analysis\Jenkins Rd - PM - NB.xap
User Notes	NB - PM Peak Hour

Arterial Data

K	0.09	**PHF**	1	**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	90	0.25	3	1	37	26	Yes	ProtPerm	1	275	0.16	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)	10824	10500	822	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)	304	1246	0.976	47.76	D	0.92	36.18	B

Arterial Length	**2.0614**	**Weighted g/C**	**0.25**	**FFS Delay**	**57.51**	**Threshold Delay**	**0.00**	**Auto Speed**	**36.18**	**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	510	840	***	***	***
2	1050	1640	***	***	***
3	1680	2460	***	***	***
4	2280	3300	***	***	***
*	510	840	***	***	***
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	SOR	**Arterial Name**	Jenkins Road	**Study Period**	**Dir Hr Demand Vol**
Date Prepared	7/28/2021 11:00:15 AM	**From**	Orange Ave	**Modal Analysis**	Auto Only
Agency	O'Rourke Engineering & Planning	**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\SOR2\Documents\Projects\St. Lucie County\JHI Acreage\Artplan Analysis\Jenkins Rd - AM - SB.xap
User Notes	SB - AM Peak Hour

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
Okeechobee Rd	160	0.18	3	2	45	9	Yes	Protected	2	470	0.16	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)	10824	10500	769	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)	372	3025	0.086	54.66	D	0.48	35.03	B

Arterial Length	**2.0614**	**Weighted g/C**	**0.18**	**FFS Delay**	**64.22**	**Threshold Delay**	**0.00**	**Auto Speed**	**35.03**	**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	510	840	***	***	***
2	1050	1640	***	***	***
3	1680	2460	***	***	***
4	2280	3300	***	***	***
*	510	840	***	***	***
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

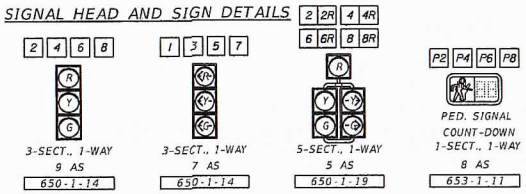
*** Service Volumes for the specific facility being analyzed, based on # of lanes from the intersection and segment data screens.**
**** Cannot be achieved based on input data provided.**
***** Not applicable for that level of service letter grade. See generalized tables notes for more details.**
 # 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.

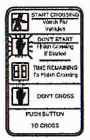
APPENDIX E

INTERSECTION ANALYSIS/SIGNAL WARRANT

Orange & Kings Analysis	E-1 thru E-11
Okeechobee & Kings Analysis	E-12 thru E-22
White & Kings - HCS Analysis	E-23 thru E-34
- Signal Warrant Analysis	E-35 thru E-40

SIGNAL HEAD AND SIGN DETAILS

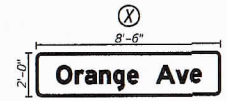


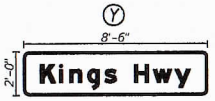


R10-3E (MODIFIED)
9"X15"
8 EA
(COST TO BE INCLUDED IN PAY ITEM 665-1-11)

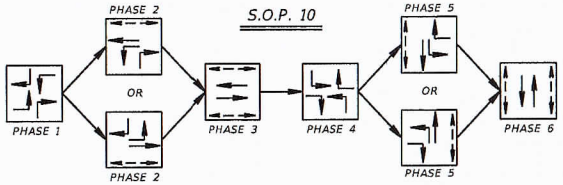


R10-16
30"X36"



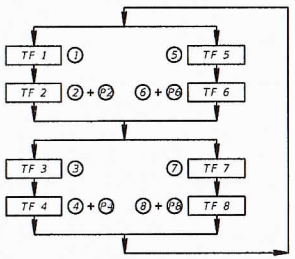


S.O.P. 10



REMOVAL ITEMS

632-7-6	1 PI
646-1-60	2 EA
649-26-3	4 EA
670-5-600	1 AS



CONTROLLER OPERATIONS:

1. MAJOR STREET: SR 68 / ORANGE AVENUE
   MINOR STREET: SR 713 / KINGS HWY
2. S.O.P.: AS SHOWN
3. CONTROLLER TIMINGS: AS SHOWN
4. TRAFFIC SIGNAL CONTROLLER: ECONOLITE NEMA TS2 TYPE I CABINET

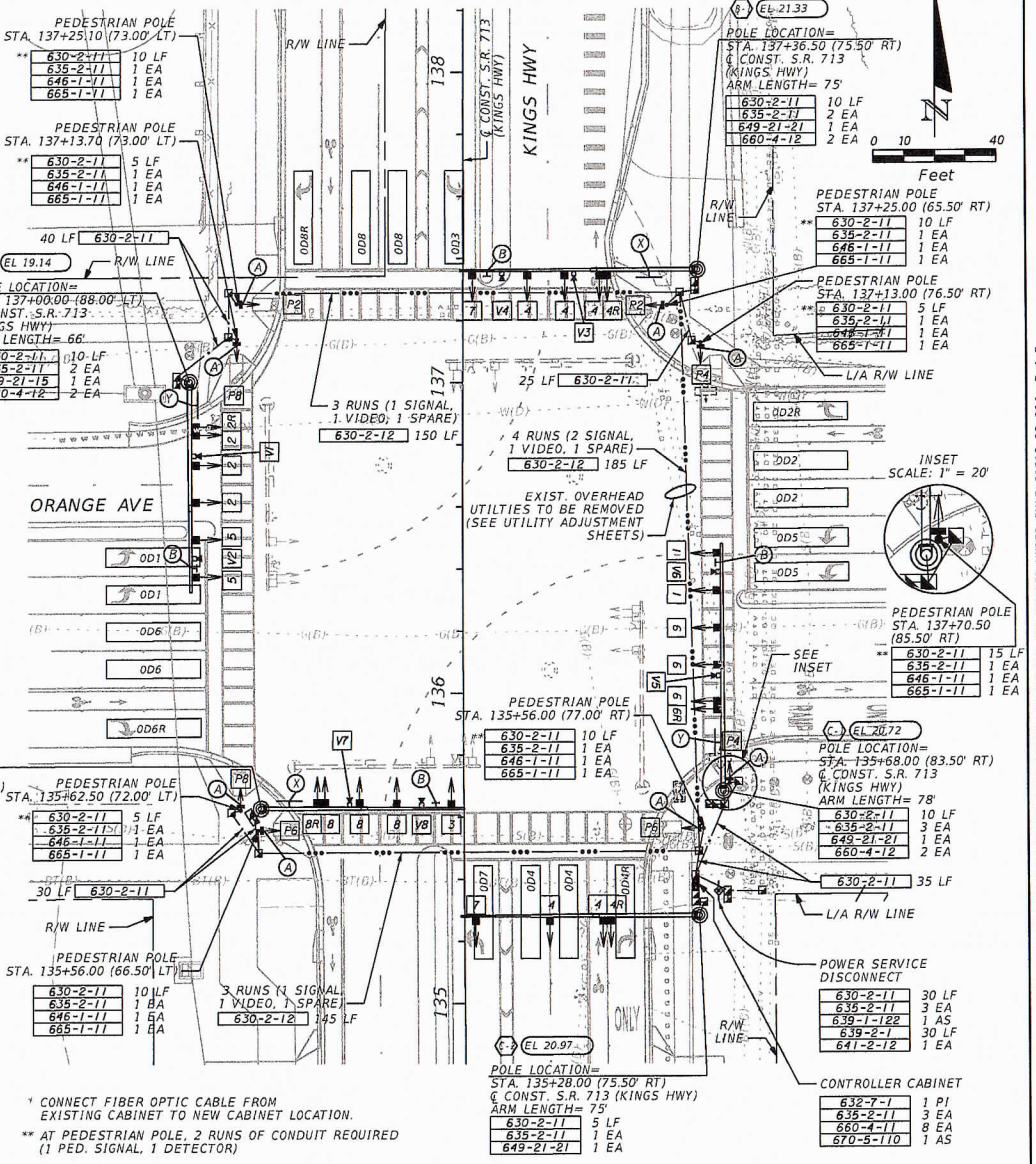
NOTES:

1. ALL PEDESTRIAN SIGNAL HEADS SHALL ALIGN WITH CENTER OF FAR-SIDED END OF CORRESPONDING CROSSWALK.
2. VIDEO DETECTION ZONE SHALL BE 6'X30' PLACED 2' BEHIND STOP BAR FOR ALL LANES.
3. SEE GUIDE SIGN WORKSHEET FOR SIGN X & Y DETAILS.

VIDEO DETECTOR CONNECTION CHART			
DETECTOR UNIT NO.	CONNECTED TO MOVEMENT NO.	ZONE	DELAY TIME (SEC.)
V-1	2	OD2	
V-1	2R	OD2R	5
V-2	5	OD5	
V-3	4	OD4	
V-3	4R	OD4R	5
V-4	7	OD7	
V-5	6	OD6	
V-5	6R	OD6R	5
V-6	1	OD1	
V-7	8	OD8	
V-7	8R	OD8R	5
V-8	3	OD3	

OD = OCCUPANCY DETECTOR ZONE

CONTROLLER TIMINGS									
TIMING FUNCTION									
MOVEMENT NUMBER		1	2	3	4	5	6	7	8
TIMING FUNCTION	MINIMUM GREEN	7	12	5	10	7	12	7	8
	EXTENSION	3	3	5	5	3	3	3	7
	MAXIMUM GREEN 1	15	35	30	30	15	25	15	45
	MAXIMUM GREEN 2	15	35	30	45	15	25	15	45
	YELLOW CLEARANCE	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	ALL RED	2.5	2.6	2.6	3.0	2.7	2.5	2.6	2.7
	PEDESTRIAN WALK	0	0	0	7	0	0	0	0
	PED. CLEARANCE	0	34	0	32	0	36	0	36
	RECALL		MIN				MIN		
	FLASH	R	Y	R	R	R	Y	R	R



* CONNECT FIBER OPTIC CABLE FROM EXISTING CABINET TO NEW CABINET LOCATION.

** AT PEDESTRIAN POLE, 2 RUNS OF CONDUIT REQUIRED (1 PED. SIGNAL, 1 DETECTOR)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

BCC ENGINEERING, INC.
DACHA QUINTANA, P.E. No. 67393
6401 SW 87th AVE, SUITE 200.
MIAMI, FLORIDA 33173
P: (305) 670-2350 F: (305) 670-2351
Certificate of Authorization No. 7184

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 713	ST. LUCIE	230256-7-52-01

SIGNALIZATION PLAN

SHEET NO. T-5

kcoore 1/4/2018 4:18:42 PM H:\CADD\23025675201\signals\PLANSG01.DGN

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

TURNING MOVEMENT VOLUME COUNTS

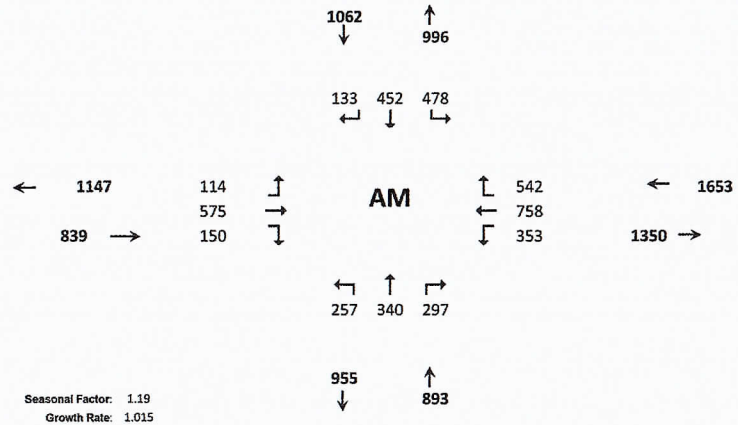
N/S STREET: Kings Hwy **E/W STREET:** Orange Ave **CONTROL:** Signalized

FILENAME:

COUNT DATE: 10/3/2018 **DAY:** Wednesday **CITY:** St Lucie

REPORT DATE: 7/22/2021 **ANALYSIS YEAR:** 2023 (WITHOUT PROJECT)

15 Min Period	Northbound			Southbound			Eastbound			Westbound				ONE HOUR SUM
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	
7:00-7:15	8	42	30	97	82	15	24	79	10	22	64	77	550	2366
7:15-7:30	9	62	31	107	75	10	16	88	21	36	51	110	616	2337
7:30-7:45	14	50	51	93	67	12	13	82	20	25	46	96	569	2188
7:45-8:00	16	59	32	70	60	13	11	95	23	43	88	121	631	2154
8:00-8:15	12	58	45	81	62	8	4	49	10	20	53	119	521	1974
8:15-8:30	12	48	31	68	67	7	11	42	4	38	44	95	467	
8:30-8:45	10	50	30	93	68	7	9	62	18	28	59	101	535	
8:45-9:00	17	29	28	77	69	10	6	49	12	41	38	75	451	



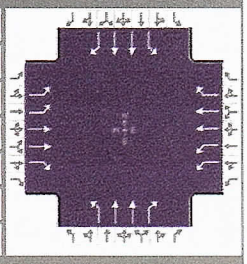
AM PEAK HOUR IS FROM:	7:00AM TO 8:00AM												
Volumes	47	213	144	367	284	50	64	344	74	126	249	404	2366
Season Factor	56	253	171	437	338	60	76	409	88	150	296	481	2816
Growth	60	273	185	470	364	64	82	441	95	162	319	518	3033
In/Out				-									
Percentage	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PROJECT	0	0	0	0	0	0	0	0	0	0	0	0	0

Seasonal Factor: 1.19
Growth Rate: 1.015
Years Grown: 5

SUBPROJECTS														Trips In	Trips Out
%	3%	0%	40%	0%	0%	0%	0%	0%	3%	40%	0%	0%			
In/Out	OUT		OUT						IN	IN					
Volume	1	0	7	0	0	0	0	0	2	30	0	0	0	Hunt	76	17
%	30.0%	0.0%	0.0%	0.0%	0.0%	10.0%	10.0%	50.0%	30.0%	0.0%	50.0%	0.0%			
In/Out	IN					IN	OUT	OUT	OUT		IN				
Volume	169	0	0	0	0	56	12	62	37	0	282	0	0	St. Lucie Commerce Center	563	124
%	0.0%	0.0%	2.0%	3.0%	0.0%	0.0%	0%	5%	0.0%	2.0%	5.0%	3.0%				
In/Out			IN	IN				IN		OUT	OUT	OUT				
Volume	0	0	1	1	0	0	0	2	0	3	8	5	0	Whispering Oaks	45	167
%	0.0%	0.0%	3.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	0.0%	2.0%				
In/Out			IN	IN						OUT		OUT				
Volume	0	0	4	2	0	0	0	0	0	11	0	7	0	Bent Creek	123	371
%	20.0%	0.0%	0.0%	0.0%	10.0%	10.0%	20%	55%	0.0%	30.0%	25.0%	0.0%				
In/Out	IN				IN	IN	OUT	OUT		IN	IN					
Volume	13	0	0	0	6	6	13	35	0	19	16	0	0	Wawa Kings	63	64
%	4.0%	18.0%	26.0%	0.0%	18.0%	0.0%	0.0%	0.0%	4.0%	26.0%	0.0%	0.0%				
In/Out	OUT	OUT	OUT		IN				IN	IN						
Volume	14	61	89	0	62	0	0	0	14	89	0	0	0	Kings Highway Warehouse	342	341
%	0.0%	10.0%	13.0%	0.0%	10.0%	3.0%	13%	52%	0.0%	13.0%	52.0%	0.0%				
In/Out		OUT	OUT		IN	IN	OUT	OUT		IN	IN					
Volume	0	6	7	0	20	6	7	29	0	26	102	0	0	Stonemont	197	55
%	0.0%	0.0%	30.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	0.0%	0.0%				
In/Out			OUT						IN							
Volume	0	0	2	0	0	0	0	0	0	2	0	0	0	Walsh Crossroads	7	5
%	5.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0%	0%	5.0%	10.0%	0.0%	0.0%				
In/Out	OUT		OUT						IN	IN						
Volume	1	0	1	0	0	0	0	0	2	4	0	0	0	Project Hurricane	36	12
%	0.0%	0.0%	2.0%	3.0%	0.0%	0.0%	0.0%	5.0%	0.0%	2.0%	8.0%	3.0%				
In/Out			IN	IN				IN		OUT	OUT	OUT				
Volume	0	0	2	4	0	0	0	6	0	8	31	12	0	Celebration Pointe	121	385
Subtotal	196	67	112	7	88	69	32	134	55	192	439	24	0			
Total	257	340	297	478	452	133	114	575	150	353	758	542	3033			

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	SOR	Analysis Date	May 10, 2021	Area Type	Other
Jurisdiction	St. Lucie County	Time Period	AM Peak Hour	PHF	0.95
Urban Street	Kings Hwy	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Orange Ave	File Name	C1.kings hwy.kings.orange.AM.without project.7.2...		
Project Description	Buildout w/out project				

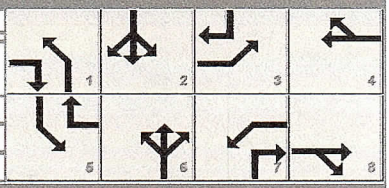


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	114	575	150	353	758	542	257	340	297	478	452	133

Signal Information			
Cycle, s	140.0	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	11.8	17.3	25.8	7.8	10.5	30.2	
Yellow	4.7	4.7	4.7	4.3	4.3	4.3	
Red	1.0	1.0	1.5	2.0	2.0	2.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	14.1	36.5	30.9	53.3	17.5	32.0	40.5	55.0
Change Period, ($Y+R_c$), s	6.3	6.3	6.3	6.3	5.7	6.2	5.7	6.2
Max Allow Headway (*MAH*), s	3.0	3.0	3.0	3.0	3.0	0.0	3.0	0.0
Queue Clearance Time (g_s), s	7.7	28.2	24.2	35.7	13.8		36.8	
Green Extension Time (g_e), s	0.2	2.1	0.4	3.6	0.0	0.0	0.0	0.0
Phase Call Probability	0.99	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.00	0.69	0.28	0.08	1.00		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	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	120	605	158	372	798	111	271	358	313	503	476	140
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1456	1571	1610	1150	1498	1334	1485	1559	1610	1485	1484	1610
Queue Service Time (g_s), s	5.7	26.2	10.6	22.2	33.7	5.3	11.8	14.3	21.6	34.8	15.3	7.9
Cycle Queue Clearance Time (g_c), s	5.7	26.2	10.6	22.2	33.7	5.3	11.8	14.3	21.6	34.8	15.3	7.9
Green Ratio (*g/C*)	0.06	0.22	0.30	0.18	0.34	0.58	0.27	0.18	0.36	0.45	0.35	0.40
Capacity (*c*), veh/h	163	679	484	405	1007	780	318	575	580	491	1035	651
Volume-to-Capacity Ratio (*X*)	0.738	0.892	0.326	0.919	0.792	0.142	0.850	0.623	0.539	1.025	0.460	0.215
Back of Queue (*Q*), ft/ln (95 th percentile)	112.6	491.1	187	349.5	541.6	80.4	287.3	279.5	340.4	801.1	259	139.7
Back of Queue (*Q*), veh/ln (95 th percentile)	3.8	16.7	7.5	11.9	18.4	2.7	9.7	9.4	13.6	27.1	8.7	5.6
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	65.1	53.3	38.0	56.7	42.1	13.2	48.5	48.5	35.6	35.1	28.5	27.2
Incremental Delay (d_2), s/veh	2.4	11.8	0.1	19.8	3.6	0.0	18.3	5.0	3.6	47.1	1.5	0.8
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	67.5	65.1	38.1	76.5	45.6	13.2	66.9	53.5	39.1	82.2	30.0	28.0
Level of Service (LOS)	E	E	D	E	D	B	E	D	D	F	C	C
Approach Delay, s/veh / LOS	60.6	E		51.8	D		52.6	D		53.2	D	
Intersection Delay, s/veh / LOS	54.2						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.45	B	3.23	C	2.59	C
Bicycle LOS Score / LOS	1.22	A	1.54	B	1.26	A	1.41	A

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TURNING MOVEMENT VOLUME COUNTS

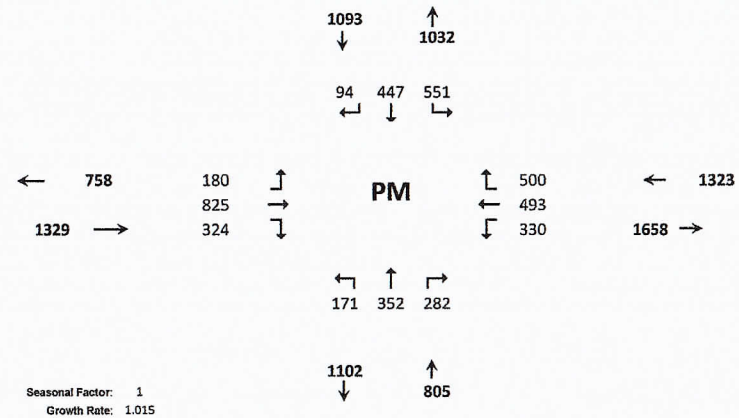
N/S STREET: Kings Hwy **E/W STREET:** Orange Ave **CONTROL:** Signalized

FILENAME:

COUNT DATE: 10/3/2018 **DAY:** Wednesday **CITY:** St Lucie

REPORT DATE: 7/22/2021 **ANALYSIS YEAR:** 2023 (WITHOUT PROJECT)

	Northbound			Southbound			Eastbound			Westbound				
15 Min Period lanes	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	ONE HOUR SUM
4:00-4:15	15	61	37	89	61	7	24	56	6	34	54	82	526	2193
4:15-4:30	17	46	32	109	62	11	12	36	11	37	70	86	529	2233
4:30-4:45	10	57	46	112	77	11	20	48	8	36	44	79	548	2280
4:45-5:00	19	58	38	114	61	21	29	59	15	29	60	87	590	2304
5:00-5:15	17	69	32	75	73	11	20	75	8	27	58	101	566	2279
5:15-5:30	14	64	24	96	60	11	6	86	20	42	59	94	576	
5:30-5:45	16	48	37	127	81	8	8	43	11	26	70	97	572	
5:45-6:00	17	50	42	106	70	9	14	81	6	25	57	88	565	
PM PEAK HOUR IS FROM:			4:45PM TO 5:45PM											
Volumes	66	239	131	412	275	51	63	263	54	124	247	379	2304	
Season Factor	79	284	156	490	327	61	75	313	64	148	294	451	2742	
Growth	85	306	168	528	353	65	81	337	69	159	317	486	2954	
In/Out	0	0	0	-	0	0	0	0	0	0	0	0		
Percentage	0%	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	
SUBPROJECTS														
%	3%	0%	40%	0%	0%	0%	0%	0%	3%	40%	0%	0.0%		
In/Out	OUT		OUT						IN	IN				
Volume	2	0	23	0	0	0	0	0	1	8	0	0	0	Hunt
%	30.0%	0.0%	0.0%	0.0%	0.0%	10.0%	10.0%	50.0%	30.0%	0.0%	50.0%	0.0%		
In/Out	IN					IN	OUT	OUT	OUT		IN			
Volume	62	0	0	0	0	21	78	392	235	0	104	0	0	St. Lucie Commerce Center
%	0.0%	0.0%	0.0%	2.0%	0.0%	0.0%	0.0%	5.0%	0.0%	2.0%	5.0%	3.0%		
In/Out				IN				IN		OUT	OUT	OUT		
Volume	0	0	0	3	0	0	0	9	0	2	5	3	0	Whispering Oaks
%	0.0%	0.0%	3.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	0.0%	2.0%		
In/Out			IN	IN						OUT		OUT		
Volume	0	0	12	8	0	0	0	0	0	7	0	5	0	Bent Creek
%	20.0%	0.0%	0.0%	0.0%	10.0%	10.0%	20.0%	55.0%	0.0%	30.0%	25.0%	0.0%		
In/Out	IN				IN	IN	OUT	OUT		IN	IN			
Volume	11	0	0	0	6	6	12	32	0	17	14	0	0	Wawa Kings
%	4.0%	18.0%	26.0%	0.0%	18.0%	0.0%	0.0%	0.0%	4.0%	26.0%	0.0%	0.0%		
In/Out	OUT	OUT	OUT		IN				IN	IN				
Volume	9	39	56	0	82	0	0	0	18	119	0	0	0	Kings Highway Warehouse
%	0.0%	10.0%	13.0%	0.0%	10.0%	3.0%	13.0%	52.0%	0.0%	13.0%	52.0%	0.0%		
In/Out		OUT	OUT		IN	IN	OUT	OUT		IN	IN			
Volume	0	7	9	0	7	2	9	35	0	9	35	0	0	Stonemont
%	0.0%	0.0%	30.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	0.0%	0.0%		
In/Out			OUT							IN				
Volume	0	0	3	0	0	0	0	0	0	3	0	0	0	Walsh Crossroads
%	5.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	10.0%	0.0%	0.0%		
In/Out	OUT		OUT						IN	IN				
Volume	2	0	4	0	0	0	0	0	1	2	0	0	0	Project Hurricane
%	0.0%	0.0%	2.0%	3.0%	0.0%	0.0%	0.0%	5.0%	0.0%	2.0%	8.0%	3.0%		
In/Out			IN	IN				IN		OUT	OUT	OUT		
Volume	0	0	8	12	0	0	0	20	0	5	18	7	0	Celebration Pointe
Subtotal	86	46	114	23	95	29	99	488	255	171	177	14	0	
Total	171	352	282	551	447	94	180	825	324	330	493	500	2954	

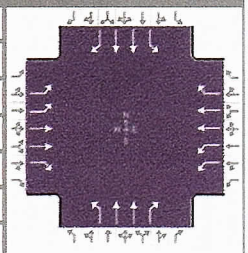


Seasonal Factor: 1
Growth Rate: 1.015
Years Grown: 5

	Trips In	Trips Out
Kings Highway Commerce Park	0	0

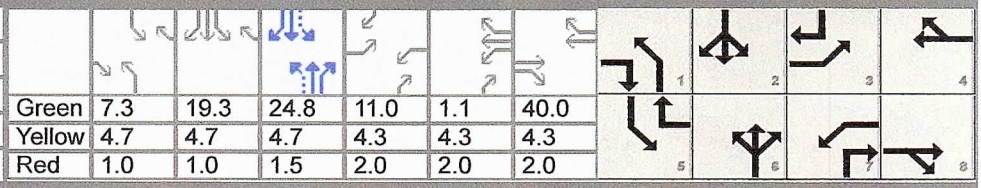
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	James Kemp	Analysis Date	May 10, 2021	Area Type	Other
Jurisdiction	St. Lucie County	Time Period	PM Peak Hour	PHF	0.95
Urban Street	Kings Hwy	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Orange Ave	File Name	c1.kingsHwy.kings.orange.PM without.project.7.2…		
Project Description	Buildout 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	180	825	324	330	493	500	171	352	282	551	447	94

Signal Information			
Cycle, s	140.0	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	7.3	19.3	24.8	11.0	1.1	40.0
Yellow	4.7	4.7	4.7	4.3	4.3	4.3
Red	1.0	1.0	1.5	2.0	2.0	2.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	17.3	46.3	24.7	53.7	13.0	31.0	38.0	56.0
Change Period, ($Y+R_c$), s	6.3	6.3	6.3	6.3	5.7	6.2	5.7	6.2
Max Allow Headway (*MAH*), s	3.0	3.0	3.0	3.0	3.0	0.0	3.0	0.0
Queue Clearance Time (g_s), s	10.7	40.1	17.9	20.3	9.3		34.3	
Green Extension Time (g_e), s	0.3	0.0	0.5	4.8	0.0	0.0	0.0	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.00	1.00	0.01	0.01	1.00		1.00	

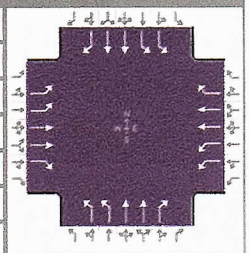
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	189	868	341	347	519	158	180	371	125	580	471	99
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1499	1574	1610	1499	1574	1334	1485	1508	1610	1485	1559	1610
Queue Service Time (g_s), s	8.7	38.1	24.9	15.9	18.3	8.1	7.3	15.7	8.2	32.3	13.9	5.2
Cycle Queue Clearance Time (g_c), s	8.7	38.1	24.9	15.9	18.3	8.1	7.3	15.7	8.2	32.3	13.9	5.2
Green Ratio (*g/C*)	0.08	0.29	0.34	0.13	0.34	0.57	0.23	0.18	0.31	0.42	0.36	0.43
Capacity (*c*), veh/h	236	898	544	395	1065	759	265	533	497	448	1108	699
Volume-to-Capacity Ratio (*X*)	0.803	0.967	0.627	0.880	0.487	0.208	0.679	0.695	0.252	1.293	0.424	0.142
Back of Queue (*Q*), ft/ln (95 th percentile)	176.8	708.7	375.2	311.4	329.6	125.2	165.2	297.1	148.8	1334	250.1	90
Back of Queue (*Q*), veh/ln (95 th percentile)	6.0	24.1	15.0	10.6	11.2	4.3	5.6	10.0	6.0	45.1	8.4	3.6
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	63.4	49.4	38.9	59.7	36.7	14.7	49.1	50.0	36.3	36.6	27.4	23.9
Incremental Delay (d_2), s/veh	2.4	22.1	1.7	9.2	0.1	0.0	5.7	7.3	1.2	147.8	1.2	0.4
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	65.8	71.4	40.7	68.8	36.8	14.8	54.8	57.3	37.5	184.4	28.6	24.3
Level of Service (LOS)	E	E	D	E	D	B	D	E	D	F	C	C
Approach Delay, s/veh / LOS	63.2	E		44.3	D		53.0	D		106.8	F	
Intersection Delay, s/veh / LOS	68.8						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.69	C	2.45	B	3.10	C	2.59	C
Bicycle LOS Score / LOS	1.64	B	1.33	A	1.05	A	1.44	A

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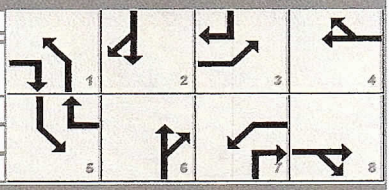
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	James Kemp	Analysis Date	May 10, 2021	Area Type	Other
Jurisdiction	St. Lucie County	Time Period	PM Peak Hour	PHF	0.95
Urban Street	Kings Hwy	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Orange Ave	File Name	c1.kingsHwy.kings.orange.PM without dual nbsbl...		
Project Description	Buildout without project with duals NB SB				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	180	825	324	330	493	500	171	352	282	551	447	94

Signal Information			
Cycle, s	140.0	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	10.3	13.4	27.7	11.0	1.1	40.0
Yellow	4.7	4.7	4.7	4.3	4.3	4.3
Red	1.0	1.0	1.5	2.0	2.0	2.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	17.3	46.3	24.7	53.7	16.0	33.9	35.1	53.0
Change Period, ($Y+R_c$), s	6.3	6.3	6.3	6.3	5.7	6.2	5.7	6.2
Max Allow Headway (*MAH*), s	3.0	3.0	3.0	3.0	3.0	0.0	3.0	0.0
Queue Clearance Time (g_s), s	10.7	40.1	17.9	33.9	10.6		28.8	
Green Extension Time (g_e), s	0.3	0.0	0.5	4.9	0.0	0.0	0.6	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.00	1.00	0.01	0.24	1.00		0.73	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	189	868	341	347	519	447	180	371	123	580	471	99
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1499	1574	1610	1499	1574	1334	1442	1508	1610	1485	1559	1610
Queue Service Time (g_s), s	8.7	38.1	24.1	15.9	18.3	31.9	8.6	15.1	7.8	26.8	14.7	5.4
Cycle Queue Clearance Time (g_c), s	8.7	38.1	24.1	15.9	18.3	31.9	8.6	15.1	7.8	26.8	14.7	5.4
Green Ratio (*g/C*)	0.08	0.29	0.36	0.13	0.34	0.55	0.25	0.20	0.33	0.57	0.33	0.41
Capacity (*c*), veh/h	236	898	578	395	1065	732	213	597	531	624	1042	665
Volume-to-Capacity Ratio (*X*)	0.803	0.967	0.590	0.880	0.487	0.612	0.846	0.621	0.232	0.930	0.452	0.149
Back of Queue (*Q*), ft/ln (95 th percentile)	176.8	708.7	361.1	311.4	329.6	433.3	203.5	282.7	140.4	495.1	262.9	94.2
Back of Queue (*Q*), veh/ln (95 th percentile)	6.0	24.1	14.4	10.6	11.2	14.7	6.9	9.5	5.6	16.7	8.9	3.8
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	63.4	49.4	36.5	59.7	36.7	21.5	64.0	46.9	34.1	54.3	29.9	25.7
Incremental Delay (d_2), s/veh	2.4	22.1	1.1	9.2	0.1	1.1	24.6	4.8	1.0	17.6	1.4	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	65.8	71.4	37.6	68.8	36.8	22.6	88.6	51.7	35.1	71.9	31.3	26.2
Level of Service (LOS)	E	E	D	E	D	C	F	D	D	E	C	C
Approach Delay, s/veh / LOS	62.4	E		40.4	D		58.5	E		51.3	D	
Intersection Delay, s/veh / LOS	52.7						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.83	C	2.59	C	2.71	C	2.59	C
Bicycle LOS Score / LOS	1.64	B	1.57	B	1.04	A	1.44	A

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TURNING MOVEMENT VOLUME COUNTS

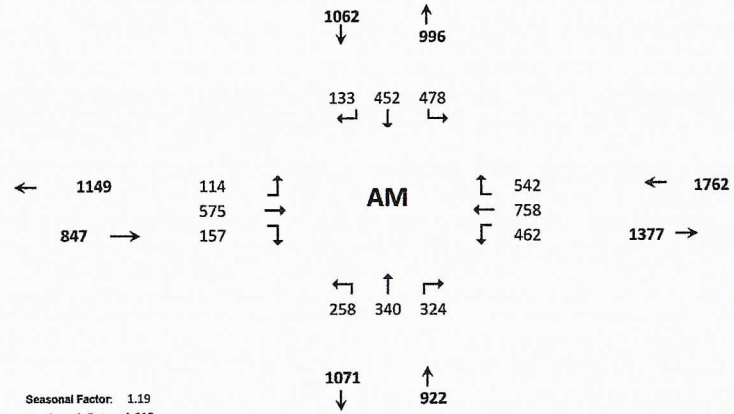
N/S STREET: Kings Hwy **E/W STREET:** Orange Ave **CONTROL:** Signalized

FILENAME:

COUNT DATE: 10/3/2018 **DAY:** Wednesday **CITY:** St Lucie

REPORT DATE: 7/22/2021 **ANALYSIS YEAR:** 2023

15 Min Period	Northbound			Southbound			Eastbound			Westbound				ONE HOUR SUM
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	
7:00-7:15	8	42	30	97	82	15	24	79	10	22	64	77	550	2366
7:15-7:30	9	62	31	107	75	10	16	88	21	36	51	110	616	2337
7:30-7:45	14	50	51	93	67	12	13	82	20	25	46	96	569	2188
7:45-8:00	16	59	32	70	60	13	11	95	23	43	88	121	631	2154
8:00-8:15	12	58	45	81	62	8	4	49	10	20	53	119	521	1974
8:15-8:30	12	48	31	68	67	7	11	42	4	38	44	95	467	
8:30-8:45	10	50	30	93	68	7	9	62	18	28	59	101	535	
8:45-9:00	17	29	28	77	69	10	6	49	12	41	38	75	451	
AM PEAK HOUR IS FROM:			7:00AM TO 8:00AM											
Volumes	47	213	144	367	284	50	64	344	74	126	249	404	2366	
Season Factor	56	253	171	437	338	60	76	409	88	150	296	481	2816	
Growth	60	273	185	470	364	64	82	441	95	162	319	518	3033	
In/Out	OUT		OUT	-					IN	IN				
Percentage	2%	0%	30%	0%	0%	0%	0%	0%	2%	30%	0%	0%	0%	
PROJECT	2	0	27	0	0	0	0	0	7	109	0	0	145	
SUBPROJECTS														
%	3%	0%	40%	0%	0%	0%	0%	0%	3%	40%	0%	0%		
In/Out	OUT		OUT						IN	IN				
Volume	1	0	7	0	0	0	0	0	2	30	0	0	0	
%	30.0%	0.0%	0.0%	0.0%	0.0%	10.0%	10.0%	50.0%	30.0%	0.0%	50.0%	0.0%		
In/Out	IN					IN	OUT	OUT	OUT		IN			
Volume	169	0	0	0	0	56	12	62	37	0	282	0	0	
%	0.0%	0.0%	2.0%	3.0%	0.0%	0.0%	0%	5%	0.0%	2.0%	5.0%	3.0%		
In/Out			IN	IN				IN		OUT	OUT	OUT		
Volume	0	0	1	1	0	0	0	2	0	3	8	5	0	
%	0.0%	0.0%	3.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	0.0%	2.0%		
In/Out			IN	IN						OUT		OUT		
Volume	0	0	4	2	0	0	0	0	0	11	0	7	0	
%	20.0%	0.0%	0.0%	0.0%	10.0%	10.0%	20%	55%	0.0%	30.0%	25.0%	0.0%		
In/Out	IN				IN	IN	OUT	OUT		IN	IN			
Volume	13	0	0	0	6	6	13	35	0	19	16	0	0	
%	4.0%	18.0%	26.0%	0.0%	18.0%	0.0%	0.0%	0.0%	4.0%	26.0%	0.0%	0.0%		
In/Out	OUT	OUT	OUT		IN				IN	IN				
Volume	14	61	89	0	62	0	0	0	14	89	0	0	0	
%	0.0%	10.0%	13.0%	0.0%	10.0%	3.0%	13%	52%	0.0%	13.0%	52.0%	0.0%		
In/Out		OUT	OUT		IN	IN	OUT	OUT		IN	IN			
Volume	0	6	7	0	20	6	7	29	0	26	102	0	0	
%	0.0%	0.0%	30.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	0.0%	0.0%		
In/Out			OUT						IN					
Volume	0	0	2	0	0	0	0	0	0	2	0	0	0	
%	5.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0%	0%	5.0%	10.0%	0.0%	0.0%		
In/Out	OUT		OUT						IN	IN				
Volume	1	0	1	0	0	0	0	0	2	4	0	0	0	
%	0.0%	0.0%	2.0%	3.0%	0.0%	0.0%	0.0%	5.0%	0.0%	2.0%	8.0%	3.0%		
In/Out			IN	IN				IN		OUT	OUT	OUT		
Volume	0	0	2	4	0	0	0	6	0	8	31	12	0	
Subtotal	196	67	112	7	88	69	32	134	55	192	439	24	0	
Total	258	340	324	478	452	133	114	575	157	462	758	542	3178	

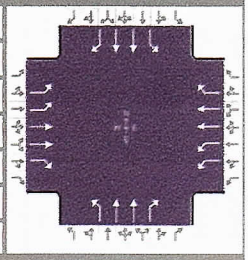


Seasonal Factor: 1.19
Growth Rate: 1.015
Years Grown: 5

	Trips In	Trips Out
Kings Highway Commerce Park	362	90
Hunt	76	17
St. Lucie Commerce Center	563	124
Whispering Oaks	45	167
Bent Creek	123	371
Wawa Kings	63	64
Kings Highway Warehouse	342	341
Stonemont	197	55
Walsh Crossroads	7	5
Project Hurricane	36	12
Celebration Pointe	121	385

HCS7 Signalized Intersection Results Summary

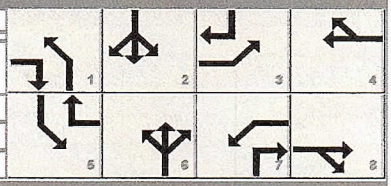
General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	SOR	Analysis Date	May 10, 2021	Area Type	Other
Jurisdiction	St. Lucie County	Time Period	AM Peak Hour	PHF	0.95
Urban Street	Kings Hwy	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Orange Ave	File Name	C1.kings hwy.kings.orange.AM.with project.7.26.2...		
Project Description	Buildout w/ 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	114	575	157	462	758	542	258	340	324	478	452	133

Signal Information			
Cycle, s	140.0	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	11.7	17.3	25.8	7.8	10.7	30.2
Yellow	4.7	4.7	4.7	4.3	4.3	4.3
Red	1.0	1.0	1.5	2.0	2.0	2.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	14.1	36.5	31.1	53.5	17.4	32.0	40.4	55.0
Change Period, ($Y+R_c$), s	6.3	6.3	6.3	6.3	5.7	6.2	5.7	6.2
Max Allow Headway (*MAH*), s	3.0	3.0	3.0	3.0	3.0	0.0	3.0	0.0
Queue Clearance Time (g_s), s	7.7	28.2	24.3	35.7	13.7		36.7	
Green Extension Time (g_e), s	0.2	2.0	0.6	3.7	0.0	0.0	0.0	0.0
Phase Call Probability	0.99	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.00	0.73	0.36	0.09	1.00		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	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	120	605	165	486	798	111	272	358	341	503	476	140
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1456	1571	1610	1499	1498	1334	1485	1559	1610	1485	1484	1610
Queue Service Time (g_s), s	5.7	26.2	11.2	22.3	33.7	5.3	11.7	14.3	24.0	34.7	15.3	7.9
Cycle Queue Clearance Time (g_c), s	5.7	26.2	11.2	22.3	33.7	5.3	11.7	14.3	24.0	34.7	15.3	7.9
Green Ratio (*g/C*)	0.06	0.22	0.30	0.18	0.34	0.58	0.27	0.18	0.36	0.45	0.35	0.40
Capacity (*c*), veh/h	163	678	481	532	1011	780	316	575	582	489	1035	651
Volume-to-Capacity Ratio (*X*)	0.738	0.893	0.343	0.914	0.790	0.142	0.859	0.623	0.586	1.029	0.460	0.215
Back of Queue (*Q*), ft/ln (95 th percentile)	112.6	492.4	195.4	424.8	540.1	80.4	297.6	279.5	373.1	806.8	259	139.7
Back of Queue (*Q*), veh/ln (95 th percentile)	3.8	16.7	7.8	14.5	18.4	2.7	10.1	9.4	14.9	27.3	8.7	5.6
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	65.1	53.3	38.3	56.5	41.9	13.2	48.9	48.5	36.2	35.2	28.5	27.2
Incremental Delay (d_2), s/veh	2.4	12.1	0.2	15.7	3.5	0.0	19.6	5.0	4.3	48.2	1.5	0.8
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	67.5	65.5	38.5	72.3	45.4	13.2	68.5	53.5	40.4	83.5	30.0	28.0
Level of Service (LOS)	E	E	D	E	D	B	E	D	D	F	C	C
Approach Delay, s/veh / LOS	60.8	E		52.2	D		53.1	D		53.8	D	
Intersection Delay, s/veh / LOS	54.6						D					

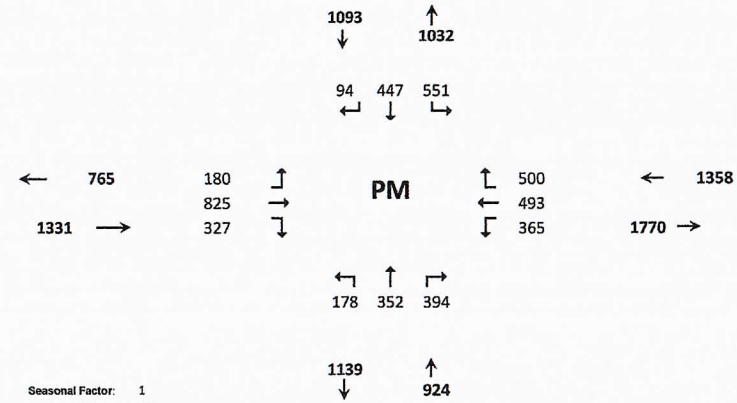
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.45	B	3.23	C	2.59	C
Bicycle LOS Score / LOS	1.22	A	1.64	B	1.29	A	1.41	A

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Kings and Orange
W/ Project 2023-PM

TURNING MOVEMENT VOLUME COUNTS

	Northbound			Southbound			Eastbound			Westbound				
15 Min Period lanes	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	ONE HOUR SUM
4:00-4:15	15	61	37	89	61	7	24	56	6	34	54	82	526	2193
4:15-4:30	17	46	32	109	62	11	12	36	11	37	70	86	529	2233
4:30-4:45	10	57	46	112	77	11	20	48	8	36	44	79	548	2280
4:45-5:00	19	58	38	114	61	21	29	59	15	29	60	87	590	2304
5:00-5:15	17	69	32	75	73	11	20	75	8	27	58	101	566	2279
5:15-5:30	14	64	24	96	60	11	6	86	20	42	59	94	576	
5:30-5:45	16	48	37	127	81	8	8	43	11	26	70	97	572	
5:45-6:00	17	50	42	106	70	9	14	81	6	25	57	88	565	
PM PEAK HOUR IS FROM:			4:45PM TO 5:45PM											
Volumes	66	239	131	412	275	51	63	263	54	124	247	379	2304	
Season Factor	79	284	156	490	327	61	75	313	64	148	294	451	2742	
Growth	85	306	168	528	353	65	81	337	69	159	317	486	2954	
In/Out	OUT	0	OUT	-	0	0	0	0	IN	IN	0	0		
Percentage	2%	0%	30%	0%	0%	0%	0%	0%	2%	30%	0%	0%	0%	
PROJECT	7	0	111	0	0	0	0	0	2	35	0	0	156	
SUBPROJECTS														
%	3%	0%	40%	0%	0%	0%	0%	0%	3%	40%	0%	0.0%		
In/Out	OUT		OUT						IN	IN				
Volume	2	0	23	0	0	0	0	0	1	8	0	0	0	Hunt
%	30.0%	0.0%	0.0%	0.0%	0.0%	10.0%	10.0%	50.0%	30.0%	0.0%	50.0%	0.0%		
In/Out	IN					IN	OUT	OUT	OUT		IN			
Volume	62	0	0	0	0	21	78	392	235	0	104	0	0	St. Lucie Commerce Center
%	0.0%	0.0%	0.0%	2.0%	0.0%	0.0%	0.0%	5.0%	0.0%	2.0%	5.0%	3.0%		
In/Out				IN				IN		OUT	OUT	OUT		
Volume	0	0	0	3	0	0	0	9	0	2	5	3	0	Whispering Oaks
%	0.0%	0.0%	3.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	0.0%	2.0%		
In/Out			IN	IN						OUT		OUT		
Volume	0	0	12	8	0	0	0	0	0	7	0	5	0	Bent Creek
%	20.0%	0.0%	0.0%	0.0%	10.0%	10.0%	20.0%	55.0%	0.0%	30.0%	25.0%	0.0%		
In/Out	IN				IN	IN	OUT	OUT		IN	IN			
Volume	11	0	0	0	6	6	12	32	0	17	14	0	0	Wawa Kings
%	4.0%	18.0%	26.0%	0.0%	18.0%	0.0%	0.0%	0.0%	4.0%	26.0%	0.0%	0.0%		
In/Out	OUT	OUT	OUT		IN				IN	IN				
Volume	9	39	56	0	82	0	0	0	18	119	0	0	0	Kings Highway Warehouse
%	0.0%	10.0%	13.0%	0.0%	10.0%	3.0%	13.0%	52.0%	0.0%	13.0%	52.0%	0.0%		
In/Out		OUT	OUT		IN	IN	OUT	OUT		IN	IN			
Volume	0	7	9	0	7	2	9	35	0	9	35	0	0	Stonemont
%	0.0%	0.0%	30.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	0.0%	0.0%		
In/Out			OUT							IN				
Volume	0	0	3	0	0	0	0	0	0	3	0	0	0	Walsh Crossroads
%	5.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	10.0%	0.0%	0.0%		
In/Out	OUT		OUT						IN	IN				
Volume	2	0	4	0	0	0	0	0	1	2	0	0	0	Project Hurricane
%	0.0%	0.0%	2.0%	3.0%	0.0%	0.0%	0.0%	5.0%	0.0%	2.0%	8.0%	3.0%		
In/Out			IN	IN				IN		OUT	OUT	OUT		
Volume	0	0	8	12	0	0	0	20	0	5	18	7	0	Celebration Pointe
Subtotal	86	46	114	23	95	29	99	488	255	171	177	14	0	
Total	178	352	394	551	447	94	180	825	327	365	493	500	3109	

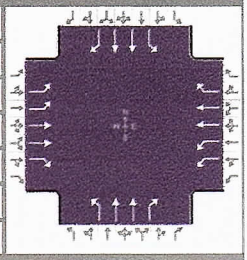


Seasonal Factor: 1
Growth Rate: 1.015
Years Grown: 5

	Trips In	Trips Out
Kings Highway Commerce Park	115	371

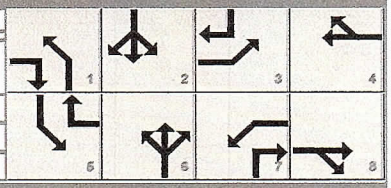
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	James Kemp	Analysis Date	May 10, 2021	Area Type	Other
Jurisdiction	St. Lucie County	Time Period	PM Peak Hour	PHF	0.95
Urban Street	Kings Hwy	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Orange Ave	File Name	c1.kingsHwy.kings.orange.PM with project.7.26.2...		
Project Description	Buildout 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	180	825	327	365	493	500	178	352	394	551	447	94

Signal Information					EB			WB			NB			SB		
Cycle, s	140.0	Reference Phase	2													
Offset, s	0	Reference Point	End	Green	7.3	19.3		24.8	11.0	2.8	38.3					
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.7	4.7		4.7	4.3	4.3	4.3					
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0		1.5	2.0	2.0	2.0					



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	17.3	44.6	26.4	53.7	13.0	31.0	38.0	56.0
Change Period, ($Y+R_c$), s	6.3	6.3	6.3	6.3	5.7	6.2	5.7	6.2
Max Allow Headway (MAH), s	3.0	3.0	3.0	3.0	3.0	0.0	3.0	0.0
Queue Clearance Time (g_s), s	10.7	40.3	19.6	20.3	9.3		34.3	
Green Extension Time (g_e), s	0.3	0.0	0.5	4.8	0.0	0.0	0.0	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.00	1.00	0.07	0.01	1.00		1.00	

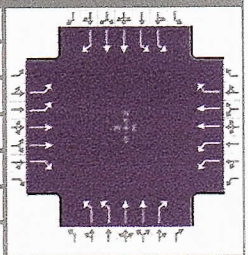
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (v), veh/h	189	868	344	384	519	158	187	371	243	580	471	99
Adjusted Saturation Flow Rate (s), veh/h/ln	1499	1574	1610	1499	1574	1334	1485	1508	1610	1485	1559	1610
Queue Service Time (g_s), s	8.7	38.3	25.7	17.6	18.3	8.1	7.3	15.7	16.9	32.3	13.9	5.2
Cycle Queue Clearance Time (g_c), s	8.7	38.3	25.7	17.6	18.3	8.1	7.3	15.7	16.9	32.3	13.9	5.2
Green Ratio (g/C)	0.08	0.27	0.33	0.14	0.34	0.57	0.23	0.18	0.32	0.42	0.36	0.43
Capacity (c), veh/h	236	861	524	431	1065	759	265	534	516	449	1109	699
Volume-to-Capacity Ratio (X)	0.803	1.009	0.656	0.892	0.487	0.208	0.707	0.694	0.471	1.293	0.424	0.142
Back of Queue (Q), ft/ln (95 th percentile)	176.8	757.6	387.9	344.1	329.6	125.2	188	297.1	280.7	1334.1	250	90
Back of Queue (Q), veh/ln (95 th percentile)	6.0	25.8	15.5	11.7	11.2	4.3	6.4	10.0	11.2	45.1	8.4	3.6
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	63.4	50.9	40.5	58.9	36.7	14.7	49.7	50.0	38.0	36.6	27.4	23.9
Incremental Delay (d_2), s/veh	2.4	32.9	2.4	12.2	0.1	0.0	7.2	7.3	3.1	147.7	1.2	0.4
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	65.8	83.8	42.9	71.1	36.8	14.8	56.8	57.3	41.1	184.3	28.6	24.3
Level of Service (LOS)	E	F	D	E	D	B	E	E	D	F	C	C
Approach Delay, s/veh / LOS	71.3	E		45.9	D		52.3	D		106.8	F	
Intersection Delay, s/veh / LOS	71.0						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.69	C	2.45	B	3.10	C	2.59	C
Bicycle LOS Score / LOS	1.64	B	1.36	A	1.15	A	1.44	A

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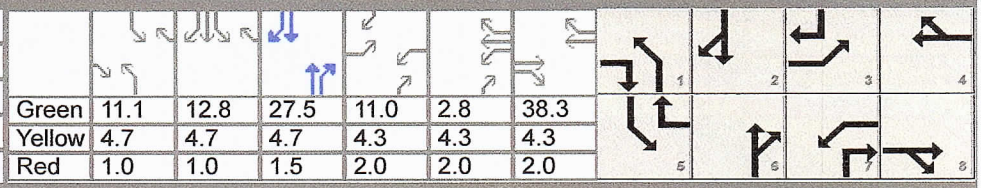
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	James Kemp	Analysis Date	May 10, 2021	Area Type	Other
Jurisdiction	St. Lucie County	Time Period	PM Peak Hour	PHF	0.95
Urban Street	Kings Hwy	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Orange Ave	File Name	c1.kingsHwy.kings.orange.PM with project.duals n...		
Project Description	Buildout w/ 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	180	825	327	365	493	500	178	352	394	551	447	94

Signal Information			
Cycle, s	140.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



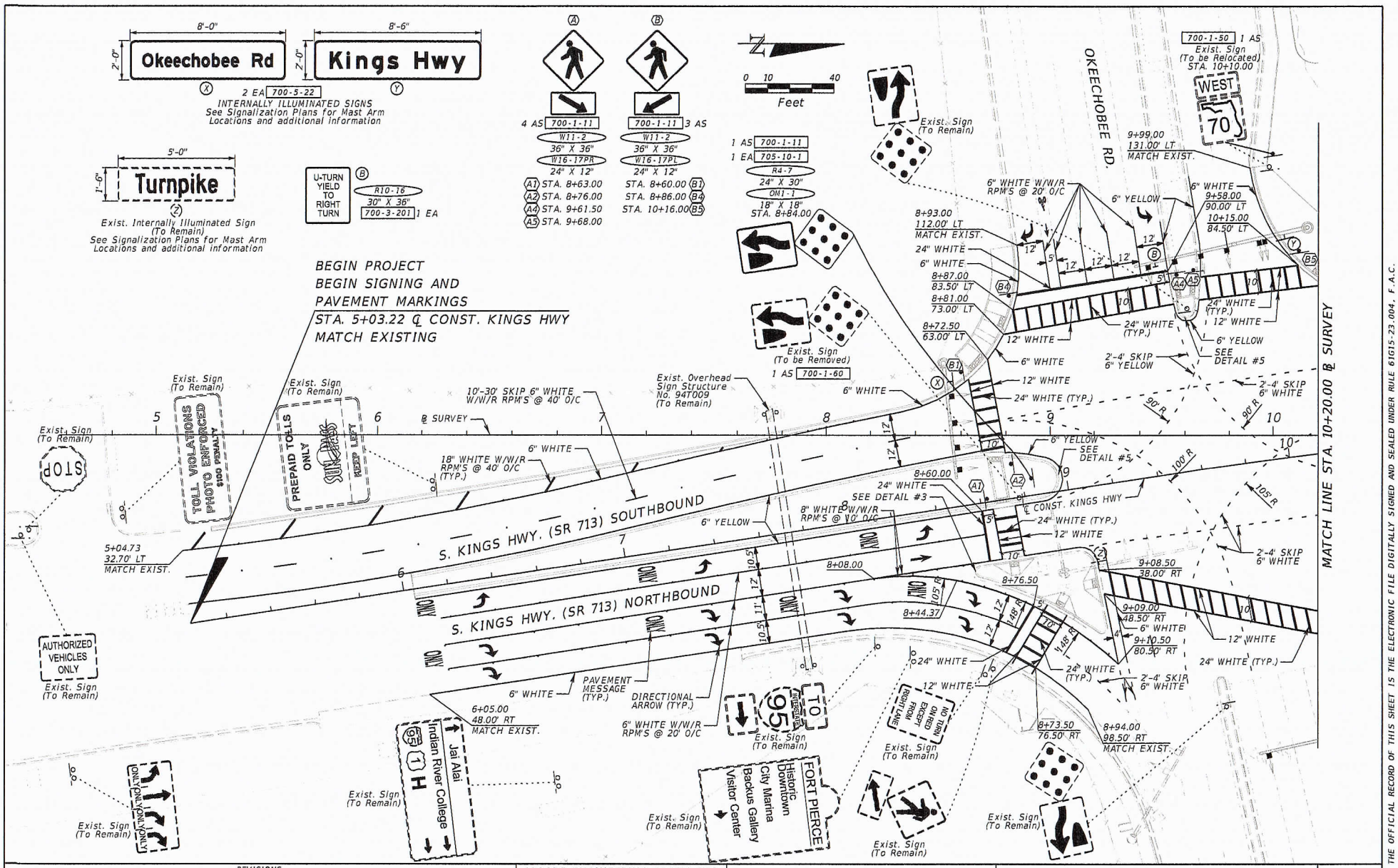
Green	11.1	12.8	27.5	11.0	2.8	38.3
Yellow	4.7	4.7	4.7	4.3	4.3	4.3
Red	1.0	1.0	1.5	2.0	2.0	2.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	17.3	44.6	26.4	53.7	16.8	33.7	35.3	52.2
Change Period, ($Y+R_c$), s	6.3	6.3	6.3	6.3	5.7	6.2	5.7	6.2
Max Allow Headway (MAH), s	3.0	3.0	3.0	3.0	3.0	0.0	3.0	0.0
Queue Clearance Time (g_s), s	10.7	40.3	19.6	23.5	11.0		28.8	
Green Extension Time (g_e), s	0.3	0.0	0.5	5.3	0.1	0.0	0.8	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.00	1.00	0.07	0.04	0.18		0.19	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (v), veh/h	189	868	344	384	519	339	187	371	243	580	471	99
Adjusted Saturation Flow Rate (s), veh/h/ln	1499	1574	1610	1499	1574	1334	1442	1508	1610	1485	1559	1610
Queue Service Time (g_s), s	8.7	38.3	24.6	17.6	18.3	21.5	9.0	15.2	16.4	26.8	14.9	5.4
Cycle Queue Clearance Time (g_c), s	8.7	38.3	24.6	17.6	18.3	21.5	9.0	15.2	16.4	26.8	14.9	5.4
Green Ratio (g/C)	0.08	0.27	0.35	0.14	0.34	0.55	0.08	0.20	0.34	0.21	0.33	0.41
Capacity (c), veh/h	236	861	568	431	1065	733	229	593	548	627	1025	656
Volume-to-Capacity Ratio (X)	0.803	1.009	0.606	0.892	0.487	0.462	0.820	0.625	0.444	0.924	0.459	0.151
Back of Queue (Q), ft/ln (95 th percentile)	176.8	758	369.2	344.1	329.6	309.2	185.1	283.2	272.3	487.5	266.1	95.3
Back of Queue (Q), veh/ln (95 th percentile)	6.0	25.8	14.8	11.7	11.2	10.5	6.3	9.6	10.9	16.5	9.0	3.8
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	63.4	50.9	37.3	58.9	36.7	19.0	63.5	47.1	35.9	54.1	30.6	26.2
Incremental Delay (d_2), s/veh	2.4	32.9	1.3	12.2	0.1	0.2	8.3	4.9	2.6	15.2	1.5	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	65.8	83.8	38.6	71.1	36.8	19.2	71.7	52.0	38.5	69.3	32.1	26.7
Level of Service (LOS)	E	F	D	E	D	B	E	D	D	E	C	C
Approach Delay, s/veh / LOS	70.3	E		42.6	D		52.5	D		50.4	D	
Intersection Delay, s/veh / LOS	54.7						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.83	C	2.59	C	2.86	C	2.59	C
Bicycle LOS Score / LOS	1.64	B	1.51	B	1.15	A	1.44	A

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

JACOBS ENGINEERING GROUP INC.
3750 NW 87th AVENUE, SUITE 750
MIAMI, FL 33178
PHONE No. (305) 718-0599
CERTIFICATE OF AUTHORIZATION No. 2822
ENGINEER OF RECORD:
JAVIER A. CALVO P.E. No. 73792

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

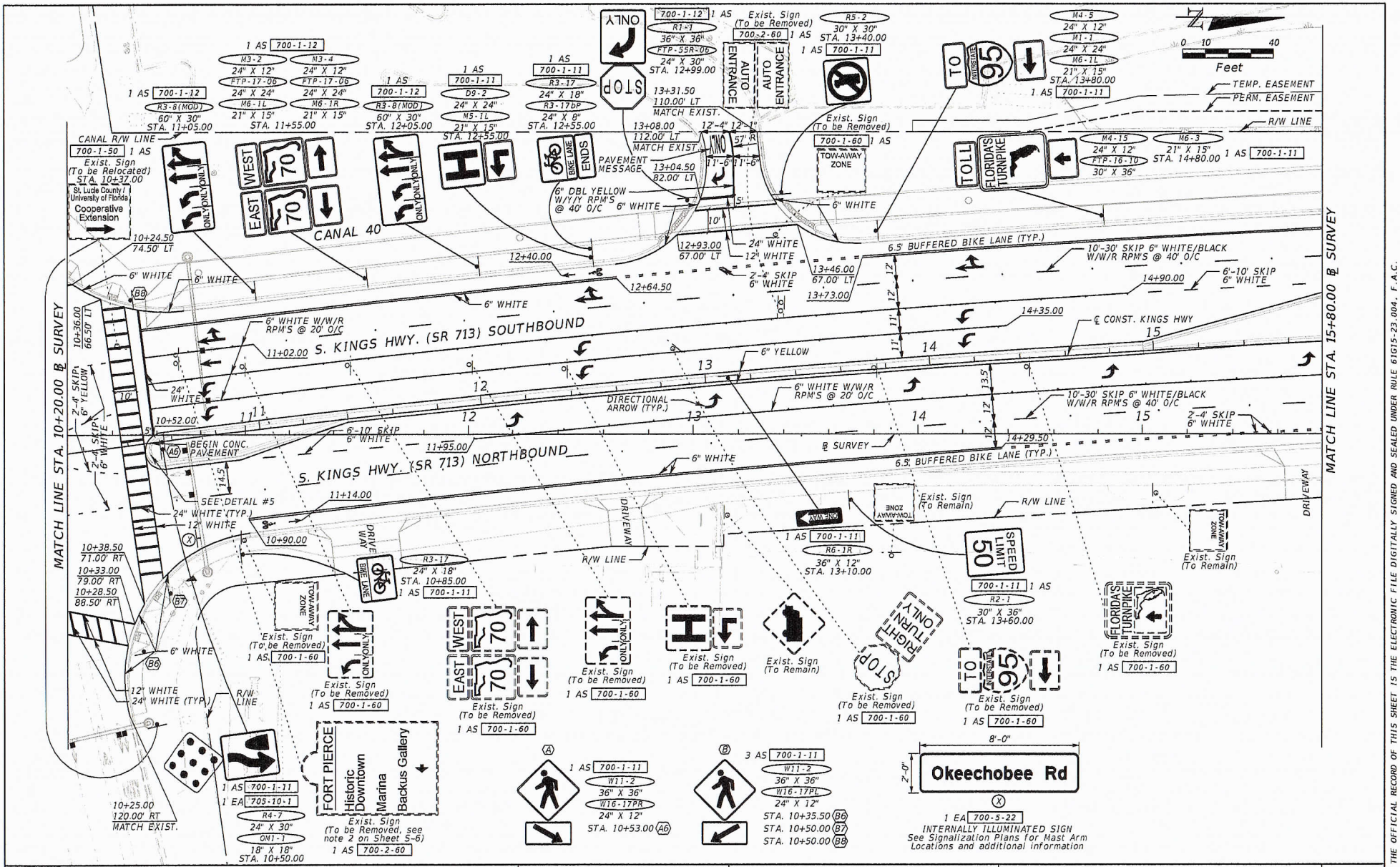
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 713	ST. LUCIE	230256-6-52-01

SIGNING AND PAVEMENT MARKING PLANS

SHEET NO. S-7

calvoja 11/21/2017 10:02:11 AM P:\E9Y18600_Kings Hwy\700 Cadd Files\23025665201\signing\plansp01.dgn

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



E-13

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

JACOBS ENGINEERING GROUP INC.
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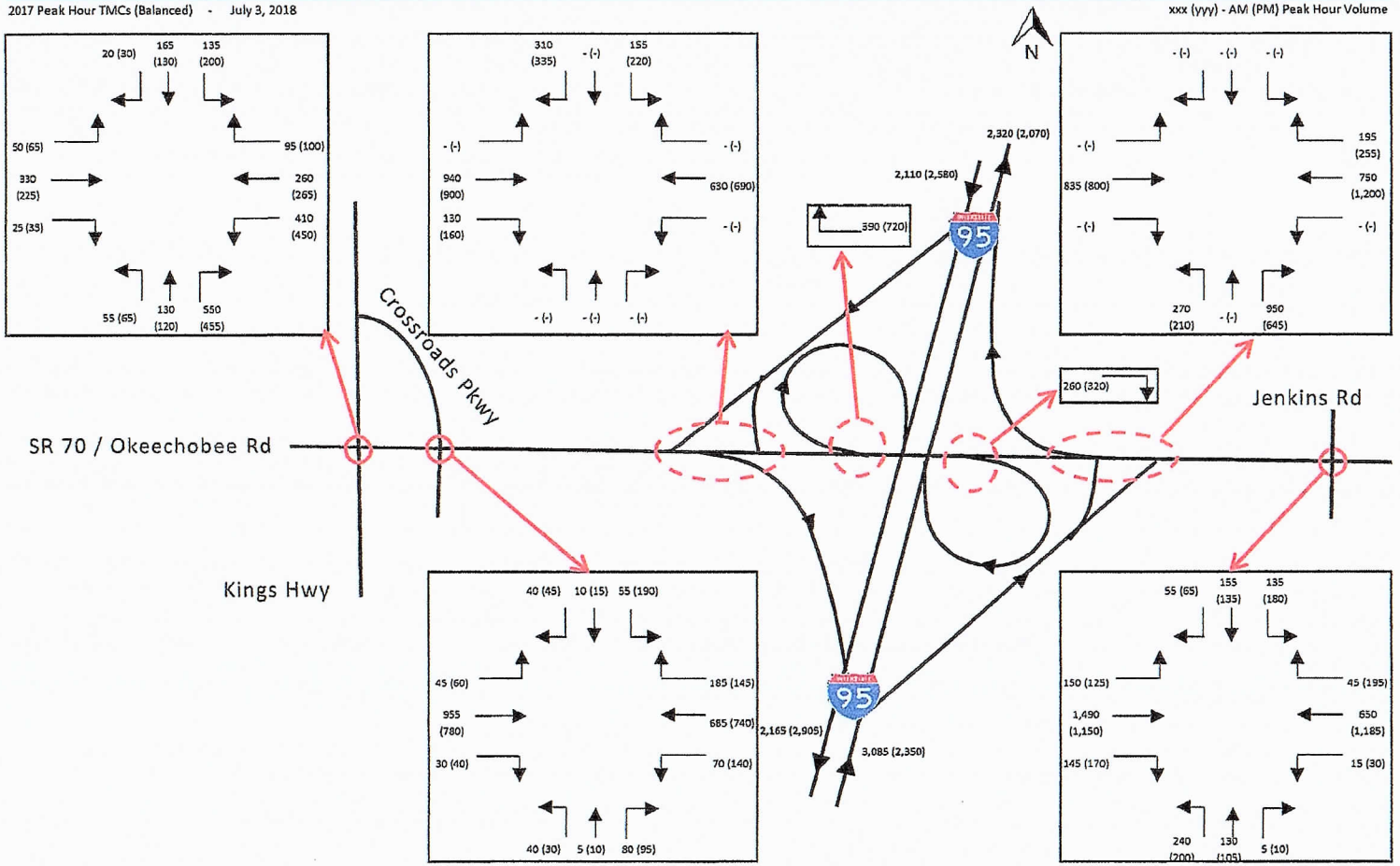
SHEET NO. S-8

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SR 70/Okeechobee Road Interchange

2017 Peak Hour TMCs (Balanced) - July 3, 2018

xxx (yyy) - AM (PM) Peak Hour Volume



Estimated 2017 Turning Movement Volumes based on data collected for the Master Plan study in Oct. and Nov. 2017.

TURNING MOVEMENT VOLUME COUNTS

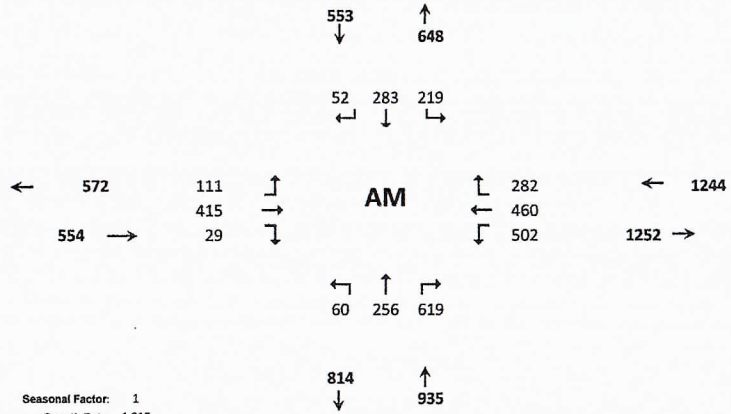
N/S STREET: Kings Hwy **E/W STREET:** Okeechobee Rd **CONTROL:** Signalized

FILENAME: Oct.2017 FDOT Adjusted

COUNT DATE: **DAY:** **CITY:** St Lucie

REPORT DATE: 7/22/2021 **ANALYSIS YEAR:** 2023 without project

15 Min Period	Northbound			Southbound			Eastbound			Westbound				ONE HOUR SUM
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	
7:00-7:15													0	0
7:15-7:30													0	0
7:30-7:45													0	0
7:45-8:00													0	0
8:00-8:15													0	0
8:15-8:30													0	
8:30-8:45													0	
8:45-9:00													0	



AM PEAK HOUR IS FROM: 8:00AM TO 9:00AM

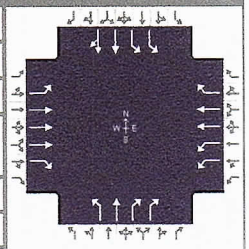
Volumes	55	130	135	165	20	50	330	25	410	260	95	0			
Season Factor	55	130	550	135	165	20	50	330	25	410	260	95	2225		
Growth	60	142	601	148	180	22	55	361	27	448	284	104	2433		
In/Out	OUT	IN	OUT	OUT	OUT	OUT	IN		IN			IN			
Percentage	0%	5%	0%	35%	5%	5%	5%	0%	0%	0%	0%	35%	0%		
PROJECT	0	0	0	0	0	0	0	0	0	0	0	0	0		
SUBPROJECTS															
%	0%	5%	0%	30%	5%	5%	5%	0%	0%	0%	0%	30%			
In/Out		IN		OUT	OUT	OUT	IN					IN			
Volume	0	4	0	5	1	1	4	0	0	0	0	23	0		
%	0.0%	5.0%	0.0%	20.0%	5.0%	5.0%	5.0%	0.0%	0.0%	0.0%	0.0%	20.0%			
In/Out		IN		OUT	OUT	OUT	IN					IN			
Volume	0	28	0	25	6	6	28	0	0	0	0	113	0		
%	0.0%	0.0%	5.0%	1.0%	0.0%	0.0%	0%	5%	0.0%	5.0%	5.0%	1.0%			
In/Out			IN	IN				IN		OUT	OUT	OUT			
Volume	0	0	2	0	0	0	0	2	0	8	8	2	0		
%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	7.0%	0.0%			
In/Out								IN			OUT				
Volume	0	0	0	0	0	0	0	9	0	0	26	0	0		
%	0.0%	5.0%	0.0%	5.0%	5.0%	5.0%	5%	0%	0.0%	0.0%	0.0%	5.0%			
In/Out		IN		OUT	OUT	OUT	IN					IN			
Volume	0	3	0	3	3	3	3	0	0	0	0	3	0		
%	0.0%	21.0%	0.0%	11.0%	21.0%	4.0%	4.0%	0.0%	0.0%	0.0%	0.0%	11.0%			
In/Out		IN		OUT	OUT	OUT	IN					IN			
Volume	0	72	0	38	72	14	14	0	0	0	0	38	0		
%	0.0%	10.0%	13.0%	0.0%	10.0%	3.0%	13%	52%	0.0%	13.0%	52.0%	0.0%			
In/Out		OUT	OUT		IN	IN	OUT	OUT		IN	IN				
Volume	0	6	7	0	20	6	7	29	0	26	102	0	0		
%	0.0%	20.0%	0.0%	0.0%	20.0%	0.0%	0.0%	5.0%	0.0%	0.0%	5.0%	0.0%			
In/Out		IN			OUT			IN			OUT				
Volume	0	1	0	0	1	0	0	0	0	0	0	0	0		
%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0%	5%	5.0%	5.0%	5.0%	0.0%			
In/Out			IN					IN	IN	OUT	OUT				
Volume	0	0	2	0	0	0	0	2	2	1	1	0	0		
%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	5.0%	10.0%	0.0%			
In/Out			IN					IN		OUT	OUT				
Volume	0	0	6	0	0	0	0	12	0	19	39	0	0		
%	5.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5%	80%	5.0%	0.0%	80.0%	0.0%			
In/Out	IN					IN	OUT	OUT	OUT		IN				
Volume	7	0	0	0	0	7	21	337	21	0	114	0			
Subtotal	0	114	17	71	103	30	56	54	2	54	176	178	0		
Total	60	256	619	219	283	52	111	415	29	502	460	282	3287		

Seasonal Factor: 1
Growth Rate: 1.015
Years Grown: 6

	Trips In	Trips Out
Kings Highway Commerce Park	0	0
Hunt	76	17
St. Lucie Commerce Center	563	124
Whispering Oaks	45	167
Bent Creek	123	371
Wawa Kings	63	64
Kings Highway Warehouse	342	341
Stonemont	197	55
Walsh Crossroads	7	5
Project Hurricane	36	12
Celebration Pointe	121	385
Creekside	143	421

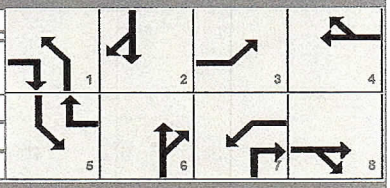
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	SOR	Analysis Date	Jul 26, 2021	Area Type	Other
Jurisdiction	St. Lucie County	Time Period	AM Peak Hour without project	PHF	0.95
Urban Street	Kings Hwy	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Okeechobee	File Name	c1.kingsHwy.kings.okeechobee.AM without projec...		
Project Description	Buildout AM 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	111	415	29	502	460	282	60	256	619	219	283	52

Signal Information					EB			WB			NB		
Cycle, s	140.0	Reference Phase	2										
Offset, s	0	Reference Point	End	Green	7.3	0.1		56.4	12.7	4.7	22.3		
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.7	4.7		4.7	4.3	4.3	4.3		
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0		1.5	2.0	2.0	2.0		



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0
Phase Duration, s	19.0	28.6	30.0	39.5	13.0	62.6	18.8	68.4
Change Period, ($Y+R_c$), s	6.3	6.3	6.3	6.3	5.7	6.2	5.7	6.2
Max Allow Headway (*MAH*), s	3.0	3.0	3.0	3.0	3.0	0.0	3.0	0.0
Queue Clearance Time (g_s), s	12.8	20.2	25.7	21.4	7.9		12.7	
Green Extension Time (g_e), s	0.1	2.1	0.0	2.4	0.1	0.0	0.5	0.0
Phase Call Probability	0.99	1.00	1.00	1.00	0.91		1.00	
Max Out Probability	0.00	0.03	1.00	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	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	117	437	31	528	484	109	63	269	388	231	178	175
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1499	1089	1384	1555	1574	1334	1485	1633	1169	1485	1605	1546
Queue Service Time (g_s), s	10.8	18.2	2.5	23.7	19.4	8.4	5.9	13.7	11.9	10.7	7.4	8.3
Cycle Queue Clearance Time (g_c), s	10.8	18.2	2.5	23.7	19.4	8.4	5.9	13.7	11.9	10.7	7.4	8.3
Green Ratio (*g/C*)	0.09	0.16	0.21	0.17	0.24	0.33	0.05	0.40	0.57	0.09	0.44	0.44
Capacity (*c*), veh/h	136	519	292	527	747	442	77	658	1338	279	713	687
Volume-to-Capacity Ratio (*X*)	0.857	0.841	0.104	1.003	0.648	0.248	0.817	0.410	0.290	0.827	0.249	0.255
Back of Queue (*Q*), ft/ln (95 th percentile)	224.3	259	43.8	507.6	352.5	142.4	124.9	247.8	165	214.5	138.4	133.8
Back of Queue (*Q*), veh/ln (95 th percentile)	7.6	8.8	1.5	17.7	12.0	4.8	4.2	8.7	5.6	7.2	4.8	5.4
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	62.7	57.1	44.5	58.2	48.1	34.1	65.7	22.5	15.4	62.3	17.3	19.5
Incremental Delay (d_2), s/veh	5.8	4.3	0.1	40.1	0.4	0.1	7.6	1.9	0.5	2.4	0.8	0.9
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	68.5	61.4	44.6	98.2	48.5	34.2	73.3	24.4	15.9	64.7	18.2	20.4
Level of Service (LOS)	E	E	D	F	D	C	E	C	B	E	B	C
Approach Delay, s/veh / LOS	62.0	E		70.5	E		24.1	C		37.3	D	
Intersection Delay, s/veh / LOS	51.3						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.82	C	2.31	B	2.96	C	2.57	C
Bicycle LOS Score / LOS	0.81	A	1.41	A	1.68	B	0.97	A

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TURNING MOVEMENT VOLUME COUNTS

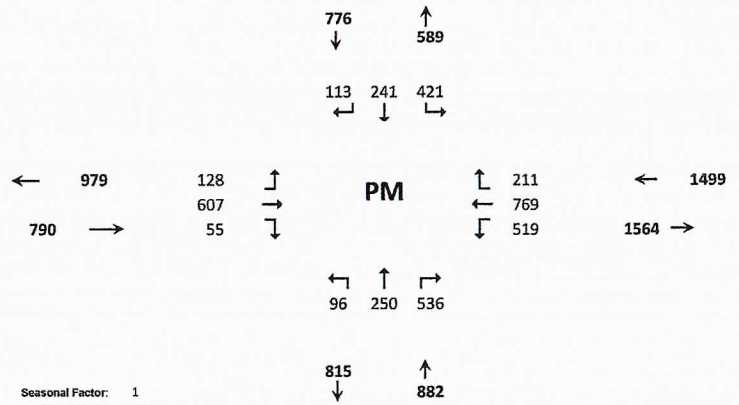
N/S STREET: Kings Hwy **E/W STREET:** Okeechobee Rd **CONTROL:** Signalized

FILENAME:

COUNT DATE: Oct 2017 FDOT Adjusted **DAY:** **CITY:** St Lucie

REPORT DATE: 7/22/2021 **ANALYSIS YEAR:** 2023 Without Project

15 Min Period lanes	Northbound			Southbound			Eastbound			Westbound				ONE HOUR SUM
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	
4:00-4:15													0	0
4:15-4:30													0	0
4:30-4:45													0	0
4:45-5:00													0	0
5:00-5:15													0	0
5:15-5:30													0	
5:30-5:45													0	
5:45-6:00													0	
PM PEAK HOUR IS FROM:			5:00PM TO 6:00PM											
Volumes	65	120	455	200	130	30	65	225	35	450	265	100	0	
Season Factor	65	120	455	200	130	30	65	225	35	450	265	100	2140	
Growth	71	131	498	219	142	33	71	246	38	492	290	109	2340	
In/Out	OUT	IN	OUT	OUT	OUT	OUT	IN	0	IN	0	0	IN		
Percentage	0%	5%	0%	35%	5%	5%	5%	0%	0%	0%	0%	35%	0%	
PROJECT	0	0	0	0	0	0	0	0	0	0	0	0	0	
SUBPROJECTS														
%	0%	5%	0%	30%	5%	5%	5%	0%	0%	0%	0%	30.0%		
In/Out		IN		OUT	OUT	OUT	IN					IN		
Volume	0	1	0	17	3	3	1	0	0	0	0	6	0	
%	0.0%	5.0%	0.0%	20.0%	5.0%	5.0%	5.0%	0.0%	0.0%	0.0%	0.0%	20.0%		
In/Out		IN		OUT	OUT	OUT	IN					IN		
Volume	0	10	0	157	39	39	10	0	0	0	0	42	0	
%	0.0%	0.0%	5.0%	1.0%	0.0%	0.0%	0.0%	5.0%	0.0%	5.0%	5.0%	1.0%		
In/Out			IN	IN				IN		OUT	OUT	OUT		
Volume	0	0	9	2	0	0	0	9	0	5	5	1	0	
%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	7.0%	0.0%		
In/Out								IN			OUT			
Volume	0	0	0	0	0	0	0	27	0	0	16	0	0	
%	0.0%	5.0%	0.0%	5.0%	5.0%	5.0%	5.0%	0.0%	0.0%	0.0%	0.0%	5.0%		
In/Out		IN		OUT	OUT	OUT	IN					IN		
Volume	0	3	0	3	3	3	3	0	0	0	0	3	0	
%	0.0%	21.0%	0.0%	11.0%	21.0%	4.0%	4.0%	0.0%	0.0%	0.0%	0.0%	11.0%		
In/Out		IN		OUT	OUT	OUT	IN					IN		
Volume	0	96	0	24	45	9	18	0	0	0	0	50	0	
%	0.0%	10.0%	13.0%	0.0%	10.0%	3.0%	13.0%	52.0%	0.0%	13.0%	52.0%	0.0%		
In/Out		OUT	OUT		IN	IN	OUT	OUT		IN	IN			
Volume	0	7	9	0	7	2	9	35	0	9	35	0	0	
%	0.0%	20.0%	0.0%	0.0%	20.0%	0.0%	0.0%	5.0%	0.0%	0.0%	5.0%	0.0%		
In/Out		IN			OUT			IN			OUT			
Volume	0	2	0	0	2	0	0	1	0	0	1	0	0	
%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5.0%	5.0%	5.0%	0.0%		
In/Out			IN					IN	IN	OUT	OUT			
Volume	0	0	1	0	0	0	0	1	1	2	2	0	0	
%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	5.0%	10.0%	0.0%		
In/Out			IN					IN		OUT	OUT			
Volume	0	0	20	0	0	0	0	40	0	11	23	0	0	
%	5.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5%	80%	5.0%	0.0%	80.0%	0.0%		
In/Out	IN					IN	OUT	OUT	OUT		IN			
Volume	25	0	0	0	0	25	16	249	16	0	398	0	0	
Subtotal	25	119	38	202	99	81	57	361	17	27	480	101	0	
Total	96	250	536	421	241	113	128	607	55	519	769	211	3947	

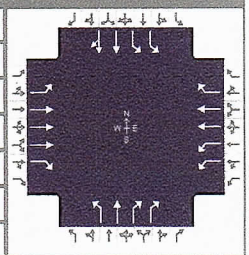


Seasonal Factor: 1
Growth Rate: 1.015
Years Grown: 6

	Trips In	Trips Out
Kings Highway Commerce Park	0	0
Hunt	19	57
St. Lucie Commerce Center	208	784
Whispering Oaks	172	94
Bent Creek	385	226
Wawa Kings	57	58
Kings Highway Warehouse	458	216
Stonemont	68	186
Walsh Crossroads	10	11
Project Hurricane	23	37
Celebration Pointe	398	229
Creekside	498	311

HCS7 Signalized Intersection Results Summary

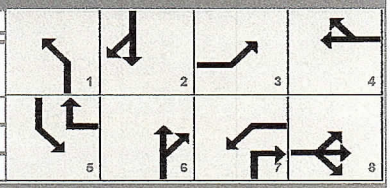
General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	SOR	Analysis Date	Jul 26, 2021	Area Type	Other
Jurisdiction	St. Lucie County	Time Period	PM Peak Hour	PHF	0.95
Urban Street	Kings Hwy	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Okeechobee	File Name	c1.kingsHwy.kings.okeechobee.PM without projec...		
Project Description	Buildout PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	128	607	55	519	769	211	96	250	536	421	241	113

Signal Information			
Cycle, s	140.0	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	11.3	12.4		34.1	12.2	8.1	25.5					
Yellow	4.7	4.7		4.7	4.3	4.3	4.3					
Red	1.0	1.0		1.5	2.0	2.0	2.0					



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	1.1	3.0	2.0	3.0	2.0	3.0	2.0	4.0
Phase Duration, s	18.5	31.8	32.9	46.2	17.0	40.3	35.1	58.3
Change Period, (*Y+R c*), s	6.3	6.3	6.3	6.3	5.7	6.2	5.7	6.2
Max Allow Headway (*MAH*), s	3.0	2.9	3.0	2.9	3.0	0.0	3.0	0.0
Queue Clearance Time (*g s*), s	12.1	19.9	26.2	36.7	11.4		28.8	
Green Extension Time (*g e*), s	0.1	3.4	0.4	3.2	0.1	0.0	0.6	0.0
Phase Call Probability	0.99	1.00	1.00	1.00	0.98		1.00	
Max Out Probability	0.00	0.06	1.00	0.11	0.00		0.10	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	135	639	58	546	809	35	101	263	301	443	136	237
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1499	1574	1384	1555	1574	1334	1485	1633	1169	1137	887	1498
Queue Service Time (*g s*), s	10.1	17.9	5.0	24.2	34.7	1.9	9.4	19.4	11.7	26.8	13.6	15.4
Cycle Queue Clearance Time (*g c*), s	10.1	17.9	5.0	24.2	34.7	1.9	9.4	19.4	11.7	26.8	13.6	15.4
Green Ratio (*g/C*)	0.27	0.18	0.18	0.19	0.28	0.49	0.08	0.24	0.43	0.21	0.37	0.37
Capacity (*c*), veh/h	195	859	252	591	897	660	120	397	1013	477	330	558
Volume-to-Capacity Ratio (*X*)	0.691	0.743	0.230	0.925	0.903	0.053	0.843	0.662	0.297	0.929	0.411	0.425
Back of Queue (*Q*), ft/ln (95 th percentile)	199.4	335.5	88.5	460.7	601	30.4	195.1	362.7	173.7	399.7	149.5	233.5
Back of Queue (*Q*), veh/ln (95 th percentile)	6.8	11.4	3.1	16.1	20.4	1.0	6.6	12.7	5.9	13.5	5.2	9.3
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	43.3	54.2	48.9	55.7	48.2	18.4	63.5	42.3	25.8	54.3	25.5	29.2
Incremental Delay (*d 2*), s/veh	1.6	1.1	0.2	18.0	8.4	0.0	6.0	8.4	0.7	19.0	3.8	2.4
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	44.9	55.3	49.1	73.8	56.6	18.4	69.4	50.7	26.6	73.3	29.3	31.6
Level of Service (LOS)	D	E	D	E	E	B	E	D	C	E	C	C
Approach Delay, s/veh / LOS	53.2	D		62.4	E		42.6	D		53.8	D	
Intersection Delay, s/veh / LOS	54.9						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.82	C	2.30	B	2.98	C	2.58	C
Bicycle LOS Score / LOS	0.94	A	1.63	B	1.59	B	1.16	A

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TURNING MOVEMENT VOLUME COUNTS

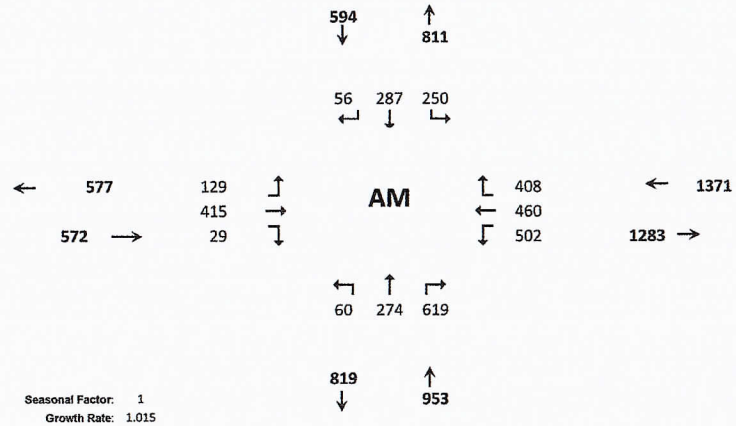
N/S STREET: Kings Hwy **E/W STREET:** Okeechobee Rd **CONTROL:** Signalized

FILENAME: Oct.2017 FDOT Adjusted

COUNT DATE: **DAY:** **CITY:** St Lucie

REPORT DATE: 7/22/2021 **ANALYSIS YEAR:** 2023 with project

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													0	0
7:15-7:30													0	0
7:30-7:45													0	0
7:45-8:00													0	0
8:00-8:15													0	0
8:15-8:30													0	
8:30-8:45													0	
8:45-9:00													0	



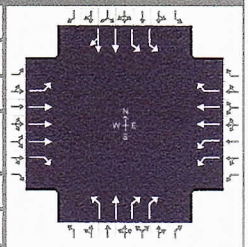
AM PEAK HOUR IS FROM:			8:00AM TO 9:00AM											
Volumes	55	130	550	135	165	20	50	330	25	410	260	95	0	
Season Factor	55	130	550	135	165	20	50	330	25	410	260	95	2225	
Growth	60	142	601	148	180	22	55	361	27	448	284	104	2433	
In/Out	OUT	IN	OUT	OUT	OUT	OUT	IN		IN			IN		
Percentage	0%	5%	0%	35%	5%	5%	5%	0%	0%	0%	0%	35%	0%	
PROJECT	0	18	0	32	5	5	18	0	0	0	0	127	203	

Seasonal Factor: 1
Growth Rate: 1.015
Years Grown: 6

SUBPROJECTS															Trips In	Trips Out
%	0%	5%	0%	30%	5%	5%	5%	0%	0%	0%	0%	30%				
In/Out		IN		OUT	OUT	OUT	IN					IN				
Volume	0	4	0	5	1	1	4	0	0	0	0	23	0	Hunt	76	17
%	0.0%	5.0%	0.0%	20.0%	5.0%	5.0%	5.0%	0.0%	0.0%	0.0%	0.0%	20.0%				
In/Out		IN		OUT	OUT	OUT	IN					IN				
Volume	0	28	0	25	6	6	28	0	0	0	0	113	0	St. Lucie Commerce Center	563	124
%	0.0%	0.0%	5.0%	1.0%	0.0%	0.0%	0%	5%	0.0%	5.0%	5.0%	1.0%				
In/Out			IN	IN				IN		OUT	OUT	OUT				
Volume	0	0	2	0	0	0	0	2	0	8	8	2	0	Whispering Oaks	45	167
%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	7.0%	0.0%				
In/Out								IN			OUT					
Volume	0	0	0	0	0	0	0	9	0	0	26	0	0	Bent Creek	123	371
%	0.0%	5.0%	0.0%	5.0%	5.0%	5.0%	5%	0%	0.0%	0.0%	0.0%	5.0%				
In/Out		IN		OUT	OUT	OUT	IN					IN				
Volume	0	3	0	3	3	3	3	0	0	0	0	3	0	Wawa Kings	63	64
%	0.0%	21.0%	0.0%	11.0%	21.0%	4.0%	4.0%	0.0%	0.0%	0.0%	0.0%	11.0%				
In/Out		IN		OUT	OUT	OUT	IN					IN				
Volume	0	72	0	38	72	14	14	0	0	0	0	38	0	Kings Highway Warehouse	342	341
%	0.0%	10.0%	13.0%	0.0%	10.0%	3.0%	13%	52%	0.0%	13.0%	52.0%	0.0%				
In/Out		OUT	OUT		IN	IN	OUT	OUT		IN	IN					
Volume	0	6	7	0	20	6	7	29	0	26	102	0	0	Stonemont	197	55
%	0.0%	20.0%	0.0%	0.0%	20.0%	0.0%	0.0%	5.0%	0.0%	0.0%	5.0%	0.0%				
In/Out		IN			OUT			IN			OUT					
Volume	0	1	0	0	1	0	0	0	0	0	0	0	0	Walsh Crossroads	7	5
%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0%	5%	5.0%	5.0%	5.0%	0.0%				
In/Out			IN					IN	IN	OUT	OUT					
Volume	0	0	2	0	0	0	0	2	2	1	1	0	0	Project Hurricane	36	12
%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	5.0%	10.0%	0.0%				
In/Out			IN					IN		OUT	OUT					
Volume	0	0	6	0	0	0	0	12	0	19	39	0	0	Celebration Pointe	121	385
%	5.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5%	80%	5.0%	0.0%	80.0%	0.0%				
In/Out	IN					IN	OUT	OUT	OUT		IN					
Volume	7	0	0	0	0	7	21	337	21	0	114	0		Creekside	143	421
Subtotal	0	114	17	71	103	30	56	54	2	54	176	178	0			
Total	60	274	619	250	287	56	129	415	29	502	460	408	3490			

HCS7 Signalized Intersection Results Summary

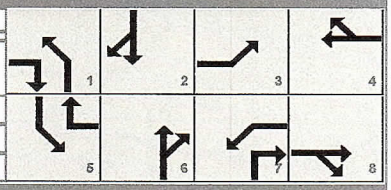
General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	SOR	Analysis Date	Jul 26, 2021	Area Type	Other
Jurisdiction	St. Lucie County	Time Period	AM Peak Hour with project	PHF	0.95
Urban Street	Kings Hwy	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Okeechobee	File Name	c1.kingsHwy.kings.okeechobee.AM with project.7....		
Project Description	Buildout AM 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	129	415	29	502	460	408	60	274	619	250	287	56

Signal Information			
Cycle, s	140.0	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	7.3	1.7	54.6	14.6	2.8	22.5	
Yellow	4.7	4.7	4.7	4.3	4.3	4.3	
Red	1.0	1.0	1.5	2.0	2.0	2.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0
Phase Duration, s	20.9	28.8	30.0	38.0	13.0	60.8	20.4	68.2
Change Period, (*Y+R c*), s	6.3	6.3	6.3	6.3	5.7	6.2	5.7	6.2
Max Allow Headway (*MAH*), s	3.0	3.0	3.0	3.0	3.0	0.0	3.0	0.0
Queue Clearance Time (*g s*), s	14.5	20.1	25.7	22.8	7.9		14.2	
Green Extension Time (*g e*), s	0.1	2.4	0.0	2.6	0.1	0.0	0.5	0.0
Phase Call Probability	0.99	1.00	1.00	1.00	0.91		1.00	
Max Out Probability	0.00	0.06	1.00	0.01	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	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	136	437	31	528	484	242	63	288	388	263	183	178
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1499	1089	1384	1555	1574	1334	1485	1633	1169	1485	1628	1541
Queue Service Time (*g s*), s	12.5	18.1	2.5	23.7	19.7	20.8	5.9	15.5	12.3	12.2	7.6	8.6
Cycle Queue Clearance Time (*g c*), s	12.5	18.1	2.5	23.7	19.7	20.8	5.9	15.5	12.3	12.2	7.6	8.6
Green Ratio (*g/C*)	0.10	0.16	0.21	0.17	0.23	0.33	0.05	0.39	0.56	0.11	0.44	0.44
Capacity (*c*), veh/h	156	525	295	527	712	442	77	637	1308	312	721	682
Volume-to-Capacity Ratio (*X*)	0.872	0.832	0.104	1.003	0.680	0.548	0.817	0.453	0.297	0.844	0.254	0.260
Back of Queue (*Q*), ft/ln (95 th percentile)	258.6	257.8	43.6	507.6	358.5	321.3	124.9	273.8	171.2	239.5	144.1	137.8
Back of Queue (*Q*), veh/ln (95 th percentile)	8.8	8.8	1.5	17.7	12.2	10.9	4.2	9.6	5.8	8.1	5.0	5.5
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	61.8	56.9	44.3	58.2	49.5	38.3	65.7	24.2	16.3	61.5	17.5	19.9
Incremental Delay (*d 2*), s/veh	9.7	4.0	0.1	40.1	0.7	0.4	7.6	2.3	0.6	2.4	0.9	0.9
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	71.5	60.9	44.4	98.2	50.2	38.6	73.3	26.6	16.9	63.9	18.4	20.8
Level of Service (LOS)	E	E	D	F	D	D	E	C	B	E	B	C
Approach Delay, s/veh / LOS	62.4	E		68.2	E		25.5	C		38.3	D	
Intersection Delay, s/veh / LOS	51.5						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.82	C	2.31	B	2.97	C	2.57	C
Bicycle LOS Score / LOS	0.82	A	1.52	B	1.71	B	1.00	A

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TURNING MOVEMENT VOLUME COUNTS

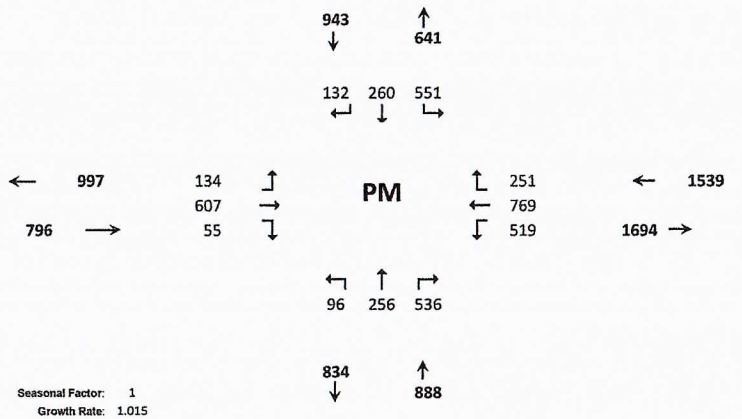
N/S STREET: Kings Hwy **E/W STREET:** Okeechobee Rd **CONTROL:** Signalized

FILENAME:

COUNT DATE: Oct 2017 FDOT Adjusted **DAY:** **CITY:** St Lucie

REPORT DATE: 7/22/2021 **ANALYSIS YEAR:** 2023

15 Min Period lanes	Northbound			Southbound			Eastbound			Westbound				ONE HOUR SUM
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	
4:00-4:15													0	0
4:15-4:30													0	0
4:30-4:45													0	0
4:45-5:00													0	0
5:00-5:15													0	0
5:15-5:30													0	
5:30-5:45													0	
5:45-6:00													0	



PM PEAK HOUR IS FROM: 5:00PM TO 6:00PM

Volumes	65	120	455	200	130	30	65	225	35	450	265	100	0
Season Factor	65	120	455	200	130	30	65	225	35	450	265	100	2140
Growth	71	131	498	219	142	33	71	246	38	492	290	109	2340
In/Out	OUT	IN	OUT	OUT	OUT	OUT	IN	0	IN	0	0	IN	
Percentage	0%	5%	0%	35%	5%	5%	5%	0%	0%	0%	0%	35%	0%
PROJECT	0	6	0	130	19	19	6	0	0	0	0	40	219

Seasonal Factor: 1
Growth Rate: 1.015
Years Grown: 6

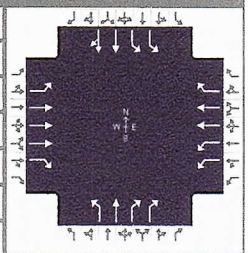
	Trips In	Trips Out
Kings Highway Commerce Park	115	371

SUBPROJECTS

%	0%	5%	0%	30%	5%	5%	5%	0%	0%	0%	0%	30.0%			
In/Out		IN		OUT	OUT	OUT	IN					IN			
Volume	0	1	0	17	3	3	1	0	0	0	0	6	0	Hunt	19	57
%	0.0%	5.0%	0.0%	20.0%	5.0%	5.0%	5.0%	0.0%	0.0%	0.0%	0.0%	20.0%			
In/Out		IN		OUT	OUT	OUT	IN					IN			
Volume	0	10	0	157	39	39	10	0	0	0	0	42	0	St. Lucie Commerce Center	208	784
%	0.0%	0.0%	5.0%	1.0%	0.0%	0.0%	0.0%	5.0%	0.0%	5.0%	5.0%	1.0%			
In/Out			IN	IN				IN		OUT	OUT	OUT			
Volume	0	0	9	2	0	0	0	9	0	5	5	1	0	Whispering Oaks	172	94
%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	7.0%	0.0%			
In/Out								IN			OUT				
Volume	0	0	0	0	0	0	0	27	0	0	16	0	0	Bent Creek	385	226
%	0.0%	5.0%	0.0%	5.0%	5.0%	5.0%	5.0%	0.0%	0.0%	0.0%	0.0%	5.0%			
In/Out		IN		OUT	OUT	OUT	IN					IN			
Volume	0	3	0	3	3	3	3	0	0	0	0	3	0	Wawa Kings	57	58
%	0.0%	21.0%	0.0%	11.0%	21.0%	4.0%	4.0%	0.0%	0.0%	0.0%	0.0%	11.0%			
In/Out		IN		OUT	OUT	OUT	IN					IN			
Volume	0	96	0	24	45	9	18	0	0	0	0	50	0	Kings Highway Warehouse	458	216
%	0.0%	10.0%	13.0%	0.0%	10.0%	3.0%	13.0%	52.0%	0.0%	13.0%	52.0%	0.0%			
In/Out		OUT	OUT		IN	IN	OUT	OUT		IN	IN				
Volume	0	7	9	0	7	2	9	35	0	9	35	0	0	Stonemont	68	186
%	0.0%	20.0%	0.0%	0.0%	20.0%	0.0%	0.0%	5.0%	0.0%	0.0%	5.0%	0.0%			
In/Out		IN			OUT			IN			OUT				
Volume	0	2	0	0	2	0	0	1	0	0	1	0	0	Walsh Crossroads	10	11
%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5.0%	5.0%	5.0%	0.0%			
In/Out			IN					IN	IN	OUT	OUT				
Volume	0	0	1	0	0	0	0	1	1	2	2	0	0	Project Hurricane	23	37
%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	5.0%	10.0%	0.0%			
In/Out			IN					IN		OUT	OUT				
Volume	0	0	20	0	0	0	0	40	0	11	23	0	0	Celebration Pointe	398	229
%	5.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5%	80%	5.0%	0.0%	80.0%	0.0%			
In/Out	IN					IN	OUT	OUT	OUT		IN				
Volume	25	0	0	0	0	25	16	249	16	0	398	0	0	Creekside	498	311
Subtotal	25	119	38	202	99	81	57	361	17	27	480	101	0			
Total	96	256	536	551	260	132	134	607	55	519	769	251	4166			

HCS7 Signalized Intersection Results Summary

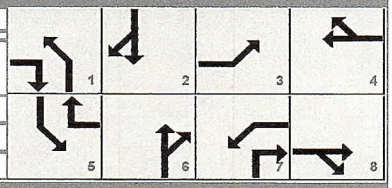
General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	SOR	Analysis Date	Jul 26, 2021	Area Type	Other
Jurisdiction	St. Lucie County	Time Period	PM Peak Hour	PHF	0.95
Urban Street	Kings Hwy	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Okeechobee	File Name	c1.kingsHwy.kings.okeechobee.PM with project..7...		
Project Description	Buildout				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	163	607	55	519	769	366	96	285	536	551	260	103

Signal Information			
Cycle, s	140.0	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	11.3	12.1	29.7	17.8	3.1	29.5	
Yellow	4.7	4.7	4.7	4.3	4.3	4.3	
Red	1.0	1.0	1.5	2.0	2.0	2.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0
Phase Duration, s	24.1	35.8	33.4	45.2	17.0	35.9	34.8	53.7
Change Period, ($Y+R_c$), s	6.3	6.3	6.3	6.3	5.7	6.2	5.7	6.2
Max Allow Headway (*MAH*), s	3.0	3.0	3.0	3.0	3.0	0.0	3.0	0.0
Queue Clearance Time (g_s), s	17.7	19.3	26.0	36.7	11.4		28.7	
Green Extension Time (g_e), s	0.1	3.7	1.1	2.2	0.1	0.0	0.4	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	0.98		1.00	
Max Out Probability	0.11	0.11	0.00	0.64	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	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	172	639	58	546	809	198	101	300	301	580	146	236
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1499	1559	1384	1555	1574	1334	1485	1633	1169	1485	956	1509
Queue Service Time (g_s), s	15.7	17.3	4.3	24.0	34.7	12.5	9.4	24.1	12.3	26.7	14.4	16.0
Cycle Queue Clearance Time (g_c), s	15.7	17.3	4.3	24.0	34.7	12.5	9.4	24.1	12.3	26.7	14.4	16.0
Green Ratio (*g/C*)	0.31	0.22	0.30	0.19	0.28	0.49	0.28	0.22	0.41	0.21	0.35	0.35
Capacity (*c*), veh/h	201	1021	404	603	897	648	120	358	949	618	332	512
Volume-to-Capacity Ratio (*X*)	0.854	0.626	0.143	0.907	0.902	0.305	0.844	0.837	0.317	0.939	0.439	0.461
Back of Queue (*Q*), ft/ln (95 th percentile)	324.8	323.2	74.9	431.8	611.2	203	195.4	467.7	183.9	477.9	172.2	245.1
Back of Queue (*Q*), veh/ln (95 th percentile)	11.0	10.9	2.6	15.1	20.8	6.9	6.6	16.4	6.2	16.1	6.0	9.8
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	59.3	50.0	36.7	55.2	48.6	21.7	63.5	47.6	28.4	49.7	28.7	31.9
Incremental Delay (d_2), s/veh	16.8	0.6	0.1	8.7	10.6	0.1	6.0	20.3	0.9	20.1	4.2	3.0
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	76.1	50.6	36.7	63.9	59.3	21.8	69.5	67.9	29.2	69.9	32.9	34.9
Level of Service (LOS)	E	D	D	E	E	C	E	E	C	E	C	C
Approach Delay, s/veh / LOS	54.7	D		56.1	E		51.6	D		55.7	E	
Intersection Delay, s/veh / LOS	54.9						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.82	C	2.30	B	2.99	C	2.59	C
Bicycle LOS Score / LOS	0.97	A	1.77	B	1.65	B	1.28	A

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TURNING MOVEMENT VOLUME COUNTS

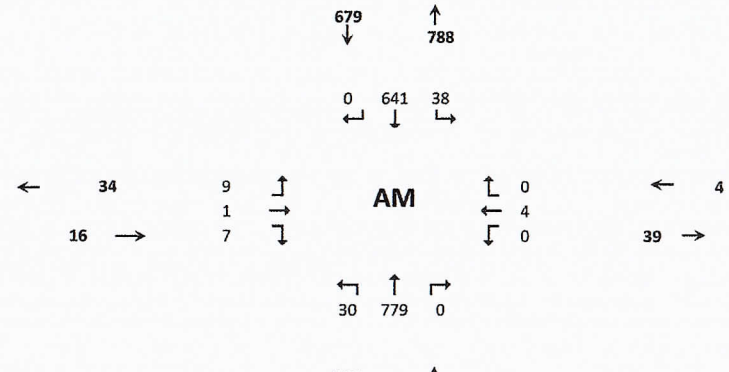
N/S STREET: Kings Highway **E/W STREET:** White Road **CONTROL:** Signalized

FILENAME:

COUNT DATE: 2/12/2019 **DAY:** **CITY:** Ft Pierce

REPORT DATE: 6/2/2021 **ANALYSIS YEAR:** 2023 (WITHOUT PROJECT)

15 Min Period	Northbound			Southbound			Eastbound			Westbound				ONE HOUR SUM
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	
7:00-7:15		91			81								172	701
7:15-7:30		81			76								157	708
7:30-7:45		100			101								201	730
7:45-8:00		90			81								171	672
8:00-8:15		86			93								179	642
8:15-8:30		88			91								179	
8:30-8:45		80			63								143	
8:45-9:00		50			91								141	



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

Volumes	0	364	0	0	366	0	0	0	0	0	0	0	730	
Season Factor	0	364	0	0	366	0	0	0	0	0	0	0	730	
Growth	0	386	0	0	388	0	0	0	0	0	0	0	775	
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	

Seasonal Factor: 1
Growth Rate: 1.015
Years Grown: 4

SUBPROJECTS

															Trips In	Trips Out
%	40%			50%			50%	5%	40%		5%			Kings Highway Commerce Park	0	0
In/Out	IN			IN			OUT	OUT	OUT		IN					
Volume	30	0	0	38	0	0	9	1	7	0	4	0	0	Project Hunt	76	17
%		30.0%			30.0%											
In/Out		IN			OUT											
Volume	0	169	0	0	37	0	0	0	0	0	0	0	0	St Lucie Commerce Center	563	124
%		2.0%			2.0%											
In/Out		IN			OUT											
Volume	0	1	0	0	3	0	0	0	0	0	0	0	0	Whispering Oaks	45	167
%		2.0%			2.0%											
In/Out		IN			OUT											
Volume	0	2	0	0	7	0	0	0	0	0	0	0	0	Bent Creek	123	371
%		15.0%			15.0%											
In/Out		IN			OUT											
Volume	0	9	0	0	10	0	0	0	0	0	0	0	0	Wawa Kings	63	64
%		52.0%			52.0%											
In/Out		IN			OUT											
Volume	0	178	0	0	177	0	0	0	0	0	0	0	0	Kings Highway Warehouse	342	341
%		15.0%			15.0%											
In/Out		IN			OUT											
Volume	0	30	0	0	8	0	0	0	0	0	0	0	0	Stonemont	197	55
%		30.0%			30.0%											
In/Out		OUT			IN											
Volume	0	2	0	0	2	0	0	0	0	0	0	0	0	Walsh Crossroads	7	5
%																
In/Out																
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	Project Hurricane	36	12
%		2.0%			2.0%											
In/Out		IN			OUT											
Volume	0	2	0	0	8	0	0	0	0	0	0	0	0	Celebration Pointe	121	385
Subtotal	30	393	0	38	253	0	9	1	7	0	4	0	0			
Total	30	779	0	38	641	0	9	1	7	0	4	0	1509			

HCS7 Two-Way Stop-Control Report

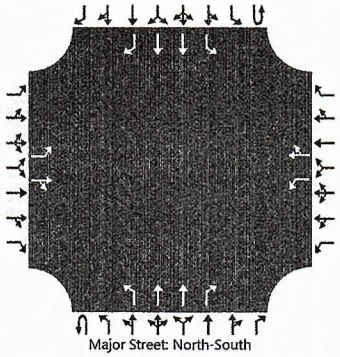
General Information

Analyst	Jean Garcon
Agency/Co.	O'Rourke Engineering
Date Performed	7/27/21
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	Buildout - Comm. (WITHOUT PROJECT)

Site Information

Intersection	Kings Hwy & White Rd
Jurisdiction	St. Lucie County
East/West Street	White Road
North/South Street	Kings Hwy
Peak Hour Factor	0.95
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		1	1	0	0	1	2	1	0	1	2	1
Configuration		L		TR		L		TR		L	T	R		L	T	R
Volume (veh/h)		9	1	7		0	4	0	0	30	779	0	0	38	641	0
Percent Heavy Vehicles (%)		10	10	10		18	18	18	3	10			3	18		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized									No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		7.70	6.70	7.10		7.86	6.86	7.26		4.30				4.46		
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)		3.60	4.10	3.40		3.68	4.18	3.48		2.30				2.38		

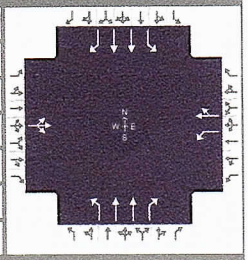
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		9		8		0		4		32				40		
Capacity, c (veh/h)		220		348		193		77		861				709		
v/c Ratio		0.04		0.02		0.00		0.05		0.04				0.06		
95% Queue Length, Q_{95} (veh)		0.1		0.1		0.0		0.2		0.1				0.2		
Control Delay (s/veh)		22.1		15.6		23.6		54.3		9.3				10.4		
Level of Service (LOS)		C		C		C		F		A				B		
Approach Delay (s/veh)	19.0				54.3				0.3				0.6			
Approach LOS	C				F											

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HCS7 Signalized Intersection Results Summary

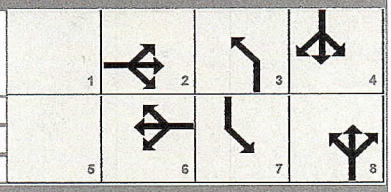
General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	Kyle Scherer	Analysis Date	Jul 28, 2021	Area Type	Other
Jurisdiction	St. Lucie	Time Period	AM Peak Hour	PHF	0.92
Urban Street	Kings Hwy	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	White Rd	File Name	C1 - Kings & White (WITHOUT PROJECT) - AM -...		
Project Description	Kings Hwy Commerce				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	9	1	7	0	4	0	30	779	54	38	641	0

Signal Information			
Cycle, s	120.0	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	24.0	14.0	64.0	0.0	0.0	0.0
Yellow	4.0	4.0	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8	7	4
Case Number		8.0		6.0	1.1	3.0	1.1	3.0
Phase Duration, s		30.0		30.0	20.0	70.0	20.0	70.0
Change Period, ($Y+R_c$), s		6.0		6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s		0.0		0.0	3.1	3.0	3.1	3.0
Queue Clearance Time (g_s), s					2.8	24.3	3.1	19.2
Green Extension Time (g_e), s		0.0		0.0	0.0	4.4	0.0	4.4
Phase Call Probability					1.00	1.00	1.00	1.00
Max Out Probability					0.00	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	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h		18		0	0		33	847	59	41	697	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1423		1228	1233		1668	1484	1384	1555	1484	1321
Queue Service Time (g_s), s		0.0		0.0	0.0		0.8	22.3	2.5	1.1	17.2	0.0
Cycle Queue Clearance Time (g_c), s		1.1		0.0	0.0		0.8	22.3	2.5	1.1	17.2	0.0
Green Ratio (*g/C*)		0.20		0.20	0.20		0.65	0.53	0.53	0.65	0.53	0.53
Capacity (*c*), veh/h		330		60			516	1583	738	429	1583	705
Volume-to-Capacity Ratio (*X*)		0.056		0.000	0.000		0.063	0.535	0.080	0.096	0.440	0.000
Back of Queue (*Q*), ft/ln (95 th percentile)		22.8		0	0		13.9	351.2	39.4	18.8	283.7	0
Back of Queue (*Q*), veh/ln (95 th percentile)		0.8		0.0	0.0		0.5	11.9	1.4	0.7	9.6	0.0
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
Uniform Delay (d_1), s/veh		38.8		0.0			9.1	18.3	13.6	10.2	17.1	0.0
Incremental Delay (d_2), s/veh		0.3		0.0	0.0		0.0	0.2	0.0	0.0	0.1	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
Control Delay (*d*), s/veh		39.2		0.0			9.1	18.5	13.7	10.2	17.1	0.0
Level of Service (LOS)		D					A	B	B	B	B	
Approach Delay, s/veh / LOS	39.2	D		38.6	D		17.8	B		16.8	B	
Intersection Delay, s/veh / LOS	17.7						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.46	B	1.90	B	1.68	B
Bicycle LOS Score / LOS	0.52	A	0.49	A	1.26	A	1.10	A

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TURNING MOVEMENT VOLUME COUNTS

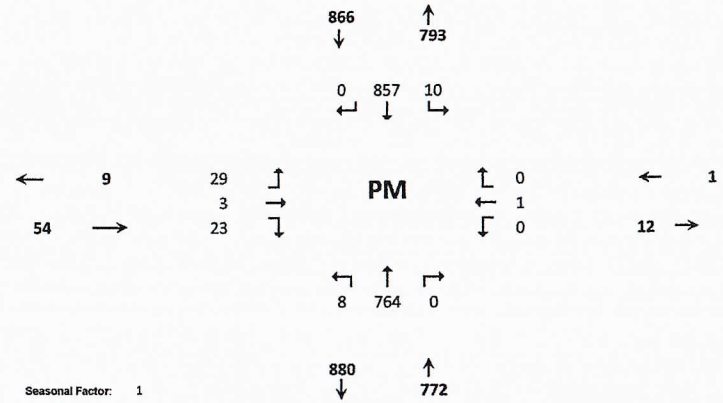
N/S STREET: Kings Highway **E/W STREET:** White Road **CONTROL:** Signalized

FILENAME:

COUNT DATE: 2/12/2019 **DAY:** **CITY:** Ft Pierce

REPORT DATE: 6/2/2021 **ANALYSIS YEAR:** 2023 (WITHOUT PROJECT)

15 Min Period lanes	Northbound			Southbound			Eastbound			Westbound				ONE HOUR SUM
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	
4:00-4:15		88			89								177	813
4:15-4:30		116			111								227	847
4:30-4:45		95			103								198	810
4:45-5:00		85			126								211	802
5:00-5:15		102			109								211	730
5:15-5:30		91			99								190	
5:30-5:45		98			92								190	
5:45-6:00		71			68								139	



PM PEAK HOUR IS FROM:	4:15PM TO 5:15PM												
Volumes	0	398	0	0	449	0	0	0	0	0	0	0	847
Season Factor	0	398	0	0	449	0	0	0	0	0	0	0	847
Growth	0	422	0	0	477	0	0	0	0	0	0	0	899
In/Out	-	0	0	0	0	-	-	-	-	0	-	0	
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

Seasonal Factor: 1
Growth Rate: 1.015
Years Grown: 4

	Trips In	Trips Out
Kings Highway Commerce Park	0	0

SUBPROJECTS

%	40.0%			50.0%			50.0%	5.0%	40.0%		5.0%				
In/Out	IN			IN			OUT	OUT	OUT		IN				
Volume	8	0	0	10	0	0	29	3	23	0	1	0	0	Project Hunt	19	57
%		30.0%			30.0%											
In/Out		IN			OUT											
Volume	0	62	0	0	235	0	0	0	0	0	0	0	0	St Lucie Commerce Center	208	784
%		2.0%			2.0%											
In/Out		IN			OUT											
Volume	0	3	0	0	2	0	0	0	0	0	0	0	0	Whispering Oaks	172	94
%		2.0%			2.0%											
In/Out		IN			OUT											
Volume	0	8	0	0	5	0	0	0	0	0	0	0	0	Bent Creek	385	226
%		15.0%			15.0%											
In/Out		IN			OUT											
Volume	0	9	0	0	9	0	0	0	0	0	0	0	0	Wawa Kings	57	58
%		52.0%			52.0%											
In/Out		IN			OUT											
Volume	0	238	0	0	112	0	0	0	0	0	0	0	0	Kings Highway Warehouse	458	216
%		15.0%			15.0%											
In/Out		IN			OUT											
Volume	0	10	0	0	10	0	0	0	0	0	0	0	0	Stonemont	68	186
%		30.0%			30.0%											
In/Out		OUT			IN											
Volume	0	3	0	0	3	0	0	0	0	0	0	0	0	Walsh Crossroads	10	11
%																
In/Out																
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	Project Hurricane	23	37
%		2.0%			2.0%											
In/Out		IN			OUT											
Volume	0	8	0	0	5	0	0	0	0	0	0	0	0	Celebration Pointe	398	229
Subtotal	8	342	0	10	380	0	29	3	23	0	1	0	0			
Total	8	764	0	10	857	0	29	3	23	0	1	0	1693			

HCS7 Two-Way Stop-Control Report

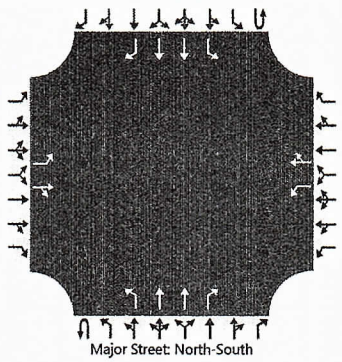
General Information

Analyst	Jean Garcon
Agency/Co.	O'Rourke Engineering
Date Performed	7/27/21
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	Buildout - Kings Comm (without project)

Site Information

Intersection	Kings Hwy & White Rd
Jurisdiction	St. Lucie County
East/West Street	White Road
North/South Street	Kings Hwy
Peak Hour Factor	0.95
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		1	1	0	0	1	2	1	0	1	2	1
Configuration		L		TR		L		TR		L	T	R		L	T	R
Volume (veh/h)		29	3	23		0	1	0	0	8	764	0	0	10	857	0
Percent Heavy Vehicles (%)		3	3	3		10	10	10	3	3			3	3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized										No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		7.56	6.56	6.96		7.70	6.70	7.10		4.16				4.16		
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		3.60	4.10	3.40		2.23				2.23		

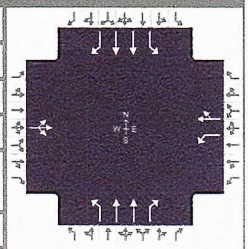
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		31		27		0		1		8				11		
Capacity, c (veh/h)		213		334		215		77		743				809		
v/c Ratio		0.14		0.08		0.00		0.01		0.01				0.01		
95% Queue Length, Q_{95} (veh)		0.5		0.3		0.0		0.0		0.0				0.0		
Control Delay (s/veh)		24.7		16.7		21.7		52.5		9.9				9.5		
Level of Service (LOS)		C		C		C		F		A				A		
Approach Delay (s/veh)		20.9				52.5				0.1				0.1		
Approach LOS		C				F										

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HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	Kyle Scherer	Analysis Date	Jul 28, 2021	Area Type	Other
Jurisdiction	St. Lucie	Time Period	PM Peak Hour	PHF	0.92
Urban Street	Kings Hwy	Analysis Year	2023 without project	Analysis Period	1> 7:00
Intersection	White Rd	File Name	C6 - Kings & White (WITHOUT PROJECT) - PM -...		
Project Description	Kings Hwy Commerce				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	3	23	0	1	0	8	764	0	10	857	0

Signal Information			
Cycle, s	140.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

								1	2	3	4	
Green	44.0	14.0	64.0	0.0	0.0	0.0						
Yellow	4.0	4.0	4.0	0.0	0.0	0.0		5	6	7	8	
Red	2.0	2.0	2.0	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8	7	4
Case Number		8.0		6.0	2.0	3.0	2.0	3.0
Phase Duration, s		50.0		50.0	20.0	70.0	20.0	70.0
Change Period, ($Y+R_c$), s		6.0		6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s		0.0		0.0	3.1	3.0	3.1	3.0
Queue Clearance Time (g_s), s					2.7	31.5	3.0	36.8
Green Extension Time (g_e), s		0.0		0.0	0.0	5.0	0.0	4.9
Phase Call Probability					1.00	1.00	1.00	1.00
Max Out Probability					0.00	0.00	0.00	0.01

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h		60		0	0		9	830	0	11	932	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1261		1404	0		1485	1484	1208	1358	1484	1321
Queue Service Time (g_s), s		2.7		0.0	0.0		0.7	29.5	0.0	1.0	34.8	0.0
Cycle Queue Clearance Time (g_c), s		4.5		0.0	0.0		0.7	29.5	0.0	1.0	34.8	0.0
Green Ratio (*g/C*)		0.31		0.31			0.10	0.46	0.46	0.10	0.46	0.46
Capacity (*c*), veh/h		436		51			148	1357	552	136	1357	604
Volume-to-Capacity Ratio (*X*)		0.137		0.000	0.000		0.059	0.612	0.000	0.080	0.686	0.000
Back of Queue (*Q*), ft/ln (95 th percentile)		82.5		0	0		15	467.4	0	19.9	539.5	0
Back of Queue (*Q*), veh/ln (95 th percentile)		2.8		0.0	0.0		0.5	15.8	0.0	0.6	18.2	0.0
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
Uniform Delay (d_1), s/veh		34.4		0.0			57.0	28.6	0.0	57.2	30.1	0.0
Incremental Delay (d_2), s/veh		0.7		0.0	0.0		0.1	0.6	0.0	0.1	1.2	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
Control Delay (*d*), s/veh		35.1		0.0			57.1	29.2	0.0	57.3	31.3	0.0
Level of Service (LOS)		D					E	C		E	C	
Approach Delay, s/veh / LOS	35.1	D		32.9	C		29.5	C		31.6	C	
Intersection Delay, s/veh / LOS	30.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.45	B	1.92	B	1.69	B
Bicycle LOS Score / LOS	0.59	A	0.49	A	1.18	A	1.27	A

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TURNING MOVEMENT VOLUME COUNTS

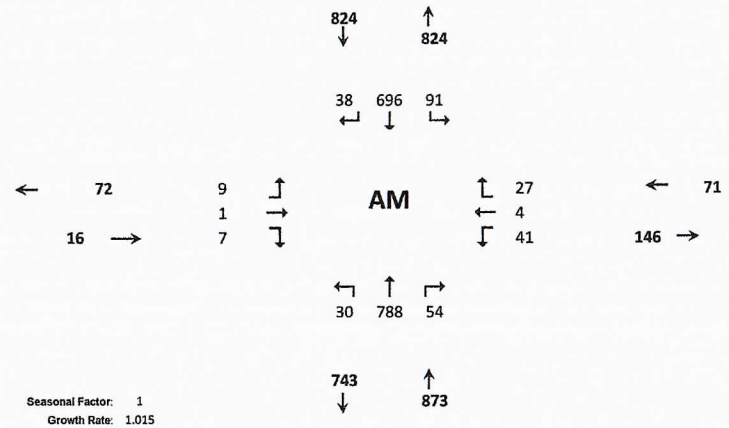
N/S STREET: Kings Highway **E/W STREET:** White Road **CONTROL:** Signalized

FILENAME:

COUNT DATE: 2/12/2019 **DAY:** **CITY:** Ft Pierce

REPORT DATE: 6/2/2021 **ANALYSIS YEAR:** 2023

15 Min Period	Northbound			Southbound			Eastbound			Westbound				ONE HOUR SUM
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	
7:00-7:15		91			81								172	701
7:15-7:30		81			76								157	708
7:30-7:45		100			101								201	730
7:45-8:00		90			81								171	672
8:00-8:15		86			93								179	642
8:15-8:30		88			91								179	
8:30-8:45		80			63								143	
8:45-9:00		50			91								141	



AM PEAK HOUR IS FROM:	7:30 AM TO 8:30AM													
Volumes	0	364	0	0	366	0	0	0	0	0	0	0	730	
Season Factor	0	364	0	0	366	0	0	0	0	0	0	0	730	
Growth	0	386	0	0	388	0	0	0	0	0	0	0	775	
In/Out	-	OUT	IN	IN	IN	-	-	-	-	OUT	-	OUT		
Percentage	0%	10%	15%	25%	15%	0%	0%	0%	0%	45%	0%	30%		
PROJECT	0	9	54	91	54	0	0	0	0	41	0	27	276	

Seasonal Factor: 1
Growth Rate: 1.015
Years Grown: 4

SUBPROJECTS																
%	40%					50%	50%	5%	40%		5%					
In/Out	IN					IN	OUT	OUT	OUT		IN					
Volume	30	0	0	0	0	38	9	1	7	0	4	0	0	Project Hunt	76	17
%		30.0%			30.0%											
In/Out		IN			OUT											
Volume	0	169	0	0	37	0	0	0	0	0	0	0	0	St Lucie Commerce Center	563	124
%		2.0%			2.0%											
In/Out		IN			OUT											
Volume	0	1	0	0	3	0	0	0	0	0	0	0	0	Whispering Oaks	45	167
%		2.0%			2.0%											
In/Out		IN			OUT											
Volume	0	2	0	0	7	0	0	0	0	0	0	0	0	Bent Creek	123	371
%		15.0%			15.0%											
In/Out		IN			OUT											
Volume	0	9	0	0	10	0	0	0	0	0	0	0	0	Wawa Kings	63	64
%		52.0%			52.0%											
In/Out		IN			OUT											
Volume	0	178	0	0	177	0	0	0	0	0	0	0	0	Kings Highway Warehouse	342	341
%		15.0%			15.0%											
In/Out		IN			OUT											
Volume	0	30	0	0	8	0	0	0	0	0	0	0	0	Stonemont	197	55
%		30.0%			30.0%											
In/Out		OUT			IN											
Volume	0	2	0	0	2	0	0	0	0	0	0	0	0	Walsh Crossroads	7	5
%																
In/Out																
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	Project Hurricane	36	12
%		2.0%			2.0%											
In/Out		IN			OUT											
Volume	0	2	0	0	8	0	0	0	0	0	0	0	0	Celebration Pointe	121	385
Subtotal	30	393	0	0	253	38	9	1	7	0	4	0	0			
Total	30	788	54	91	696	38	9	1	7	41	4	27	1785			

	Trips In	Trips Out
Kings Highway Commerce Park	362	90

HCS7 Two-Way Stop-Control Report

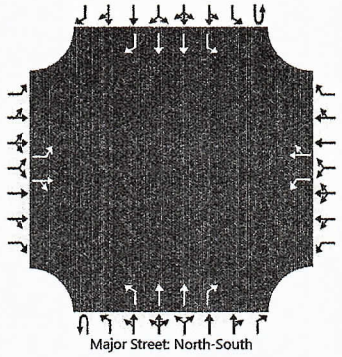
General Information

Analyst	Jean Garcon
Agency/Co.	O'Rourke Engineering
Date Performed	7/27/21
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	Buildout - Comm. With Project

Site Information

Intersection	Kings Hwy & White Rd
Jurisdiction	St. Lucie County
East/West Street	White Road
North/South Street	Kings Hwy
Peak Hour Factor	0.95
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		1	1	0	0	1	2	1	0	1	2	1
Configuration		L		TR		L		TR		L	T	R		L	T	R
Volume (veh/h)		9	1	7		41	4	27	0	30	788	54	0	91	696	38
Percent Heavy Vehicles (%)		10	10	10		18	18	18	3	10			3	18		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized										No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		7.70	6.70	7.10		7.86	6.86	7.26		4.30				4.46		
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)		3.60	4.10	3.40		3.68	4.18	3.48		2.30				2.38		

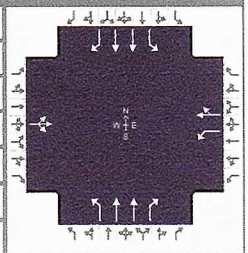
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		9		8		43		33		32				96		
Capacity, c (veh/h)		157		265		164		240		788				667		
v/c Ratio		0.06		0.03		0.26		0.14		0.04				0.14		
95% Queue Length, Q_{95} (veh)		0.2		0.1		1.0		0.5		0.1				0.5		
Control Delay (s/veh)		29.4		19.0		34.7		22.4		9.8				11.3		
Level of Service (LOS)		D		C		D		C		A				B		
Approach Delay (s/veh)		24.5				29.4				0.3				1.2		
Approach LOS		C				D										

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HCS7 Signalized Intersection Results Summary

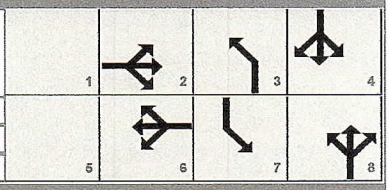
General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	Kyle Scherer	Analysis Date	Jul 28, 2021	Area Type	Other
Jurisdiction	St. Lucie	Time Period	AM Peak Hour	PHF	0.92
Urban Street	Kings Hwy	Analysis Year	2023 with Project	Analysis Period	1> 7:00
Intersection	White Rd	File Name	C6 - Kings & White (WITH PROJECT) - AM - 202...		
Project Description	Kings Hwy Commerce				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	9	1	7	41	4	27	30	788	54	91	696	38

Signal Information			
Cycle, s	120.0	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	26.0	14.0	64.0	0.0	0.0	0.0	
Yellow	4.0	4.0	4.0	0.0	0.0	0.0	
Red	0.0	2.0	2.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8	7	4
Case Number		8.0		6.0	1.1	3.0	1.1	3.0
Phase Duration, s		30.0		30.0	20.0	70.0	20.0	70.0
Change Period, ($Y+R_c$), s		6.0		6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s		0.0		0.0	3.1	3.0	3.1	3.0
Queue Clearance Time (g_s), s					2.8	24.7	4.9	21.2
Green Extension Time (g_e), s		0.0		0.0	0.0	4.8	0.1	4.8
Phase Call Probability					1.00	1.00	1.00	1.00
Max Out Probability					0.00	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	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h		18		45	34		33	857	59	99	757	41
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1370		1228	1412		1668	1484	1208	1555	1484	1321
Queue Service Time (g_s), s		0.0		3.7	2.3		0.8	22.7	2.9	2.9	19.2	1.8
Cycle Queue Clearance Time (g_c), s		2.4		6.1	2.3		0.8	22.7	2.9	2.9	19.2	1.8
Green Ratio (*g/C*)		0.20		0.20	0.20		0.65	0.53	0.53	0.65	0.53	0.53
Capacity (*c*), veh/h		320		282	282		491	1583	644	426	1583	705
Volume-to-Capacity Ratio (*X*)		0.058		0.158	0.119		0.066	0.541	0.091	0.232	0.478	0.059
Back of Queue (*Q*), ft/ln (95 th percentile)		22.9		62.4	45.3		13.9	356	43.5	46.7	309.6	28.4
Back of Queue (*Q*), veh/ln (95 th percentile)		0.8		2.2	1.6		0.5	12.0	1.4	1.6	10.5	1.0
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
Uniform Delay (d_1), s/veh		38.8		41.8	39.3		9.5	18.4	13.7	10.9	17.5	13.5
Incremental Delay (d_2), s/veh		0.3		1.2	0.9		0.0	0.2	0.0	0.1	0.1	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
Control Delay (*d*), s/veh		39.2		43.0	40.2		9.5	18.6	13.8	11.0	17.6	13.5
Level of Service (LOS)		D		D	D		A	B	B	B	B	B
Approach Delay, s/veh / LOS	39.2	D		41.8	D		18.0	B		16.7	B	
Intersection Delay, s/veh / LOS	18.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.46	B	1.90	B	1.68	B
Bicycle LOS Score / LOS	0.52	A	0.62	A	1.27	A	1.23	A

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TURNING MOVEMENT VOLUME COUNTS

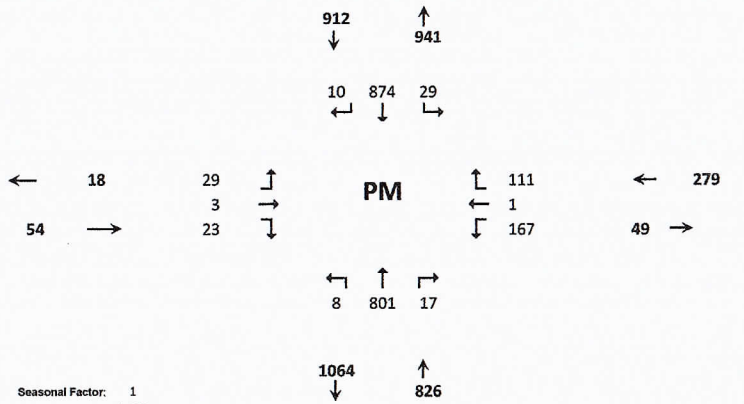
N/S STREET: Kings Highway **E/W STREET:** White Road **CONTROL:** Signalized

FILENAME:

COUNT DATE: 2/12/2019 **DAY:** **CITY:** Ft Pierce

REPORT DATE: 6/2/2021 **ANALYSIS YEAR:** 2023 With Project

15 Min Period lanes	Northbound			Southbound			Eastbound			Westbound				ONE HOUR SUM
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	
4:00-4:15		88			89								177	813
4:15-4:30		116			111								227	847
4:30-4:45		95			103								198	810
4:45-5:00		85			126								211	802
5:00-5:15		102			109								211	730
5:15-5:30		91			99								190	
5:30-5:45		98			92								190	
5:45-6:00		71			68								139	



PM PEAK HOUR IS FROM:	4:15PM TO 5:15PM												
Volumes	0	398	0	0	449	0	0	0	0	0	0	0	847
Season Factor	0	398	0	0	449	0	0	0	0	0	0	0	847
Growth	0	422	0	0	477	0	0	0	0	0	0	0	899
In/Out	-	OUT	IN	IN	IN	-	-	-	-	OUT	-	OUT	
Percentage	0%	10%	15%	25%	15%	0%	0%	0%	0%	45%	0%	30%	
PROJECT	0	37	17	29	17	0	0	0	0	167	0	111	379

Seasonal Factor: 1
Growth Rate: 1.015
Years Grown: 4

	Trips In	Trips Out
Kings Highway Commerce Park	115	371

SUBPROJECTS

%	40.0%					50.0%	50.0%	5.0%	40.0%		5.0%					
In/Out	IN					IN	OUT	OUT	OUT		IN					
Volume	8	0	0	0	0	10	29	3	23	0	1	0	0	Project Hunt	19	57
%		30.0%			30.0%											
In/Out		IN			OUT											
Volume	0	62	0	0	235	0	0	0	0	0	0	0	0	St Lucie Commerce Center	208	784
%		2.0%			2.0%											
In/Out		IN			OUT											
Volume	0	3	0	0	2	0	0	0	0	0	0	0	0	Whispering Oaks	172	94
%		2.0%			2.0%											
In/Out		IN			OUT											
Volume	0	8	0	0	5	0	0	0	0	0	0	0	0	Bent Creek	385	226
%		15.0%			15.0%											
In/Out		IN			OUT											
Volume	0	9	0	0	9	0	0	0	0	0	0	0	0	Wawa Kings	57	58
%		52.0%			52.0%											
In/Out		IN			OUT											
Volume	0	238	0	0	112	0	0	0	0	0	0	0	0	Kings Highway Warehouse	458	216
%		15.0%			15.0%											
In/Out		IN			OUT											
Volume	0	10	0	0	10	0	0	0	0	0	0	0	0	Stonemont	68	186
%		30.0%			30.0%											
In/Out		OUT			IN											
Volume	0	3	0	0	3	0	0	0	0	0	0	0	0	Walsh Crossroads	10	11
%																
In/Out																
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	Project Hurricane	23	37
%		2.0%			2.0%											
In/Out		IN			OUT											
Volume	0	8	0	0	5	0	0	0	0	0	0	0	0	Celebration Pointe	398	229
Subtotal	8	342	0	0	380	10	29	3	23	0	1	0	0			
Total	8	801	17	29	874	10	29	3	23	167	1	111	2072			

HCS7 Two-Way Stop-Control Report

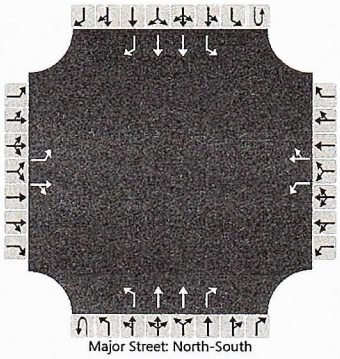
General Information

Analyst	Jean Garcon
Agency/Co.	O'Rourke Engineering
Date Performed	7/27/21
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	Buildout - Kings Comm

Site Information

Intersection	Kings Hwy & White Rd
Jurisdiction	St. Lucie County
East/West Street	White Road
North/South Street	Kings Hwy
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

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		1	1	0	0	1	2	1	0	1	2	1
Configuration		L		TR		L		TR		L	T	R		L	T	R
Volume (veh/h)		29	3	23		167	1	111	0	8	801	17	0	29	874	10
Percent Heavy Vehicles (%)		3	3	3		10	10	10	3	3			3	3		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized									No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		7.56	6.56	6.96		7.70	6.70	7.10		4.16				4.16		
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		3.60	4.10	3.40		2.23				2.23		

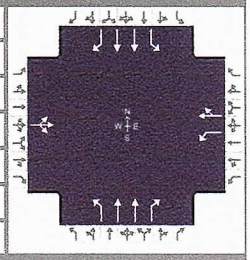
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		31		27		176		118		8				31		
Capacity, c (veh/h)		173		302		196		523		725				770		
v/c Ratio		0.18		0.09		0.90		0.23		0.01				0.04		
95% Queue Length, Q_{95} (veh)		0.6		0.3		7.0		0.9		0.0				0.1		
Control Delay (s/veh)		30.2		18.1		89.7		13.9		10.0				9.9		
Level of Service (LOS)		D		C		F		B		B				A		
Approach Delay (s/veh)	24.5				59.3				0.1				0.3			
Approach LOS	C				F											

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HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	O'Rourke Engineering & Planning			Duration, h	0.250
Analyst	Kyle Scherer	Analysis Date	Jul 28, 2021	Area Type	Other
Jurisdiction	St. Lucie	Time Period	PM Peak Hour	PHF	0.92
Urban Street	Kings Hwy	Analysis Year	with project	Analysis Period	1> 7:00
Intersection	White Rd	File Name	C1 - Kings & White (WITH PROJECT) - PM - 202...		
Project Description	Kings Hwy Commerce				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	3	23	167	1	111	8	801	17	29	874	10

Signal Information			
Cycle, s	140.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4		
Green	44.0	14.0	64.0	0.0	0.0	0.0	5	6	7	8		
Yellow	4.0	4.0	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.0	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8	7	4
Case Number		8.0		6.0	1.1	3.0	1.1	3.0
Phase Duration, s		50.0		50.0	20.0	70.0	20.0	70.0
Change Period, ($Y+R_c$), s		6.0		6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s		0.0		0.0	3.1	3.0	3.1	3.0
Queue Clearance Time (g_s), s					2.4	33.5	3.5	37.8
Green Extension Time (g_e), s		0.0		0.0	0.0	5.3	0.0	5.3
Phase Call Probability					1.00	1.00	1.00	1.00
Max Out Probability					0.00	0.01	0.00	0.01

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h		60		182	122		9	871	18	32	950	11
Adjusted Saturation Flow Rate (*s*), veh/h/ln		949		1404	1210		1485	1484	1208	1358	1484	1321
Queue Service Time (g_s), s		3.4		16.4	10.7		0.4	31.5	1.2	1.5	35.8	0.6
Cycle Queue Clearance Time (g_c), s		14.1		30.5	10.7		0.4	31.5	1.2	1.5	35.8	0.6
Green Ratio (*g/C*)		0.31		0.31	0.31		0.56	0.46	0.46	0.56	0.46	0.46
Capacity (*c*), veh/h		337		351	380		292	1357	552	293	1357	604
Volume-to-Capacity Ratio (*X*)		0.177		0.517	0.320		0.030	0.642	0.033	0.108	0.700	0.018
Back of Queue (*Q*), ft/ln (95 th percentile)		92.4		258.9	193.3		6.6	495	19.2	25.9	553.3	10.5
Back of Queue (*Q*), veh/ln (95 th percentile)		3.1		10.4	6.2		0.2	16.7	0.6	0.8	18.7	0.4
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
Uniform Delay (d_1), s/veh		38.4		49.7	36.6		19.0	29.2	20.9	18.4	30.3	20.8
Incremental Delay (d_2), s/veh		1.1		5.4	2.2		0.0	0.8	0.0	0.1	1.4	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
Control Delay (*d*), s/veh		39.5		55.1	38.8		19.0	30.0	21.0	18.4	31.7	20.8
Level of Service (LOS)		D		E	D		B	C	C	B	C	C
Approach Delay, s/veh / LOS	39.5	D		48.6	D		29.7	C		31.2	C	
Intersection Delay, s/veh / LOS	33.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.45	B	1.92	B	1.69	B
Bicycle LOS Score / LOS	0.59	A	0.99	A	1.23	A	1.31	A

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Table 1: Major Approach Volumes

Time	NB/SB Volumes 2019 Existing	NB/SB Volumes 2023 (2) Background	NB/SB Committed Project Volumes (1)	NB/SB Project Volumes	Total 2023 Volume
6-7 AM	618	676	249	68	993
7-8 AM	701	766	302	96	1164
8-9 AM	647	707	255	92	1054
9-10 AM	602	658	264	82	1004
10-11 AM	583	637	266	84	987
11-12 PM	686	750	307	105	1162
12-1 PM	701	766	344	122	1232
1-2 PM	681	744	275	95	1114
2-3 PM	662	724	293	95	1112
3-4 PM	788	839	399	123	1361
4-5 PM	813	889	331	114	1334
5-6 PM	730	798	287	104	1189
6-7 PM	475	519	138	34	691
7-8 PM	290	317	67	16	400
8-9 PM	260	284	50	10	344
9-10 PM	198	216	46	10	272

Source: FDOT Hourly Volume 2019 - Kings Hwy (Station 0076)
(1) See Committed Project Traffic Table for Project/Hourly Breakdown
(2) 2.25% Growth Rate Applied

Committed Project Traffic - Major Approach

Single-Family Housing	Office	Warehouse	Auto Service Center	Gas Station	WaWa Kings 284 (1)	Bent Creek 184 (1)	Celebration Pointe 127 (1)	Whispering Oaks 56 (1)	Stonemont + Kings Hwy 3083 (1)	Walsh+StLucie Com.+Hunt 422 (1)	Project Hurricane 63 (1)	Total
3.8%	2.2%	6.3%	0.1%	4.8%	14	7	5	2	194	27	0	249
6.7%	7.0%	7.3%	5.7%	6.1%	17	12	9	4	225	31	4	302
6.2%	8.8%	6.0%	9.3%	6.1%	17	11	8	3	185	25	6	255
4.3%	5.4%	6.5%	9.0%	5.5%	16	8	5	2	200	27	6	264
4.8%	5.9%	6.5%	9.7%	5.4%	15	9	6	3	200	27	6	266
5.2%	8.4%	7.6%	10.0%	5.3%	15	10	7	3	234	32	6	307
5.5%	10.4%	8.6%	9.4%	5.9%	17	10	7	3	265	36	6	344
6.0%	8.2%	6.6%	9.3%	5.6%	16	11	8	3	203	28	6	275
6.6%	7.5%	7.0%	8.8%	6.1%	17	12	8	4	216	30	6	293
7.2%	7.4%	10.0%	7.0%	6.6%	19	13	9	4	308	42	4	399
9.0%	10.1%	7.8%	10.2%	6.8%	19	17	11	5	240	33	6	331
8.8%	10.4%	6.6%	7.7%	6.8%	19	16	11	5	203	28	5	287
7.2%	2.4%	2.7%	2.3%	6.1%	17	13	9	4	83	11	1	138
5.2%	1.7%	0.9%	0.8%	4.9%	14	10	7	3	28	4	1	67
4.7%	1.0%	0.6%	0.6%	4.0%	11	9	6	3	18	3	0	50
3.4%	1.0%	0.7%	0.0%	3.3%	9	6	4	2	22	3	0	46

(1) Daily Trips on Link, from Approved Projects Table

Table 2: Daily Trip Generation

Land Use	Directional Split		Net External Trips		
	In	Out	In	Out	Total
General Office	50%	50%	633	633	1,266
Warehousing	50%	50%	1,421	1,421	2,842
TOTALS			**2,054**	**2,054**	**4,108**

Source: ITE 10th Edition Trip Generation Rates

Table 3: Minor Approach Volumes

Hourly	ITE Percent of Daily Traffic Hourly Distribution			External Volumes		Lefts		Rights		Project Hurricane Rights	Total WB Volume (1)
				Kings Highway Commerce Center		Office	Warehouse	Office	Warehouse		
	Office	Warehouse	Auto Service Center	Office	Warehouse	45%	45%	30.0%	30.0%	15.0%	
6-7 AM	2.2%	6.3%	0.1%	14	90	6	41	4	27	0	63
7-8 AM	7.0%	7.3%	5.7%	44	104	20	47	13	31	2	90
8-9 AM	8.8%	6.0%	9.3%	56	85	25	38	17	26	3	86
9-10 AM	5.4%	6.5%	9.0%	34	92	15	41	10	28	3	77
10-11 AM	5.9%	6.5%	9.7%	37	92	17	41	11	28	3	79
11-12 PM	8.4%	7.6%	10.0%	53	108	24	49	16	32	3	99
12-1 PM	10.4%	8.6%	9.4%	66	122	30	55	20	37	3	115
1-2 PM	8.2%	6.6%	9.3%	52	94	23	42	16	28	3	89
2-3 PM	7.5%	7.0%	8.8%	47	99	21	45	14	30	3	90
3-4 PM	7.4%	10.0%	7.0%	47	142	21	64	14	43	2	115
4-5 PM	10.1%	7.8%	10.2%	64	111	29	50	19	33	3	107
5-6 PM	10.4%	6.6%	7.7%	66	94	30	42	20	28	2	97
6-7 PM	2.4%	2.7%	2.3%	15	38	7	17	5	11	1	33
7-8 PM	1.7%	0.9%	0.8%	11	13	5	6	3	4	0	15
8-9 PM	1.0%	0.6%	0.6%	6	9	3	4	2	3	0	10
9-10 PM	1.0%	0.7%	0.0%	6	10	3	5	2	3	0	11

(1) 50% of External Right Trips used in Total

COUNTY: 94
STATION: 0076
DESCRIPTION: SR 713/KINGS HWY - S OF SR 68/ORANGE AVE (COUNTY 7
START DATE: 02/12/2019
START TIME: 2345

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	18	6	9	9	42	11	10	10	6	37	79
0100	11	9	15	15	50	8	8	3	11	30	80
0200	2	12	6	6	26	14	7	7	9	37	63
0300	5	10	7	5	27	7	10	16	10	43	70
0400	5	14	8	18	45	14	24	17	29	84	129
0500	15	34	33	28	110	31	39	42	53	165	275
0600	52	74	89	85	300	52	72	94	100	318	618
0700	91	81	100	90	362	81	76	101	81	339	701
0800	86	88	80	55	309	93	91	63	91	338	647
0900	70	76	63	70	279	93	88	57	85	323	602
1000	59	61	80	82	282	78	65	79	79	301	583
1100	87	85	95	103	370	62	98	81	75	316	686
1200	101	76	91	82	350	77	93	91	90	351	701
1300	101	78	78	78	335	94	81	81	90	346	681
1400	80	75	81	89	325	71	96	74	96	337	662
1500	98	93	77	118	386	67	92	98	125	382	768
1600	88	116	95	85	384	89	111	103	126	429	813
1700	102	91	98	71	362	109	99	92	68	368	730
1800	70	69	63	57	259	67	70	44	35	216	475
1900	37	52	35	48	172	32	36	31	19	118	290
2000	33	39	42	29	143	36	44	14	23	117	260
2100	29	31	28	16	104	21	17	24	32	94	198
2200	19	24	14	27	84	19	10	6	12	47	131
2300	16	14	11	9	50	6	14	14	23	57	107
24-HOUR TOTALS:					5156					5193	10349

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	364	730	366	730	730
P.M.	1545	417	1615	449	1615	847
DAILY	1545	417	1615	449	1615	847

GENERATED BY SPS 5.0.53P

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Stuart	Engineer:	Susan O'Rourke
County:	94 – St. Lucie	Date:	July 28, 2021
District:	Four		

Major Street:	Kings Highway	Lanes:	2	Major Approach Speed:	50
Minor Street:	White Road	Lanes:	1	Minor Approach Speed:	35

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ 70% ☑ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied for eight hours. ☐ Yes ☑ No

Warrant 1 is also satisfied if both Condition A and Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems). ☐ Yes ☑ No

Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

100% Satisfied: ☐ Yes ☑ No
80% Satisfied: ☐ Yes ☑ No
70% Satisfied: ☐ Yes ☑ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	Minor	100%[a]	80%[b]	70%[c]	100%[a]	80%[b]	70%[c]
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

[a] Basic Minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	7:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM
Major	1,164	1,162	1,232	1,114	1,112	1,361	1,334	1,189
Minor	90	99	115	89	90	115	107	97

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

Condition B - Interruption of Continuous Traffic

Condition B is intended for application where Condition A is not satisfied and the traffic volume on a major street is so heavy that traffic on the minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Applicable:	☑ Yes	☐ No
100% Satisfied:	☐ Yes	☑ No
80% Satisfied:	☑ Yes	☐ No
70% Satisfied:	☑ Yes	☐ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	**Minor**	**100%[a]**	**80%[b]**	**70%[c]**	**100%[a]**	**80%[b]**	**70%[c]**
1	1	750	600	525	75	60	53
2 or more	1	900	720	630	75	60	53
2 or more	2 or more	900	720	630	100	80	70
1	2 or more	750	600	525	100	80	70

[a] Basic Minimum hourly volume

[b] Used for combination of Conditions A and B after adequate trial of other remedial measures

[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Eight Highest Hours								
Street	**7:00 AM**	**11:00 AM**	**12:00 PM**	**1:00 PM**	**2:00 PM**	**3:00 PM**	**4:00 PM**	**5:00 PM**
Major	1,164	1,162	1,232	1,114	1,112	1,361	1,334	1,189
Minor	90	99	115	89	90	115	107	97

Existing Volumes

Form 750-020-01
TRAFFIC ENGINEERING
10/15

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: Stuart
County: 94 – St. Lucie
District: Four

Engineer: Susan O'Rourke
Date: July 28, 2021

Major Street: Kings Highway — Lanes: 2 — Major Approach Speed: 50
Minor Street: White Road — Lanes: 1 — Minor Approach Speed: 35

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ Yes ☐ No

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

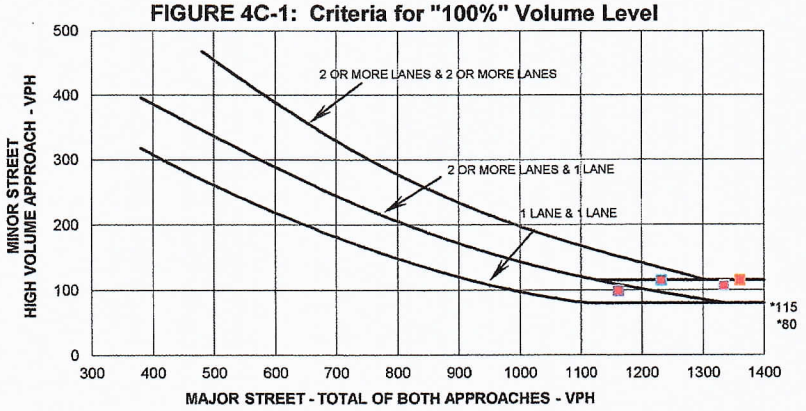
Applicable: ☑ Yes ☐ No
Satisfied: ☑ Yes ☐ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
11:00 AM	1162	99
12:00 PM	1232	115
3:00 PM	1361	115
4:00 PM	1334	107

FIGURE 4C-1: Criteria for "100%" Volume Level



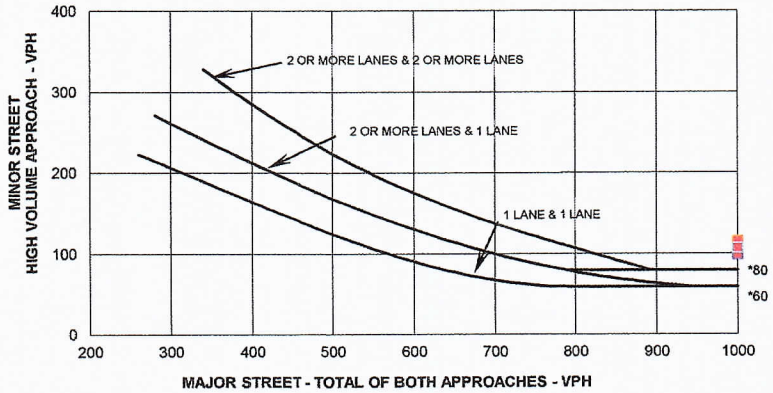
** Note: 115 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 80 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
11:00 AM	1162	99
12:00 PM	1232	115
3:00 PM	1361	115
4:00 PM	1334	107

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr (40 mph) on Major Street)



** Note: 80 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 60 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

Form 750-020-01
TRAFFIC ENGINEERING
10/15

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Stuart	Engineer:	Susan O'Rourke
County:	94 – St. Lucie	Date:	July 28, 2021
District:	Four		

Major Street:	Kings Highway	Lanes:	2	Major Approach Speed:	50
Minor Street:	White Road	Lanes:	1	Minor Approach Speed:	35

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ 70% ☑ 100%

WARRANT 3 - PEAK HOUR

*If all three criteria are fulfilled **or** the plotted point lies above the appropriate line, then the warrant is satisfied.*

Applicable: ☑ Yes ☐ No
Satisfied: ☑ Yes ☐ No

Unusual condition justifying use of warrant:

Record hour when criteria are fulfilled and the corresponding delay or volume in boxes provided.

Peak Hour 100% Volume		
Time	Major Vol.	Minor Vol.
3:00 PM	1361	115

Peak Hour 70% Volume		
Time	Major Vol.	Minor Vol.
3:00 PM	1361	115

Criteria

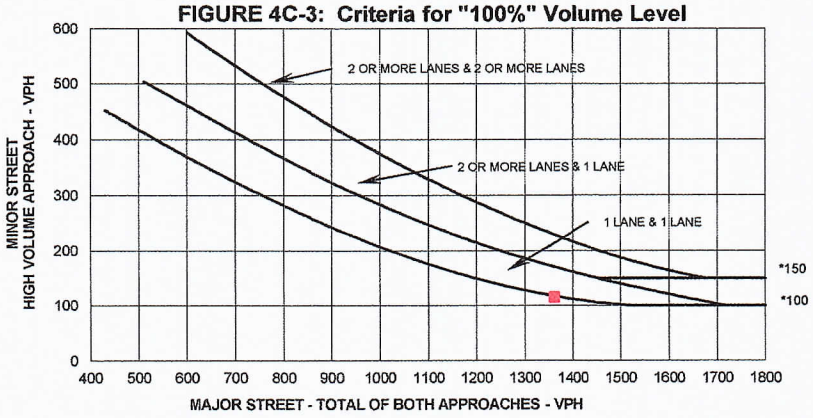
1. Delay on Minor Approach *(vehicle-hours)		
Approach Lanes	1	2
Delay Criteria*	4.0	5.0
Delay*		5.0
Fulfilled?: ☑ Yes ☐ No		

2. Volume on Minor Approach One-Direction *(vehicles per hour)		
Approach Lanes	1	2
Volume Criteria*	100	150
Volume*		115
Fulfilled?: ☑ Yes ☐ No		

3. Total Intersection Entering Volume *(vehicles per hour)		
No. of Approaches	3	4
Volume Criteria*	650	800
Volume*		2,071
Fulfilled?: ☑ Yes ☐ No		

Plot volume combination on the applicable figure below.

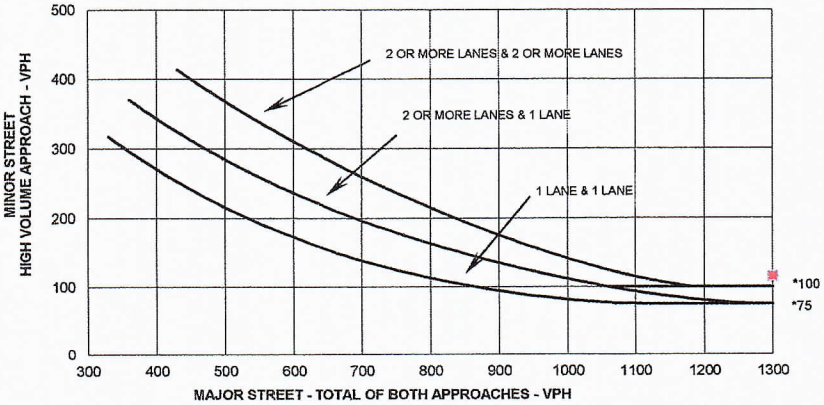
FIGURE 4C-3: Criteria for "100%" Volume Level



** Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

FIGURE 4C-4: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr (40 mph) on Major Street)



** Note: 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 75 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

APPENDIX F

DRIVEWAY ANALYSIS

HCS7 Two-Way Stop-Control Report

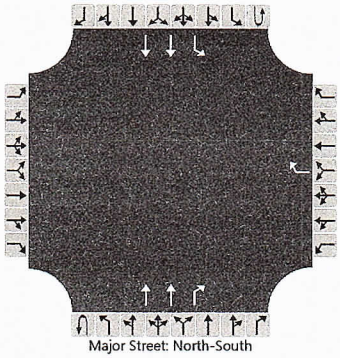
General Information

Analyst	
Agency/Co.	O'Rourke Engineering
Date Performed	7/27/21
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	Buildout

Site Information

Intersection	Kings Hwy & DW 1
Jurisdiction	St. Lucie County
East/West Street	Driveway 1
North/South Street	Kings Highway
Peak Hour Factor	0.92
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	0	1	0	0	2	1	0	1	2	0
Configuration								R			T	R		L	T	
Volume (veh/h)								16			864	109	0	54	689	
Percent Heavy Vehicles (%)								18					3	18		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized					No				No							
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)								6.9						4.1		
Critical Headway (sec)								7.26						4.46		
Base Follow-Up Headway (sec)								3.3						2.2		
Follow-Up Headway (sec)								3.48						2.38		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)								17						59		
Capacity, c (veh/h)								499						567		
v/c Ratio								0.03						0.10		
95% Queue Length, Q_{95} (veh)								0.1						0.3		
Control Delay (s/veh)								12.5						12.1		
Level of Service (LOS)								B						B		
Approach Delay (s/veh)					12.5								0.9			
Approach LOS					B											

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HCS7 Two-Way Stop-Control Report

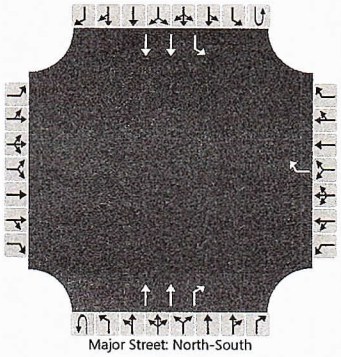
General Information

Analyst	
Agency/Co.	O'Rourke Engineering
Date Performed	7/27/21
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	Buildout

Site Information

Intersection	Kings Hwy & DW 1
Jurisdiction	St. Lucie County
East/West Street	Driveway 1
North/South Street	Kings Highway
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

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	0	1	0	0	2	1	0	1	2	0
Configuration								R			T	R		L	T	
Volume (veh/h)								37			789	35	0	17	1047	
Percent Heavy Vehicles (%)								18					3	18		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized					No				No							
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)								6.9						4.1		
Critical Headway (sec)								7.26						4.46		
Base Follow-Up Headway (sec)								3.3						2.2		
Follow-Up Headway (sec)								3.48						2.38		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)								40						18		
Capacity, c (veh/h)								532						661		
v/c Ratio								0.08						0.03		
95% Queue Length, Q_{95} (veh)								0.2						0.1		
Control Delay (s/veh)								12.3						10.6		
Level of Service (LOS)								B						B		
Approach Delay (s/veh)					12.3								0.2			
Approach LOS					B											

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HCS7 Two-Way Stop-Control Report

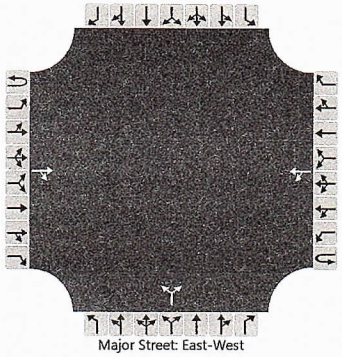
General Information

Analyst	Jean Garcon
Agency/Co.	O'Rourke Engineering
Date Performed	7/27/21
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	Buildout

Site Information

Intersection	White Rd & DW 2
Jurisdiction	St. Lucie County
East/West Street	White Road
North/South Street	Driveway 2
Peak Hour Factor	0.92
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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			130	54		4	49			22		1				
Percent Heavy Vehicles (%)						18				18		18				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.28				6.58		6.38				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.36				3.66		3.46				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						4					25					
Capacity, c (veh/h)						1282					723					
v/c Ratio						0.00					0.03					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						7.8					10.2					
Level of Service (LOS)						A					B					
Approach Delay (s/veh)					0.6				10.2							
Approach LOS									B							

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HCS7 Two-Way Stop-Control Report

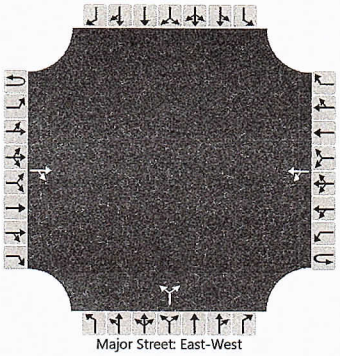
General Information

Analyst	Jean Garcon
Agency/Co.	O'Rourke Engineering
Date Performed	7/27/21
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	Buildout

Site Information

Intersection	White Rd & DW 2
Jurisdiction	St. Lucie County
East/West Street	White Road
North/South Street	Driveway 2
Peak Hour Factor	0.92
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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			41	17		1	186			93		4				
Percent Heavy Vehicles (%)						18				18		18				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.28				6.58		6.38				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.36				3.66		3.46				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						1					105					
Capacity, c (veh/h)						1444					705					
v/c Ratio						0.00					0.15					
95% Queue Length, Q_{95} (veh)						0.0					0.5					
Control Delay (s/veh)						7.5					11.0					
Level of Service (LOS)						A					B					
Approach Delay (s/veh)					0.0				11.0							
Approach LOS									B							

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HCS7 Two-Way Stop-Control Report

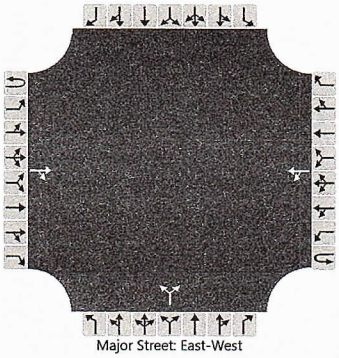
General Information

Analyst	Jean Garcon
Agency/Co.	O'Rourke Engineering
Date Performed	7/27/21
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	Buildout

Site Information

Intersection	White Rd & DW 3
Jurisdiction	St. Lucie County
East/West Street	White Road
North/South Street	Driveway 3
Peak Hour Factor	0.92
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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			77	54		11	30			23		3				
Percent Heavy Vehicles (%)						18				18		18				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.28				6.58		6.38				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.36				3.66		3.46				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						12					28					
Capacity, c (veh/h)						1348					790					
v/c Ratio						0.01					0.04					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						7.7					9.7					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					2.1				9.7							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

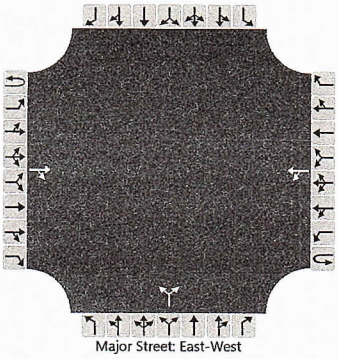
General Information

Analyst	Jean Garcon
Agency/Co.	O'Rourke Engineering
Date Performed	7/27/21
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	Buildout

Site Information

Intersection	White Rd & DW 3
Jurisdiction	Saint Lucie County
East/West Street	White Road
North/South Street	Driveway 3
Peak Hour Factor	0.92
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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			28	17		3	94			93		11				
Percent Heavy Vehicles (%)						18				18		18				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.28				6.58		6.38				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.36				3.66		3.46				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						3					113					
Capacity, c (veh/h)						1461					822					
v/c Ratio						0.00					0.14					
95% Queue Length, Q_{95} (veh)						0.0					0.5					
Control Delay (s/veh)						7.5					10.1					
Level of Service (LOS)						A					B					
Approach Delay (s/veh)					0.2				10.1							
Approach LOS									B							

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HCS7 Two-Way Stop-Control Report

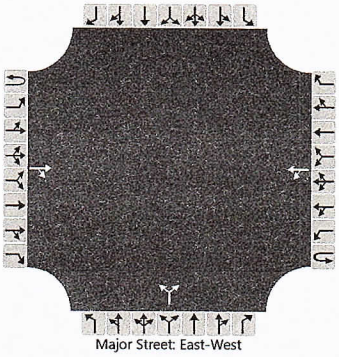
General Information

Analyst	Jena Garcon
Agency/Co.	O'Rourke Engineering
Date Performed	7/27/21
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	Buildout

Site Information

Intersection	White Rd & DW 4
Jurisdiction	St. Lucie County
East/West Street	White Road
North/South Street	Driveway 4
Peak Hour Factor	0.92
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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			44	36		4	18			23		1				
Percent Heavy Vehicles (%)						18				18		18				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.28				6.58		6.38				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.36				3.66		3.46				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						4					26					
Capacity, c (veh/h)						1414					867					
v/c Ratio						0.00					0.03					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						7.6					9.3					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					1.4				9.3							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

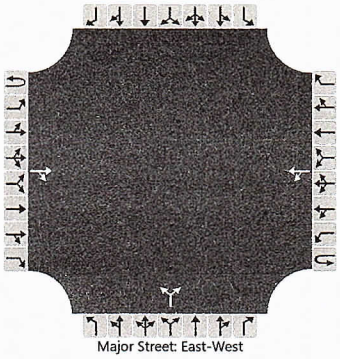
General Information

Analyst	Jean Garcon
Agency/Co.	O'Rourke Engineering
Date Performed	7/27/21
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	Buildout

Site Information

Intersection	White Rd & DW 4
Jurisdiction	St. Lucie County
East/West Street	White Road
North/South Street	Driveway 4
Peak Hour Factor	0.92
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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			27	12		1	4			93		4				
Percent Heavy Vehicles (%)						18				18		18				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.28				6.58		6.38				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.36				3.66		3.46				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						1					105					
Capacity, c (veh/h)						1469					931					
v/c Ratio						0.00					0.11					
95% Queue Length, Q_{95} (veh)						0.0					0.4					
Control Delay (s/veh)						7.5					9.4					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					1.5				9.4							
Approach LOS									A							

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TURNING MOVEMENT VOLUME COUNTS

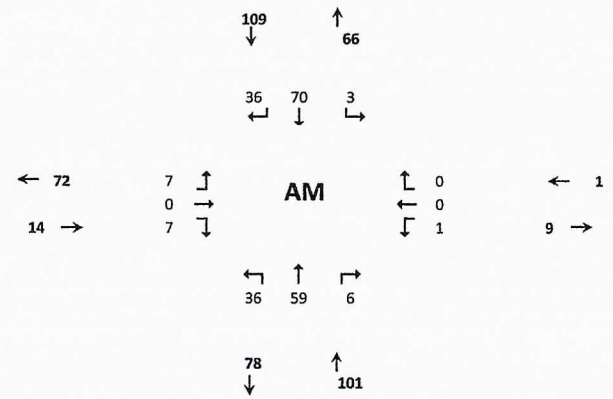
N/S STREET: Peters Road **E/W STREET:** Driveway 5 **CONTROL:** TWSC

FILENAME:

COUNT DATE: **DAY:** **CITY:** Fort Pierce

REPORT DATE: 7/27/2021 **ANALYSIS YEAR:** 2023 (MAX ALTERNATIVE)

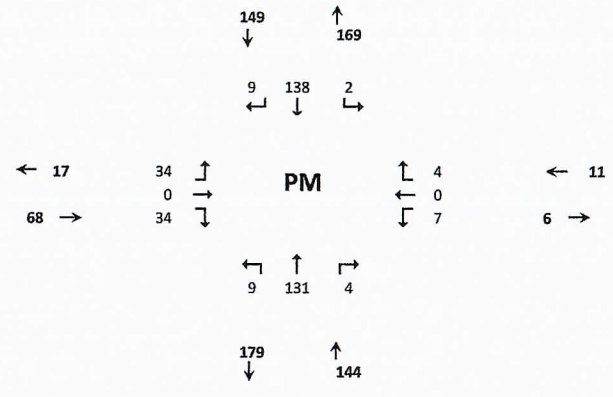
	Northbound			Southbound			Eastbound			Westbound				
15 Min Period	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	ONE HOUR SUM
7:00-7:15													0	0
7:15-7:30													0	0
7:30-7:45													0	0
7:45-8:00													0	0
8:00-8:15													0	0
8:15-8:30													0	
8:30-8:45													0	
8:45-9:00													0	
AM PEAK HOUR IS FROM:	7:00AM TO 8:00AM													
Volumes (1)	0	16	0	0	20	0	0	0	0	0	0	0	0	
Season Factor	0	16	0	0	20	0	0	0	0	0	0	0	36	
Growth	0	25	0	0	32	0	0	0	0	0	0	0	57	
In/Out	IN	-			-	IN	OUT	-	OUT		-		-	
Percentage	5%	0%	0%	0%	0%	5%	5%	0%	5%	0%	0%	0%	0%	
PROJECT	36		0	0		36	7	0	7	0	0	0	0	
Shopping Center		16			31									
In/Out	-	-	IN	IN	-	-	-	-	-	OUT	-	OUT	-	
Percentage	0%	0%	65%	35%	0%	0%	0%	0%	0%	65%	0%	35%	0%	
Proj. Hurricane	0	18	5	3	7	0	0	0	0	1	0	0	0	
Total	36	59	6	3	70	36	7	0	7	1	0	0	226	



Kings Hwy			Proj. Hurricane
Trips In	703	In	8
Trips Out	156	Out	1
Growth Rate:	1.0597		
Seasonal Factor:	1		
Years Grown:	8		

(1) From Figure 4: Intersection Volumes

	Northbound			Southbound			Eastbound			Westbound				
15 Min Period lanes	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	ONE HOUR SUM
4:00-4:15													0	0
4:15-4:30													0	0
4:30-4:45													0	0
4:45-5:00													0	0
5:00-5:15													0	0
5:15-5:30													0	
5:30-5:45													0	
5:45-6:00													0	
PM PEAK HOUR IS FROM:	4:00PM TO 5:00PM													
Volumes (1)	0	21	0	0	27	0	0	0	0	0	0	0	0	
Season Factor	0	21	0	0	27	0	0	0	0	0	0	0	48	
Growth	0	33	0	0	43	0	0	0	0	0	0	0	76	
In/Out	IN	-	0	0	-	IN	OUT	-	OUT	0	-	0	-	
Percentage	5%	0%	0%	0%	0%	5%	5%	0%	5%	0%	0%	0%	0%	
Project	9		0	0		9	34	0	34	0	0		0	
Shopping Center		86			78									
In/Out	-	-	IN	IN	-	-	-	-	-	OUT	-	OUT	-	
Percentage	0%	0%	65%	35%	0%	0%	0%	0%	0%	65%	0%	35%	0%	
Proj. Hurricane	0	12	3	2	17	0	0	0	0	7	0	4	0	
Total	9	131	4	2	138	9	34	0	34	7	0	4	372	



Kings Hwy			Proj. Hurricane
Trips In:	173	In	5
Trips Out:	685	Out	10
Growth Rate:	1.0597		
Seasonal Factor:	1		
Years Grown:	8		

(1) From Figure 4: Intersection Volumes

HCS7 Two-Way Stop-Control Report

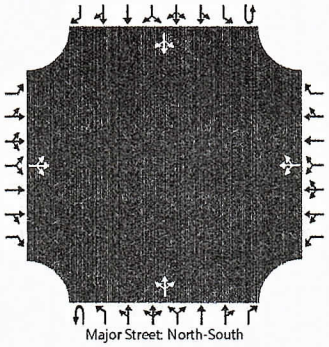
General Information

Analyst	SOR
Agency/Co.	O'Rourke Engineering
Date Performed	7/27/2021
Analysis Year	2024
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	Project Buildout

Site Information

Intersection	Peters Rd & Driveway 5
Jurisdiction	Fort Pierce
East/West Street	Driveway 5
North/South Street	Peters Road
Peak Hour Factor	0.92
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	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	0	4		1	0	0		18	59	6		3	70	18
Percent Heavy Vehicles (%)		15	15	15		15	15	15		15				15		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
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)		7.25	6.65	6.35		7.25	6.65	6.35		4.25				4.25		
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)		3.64	4.14	3.44		3.64	4.14	3.44		2.34				2.34		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			9				1			20				3		
Capacity, c (veh/h)			817				717			1420				1451		
v/c Ratio			0.01				0.00			0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.0				0.0			0.0				0.0		
Control Delay (s/veh)			9.5				10.0			7.6				7.5		
Level of Service (LOS)			A				B			A				A		
Approach Delay (s/veh)		9.5				10.0				1.7				0.3		
Approach LOS		A				B										

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HCS7 Two-Way Stop-Control Report

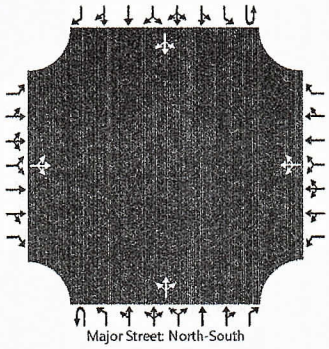
General Information

Analyst	SOR
Agency/Co.	O'Rourke Engineering
Date Performed	7/27/2021
Analysis Year	2024
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	Project Buildout

Site Information

Intersection	Peters Rd & Driveway 5
Jurisdiction	Fort Pierce
East/West Street	Driveway 5
North/South Street	Peters Road
Peak Hour Factor	0.92
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	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		18	0	18		7	0	4		6	131	4		2	138	6
Percent Heavy Vehicles (%)		15	15	15		15	15	15		15				15		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

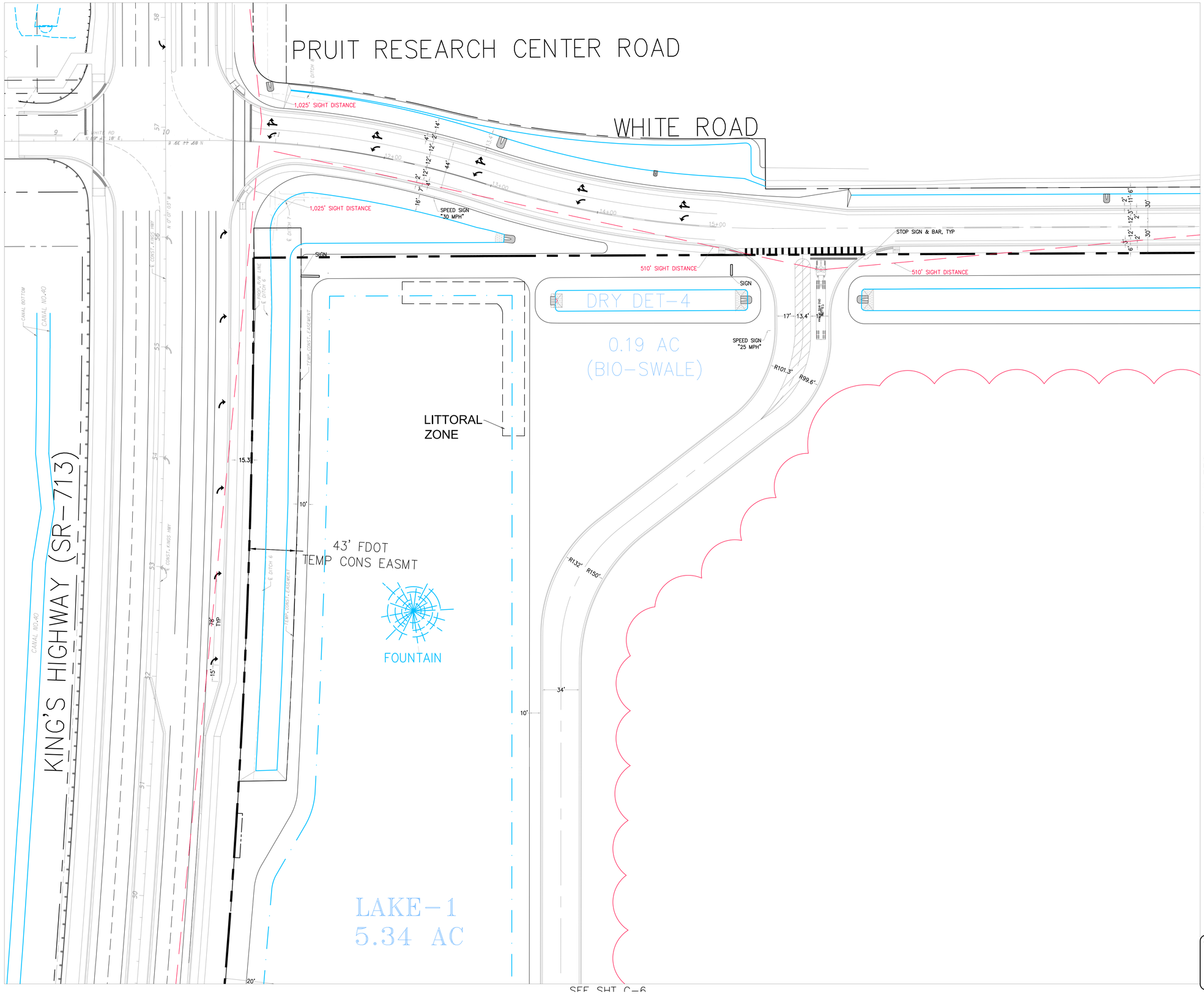
Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.25	6.65	6.35		7.25	6.65	6.35		4.25				4.25		
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)		3.64	4.14	3.44		3.64	4.14	3.44		2.34				2.34		

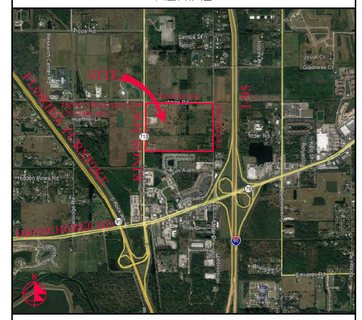
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			39				12			7				2		
Capacity, c (veh/h)			710				666			1348				1359		
v/c Ratio			0.06				0.02			0.00				0.00		
95% Queue Length, Q_{95} (veh)			0.2				0.1			0.0				0.0		
Control Delay (s/veh)			10.4				10.5			7.7				7.7		
Level of Service (LOS)			B				B			A				A		
Approach Delay (s/veh)	10.4				10.5				0.4				0.1			
Approach LOS	B				B											

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AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

REVISIONS

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JHI@bellsouth.net

Kings Highway Commerce Park
Fort Pierce, Florida

Pavement Marking Plan

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

SHEET NO.

C-7

LEGEND

⊕19.7	PROP PAV'T EL
19.7	EXIST EL
✳	CONTRACTOR TO FIELD VERIFY
INV EL	INVERT EL
CB	CATCH BASIN
YD	YARD DRAIN
BC	BOTTOM OF CURB
BE	BOTTOM EL
TC	TOP OF CURB
TE	TOP EL
EXF	EXFILTRATION TRENCH
WM	WATER MAIN
FM	FORCE MAIN
FIM	FIRE MAIN
SAN	WASTEWATER GRAVITY
	FIRE HYDRANT
GV	GATE VALVE
	GATE VALVE
	SIAMESE CONN.
	CHECK VALVE
	DOUBLE DETECTOR CHECK VALVE
	WATER METER W/ REDUCED PRESSURE BACKFLOW PREV.
	SAMPLE POINT
MES	MITERED END SECTION
F.F.EL	FIN FLOOR ELEV
F.L.EL	FLOW LINE ELEV
TOB	TOP OF BANK
TOS	TOE OF SLOPE
TOC	TOP OF CONCRETE
TV	TAPPING VAVLE
CO	CLEANOUT
B21	BORING NO. AND LOCATION
/AE	APPROVED EQUIVALENT

48 HOURS BEFORE DIGGING
CALL TOLL FREE
811
CALL SUNSHINE
NOTIFICATION CENTER

PRUIT RESEARCH CENTER ROAD

WHITE ROAD

WHITE ROAD

WHITE ROAD

EXIST 35' R/W

PROP 60' R/W

PROP ADOT 25' R/W

DRY DET-4 0.19 AC (BIO-SWALE)

DRY DET-5 0.99 AC (BIO-SWALE)

DRY DET-6 0.85 AC (BIO-SWALE)

DRY DETENTION-7 1.35 AC (BIO-SWALE)

KING'S HIGHWAY (SR-713)

LITTORAL ZONE

43' FDOT TEMP CONS EASMT

FOUNTAIN

LAKE-1 5.34 AC

FUTURE PHASES
BLDG 1,415 KSF
OFFICE 99 KSF
WAREHOUSE 1,316 KSF

LAKE-2 1.93 AC

BENCH W/TRASH BIN TYP

LS

BLDG-A
PH-I
265 KSF
17 KSF OFFICE
248 KSF WAREHOUSE
F.F.EL 20.9 FT, NAVD
17.0 ft, NAVD MIN

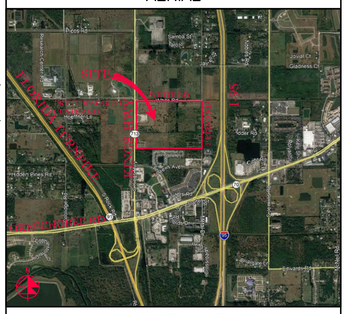
BLDG-B
PH-I
220 KSF
14 KSF OFFICE
207 KSF WAREHOUSE
F.F.EL 20.9 FT, NAVD
17.0 ft, NAVD MIN

LAKE-3 2.30 AC

PETERS ROAD

DRY DETENTION-8 1.49 AC

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

200' 0 100' 200' 400'

SCALE: 1" = 200'

REVISIONS

REV PER CITY 06-25-21
REV PER SP 06-25-21
REV PER SLC 07-26-21

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Kings Highway Commerce Park
Fort Pierce, Florida

TRUCK CIRCULATION PLAN

DRAWN BY	DESIGNED BY	SCALE	DATE
DDI	JHI	1" = 200'	01-22-2021

SEAL

FR 6986
JEFF H. IRAVANI 33155

JOB NO.
2101-1355

SHEET NO.
TP-1

KING'S HIGHWAY (SR-713)

CANAL R/W LINE

CANAL ROAD

LITTORAL ZONE

LAKE-2
1.93 AC

LITTORAL ZONE

FOUNTAIN

1,025' SIGHT DISTANCE

E DITCH 5

E DITCH 4

TEMP CONST 4'X4'X4'H

E CONST KINGS HWY

FENCE

20' LAKE

BENCH W/TRASH BIN TYP

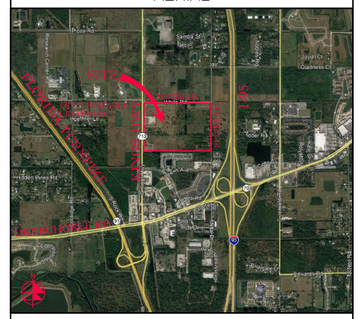
RAMP

248

F.F.

17.

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

LEGEND	
⊕19.7	PROP PAV'T EL
19.7	EXIST EL
*	CONTRACTOR TO FIELD VERIFY
INV EL	INVERT EL
CB	CATCH BASIN
YD	YARD DRAIN
BC	BOTTOM OF CURB
BE	BOTTOM EL
TC	TOP OF CURB
TE	TOP EL
EXF	EXFILTRATION TRENCH
WM	WATER MAIN
FM	FORCE MAIN
FIM	FIRE MAIN
SAN	WASTEWATER GRAVITY
	FIRE HYDRANT
GV	GATE VALVE
	GATE VALVE
	SIAMESE CONN.
	CHECK VALVE
	DOUBLE DETECTOR CHECK VALVE
	WATER METER W/ REDUCED PRESSURE BACKFLOW PREV.
S	SAMPLE POINT
MES	MITERED END SECTION
F.F.EL	FIN FLOOR ELEV
F.L.EL	FLOW LINE ELEV
TOB	TOP OF BANK
TOS	TOE OF SLOPE
TOC	TOP OF CONCRETE
TV	TAPPING VAVLE
CO	CLEANOUT
B1	BORING NO. AND LOCATION
/AE	APPROVED EQUIVALENT

48 HOURS BEFORE DIGGING
CALL TOLL FREE
811
CALL SUNSHINE
NOTIFICATION CENTER

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Kings Highway Commerce Park
Fort Pierce, Florida

TRUCK CIRCULATION PLAN

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

SHEET NO.
TP-2

KING'S HIGHWAY (SR-713)

CANAL R/W LINE

CANAL NO.40

LITTORAL ZONE

LAKE-2
1.93 AC

LITTORAL ZONE

FOUNTAIN

1,025' SIGHT DISTANCE

BENCH W/TRASH BIN TYP

RAMP

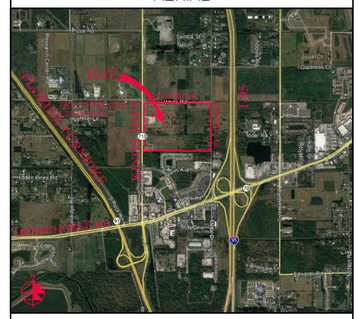
248

F.F.

17.

48 HOURS BEFORE DIGGING
CALL TOLL FREE
811
CALL SUNSHINE
NOTIFICATION CENTER

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

LEGEND

⊕19.7	PROP PAV'T EL
19.7	EXIST EL
*	CONTRACTOR TO FIELD VERIFY
INV EL	INVERT EL
CB	CATCH BASIN
YD	YARD DRAIN
BC	BOTTOM OF CURB
BE	BOTTOM EL
TC	TOP OF CURB
TE	TOP EL
EXF	EXFILTRATION TRENCH
WM	WATER MAIN
FM	FORCE MAIN
FIM	FIRE MAIN
SAN	WASTEWATER GRAVITY
	FIRE HYDRANT
GV	GATE VALVE
	GATE VALVE
	SIAMESE CONN.
	CHECK VALVE
	DOUBLE DETECTOR CHECK VALVE
	WATER METER W/ REDUCED PRESSURE BACKFLOW PREV.
	SAMPLE POINT
MES	MITERED END SECTION
F.F.EL	FIN FLOOR ELEV
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Kings Highway Commerce Park
Fort Pierce, Florida

TRUCK CIRCULATION PLAN

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

SHEET NO.

TP-3

PRUIT RESEARCH CENTER ROAD

WHITE ROAD

KING'S HIGHWAY (SR-713)

1,025' SIGHT DISTANCE

1,025' SIGHT DISTANCE

510' SIGHT DISTANCE

510' SIGHT DISTANCE

DRY DET-4

0.19 AC
(BIO-SWALE)

LITTORAL
ZONE

43' FDOT
TEMP CONS EASMT

FOUNTAIN

LAKE-1
5.34 AC

CANAL NO.40

CANAL BOTTOM

CONST. KINGS HWY

TEMP. CONST. EASEMENT

E DITCH 6

E DITCH 7

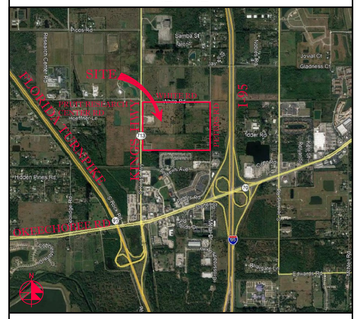
E DITCH 8

TEMP. PUMP LINE EASEMENT

WHITE RD

15.3'

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

REVISIONS

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Kings Highway Commerce Park

Fort Pierce, Florida

TRUCK CIRCULATION PLAN

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

SHEET NO.

TP-4

LEGEND

⊕19.7	PROP PAV'T EL
19.7	EXIST EL
✳	CONTRACTOR TO FIELD VERIFY
INV EL	INVERT EL
CB	CATCH BASIN
YD	YARD DRAIN
BC	BOTTOM OF CURB
BE	BOTTOM EL
TC	TOP OF CURB
TE	TOP EL
EXF	EXFILTRATION TRENCH
WM	WATER MAIN
FM	FORCE MAIN
FIM	FIRE MAIN
SAN	WASTEWATER GRAVITY
	FIRE HYDRANT
GV	GATE VALVE
	GATE VALVE
	SIAMESE CONN.
	CHECK VALVE
	DOUBLE DETECTOR CHECK VALVE
	WATER METER W/ REDUCED PRESSURE BACKFLOW PREV.
	SAMPLE POINT
MES	MITERED END SECTION
F.F.EL	FIN FLOOR ELEV
F.L.EL	FLOW LINE ELEV
TOB	TOP OF BANK
TOS	TOE OF SLOPE
TOC	TOP OF CONCRETE
TV	TAPPING VAVLE
CO	CLEANOUT
B1	BORING NO. AND LOCATION
/AE	APPROVED EQUIVALENT

48 HOURS BEFORE DIGGING
CALL TOLL FREE
811
CALL SUNSHINE
NOTIFICATION CENTER

PRUIT RESEARCH CENTER ROAD

WHITE ROAD

KING'S HIGHWAY (SR-713)

1,025' SIGHT DISTANCE

1,025' SIGHT DISTANCE

510' SIGHT DISTANCE

510' SIGHT DISTANCE

DRY DET-4

0.19 AC
(BIO-SWALE)

LITTORAL
ZONE

43' FDOT
TEMP CONS EASMT

FOUNTAIN

LAKE-1
5.34 AC

CANAL NO.40

CANAL BOTTOM

E. DITCH 6

E. DITCH 7

TEMP. CONST. EASEMENT

CONST. KINGS HWY

PROP. R/W LINE

15.3

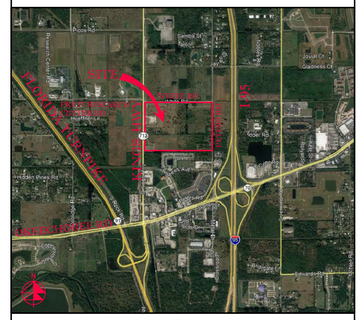
12+00

13+00

14+00

15+00

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

LEGEND	
⊕19.7	PROP PAV'T EL
19.7	EXIST EL
*	CONTRACTOR TO FIELD VERIFY
INV EL	INVERT EL
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/AE	APPROVED EQUIVALENT

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JHI@bellsouth.net

Kings Highway Commerce Park

Fort Pierce, Florida

TRUCK CIRCULATION PLAN

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

SHEET NO.

TP-5

BLDG-B
PH-I
220 KSF
14 KSF OFFICE
207 KSF WAREHOUSE
F.F.EL 20.9 FT, NAVD
17.0 ft, NAVD MIN

LITTORAL ZONE

LAKE-3
2.30 AC

FOUNTAIN

335' SIGHT DISTANCE

PETERS ROAD

RAMP

RAMP

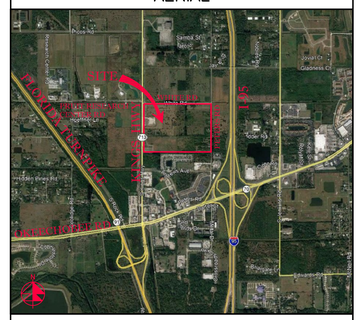
20' LME

48 HOURS BEFORE DIGGING
CALL TOLL FREE
811
CALL SUNSHINE
NOTIFICATION CENTER

LEGEND

⊕19.7	PROP PAV'T EL
19.1	EXIST EL
*	CONTRACTOR TO FIELD VERIFY
INV EL	INVERT EL
CB	CATCH BASIN
YD	YARD DRAIN
BC	BOTTOM OF CURB
BE	BOTTOM EL
TC	TOP OF CURB
TE	TOP EL
EXF	EXFILTRATION TRENCH
WM	WATER MAIN
FM	FORCE MAIN
FIM	FIRE MAIN
SAN	WASTEWATER GRAVITY
	FIRE HYDRANT
GV	GATE VALVE
	GATE VALVE
	SIAMESE CONN.
	CHECK VALVE
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	WATER METER W/ REDUCED PRESSURE BACKFLOW PREV.
	SAMPLE POINT
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F.F.EL	FIN FLOOR ELEV
F.L.EL	FLOW LINE ELEV
TOB	TOP OF BANK
TOS	TOE OF SLOPE
TOC	TOP OF CONCRETE
TV	TAPPING VAVLE
CO	CLEANOUT
B1	BORING NO. AND LOCATION
/AE	APPROVED EQUIVALENT

AERIAL



VICINITY MAP

SECTION 24, TWP 35S, RGE 39E

N

40' 0 20' 40' 80'

SCALE: 1" = 40'

REVISIONS

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Consulting Engineers
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JHI@bellsouth.net

Kings Highway Commerce Park
Fort Pierce, Florida

TRUCK CIRCULATION PLAN

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01-22-21	1"=40'	JHI	DDI	2101-1355

SEAL

COA 6986

SHEET NO.

TP-6

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June 24, 2021

City of Fort Pierce
Planning Department
100 North US 1
Fort Pierce, FL 34950

Attn: Brandon Creagan, MCRP, LEED Green Associate

Re: Kings Highway Commerce Park
Technical Review Project # 21-07000008
JHI Project No. 1355

Dear Brandon,

We are in receipt of your latest comments dated May 20, 2021, for the above noted project. Please consider the followings

1. Bicycle Parking shall be provided at a ratio of 1 space per every 20 parking spaces pursuant to City Code 125-315 (f)(1)(a).
Response: Please see revised site plan showing bicycle parking.

2. The Traffic Study shall be approved and satisfied by St. Lucie County and their reviewer before the item is forwarded to the Planning Board for review.
Response: Acknowledged.

3. The dry detention areas may need to be relocated as typically that cannot front a right-of-way. It was discussed at TRC that a Bioswale would be a viable alternate option for the dry detention areas along the rights-of-way.
Response: Per TRC meeting, the dry detentions along R/W are now bio-swales.

4. Sidewalks shall be provided along all rights-of-way pursuant to City Code 125-317
Response: Please see revised site plan showing sidewalk along all R/W including Peters Rd.

5. Provide a colored site plan (aerial overview) that also includes the landscaping, lakes, bioswales, etc.
Response: Please see attached the colored site plan.

Brandon Creagan
King Highway Commerce Park
TRC App # 21-07000008
June 24, 2021

Engineering Comments

1. The property is comprised of numerous parcels of land with multiple landowners. Prior to the issuance of a site work permit, the properties shall be combined into one parcel of land.
   Response: Acknowledged.

2. Relocate the dry detention areas away from the Peters Road and White Road public road rights-of-way in accordance with the City of Fort Pierce Code of Ordinances Section 119-9(c).
   Response: Per TRC meeting, the dry detentions along R/W are now bio-swales.

3. Required right-of-way donation and roadway improvements to White Road and Peters Road shall be as directed by the owner of the roadways, Saint Lucie County.
   Response: A 25' R/W is to be dedicated on White Rd to provide a 60' R/W. Peters Rd already has a 60' R./W.

4. Kings Highway improvements shall be in accordance with the requirements specified by the State of Florida Department of Transportation.
   Response: Applications have been submitted to FDOT for R/W & drainage permits.

5. Revise the 17' paved parking stalls to have a minimum paved length of 18' where abutting a landscaped area as per the requirements specified in the City of Fort Pierce Code of Ordinances Section 125-315(c).
   Response: Please see revised site plan showing min 18' paved parking stalls.

6. The submitted survey was prepared at a scale of 1" = 120', which makes the existing topographic information impossible to decipher on the printed survey. The applicant shall submit a certified boundary survey and topographic survey drawn at a maximum scale of 1' = 50' and shall utilize match lines as needed.
   Response: Please see attached survey in 50' scale.

Advisory Comments

1. The drainage plan is conceptual at this point ad will be reviewed in depth at the time of application for a Site Work permit.
   Response: Acknowledged.

2. In the schematic renderings of the proposed development and construction of the two warehouse buildings, I observed what was labeled "screen wall" on the rendering that depicts the rear, loading docks area of the warehouse. From the design rendering, it appears that the "screen wall" is constructed by erecting nine (9) solid panels with a lighting gap between each piece. I am presuming that the reason for the screen wall is to shield the comparatively unsightly "business end" of the warehouse and maybe also to allow for some sound deadening. That, in and of its own is a great addition to the project. However, if practical, please consider a more transparent or opaque design to minimize any possibility of concealment of persons. A more transparent or opaque design also allows for better "natural surveillance" which aides in reduction of potential crime or undesired behaviors and activity.
   Response: We'll discuss this w/ the architect and will provide openings in the walls to the extent possible.

St Lucie County

1. The traffic report will be reviewed by a third party through the County.
   Response: Acknowledged.

2. Peters Road adjacent to this site is a County maintained unimproved roadway. Future development of this project will require any right-of-way (ROW) dedications and roadway improvements across this property and to the nearest paved road consistent with City standards.
   Response: We will submit an application for Peters Rd re-construction along the east P/L from White Rd to Motel-6 driveway.

3. There are several projects proposed on Peters Road. As all projects will require construction of Peters Road, it is recommended the owners coordinate a meeting with the City and County to address the process together.
   Response: We had a meeting w/ other 2 projects & discussed the cost sharing.

4. White Road adjacent to this site is a County maintained unimproved roadway. Future development of this project will require any right-of-way (ROW) dedications and roadway improvements across this property and to the nearest paved road consistent with City standards.
   Response: A 25' R/W dedication is proposed to provide a 60' R/W for White Rd.

5. A Site Development Permit will be required from the County prior to implementation of site activities. The SD Permit will provide for right-of-way improvements.
   Response: We'll submit fir a site development permit for both White & Peters Rd.

6. For discussion regarding these comments, please contact me at 772-462-1491, haysd@stlucieco.org or Grant Chambers at 772-462-2741, chambersg@stlucieco.org.
   Response: Thank you

Brandon Creagan
King Highway Commerce Park
TRC App # 21-07000008
June 24, 2021

SLC School District

1. Will roadway and sidewalks improvements be made along Peters Road?
   Response: A 5' conc sidewalk will be constructed along the project frontage on Peters Rd.

St. Lucie County Fire District

1. Please submit a completed application for Development/Site Plan Review (St. Lucie County Fire District Development & Site Plan Review Application). This form is available on-line at https://www.slcfd.com
   Response: We'll submit site plan review asap.

2. Fire District review fees are due at the time of submittal. An abbreviated fee schedule is included on the application form.
   Response: Acknowledged.

3. Please send the Fire District electronic plans for the site and buildings.
   Response: We'll submit building plans as soon as available.

4. A separate review and permit is required for Underground Fire Mains connected to standpipes or sprinkler systems.
   Response: Acknowledged.

5. Fire hydrants (shall be) are provided for buildings other than detached one-and two-family dwellings IAW both of the following 1) The maximum distance to a fire hydrant from the closest point in the building shall not exceed 400 feet. 2) The maximum distance between fire hydrants shall not exceed 500 feet. NFPA 1:18.5.3. Please provide fire flow calculations for hydrants.
   Response: the plans will comply w/ all applicable NFPA requirements. Fire flow calculations shall be submitted w/ application.

6. An approved water supply capable of supplying the required fire flow for fire protection (shall be) is identified to all premises upon which facilities, buildings, or portions of buildings which are to be constructed or moved into the jurisdiction. The approved water supply shall be in accordance with NFPA 1:18.4. See "Needed NFPA Fire Flow Calculator Spreadsheet".
   Response: Acknowledged.

7. Per the St. Lucie County Fire District Fire Prevention Code Resolution 647-17. At Least 13 feet 6 inches nominal vertical clearance shall be provided and maintained over the full width of all means of access. Including, but not limited to trees, canopies, etc.
   Response: Acknowledged.

8. Fire department connections shall be located on the street side of buildings and shall be located and arranged so that hose lines can be readily attached to the inlets without interference from any nearby objects, including buildings, fences, landscaping, or other fire department connections. The locations of connections shall be based upon the access requirement s of the fire department.
   Response: Fire Department Connections shall mee the above requirements.

9. The distance allowed between the fire department connection and a fire hydrant shall be no more than one hundred fifty (150) feet as a vehicle travels.
   Response: Acknowledged.

10. The Fire District reserves the right for future comments at the site plan & building construction phase**.**
    Response: Acknowledged.

11. FD access roads (shall be) are provided such that any portion of an un-sprinklered facility or exterior wall is located not more than 150' from FD access roads as measured by an approved route around the exterior of the building or facility. (450' for NFPA 13, 13D, 12R sprinklered protected buildings).
    Response: Acknowledged.

12. Per NFPA 1114 Chapter 9, Section 1.3. Prior to the final occupancy of any building, the permitted water supply for fire protection, including fire hydrants and fire suppression systems, shall be installed, tested, and acceptable to the AHJ (SLCFD).
    Response: Acknowledged.

13. Be advised: Dimensions of largest vehicle are as follows: 38 tons or 77k lbs., 47.5 ft. total length, 21.5 ft. wheel base, 10.5 ft. total width, 41.5 degree turning radius.
    Response: Fire truck circulation plans shall be submitted w/ application. This site is designed for access for 67' trucks.

14. Two-Way Radio Enhancement Systems/BDAS shall be installed, inspected and operationally tested in accordance with the manufacturer's published requirements, by the local fire department, and comply with the most current edition of the Florida Fire Prevention Code and its incorporated standards and codes. Presurvey of radio signal strength shall be submitted to the Fire Marshal in the form of heat signature mapping or a certification document of radio signal strength provided by a licensed engineer.
    Response: Acknowledged.

15. Minimum Size of Water Mains
    a. The minimum size of water mains for supplying water for firefighting purposes shall be six (6) inches.
    b. The minimum size of water mains supplying hydrants on a dead-end main shall be eight (8) inches.
    c. The maximum number of hydrants located on a dead-end main shall be one (1).
    d. Grid or Tee systems shall be supplied by a minimum of an eight (8) inch looped main. Exceptions may be granted based on the capacity of the water distribution system but in no case shall the main size be less than six (6) inches.
    e. The minimum size water main(s) shall be determined by the needed fire flow as established by the Fire Marshal and based on the current Insurance Service Office (ISO) requirements.
    Response: Acknowledged.

Please feel free to contact me should you have any questions.

Thank you,

J H Iravani

Jeff H. Iravani, P.E.
President

From: JHI INC.
Sent: Friday, September 3, 2021 4:27 PM
To: Brandon Creagan
Cc: jhi@bellsouth.net; seorourke@comcast.net
Subject: FW: KWC Park - 2nd TIR Review Memo

SECURITY WARNING: This email originated outside of the City of Fort Pierce systems. Please use caution when clicking links or opening attachments. For questions or concerns please contact IT immediately. .

Brandon,

We believe that all TIR related comments are addressed per Susan's email.
We received other non-related TIR comments which were also addressed.
Please let me know if below is sufficient for our approval schedule to remain as is.

Thank you
Jeff

Jeff H. Iravani, PE
Jeff H. Iravani, Inc
1934 Commerce Ln-5
Jupiter, FL 33458
Tel: (561) 575-6030
Cell: (561) 329-2468
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JHI@bellsouth.net
www.JHIinc.com

From: Kori Benton <bentonk@stlucieco.org>
Sent: Friday, September 3, 2021 4:00 PM
To: JHI INC. <jhi@bellsouth.net>; seorourke@comcast.net; xfalconi@cgasolutions.com
Cc: David Hays <haysd@stlucieco.org>; Patrick Dayan <DayanP@stlucieco.org>; 'Brandon Creagan' <bcreagan@cityoffortpierce.com>
Subject: RE: KWC Park - 2nd TIR Review Memo

Thank you for your team's swift follow-up and replies. We will commence further review.

Kori

From: JHI INC. <jhi@bellsouth.net>
Sent: Friday, September 3, 2021 3:52 PM
To: seorourke@comcast.net
Cc: David Hays <haysd@stlucieco.org>; Patrick Dayan <DayanP@stlucieco.org>; Kori Benton <bentonk@stlucieco.org>; 'Brandon Creagan' <bcreagan@cityoffortpierce.com>;

xfalconi@cgasolutions.com; jhi@bellsouth.net
Subject: RE: KWC Park - 2nd TIR Review Memo

SECURITY WARNING: This email originated from outside the County systems. Please show caution when clicking links or opening attachments unless you recognize the sender and know the content is safe.

Kori,

Please consider the following in response to the comments on Traffic Impact report:

5. Comments re "the responsible party for signal" & "cost of improvements" are not related to a traffic impact report (TIR).
SCL/DH was and usually is present at FDOT pre-app's & has a copy.
The developer is responsible for signal which is the norm.
The signal plans are not req'd at this time as this intersection is to be monitored & signal to be installed when warrants are met.
Signal plans will then be prepared & submitted to FDOT & SLC.
Cost estimates for Improvements in SLC R/W are submitted to SLC as permits are applied.

7. Dwy spacing is not related to traffic report review.
Site plan along w/ prop dwy's were reviewed by SLC during the city site plan review.
Considering we have a 2400 ft frontage w/ White Rd, the dwy separation on White will not be an issue.
Only one dwy is being submitted & approved during this site plan approval
Future dwy's locations, as shown on site plan, will be evaluated w/ site plan submittals for future phases.

8. Intersection designs are not warranted for traffic impact report review.
Any off-site design including intersections will be reviewed w/ the County & city and is not part of this site plan approval.
The intersections shall be designed per req'd county & city req't.
Auto turns are not generally req'd for intersection designs but may be provided if requested w/dev plans approval.

9. Internal roadway configuration has no relation/impact on a TIR review.
Traffic report review is for impact on county/public roads not internal roads.
Please see attached the master site plan & Truck turning movements.
There is no Bldg-C or any different configuration as they all generated from the same dwg

Based on above & Susan's response, we trust that all the comments are addressed.

Please let me know if there is any need for add'l discussion re the above.

Thank you
Jeff

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From: seorourke@comcast.net <seorourke@comcast.net>
Sent: Friday, September 3, 2021 12:21 PM
To: 'JHI INC.' <jhi@bellsouth.net>
Cc: 'David Hays' <haysd@stlucieco.org>; 'Patrick Dayan' <DayanP@stlucieco.org>; 'Kori Benton' <bentonk@stlucieco.org>; 'Brandon Creagan' <bcreagan@cityoffortpierce.com>; xfalconi@cgasolutions.com
Subject: RE: KWC Park - 2nd TIR Review Memo

Thank you for getting that to us.

I have provided my response below. Based on the limited scope, I do not see a need for us to revise the traffic study based on these comments. Take a look and let me know what you think.

There are only 2 comments on the traffic study- the one about the growth rate #1- The growth rate is 1.5%. For formula purposes it is represented as 1.015, That is the same as 1 times the number plus 1.5% growth. The formulas read 1.015^X number of years. So, no change is needed there. (if it was 6% growth the factor would be 1.06)

6 regarding the AM driveway volumes at Driveway 1 – The AM volumes appear to be correct 30% of 362 = 109, 15% = 54 and 10% out = 9. Is there something specific you saw?

The other comments were based on the design and were previously addressed by JHI.

#5 In this comment, there is a request for additional information on the signal. I believe that information such as detailed cost, signalization etc, is better obtained as the design is moved forward and is not necessary for the traffic study/ site plan stage. I believe Jeff did provide signage and striping on the site plan but, Jeff can expand on that. The FDOT pre-app letter was included under separate cover I believe by JHI, but I have attached it here as well. We are obligated to the signal per the FDOT letter and we will continue to work with the County and the adjacent property owners on impact fee credits and cost sharing. I do not believe we need to have the specific of those arrangements worked out in the traffic study.

#8 Figure 3 is a driveway Figure that included trips at White and Kings because it was being reviewed by the FDOT. Figure 3 does indicate that there will be 10% of the traffic assigned through the intersection.

I am unaware of a requirement to provide autoturn analysis on off-site, City streets but that is a Jeff "task" as well.

If anyone thinks we need to discuss any of these points let me know.

Susan E. O'Rourke, P.E.
President

O'Rourke Engineering & Planning
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772 781 7918 o
561 350 8738 c
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From: JHI INC. <jhi@bellsouth.net>
Sent: Friday, September 3, 2021 11:12 AM
To: seorourke@comcast.net
Cc: 'David Hays' <haysd@stlucieco.org>; 'Patrick Dayan' <DayanP@stlucieco.org>; 'Kori Benton' <bentonk@stlucieco.org>; 'Brandon Creagan' <bcreagan@cityoffortpierce.com>; jhi@bellsouth.net
Subject: RE: KWC Park - 2nd TIR Review Memo

Hi Susan,

Please see attached & let me know if we need to sch a zoom mtg w/ CGA.

Thank you
Jeff

Jeff H. Iravani, PE
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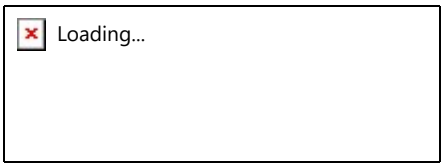
From: Kori Benton <bentonk@stlucieco.org>
Sent: Friday, September 3, 2021 11:01 AM
To: JHI INC. <jhi@bellsouth.net>; Brandon Creagan <bcreagan@cityoffortpierce.com>
Cc: David Hays <haysd@stlucieco.org>; Patrick Dayan <DayanP@stlucieco.org>
Subject: KWC Park - 2nd TIR Review Memo

Good morning,

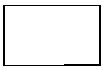
Please find the enclosed Traffic Impact Report review comments, with outstanding comments highlighted. Please let me know if there's a desire to coordinate a call with our consultant, if any questions arise in your review.

Best,
Kori

Kori Benton, AICP | Assistant Planning Manager
Ph: 772-462-2518 | 2300 Virginia Ave. Fort Pierce 34982
facebook.com/stluciegov | twitter.com/stluciegov | instagram.com/stluciegov | youtube.com/stluciegov



Please Note: Florida has very broad public records laws. Most written communications to or from County officials regarding County business are public records available to the public and media upon request. It is the policy of St. Lucie County that all County records shall be open for personal inspection, examination and / or copying. Your e-mail communications will be subject to public disclosure unless an exemption applies to the communication. If you received this email in error, please notify the sender by reply e-mail and delete all materials from all computers.



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Email: JHI@bellsouth.net Website: www.JHIinc.com

July 27, 2021

St. Lucie County
Planning Department
2300 Virginia Avenue
Fort Pierce, FL 34982

Attn: Xavier Falconi, PE

Re: Kings Highway Commerce Park
CGA Project Number: 20-4113/ 14-104
JHI Project No. 1355

Dear Xavier,

We are in receipt of your latest comments dated June 6, 2021, for the above noted project. Please consider the followings

1. Please provide an operational analysis for the intersections at Kings Highway and Orange Avenue and Kings Highway and Okeechobee Road for existing conditions, future buildout year without project, and future buildout year with project, with attention to queue developments and their impact on operations. There is a significant amount of development coming up in the area. Please make sure to include all committed trips for all approved but unbuilt development projects in the analyses. The method for developing the demand volumes should be discussed in advance.
Response: The intersections of Kings and Orange and Kings and Okeechobee have been analyzed using the Highway Capacity Software for 2023 with project and without project. The existing conditions were not analyzed since the area has been under construction for some time.

   Ten projects from the area were included in the analysis as well as a 1.5% growth rate. The areawide growth rate was calculated as 2.25% but given the number of "other project" contributing to growth, the rate was reduced to 1.5% consistent with a recent submittal to FDOT.

   It may be appropriate to further reduce the rate to 1% to avoid double counting. We have shown that the intersection of Orange and Kings which is under construction, would benefit from dual northbound and southbound lanes. The width is included in the design, but the striping called out only single turn lanes. We have provided this information to the FDOT as well.

   Because there has been so much construction in the area, the counts are a pre-covid and from different sources. Acceptable levels of service are maintained.

2. Please provide a narrative in the report explaining how the EB and WB movements for the intersection at White Road and Kings Highway were obtained, since no traffic volumes were collected.
   Response: The north. South values were from the FDOT count station north of the site. The east west values were developed from "other projects" in the area. A turning Movement Count sheet was added to the appendix to identify the assumptions.

3. Additional review comments may be provided after receiving the analyses of number 1 above.
   Response: OK

4. Traffic signal warrant at White Road & Kings Highway was not reviewed pending responses from comment #2 above.
   Response: The signal warrant analysis was revised based on a revision to the committed trips from "other" project in the area.

5. Please provide a drawing illustrating the realignment of White Road and Research Center Drive at Kings Highway. How is this realignment going to impact the proposed driveway 2 for this project and possibly driveway 3?
   Response: Please see attached plan. The re-alignment of White Road w/ Research Center Dr is done by FDOT and under construction. Under this project, we are adding a lane on the east approach. The center line of the White Rd /dbl yellow line, remains the same as FDOT 2 lane section. The off-set is in compliance w/ FDOT FDM 212.7.

6. Please provide the intersection analysis for Existing Conditions and year 2023 without project.
   Response: The existing conditions were included. This intersection was under construction from a 2-lane undivided road to a four lane with a directional median. The existing condition analysis is not relevant in this case. The "without project traffic" was added but is also not relevant. This improvement was proposed by the project. Without the project, the improvement would not be made.

7. Please provide a description of the internal site circulation, including the type of vehicles.
   Response: The internal site circulation is designed for WB-67 truck. Please see the attached truck circulation plans.

8. Auto-Turn and sight distance evaluation should be provided for all the proposed access points.
   Response: Please see attached truck circulation plans w/ sight distances.
   The access points on White Rd & Kings Hwy are designed for WB-67 movements with same for sight distance. The access on Peters Rd is designed for passenger cars since we do not anticipate any trucks utilizing this access. However, a truck exiting the site at this point is shown on TP-1 indicating truck access is possible.

Xavier Falconi, PE
King Highway Commerce Park
CGA Project Number: 20-4113/ 14-104
July 27, 2021

Please feel free to contact me should you have any questions.

Thank you,

J H Iravani

Jeff H. Iravani, P.E.
President