



CONCURRENCY CAPACITY ANALYSIS

I. Site Data:

	Existing Use	Future Land Use	Zoning
North			
South			
East			
West			

	Future Land Use	Zoning Classification	Maximum Intensity Residential: Dwelling Units per Acre Other: Square Footage	Total Acreage	Flood Zone
Current					
**Proposed					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
**Proposed Zoning/FLU	Total gallons per day
**Change in Demand	Total gallons per day

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
**Proposed Zoning/FLU	Total gallons per day
**Change in Demand	Total gallons per day

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	
**Proposed Zoning/FLU	Enrollment	
**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	
**Proposed Zoning/FLU	
*Change in Demand	

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

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

- A. Indicate whether the proposed project will be eliminating any existing recreational facilities. If yes, detail the number and type being eliminated. Yes No
- B. 1. Does this application involve demolition or re-use of any structure(s)? Yes No
If yes, what is the size of the structure(s) to be demolished or re-used? _____
2. What is the current use of the structure to be demolished or re-used? _____
3. Are you claiming trip credits for the demolition or re-use of a structure(s) at the site? Yes No
If yes, provide estimates of credits for each previous use at the site. (Attach sheet with calculations)

C. Exemptions Requested:

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



DISTRICT
PLANNING
GROUP

PROJECT NARRATIVE

Aria Apartments 3000 Okeechobee Road

October 18, 2022

Summary

Aria Apartments Future Land Use Map Amendment, Zoning Atlas Amendment, Site Plan and Conditional Use (for Innovative Residential Development) was approved by the City of Fort Pierce City Commission on October 5, 2020. The Site Plan and Conditional Use expired one year later during the COVID 19 pandemic recovery. The developer, Arrow Investment Group, LLC, now requests the reconsideration of the approved and expired Site Plan and Conditional Use. No changes are proposed from the original approved Plan, consisting of 112 multifamily units and associated amenities on a 6.796 acres parcel facing Okeechobee Road.

Site

The site (Parcel ID 2417-505-0020-001/5) is 6.796 acres of previously cleared vacant land whose vegetation is primarily invasive with some Sabal palms, and a very small wetland area on the western property line adjacent to an existing drainage ditch. On October 5, 2020, the City Commission approved a Future Land Use designation of RM, Residential Medium, and a Zoning of R-4, Medium Density Residential, for this site.



Adjacent Properties

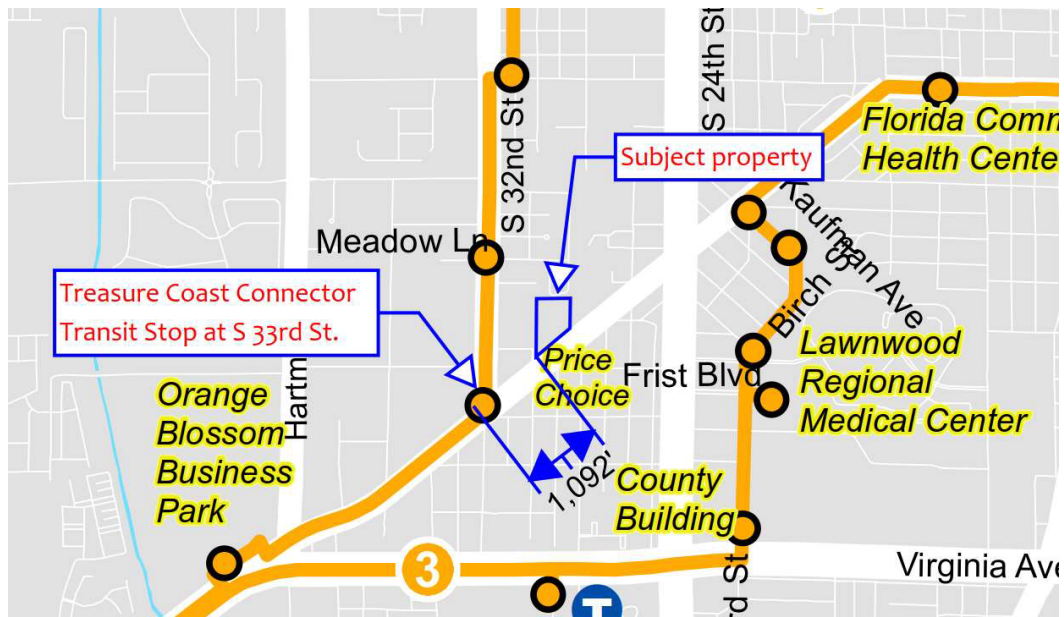
The property faces SR 70, Okeechobee Road, to the south and is adjacent to a mix of commercial and institutional/church uses to the west, commercial use to the east, and vacant single-family lots to the north.

	FUTURE LAND USE	ZONING	USE	JURISDICTION
SOUTH	GC	C-3	Commercial	Fort Pierce
WEST	GC & RM	C-3 & R-4	Institutional & Commercial	Fort Pierce
EAST	GC	C-3	Commercial	Fort Pierce
NORTH	RL	R-2	Vacant single-family lots	Fort Pierce

Project Details

Density

This project was approved for 112 units on 6.796 acres for a density of 16.48 dwelling units per acre. While this exceeds the City's Future Land Use RM density of 6.5 - 12 du/ac, the City's Comprehensive Plan, Policy 1.1.7, provides for up to 5 units per acre as a density bonus for those developments sited within ¼ mile of a transit stop. A transit stop is located less than ¼ mile from the subject site at 32nd Street and Okeechobee Road. This close proximity provides for an RM Future Land Use density of 17 units per acre at this site.



With respect to zoning, the Medium Density Residential Zone (R-4) allows for a maximum density of ten (10) du/ac for conventional developments and twelve (12) du/ac for innovative developments. The Applicant proposes a Conditional Use to allow an "Innovative Residential Development" as demonstrated in the "Innovative Residential Development/Conditional Use Approval" section of this narrative which utilizes the additional density allowed for such developments (12 du/ac) for the purposes of this application. Maximum density has been calculated at 17 du/ac based on the 12 du/ac allowed with an innovative development, plus the additional five (5) du/ac density bonus authorized by Policy 1.1.7 of the Comprehensive Plan for developments within a ¼ mile of a transit stop.

Development Program

The Project involves a multifamily apartment complex consisting of 112 dwelling units ranging from one (1) to three (3) bedrooms in five (5) buildings. Four (4) of the buildings will be three (3) stories and the fifth building will be two (2) stories. A clubhouse, pool area and other amenities listed below are also proposed.

Design Intent and Amenities

This project intends to create an innovative, walkable and compact multifamily development with quality architecture, landscaping and amenities that sets a new standard for the Okeechobee Road corridor, increases property values and creates an inviting sense of place for its residents. Four (4) of the residential buildings are arranged around a central lake which acts as an amenity for the Project. The lake features a fountain and littoral plantings to enhance the amenity, and a walking path will be constructed around the entire lake with benches so that residents can enjoy the lake views and recreate/exercise around the lake. The entrance roundabout features a specimen tree as a focal point and acts to calm traffic, create visual interest and beautify the entrance. Parking and dumpsters are evenly and conveniently distributed throughout the Project. Other amenities include: a clubhouse with a fitness center, kitchen, multipurpose room, restrooms and a covered area over the pool deck for shade lounging; a passive park with picnic tables, benches and shade trees; a large pool with seating

areas and planters; a tot lot with playground equipment and fenced dog park. Additionally, Building 1 and the clubhouse have been placed adjacent to the primary road to form the street front, which also screens the parking area from the adjacent roadway.

Architecture

Both the two-story and three-story buildings are designed in a contemporary style that mirrors current trends in many residential projects. The building footprints allow refinement of the building mass, reducing the sense of scale and creating a more visually engaging facade. The fenestration utilizes contemporary features and materials, including cantilevered balconies, horizontal railings, variations in roof types and heights, metal eyebrow shades, alternating faux-wood horizontal siding and smooth stucco to differentiate wall panels. The color and material palette is contemporary and blends cohesion and contrast, using white for trim, window frames, walls, sun shades and railings; light grey for wall panels, medium grey for the faux wood siding and dark grey for the flat concrete roof tiles.

The maximum height allowed in the Medium Density Residential (R-4) zoning district is 45'-0". The maximum height of the tallest proposed building is 39'-0". Mechanical equipment will be located on the roof and screened from view. A monument sign is proposed on the south side of the project entrance, and details regarding said sign are provided with this submittal on "Sheet A-1 - Entry Monument." The design of the monument sign incorporates the same colors and materials as the buildings on site and has been sized in accordance with the City's requirements for residential development signage.

Landscaping & Tree Mitigation

The Applicant has committed to saving and/or relocating existing native trees on site, which include Pine, Live Oak and Cabbage Palm. The Tree Mitigation Plans provided with this submittal provide that:

- (1) 155 cabbage palms will be relocated on site;
- (2) 552" of trees will be removed to facilitate construction; and
- (3) 316" of trees will be preserved in place.

This preservation total reflects 70" more than the total mitigation requirement of 236".

In addition to these generous preservation efforts, a dense landscape design above Code-required minimums is proposed, providing additional trees to satisfy the mitigation requirement and provide additional landscaping to satisfy the "Innovative Residential Development" requirements as further discussed in the "Innovative Residential Development/Conditional Use Approval" section of this narrative.

- **Interior Trees Increased 196% beyond Code minimum:** The Project requires 56 interior trees, where 166 interior trees are being provided (110 additional trees).
- **Buffer Trees increased 22.3% beyond Code minimum:** The project requires 112 buffer trees, where 137 trees are being provided (25 additional trees).
- A total of **137 additional trees** are proposed on the Project.
- **Tree Size increased by at least 10% beyond Code minimum size requirements:** Additionally, the height of trees and palms proposed (Slash Pine, Bald Cypress, Live Oak, Japanese Blueberry, Crape Myrtle, Yellow Tabebuia, Royal Poinciana, Christmas Palm, Washington Palms, etc.) have been increased at time of planting to provide additional justification for the Innovative Residential Development proposal.
- **Landscape Buffers along the west, north and east sides increased beyond the minimum 10-foot requirement to 20', 15' and 15' respectively,** to further justify the project and provide additional buffering for adjacent properties.

The proposed landscape palette provides native vegetation and careful placement of trees to provide shade in open space areas, screening where required, planting of the littoral areas of the retention pond for aesthetics and enhanced aesthetics at the project entrance, residential buildings, clubhouse and other areas. A cabbage palm hammock is proposed at the southwest corner of the project, and a "Range Live Oak" is proposed at the roundabout at the project entrance to serve as a focal point.

Site Lighting

A photometric plan depicts the proposed exterior lighting within the project. Pole mounted lights and building lights are proposed to provide lighting within the parking areas and pedestrian walks, bollard lighting is provided at the passive park, and pedestrian-scale pole-mounted lights are provided within the pool area. All lighting will be high efficiency LED.

Stormwater

The proposed surface water management system collects stormwater runoff and directs it to the on-site detention area via a network of underground pipes. Stormwater is stored in the detention area and on surface for large, infrequent storm events. A small exfiltration system is provided to assist with pre-treatment prior to discharge. Finished floors will be protected from the 100-year 3-day storm event, and

roadways will be protected from the 10-year 1-day storm event. A perimeter berm will be established and retain the 25-year 3-day storm event on-site.

The drainage ditch along the west side of the property will lie outside the storage basin and act as the receiving body for controlled discharge. Water from the ditch will exit to the west via a culvert under South 31st Street into a City of Fort Pierce drainage ditch that runs west to and under South 33rd Street. At that point, the drainage system becomes part of North St. Lucie River Water Control District Canal 6 and stormwater flows west to Five Mile Creek.

Utilities

Potable Water and Fire Water supply will be provided through an 8" FPUA water main loop through the project with two connection points to the existing water main located within Okeechobee Road right-of-way. This system will be constructed to Fort Pierce Utility Authority standards and be turned over to the utility for operation and maintenance.

Sanitary sewer will be collected via a service from each building that connects to a sanitary main. The main directs flow to an on-site private lift station located near Building 1 at the southwest corner of the site. The lift station will pump flow to an existing manhole operated and maintained by Fort Pierce Utility Authority. The onsite sanitary system is proposed to be privately operated and maintained.

Traffic Impact

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

- (1) the roadway links are sufficient to accommodate the Project traffic in the AM and PM peak hours;
- (2) the existing geometry at the intersections of S 25th Street & Okeechobee Road and Okeechobee Road and Virginia Avenue are expected to operate acceptably under existing, background and future total conditions; and
- (3) an eastbound left turn lane is required. The Project plans provided with this submittal include the required eastbound left turn lane.

Innovative Residential Development

Section 22-82 of the City's Land Development Code contains the following standards applicable to multifamily residential developments that shall be satisfied in order to qualify for the two (2) additional dwelling units per acre and the related Conditional Use approval by the City. The Applicant's demonstration of compliance with said criteria is summarized as follows and listed below.

Purpose. Innovative residential developments are developments which achieve a more creative and imaginative housing environment than normally occurs by use of the clustering technique, by employing various other methods to achieve distinctiveness and excellence in siting, design and/or landscaping. Density bonuses and reductions in various building restrictions are used to encourage these developments.

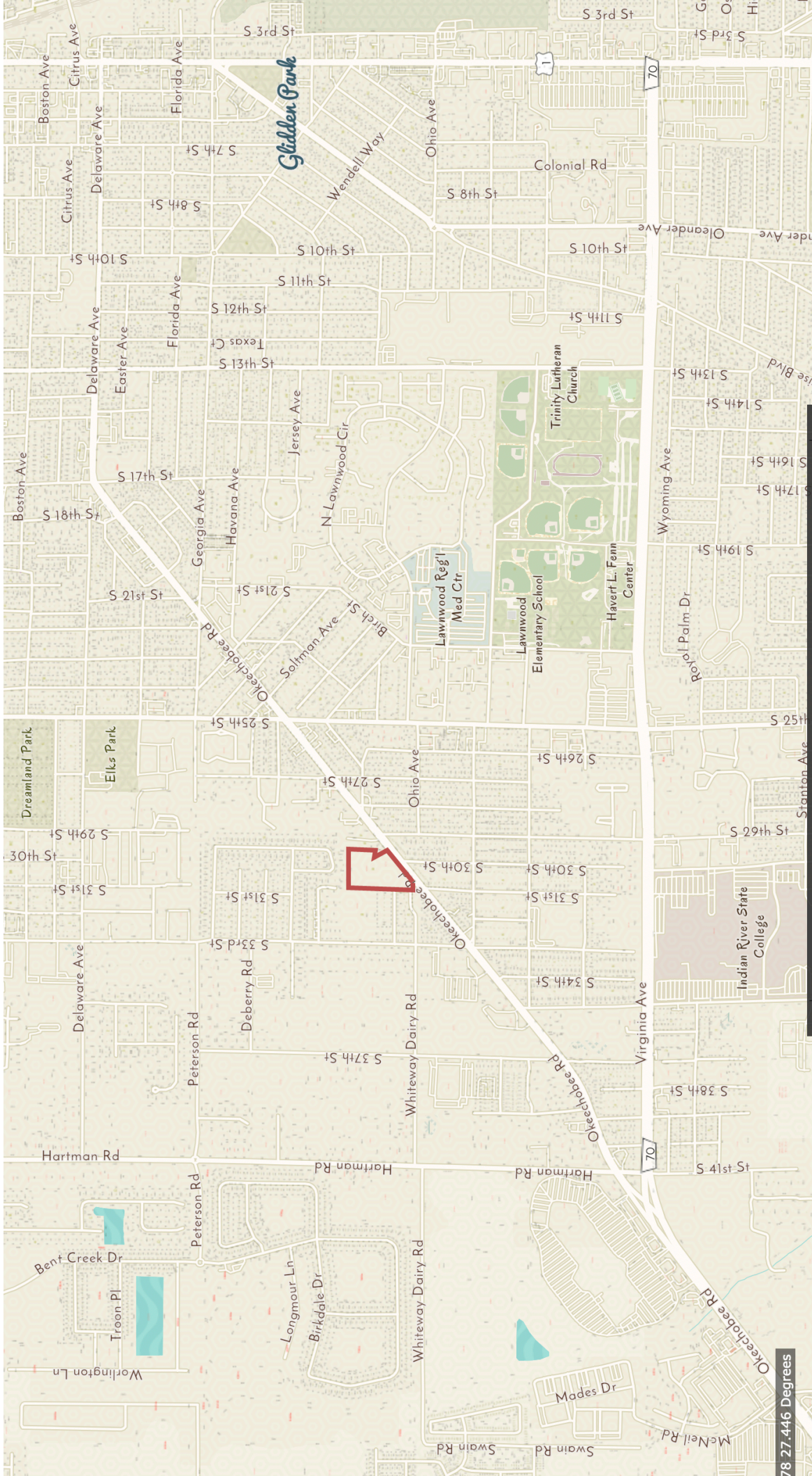
Demonstration of Compliance. The project has been thoughtfully and carefully designed to create a more innovative development than what normally occurs. Factors that, in the opinion of the Applicant, qualify the project as an innovative residential development that are above-and-beyond a "normal" apartment building project and the minimum requirements of the City are as follows:

- Four (4) of the five (5) residential buildings have been clustered around a central retention lake which is proposed as an amenity (as opposed to a depressed grassed stormwater detention area).
- The fifth residential building and the clubhouse have been located adjacent to Okeechobee Road to provide visual interest and to screen the parking area from public view.
- The central lake will have a fountain and a walking trail with sitting areas.
- A passive park is proposed as a project amenity with picnic tables, benches and shade trees.
- A luxurious clubhouse with a multipurpose room, kitchen, and fitness center is proposed.
- A generously-sized pool and deck area decorated with planters is proposed.
- A fenced dog park and tot lot are provided as extra amenities.
- Pedestrian paths are provided throughout the project.
- A central roundabout with a large oak tree will serve as a focal point upon entry into the project.
- High quality architecture is proposed as discussed in the "Architecture" section of this narrative.
- A substantial number of trees and palms are either being preserved or relocated on site.
- The landscape buffer along the west side has been increased to 20 feet and the landscape buffers on the north and east sides have been increased to 15, where ten (10) feet is required on the sides and rear of the project.

CLOSING

The Applicant respectfully requests the City's consideration and approval of the Aria Apartment's application based on the justification provided herein. The Applicant believes that the Project provides the type of development the City is seeking and believes that the Project will spur other redevelopments and improvements like this along the Okeechobee Corridor. The Applicant looks forward to working with the City to bring a high-quality project to Fort Pierce.





Gladden Park

Colonial Rd

Trinity Lutheran Church

Lawwood Regl Med Ctr

Lawwood Elementary School

Havert L. Fenn Center

Indian River State College



88.27.446 Degrees

Prepared by and return to:

James H. Ryan
Attorney at Law
Gary, Dytrych & Ryan, P.A.
701 U. S. Highway One Suite 402
North Palm Beach, FL 33408
561-844-3700
File Number: 84101

[Space Above This Line For Recording Data]

Special Warranty Deed

This Special Warranty Deed made this 30th day of September, 2019 between Cypress Trust Company, a Florida corporation, as Trustee under Special Purpose Revocable Trust Agreement dated November 22, 2013, as modified; Cypress Trust Company, as Trustee under Special Purpose Revocable Trust Agreement dated May 18, 2004, as modified; Cypress Trust Company, as Trustee under Special Purpose Revocable Trust Agreement dated June 8, 2004; Cypress Trust Company, as Trustee under Special Purpose Revocable Trust Agreement dated June 2, 2004; Cypress Trust Company, as Trustee under Special Purpose Revocable Trust Agreement dated October 17, 2003; Cypress Trust Company, as Trustee under Special Purpose Revocable Trust Agreement dated March 23, 2005; Cypress Trust Company, as Trustee under Special Purpose Revocable Trust Agreement dated February 21, 2006; and Cypress Trust Company, as Trustee under IRA Self-directed Trust Agreement dated February 13, 2005, whose post office address is 251 Royal Palm Way, Suite 500, Palm Beach, FL 33480, grantor, and Arrow Investment Group LLC, a Florida limited liability company, whose post office address is 4512 North Flagler Dr., #2056, West Palm Beach, FL 33407, grantee:

(Whenever 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, trusts and trustees)

Witnesseth, that said grantor, for and in consideration of the sum TEN AND NO/100 DOLLARS (\$10.00) and other good and valuable considerations to said grantor in hand paid by said grantee, 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, situate, lying and being in Saint Lucie County, Florida, to-wit:

Block "D", Less rights-of-way, COLLIER'S SUBDIVISION, according to the Plat thereof, recorded in Plat Book 4, Page 63, Public Records of St. Lucie County, Florida, being more particularly described as follows:

Commence at a railroad spike at the Southwest corner of the Northeast 1/4 of Section 17, Township 35 South, Range 40 East, St. Lucie County, Florida; thence run N 88°42'30"E, along the South line of the said Northeast 1/4, a distance of 661.40 feet to the West line of Block "D" of Collier's Subdivision, as recorded in Plat Book 4, Page 63, Public Records of St. Lucie County, Florida; thence run N 00°00'18" W, along the West line of said Block D, a distance of 27.01 feet, to the POINT OF BEGINNING; thence continue N 00°00'18" W, a distance of 796.62 feet, to the Northwest corner of said Block D; thence run N 88°43'25" E, along the North line of said Block D, a distance of 460.00 feet; thence run S 00°04'02" W, a distance of 470.52 Feet, to the Northerly right-of-way line of Okeechobee Road [State Road 70]; thence run S 49°35'30" W, along the said Northerly right-of-way line, a distance of 516.56 feet; thence run S 88°42'30" W, a distance of 65.96 feet, to the POINT OF BEGINNING, all lying and being in Section 17, Township 35 South, Range 40 East, St. Lucie County, Florida.

Less and excepting the following:

A portion of Block "D", COLLIER'S SUBDIVISION, according to the Plat thereof as recorded in Plat Book 4, Page 63, of the Public Records of St. Lucie County, Florida.

Being more particularly described as follows:

Begin at the Southeast corner of said Block "D", said corner being situated on the Northerly right-of-way line of Okeechobee Road [State Road 70]; thence, North 28°00'23" W, a distance of 167.87 feet; thence, North 89°51'15" E, a distance of 79.00 feet to the East line of said Block D; thence, South 00°04'02" W, along said East line, a distance of 148.41 feet to the Point of Beginning of the herein described parcel of land. Said lands situate, lying and being in Section 17, Township 35 South, Range 40 East, City of Fort Pierce, St. Lucie County, Florida.

Parcel Identification Number: 2417-504-0020-001-6

Subject to taxes for 2019 and subsequent years; covenants, conditions, restrictions, easements, reservations and limitations of record, if any.

Grantor is an institutional lender and is acting solely in a fiduciary capacity.

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; that the grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons claiming by, through or under grantors.

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

Signed, sealed and delivered in our presence:

Donna Pfister
Witness Name: Donna Pfister
Jamie Reid
Witness Name: Jamie Reid

Cypress Trust Company, a Florida corporation, as Trustee
By: Roxanne Ertle
Roxanne Ertle, Vice President

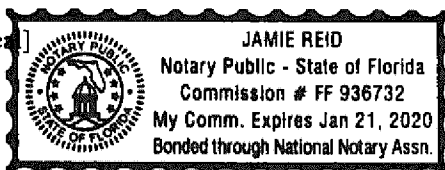
(Corporate Seal)



State of Florida
County of Palm Beach

The foregoing instrument was acknowledged before me this 26 day of September, 2019 by Roxanne Ertle, Vice President of Cypress Trust Company, a Florida corporation, as Trustee, on behalf of the corporation. He/she is personally known to me or has produced a driver's license as identification.

[Notary Seal]



Jamie Reid
Notary Public
Printed Name: Jamie Reid
My Commission Expires: 01/21/2020

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

Property Identification

Site Address: 3000	Parcel ID:	Account #: 26668	Sec/Town/Range: 17/35S/40E
OKEECHOBEE RD	2417-504-0020-001-6	Map ID: 24/17N	Zoning: General Co
Use Type: 1000	Jurisdiction: Fort Pierce		

Ownership

Arrow Investment Group LLC
4512 N Flagler DR Ste 206
West Palm Beach, FL 33407

Legal Description

COLLIER`S S/D BLK D ALL BLK D-LESS S 27 FT AND SELY
7 FT FOR RD R/W AND LESS THAT PART MPDAF: BEG INT
OF SE COR OF BLK D AND NLY RD R/W LI OF OKEEC RD
RUN N 28 00 23 W 167.87 FT,TH N 89 51 15 E 79 FT TO E LI
OF BLK D,TH S 00 04 02 W ALG E LI 148.41 FT TO NLY RD
R/W LI OF OKEEC RD AND POB- (6.86 AC)

Current Values

Just/Market:	\$732,700	Assessed:	\$436,590
Exemptions:	\$0	Taxable:	\$436,590

Historical Values 3-year

Year	Just/Market	Assessed	Exemptions	Taxable
2022	\$732,700	\$436,590	\$0	\$436,590
2021	\$396,900	\$396,900	\$0	\$396,900
2020	\$396,900	\$396,900	\$0	\$396,900

Sale History

Date	Book/Page	Sale Code	Deed	Grantor	Price
09-26-2019	4327 / 0333	0002	SP	Cypress Trust Company (TR)	\$450,000
05-27-2010	3204 / 0743	0112	SP	Cypress Trust Company (TR)	\$100
12-17-2008	3049 / 2156	XX01	CT	Mid South Acquisitions LLC	\$299,000

Primary Building Information

Finished Area of this building: 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	A/C %: 0%	Electric:	Primary Int Wall:
Full Baths: 0	Heated %: N/A%	Heat Type:	Avg Hgt/Floor: 0
Half Baths: 0	Sprinkled %: 0%	Heat Fuel:	Primary Floors:



Image
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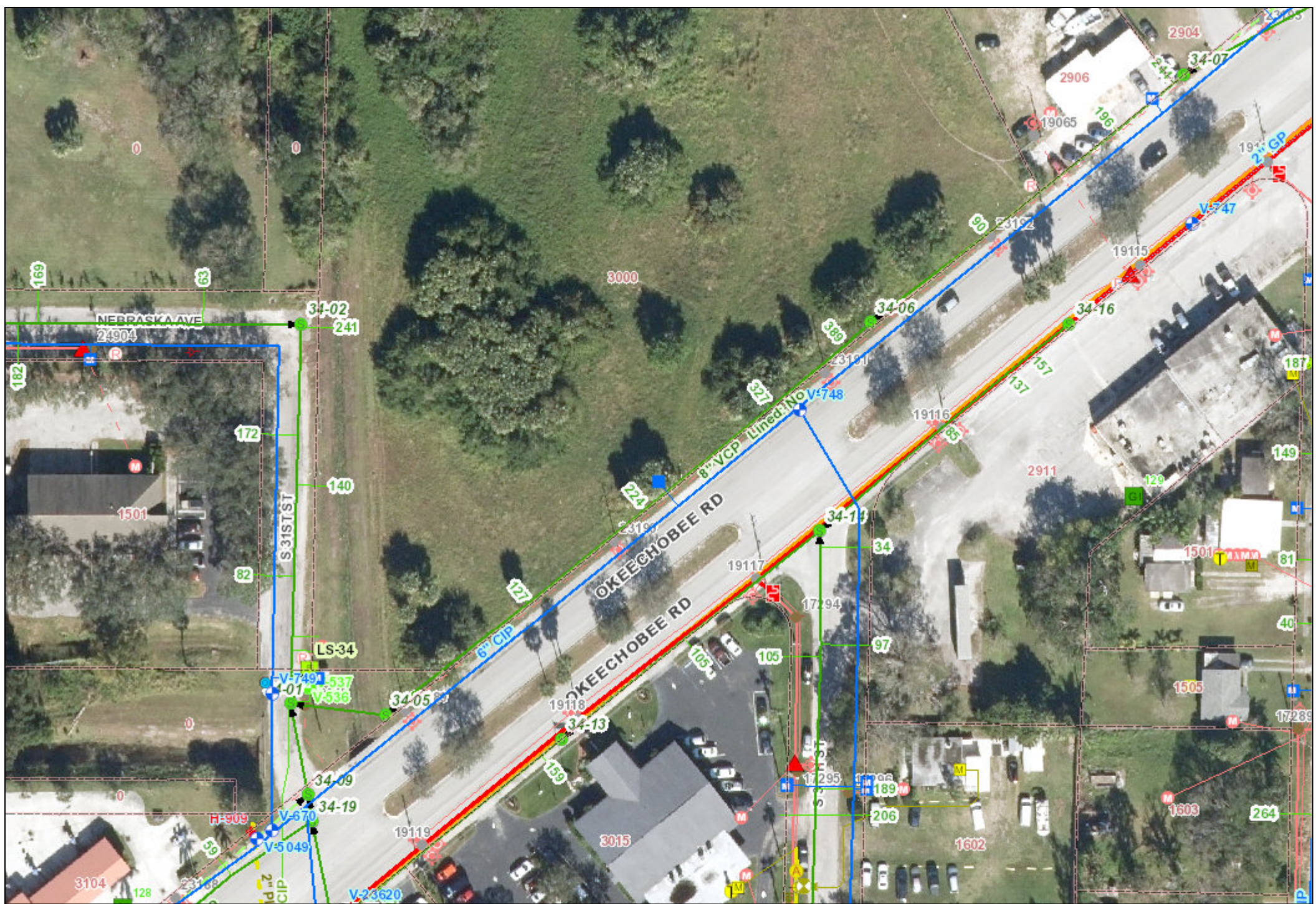
Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	6.87
Land Size (SF):	299,058
Total Building Count:	1

Special Features and Yard Items

Type	Qty	Units	Year Blt
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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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Legend			
	Electric Primary Wire		Pole
	Transmission Wire		Fuse
	Gas Main		Valves
	Fiber Optic Cable		Gas
	Potable Water Main		Water
	Raw Water Main		Fire Hydrant
	Wastewater Force Main		Well
	WW Gravity Main		Lift Station
	Transformers		Overhead
	Pad Mount		Waste Water

Disclaimer:
 The data contained herein is offered "as is", with no claim or warranty as to its accuracy or completeness. The data is for reference only and should not be considered to be of survey precision. Due to formatting restrictions, the information provided in the map may not be represented in the legend.



Date: 10/18/2022



3000 Okeechobee Road

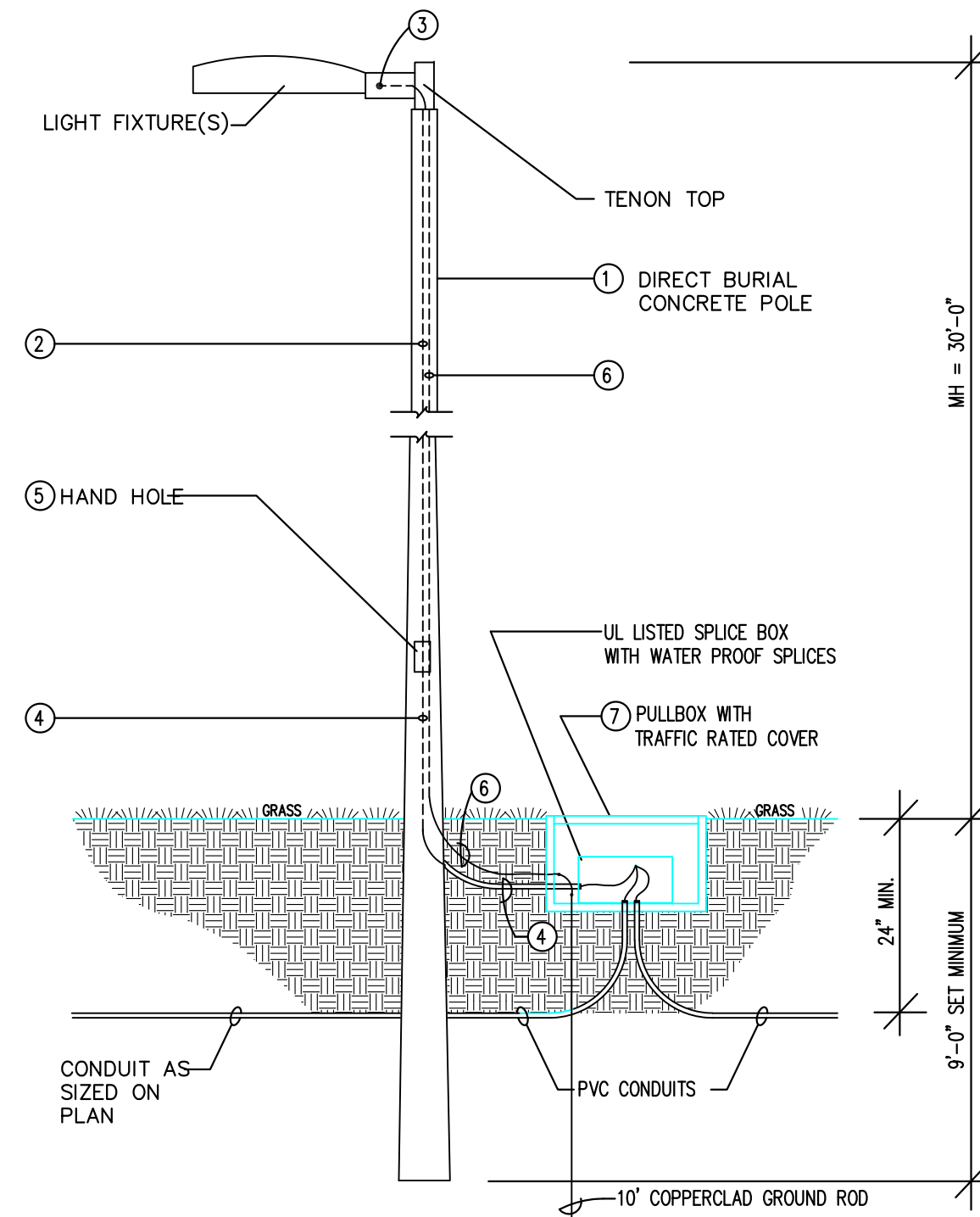
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(772) 466-1600
 FAX (772) 461-1938

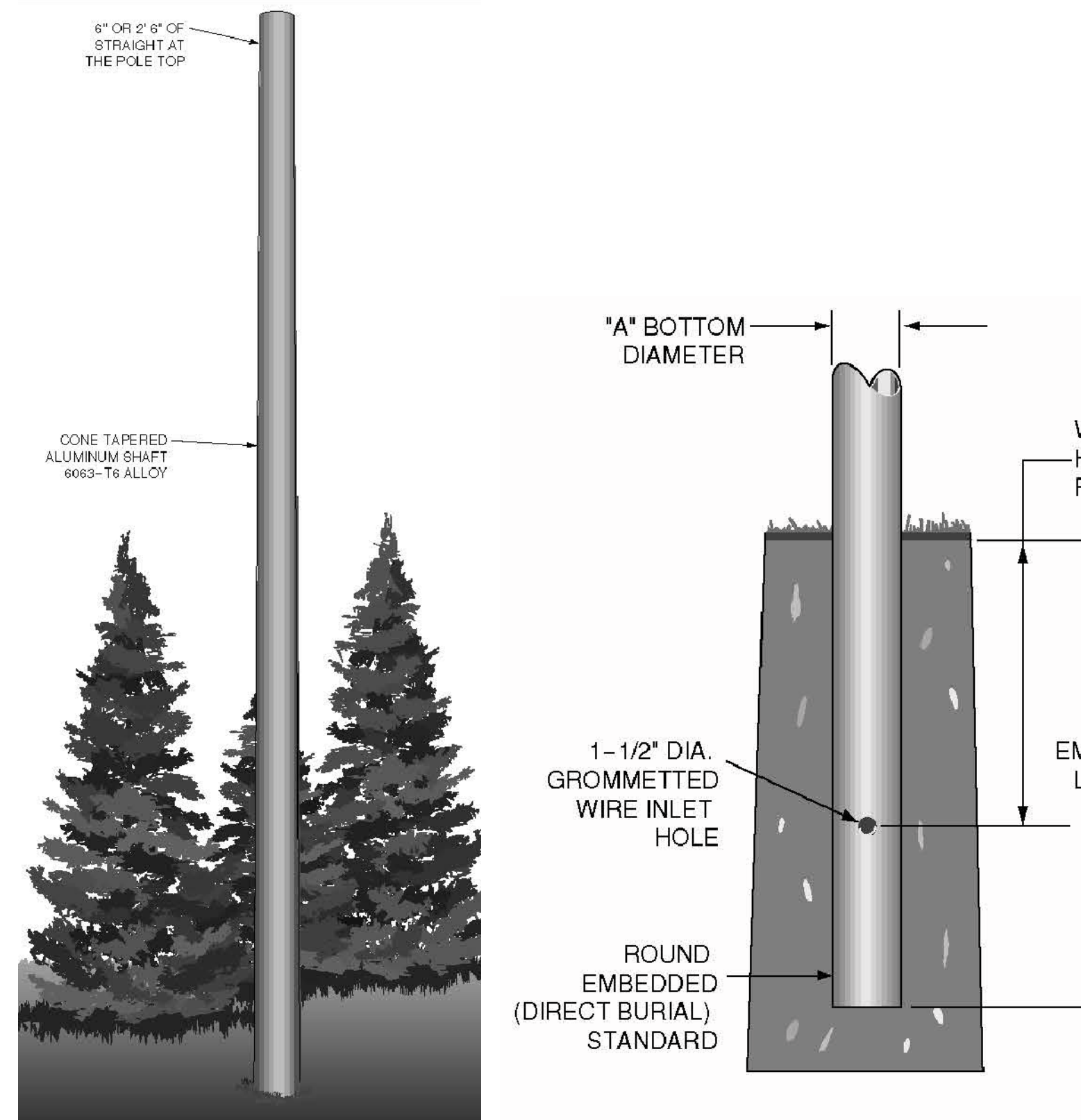


STANDARD LIGHTING POLE DETAIL

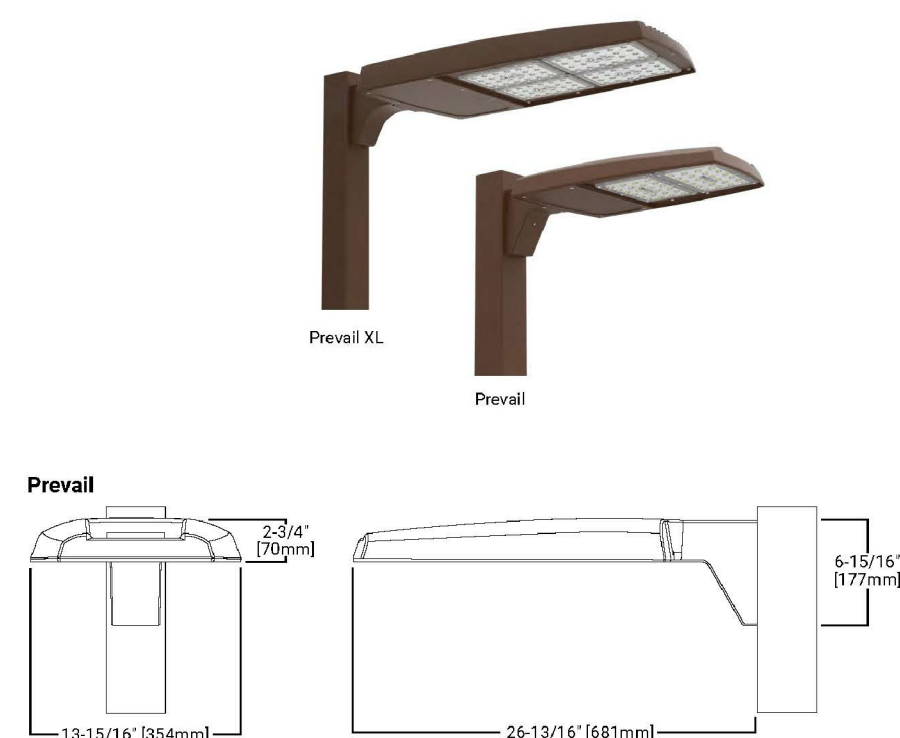
- (1) LIGHTING POLE. THE MANUFACTURER IS TO PROVIDE CERTIFICATION BY FLORIDA PE, SHOWING WIND LOAD RATING OF 170 MPH WITH SPECIFIED FIXTURES INSTALLED. THE FINAL POLE SET IS TO BE DETERMINED BY THE PROFESSIONAL ENGINEER.
- (2) INTERNAL WIRING. INTERNAL WIRING TO BE IN UL LISTED CONDUITS, INSIDE POLE. SEE NOTE 3.
- (3) LIGHT FIXTURE CONNECTIONS. REFER TO LIGHT MANUFACTURER FOR REQUIREMENTS, INCLUDING TEMPERATURE REQUIREMENTS (COMMONLY 150C). CONDUCTORS TO BE UL LISTED "FIXTURE" CONDUCTORS. (UL "RECOGNIZED" APPLIANCE WIRES NOT PERMITTED.) OBTAIN BUILDING DEPARTMENT APPROVAL FOR CONDUCTORS, CONNECTORS, AND ACCESSIBILITY.
- (4) CONDUITS. CONDUITS BELOW HAND HOLE IN POLE TO BE UL LISTED WITH "BRANCH CIRCUIT" THWN CONDUCTORS.
- (5) HAND HOLE. HAND HOLE WITH UL LISTED BOX CAST IN POLE WITH WATERPROOF SPLICES.
- (6) GROUND WIRE IN POLE. CONNECT BOTTOM TO #4 BARE GROUND CONDUCTOR. CONNECT TOP TO GROUND LUG IN FIXTURES.
- (7) TRAFFIC RATED PULL BOX. HIGH STRENGTH COMPOSITE CONSTRUCTION RATED FOR DESIGN LOAD OF 5,000 LBS OVER A 10" SQUARE. COVER LETTERING = "LIGHTING". DO NOT PLACE IN PAVED AREA, KEEP IN GRASSSED AREAS. QUARTZITE COMPOSOLITE "PX" STYLE. 1-800-346-3067
- (8) MUCK. IF SOFT SOILS ARE FOUND ON THE PROPERTY, THIS POLE DESIGN WILL BE MODIFIED TO ACCOMMODATE. NOTIFY ENGINEER IMMEDIATELY.
- (9) SITE CONDITIONS. IF SITE CONDITIONS ARE DISCOVERED WHICH REQUIRE ANY POLE (S) TO BE MOVED OVER 4 FEET, NOTIFY THE ENGINEER IMMEDIATELY.



CONCRETE LIGHT POLE DETAIL
TO BE USED ON ALL PARKING LOT LIGHTING
(20' MOUNTING HEIGHT) N.T.S.



VALMONT STRUCTURES, INC.
DIRECT BURIAL ALUMINUM POLE
ALUMINUM LIGHT POLE DETAIL
TO BE USED ON ALL POOL LIGHTING
(13' MOUNTING HEIGHT) N.T.S.



VALMONT STRUCTURES, INC.
DIRECT BURIAL CONCRETE POLE
PARKING LOT LIGHTING FIXTURE
TO BE USED ON ALL PARKING LOT LIGHTING
(20' MOUNTING HEIGHT) N.T.S.



LXS LUXESCAPE COLLECTION

DECORATIVE LUMINAIRE

INVUE LED LIGHT FIXTURE ON DIRECT BURIAL ALUMINUM POLE
POOL AREA LIGHTING FIXTURE
TO BE USED ON ALL POOL AREA POLE LIGHTING
(13' MOUNTING HEIGHT) N.T.S.



ILP 15W LED BOLLARD
BOLLARD LIGHTS
N.T.S.



GWC GALLEON WALL

1-2 Light Squares
Solid State LED

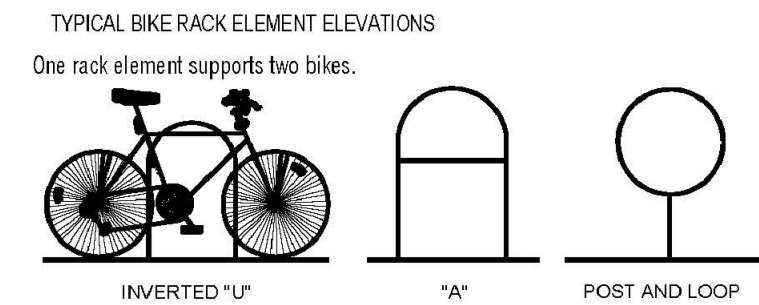
WALL MOUNT LUMINAIRE

WaveLinx

MCGRAW - EDISON WALL MOUNT LED LUMIERE
BUILDING MOUNTED LIGHTING
N.T.S.



"LANDSCAPEFORMS - CHASE PARK LITTER"
TRASH RECEPTACLE DETAIL
N.T.S.

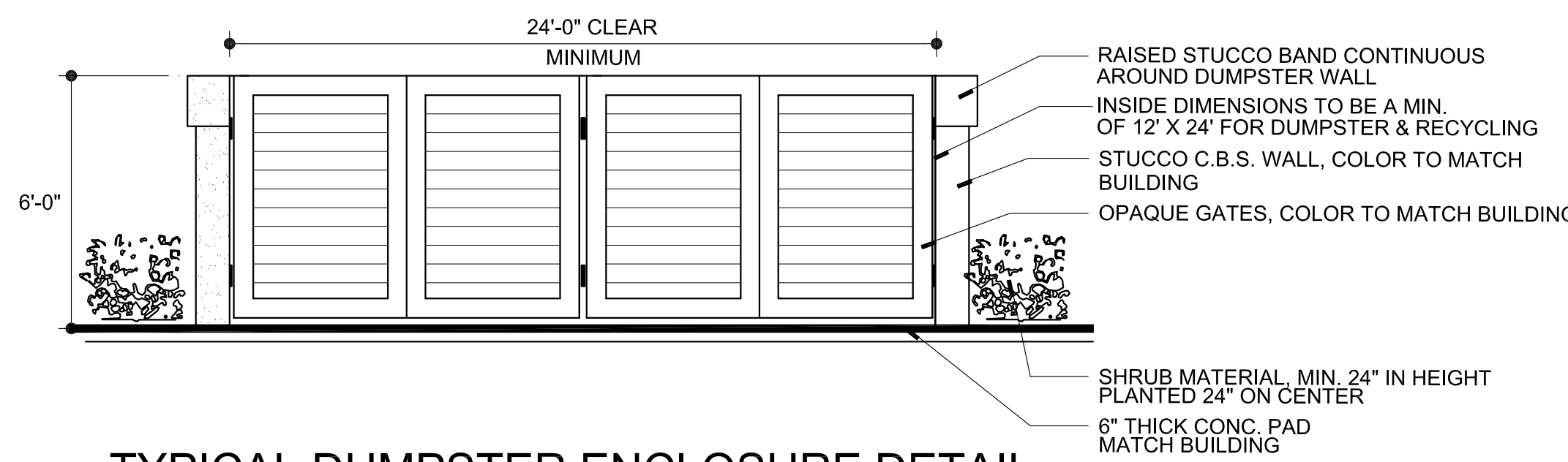


- ELEMENT STYLE CONSISTENT WITH THE ABOVE TYPICAL ELEVATION TO BE SELECTED BY OWNER AT TIME OF BUILDING PERMIT, SUBJECT TO APPROVAL BY ZONING STAFF.
- A RACK IS ONE OR MORE ELEMENTS JOINED ON A COMMON BASE
- BIKE RACK AND RACK AREA DIMENSIONAL CRITERIA BASED ON RECOMMENDATIONS FROM THE ASSOCIATION OF PEDESTRIAN AND BICYCLE PROFESSIONALS (APBP)

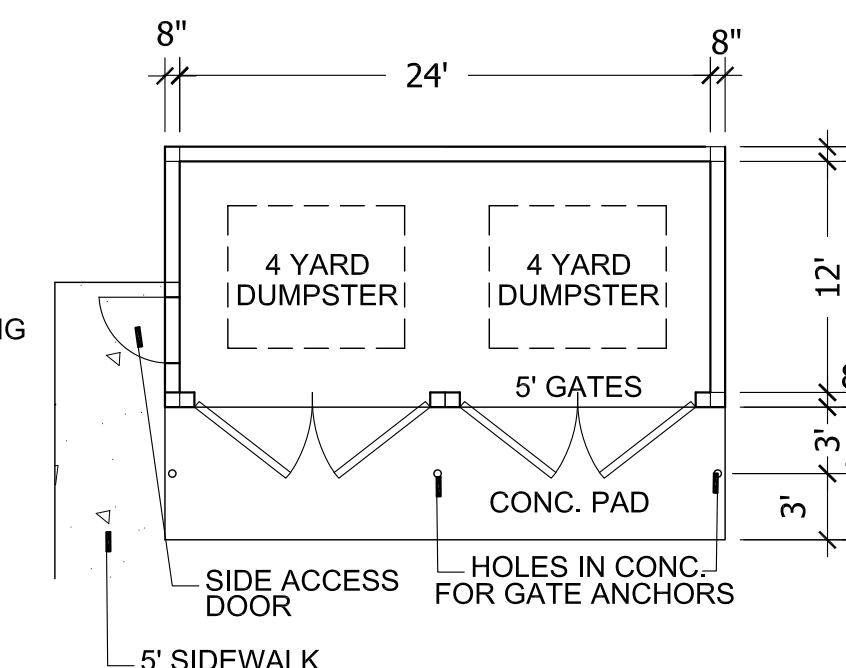
BIKE RACK DETAIL
N.T.S.



LANDSCAPEFORMS - CHASE PARK BENCH
CAST ALUM. W/ STEEL FRAMES & DIVIDER ARMS
BENCH DETAIL
N.T.S.

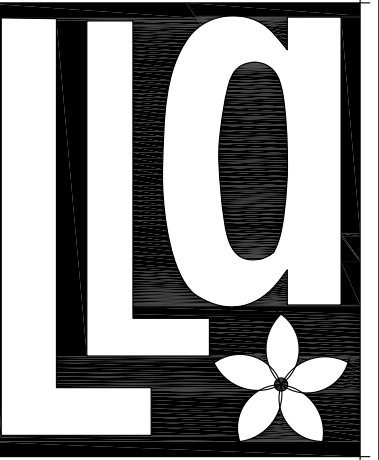


TYPICAL DUMPSTER ENCLOSURE DETAIL
N.T.S.



STANDARD & HANDICAP PARKING LAYOUT
N.T.S.

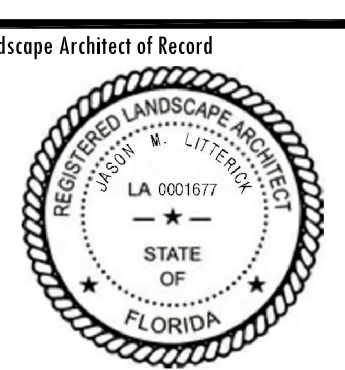
Site Plan Details



Litterick Landscape Architecture
2740 SW Martin Downs Blvd. #199
Palm City, FL 34990
561-719-3876
jasonla1677@yahoo.com

Project Name

Aria Apartments
Ft. Pierce, Florida



Scale: As Noted

Designed:	JML
Drawn:	JML
Approved:	JML
Date:	6/25/2020
Job no.	
Revisions:	7/23/20

Sheet No.
SP-2

designed SBD
drawn LTH, ST
checked SBD
date 03/25/2020
scale 3/16"=1'-0" (I.D.N.)
job no. 140125_A16

Scott Blakeslee Disher
AR-0011586 AA-0003285

16 UNIT APARTMENT BUILDING

ARIA APARTMENTS
FORT PIERCE, FLORIDA
by: ARROW INVESTMENT GROUP, LLC.

project

ARCHITECTURAL
Studio, Inc.

Architecture
Planning

300 Avenue of Champions
Suite 240
Palm Beach Gardens, Florida 33418
Phone 561.202.6990
Fax 561.296.2494
archstudio.com

drawing
COLORED
ELEVATIONS

sheet
A-3



REAR ELEVATION
SCALE: 3/16" = 1'-0"



FRONT ELEVATION
SCALE: 3/16" = 1'-0"

designed SBD
drawn LTH, ST
checked SBD
date 09/25/2020
scale 3/16"=1'-0" (I.D.N.)
job no. 190725_A16

Scott Blakeslee Dishar
AR-0011588 AA-0003285

16 UNIT APARTMENT BUILDING

ARIA APARTMENTS
FORT PIERCE, FLORIDA
by: ARROW INVESTMENT GROUP, LLC.

project

ARCHITECTURAL
Studio, Inc.

Architecture
Planning

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Suite 260
Palm Beach Gardens, Florida 33418
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Fax 561.296.2494
archstudiofl.com

drawing
COLORED
ELEVATIONS



LEFT ELEVATION
SCALE: 3/16" = 1'-0"



RIGHT ELEVATION
SCALE: 3/16" = 1'-0"

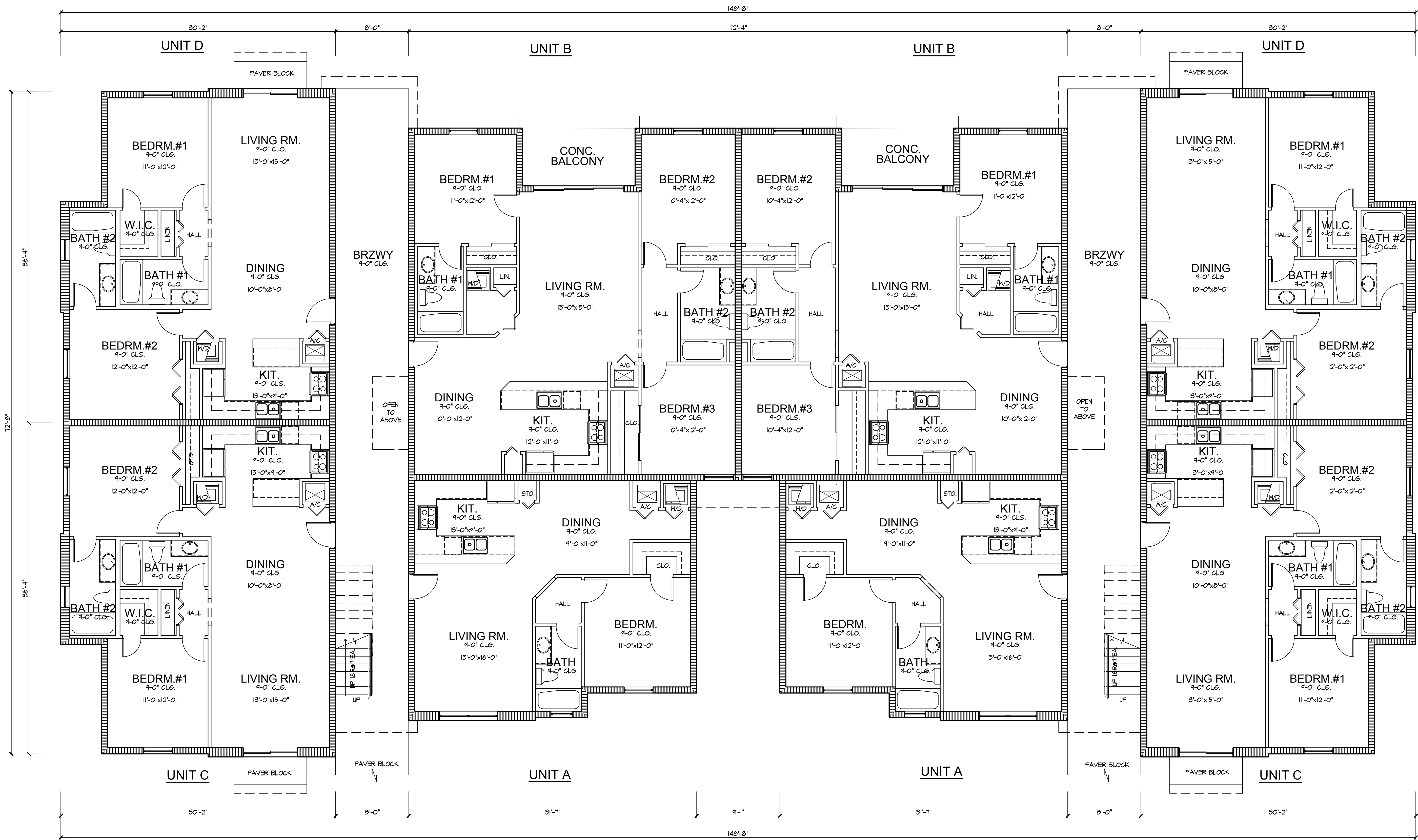
CALCULATIONS (PER LEVEL)		
AIR CONDITIONED AREAS		
AC	UNIT A	735 SF
AC (2)	UNIT B	1227 SF
AC (3)	UNIT C	957 SF
AC (4)	UNIT D	957 SF
AC (4)	UNIT D	957 SF
AC (3)	UNIT C	957 SF
AC (2)	UNIT B	1227 SF
AC	UNIT A	735 SF
TTL.		7752 SF

NON CONDITIONED AREAS		
NC	BREEZEWAY	522 SF
NC (2)	BREEZEWAY	522 SF
NC (4)	BALCONY(B)	96 SF
NC (8)	BALCONY(B)	96 SF
NC (3)	BALCONY(C)	32 SF
NC (5)	BALCONY(C)	32 SF
NC (7)	BALCONY(D)	32 SF
NC (6)	BALCONY(D)	32 SF
TTL.		1364 SF
GROSS AREA		
GROSS AREA		8159 SF
TOTAL ALL LEVELS:		
TOTAL AC AREA:		23256 SF
TOTAL NON-AC AREA:		4092 SF
TOTAL GROSS AREA:		24477 SF

revisions
no. _____ date
REVISED _____ 6/17/20

designed SBD
drawn LTH, ST
checked SBD
date 03/25/2020
scale 3/16"=1'-0" (1/2"=1'-0")
job no. 140725_A16

Scott Blakeslee Disher
AR-0011586 AA-0003285



16 UNIT APARTMENT BUILDING
ARIA APARTMENTS
FORT PIERCE, FLORIDA
by: ARROW INVESTMENT GROUP, LLC.

project
ARCHITECTURAL
Studio, Inc.

Architecture
Planning
300 Avenue of Champions
Suite 260
Palm Beach Gardens, Florida 33418
Phone 561.202.6990
Fax 561.296.2494
archstudiofl.com

drawing
**GROUND
FLOOR PLAN**

sheet
A-1

designed SED
drawn LTH, ST
checked SED
date 03/25/2020
scale 3/16"=1'-0" (1:48)
job no. 140725_AIG

Scott Blakeslee Dishar
AR-0011588 AA-0003285

16 UNIT APARTMENT BUILDING
ARIA APARTMENTS
FORT PIERCE, FLORIDA
project

by: ARROW INVESTMENT GROUP, LLC.

ARCHITECTURAL
Studio, Inc.

Architecture
Planning

300 Avenue of Champions
Suite 260
Palm Beach Gardens, Florida 33418
Phone 561.202.6990
Fax 561.296.2494
archstudiofl.com

drawing
SECOND
FLOOR PLAN

sheet
A-3



Scott Blakeslee Disher
AR-0011586 AA-0003285

16 UNIT APARTMENT BUILDING
ARIA APARTMENTS
FORT PIERCE, FLORIDA

by: ARROW INVESTMENT GROUP, LLC.

project

ARCHITECTURAL
Studio, Inc.

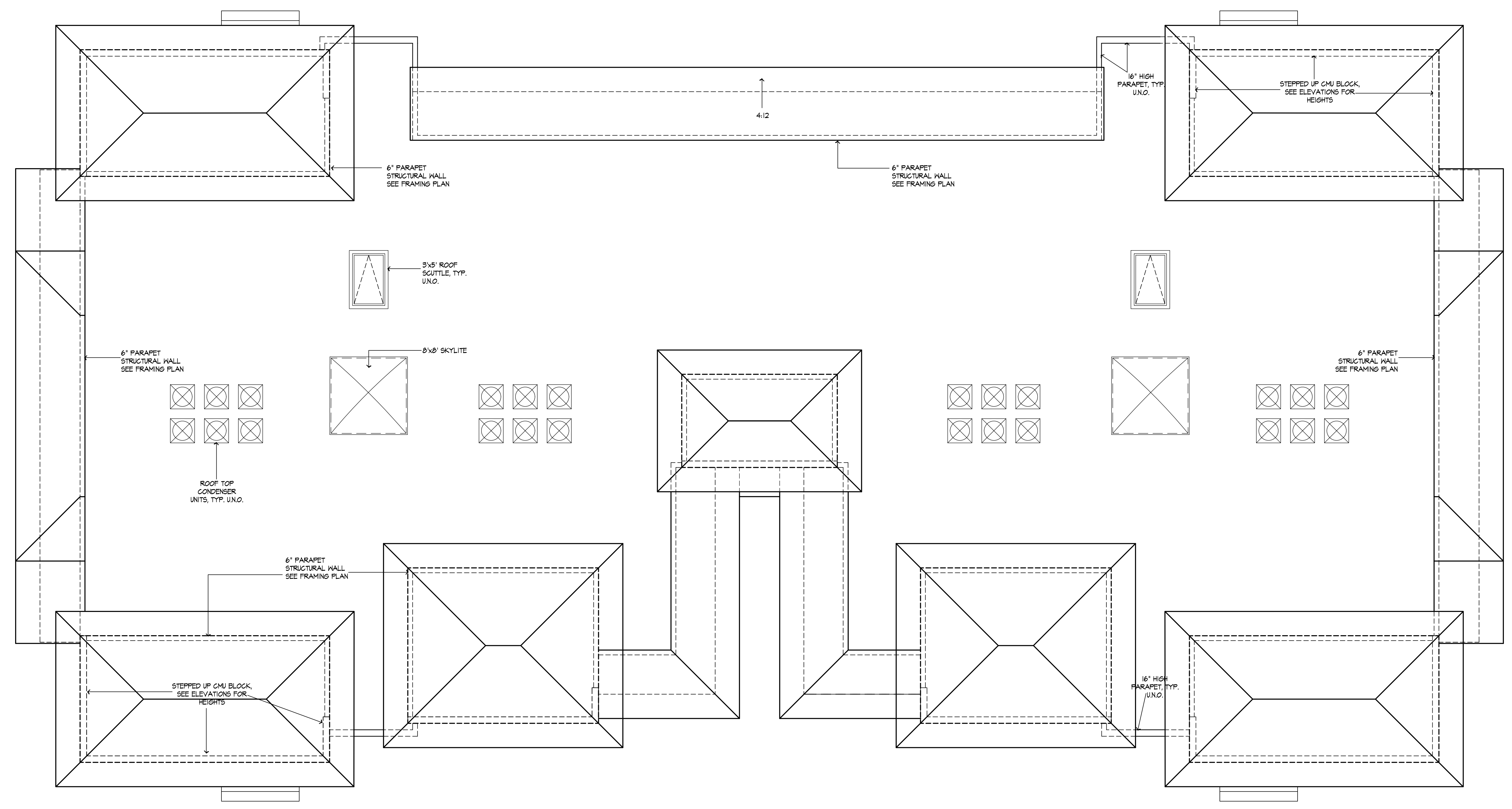
Architecture
Planning

300 Avenue of Champions
Suite 260
Palm Beach Gardens, Florida 33418

Phone 561.202.6990
Fax 561.296.2494
archstudiofl.com

drawing
ROOF PLAN

sheet
A-6





REAR ELEVATION
SCALE: 3/16" = 1'-0"



FRONT ELEVATION
SCALE: 3/16" = 1'-0"

revisions no. date
REVIEW 6/18/20

designed SBD
drawn LTH, ST
checked SBD
date 02/25/2020
scale 3/16"=1'-0" (U.O.N.)
job no. 140725_A16

Scott Blakeslee Dishar
AR-0011586 AA-0003285

24 UNIT APARTMENT BUILDING

ARIA APARTMENTS
FORT PIERCE, FLORIDA
by: ARROW INVESTMENT GROUP, LLC.

project

ARCHITECTURAL
Studio, Inc.

Architecture
Planning

300 Avenue of Champions
Suite 260
Palm Beach Gardens, Florida 33418
Phone 561.202.6990
Fax 561.296.2494
archstudiofl.com

drawing
COLORED ELEVATIONS

sheet
A-4

designed SBD
drawn LTH, ST
checked SBD
date 09/25/2020
scale 3/16"=1'-0" (I.D.N.)
job no. 190725_A16

Scott Blakeslee Disher
AR-0011586 AA-0003285

24 UNIT APARTMENT BUILDING

ARIA APARTMENTS
FORT PIERCE, FLORIDA
by: ARROW INVESTMENT GROUP, LLC.

project

ARCHITECTURAL
Studio, Inc.

Architecture
Planning

300 Avenue of Champions
Suite 260
Palm Beach Gardens, Florida 33418
Phone 561.202.6990
Fax 561.296.2494
archstudiofl.com

drawing
COLORED
ELEVATIONS

sheet
A-5



LEFT ELEVATION
SCALE: 3/16" = 1'-0"



RIGHT ELEVATION
SCALE: 3/16" = 1'-0"

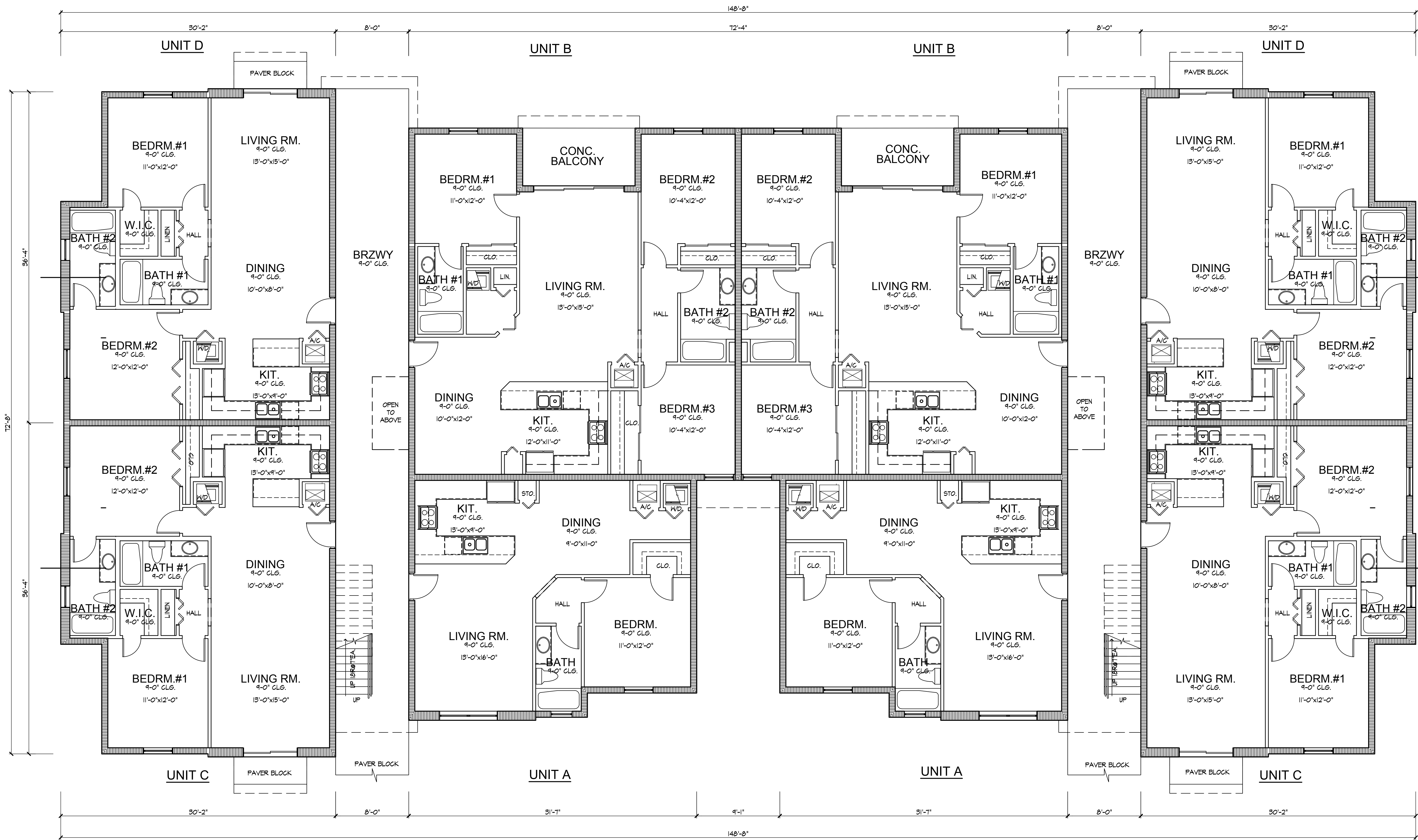
CALCULATIONS (PER LEVEL)		
AIR CONDITIONED AREAS		
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AC (3)	UNIT C	957 SF
AC (4)	UNIT D	957 SF
AC (4)	UNIT D	957 SF
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NC (5)	BALCONY(C)	32 SF
NC (7)	BALCONY(D)	32 SF
NC (6)	BALCONY(D)	32 SF
TTL.		1364 SF
GROSS AREA		
GROSS AREA		8159 SF
TOTAL ALL LEVELS:		
TOTAL AC AREA:		23256 SF
TOTAL NON-AC AREA:		4092 SF
TOTAL GROSS AREA:		24477 SF

revisions
no. date
REVIEW 6/18/20

designed SBD
drawn LTH, ST
checked SBD
date 03/25/2020
scale 3/16"=1'-0" (1/2")
job no. 140725_A16

Scott Blakeslee Disher
AR-0011586 AA-0003285



24 UNIT APARTMENT BUILDING
project

ARIA APARTMENTS
FORT PIERCE, FLORIDA
by: ARROW INVESTMENT GROUP, LLC.

ARCHITECTURAL
Studio, Inc.

Architecture
Planning

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Palm Beach Gardens, Florida 33418
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Fax 561.296.2494
archstudiofl.com

drawing
GROUND
FLOOR PLAN

sheet
A-1

Scott Blakeslee Dishar
AR-0011588 AA-0003285

24 UNIT APARTMENT BUILDING
ARIA APARTMENTS
FORT PIERCE, FLORIDA
project

by: ARROW INVESTMENT GROUP, LLC.

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Architecture
Planning

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Palm Beach Gardens, Florida 33418
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Fax 561.296.2494
archstudiofl.com

drawing
SECOND
FLOOR PLAN

sheet
A-2



Scott Blakeslee Disher
 AR-0011588 AA-0003285



24 UNIT APARTMENT BUILDING
 project

ARIA APARTMENTS
 FORT PIERCE, FLORIDA

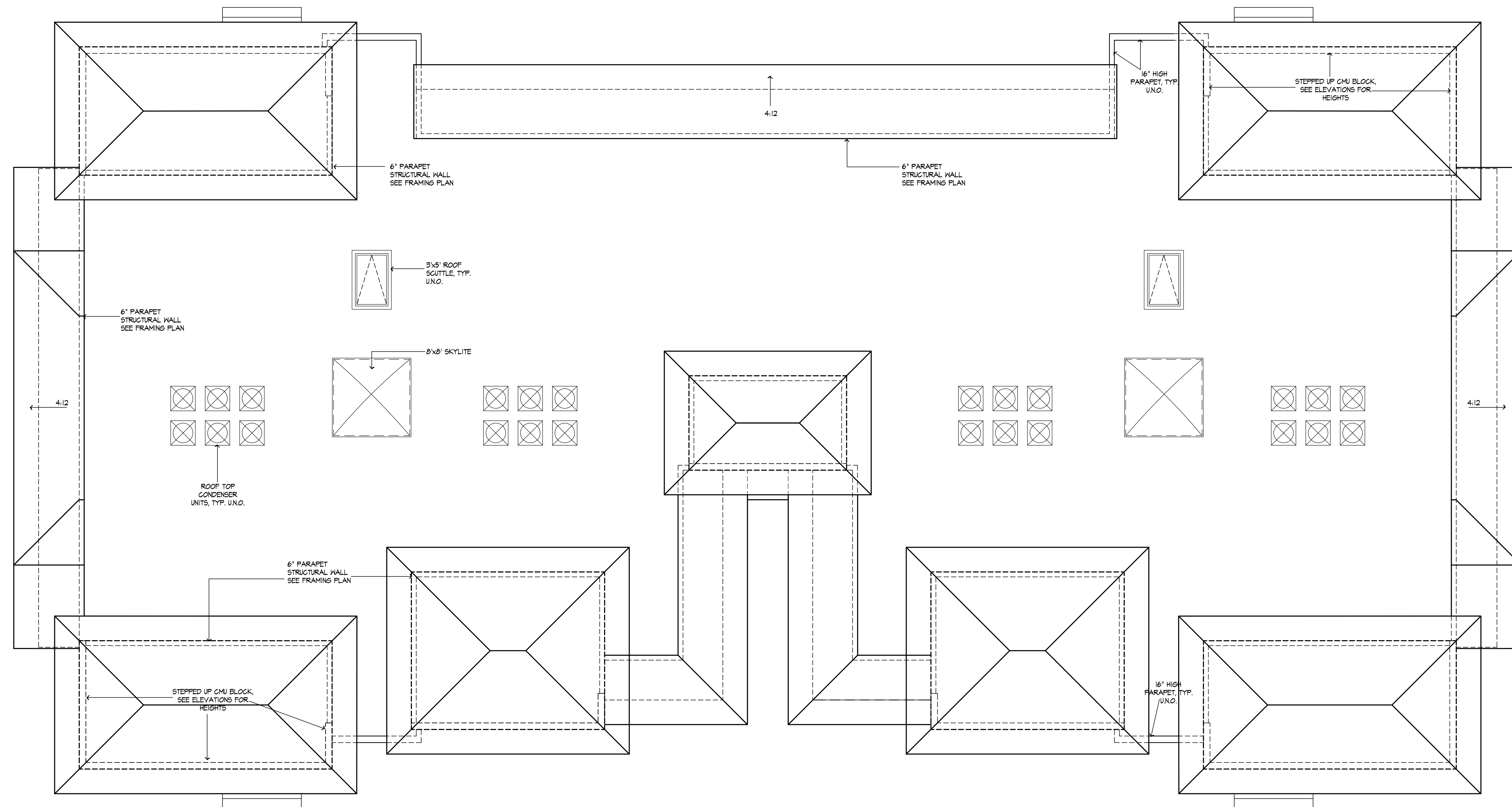
by: ARROW INVESTMENT GROUP, LLC.

ARCHITECTURAL
 Studio, Inc.

Architecture
 Planning

300 Avenue of Champions
 Suite 260
 Palm Beach Gardens, Florida 33418
 Phone 561.202.6990
 Fax 561.296.2494
 archstudiofl.com

drawing
 THIRD
 FLOOR PLAN



Scott Blakeslee Disher
AR-0011586 AA-0003285

24 UNIT APARTMENT BUILDING
project

ARIA APARTMENTS
FORT PIERCE, FLORIDA
by: ARROW INVESTMENT GROUP, LLC.

ARCHITECTURAL
Studio, Inc.

Architecture
Planning

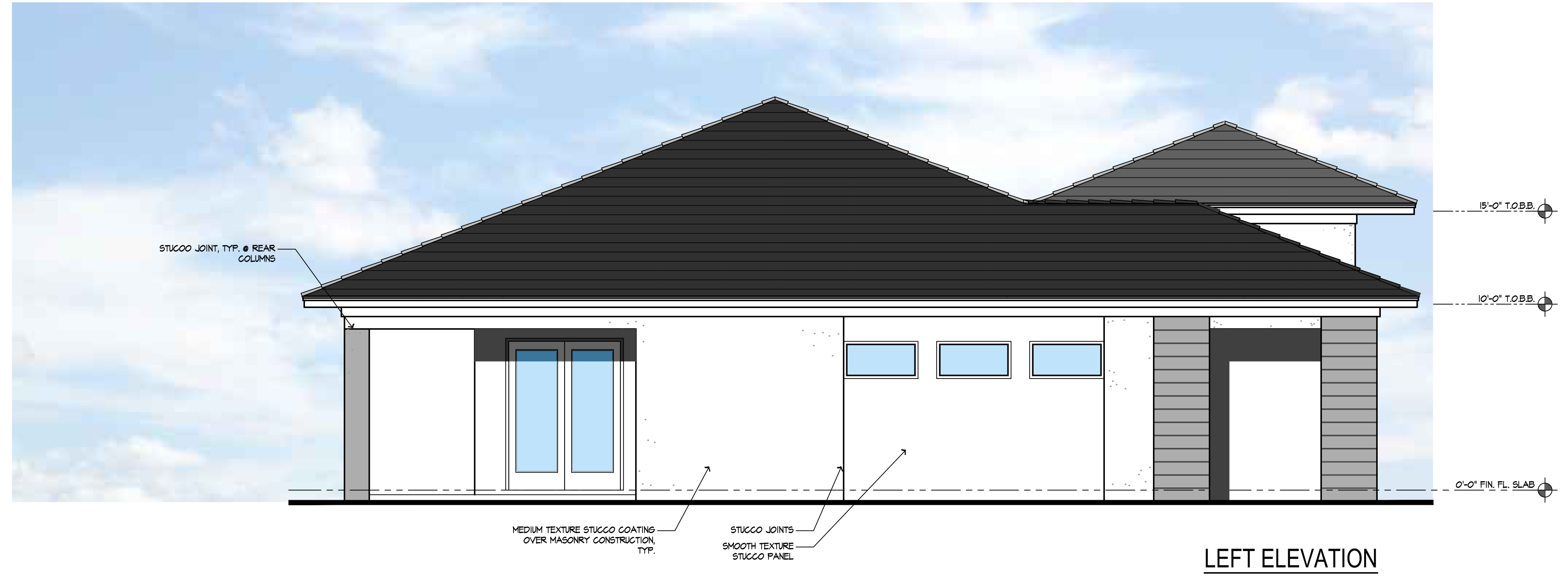
300 Avenue of Champions
Suite 260
Palm Beach Gardens, Florida 33418
Phone 561.202.6990
Fax 561.296.2494
archstudiofl.com

drawing
ROOF PLAN

revisions no.	date
0	//

designed SED
 drawn VHV
 checked SED
 date 6/19/20
 scale 1/4" = 1'-0" (U.O.N.)
 job no. 190723_CHA16

Scott Blakeslee Disher
 AR-0011588 AA-0003285



LEFT ELEVATION



REAR ELEVATION



FRONT ELEVATION

CLUBHOUSE
 project
 ARIA APARTMENTS
 FT. PIERCE, FLORIDA
 by: ARROW INVESTMENT GROUP

ARCHITECTURAL
Studio, Inc.

Architecture
 Planning

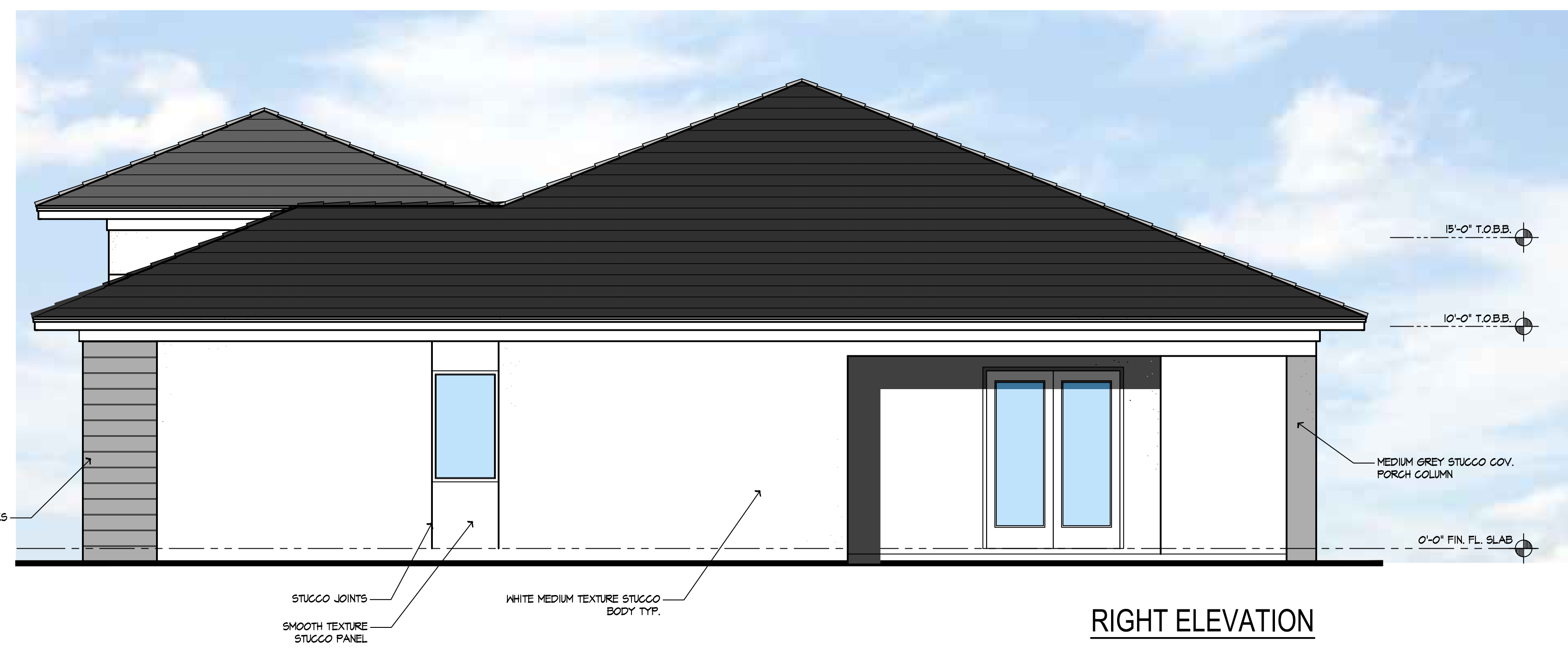
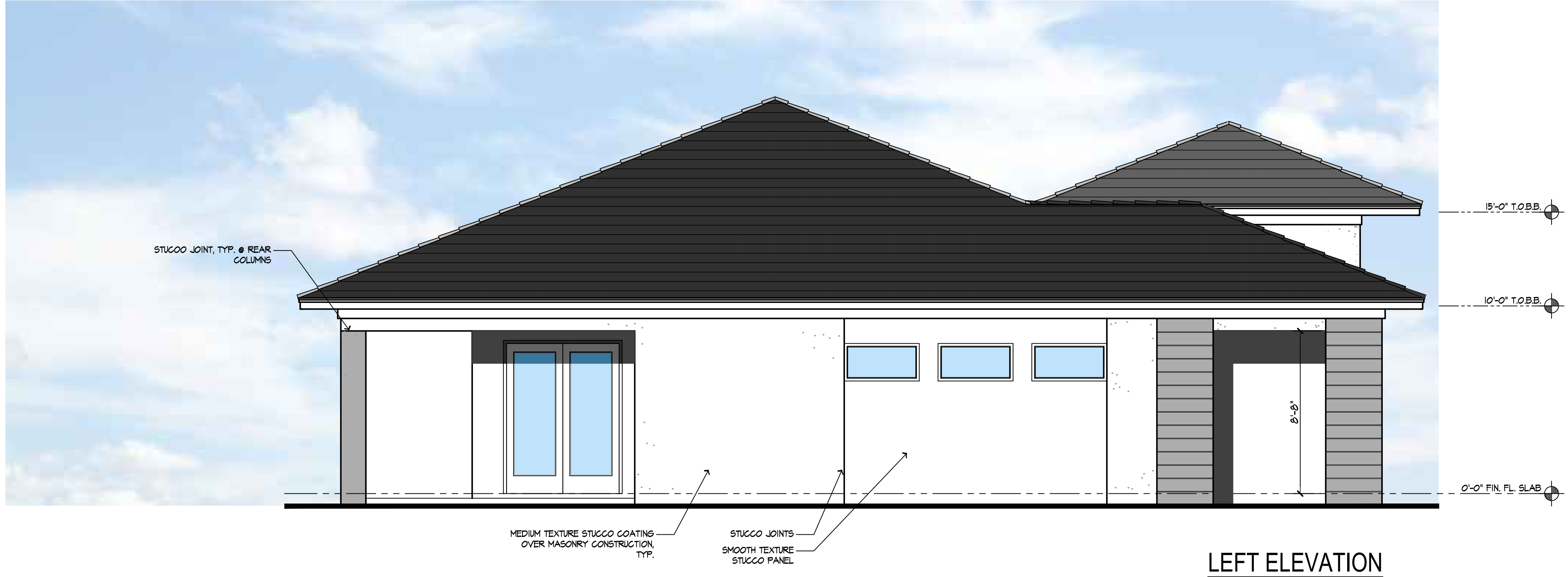
300 Avenue of Champions
 Suite 260
 Palm Beach Gardens, Florida 33418
 Phone 561.202.6990
 Fax 561.296.2494
 archstudiofl.com

drawing
ELEVATIONS

sheet
A-2

designed SBD
drawn VHV
checked SBD
date 6/19/20
scale 1/4" = 1'-0" (U.S.N.)
job no. 190723_GHA16

Scott Blakeslee Disher
AR-0011586 AA-0003285



CLUBHOUSE
project
ARIA APARTMENTS
FT. PIERCE, FLORIDA
by: ARROW INVESTMENT GROUP

ARCHITECTURAL
Studio, Inc.

Architecture
Planning

300 Avenue of Champions
Suite 260
Palm Beach Gardens, Florida 33418
Phone 561.202.6990
Fax 561.296.2494
archstudiofl.com

drawing
ELEVATIONS

designed SBD
drawn VHV
checked SBD
date 06/12/20
scale 1/4" = 1'-0" (1/2"N)
job no. 190724_EM.dwg

Scott Blakeslee Dishar
AR-0011586 AA-0003285
PROGRESS SET
06/15/20

ENTRY MONUMENT
FORT PIERCE NORTH APTS. & COMMERCIAL CENTER
FT. PIERCE, FLORIDA
by: ARROW INVESTMENT GROUP

project

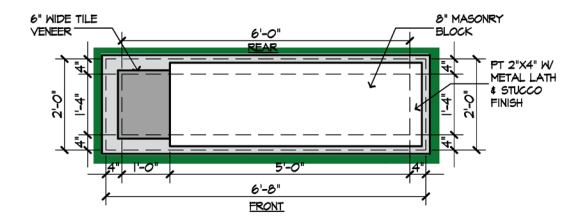
ARCHITECTURAL
Studio, Inc.

Architecture
•
Planning

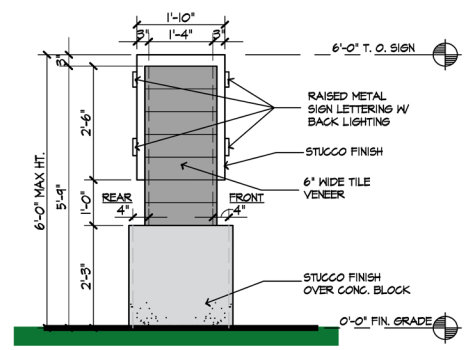
300 Avenue of Champions
Suite 260
Palm Beach Gardens, Florida 33418
Phone 561.202.6990
Fax 561.296.2494
archstudiofl.com

drawing
**ENTRY
MONUMENT**

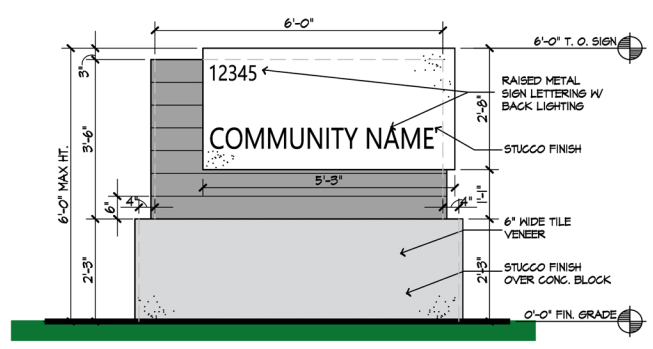
sheet
A-1



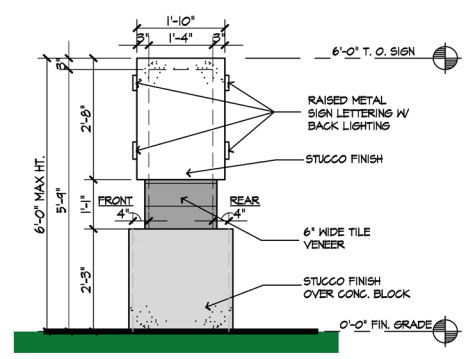
ENTRY MONUMENT PLAN
SCALE: 1/2" = 1'-0"



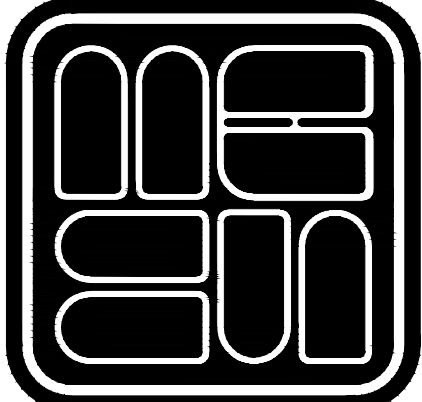
ENTRY MONUMENT LEFT SIDE ELEVATION
SCALE: 1/2" = 1'-0"



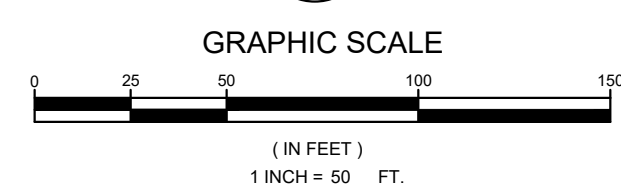
ENTRY MONUMENT FRONT ELEVATION
SCALE: 1/2" = 1'-0" (REAR ELEVATION TO MATCH FRONT ELEVATION)



ENTRY MONUMENT RIGHT SIDE ELEVATION
SCALE: 1/2" = 1'-0"



MICHAEL B. SCHORAH & ASSOCIATES, INC.
 ENGINEERS • SURVEYORS • DEVELOPMENT CONSULTANTS
 TEL: (561) 968-0080
 FAX: (561) 642-9726
 www.schorah.com
 EB# 2438 LB# 2438
 1850 FOREST HILL BLVD., SUITE 206
 WEST PALM BEACH, FLORIDA 33406

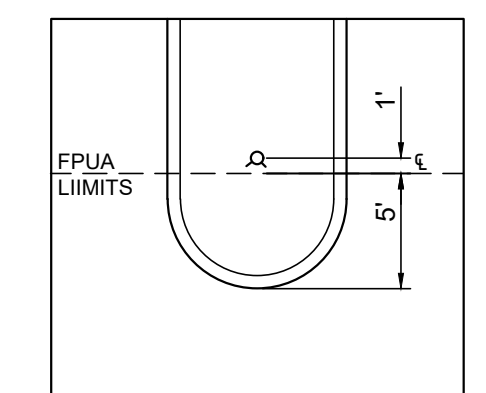


LEGEND

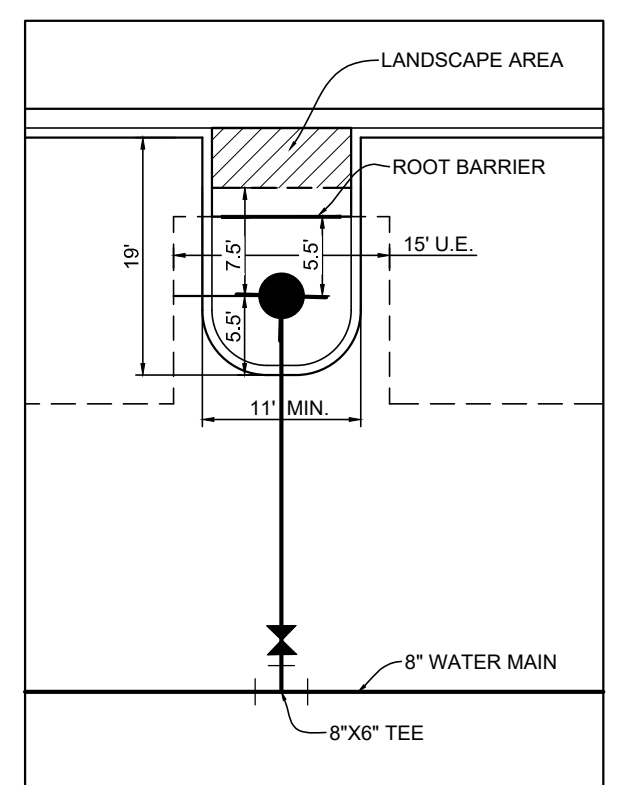
- DRAINAGE PIPE AND INLET (FINAL PIPE SIZES TO BE DETERMINED)
- SANITARY MAIN (8" PVC) AND MANHOLE (SANITARY SYSTEM TO BE PRIVATE)
- WATER MAIN (8" C-900 / D.I.P.)
- FIRE DEPARTMENT CONNECTION (FDC)
- FIRE HYDRANT
- RE-CONFIGURED DITCH

NOTES:

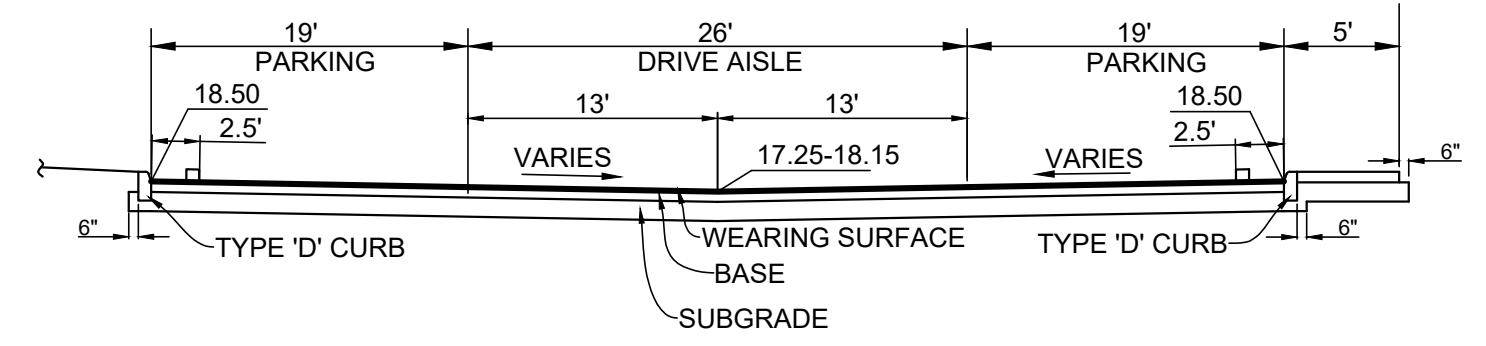
1. MINIMUM FINISHED FLOOR ELEVATION TO BE SET AT OR ABOVE 100 - YEAR, 3 - DAY STAGE (ZERO DISCHARGE)
2. MINIMUM PERIMETER ELEVATION TO BE SET AT OR ABOVE 25 - YEAR, 3 - DAY STAGE.
3. RESIDENTIAL BUILDINGS TO BE FIRE SPRINKLED. FIRE DEPARTMENT CONNECTIONS TO BE LOCATED 100' MAXIMUM FROM A FIRE HYDRANT.
4. SANITARY SYSTEM TO BE PRIVATE.
5. WATER DISTRIBUTION SYSTEM TO BE PUBLIC, FORT PIERCE UTILITY AUTHORITY.
6. THIS DRAWING UTILIZES BASE SITE PLAN AND SURVEY INFORMATION PREPARED BY LITTERICK LANDSCAPE ARCHITECTURE AND BROWN AND PHILIPS, INC. USED WITH PERMISSION.



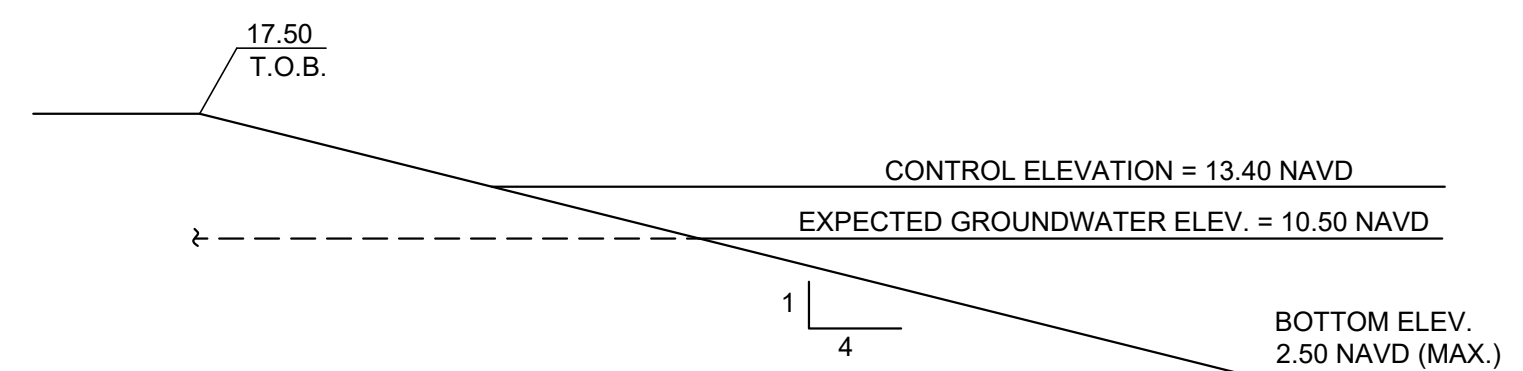
FDC NEAR UTILITY EASEMENT
 NOT TO SCALE



FIRE HYDRANT SHALL HAVE 5' CLEAR ON ALL SIDES. LANDSCAPE MATERIAL SHALL BE LIMITED TO SOIL WITHIN 7.5' OF FIRE HYDRANT.
 HYDRANT LOCATION DETAIL
 NOT TO SCALE



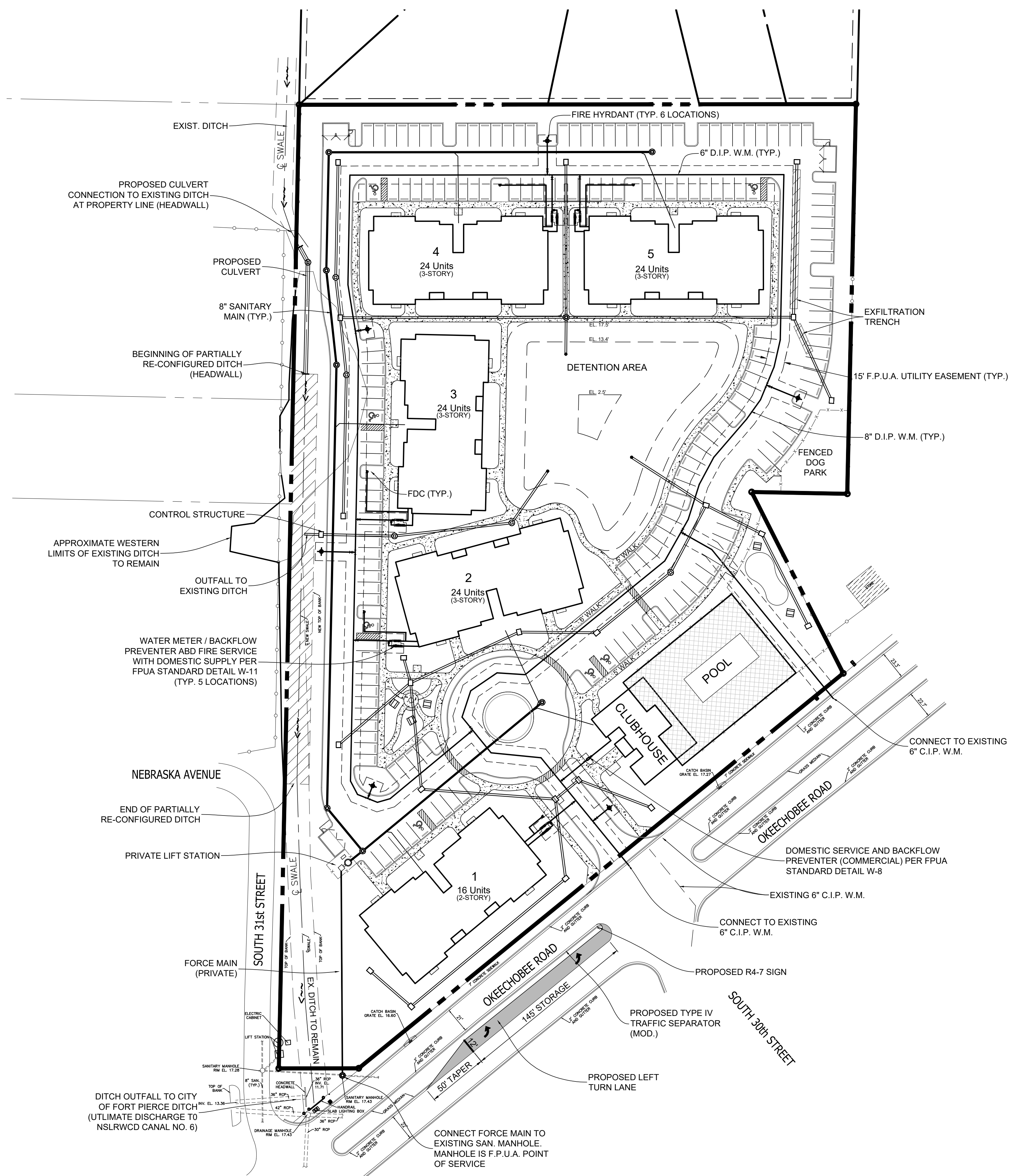
TYPICAL PARKING / DRIVE SECTION



DETENTION AREA BANK SECTION

100 YR - 3 D RAINFALL	12.23 INCHES
100 YR - 3 D FLOOD ELEV.	18.58' NAVD
MINIMUM FINISHED FLOOR	19.50' NAVD
25 YR - 3 D RAINFALL	9.5 INCHES
25 YR - 3 D FLOOD ELEV	17.76' NAVD
MINIMUM PERIMETER ELEVATION	17.90' NAVD
10 YR - 1 D RAINFALL	6.0 INCHES
10 YR - 1 D FLOOD ELEV	16.16 NAVD
MINIMUM ROADWAY ELEVATION	17.25' NAVD

CONCEPTUAL SURFACE WATER MANAGEMENT DATA



THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY MICHAEL J. LACOURSIERE, P.E. ON 7/27/2020 USING A SHA-1 AUTHENTICATION CODE.
 PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SHA-1 AUTHENTICATION CODE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

PathName: P:\1769 FORT PIERCE NORTH\CIVIL\CAD\1769 SITE.dwg Date/Time: Mon, 27 Jul 2020 - 9:36am

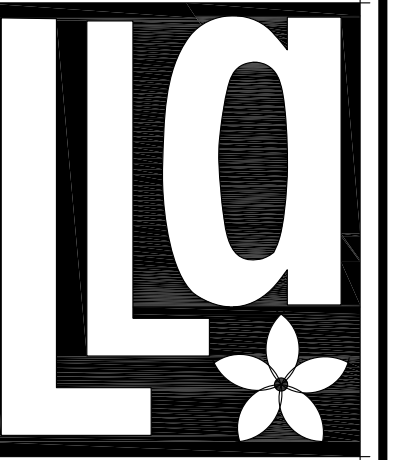
REVISIONS

DRAWN/CHECKED: AMG/ML
 MICHAEL J. LACOURSIERE, P.E. SCALE: 1" = 50'
 FLORIDA LICENSE #1071 FOR MICHAEL B. SCHORAH AND ASSOCIATES, INC.
 DATE: MARCH 2020

PROJECT: ARIA APARTMENTS
 DESCRIPTION: CONCEPTUAL ENGINEERING PLAN

JOB NO. 1769
 SHEET NO. 1
 OF 1C

THE DOCUMENTS PRESENTED HEREIN ARE NOT IN FINAL FORM. THEY ARE TRANSMITTED TO RECEIVE PUBLIC AGENCY REVIEW, COMMENTS, AND INTERPRETATIONS.

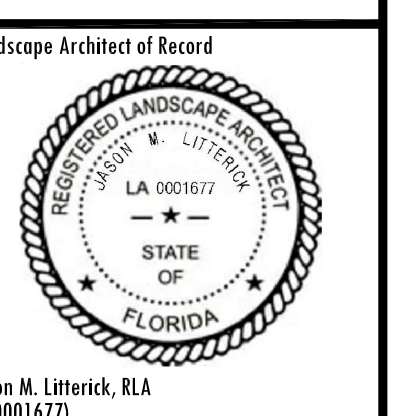


Litterick Landscape Architecture
 2740 SW Martin Downs Blvd. #199
 Palm City, FL 34990
 561-719-3876
 JasonLA1677@yahoo.com

Project Name

Aria Apartments

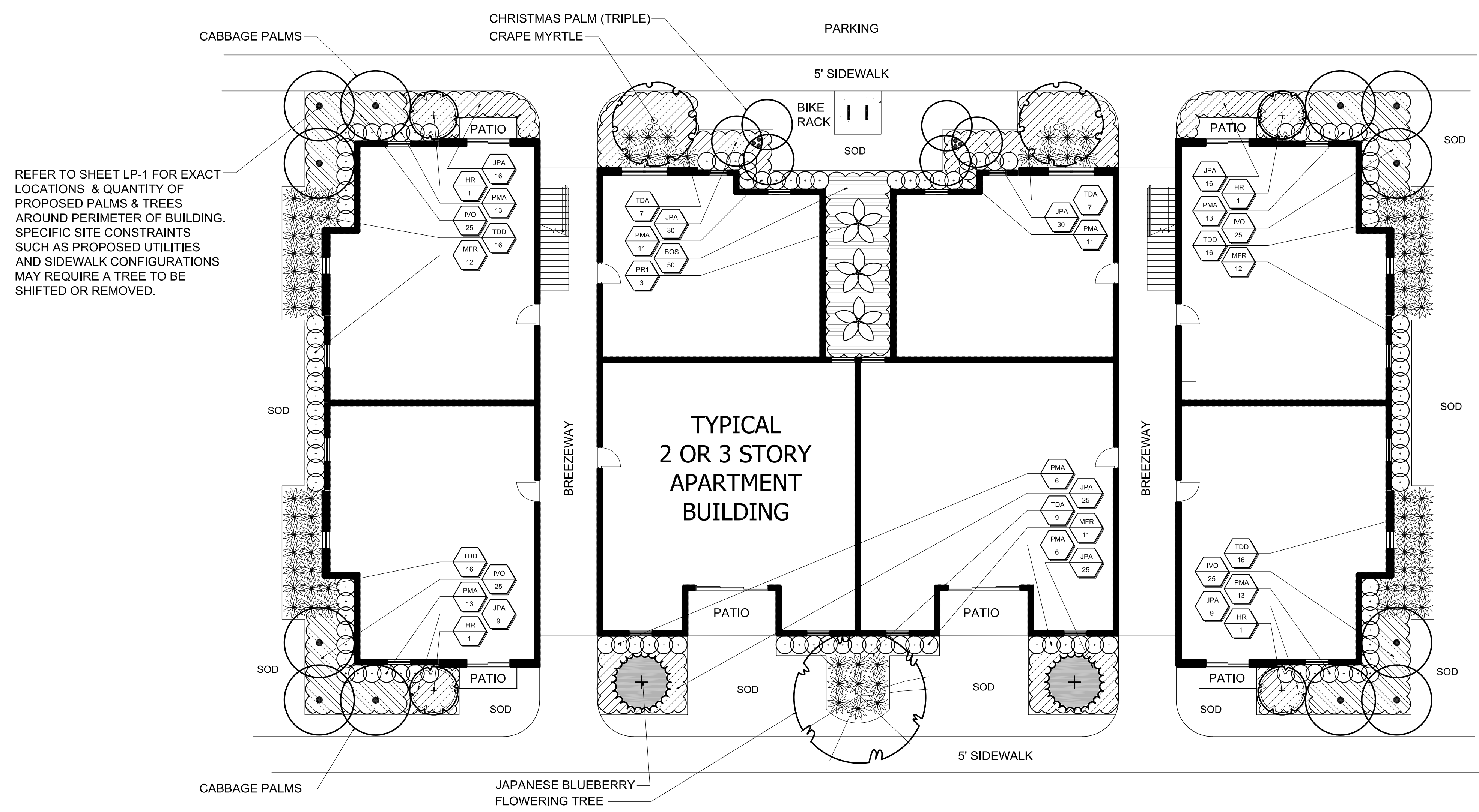
Ft. Pierce, Florida



Scale: 1" = 10'-0"

Designed:	JML
Drawn:	JML
Approved:	JML
Date:	6/25/2020
Job no.:	
Revisions:	7/23/20

Sheet No.
LP-2



REFER TO SHEET LP-1 FOR EXACT LOCATIONS & QUANTITY OF PROPOSED PALMS & TREES AROUND PERIMETER OF BUILDING. SPECIFIC SITE CONSTRAINTS SUCH AS PROPOSED UTILITIES AND SIDEWALK CONFIGURATIONS MAY REQUIRE A TREE TO BE SHIFTED OR REMOVED.

TYPICAL UNIT PLANT LIST (5 BUILDINGS)

QUANTITIES ARE FOR EACH BUILDING

TREES						
SYM	QTY.	BOTANICAL NAME	COMMON NAME	HEIGHT	SPR.	NOTES:
M	PR1	3	PHOENIX ROEBELENI	PYGMY DATE PALM (SINGLE)	7' O.A.	FULL & THICK, SINGLE TRUNK SPECIMEN, MATCHED
M	HR	4	HIBISCUS ROSA-SINENSIS	PINK HIBISCUS STD.	6-7' O.A. STD.	FULL & THICK, SINGLE TRUNK STD.

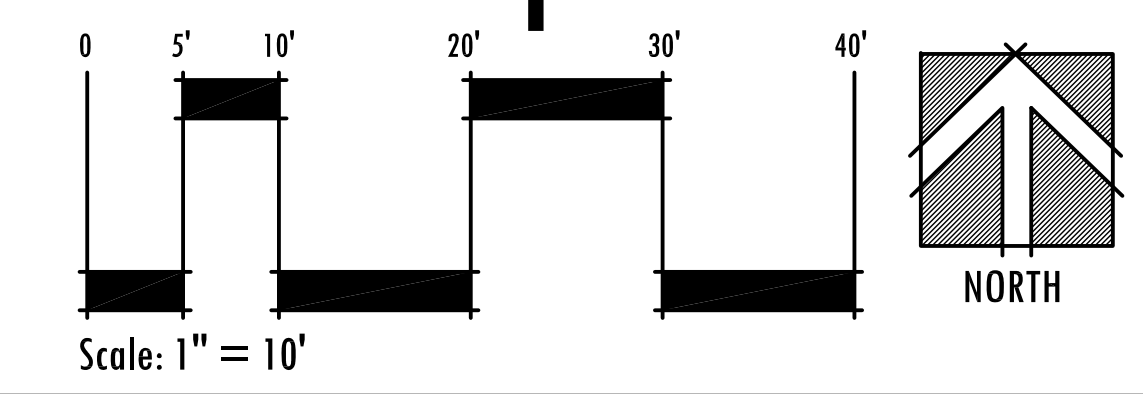
SHRUBS & GROUNDCOVERS						
SYM	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	NOTES:
* V	TDD	64	TRIPSACUM FLORIDANA	FLORIDA GAMA GRASS	#3, 16" O.A.	36" O.C. FULL & THICK
* V	TDA	23	TRIPSACUM DACTYLOIDES	FAKAHATCHEE GRASS	#3, 24" O.A.	48" O.C. FULL & THICK
* V	BOS	50	NEPHROLEPIS EXALTATA	BOSTON FERN	#3, 16" O.A.	24" O.C. FULL & THICK
M	PMA	86	PODOCARPUS MACROPHYLLUS	PODOCARPUS	#3, 24" O.A.	24" O.C. FULL & THICK
* V	MFR	35	MYRCIANTHES FRAGRANS	SIMPSON STOPPER	#3, 24" O.A.	24" O.C. FULL & THICK
* V	IVO	100	ILEX VOMITORIA	DWF. YAUPON HOLLY	#3, 14" O.A.	24" O.C. FULL & THICK
M	JPA	160	JUNIPERUS CHINENSIS 'PARSONII'	PARSON'S JUNIPER	#3, 16" SPD.	24" O.C. FULL & THICK

* ASTERISK DENOTES NATIVE PLANT MATERIAL
 V INDICATES VERY DROUGHT TOLERANT PLANT MATERIAL
 M INDICATES MODERATELY DROUGHT TOLERANT PLANT MATERIAL

SOD: ST. AUGUSTINE 'FLORITAM'
 MULCH: 3" SHREDDED MELALEUCA MULCH (OR APPROVED RECYCLED MULCH) TO BE APPLIED TO ALL PLANTING BEDS.

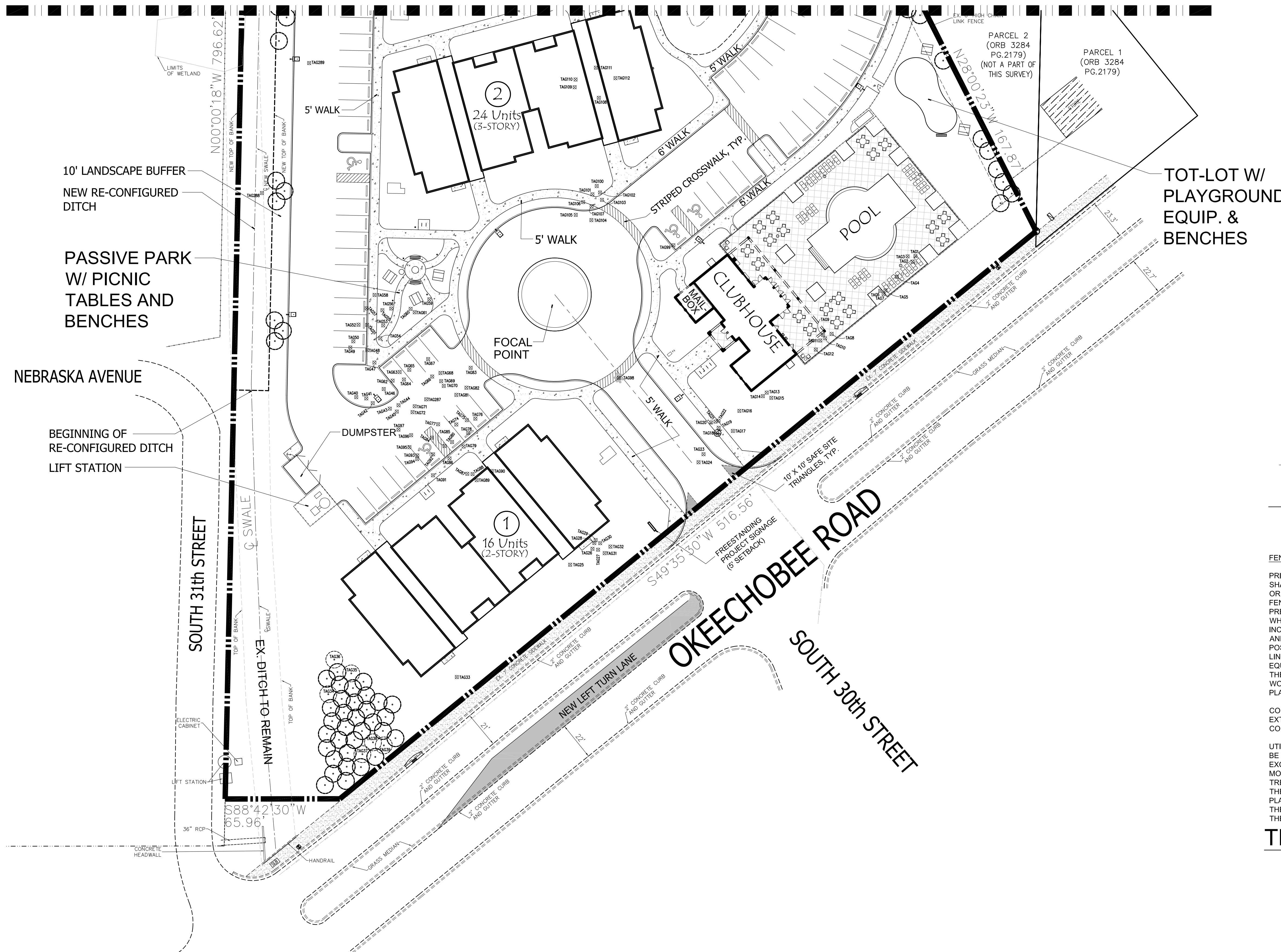
IRRIGATION NOTE:
 ALL NEW LANDSCAPE AREAS SHALL BE RECEIVE 100% OVERLAP COVERAGE FROM A FULLY AUTOMATIC IRRIGATION SYSTEM EQUIPPED WITH A RAIN SENSOR.

Typical Unit Landscape Plan



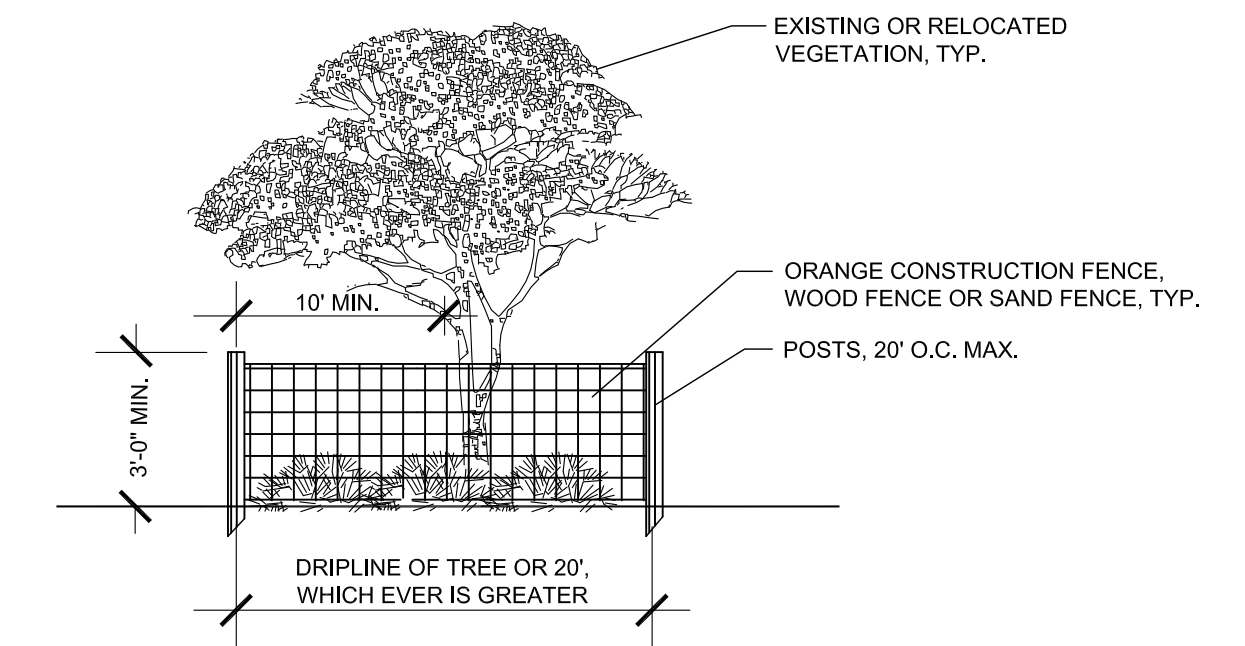
Scale: 1" = 10'

MATCHLINE (SEE SHEET TR-1)



EXISTING TREE LEGEND

- EXISTING TREE TO BE REMOVED OR RELOCATED
- EXISTING PALM TO REMAIN
- RELOCATED PALM
- EXISTING PINE TO REMAIN
- EXISTING OAK TO REMAIN



FENCING OF UNDISTURBED AREAS AND/OR EXISTING TREES:

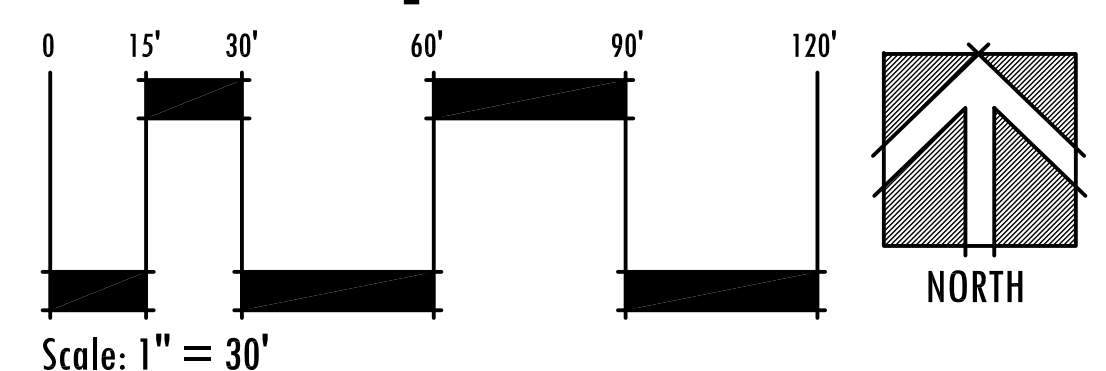
PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL ENCLOSE THE ENTIRE UNDISTURBED AREA, OR TREE, WITHIN A FENCE OR SIMILAR BARRIER AS SHOWN. THE PLACEMENT OF SUCH BARRIER OR FENCE SHALL BE LOCATED NO CLOSER THAN THE DRIP LINE OF THE PRESERVED OR RELOCATED TREE OR A MIN. OF 10' FROM TRUNK, WHICHEVER IS GREATER. WOODEN (OR EQUIVALENT) POSTS AT LEAST 2 x 2 INCHES SHALL BE IMPLANTED IN THE GROUND DEEP ENOUGH TO BE STABLE AND WITH AT LEAST 3 FEET VISIBLE ABOVE THE GROUND. THE PROTECTIVE POSTS SHALL BE PLACED NOT MORE THAN 20 FEET APART, AND SHALL BE LINKED TOGETHER BY ORANGE NET FENCE FABRIC, OR OTHER. NO HEAVY EQUIPMENT, VEHICLES, STORAGE OF MATERIALS, ETC., SHALL OCCUR WITHIN THE VEG. PROTECTION ZONE. EXTREME CARE SHALL BE TAKEN WHEN WORKING NEAR THE BASE OF TREES. NO FINISH GRADE FILL SHALL BE PLACED WITHIN A ZONE OF 2/3 THE DIAMETER OF THE TREE CANOPY.

CONSTRUCTION WITHIN CANOPY & TREE BARRICADE SHALL BE DONE WITH EXTREME CARE TO MINIMIZE DISTURBANCE TO THE ROOTS BY EXCAVATING, COMPACTING OR ADDING FILL.

UTILITY WORK (TRENCHING) WITHIN THE CANOPY & TREE BARRICADE SHALL BE DONE WITH EXTREME CARE TO MINIMIZE DISTURBANCE TO THE ROOTS BY EXCAVATING, COMPACTING OR ADDING FILL. THE TREE BARRICADE WILL BE MODIFIED TEMPORARILY TO ALLOW ONLY THE MINIMUM WORK ZONE TRESPASS INTO THE CANOPY AREA, CONTINUING TO PROTECT THE REST OF THE CANOPY AREA WITH BARRICADE. NO FILL, EVEN TEMPORARY, SHALL BE PLACED IN ANY PROTECTED ZONE. AT THE CONCLUSION OF SAID ACTIVITY, THE WORKZONE SHALL BE CLEANED UP & TREE BARRICADES REPLACED TO THEIR ORIGINAL CONFIGURATION.

TREE PROTECTION DETAIL
 N.T.S.

Tree Disposition Plan



REFER TO SHEET TR-3 FOR TREE DISPOSITION CHART

TREE DISPOSITION CHART

TAG NUMBER	TREE TYPE	NATIVE	DBH (INCHES)	CLEAR TRUNK HEIGHT	DISPOSITION	MITIGATION REQ'D.
1	PALM	YES	20	17'	RELOCATE	
2	PALM	YES	16	17'	RELOCATE	
3	PALM	YES	18	15'	RELOCATE	
4	PALM	YES	14	22'	RELOCATE	
5	PALM	YES	18	18'	RELOCATE	
6	PALM	YES	16	14'	RELOCATE	
7	PALM	YES	18	14'	RELOCATE	
8	PALM	YES	20	18'	RELOCATE	
9	PALM	YES	24	15'	RELOCATE	
10	PALM	YES	24	15'	RELOCATE	
11	PALM	YES	16	18'	RELOCATE	
12	PALM	YES	16	19'	RELOCATE	
13	PALM	YES	22	10'	RELOCATE	
14	PALM	YES	24	15'	RELOCATE	
15	PALM	YES	24	13'	RELOCATE	
16	PALM	YES	16	14'	RELOCATE	
17	PALM	YES	20	17'	RELOCATE	
18	BANYAN	ND	48		REMOVE	
19	PALM	YES	16	18'	RELOCATE	
20	PALM	YES	14	18'	RELOCATE	
21	PALM	YES	16	15'	RELOCATE	
22	PALM	YES	16	10'	RELOCATE	
23	PALM	YES	20	14'	RELOCATE	
24	PALM	YES	18	15'	RELOCATE	
25	PALM	YES	18	18'	RELOCATE	
26	PALM	YES	16	15'	RELOCATE	
27	PALM	YES	20	15'	RELOCATE	
28	PALM	YES	16	17'	RELOCATE	
29	PALM	YES	16	11'	RELOCATE	
30	PALM	YES	18	14'	RELOCATE	
31	PALM	YES	24	16'	RELOCATE	
32	PALM	YES	16	7'	REMOVE	NONE
33	PALM	YES	18	19'	RELOCATE	
34	PALM	YES	16	17'	REMAIN	
35	PALM	YES	18	17'	REMAIN	
36	PALM	YES	18	18'	REMAIN	
37	PALM	YES	18	20'	REMAIN	
38	PALM	YES	16	21'	REMAIN	
39	PALM	YES	14	17'	REMAIN	
40	PALM	YES	20	18'	RELOCATE	
41	PALM	YES	18	20'	RELOCATE	
42	PALM	YES	16	19'	RELOCATE	
43	PALM	YES	16	19'	RELOCATE	
44	PALM	YES	16	21'	RELOCATE	
45	PALM	YES	18	19'	RELOCATE	
46	PALM	YES	20	22'	RELOCATE	
47	PALM	YES	16	19'	RELOCATE	
48	PALM	YES	16	18'	RELOCATE	
49	PALM	YES	18	17'	RELOCATE	
50	PALM	YES	16	20'	RELOCATE	
51	PALM	YES	18	19'	RELOCATE	
52	PALM	YES	10	18'	RELOCATE	
53	PALM	YES	14	18'	RELOCATE	
54	PALM	YES	18	18'	RELOCATE	
55	PALM	YES	20	22'	RELOCATE	
56	PALM	YES	14	19'	RELOCATE	
57	PALM	YES	10	18'	RELOCATE	
58	PALM	YES	14	19'	RELOCATE	
59	PALM	YES	18	16'	RELOCATE	
60	PALM	YES	16	16'	RELOCATE	
61	PALM	YES	18	15'	RELOCATE	
62	PALM	YES	16	23'	RELOCATE	
63	PALM	YES	16	21'	RELOCATE	
64	PALM	YES	20	18'	RELOCATE	
65	PALM	YES	12	19'	RELOCATE	
66	PALM	YES	18	21'	RELOCATE	
67	PALM	YES	18	17'	RELOCATE	
68	OAK	YES	5		REMOVE	NONE
69	PALM	YES	20	18'	RELOCATE	
70	PALM	YES	22	20'	RELOCATE	
71	PALM	YES	20	20'	RELOCATE	
72	PALM	YES	16	18'	RELOCATE	
74	PALM	YES	14	18'	RELOCATE	
75	PALM	YES	14	9'	REMOVE	NONE
76	PALM	YES	24	19'	RELOCATE	
77	PALM	YES	18	18'	RELOCATE	
78	PALM	YES	18	17'	RELOCATE	
79	PALM	YES	14	13'	RELOCATE	
80	PALM	YES	18	18'	RELOCATE	
81	PALM	YES	24	19'	RELOCATE	
82	PALM	YES	18	16'	RELOCATE	
83	PALM	YES	16	15'	RELOCATE	
84	PALM	YES	16	19'	RELOCATE	
85	PALM	YES	16	20'	RELOCATE	
86	PALM	YES	18	17'	RELOCATE	
87	PALM	YES	16	20'	RELOCATE	
88	PALM	YES	16	18'	RELOCATE	
89	PALM	YES	16	16'	RELOCATE	
90	PALM	YES	18	22'	RELOCATE	
91	PALM	YES	18	22'	RELOCATE	
92	PALM	YES	16	19'	RELOCATE	
93	PALM	YES	18	21'	RELOCATE	
94	PALM	YES	14	20'	RELOCATE	
95	PALM	YES	16	20'	RELOCATE	
96	PALM	YES	18	20'	RELOCATE	
OAK - LAUREL OAK (QUERCUS LAURIFOLIA) PINE - SLASH PINE (PINUS ELLIOTTII) PALM - CABBAGE PALM (SABAL PALMETTO) UNKNOWN - NON-NATIVE EXOTIC						TOTAL MITIGATION (COLUMN) 0" *TOTAL PRESERVED TREES (IN) 0" TOTAL RELOCATED PALMS 86 PALMS
OFF-SITE TREES HAVE BEEN EXCLUDED FROM PRESERVED TREE CALCULATION						

TAG NUMBER	TREE TYPE	NATIVE	DBH (INCHES)	CLEAR TRUNK HEIGHT	DISPOSITION	MITIGATION REQ'D.
97	PALM	YES	18	20'	RELOCATE	
98	PALM	YES	18	19'	RELOCATE	
99	PALM	YES	16	16'	RELOCATE	
100	PALM	YES	18	17'	RELOCATE	
101	PALM	YES	16	17'	RELOCATE	
102	PALM	YES	18	19'	RELOCATE	
103	PALM	YES	16	18'	RELOCATE	
104	PALM	YES	16	18'	RELOCATE	
105	PALM	YES	16	18'	RELOCATE	
106	PALM	YES	14	15'	RELOCATE	
107	PALM	YES	10	8'	REMOVE	NONE
108	PALM	YES	18	19'	RELOCATE	
109	PALM	YES	16	35'	RELOCATE	
110	PALM	YES	14	20'	RELOCATE	
111	PALM	YES	16	20'	RELOCATE	
112	PALM	YES	18	18'	RELOCATE	
113	OAK	YES	6		REMOVE	NONE
114	PALM	YES	14	13'	REMAIN	
115	PALM	YES	22	18'	REMAIN	
116	PALM	YES	20	20'	REMAIN	
117	PALM	YES	10	7'	REMAIN	
118	UNKNOWN	ND	12		REMOVE	NONE
119	OAK	YES	38		REMAIN	
120	PALM	YES	14	18'	REMAIN	
121	OAK	YES	18		REMAIN	
122	OAK	YES	12		REMAIN	
123	PALM	YES	18	21'	RELOCATE	
124	PALM	YES	18	16'	RELOCATE	
125	PALM	YES	16	26'	REMAIN	
126	PALM	YES	18	29'	REMAIN	
127	OAK	YES	24		REMAIN	
128	PALM	YES	16	32'	REMAIN	
129	UNKNOWN	ND	10		REMOVE	NONE
130	PINE	YES	28		REMAIN	
131	PALM	YES	16	24'	RELOCATE	
132	UNKNOWN	ND	24		REMOVE	NONE
133	OAK	YES	10		REMOVE	NONE
134	OAK	YES	28		REMAIN	28"
135	PALM	YES	18	30'	RELOCATE	
136	OAK	YES	40		REMOVE	40"
137	PALM	YES	18	18'	RELOCATE	
138	PINE	YES	10		REMOVE	NONE
139	UNKNOWN	ND	8		REMOVE	NONE
140	OAK	YES	36		REMOVE	36"
141	PALM	YES	16	20'	RELOCATE	
142	PALM	YES	14	25'	RELOCATE	
143	PALM	YES	16	25'	RELOCATE	
144	OAK	YES	20		REMOVE	20"
145	PALM	YES	14	26'	RELOCATE	
146	PALM	YES	16	21'	RELOCATE	
147	PALM	YES	18	23'	RELOCATE	
148	OAK	YES	16		REMOVE	16"
149	UNKNOWN	ND	18		REMOVE	NONE
150	PALM	YES	22	18'	RELOCATE	
151	PALM	YES	14	7'	REMOVE	NONE
152	PALM	YES	22	22'	RELOCATE	
153	PALM	YES	16	20'	RELOCATE	
154	PALM	YES	22	18'	RELOCATE	
155	PALM	YES	18	17'	RELOCATE	
156	PALM	YES	18	16'	RELOCATE	
157	PALM	YES	16	13'	RELOCATE	
158	PALM	YES	12	10'	RELOCATE	
159	OAK	YES	10		REMOVE	NONE
160	OAK	YES	16		REMOVE	16"
161	PALM	YES	12	7'	REMOVE	
162	PALM	YES	18	24'	RELOCATE	
163	PALM	YES	16	21'	RELOCATE	
164	OAK	YES	36		REMOVE	36"
165	OAK	YES	14		REMOVE	14"
166	OAK	YES	10		REMOVE	NONE
167	PONCIANA	ND	8		REMOVE	NONE
168	OAK	YES	12		REMOVE	NONE
169	OAK	YES	22		REMOVE	22"
170	OAK	YES	18		REMOVE	18"
171	PALM	YES	16	17'	RELOCATE	
172	PALM	YES	18	13'	RELOCATE	
173	PALM	YES	12	6'	REMOVE	
174	UNKNOWN	ND	16		REMOVE	NONE
175	OAK	YES	16		REMOVE	16"
176	UNKNOWN	ND	20		REMOVE	NONE
177	PALM	YES	18	28'	RELOCATE	
178	PALM	YES	8	8'	REMOVE	NONE
179	PALM	YES	20	22'	RELOCATE	
180	PALM	YES	12	6'	REMOVE	
181	PALM	YES	18	18'	RELOCATE	
182	PALM	YES	18	16'	RELOCATE	
183	PALM	YES	18	17'	RELOCATE	
184	OAK	YES	26		REMOVE	26"
185	PALM	YES	16	28'	RELOCATE	
186	PALM	YES	14	23'	RELOCATE	
187	PALM	YES	16	14'	RELOCATE	
188	PALM	YES	16	18'	RELOCATE	
189	PALM	YES	16	20'	RELOCATE	
190	UNKNOWN	ND	24		REMOVE	NONE
191	PALM	YES	16	14'	RELOCATE	
192	OAK	YES	36		REMOVE	36"
193	UNKNOWN	ND	10		REMOVE	NONE
OAK - LAUREL OAK (QUERCUS LAURIFOLIA) PINE - SLASH PINE (PINUS ELLIOTTII) PALM - CABBAGE PALM (SABAL PALMETTO) UNKNOWN - NON-NATIVE EXOTIC						TOTAL MITIGATION (COLUMN) 324" *TOTAL PRESERVED TREES (IN) 120" TOTAL RELOCATED PALMS 49
OFF-SITE TREES HAVE BEEN EXCLUDED FROM PRESERVED TREE CALCULATION						

TAG NUMBER	TREE TYPE	NATIVE	DBH (INCHES)	CLEAR TRUNK HEIGHT	DISPOSITION	MITIGATION REQ'D.
194	OAK	YES	36		REMAIN	
195	PALM	YES	18	26'	REMAIN	
196	OAK	YES	18		REMAIN	
197	UNKNOWN	ND	8		REMOVE	
198	UNKNOWN	ND	8		REMOVE	
199	UNKNOWN	ND	8		REMOVE	
200	OAK	YES	10		REMAIN	
201	OAK	YES	6		REMOVE	NONE
202	OAK	YES	6		REMOVE	NONE
203	OAK	YES	4		REMOVE	NONE
204	OAK	YES	6		REMOVE	NONE
205	OAK	YES	8		REMOVE	NONE
206	OAK	YES	8		REMOVE	NONE
207	OAK	YES	8		REMOVE	NONE
208	OAK	YES	6		REMOVE	NONE
209	OAK	YES	6		REMOVE	NONE
210	UNKNOWN	ND	10		REMOVE	NONE
211	PALM	YES	16	18'	RELOCATE	
212	PALM	YES	18	18'	RELOCATE	
213	PALM	YES	14		RELOCATE	
214	OAK	YES	20		REMOVE	26"
215	OAK	YES	26		REMOVE	26"
216	OAK	YES	30		REMAIN	
217	SILK OAK	ND	10		REMOVE	NONE
218	OAK	YES	14		REMAIN	
219	PALM	YES	20	19'	REMAIN	
220	OAK	YES	30		REMAIN	OFF-SITE
221	UNKNOWN	ND	8		REMOVE	NONE
222	UNKNOWN	ND	12		REMOVE	NONE
223	UNKNOWN	ND	8		REMOVE	NONE
224	PALM	YES	18	20'	RELOCATE	
225	UNKNOWN	ND	6		REMOVE	NONE
226	UNKNOWN	ND	6		REMOVE	NONE
227	UNKNOWN	ND	4		REMOVE	NONE
228	UNKNOWN	ND	6		REMOVE	NONE
229	OAK	YES	6		REMAIN	
230	UNKNOWN	ND	12		REMOVE	NONE
231	PALM	YES	22	18'	REMAIN	OFF-SITE
232	UNKNOWN	ND	30		REMOVE	NONE
233	PALM	YES	22</			



Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine applicability of the layout to existing or future field conditions. This lighting pattern represents illumination levels calculated from laboratory data taken under controlled conditions utilizing current industry standard lamp ratings in accordance with Illuminating Engineering Society approved methods. Actual performance of any manufacturer's luminaire may vary due to variation in electrical voltage, tolerance in lamps and other variable field conditions.

NOTES:

No.	Revision/Issue	Date
4	PHOTOMETRIC STUDY	07/27/20
3	UPDATE LFS	06/22/20
2	PHOTOMETRIC STUDY	06/19/20
1	PHOTOMETRIC STUDY	06/17/20

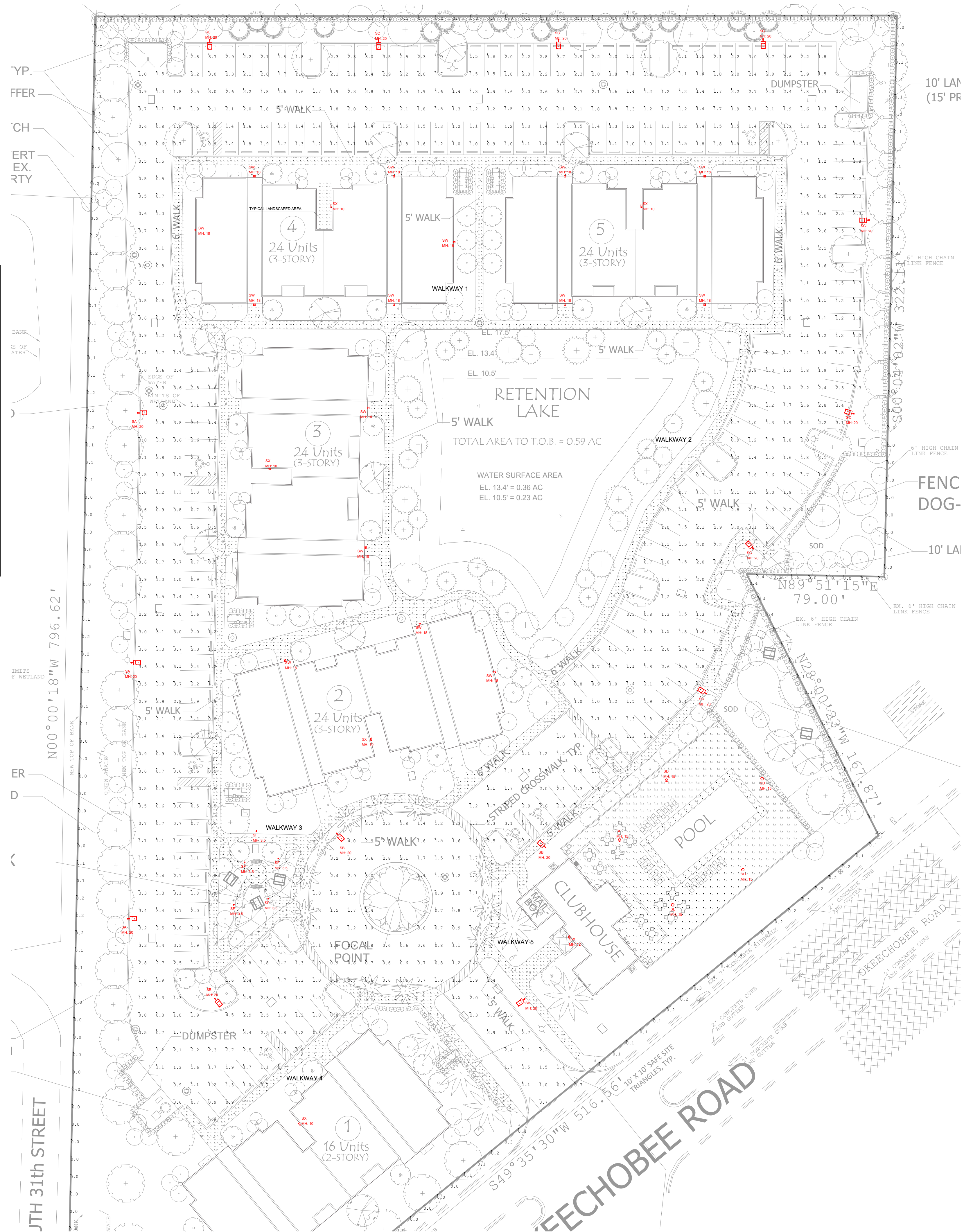
LIGHTING DYNAMICS, INC.
 7835 West Commercial Blvd.
 Tamarac, FL 33351
 (954) 944-0286
www.lightingdynamics.com

Project Name and Address
ARIA APARTMENTS
 Site lighting layout
 Fort Pierce, FL

FILE: P:\PROJECTS\2020\MARCH
 CLIENT: Managed Land Entitlements

Project: ARIA Apartments
 Date: 07/27/2020
 Scale: 1/32" = 1'-0"

Sheet: **LO**
 DRAWN BY: E.MONTERO



ARIA APARTMENTS
LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLT	LAMP TYPE	DIM TYPE	WATTS	MOUNTING	NOTES
SA	LED SITE HEAD	LUMARK	PRV-PA2A-740-U-T3-FINISH / MA1017-FINISH	UNV	LED	N/A	112W	20' POLE	NOTE 1, 2
SB	LED SITE HEAD	LUMARK	PRV-PA2A-740-U-T4W	UNV	LED	N/A	112W	20' POLE	NOTE 1, 2
SC	LED SITE HEAD	LUMARK	PRV-PA2A-740-U-T4W-HSS-FINISH / MA1017-FINISH	UNV	LED	N/A	112W	20' POLE	NOTE 1, 2
SD	LED DECORATIVE LUMINAIRE	INVUE	LXS-B3-LED-D1-T4-FINISH-S / ARPA2	UNV	LED	N/A	99W	13' POLE	NOTE 1, 3
SE	LED DECORATIVE LUMINAIRE	INVUE	LXS-B3-LED-D1-T5-FINISH-S / ARPA2	UNV	LED	N/A	86W	13' POLE	NOTE 1, 3
SF	LED BOLLARD	ILP	BLDT-19WLED-UNV-400K	UNV	LED	N/A	16.5W	IN-GROUND	NOTE 1
SW	LED WALL PACK	McGRAW-EDISON	GWC-AF-01-LED-E1-T4FT-FINISH-600	UNV	LED	N/A	34W	WALL	NOTE 1
SX	LED WALL PACK	LUMARK	XTOR3B-FINISH	UNV	LED	N/A	26W	WALL	NOTE 1

FIXTURE SCHEDULE NOTES
 NOTE 1: ADVISE FINISH
 NOTE 2: FIXTURE MOUNTED ON 20' CONCRETE POLE # US128T14-9866
 NOTE 3: FIXTURE MOUNTED ON 13' DIRECT BURIAL ALUMINUM POLE # 1208-30504TE TO ACHIEVE 15FT AFG
 FOR QUESTIONS PERTAINING TO THIS FIXTURE SCHEDULE PLEASE CONTACT RYAN HUFF @ LIGHTING DYNAMICS- 772-285-7169

Photometrics Calculation Software Generated Luminaire Schedule

Symbol	Qty	Label	Arrangement	Lum. Lumens	Arr. Lum. Lumens	LLF	Lum. Watts	Arr. Watts
SA	3	SA	SINGLE	15749	15749	0.900	112	112
SB	5	SB	SINGLE	15560	15560	0.900	112	112
SC	7	SC	SINGLE	11268	11268	0.900	112	112
SD	3	SD	SINGLE	8200	8200	0.900	99	99
SE	2	SE	SINGLE	9131	9131	0.900	86	86
SF	5	SF	SINGLE	1209	1209	0.900	16.5	16.5
SW	16	SW	SINGLE	4311	4311	0.900	34	34
SX	5	SX	SINGLE	2751	2751	0.900	26	26

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
PARKING & ROADWAY	Illuminance	Fc	1.65	4.5	0.5	3.30	9.00
POOL AREA	Illuminance	Fc	2.79	5.2	0.7	3.99	7.43
PROPERTY LINE	Illuminance	Fc	0.08	0.4	0.0	N.A.	N.A.
TYPICAL LANDSCAPED AREA	Illuminance	Fc	4.95	12.4	1.0	4.95	12.40
WALKWAY 1	Illuminance	Fc	1.11	2.0	0.4	2.78	5.00
WALKWAY 2	Illuminance	Fc	0.95	2.0	0.3	3.17	6.67
WALKWAY 3	Illuminance	Fc	1.29	15.1	0.4	3.23	37.75
WALKWAY 4	Illuminance	Fc	0.67	1.3	0.3	2.23	4.33
WALKWAY 5	Illuminance	Fc	2.11	4.4	0.3	7.03	14.67
WET DECK	Illuminance	Fc	3.65	5.3	3.0	1.22	1.77

TRAFFIC IMPACT ANALYSIS

ARIA APARTMENTS
FT PIERCE, FL

PREPARED FOR:
ARROW INVESTMENT GROUP,
LLC.

Kimley»»Horn

Project # 043264001
June 22, 2020
CA 00000696
Kimley-Horn and Associates, Inc.
1920 Wekiva Way
West Palm Beach, Florida 33411
561/845-0665 TEL

TRAFFIC IMPACT ANALYSIS

ARIA APARTMENTS

FT PIERCE, FL

Prepared by:
Kimley-Horn and Associates, Inc.
West Palm Beach, Florida



Project # 043264001
June 22, 2020
CA 00000696
Kimley-Horn and Associates, Inc.
1920 Wekiva Way
West Palm Beach, Florida 33411
561/845-0665 TEL

Adam B. Kerr, P.E.
Florida Registration Number 64773

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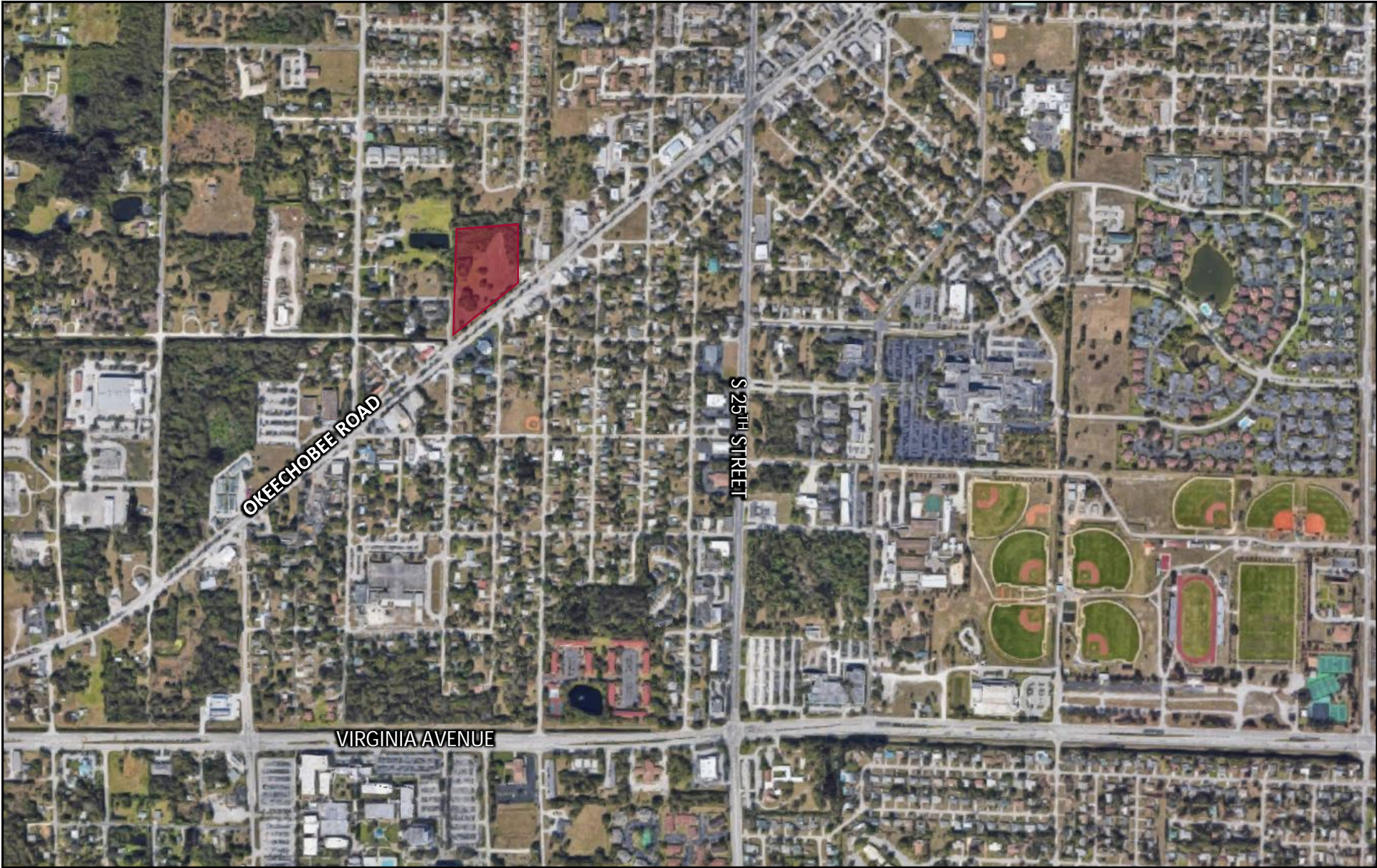
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Figure 3: Driveway Volumes 13

Introduction

Kimley-Horn and Associates, Inc. has performed a traffic impact analysis to evaluate future traffic conditions associated with the proposed development located on the northeast corner of Okeechobee Road & S 31st Street in Fort Pierce, Florida. The traffic impact analysis has been conducted using a buildout year of 2025. Figure 1 illustrates the location of the project site. The Parcel ID for the site is 2417-504-0020-001-6.

The proposed site plan and parcel information are included in *Appendix A*.

Kimley-Horn and Associates, Inc was retained to prepare a traffic impact analysis for the proposed development. The study quantifies the project's impact on the adjacent transportation network. This report summarizes the project trip generation, distribution, and intersection analyses. This analysis followed the methodology and procedures determined by St Lucie County's *Standardized Traffic Impact Studies Methodology and Procedures*.



LEGEND

 Project Site

FIGURE 1
SITE LOCATION
ARIA APARTMENTS
Kimley»Horn

Inventory and Planning Data

The data used in this analysis was obtained from St. Lucie County and from the Florida Department of Transportation. The data included:

- Roadway link volume data
- Committed Developments
- Historical growth rate information

Turning movement counts were collected at the following intersections during the AM peak period (7:00 am to 9:00 am) and PM peak period (4:00 pm to 6:00 pm). Counts at the intersection of N 25th Street & Okeechobee Road were performed on Tuesday, October 22, 2019 and the interaction of Okeechobee Road & Virginia Avenue were performed on Wednesday, April 3, 2019:

- N 25th Street & Okeechobee Road
- Okeechobee Road & Virginia Avenue

Roadway link volumes and the committed developments are included in *Appendix B*. The growth rate calculation is included in *Appendix C* and turning movement counts are included in *Appendix D*.

Project Traffic

Project traffic used in this analysis is defined as the vehicle trips expected to be generated by the project and the distribution and assignment of that traffic over the study roadway network.

Existing and Proposed Land Uses

The existing site is vacant. The proposed plan of development includes 112 multifamily (mid-rise) dwelling units.

Trip Generation

The trip generation potential for the proposed redevelopment was calculated using the trip generation rates and equations published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual, 10th Edition*. Land Use [221] rates and equations were used for multifamily residential (mid-rise) use. As indicated in Table 1, the proposed development is projected to generate 609 net new external daily trips, an increase in 38 net new AM peak hour trips (+10 in, +28 out), and an increase of 49 net new external PM peak hour trips (+30 in, +19 out). Based on the new external daily trips, the area of influence is one-mile.

Table 1: Trip Generation

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
<u>Proposed</u>								
Multifamily Residential (Mid-Rise)	112 DU	609	38	10	28	49	30	19
Driveway Volumes		609	38	10	28	49	30	19
Net External Trips		609	38	10	28	49	30	19
Trip generation was calculated using the following data:								
Daily Trip Generation								
Multifamily Residential (Mid-Rise)	[ITE 221]	=	T = 5.45(X) - 1.75 trips/DU					
AM Peak Hour Trip Generation								
Multifamily Residential (Mid-Rise)	[ITE 221]	=	Ln(T) = 0.98Ln(X) - 0.98 trips/DU (26% in, 74% out)					
PM Peak Hour Trip Generation								
Multifamily Residential (Mid-Rise)	[ITE 221]	=	Ln(T) = 0.96Ln(X) - 0.63 trips/DU (61% in, 39% out)					

Traffic Distribution

Traffic distribution is the pairing of trip ends from the subject site with other land uses in the area. The project assignment on the study roadway links based on the characteristics of the proposed land use and existing travel demands.

The distribution is the following:

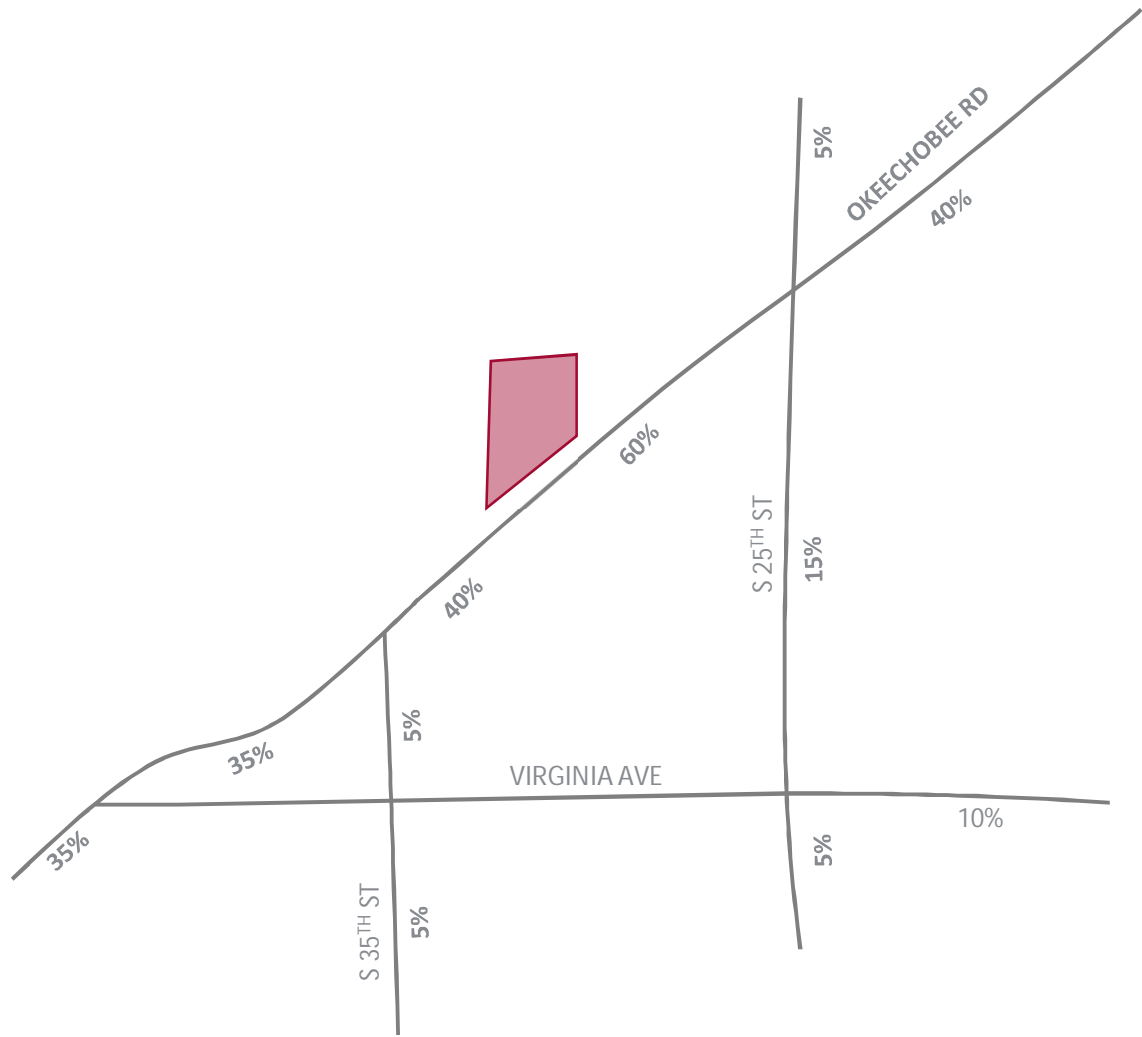
NORTH	5 percent
SOUTH	10 percent
WEST	35 percent
EAST	40 percent

Traffic Assignment

The site traffic was assigned to the surrounding roadway network based upon existing travel patterns and the traffic distribution. The function classification of the surround roadways is the following:

- Okeechobee Road – Minor Arterial
- S 35th Street – Major Collector
- S 25th Street – Other Principal Arterial
- Virginia Avenue – Other Principal Arterial

Figure 2 illustrates the roadway link assignment. The AM and PM peak hour trips for the project were then assigned to the surrounding roadway network projected to be in place by 2025.



LEGEND

- Project Site
- XX% Project Assignment

FIGURE 2
 PROJECT ASSIGNMENT
 ARIA APARTMENTS
Kimley»Horn

Background Traffic

Background traffic is calculated from historical annual growth rates and/or traffic from the unbuilt portions of committed developments. For this study, the areawide growth rate was calculated as 2.53% and was applied to links and intersections to account for background growth not related to the approved projects. Growth rate calculations are included in *Appendix C*. St Lucie County provided committed development projects in the area. The impacts of the approved projects were added to links and intersections that were subject to analysis.

A nominal 1% growth rate was applied to links and intersections (to which committed project traffic was already added) to account for background growth not related to the approved projects. The total background traffic for each significantly impacted link and intersection was then determined as the greater of the following:

- Existing traffic volumes plus growth due to a historic growth rate of 2.53%
- Existing traffic volumes plus growth due to committed projects and a nominal 1% background growth rate

Roadway Segment Analysis

The roadway segments within the adjacent influence area were analyzed and are summarized in Table 2. Significantly impacted roadways, where the project traffic consumes one percent or more of the existing peak hour peak direction service capacity, are considered significantly impacted and required further analysis. The following roadway segments were significantly impacted due to the project traffic:

AM Peak Hour and PM Peak Hour

- Okeechobee Road: S 25th Street to Georgia Avenue

The future volume on each significantly impacted roadway segment was analyzed in comparison to its peak hour directional service capacity volume. Committed development information for each significantly impacted link was provided by St Lucie County. It should be noted, committed developments which were identified to be insignificant (fewer than 20 peak hour trips) did not have a provided inbound/outbound distribution. Committed developments that generated greater traffic volumes were applied using the corresponding approved traffic study, attached in *Appendix B*. As seen in Table 2, the significantly impacted roadways are projected to operate acceptably during the AM and PM peak hours through buildout 2025.

Table 2: Peak Hour Peak Direction Roadway Segment Analysis

Roadway	Existing		Existing Base Peak Direction Volume/LOS	Last Count Year	Peak Hour Peak Direction Project Traffic			Background Traffic			Capacity		
	Lanes	Peak Hour Service Capacity			% Assignment	Project Trips	% Impact	Significant Impact?	Growth Rate (1)	2025 Background Growth	2025 Background Traffic	2025 Project	Over Capacity ?
AM PEAK HOUR PEAK DIRECTION													
Okeechobee Rd	4	1630	687	2020	35%	10	0.61%	No	2.53%	91	778	788	-
Virginia Ave	4	1630	922	2020	35%	10	0.61%	No	2.53%	123	1,045	1,055	-
S 35th Street	4	1630	922	2020	40%	11	0.67%	No	2.53%	123	1,045	1,056	-
Project Driveway	4	1630	777	2020	60%	17	1.04%	Yes	2.53%	103	880	897	No
S 25th Street	4	1630	777	2020	60%	17	1.04%	Yes	2.53%	103	880	897	No
S 35th Street	2	790	497	2020	5%	1	0.13%	No	2.53%	66	563	564	-
Cortez Blvd	2	750	279	2016	5%	1	0.13%	No	2.53%	70	349	350	-
Virginia Ave	2	750	279	2016	5%	1	0.13%	No	2.53%	70	349	350	-
Okeechobee Rd	2	750	279	2016	5%	1	0.13%	No	2.53%	70	349	350	-
S 25th Street	5	2000	1182	2020	5%	1	0.05%	No	2.53%	157	1,339	1,340	-
Cortez Blvd	5	2000	1193	2017	15%	4	0.20%	No	2.53%	264	1,457	1,461	-
Virginia Ave	5	2000	1193	2017	15%	4	0.20%	No	2.53%	264	1,457	1,461	-
Okeechobee Rd	5	1630	1196	2017	5%	1	0.06%	No	2.53%	265	1,461	1,462	-
Georgia Ave	5	1630	1196	2017	5%	1	0.06%	No	2.53%	265	1,461	1,462	-
Virginia Avenue	5	1630	1196	2017	5%	1	0.06%	No	2.53%	265	1,461	1,462	-
Okeechobee Rd	6	3020	1169	2017	0%	0	0.00%	No	2.53%	259	1,428	1,428	-
S 35th Street	6	3020	1169	2017	0%	0	0.00%	No	2.53%	259	1,428	1,428	-
S 25th Street	6	3020	1093	2017	10%	3	0.10%	No	2.53%	242	1,335	1,338	-
S 25th Street	6	3020	1093	2017	10%	3	0.10%	No	2.53%	242	1,335	1,338	-
PM PEAK HOUR PEAK DIRECTION													
Okeechobee Rd	4	1630	727	2020	35%	11	0.67%	No	2.53%	97	824	835	-
Virginia Ave	4	1630	902	2020	35%	11	0.67%	No	2.53%	120	1,022	1,033	-
S 35th Street	4	1630	902	2020	35%	11	0.67%	No	2.53%	120	1,022	1,033	-
Project Driveway	4	1630	922	2020	40%	12	0.74%	No	2.53%	123	1,045	1,057	-
S 25th Street	4	1630	738	2020	60%	18	1.10%	Yes	2.53%	98	836	854	No
Georgia Ave	4	1630	738	2020	60%	18	1.10%	Yes	2.53%	98	836	854	No
S 35th Street	2	790	406	2020	5%	2	0.25%	No	2.53%	54	460	462	-
Cortez Blvd	2	750	280	2016	5%	2	0.27%	No	2.53%	71	351	353	-
Virginia Ave	2	750	280	2016	5%	2	0.27%	No	2.53%	71	351	353	-
Okeechobee Rd	2	750	280	2016	5%	2	0.27%	No	2.53%	71	351	353	-
S 25th Street	5	2000	1261	2020	5%	2	0.10%	No	2.53%	168	1,429	1,431	-
Cortez Blvd	5	2000	1069	2017	15%	5	0.25%	No	2.53%	237	1,306	1,311	-
Virginia Ave	5	2000	1069	2017	15%	5	0.25%	No	2.53%	237	1,306	1,311	-
Okeechobee Rd	5	1630	1159	2017	5%	2	0.12%	No	2.53%	256	1,415	1,417	-
Georgia Ave	5	1630	1159	2017	5%	2	0.12%	No	2.53%	256	1,415	1,417	-
Virginia Avenue	5	1630	1159	2017	5%	2	0.12%	No	2.53%	256	1,415	1,417	-
Okeechobee Rd	6	3020	1126	2017	0%	0	0.00%	No	2.53%	249	1,375	1,375	-
S 35th Street	6	3020	1126	2017	0%	0	0.00%	No	2.53%	249	1,375	1,375	-
S 25th Street	6	3020	1164	2017	10%	3	0.10%	No	2.53%	258	1,422	1,425	-
13th Street	6	3020	1164	2017	10%	3	0.10%	No	2.53%	258	1,422	1,425	-

Intersection Analysis

The operating conditions for the existing, background, and future total buildout was analyzed using Trafficware’s *Synchro 10.0* Software during the AM peak hour and the PM peak hour at the following intersections because the intersection is part of the impacted roadway:

1. S 25th Street & Okeechobee Road (signalized)

In addition to the intersection of S 25th Street & Okeechobee Road, the intersection of Okeechobee Road & Virginia Avenue was analyzed for the existing, background, and future total buildout.

These analyses use the methodologies outlined in the *Highway Capacity Manual, 6th Edition* in order to determine the overall intersection level of service and delay. The signal timing sheet was provided by the City of Ft Pierce and is included in *Appendix E*. Table 3 summarizes the level of service and delay at the study intersections under existing, background, and future total conditions. As shown in Table 3, the intersection operates at an acceptable overall level of service during the existing, background, and future total (with project traffic) conditions.

Table 3: Intersection Analysis

Intersection	Type	Movement	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
Existing Scenario						
S 25th Street & Okeechobee Road	Signalized	EB	42.7	D	35.4	D
		WB	31.1	C	34.2	C
		NB	32.9	C	45.3	D
		SB	52.1	D	58.8	E
		Overall	41.1	D	45.3	D
Okeechobee Road & Virginia Avenue	Signalized	EB	6.3	A	10.1	B
		WB	53.8	D	45.8	D
		SB	5.6	A	10.6	B
		Overall	16.3	B	20.7	C
Background Scenario						
S 25th Street & Okeechobee Road	Signalized	EB	24.4	C	44.0	D
		WB	20.5	C	40.8	D
		NB	43.9	D	47.0	D
		SB	85.6	F	67.5	E
		Overall	49.3	D	51.5	D
Okeechobee Road & Virginia Avenue	Signalized	EB	8.0	A	14.8	B
		WB	51.5	D	42.3	D
		SB	7.1	A	15.8	B
		Overall	17.1	B	23.0	C
Future Total Scenario						
S 25th Street & Okeechobee Road	Signalized	EB	24.2	C	40.7	D
		WB	20.2	C	34.8	C
		NB	43.9	D	47.8	D
		SB	85.9	F	62.6	E
		Overall	49.3	D	49.0	D
Okeechobee Road & Virginia Avenue	Signalized	EB	8.0	A	27.0	C
		WB	51.5	D	26.4	C
		SB	7.1	A	29.1	C
		Overall	17.0	B	27.2	C

The 95th percentile queue lengths are summarized in Table 4 for the study intersection of S 25th Street & Okeechobee Road. As shown in Table 4, the queues will remain within the provided storage through future total buildout year.

Table 4: 95th Percentile Queue Lengths

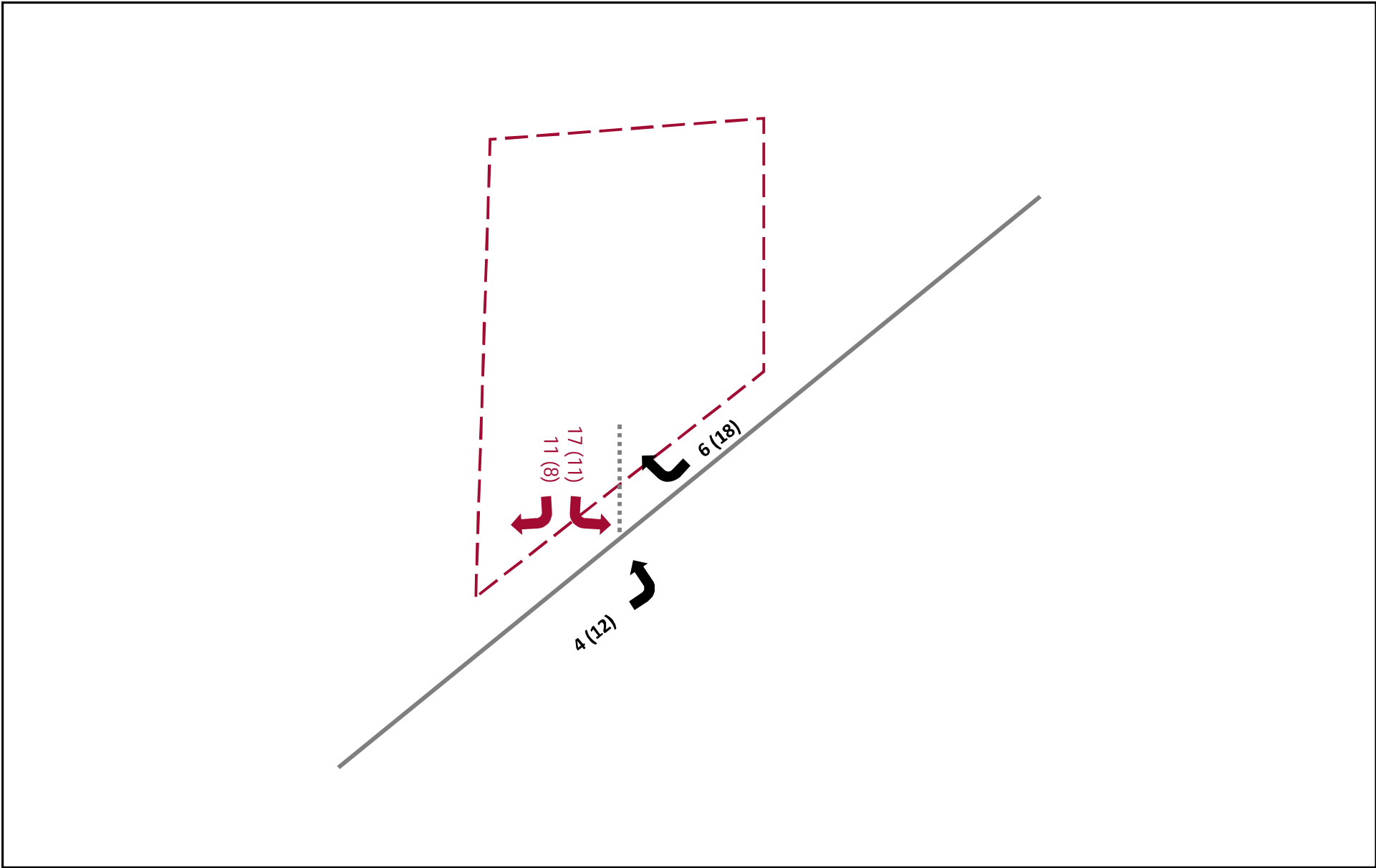
Movement	EBL	WBL	NBL	SBL
Provided Storage	225	200	225	200
Existing Scenario				
AM Peak Hour	108	84	80	33
PM Peak Hour	184	154	145	43
Background Scenario				
AM Peak Hour	125	97	102	37
PM Peak Hour	266	199	182	48
Future Total Scenario				
AM Peak Hour	126	97	109	37
PM Peak Hour	186	141	149	47

The volume development sheet is included in *Appendix F*. The Synchro output sheets are included in *Appendix G*.

Access Review

Access to the proposed site includes one proposed full-access driveway on Okeechobee Road *Figure 3* illustrates the AM peak hour and PM peak hour driveway volumes. According to the FDOT's Driveway Information Guide, exclusive right-turn lanes are recommended at unsignalized intersections for roadways with a posted speed limit of 45 mph or less when the volume of right turns per hour exceed 80 vehicles. As shown in *Figure 3*, the project driveway volume on Okeechobee Road is not expected to generate 80 vehicles; therefore, a right-turn lane is not required. The need for left-turn lanes is evaluated based on the Pennsylvania Department of Transportation's (PennDOT) Publication 46. This warrant considers the left-turn volume, the adjacent volume ("advancing" volume), the conflicting volume ("opposing" volume), and the posted speed limit to determine whether the percentage of left-turns justifies the presence of an exclusive left-turn lane.

Under existing conditions, the advancing volume is the eastbound through volume and the opposing volume is the westbound through volume. The highest eastbound left-turn volume is anticipated to be 12 vehicles per hour, which is projected to occur during the PM peak hour and constitutes approximately 1.8% percent of the total advancing volume. The opposing volume during this hour is 733 vehicles. The volumes were compared to the thresholds defined for a four-lane divided highway with a speed of 35 mph. The left-turn lane warrant worksheet is included in *Appendix H* for Okeechobee Road. The results of the analysis show that an eastbound left turn lane is warranted on Okeechobee Road at the proposed project driveway under current conditions. With the buildout of the proposed development, a left turn lane will be provided on Okeechobee Road.



LEGEND

- Project Site
- XX (XX) AM (PM) Inbound Driveway Volumes
- XX (XX) AM (PM) Outbound Driveway Volumes

FIGURE 3
 DRIVEWAY VOLUMES
 ARIA APARTMENTS
Kimley»Horn

Conclusion

The proposed plan of development includes 112 multifamily (mid-rise) dwelling units located in the northeast corner of Okeechobee Road & S 31st Street in Fort Pierce, Florida. Based on the analysis undertaken, the roadway links are sufficient to accommodate the project traffic during the AM and PM peak hours.

An intersection analysis was conducted at the signalized intersection of S 25th Street & Okeechobee Road, which is the intersection that was part of a significantly impacted roadway. In addition, an intersection analysis was conducted at Okeechobee Road & Virginia Avenue. Based on the intersection analysis, the existing geometry is expected to operate acceptably under existing, background, and future total conditions. The 95th percentile queue lengths at S 25th Street & Okeechobee Road are within the provided storage through future total conditions. An eastbound left turn lane is required per Pennsylvania Department of Transportation's (PennDOT) Publication 46 warrant criteria. With the buildout of the proposed development, a left turn lane will be provided on Okeechobee Road.

Appendix A: Project Site Data

Property Identification

Site Address: OKEECHOBEE RD Use Type: 1000 Parcel ID: 2417-504-0020-001-6 Jurisdiction: Fort Pierce Account #: 26668 Map ID: 24/17N Sec/Town/Range: 17/35S/40E Zoning: General Co

Ownership

Arrow Investment Group LLC
4512 N Flagler DR # 2056
West Palm Beach, FL 33407

Legal Description

COLLIER'S S/D BLK D ALL BLK D-LESS S 27 FT AND SELY 7 FT FOR RD R/W AND LESS THAT PART MPDAF: BEG INT OF SE COR OF BLK D AND NLY RD R/W LI OF OKEEC RD RUN N 28 00 23 W 167.87 FT, TH N 89 51 15 E 79 FT TO E LI OF BLK D, TH S 00 04 02 W ALG E LI 148.41 FT TO NLY RD R/W LI OF OKEEC RD AND POB- (6.86 AC)

Current Values

Just/Market: \$732,700 Assessed: \$732,700
Exemptions: \$0 Taxable: \$732,700

Historical Values 3-year

Year	Just/Market	Assessed	Exemptions	Taxable
2019	\$732,700	\$732,700	\$0	\$732,700
2018	\$732,700	\$732,700	\$0	\$732,700
2017	\$732,700	\$732,700	\$0	\$732,700

Sale History

Date	Book/Page	Sale Code	Deed	Grantor	Price
09-26-2019	4327 / 0333	0112	SP	Cypress Trust Company (TR)	\$450,000
05-27-2010	3204 / 0743	0112	SP	Cypress Trust Company (TR)	\$100
12-17-2008	3049 / 2156	XX01	CT	Mid South Acquisitions LLC	\$299,000

Primary Building Information

Finished Area of this building: 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	A/C %: 0%	Electric:	Primary Int Wall:
Full Baths: 0	Heated %: N/A%	Heat Type:	Avg Hgt/Floor: 0
Half Baths: 0	Sprinkled %: 0%	Heat Fuel:	Primary Floors:



Image
or
Sketch
unavailable
for display

Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	6.87
Land Size (SF):	299,058
Total Building Count:	1

Special Features and Yard Items

Type	Qty	Units	Year Blt
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Appendix B: St Lucie County Traffic Data



**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
17TH ST	ORANGE AVE to AVENUE D	608	4,033	2016	750	236	C	0.638	225	C	0.608
17TH ST	AVENUE D to AVENUE Q	608	4,033	2016	750	236	C	0.638	225	C	0.608
25TH ST	MIDWAY RD to BELL AVE	940016	18,275	2017	2,100	1,310	C	0.652	1,222	C	0.608
25TH ST	BELL AVE to EDWARDS RD	159	19,040	2019	2,100	1,056	C	0.525	1,053	C	0.524
25TH ST	EDWARDS RD to CORTEZ BLVD	940021	22,049	2017	2,000	1,405	C	0.736	1,401	C	0.734
25TH ST	CORTEZ BLVD to VIRGINIA AVE	529	21,000	2020	2,000	1,182	C	0.619	1,261	C	0.660
25TH ST	VIRGINIA AVE to NEBRASKA AVE	940015	20,801	2017	2,000	1,193	C	0.625	1,069	C	0.560
25TH ST	NEBRASKA AVE to OKEECHOBEE RD	940015	20,801	2017	2,000	1,193	C	0.625	1,069	C	0.560
25TH ST	OKEECHOBEE RD to GEORGIA AVE	609	23,000	2020	1,630	1,196	D	0.734	1,159	D	0.711
25TH ST	GEORGIA AVE to DELAWARE AVE	609	23,000	2020	1,630	1,196	D	0.734	1,159	D	0.711
25TH ST	DELAWARE AVE to ORANGE AVE	940014	19,612	2017	1,630	1,021	D	0.626	1,015	D	0.623
25TH ST	ORANGE AVE to AVENUE D	610	19,000	2020	1,630	877	D	0.538	904	D	0.555
25TH ST	AVENUE D to AVENUE Q	940050	15,331	2017	1,630	807	D	0.495	784	D	0.481
25TH ST	AVENUE Q to JUANITA AVE	945152	13,301	2017	2,000	752	C	0.394	689	C	0.361
25TH ST	JUANITA AVE to ST LUCIE BLVD	940791	14,647	2013	2,100	794	C	0.395	745	C	0.371
25TH ST	ST LUCIE BLVD to US 1	945165	5,924	2017	2,100	340	C	0.169	380	C	0.189
33RD ST	OKEECHOBEE RD to DELAWARE AVE	611	7,000	2020	750	419	D	0.559	368	C	0.995
33RD ST	DELAWARE AVE to ORANGE AVE	948507	4,991	2017	790	230	C	0.622	230	C	0.622
35TH ST	KIRBY LOOP RD to CORTEZ BLVD	612	6,300	2020	540	497	D	0.920	406	D	0.752
35TH ST	CORTEZ BLVD to VIRGINIA AVE	612	6,300	2020	790	497	D	0.629	406	D	0.514
35TH ST	VIRGINIA AVE to OKEECHOBEE RD	613	4,600	2016	750	279	C	0.754	280	C	0.757
53RD ST	ANGLE RD to JUANITA AVE	614	2,767	2016	540	148	C	0.548	163	C	0.604
AE BACKUS AVE	7TH ST to US 1	632	1,033	2017	750	70	C	0.189	81	C	0.219
AIROSO BLVD	PORT ST LUCIE BLVD to THORNHILL DR	303	15,500	2019	2,100	1,011	C	0.503	851	C	0.423
AIROSO BLVD	THORNHILL DR to CROSSTOWN PKWY	303	15,500	2019	2,100	1,011	C	0.503	851	C	0.423

- * Note: A six digit number in the "STATION ID" column identifies segment counted by FDOT
- * Volumes shown were adjusted using FDOT Seasonal Factors
- * AADT = Annual Average Daily Traffic (volumes for both directions where applicable)
- * **Counts with an ID format of 6 digits have data extracted from FDOT count stations.**

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
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

* Note: A six digit number in the "STATION ID" column identifies segment counted by FDOT
 * Volumes shown were adjusted using FDOT Seasonal Factors
 * AADT = Annual Average Daily Traffic (volumes for both directions where applicable)
 * Counts with an ID format of 6 digits have data extracted from FDOT count stations.

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
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 LYNNGATE DR	329	14,500	2019	2,100	779	C	0.388	817	C	0.406
VETERANS MEMORIAL PKWY	LYNNGATE 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

* Note: A six digit number in the "STATION ID" column identifies segment counted by FDOT
 * Volumes shown were adjusted using FDOT Seasonal Factors
 * AADT = Annual Average Daily Traffic (volumes for both directions where applicable)
 * Counts with an ID format of 6 digits have data extracted from FDOT count stations.

Appendix C: Growth Rate Calculations

Road Segment	2015 Volume	2018 Volume	Growth Rate	Yearly Growth
Virginia Ave	22,000	22,000	0.00%	0
S 35th Street	7,900	10,900	11.33%	1235
S 25th Street	22,000	22,500	0.75%	169
Sum		55,400		1,404
Area Wide Growth Rate =			2.53%	

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 94 - ST.LUCIE

SITE: 0032 - SR 70/VIRGINIA AVE - W OF SR 615/25 ST

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	22000	C	E 11000		W 11000	9.00	51.30	6.10
2017	20900	C	E 9900		W 11000	9.00	50.90	4.10
2016	20800	C	E 9800		W 11000	9.00	50.90	4.10
2015	22000	C	E 11000		W 11000	9.00	51.00	4.10
2014	21000	C	E 11000		W 10000	9.00	50.80	4.20
2013	21000	C	E 10500		W 10500	9.00	50.80	3.70
2012	23000	F	E 12000		W 11000	9.00	56.80	4.30
2011	23000	C	E 12000		W 11000	9.00	57.20	5.10
2010	22500	C	E 11500		W 11000	10.32	55.40	5.10
2009	22500	C	E 11500		W 11000	10.27	57.35	5.10
2008	23500	C	E 11500		W 12000	10.45	58.06	4.10
2007	25000	C	E 13000		W 12000	10.31	58.74	4.10
2006	21500	C	E 11500		W 10000	10.73	65.89	4.10
2005	23500	C	E 12000		W 11500	10.80	60.70	6.00
2004	22500	C	E 11500		W 11000	10.30	57.70	6.00
2003	20500	C	E 10500		W 10000	10.20	59.60	2.70

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

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2018 HISTORICAL AADT REPORT

COUNTY: 94 - ST.LUCIE

SITE: 0083 - S 35 ST- NORTH OFARNOLD RD

YEAR	AADT		DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
2018	10900	C	N	6500	S	4400	9.00	51.30	5.80
2017	8100	V		0		0	9.00	50.90	10.00
2016	8000	R		0		0	9.00	50.90	6.20
2015	7900	T		0		0	9.00	51.00	41.80
2014	7900	S					9.00	50.80	49.50
2013	7900	F		0		0	9.00	50.80	11.90
2012	7900	C	N	0	S	0	9.00	56.80	7.10

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
 2018 HISTORICAL AADT REPORT

COUNTY: 94 - ST.LUCIE

SITE: 0015 - SR 615/25 ST - N OF SR 70/VIRGINIA AVE (COUNTY 15)

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	22500	C	N 11500	S 11000	9.00	51.30	5.40
2017	20500	C	N 11000	S 9500	9.00	50.90	4.80
2016	22500	C	N 11000	S 11500	9.00	50.90	4.80
2015	22000	C	N 11000	S 11000	9.00	51.00	4.80
2014	21000	C	N 10000	S 11000	9.00	50.80	4.20
2013	20500	C	N 10500	S 10000	9.00	50.80	4.20
2012	22500	C	N 11500	S 11000	9.00	56.80	4.20
2011	22500	C	N 12000	S 10500	9.00	57.20	3.00
2010	23000	C	N 12000	S 11000	10.32	55.40	3.00
2009	22500	C	N 12000	S 10500	10.27	57.35	3.00
2008	21500	C	N 11000	S 10500	10.45	58.06	3.90
2007	25000	C	N 13000	S 12000	10.31	58.74	3.90
2006	23000	C	N 11500	S 11500	10.73	65.89	3.90
2005	24000	C	N 12000	S 12000	10.80	60.70	3.10
2004	23000	C	N 11500	S 11500	10.30	57.70	3.10
2003	22500	C	N 11500	S 11000	10.20	59.60	3.60

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: Turning Movement Counts

Traffic Survey Specialists, Inc.

Delray Beach, Florida

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S 25TH STREET & OKEECHOBEE ROAD
FORT PIERCE, FLORIDA

File Name : 25TH & OKEECHOBEE

Site Code : 190177

Start Date : 10/22/2019

Page No : 1

Groups Printed- ALL VEHICLES

Start Time	S 25TH STREET From North				OKEECHOBEE ROAD From East				S 25TH STREET From South				OKEECHOBEE ROAD From West				Int. Total
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	
07:00	0	5	135	26	0	26	49	2	0	19	162	24	0	37	40	9	534
07:15	0	6	159	33	0	25	50	4	0	24	162	35	0	37	52	14	601
07:30	0	5	177	35	0	26	46	1	0	30	158	37	0	28	74	27	644
07:45	0	11	186	28	2	26	62	4	0	27	171	50	0	38	95	30	730
Total	0	27	657	122	2	103	207	11	0	100	653	146	0	140	261	80	2509
08:00	0	13	197	33	1	27	75	6	0	24	115	45	0	37	124	25	722
08:15	0	11	155	22	0	27	64	3	0	25	131	41	1	39	98	23	640
08:30	0	18	152	18	2	28	48	3	0	23	106	41	1	36	49	12	537
08:45	0	11	164	19	1	27	71	3	0	21	97	26	0	25	63	23	551
Total	0	53	668	92	4	109	258	15	0	93	449	153	2	137	334	83	2450
16:00	0	7	162	24	0	42	76	7	0	29	137	49	1	30	73	16	653
16:15	0	10	155	29	3	41	84	3	0	31	151	32	1	37	82	26	685
16:30	0	10	160	23	0	44	88	2	0	32	141	48	1	44	51	18	662
16:45	0	7	171	25	0	28	112	3	0	36	154	31	1	42	78	31	719
Total	0	34	648	101	3	155	360	15	0	128	583	160	4	153	284	91	2719
17:00	0	13	182	43	0	46	112	3	0	33	166	39	0	39	75	34	785
17:15	0	12	194	37	1	28	96	5	0	24	162	41	0	42	93	25	760
17:30	0	9	194	35	0	36	80	2	0	33	157	33	0	43	111	22	755
17:45	0	6	157	26	0	33	66	5	0	22	148	25	1	28	98	16	631
Total	0	40	727	141	1	143	354	15	0	112	633	138	1	152	377	97	2931
Grand Total	0	154	2700	456	10	510	1179	56	0	433	2318	597	7	582	1256	351	10609
Apprch %	0	4.7	81.6	13.8	0.6	29.1	67.2	3.2	0	12.9	69.2	17.8	0.3	26.5	57.2	16	
Total %	0	1.5	25.5	4.3	0.1	4.8	11.1	0.5	0	4.1	21.8	5.6	0.1	5.5	11.8	3.3	

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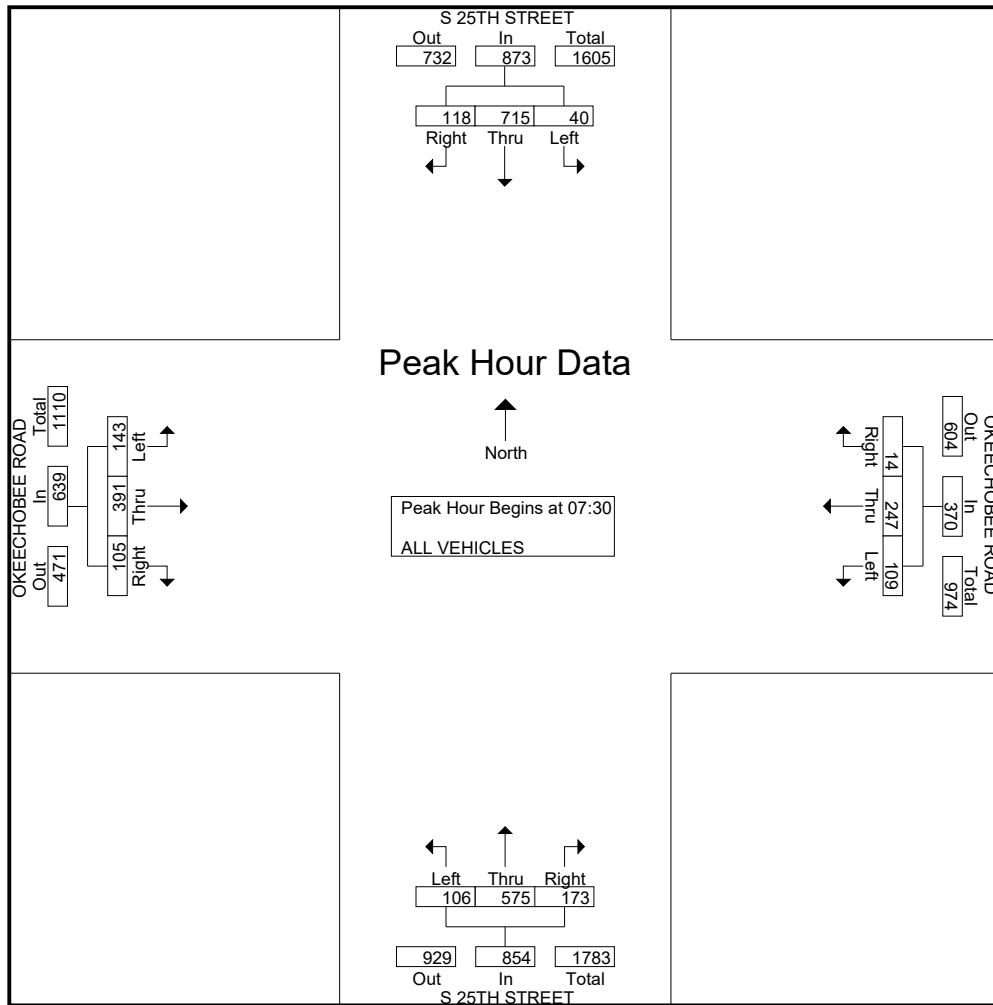
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S 25TH STREET & OKEECHOBEE ROAD
FORT PIERCE, FLORIDA

File Name : 25TH & OKEECHOBEE
Site Code : 190177
Start Date : 10/22/2019
Page No : 2

Start Time	S 25TH STREET From North					OKEECHOBEE ROAD From East					S 25TH STREET From South					OKEECHOBEE ROAD From West					Int. Total
	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	5	177	35	217	0	26	46	1	73	0	30	158	37	225	0	28	74	27	129	644
07:45	0	11	186	28	225	2	26	62	4	94	0	27	171	50	248	0	38	95	30	163	730
08:00	0	13	197	33	243	1	27	75	6	109	0	24	115	45	184	0	37	124	25	186	722
08:15	0	11	155	22	188	0	27	64	3	94	0	25	131	41	197	1	39	98	23	161	640
Total Volume	0	40	715	118	873	3	106	247	14	370	0	106	575	173	854	1	142	391	105	639	2736
% App. Total	0	4.6	81.9	13.5		0.8	28.6	66.8	3.8		0	12.4	67.3	20.3		0.2	22.2	61.2	16.4		
PHF	.000	.769	.907	.843	.898	.375	.981	.823	.583	.849	.000	.883	.841	.865	.861	.250	.910	.788	.875	.859	.937



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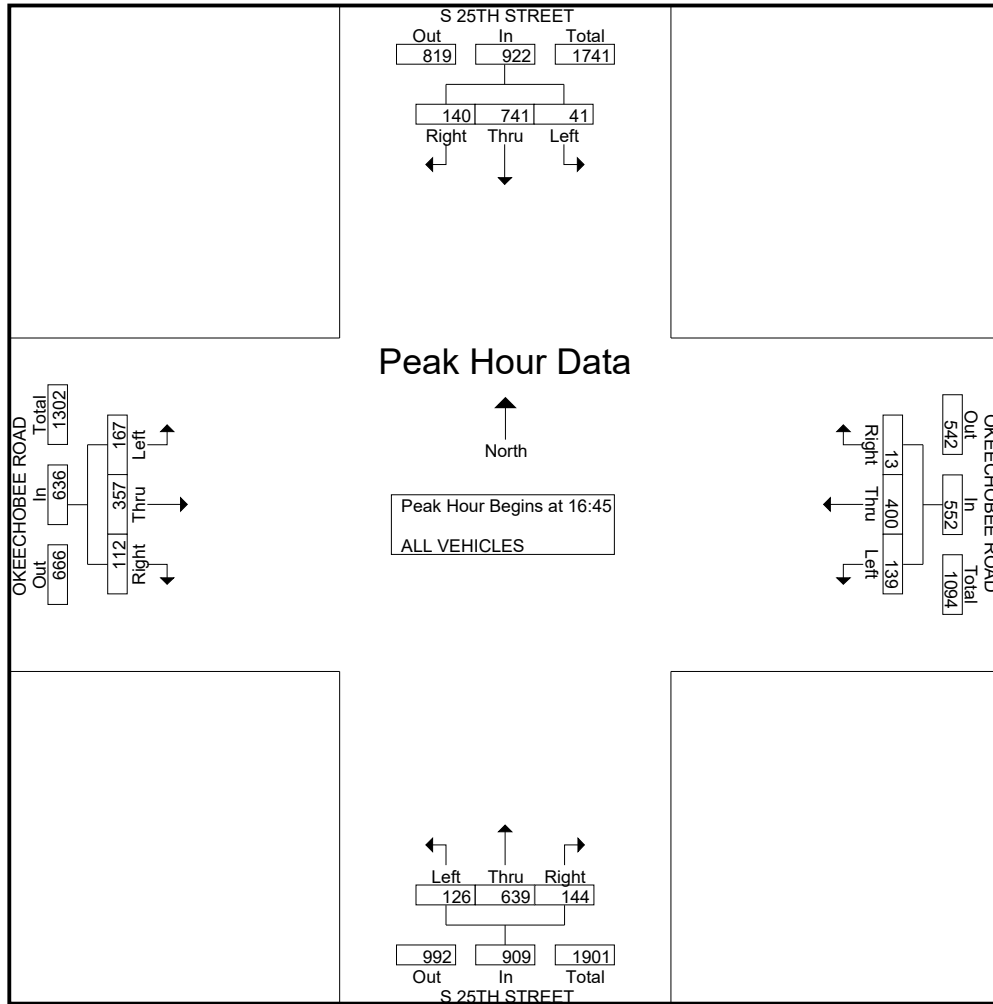
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S 25TH STREET & OKEECHOBEE ROAD
FORT PIERCE, FLORIDA

File Name : 25TH & OKEECHOBEE
Site Code : 190177
Start Date : 10/22/2019
Page No : 3

Start Time	S 25TH STREET From North					OKEECHOBEE ROAD From East					S 25TH STREET From South					OKEECHOBEE ROAD From West					Int. Total
	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	7	171	25	203	0	28	112	3	143	0	36	154	31	221	1	42	78	31	152	719
17:00	0	13	182	43	238	0	46	112	3	161	0	33	166	39	238	0	39	75	34	148	785
17:15	0	12	194	37	243	1	28	96	5	130	0	24	162	41	227	0	42	93	25	160	760
17:30	0	9	194	35	238	0	36	80	2	118	0	33	157	33	223	0	43	111	22	176	755
Total Volume	0	41	741	140	922	1	138	400	13	552	0	126	639	144	909	1	166	357	112	636	3019
% App. Total	0	4.4	80.4	15.2		0.2	25	72.5	2.4		0	13.9	70.3	15.8		0.2	26.1	56.1	17.6		
PHF	.000	.788	.955	.814	.949	.250	.750	.893	.650	.857	.000	.875	.962	.878	.955	.250	.965	.804	.824	.903	.961



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S 25TH STREET & OKEECHOBEE ROAD
FORT PIERCE, FLORIDA

File Name : 25TH & OKEECHOBEE

Site Code : 190177

Start Date : 10/22/2019

Page No : 1

Groups Printed- PEDESTRIANS & BIKES

Start Time	S 25TH STREET From North				OKEECHOBEE ROAD From East				S 25TH STREET From South				OKEECHOBEE ROAD From West				Int. Total	
	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right		
08:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Total	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3
16:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
16:45	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	4
Total	0	0	2	0	0	0	0	0	0	0	1	0	1	0	2	0	0	6
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
17:15	0	0	1	0	0	0	0	0	1	0	1	0	1	0	0	0	0	4
17:45	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
Total	0	0	1	0	0	0	1	0	1	0	2	0	1	0	1	0	0	7
Grand Total	1	0	4	0	0	0	1	0	2	0	3	0	2	0	3	0	0	16
Apprch %	20	0	80	0	0	0	100	0	40	0	60	0	40	0	60	0	0	
Total %	6.2	0	25	0	0	0	6.2	0	12.5	0	18.8	0	12.5	0	18.8	0	0	

VIRGINIA AVENUE & OKEECHOBEE ROAD
 FT PIERCE, FLORIDA
 COUNTED BY: S. SALVO & L. PALOMINO (V)
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.
 85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00190070
 Start Date: 04/03/19
 File I.D. : VIRG_OKE
 Page : 1

ALL VEHICLES

Date	OKEECHOBEE ROAD From North				VIRGINIA AVENUE From East				----- From South				VIRGINIA AVENUE From West				Total
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	
04/03/19																	
07:00	0	0	47	0	0	0	102	0	0	0	0	0	0	0	70	114	333
07:15	0	0	71	0	0	0	114	0	0	0	0	0	0	0	82	165	432
07:30	0	0	104	0	0	0	136	0	0	0	0	0	0	0	126	252	618
07:45	0	0	99	0	0	0	124	0	0	0	0	0	0	0	134	317	674
Hr Total	0	0	321	0	0	0	476	0	0	0	0	0	0	0	412	848	2057
08:00	0	0	97	0	0	0	133	0	0	0	0	0	0	0	113	258	601
08:15	0	0	89	0	0	0	133	0	0	0	0	0	0	0	104	259	585
08:30	0	0	103	0	0	0	144	0	0	0	0	0	0	0	112	244	603
08:45	0	0	103	0	0	0	149	0	0	0	0	0	0	0	90	216	558
Hr Total	0	0	392	0	0	0	559	0	0	0	0	0	0	0	419	977	2347
* BREAK *																	
16:00	0	0	129	0	0	0	229	0	0	0	0	0	0	0	128	207	693
16:15	0	0	105	0	0	0	197	0	0	0	0	0	0	0	128	225	655
16:30	0	0	149	0	0	0	203	0	0	0	0	0	0	0	119	227	698
16:45	0	0	141	0	0	0	231	0	0	0	0	0	0	0	123	215	710
Hr Total	0	0	524	0	0	0	860	0	0	0	0	0	0	0	498	874	2756
17:00	0	0	161	0	0	0	272	0	0	0	0	0	0	0	109	233	775
17:15	0	0	167	0	0	0	200	0	0	0	0	0	0	0	160	223	750
17:30	0	0	130	0	0	0	210	0	0	0	0	0	0	0	145	256	741
17:45	0	0	137	0	0	0	202	0	0	0	0	0	0	0	144	245	728
Hr Total	0	0	595	0	0	0	884	0	0	0	0	0	0	0	558	957	2994
TOTAL	0	0	1832	0	0	0	2779	0	0	0	0	0	0	0	1887	3656	10154

VIRGINIA AVENUE & OKEECHOBEE ROAD
 FT PIERCE, FLORIDA
 COUNTED BY: S. SALVO & L. PALOMINO (V)
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.
 85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00190070
 Start Date: 04/03/19
 File I.D. : VIRG_OKE
 Page : 2

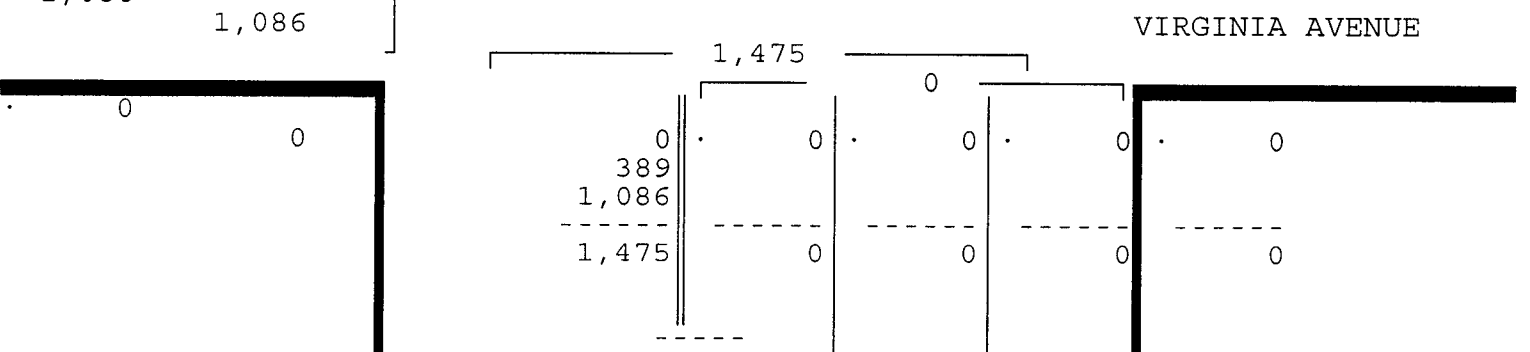
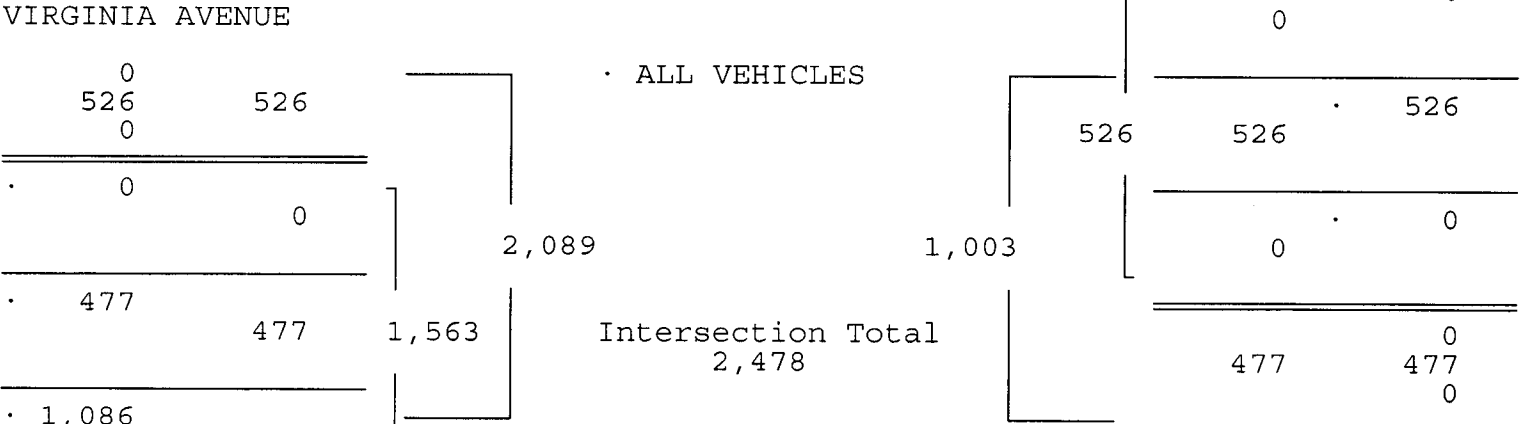
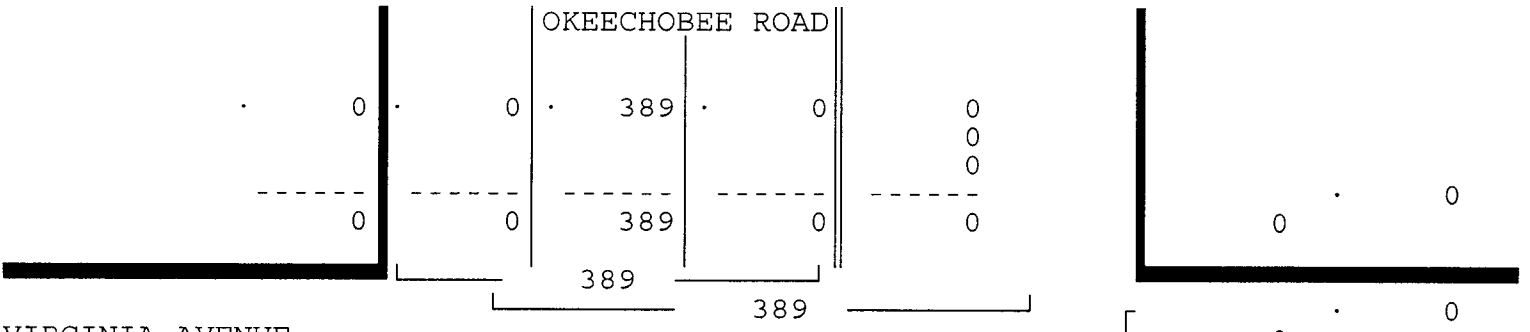
ALL VEHICLES

OKEECHOBEE ROAD				VIRGINIA AVENUE				-----				VIRGINIA AVENUE				Total
From North				From East				From South				From West				
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	

Date 04/03/19

Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 04/03/19

Peak start 07:30				07:30				07:30				07:30			
Volume	0	0	389	0	0	526	0	0	0	0	0	0	0	477	1086
Percent	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	31%	69%
Pk total	389			526			0			1563					
Highest	07:30			07:30			07:00			07:45					
Volume	0	0	104	0	0	136	0	0	0	0	0	0	0	134	317
Hi total	104			136			0			451					
PHF	.94			.97			.0			.87					

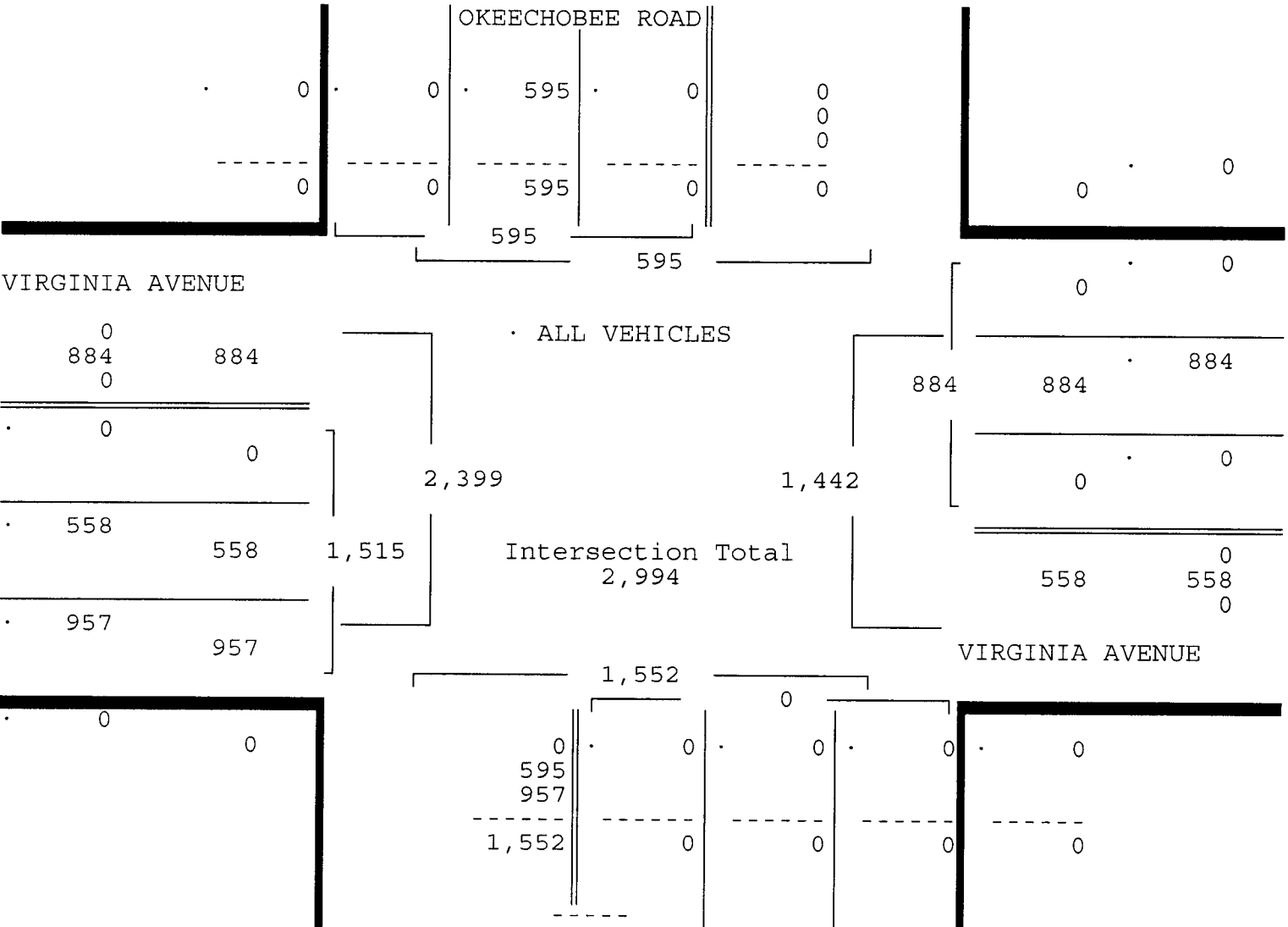


ALL VEHICLES

OKEECHOBEE ROAD				VIRGINIA AVENUE				VIRGINIA AVENUE				Total			
From North				From East				From South					From West		
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right

Peak Hour Analysis By Entire Intersection for the Period: 16:00 to 18:00 on 04/03/19

Peak start 17:00				17:00				17:00				17:00			
Volume	0	0	595	0	0	884	0	0	0	0	0	0	0	558	957
Percent	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	37%	63%
Pk total	595			884			0			1515					
Highest	17:15			17:00			07:00			17:30					
Volume	0	0	167	0	0	272	0	0	0	0	0	0	0	145	256
Hi total	167			272			0			401					
PHF	.89			.81			.0			.94					



VIRGINIA AVENUE & OKEECHOBEE ROAD
 FT PIERCE, FLORIDA
 COUNTED BY: S. SALVO & L. PALOMINO (V)
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.
 85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00190070
 Start Date: 04/03/19
 File I.D. : VIRG_OKE
 Page : 1

PEDESTRIANS & BIKES

Date	OKEECHOBEE ROAD From North				VIRGINIA AVENUE From East				----- From South				VIRGINIA AVENUE From West				Total
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	
04/03/19																	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
* BREAK *																	
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2

Appendix E: Signal Timing Sheet



City of Fort Pierce Engineering Department Intersection Timing Sheet

Name **SR-615 at Okeechobee Road**

Part I Actuated Timing Information

Non-coordinated Operation

Phase	1	2	3	4	5	6	7	8		
Approach	EBLT	WB	SBLT	NB	WBLT	EB	NBLT	SB		
Initial	12	12	9	12	12	12	9	12		
Passage	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
Max1	15.0	35.0	20.0	45.0	15.0	35.0	20.0	45.0		
Yellow	4.0	3.7	4.0	4.4	3.7	4.0	4.4	4.0		
Red	2.6	2.7	2.0	2.1	2.6	2.7	2.0	2.1		
Walk		7.0		7.0		7.0		7.0		
Ped Clear		28.0		25.0		30.0		29.0		
Recall		Min				Min				
LT Type	Prot+Perm		Prot+Perm		Prot+Perm		Prot+Perm			

Part II Coordinated Timing Information

Pattern Tables

PHASE	1	2	3	4	5	6	7	8	Cycle	Offset
Split Pattern 1	17	25	15	33	17	25	15	33	90	59
Split Pattern 2	18	31	15	36	18	31	15	36	100	50
Split Pattern 3	17	44	15	64	17	44	23	56	140	49
Split Pattern 4	15	22	15	28	15	22	15	28	80	42
Split Pattern 5	15	33	15	37	15	33	15	37	100	30

Schedule Implementation

Schedule Notes	Day Plan 1 (WEEKDAYS)			Day Plan 2 (WEEKENDS)			Day Plan 3 (Special)		
	Start	End	Split	Start	End	Split			
	0:00	6:30	100	0:00	7:00	100			
6:30	10:00	1	7:00	10:00	4				
10:00	15:00	2	10:00	18:00	5				
15:00	19:00	3	18:00	21:00	4				
19:00	21:00	4	21:00	0:00	100				
21:00	0:00	100							

Part III Notes and Comments

1. Installed new system and signal timing by AECOM (FDOT Retiming Contract C9028; FM 230017 7 32 01)

Office DEPOT®



City of Fort Pierce Engineering Department Intersection Timing Sheet

Name **SR-70 at Okeechobee Road**

Part I Actuated Timing Information

Non-coordinated Operation

Phase	1	2	3	4	5	6	7	8		
Approach		EB/SBR		WBT						
Initial		12		12						
Passage		5.0		5.0						
Max1		60.0		60.0						
Max2										
Yellow		4.8		4.8						
Red		2.5		2.5						
Walk		5.0								
Ped Clear		9.0								
Recall				Min						
LT Type										

Part II Coordinated Timing Information

Pattern Tables

PHASE	1	2	3	4	5	6	7	8	Cycle	Offset
Split Pattern 1		60		70					130	34
Split Pattern 2		65		65					130	22
Split Pattern 3		65		65					130	103
Split Pattern 4		50		50					100	70
Split Pattern 5		55		65					120	80

Schedule Implementation

Schedule Notes	Day Plan 1 (WEEKDAYS)			Day Plan 2 (WEEKENDS)			Day Plan 3 (Special)		
	Start	End	Pattern	Start	End	Pattern			
	0:00	6:30	Free	0:00	7:00	Free			
	6:30	10:00	1	7:00	10:00	4			
	10:00	15:00	2	10:00	18:00	5			
	15:00	19:00	3	18:00	21:00	4			
	19:00	21:00	4	21:00	0:00	Free			
	21:00	0:00	Free						

Part III Notes and Comments

1. Installed new system and signal timing by AECOM (FDOT Retiming Contract C9028; FM 230017 7 32 01)
2. Coord offset reference - Phase 4

Appendix F: Volume Development Worksheet

**VOLUME DEVELOPMENT SHEET
ARROW FORT PIERCE NORTH RESIDENTIAL
OKEECHOBEE ROAD & VIRGINIA AVENUE**

Peak Season = 1.01 1.01
Buildout Year = 2025 2025
Years = 6 6

AM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 04/03/2019	0	0	0	0	389	0	0	477	1,086	0	526	0
Peak Season Volume	0	0	0	0	393	0	0	482	1,097	0	531	0
Growth Rate				2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%
Traffic Volume Growth	0	0	0	0	64	0	0	78	177	0	86	0
Committed Celebration Pointe												
Inbound Traffic Assignment					5.0%						15.0%	
Inbound Traffic Volumes					5						15	
Outbound Traffic Assignment							5.0%		15.0%			
Outbound Traffic Volumes							19		56			
Project Traffic	0	0	0	0	5	0	0	19	56	0	15	0
Committed Bent Creek												
Inbound Traffic Assignment					10.0%						10.0%	
Inbound Traffic Volumes					38						38	
Outbound Traffic Assignment							10.0%		10.0%			
Outbound Traffic Volumes							51		51			
Project Traffic	0	0	0	0	38	0	0	51	51	0	38	0
Committed Carriage Pointe												
Inbound Traffic Assignment					20.0%							
Inbound Traffic Volumes					7							
Outbound Traffic Assignment												
Outbound Traffic Volumes												
Project Traffic	0	0	0	0	7	0	0	0	0	0	0	0
Committed Camping World												
Inbound Traffic Assignment					5.0%						25.0%	
Inbound Traffic Volumes					2						11	
Outbound Traffic Assignment								5.0%	25.0%			
Outbound Traffic Volumes								1	3			
Project Traffic	0	0	0	0	2	0	0	1	3	0	11	0
Total Committed Projects	0	0	0	0	52	0	0	71	110	0	64	0
1.0% Traffic Volume Growth	0	0	0	0	24	0	0	30	67	0	33	0
Committed + 1.0% Growth	0	0	0	0	76	0	0	101	177	0	97	0
Max (Committed + 1.0% or Historic Growth)	0	0	0	0	76	0	0	101	177	0	97	0
Background Traffic Volumes	0	0	0	0	469	0	0	583	1,274	0	628	0
Project Traffic												
Inbound Traffic Assignment								35.0%				
Inbound Traffic Volumes								4				
Outbound Traffic Assignment					35.0%							
Outbound Traffic Volumes					10							
Project Traffic	0	0	0	0	10	0	0	4	0	0	0	0
Total Traffic w/o RTOR	0	0	0	0	479	0	0	587	1,274	0	628	0
RTOR Reduction												
TOTAL TRAFFIC	0	0	0	0	479	0	0	587	1,274	0	628	0

PM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 04/03/2019	0	0	0	0	595	0	0	558	957	0	884	0
Peak Season Volume	0	0	0	0	601	0	0	564	967	0	893	0
Growth Rate				2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%
Traffic Volume Growth	0	0	0	0	97	0	0	91	156	0	144	0
Committed Celebration Pointe												
Inbound Traffic Assignment					5.0%						15.0%	
Inbound Traffic Volumes					20						60	
Outbound Traffic Assignment							5.0%		15.0%			
Outbound Traffic Volumes							11		32			
Project Traffic	0	0	0	0	20	0	0	11	32	0	60	0
Committed Bent Creek												
Inbound Traffic Assignment					10.0%						10.0%	
Inbound Traffic Volumes					23						23	
Outbound Traffic Assignment							10.0%		10.0%			
Outbound Traffic Volumes							63		63			
Project Traffic	0	0	0	0	23	0	0	63	63	0	23	0
Committed Carriage Pointe												
Inbound Traffic Assignment					20.0%							
Inbound Traffic Volumes					25							
Outbound Traffic Assignment												
Outbound Traffic Volumes												
Project Traffic	0	0	0	0	25	0	0	0	0	0	0	0
Committed Camping World												
Inbound Traffic Assignment					5.0%						25.0%	
Inbound Traffic Volumes					3						17	
Outbound Traffic Assignment								5.0%	25.0%			
Outbound Traffic Volumes								4	20			
Project Traffic	0	0	0	0	3	0	0	4	20	0	17	0
Total Committed Projects	0	0	0	0	71	0	0	78	115	0	100	0
1.0% Traffic Volume Growth	0	0	0	0	37	0	0	35	59	0	55	0
Committed + 1.0% Growth	0	0	0	0	108	0	0	113	174	0	155	0
Max (Committed + 1.0% or Historic Growth)	0	0	0	0	108	0	0	113	174	0	155	0
Background Traffic Volumes	0	0	0	0	709	0	0	677	1,141	0	1,048	0
Project Traffic												
Inbound Traffic Assignment								35.0%				
Inbound Traffic Volumes								11				
Outbound Traffic Assignment					35.0%							
Outbound Traffic Volumes					7							
Project Traffic	0	0	0	0	7	0	0	11	0	0	0	0
Total Traffic w/o RTOR	0	0	0	0	716	0	0	688	1,141	0	1,048	0
RTOR Reduction												
TOTAL TRAFFIC	0	0	0	0	716	0	0	688	1,141	0	1,048	0

**VOLUME DEVELOPMENT SHEET
ARROW FORT PIERCE NORTH RESIDENTIAL
S 25TH STREET & OKEECHOBEE ROAD**

Peak Season = 1.11 1.11
Buildout Year = 2025 2025
Years = 6 6

AM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 10/22/2019	106	575	173	40	715	118	143	391	105	109	247	14
Peak Season Volume	118	638	192	44	794	131	159	434	117	121	274	16
Growth Rate	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%
Traffic Volume Growth	19	103	31	7	128	21	26	70	19	20	44	3
1.0% Traffic Volume Growth	7	39	12	3	49	8	10	27	7	7	17	1
Committed + 1.0% Growth	7	39	12	3	49	8	10	27	7	7	17	1
Max (Committed + 1.0% or Historic Growth)	19	103	31	7	128	21	26	70	19	20	44	3
Background Traffic Volumes	137	741	223	51	922	152	185	504	136	141	318	19
Project Traffic												
Inbound Traffic Assignment	15.0%				5.0%						40.0%	
Inbound Traffic Volumes	2				1						4	
Outbound Traffic Assignment							5.0%	40.0%	15.0%			
Outbound Traffic Volumes							1	11	4			
Project Traffic	2	0	0	0	1	0	1	11	4	0	4	0
Total Traffic w/o RTOR	139	741	223	51	923	152	186	515	140	141	322	19
RTOR Reduction												
TOTAL TRAFFIC	139	741	223	51	923	152	186	515	140	141	322	19

PM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 10/22/2019	126	639	144	41	741	140	167	357	112	139	400	13
Peak Season Volume	140	709	160	46	823	155	185	396	124	154	444	14
Growth Rate	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%
Traffic Volume Growth	23	115	26	7	133	25	30	64	20	25	72	2
1.0% Traffic Volume Growth	9	44	10	3	51	10	11	24	8	9	27	1
Committed + 1.0% Growth	9	44	10	3	51	10	11	24	8	9	27	1
Max (Committed + 1.0% or Historic Growth)	23	115	26	7	133	25	30	64	20	25	72	2
Background Traffic Volumes	163	824	186	53	956	180	215	460	144	179	516	16
Project Traffic												
Inbound Traffic Assignment	15.0%				5.0%						40.0%	
Inbound Traffic Volumes	5				2						12	
Outbound Traffic Assignment							5.0%	40.0%	15.0%			
Outbound Traffic Volumes							1	8	3			
Project Traffic	5	0	0	0	2	0	1	8	3	0	12	0
Total Traffic w/o RTOR	168	824	186	53	958	180	216	468	147	179	528	16
RTOR Reduction												
TOTAL TRAFFIC	168	824	186	53	958	180	216	468	147	179	528	16

Appendix G: Synchro Analyses

Timings
1: Okeechobee Road & Virginia Avenue

Existing AM Peak Hour.syn

06/22/2020



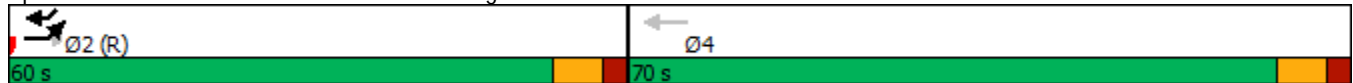
Lane Group	EBL	EBT	WBT	SWR
Lane Configurations	↔↔	↑↑↑	↑↑↑	↔↔
Traffic Volume (vph)	482	1097	531	393
Future Volume (vph)	482	1097	531	393
Turn Type	Prot	NA	NA	Over
Protected Phases	2			2
Permitted Phases		2	4	
Detector Phase	2	2	4	2
Switch Phase				
Minimum Initial (s)	12.0	12.0	12.0	12.0
Minimum Split (s)	25.3	25.3	25.3	25.3
Total Split (s)	60.0	60.0	70.0	60.0
Total Split (%)	46.2%	46.2%	53.8%	46.2%
Yellow Time (s)	4.8	4.8	4.8	4.8
All-Red Time (s)	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	7.3	7.3
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	None	C-Max
Act Effect Green (s)	94.5	94.5	20.9	94.5
Actuated g/C Ratio	0.73	0.73	0.16	0.73
v/c Ratio	0.20	0.31	0.68	0.19
Control Delay	6.3	6.8	55.6	0.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.3	6.8	55.6	0.7
LOS	A	A	E	A
Approach Delay		6.6	55.6	
Approach LOS		A	E	

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 34 (26%), Referenced to phase 2:EBTL, Start of Green
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 16.1
 Intersection Capacity Utilization 36.2%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 1: Okeechobee Road & Virginia Avenue



Queues

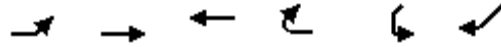
1: Okeechobee Road & Virginia Avenue



Lane Group	EBL	EBT	WBT	SWR
Lane Group Flow (vph)	507	1155	559	414
v/c Ratio	0.20	0.31	0.68	0.19
Control Delay	6.3	6.8	55.6	0.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.3	6.8	55.6	0.7
Queue Length 50th (ft)	62	112	164	0
Queue Length 95th (ft)	96	155	198	15
Internal Link Dist (ft)		358	1207	
Turn Bay Length (ft)				
Base Capacity (vph)	2494	3694	2452	2141
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.31	0.23	0.19
Intersection Summary				

HCM Signalized Intersection Capacity Analysis
 1: Okeechobee Road & Virginia Avenue

Existing AM Peak Hour.syn
 06/22/2020



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	482	1097	531	0	0	393
Future Volume (vph)	482	1097	531	0	0	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.3	7.3	7.3			7.3
Lane Util. Factor	0.97	0.91	0.91			0.88
Frt	1.00	1.00	1.00			0.85
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	5085	5085			2787
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	5085	5085			2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	507	1155	559	0	0	414
RTOR Reduction (vph)	0	0	0	0	0	113
Lane Group Flow (vph)	507	1155	559	0	0	301
Turn Type	Prot	NA	NA			Over
Protected Phases	2					2
Permitted Phases		2	4			
Actuated Green, G (s)	94.5	94.5	20.9			94.5
Effective Green, g (s)	94.5	94.5	20.9			94.5
Actuated g/C Ratio	0.73	0.73	0.16			0.73
Clearance Time (s)	7.3	7.3	7.3			7.3
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	2495	3696	817			2025
v/s Ratio Prot	0.15					0.11
v/s Ratio Perm		c0.23	c0.11			
v/c Ratio	0.20	0.31	0.68			0.15
Uniform Delay, d1	5.7	6.3	51.4			5.4
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.2	0.2	2.4			0.2
Delay (s)	5.9	6.5	53.8			5.6
Level of Service	A	A	D			A
Approach Delay (s)		6.3	53.8		5.6	
Approach LOS		A	D		A	

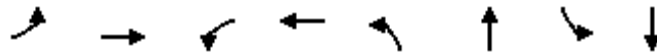
Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	36.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Timings
3: S 25th Street & Okeechobee Road

Existing AM Peak Hour.syn

06/22/2020

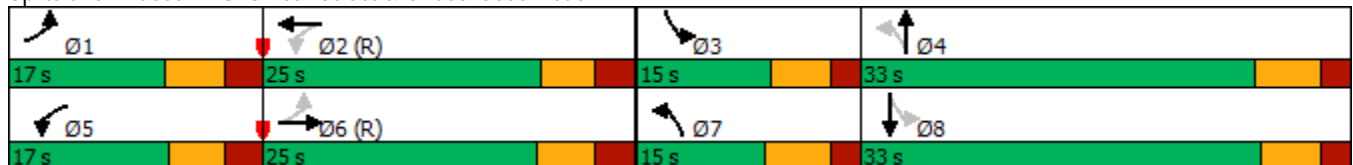


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↖	↕
Traffic Volume (vph)	159	434	121	274	118	638	44	794
Future Volume (vph)	159	434	121	274	118	638	44	794
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases	6		2		4		8	
Detector Phase	1	6	5	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	10.4	12.0	10.7	12.0	8.6	12.0	9.0	12.0
Minimum Split (s)	17.0	24.7	17.0	24.7	15.0	24.5	15.0	24.1
Total Split (s)	17.0	25.0	17.0	25.0	15.0	33.0	15.0	33.0
Total Split (%)	18.9%	27.8%	18.9%	27.8%	16.7%	36.7%	16.7%	36.7%
Yellow Time (s)	4.0	4.0	3.7	3.7	4.4	4.4	4.0	4.0
All-Red Time (s)	2.6	2.7	2.6	2.7	2.0	2.1	2.0	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6	6.7	6.3	6.4	6.4	6.5	6.0	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	28.9	18.4	29.5	18.7	37.7	32.4	35.9	26.8
Actuated g/C Ratio	0.32	0.20	0.33	0.21	0.42	0.36	0.40	0.30
v/c Ratio	0.41	0.80	0.42	0.42	0.51	0.69	0.15	0.93
Control Delay	22.0	41.7	22.5	32.4	23.7	28.6	14.7	46.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	41.7	22.5	32.4	23.7	28.6	14.7	46.3
LOS	C	D	C	C	C	C	B	D
Approach Delay		37.3		29.5		28.0		44.9
Approach LOS		D		C		C		D

Intersection Summary

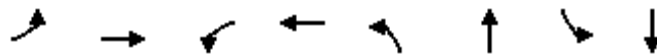
Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 59 (66%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 35.7
 Intersection LOS: D
 Intersection Capacity Utilization 79.2%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: S 25th Street & Okeechobee Road



Queues
3: S 25th Street & Okeechobee Road

Existing AM Peak Hour.syn
06/22/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	167	580	127	305	124	874	46	974
v/c Ratio	0.41	0.80	0.42	0.42	0.51	0.69	0.15	0.93
Control Delay	22.0	41.7	22.5	32.4	23.7	28.6	14.7	46.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	41.7	22.5	32.4	23.7	28.6	14.7	46.3
Queue Length 50th (ft)	62	156	46	77	39	233	14	276
Queue Length 95th (ft)	108	#234	84	117	80	#333	33	#402
Internal Link Dist (ft)		1962		574		2034		690
Turn Bay Length (ft)	225		200		225		200	
Base Capacity (vph)	409	725	305	732	243	1259	298	1050
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.80	0.42	0.42	0.51	0.69	0.15	0.93

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
3: S 25th Street & Okeechobee Road

Existing AM Peak Hour.syn
06/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (vph)	159	434	117	121	274	16	118	638	192	44	794	131
Future Volume (vph)	159	434	117	121	274	16	118	638	192	44	794	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.7		6.3	6.4		6.4	6.5		6.0	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.99		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3427		1770	3510		1770	3417		1770	3464	
Flt Permitted	0.54	1.00		0.25	1.00		0.12	1.00		0.22	1.00	
Satd. Flow (perm)	1001	3427		457	3510		230	3417		405	3464	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	167	457	123	127	288	17	124	672	202	46	836	138
RTOR Reduction (vph)	0	28	0	0	5	0	0	28	0	0	14	0
Lane Group Flow (vph)	167	552	0	127	300	0	124	846	0	46	960	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	26.4	16.0		27.0	16.3		41.0	32.4		34.6	29.2	
Effective Green, g (s)	26.4	16.0		27.0	16.3		41.0	32.4		34.6	29.2	
Actuated g/C Ratio	0.29	0.18		0.30	0.18		0.46	0.36		0.38	0.32	
Clearance Time (s)	6.6	6.7		6.3	6.4		6.4	6.5		6.0	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	382	609		293	635		251	1230		237	1123	
v/s Ratio Prot	0.05	c0.16		c0.05	0.09		c0.05	c0.25		0.01	c0.28	
v/s Ratio Perm	0.08			0.08			0.18			0.06		
v/c Ratio	0.44	0.91		0.43	0.47		0.49	0.69		0.19	0.85	
Uniform Delay, d1	24.8	36.3		24.2	33.0		17.5	24.5		18.1	28.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	19.6		1.0	2.5		1.5	1.6		0.4	6.5	
Delay (s)	25.6	55.8		25.2	35.5		19.1	26.1		18.5	34.9	
Level of Service	C	E		C	D		B	C		B	C	
Approach Delay (s)		49.1			32.5			25.2			34.2	
Approach LOS		D			C			C			C	

Intersection Summary

HCM 2000 Control Delay	34.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Timings
1: Okeechobee Road & Virginia Avenue

Existing PM Peak Hour.syn
06/22/2020

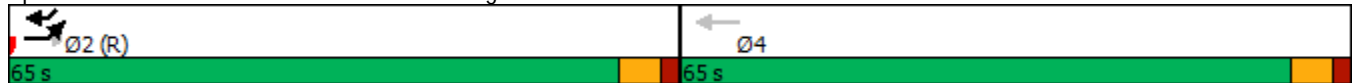


Lane Group	EBL	EBT	WBT	SWR
Lane Configurations	↔↔	↑↑↑	↑↑↑	↔↔
Traffic Volume (vph)	564	967	893	601
Future Volume (vph)	564	967	893	601
Turn Type	Prot	NA	NA	Over
Protected Phases	2			2
Permitted Phases		2	4	
Detector Phase	2	2	4	2
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0
Total Split (s)	65.0	65.0	65.0	65.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	None	C-Max
Act Effect Green (s)	84.5	84.5	33.5	84.5
Actuated g/C Ratio	0.65	0.65	0.26	0.65
v/c Ratio	0.27	0.31	0.72	0.34
Control Delay	10.6	10.8	46.9	9.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	10.6	10.8	46.9	9.2
LOS	B	B	D	A
Approach Delay		10.7	46.9	
Approach LOS		B	D	

Intersection Summary

Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 103 (79%), Referenced to phase 2:EBTL and 6:, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 21.1	Intersection LOS: C
Intersection Capacity Utilization 48.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Okeechobee Road & Virginia Avenue



Queues

1: Okeechobee Road & Virginia Avenue

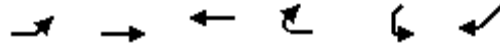


Lane Group	EBL	EBT	WBT	SWR
Lane Group Flow (vph)	594	1018	940	633
v/c Ratio	0.27	0.31	0.72	0.34
Control Delay	10.6	10.8	46.9	9.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	10.6	10.8	46.9	9.2
Queue Length 50th (ft)	102	128	265	100
Queue Length 95th (ft)	153	178	293	159
Internal Link Dist (ft)		326	1056	
Turn Bay Length (ft)				
Base Capacity (vph)	2230	3304	2307	1853
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.27	0.31	0.41	0.34

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 1: Okeechobee Road & Virginia Avenue

Existing PM Peak Hour.syn
 06/22/2020



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↘↘	↑↑↑	↑↑↑			↗↗
Traffic Volume (vph)	564	967	893	0	0	601
Future Volume (vph)	564	967	893	0	0	601
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0			6.0
Lane Util. Factor	0.97	0.91	0.91			0.88
Frt	1.00	1.00	1.00			0.85
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	5085	5085			2787
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	5085	5085			2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	594	1018	940	0	0	633
RTOR Reduction (vph)	0	0	0	0	0	42
Lane Group Flow (vph)	594	1018	940	0	0	591
Turn Type	Prot	NA	NA			Over
Protected Phases	2					2
Permitted Phases		2	4			
Actuated Green, G (s)	84.5	84.5	33.5			84.5
Effective Green, g (s)	84.5	84.5	33.5			84.5
Actuated g/C Ratio	0.65	0.65	0.26			0.65
Clearance Time (s)	6.0	6.0	6.0			6.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	2231	3305	1310			1811
v/s Ratio Prot	0.17					c0.21
v/s Ratio Perm		0.20	c0.18			
v/c Ratio	0.27	0.31	0.72			0.33
Uniform Delay, d1	9.6	10.0	43.9			10.1
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.3	0.2	1.9			0.5
Delay (s)	9.9	10.2	45.8			10.6
Level of Service	A	B	D			B
Approach Delay (s)		10.1	45.8		10.6	
Approach LOS		B	D		B	

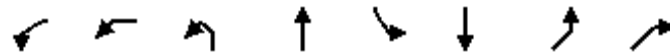
Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Timings
3: Okeechobee Road & S 25th Street

Existing PM Peak Hour.syn

06/22/2020

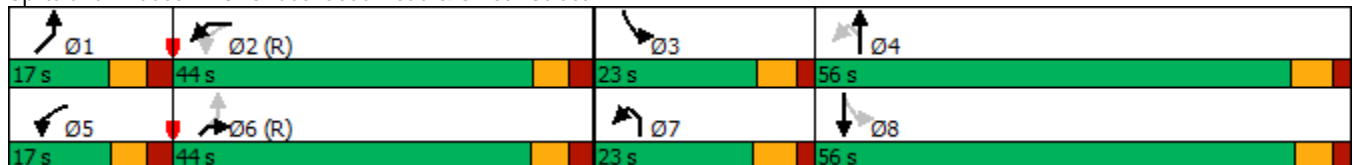


Lane Group	WBL2	WBL	NBL	NBT	SBL	SBT	NEL	NER
Lane Configurations	↙	↙↙	↙	↑↑	↙	↑↑	↙	↙↙
Traffic Volume (vph)	154	444	140	709	46	823	185	396
Future Volume (vph)	154	444	140	709	46	823	185	396
Turn Type	pm+pt	Prot	pm+pt	NA	pm+pt	NA	pm+pt	Prot
Protected Phases	5	2	7	4	3	8	1	6
Permitted Phases	2		4		8		6	
Detector Phase	5	2	7	4	3	8	1	6
Switch Phase								
Minimum Initial (s)	10.7	12.0	8.6	12.0	9.0	12.0	10.4	12.0
Minimum Split (s)	17.0	24.7	15.0	24.5	15.0	24.1	17.0	24.7
Total Split (s)	17.0	44.0	23.0	56.0	23.0	56.0	17.0	44.0
Total Split (%)	12.1%	31.4%	16.4%	40.0%	16.4%	40.0%	12.1%	31.4%
Yellow Time (s)	3.7	3.7	4.4	4.4	4.0	4.0	4.0	4.0
All-Red Time (s)	2.6	2.7	2.0	2.1	2.0	2.1	2.6	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.4	6.4	6.5	6.0	6.1	6.6	6.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	None	None	C-Max
Act Effect Green (s)	53.6	42.1	65.6	54.6	56.6	47.5	54.2	42.4
Actuated g/C Ratio	0.38	0.30	0.47	0.39	0.40	0.34	0.39	0.30
v/c Ratio	0.53	0.43	0.67	0.68	0.20	0.87	0.55	0.59
Control Delay	34.0	30.6	42.8	37.3	20.3	51.4	35.3	35.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	30.6	42.8	37.3	20.3	51.4	35.3	35.1
LOS	C	C	D	D	C	D	D	D
Approach Delay		31.5		38.1		50.1	35.2	
Approach LOS		C		D		D	D	

Intersection Summary

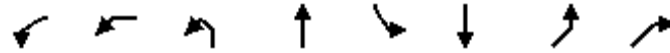
Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 49 (35%), Referenced to phase 2:WBL and 6:NEL, Start of Green
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 39.9
 Intersection Capacity Utilization 80.1%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service D

Splits and Phases: 3: Okeechobee Road & S 25th Street



Queues
3: Okeechobee Road & S 25th Street

Existing PM Peak Hour.syn
06/22/2020




























Lane Group	WBL2	WBL	NBL	NBT	SBL	SBT	NEL	NER
Lane Group Flow (vph)	162	482	147	914	48	1029	195	548
v/c Ratio	0.53	0.43	0.67	0.68	0.20	0.87	0.55	0.59
Control Delay	34.0	30.6	42.8	37.3	20.3	51.4	35.3	35.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	30.6	42.8	37.3	20.3	51.4	35.3	35.1
Queue Length 50th (ft)	93	138	77	357	22	445	115	192
Queue Length 95th (ft)	154	193	145	414	43	533	184	267
Internal Link Dist (ft)		574		2034		690	3530	
Turn Bay Length (ft)	200	200	225		200		225	
Base Capacity (vph)	306	1122	260	1360	337	1249	354	934
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.43	0.57	0.67	0.14	0.82	0.55	0.59

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 3: Okeechobee Road & S 25th Street

Existing PM Peak Hour.syn

06/22/2020

												
Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER	NER2
Lane Configurations		  			 			 			 	
Traffic Volume (vph)	154	444	14	140	709	160	46	823	155	185	396	124
Future Volume (vph)	154	444	14	140	709	160	46	823	155	185	396	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.4		6.4	6.5		6.0	6.1		6.6	6.7	
Lane Util. Factor	1.00	0.97		1.00	0.95		1.00	0.95		1.00	0.88	
Frt	1.00	1.00		1.00	0.97		1.00	0.98		1.00	0.85	
Flt Protected	0.95	0.95		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3431		1770	3442		1770	3455		1770	2787	
Flt Permitted	0.29	0.95		0.08	1.00		0.19	1.00		0.36	1.00	
Satd. Flow (perm)	539	3431		142	3442		363	3455		679	2787	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	162	467	15	147	746	168	48	866	163	195	417	131
RTOR Reduction (vph)	0	91	0	0	13	0	0	11	0	0	91	0
Lane Group Flow (vph)	162	391	0	147	901	0	48	1018	0	195	457	0
Turn Type	pm+pt	Prot		pm+pt	NA		pm+pt	NA		pm+pt	Prot	
Protected Phases	5	2		7	4		3	8		1	6	
Permitted Phases	2			4			8			6		
Actuated Green, G (s)	52.4	41.0		67.8	54.6		55.8	48.6		53.0	41.3	
Effective Green, g (s)	52.4	41.0		67.8	54.6		55.8	48.6		53.0	41.3	
Actuated g/C Ratio	0.37	0.29		0.48	0.39		0.40	0.35		0.38	0.29	
Clearance Time (s)	6.3	6.4		6.4	6.5		6.0	6.1		6.6	6.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	301	1004		222	1342		217	1199		348	822	
v/s Ratio Prot	0.04	0.11		c0.06	c0.26		0.01	c0.29		c0.05	0.16	
v/s Ratio Perm	0.16			0.26			0.08			c0.17		
v/c Ratio	0.54	0.39		0.66	0.67		0.22	0.85		0.56	0.56	
Uniform Delay, d1	31.0	39.5		29.1	35.3		27.3	42.3		30.8	41.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.9	1.1		7.2	1.3		0.5	5.8		2.1	2.7	
Delay (s)	32.8	40.6		36.4	36.6		27.8	48.1		32.9	44.3	
Level of Service	C	D		D	D		C	D		C	D	
Approach Delay (s)		38.7			36.6			47.2		41.3		
Approach LOS		D			D			D		D		
Intersection Summary												
HCM 2000 Control Delay			41.2		HCM 2000 Level of Service					D		
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			140.0		Sum of lost time (s)			25.5				
Intersection Capacity Utilization			80.1%		ICU Level of Service			D				
Analysis Period (min)			15									

c Critical Lane Group

Timings
1: Okeechobee Road & Virginia Avenue



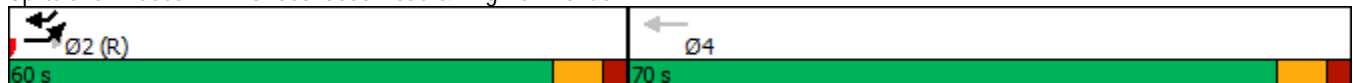
Lane Group	EBL	EBT	WBT	SWR
Lane Configurations	↔↔	↑↑↑	↑↑↑	↔↔
Traffic Volume (vph)	583	1274	628	469
Future Volume (vph)	583	1274	628	469
Turn Type	Prot	NA	NA	Over
Protected Phases	2			2
Permitted Phases		2	4	
Detector Phase	2	2	4	2
Switch Phase				
Minimum Initial (s)	12.0	12.0	12.0	12.0
Minimum Split (s)	25.3	25.3	25.3	25.3
Total Split (s)	60.0	60.0	70.0	60.0
Total Split (%)	46.2%	46.2%	53.8%	46.2%
Yellow Time (s)	4.8	4.8	4.8	4.8
All-Red Time (s)	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	7.3	7.3
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	None	C-Max
Act Effect Green (s)	91.0	91.0	24.4	91.0
Actuated g/C Ratio	0.70	0.70	0.19	0.70
v/c Ratio	0.26	0.38	0.69	0.24
Control Delay	7.8	8.6	53.0	2.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.8	8.6	53.0	2.9
LOS	A	A	D	A
Approach Delay		8.4	53.0	
Approach LOS		A	D	

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 34 (26%), Referenced to phase 2:EBTL and 6:, Start of Green
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 17.0
 Intersection Capacity Utilization 40.9%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 1: Okeechobee Road & Virginia Avenue



Queues

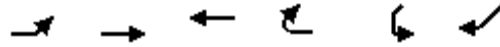
1: Okeechobee Road & Virginia Avenue



Lane Group	EBL	EBT	WBT	SWR
Lane Group Flow (vph)	614	1341	661	494
v/c Ratio	0.26	0.38	0.69	0.24
Control Delay	7.8	8.6	53.0	2.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.8	8.6	53.0	2.9
Queue Length 50th (ft)	88	153	191	24
Queue Length 95th (ft)	132	207	225	51
Internal Link Dist (ft)		282	721	
Turn Bay Length (ft)				
Base Capacity (vph)	2402	3559	2452	2046
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.26	0.38	0.27	0.24
Intersection Summary				

HCM Signalized Intersection Capacity Analysis
 1: Okeechobee Road & Virginia Avenue

Background AM Peak Hour.syn
 06/22/2020



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	583	1274	628	0	0	469
Future Volume (vph)	583	1274	628	0	0	469
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.3	7.3	7.3			7.3
Lane Util. Factor	0.97	0.91	0.91			0.88
Frt	1.00	1.00	1.00			0.85
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	5085	5085			2787
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	5085	5085			2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	614	1341	661	0	0	494
RTOR Reduction (vph)	0	0	0	0	0	95
Lane Group Flow (vph)	614	1341	661	0	0	399
Turn Type	Prot	NA	NA			Over
Protected Phases	2					2
Permitted Phases		2	4			
Actuated Green, G (s)	91.0	91.0	24.4			91.0
Effective Green, g (s)	91.0	91.0	24.4			91.0
Actuated g/C Ratio	0.70	0.70	0.19			0.70
Clearance Time (s)	7.3	7.3	7.3			7.3
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	2403	3559	954			1950
v/s Ratio Prot	0.18					0.14
v/s Ratio Perm		c0.26	c0.13			
v/c Ratio	0.26	0.38	0.69			0.20
Uniform Delay, d1	7.1	7.9	49.3			6.8
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.3	0.3	2.2			0.2
Delay (s)	7.4	8.3	51.5			7.1
Level of Service	A	A	D			A
Approach Delay (s)		8.0	51.5		7.1	
Approach LOS		A	D		A	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	40.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Timings
3: Okeechobee Road & S 25th Street

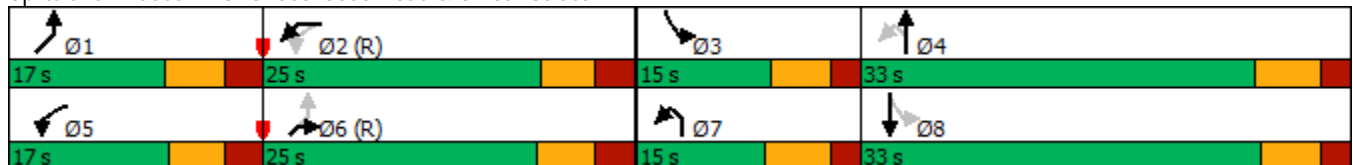


Lane Group	WBL2	WBL	NBL	NBT	SBL	SBT	NEL	NER
Lane Configurations	↙	↙↙	↙	↑↑	↙	↑↑	↙	↙↙
Traffic Volume (vph)	141	318	137	741	51	922	185	504
Future Volume (vph)	141	318	137	741	51	922	185	504
Turn Type	pm+pt	Prot	pm+pt	NA	pm+pt	NA	pm+pt	Prot
Protected Phases	5	2	7	4	3	8	1	6
Permitted Phases	2		4		8		6	
Detector Phase	5	2	7	4	3	8	1	6
Switch Phase								
Minimum Initial (s)	10.7	12.0	8.6	12.0	9.0	12.0	10.4	12.0
Minimum Split (s)	17.0	24.7	15.0	24.5	15.0	24.1	17.0	24.7
Total Split (s)	17.0	25.0	15.0	33.0	15.0	33.0	17.0	25.0
Total Split (%)	18.9%	27.8%	16.7%	36.7%	16.7%	36.7%	18.9%	27.8%
Yellow Time (s)	3.7	3.7	4.4	4.4	4.0	4.0	4.0	4.0
All-Red Time (s)	2.6	2.7	2.0	2.1	2.0	2.1	2.6	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.4	6.4	6.5	6.0	6.1	6.6	6.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	None	None	C-Max
Act Effect Green (s)	29.4	18.6	37.8	32.5	36.0	26.9	28.8	18.3
Actuated g/C Ratio	0.33	0.21	0.42	0.36	0.40	0.30	0.32	0.20
v/c Ratio	0.48	0.41	0.59	0.80	0.21	1.08	0.51	0.93
Control Delay	24.0	14.7	27.6	33.0	15.6	82.3	24.2	45.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	14.7	27.6	33.0	15.6	82.3	24.2	45.7
LOS	C	B	C	C	B	F	C	D
Approach Delay		17.5		32.4		79.2	40.9	
Approach LOS		B		C		E	D	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 59 (66%), Referenced to phase 2:WBL and 6:NEL, Start of Green
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 47.3
 Intersection Capacity Utilization 79.4%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service D

Splits and Phases: 3: Okeechobee Road & S 25th Street



Queues
3: Okeechobee Road & S 25th Street



Lane Group	WBL2	WBL	NBL	NBT	SBL	SBT	NEL	NER
Lane Group Flow (vph)	148	355	144	1015	54	1131	195	674
v/c Ratio	0.48	0.41	0.59	0.80	0.21	1.08	0.51	0.93
Control Delay	24.0	14.7	27.6	33.0	15.6	82.3	24.2	45.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	14.7	27.6	33.0	15.6	82.3	24.2	45.7
Queue Length 50th (ft)	54	38	46	288	16	~377	74	155
Queue Length 95th (ft)	97	76	#102	#427	37	#507	125	#276
Internal Link Dist (ft)		574		2034		690	2264	
Turn Bay Length (ft)	200	200	225		200		225	
Base Capacity (vph)	306	866	243	1261	258	1050	386	726
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.41	0.59	0.80	0.21	1.08	0.51	0.93

Intersection Summary

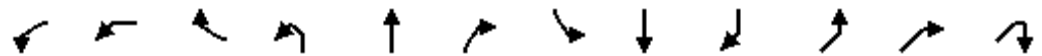
- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

3: Okeechobee Road & S 25th Street

Background AM Peak Hour.syn

06/22/2020



Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER	NER2
Lane Configurations												
Traffic Volume (vph)	141	318	19	137	741	223	51	922	152	185	504	136
Future Volume (vph)	141	318	19	137	741	223	51	922	152	185	504	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.4		6.4	6.5		6.0	6.1		6.6	6.7	
Lane Util. Factor	1.00	0.97		1.00	0.95		1.00	0.95		1.00	0.88	
Frt	1.00	0.99		1.00	0.97		1.00	0.98		1.00	0.85	
Flt Protected	0.95	0.95		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3422		1770	3416		1770	3464		1770	2787	
Flt Permitted	0.25	0.95		0.12	1.00		0.15	1.00		0.48	1.00	
Satd. Flow (perm)	460	3422		229	3416		272	3464		888	2787	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	148	335	20	144	780	235	54	971	160	195	531	143
RTOR Reduction (vph)	0	164	0	0	29	0	0	14	0	0	165	0
Lane Group Flow (vph)	148	191	0	144	986	0	54	1117	0	195	509	0
Turn Type	pm+pt	Prot		pm+pt	NA		pm+pt	NA		pm+pt	Prot	
Protected Phases	5	2		7	4		3	8		1	6	
Permitted Phases	2			4			8			6		
Actuated Green, G (s)	26.9	16.2		41.1	32.5		34.7	29.3		26.3	15.9	
Effective Green, g (s)	26.9	16.2		41.1	32.5		34.7	29.3		26.3	15.9	
Actuated g/C Ratio	0.30	0.18		0.46	0.36		0.39	0.33		0.29	0.18	
Clearance Time (s)	6.3	6.4		6.4	6.5		6.0	6.1		6.6	6.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	293	615		251	1233		194	1127		361	492	
v/s Ratio Prot	0.06	0.06		c0.05	c0.29		0.02	c0.32		c0.06	c0.18	
v/s Ratio Perm	0.09			0.21			0.09			0.10		
v/c Ratio	0.51	0.31		0.57	0.80		0.28	0.99		0.54	1.04	
Uniform Delay, d1	25.0	32.0		19.1	25.8		18.8	30.2		25.4	37.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	1.3		3.2	3.7		0.8	24.5		1.7	50.0	
Delay (s)	26.4	33.4		22.3	29.6		19.6	54.7		27.0	87.0	
Level of Service	C	C		C	C		B	D		C	F	
Approach Delay (s)		31.3			28.7			53.1		73.6		
Approach LOS		C			C			D		E		

Intersection Summary

HCM 2000 Control Delay	47.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Timings
1: Okeechobee Road & Virginia Avenue



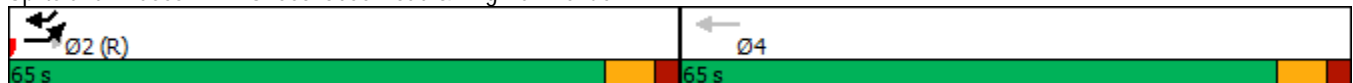
Lane Group	EBL	EBT	WBT	SWR
Lane Configurations	↔↔	↑↑↑	↑↑↑	↔↔
Traffic Volume (vph)	677	1141	1048	709
Future Volume (vph)	677	1141	1048	709
Turn Type	Prot	NA	NA	Over
Protected Phases	2			2
Permitted Phases		2	4	
Detector Phase	2	2	4	2
Switch Phase				
Minimum Initial (s)	12.0	12.0	12.0	12.0
Minimum Split (s)	25.3	25.3	25.3	25.3
Total Split (s)	65.0	65.0	65.0	65.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	4.8	4.8	4.8	4.8
All-Red Time (s)	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	7.3	7.3
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	None	C-Max
Act Effct Green (s)	76.3	76.3	39.1	76.3
Actuated g/C Ratio	0.59	0.59	0.30	0.59
v/c Ratio	0.35	0.40	0.72	0.45
Control Delay	15.4	15.7	43.1	15.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.4	15.7	43.1	15.3
LOS	B	B	D	B
Approach Delay		15.6	43.1	
Approach LOS		B	D	

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 23.6
 Intersection Capacity Utilization 57.2%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 1: Okeechobee Road & Virginia Avenue



Queues

Background PM Peak Hour.syn

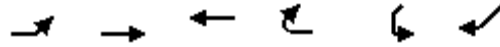
06/22/2020

1: Okeechobee Road & Virginia Avenue



Lane Group	EBL	EBT	WBT	SWR
Lane Group Flow (vph)	713	1201	1103	746
v/c Ratio	0.35	0.40	0.72	0.45
Control Delay	15.4	15.7	43.1	15.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.4	15.7	43.1	15.3
Queue Length 50th (ft)	154	191	304	172
Queue Length 95th (ft)	224	259	326	259
Internal Link Dist (ft)		557	1265	
Turn Bay Length (ft)				
Base Capacity (vph)	2015	2984	2256	1663
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.40	0.49	0.45
Intersection Summary				

HCM Signalized Intersection Capacity Analysis
 1: Okeechobee Road & Virginia Avenue

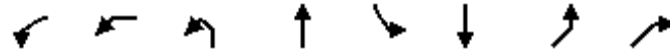


Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↔↔	↑↑↑	↑↑↑			↔↔
Traffic Volume (vph)	677	1141	1048	0	0	709
Future Volume (vph)	677	1141	1048	0	0	709
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.3	7.3	7.3			7.3
Lane Util. Factor	0.97	0.91	0.91			0.88
Frt	1.00	1.00	1.00			0.85
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	5085	5085			2787
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	5085	5085			2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	713	1201	1103	0	0	746
RTOR Reduction (vph)	0	0	0	0	0	28
Lane Group Flow (vph)	713	1201	1103	0	0	718
Turn Type	Prot	NA	NA			Over
Protected Phases	2					2
Permitted Phases		2	4			
Actuated Green, G (s)	76.3	76.3	39.1			76.3
Effective Green, g (s)	76.3	76.3	39.1			76.3
Actuated g/C Ratio	0.59	0.59	0.30			0.59
Clearance Time (s)	7.3	7.3	7.3			7.3
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	2014	2984	1529			1635
v/s Ratio Prot	0.21					c0.26
v/s Ratio Perm		0.24	c0.22			
v/c Ratio	0.35	0.40	0.72			0.44
Uniform Delay, d1	14.0	14.5	40.6			14.9
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.5	0.4	1.7			0.9
Delay (s)	14.5	14.9	42.3			15.8
Level of Service	B	B	D			B
Approach Delay (s)		14.8	42.3		15.8	
Approach LOS		B	D		B	

Intersection Summary			
HCM 2000 Control Delay		23.0	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio		0.53	
Actuated Cycle Length (s)		130.0	Sum of lost time (s) 14.6
Intersection Capacity Utilization		57.2%	ICU Level of Service B
Analysis Period (min)		15	

c Critical Lane Group

Timings
3: Okeechobee Road & S 25th Street

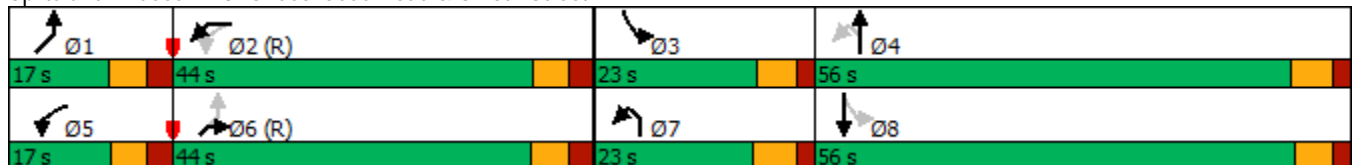


Lane Group	WBL2	WBL	NBL	NBT	SBL	SBT	NEL	NER
Lane Configurations	↶	↶↷	↶	↶↷	↶	↶↷	↶	↶↷
Traffic Volume (vph)	179	516	163	824	53	956	215	460
Future Volume (vph)	179	516	163	824	53	956	215	460
Turn Type	pm+pt	Prot	pm+pt	NA	pm+pt	NA	pm+pt	Prot
Protected Phases	5	2	7	4	3	8	1	6
Permitted Phases	2		4		8		6	
Detector Phase	5	2	7	4	3	8	1	6
Switch Phase								
Minimum Initial (s)	10.7	12.0	8.6	12.0	9.0	12.0	10.4	12.0
Minimum Split (s)	17.0	24.7	15.0	24.5	15.0	24.1	17.0	24.7
Total Split (s)	17.0	44.0	23.0	56.0	23.0	56.0	17.0	44.0
Total Split (%)	12.1%	31.4%	16.4%	40.0%	16.4%	40.0%	12.1%	31.4%
Yellow Time (s)	3.7	3.7	4.4	4.4	4.0	4.0	4.0	4.0
All-Red Time (s)	2.6	2.7	2.0	2.1	2.0	2.1	2.6	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.4	6.4	6.5	6.0	6.1	6.6	6.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	None	None	C-Max
Act Effect Green (s)	49.2	38.3	70.9	59.2	60.3	51.1	49.3	38.3
Actuated g/C Ratio	0.35	0.27	0.51	0.42	0.43	0.36	0.35	0.27
v/c Ratio	0.80	0.54	0.74	0.72	0.26	0.94	0.80	0.74
Control Delay	55.9	35.3	50.9	36.9	20.4	56.9	55.0	42.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.9	35.3	50.9	36.9	20.4	56.9	55.0	42.9
LOS	E	D	D	D	C	E	D	D
Approach Delay		40.5		38.9		55.3	46.1	
Approach LOS		D		D		E	D	

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 49 (35%), Referenced to phase 2:WBL and 6:NEL, Start of Green
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 45.7
 Intersection LOS: D
 Intersection Capacity Utilization 89.6%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 3: Okeechobee Road & S 25th Street



Queues
3: Okeechobee Road & S 25th Street



Lane Group	WBL2	WBL	NBL	NBT	SBL	SBT	NEL	NER
Lane Group Flow (vph)	188	560	172	1063	56	1195	226	636
v/c Ratio	0.80	0.54	0.74	0.72	0.26	0.94	0.80	0.74
Control Delay	55.9	35.3	50.9	36.9	20.4	56.9	55.0	42.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.9	35.3	50.9	36.9	20.4	56.9	55.0	42.9
Queue Length 50th (ft)	116	174	101	421	25	540	143	246
Queue Length 95th (ft)	#200	234	182	511	48	#705	#261	327
Internal Link Dist (ft)		574		2034		690	4088	
Turn Bay Length (ft)	200	200	225		200		225	
Base Capacity (vph)	235	1031	260	1467	319	1271	282	856
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.54	0.66	0.72	0.18	0.94	0.80	0.74

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

3: Okeechobee Road & S 25th Street

Background PM Peak Hour.syn

06/22/2020



Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER	NER2
Lane Configurations												
Traffic Volume (vph)	179	516	16	163	824	186	53	956	180	215	460	144
Future Volume (vph)	179	516	16	163	824	186	53	956	180	215	460	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.4		6.4	6.5		6.0	6.1		6.6	6.7	
Lane Util. Factor	1.00	0.97		1.00	0.95		1.00	0.95		1.00	0.88	
Frt	1.00	1.00		1.00	0.97		1.00	0.98		1.00	0.85	
Flt Protected	0.95	0.95		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3431		1770	3441		1770	3455		1770	2787	
Flt Permitted	0.19	0.95		0.07	1.00		0.15	1.00		0.28	1.00	
Satd. Flow (perm)	360	3431		128	3441		285	3455		527	2787	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	188	543	17	172	867	196	56	1006	189	226	484	152
RTOR Reduction (vph)	0	95	0	0	12	0	0	11	0	0	95	0
Lane Group Flow (vph)	188	465	0	172	1051	0	56	1184	0	226	541	0
Turn Type	pm+pt	Prot		pm+pt	NA		pm+pt	NA		pm+pt	Prot	
Protected Phases	5	2		7	4		3	8		1	6	
Permitted Phases	2			4			8			6		
Actuated Green, G (s)	47.9	37.1		72.5	59.2		59.5	52.2		48.1	37.2	
Effective Green, g (s)	47.9	37.1		72.5	59.2		59.5	52.2		48.1	37.2	
Actuated g/C Ratio	0.34	0.27		0.52	0.42		0.42	0.37		0.34	0.27	
Clearance Time (s)	6.3	6.4		6.4	6.5		6.0	6.1		6.6	6.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	231	909		234	1455		198	1288		277	740	
v/s Ratio Prot	0.06	0.14		c0.08	c0.31		0.01	c0.34		c0.06	0.19	
v/s Ratio Perm	0.21			0.31			0.11			c0.22		
v/c Ratio	0.81	0.51		0.74	0.72		0.28	0.92		0.82	0.73	
Uniform Delay, d1	35.8	43.7		36.5	33.6		25.9	41.9		38.1	46.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	19.3	2.1		11.3	1.8		0.8	10.6		16.7	6.3	
Delay (s)	55.1	45.8		47.8	35.4		26.7	52.5		54.8	53.1	
Level of Service	E	D		D	D		C	D		D	D	
Approach Delay (s)		48.1			37.1			51.3		53.6		
Approach LOS		D			D			D		D		

Intersection Summary

HCM 2000 Control Delay	46.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Timings
1: Okeechobee Road & Virginia Avenue

Future Total AM peak.syn
06/22/2020

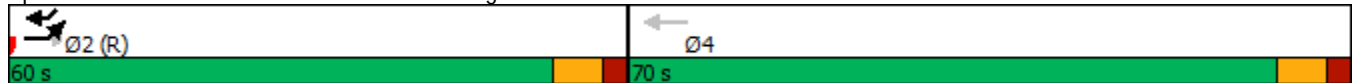


Lane Group	EBL	EBT	WBT	SWR
Lane Configurations	↔↔	↑↑↑	↑↑↑	↔↔
Traffic Volume (vph)	587	1274	628	479
Future Volume (vph)	587	1274	628	479
Turn Type	Prot	NA	NA	Over
Protected Phases	2			2
Permitted Phases		2	4	
Detector Phase	2	2	4	2
Switch Phase				
Minimum Initial (s)	12.0	12.0	12.0	12.0
Minimum Split (s)	25.3	25.3	25.3	25.3
Total Split (s)	60.0	60.0	70.0	60.0
Total Split (%)	46.2%	46.2%	53.8%	46.2%
Yellow Time (s)	4.8	4.8	4.8	4.8
All-Red Time (s)	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	7.3	7.3
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	None	C-Max
Act Effect Green (s)	91.0	91.0	24.4	91.0
Actuated g/C Ratio	0.70	0.70	0.19	0.70
v/c Ratio	0.26	0.38	0.69	0.25
Control Delay	7.8	8.6	53.0	3.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.8	8.6	53.0	3.0
LOS	A	A	D	A
Approach Delay		8.4	53.0	
Approach LOS		A	D	

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 34 (26%), Referenced to phase 2:EBTL and 6:, Start of Green
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 17.0
 Intersection LOS: B
 Intersection Capacity Utilization 41.1%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 1: Okeechobee Road & Virginia Avenue



Queues

1: Okeechobee Road & Virginia Avenue

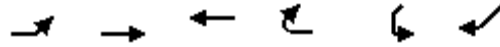


Lane Group	EBL	EBT	WBT	SWR
Lane Group Flow (vph)	618	1341	661	504
v/c Ratio	0.26	0.38	0.69	0.25
Control Delay	7.8	8.6	53.0	3.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.8	8.6	53.0	3.0
Queue Length 50th (ft)	89	153	191	26
Queue Length 95th (ft)	132	207	225	53
Internal Link Dist (ft)		281	1314	
Turn Bay Length (ft)				
Base Capacity (vph)	2402	3559	2452	2046
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.26	0.38	0.27	0.25

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 1: Okeechobee Road & Virginia Avenue

Future Total AM peak.syn
 06/22/2020



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↔↔	↑↑↑	↑↑↑			↔↔
Traffic Volume (vph)	587	1274	628	0	0	479
Future Volume (vph)	587	1274	628	0	0	479
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.3	7.3	7.3			7.3
Lane Util. Factor	0.97	0.91	0.91			0.88
Frt	1.00	1.00	1.00			0.85
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	5085	5085			2787
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	5085	5085			2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	618	1341	661	0	0	504
RTOR Reduction (vph)	0	0	0	0	0	95
Lane Group Flow (vph)	618	1341	661	0	0	409
Turn Type	Prot	NA	NA			Over
Protected Phases	2					2
Permitted Phases		2	4			
Actuated Green, G (s)	91.0	91.0	24.4			91.0
Effective Green, g (s)	91.0	91.0	24.4			91.0
Actuated g/C Ratio	0.70	0.70	0.19			0.70
Clearance Time (s)	7.3	7.3	7.3			7.3
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	2403	3559	954			1950
v/s Ratio Prot	0.18					0.15
v/s Ratio Perm		c0.26	c0.13			
v/c Ratio	0.26	0.38	0.69			0.21
Uniform Delay, d1	7.1	7.9	49.3			6.9
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.3	0.3	2.2			0.2
Delay (s)	7.4	8.3	51.5			7.1
Level of Service	A	A	D			A
Approach Delay (s)		8.0	51.5		7.1	
Approach LOS		A	D		A	

Intersection Summary

HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Timings
3: Okeechobee Road & S 25th Street

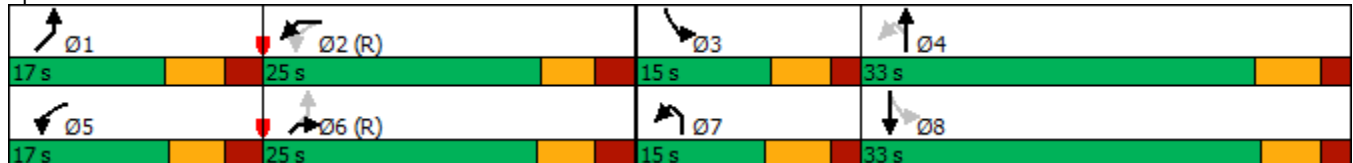
Future Total AM peak.syn
06/22/2020

Lane Group	WBL2	WBL	NBL	NBT	SBL	SBT	NEL	NER
Lane Configurations								
Traffic Volume (vph)	141	322	139	741	51	923	186	515
Future Volume (vph)	141	322	139	741	51	923	186	515
Turn Type	pm+pt	Prot	pm+pt	NA	pm+pt	NA	pm+pt	Prot
Protected Phases	5	2	7	4	3	8	1	6
Permitted Phases	2		4		8		6	
Detector Phase	5	2	7	4	3	8	1	6
Switch Phase								
Minimum Initial (s)	10.7	12.0	8.6	12.0	9.0	12.0	10.4	12.0
Minimum Split (s)	17.0	24.7	15.0	24.5	15.0	24.1	17.0	24.7
Total Split (s)	17.0	25.0	15.0	33.0	15.0	33.0	17.0	25.0
Total Split (%)	18.9%	27.8%	16.7%	36.7%	16.7%	36.7%	18.9%	27.8%
Yellow Time (s)	3.7	3.7	4.4	4.4	4.0	4.0	4.0	4.0
All-Red Time (s)	2.6	2.7	2.0	2.1	2.0	2.1	2.6	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.4	6.4	6.5	6.0	6.1	6.6	6.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	None	None	C-Max
Act Effect Green (s)	29.4	18.6	37.8	32.5	36.0	26.9	28.8	18.3
Actuated g/C Ratio	0.33	0.21	0.42	0.36	0.40	0.30	0.32	0.20
v/c Ratio	0.48	0.41	0.60	0.80	0.21	1.08	0.51	0.95
Control Delay	24.0	15.0	28.1	33.0	15.6	82.6	24.4	49.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	15.0	28.1	33.0	15.6	82.6	24.4	49.4
LOS	C	B	C	C	B	F	C	D
Approach Delay		17.6		32.4		79.5	43.9	
Approach LOS		B		C		E	D	

Intersection Summary

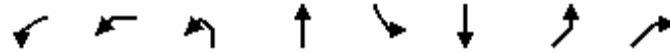
Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 59 (66%), Referenced to phase 2:WBL and 6:NEL, Start of Green
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 48.1
 Intersection LOS: D
 Intersection Capacity Utilization 79.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: Okeechobee Road & S 25th Street



Queues
3: Okeechobee Road & S 25th Street

Future Total AM peak.syn
06/22/2020



























Lane Group	WBL2	WBL	NBL	NBT	SBL	SBT	NEL	NER
Lane Group Flow (vph)	148	359	146	1015	54	1132	196	689
v/c Ratio	0.48	0.41	0.60	0.80	0.21	1.08	0.51	0.95
Control Delay	24.0	15.0	28.1	33.0	15.6	82.6	24.4	49.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	15.0	28.1	33.0	15.6	82.6	24.4	49.4
Queue Length 50th (ft)	54	39	47	288	16	~377	74	161
Queue Length 95th (ft)	97	77	#109	#427	37	#507	126	#286
Internal Link Dist (ft)		574		2034		690	4876	
Turn Bay Length (ft)	200	200	225		200		225	
Base Capacity (vph)	306	866	243	1261	258	1050	383	726
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.41	0.60	0.80	0.21	1.08	0.51	0.95

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
3: Okeechobee Road & S 25th Street

Future Total AM peak.syn
06/22/2020

													
Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER	NER2	
Lane Configurations		 			 			 			 		
Traffic Volume (vph)	141	322	19	139	741	223	51	923	152	186	515	140	
Future Volume (vph)	141	322	19	139	741	223	51	923	152	186	515	140	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.3	6.4		6.4	6.5		6.0	6.1		6.6	6.7		
Lane Util. Factor	1.00	0.97		1.00	0.95		1.00	0.95		1.00	0.88		
Frt	1.00	0.99		1.00	0.97		1.00	0.98		1.00	0.85		
Flt Protected	0.95	0.95		0.95	1.00		0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1770	3422		1770	3416		1770	3464		1770	2787		
Flt Permitted	0.25	0.95		0.12	1.00		0.15	1.00		0.47	1.00		
Satd. Flow (perm)	460	3422		229	3416		272	3464		878	2787		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Adj. Flow (vph)	148	339	20	146	780	235	54	972	160	196	542	147	
RTOR Reduction (vph)	0	164	0	0	29	0	0	14	0	0	165	0	
Lane Group Flow (vph)	148	195	0	146	986	0	54	1118	0	196	524	0	
Turn Type	pm+pt	Prot		pm+pt	NA		pm+pt	NA		pm+pt	Prot		
Protected Phases	5	2		7	4		3	8		1	6		
Permitted Phases	2			4			8			6			
Actuated Green, G (s)	26.9	16.2		41.1	32.5		34.7	29.3		26.3	15.9		
Effective Green, g (s)	26.9	16.2		41.1	32.5		34.7	29.3		26.3	15.9		
Actuated g/C Ratio	0.30	0.18		0.46	0.36		0.39	0.33		0.29	0.18		
Clearance Time (s)	6.3	6.4		6.4	6.5		6.0	6.1		6.6	6.7		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	293	615		251	1233		194	1127		359	492		
v/s Ratio Prot	0.06	0.06		c0.06	c0.29		0.02	c0.32		c0.06	c0.19		
v/s Ratio Perm	0.09			0.21			0.09			0.10			
v/c Ratio	0.51	0.32		0.58	0.80		0.28	0.99		0.55	1.07		
Uniform Delay, d1	25.0	32.1		19.1	25.8		18.8	30.2		25.4	37.0		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00		
Incremental Delay, d2	1.4	1.4		3.4	3.7		0.8	24.7		1.7	59.2		
Delay (s)	26.4	33.4		22.6	29.6		19.6	55.0		27.1	96.3		
Level of Service	C	C		C	C		B	D		C	F		
Approach Delay (s)		31.4			28.7			53.3		80.9			
Approach LOS		C			C			D		F			
Intersection Summary													
HCM 2000 Control Delay			49.2		HCM 2000 Level of Service						D		
HCM 2000 Volume to Capacity ratio			0.89										
Actuated Cycle Length (s)			90.0		Sum of lost time (s)						25.5		
Intersection Capacity Utilization			79.6%		ICU Level of Service						D		
Analysis Period (min)			15										

c Critical Lane Group

Timings
1: Okeechobee Road & Virginia Avenue

Future Total PM peak.syn
06/22/2020



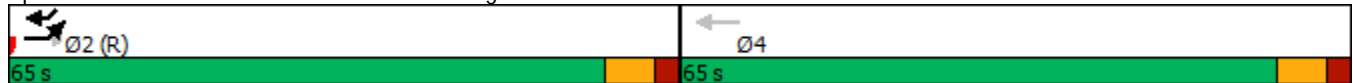
Lane Group	EBL	EBT	WBT	SWR
Lane Configurations	↔↔	↑↑↑	↑↑↑	↔↔
Traffic Volume (vph)	688	1141	1048	716
Future Volume (vph)	688	1141	1048	716
Turn Type	Prot	NA	NA	Over
Protected Phases	2			2
Permitted Phases		2	4	
Detector Phase	2	2	4	2
Switch Phase				
Minimum Initial (s)	12.0	12.0	12.0	12.0
Minimum Split (s)	25.3	25.3	25.3	25.3
Total Split (s)	65.0	65.0	65.0	65.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	4.8	4.8	4.8	4.8
All-Red Time (s)	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	7.3	7.3
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Max	Max	Max	Max
Act Effect Green (s)	57.7	57.7	57.7	57.7
Actuated g/C Ratio	0.44	0.44	0.44	0.44
v/c Ratio	0.48	0.53	0.49	0.59
Control Delay	26.8	27.4	26.6	26.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.8	27.4	26.6	26.9
LOS	C	C	C	C
Approach Delay		27.2	26.6	
Approach LOS		C	C	

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 103 (79%), Referenced to phase 2:EBTL, Start of Green
 Natural Cycle: 55
 Control Type: Pretimed
 Maximum v/c Ratio: 0.59
 Intersection Signal Delay: 27.0
 Intersection Capacity Utilization 57.5%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 1: Okeechobee Road & Virginia Avenue



Queues

1: Okeechobee Road & Virginia Avenue



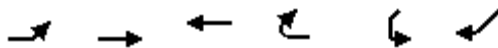
Lane Group	EBL	EBT	WBT	SWR
Lane Group Flow (vph)	724	1201	1103	754
v/c Ratio	0.48	0.53	0.49	0.59
Control Delay	26.8	27.4	26.6	26.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.8	27.4	26.6	26.9
Queue Length 50th (ft)	218	265	237	244
Queue Length 95th (ft)	272	310	279	315
Internal Link Dist (ft)		228	779	
Turn Bay Length (ft)				
Base Capacity (vph)	1523	2256	2256	1274
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.48	0.53	0.49	0.59

Intersection Summary

HCM Signalized Intersection Capacity Analysis

1: Okeechobee Road & Virginia Avenue

Future Total PM peak.syn
06/22/2020



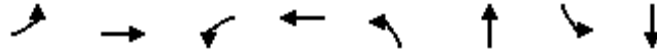
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↖↖	↑↑↑	↑↑↑			↘↘
Traffic Volume (vph)	688	1141	1048	0	0	716
Future Volume (vph)	688	1141	1048	0	0	716
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.3	7.3	7.3			7.3
Lane Util. Factor	0.97	0.91	0.91			0.88
Frt	1.00	1.00	1.00			0.85
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	5085	5085			2787
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	5085	5085			2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	724	1201	1103	0	0	754
RTOR Reduction (vph)	0	0	0	0	0	37
Lane Group Flow (vph)	724	1201	1103	0	0	717
Turn Type	Prot	NA	NA			Over
Protected Phases	2					2
Permitted Phases		2	4			
Actuated Green, G (s)	57.7	57.7	57.7			57.7
Effective Green, g (s)	57.7	57.7	57.7			57.7
Actuated g/C Ratio	0.44	0.44	0.44			0.44
Clearance Time (s)	7.3	7.3	7.3			7.3
Lane Grp Cap (vph)	1523	2256	2256			1236
v/s Ratio Prot	0.21					c0.26
v/s Ratio Perm		0.24	c0.22			
v/c Ratio	0.48	0.53	0.49			0.58
Uniform Delay, d1	25.5	26.3	25.7			27.1
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	1.1	0.9	0.8			2.0
Delay (s)	26.5	27.2	26.4			29.1
Level of Service	C	C	C			C
Approach Delay (s)		27.0	26.4		29.1	
Approach LOS		C	C		C	

Intersection Summary

HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Timings
3: S 25th Street & Okeechobee Road

Future Total PM peak.syn
06/22/2020

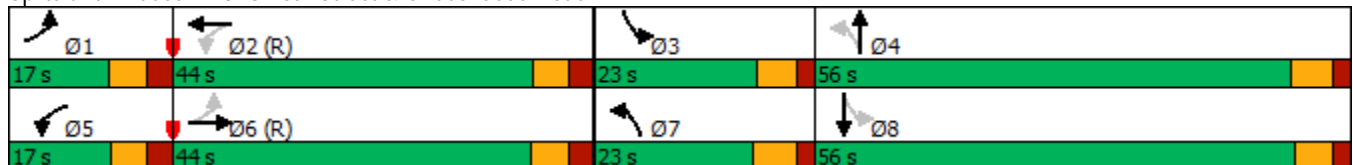


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↖	↕
Traffic Volume (vph)	186	515	141	322	139	741	51	923
Future Volume (vph)	186	515	141	322	139	741	51	923
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases	6		2		4		8	
Detector Phase	1	6	5	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	10.4	12.0	10.7	12.0	8.6	12.0	9.0	12.0
Minimum Split (s)	17.0	24.7	17.0	24.7	15.0	24.5	15.0	24.1
Total Split (s)	17.0	44.0	17.0	44.0	23.0	56.0	23.0	56.0
Total Split (%)	12.1%	31.4%	12.1%	31.4%	16.4%	40.0%	16.4%	40.0%
Yellow Time (s)	4.0	4.0	3.7	3.7	4.4	4.4	4.0	4.0
All-Red Time (s)	2.6	2.7	2.6	2.7	2.0	2.1	2.0	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6	6.7	6.3	6.4	6.4	6.5	6.0	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	51.5	40.4	51.0	40.1	68.3	57.3	59.5	50.3
Actuated g/C Ratio	0.37	0.29	0.36	0.29	0.49	0.41	0.42	0.36
v/c Ratio	0.51	0.69	0.60	0.36	0.68	0.72	0.24	0.90
Control Delay	34.9	47.5	38.9	41.2	44.5	37.1	20.5	52.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.9	47.5	38.9	41.2	44.5	37.1	20.5	52.7
LOS	C	D	D	D	D	D	C	D
Approach Delay		44.7		40.5		38.0		51.2
Approach LOS		D		D		D		D

Intersection Summary

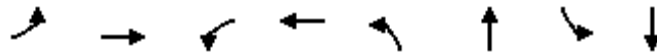
Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 49 (35%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 44.1
 Intersection LOS: D
 Intersection Capacity Utilization 86.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 3: S 25th Street & Okeechobee Road



Queues
3: S 25th Street & Okeechobee Road

Future Total PM peak.syn
06/22/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	196	689	148	359	146	1015	54	1132
v/c Ratio	0.51	0.69	0.60	0.36	0.68	0.72	0.24	0.90
Control Delay	34.9	47.5	38.9	41.2	44.5	37.1	20.5	52.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.9	47.5	38.9	41.2	44.5	37.1	20.5	52.7
Queue Length 50th (ft)	122	293	89	139	77	390	24	486
Queue Length 95th (ft)	186	367	141	186	149	475	47	#641
Internal Link Dist (ft)		2355		574		2034		690
Turn Bay Length (ft)	225		200		225		200	
Base Capacity (vph)	384	1004	247	1009	258	1414	321	1275
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.69	0.60	0.36	0.57	0.72	0.17	0.89

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

3: S 25th Street & Okeechobee Road

Future Total PM peak.syn
06/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	186	515	140	141	322	19	139	741	223	51	923	152
Future Volume (vph)	186	515	140	141	322	19	139	741	223	51	923	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.7		6.3	6.4		6.4	6.5		6.0	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.99		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3426		1770	3510		1770	3416		1770	3464	
Flt Permitted	0.46	1.00		0.21	1.00		0.07	1.00		0.16	1.00	
Satd. Flow (perm)	848	3426		385	3510		130	3416		299	3464	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	196	542	147	148	339	20	146	780	235	54	972	160
RTOR Reduction (vph)	0	17	0	0	3	0	0	18	0	0	9	0
Lane Group Flow (vph)	196	672	0	148	356	0	146	997	0	54	1123	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	50.1	39.1		49.7	38.9		70.3	57.3		58.9	51.6	
Effective Green, g (s)	50.1	39.1		49.7	38.9		70.3	57.3		58.9	51.6	
Actuated g/C Ratio	0.36	0.28		0.36	0.28		0.50	0.41		0.42	0.37	
Clearance Time (s)	6.6	6.7		6.3	6.4		6.4	6.5		6.0	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	375	956		243	975		217	1398		202	1276	
v/s Ratio Prot	0.04	c0.20		c0.05	0.10		c0.06	c0.29		0.01	c0.32	
v/s Ratio Perm	0.15			0.17			0.27			0.10		
v/c Ratio	0.52	0.70		0.61	0.37		0.67	0.71		0.27	0.88	
Uniform Delay, d1	32.7	45.2		33.3	40.6		31.6	34.5		26.2	41.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	4.3		4.3	1.1		8.0	1.7		0.7	7.2	
Delay (s)	34.0	49.5		37.6	41.7		39.5	36.2		26.9	48.5	
Level of Service	C	D		D	D		D	D		C	D	
Approach Delay (s)		46.1			40.5			36.7			47.5	
Approach LOS		D			D			D			D	

Intersection Summary

HCM 2000 Control Delay	42.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Appendix H: Turn Lane Warrant Worksheet

Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

AR Number:
 County:
 FDOT District:

Analysis Date:
 Conducted By:
 Checked By:
 Agency/Company Name:

Intersection & Approach Description:

Analysis Scenario:
 Design Hour:
 Intersection Control:
 Posted Speed Limit (MPH):
 Type of Terrain:

Number of Approach Lanes:
 Undivided or Divided Highway:

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations

Movement	Include?	Volume	% Trucks	PCEV	
Advancing	Left	12	2.0%	13	
	Through	-	2.0%	713	
	Right	No		0.0%	N/A
Opposing	Left	No		0.0%	N/A
	Through	-	2.0%	747	
	Right	Yes	18	2.0%	19

Advancing Volume:
 Opposing Volume:
 Left Turn Volume:

% Left Turns in Advancing Volume:

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings

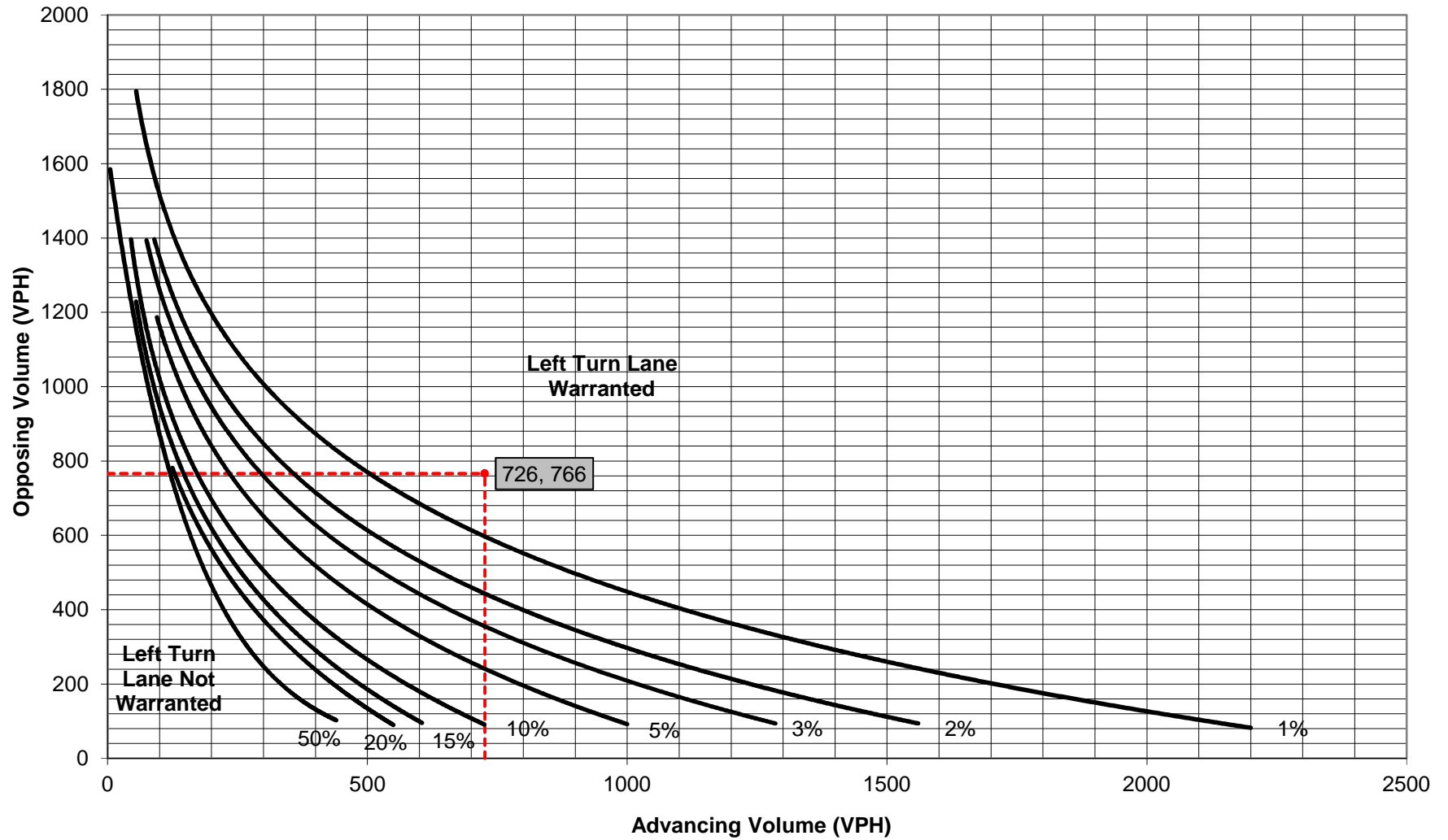
Applicable Warrant Figure:

Warrant Met?:

Additional Comments / Justifications:

**Figure 8. Warrant for left turn lanes on four-lane, divided highways
(unsignalized and signalized intersections)**
(L = % Left Turns in Advancing Volume)

• Volume Data Point



ENVIRONMENTAL ASSESSMENT

6.87-ACRE PARCEL ALONG OKEECHOBEE ROAD

FT. PIERCE, ST. LUCIE COUNTY, FLORIDA

**August 2019
Updated June 2020**

For

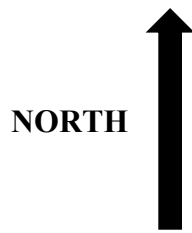
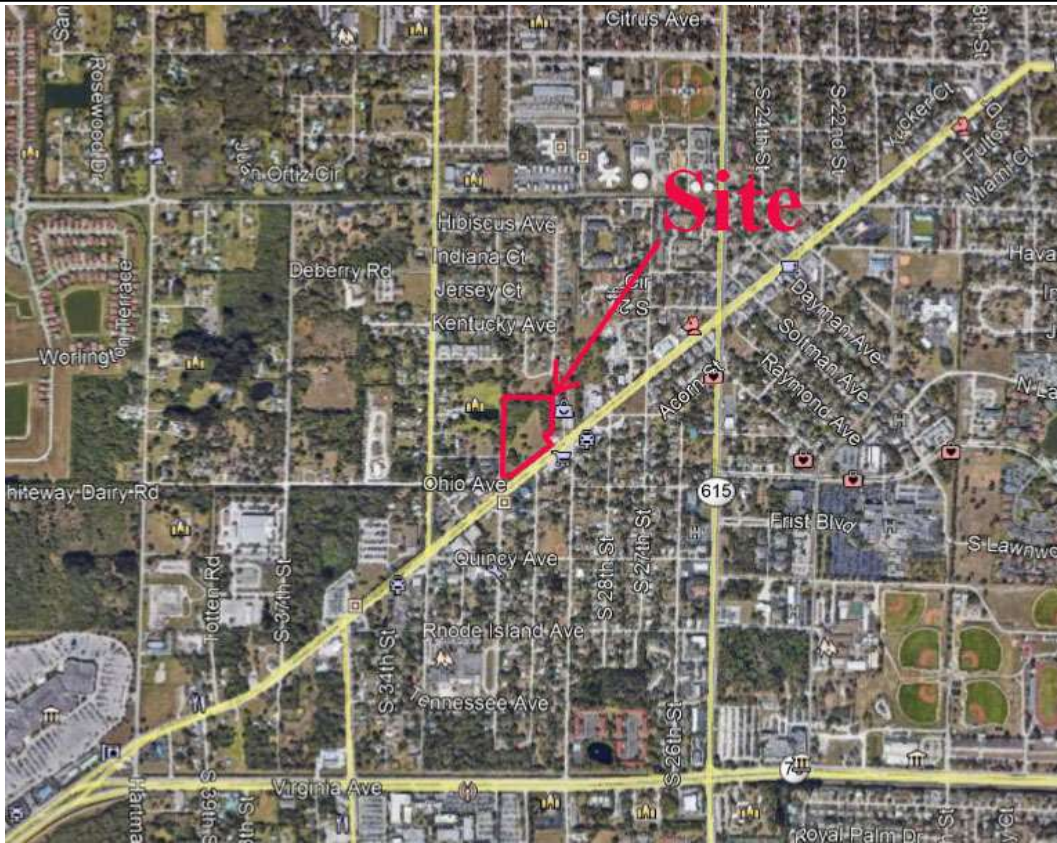
Michael Moore
Arrow Investments
4512 North Flagler Drive, Ste. 216
West Palm Beach, Florida 33412

Prepared by:
David Nickerson, Inc.
6687 SE. Silverbell Avenue
Stuart, Florida 34997
561-891-1572

www.environmentalconsultflorida.com

Environmental Assessment

- Project Name:** 6.87-Acre Parcel **Project No.** C19012
- Work Date:** August 7 and 8, 2019
- Site Location:** Just east of South 31st Street, north side of Okeechobee Road
Ft. Pierce, Florida
- Objective of Work:** David Nickerson, Inc., (DNI) conducted an environmental assessment to document occurrences of any significant environmental resources including vegetative communities, jurisdictional wetland areas, and listed plant or wildlife species.
- Site Description:** The 6.87acre parcel is a vacant commercially zoned lot established in a commercial district located in Section 19, Township 35 South, Range 40 East, in Ft. Pierce, Florida (Figure 1). The property comprises 6.87 acres and is located east of South 31st Street, north of Okeechobee Road, west of developed commercial enterprises and south of undeveloped land. A small wetland ditch exists near the northwestern corner of the property and is connected to the dry drainage ditch located along the western property boundary. The entire site is disturbed and is dominated by cleared land on which a variety of weedy herbaceous plants occur. Remnant forest communities occur along the northeastern, northern and northwestern portions of the site. Several small to large isolated Cabbage palm (*Sabal palmetto*)/Brazilian pepper (*Schinus terebinthifolius*) heads occur along the southern site boundary and interior to the property. The largest of these, near the southwestern portion, supports an active homeless camp. Two well-worn foot paths occur onsite. One servicing the homeless camp from offsite at the intersection of Nebraska Avenue and South 31st Street and the other occurs along the eastern portion from the northern property line south to the business located offsite at the extreme southeastern property corner. No structures or other site improvements occur on the parcel.
- Methodology:** Prior to the site visit, the U.S. Geological Survey 7.5-minute Quadrangle Topographic Map, Ft. Pierce Quadrangle (Photo-revised 2015) and the Soil Survey of St. Lucie County Florida (U.S. Department of Agriculture 2014) were reviewed to determine topographic features and site soil map



<p>David Nickerson, Inc. www.environmentalconsultflorida.com</p>	<p>Location Map 6.87-Acre Okeechobee Road Parcel Ft. Pierce, Florida</p>	<p>Figure 1 August 2019 Not To Scale</p>
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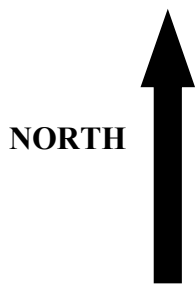
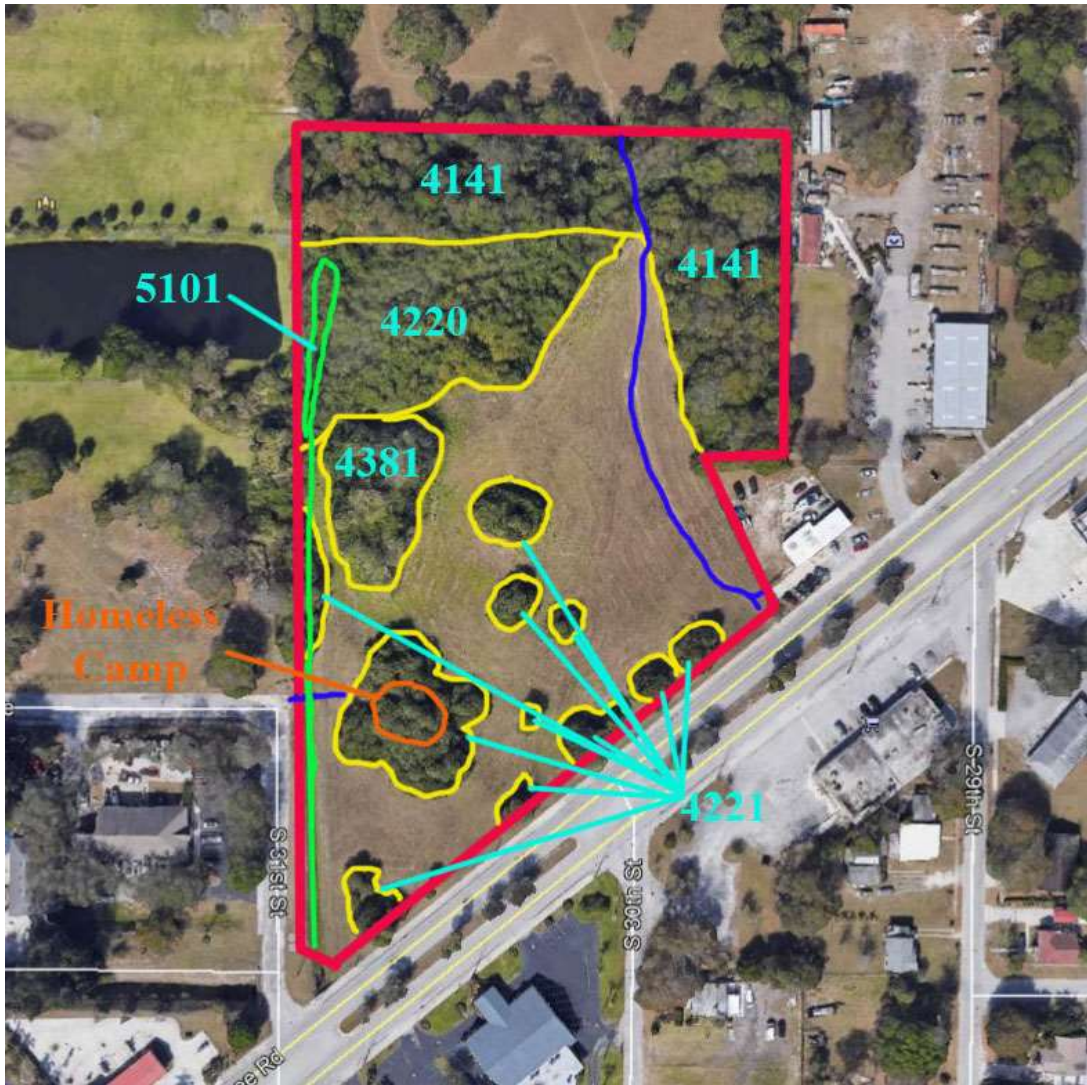
units. Copies of Google 2016 aerial photographs of the parcel were obtained and reviewed to determine potential location of environmental features.

Pedestrian surveys of the parcel were conducted on August 7 and 8, 2019 to map approximate locations and boundaries of significant environmental resources, vegetative communities and occurrence of listed plant or animal species. Approximate locations of vegetative community cover type boundaries and other features were mapped on an aerial photograph of the site. Vegetative communities were identified in accordance with Florida Land Use Cover and Forms Classification System Handbook (FLUCFCS) (Florida Department of Transportation 1999).

Listed species of plants and wildlife are found in Florida's Endangered Species, Threatened Species, and Species of Special Concern, Official Lists (Florida Fish and Wildlife Conservation Commission 2013) and Preservation of Native Flora of Florida, Chapter 5B-40 (Florida Department of Agriculture and Consumer Services, Division of Plant Industry, October 2017). Any occurrences of listed species were recorded.

Technical Staff: David Nickerson

Findings: The entire 6.87-acre parcel is disturbed including vegetation and soil surface. Site investigation confirmed mapped soils on the southern half of the property as Tantile and Pomona sands and the northern half is underlain by Nettles and Oldsmar sands. Natural Resource and Conservation Service mapped soils are shown in Attachment A. Relatively intact native upland habitat does not occur on the property. Due to previous clearing, exotic and nuisance plant pioneers have replaced the historic pine flatwood understory vegetation naturally occurring on Tantile and Pomona sands and Nettles and Oldsmar sands soils in this part of St. Lucie County. The narrow forested areas along western and southern portions comprise mostly exotic plant species and the wetland buffer also contains exotic canopy and subcanopy species. Following partial clearing and local/regional historic drainage, six cover types currently occur on site and include Disturbed Herbaceous, Brazilian Pepper, Disturbed Mixed Hardwoods, Brazilian Pepper Cabbage Palm, Disturbed Pine Oak Cabbage Palm and Ditches. The cover types are described below and their locations on the parcel are depicted in Figure 2.



LEGEND

- - Parcel Boundary
 - - Human Paths
 - 3101 – Disturbed Herbaceous
 - 4141 – Disturbed Pine Oak Cabbage Palm
 - 4220 – Brazilian Pepper
 - 4221 – Brazilian Pepper Cabbage Palm
 - 4381 – Disturbed Mixed Hardwoods
 - 5101 – Ditches
- Source – Florida Land Use, Cover and Forms Classification System 1999

David Nickerson, Inc.
www.environmentalconsultflorida.com

**Vegetation Communities Map
6.87 Acre Okeechobee Road Parcel
Ft. Pierce, Florida**

Figure 2
August 2019
Not to Scale

Disturbed Herbaceous – FLUCFCS 3101; Disturbed Herbaceous cover type is the dominant cover on site, occurring on approximately 2.25 acres of the 6.87-acre parcel. Because this cover type has been cleared of all but herbaceous plants, no canopy, subcanopy or shrub plants occur. Bahiagrass (*Paspalum notatum*), in the eastern and southern portions, and St. Augustine grass (*Stenotaphrum secundatum*), in the northern and western portions, dominate the vegetation in the ground cover layer. Additional exotic and native herbaceous plants found in the ground cover include creeping oxeye (*Sphagneticola trilobata*), beggarticks (*Bidens pilosa*), sandspur (*Cenchrus spinifex*), morning glory (*Ipomea imperati*), frostweed (*Verbesina virginica*), creeping beggar weed (*Desmodium incanum*), pepper vine (*Ampleopsis arborea*), creeping indigo (*Indigofera spicata*), large flower pusley (*Richardia grandiflora*), West Indian dropseed (*Sporobolus jacquemontii*), shrubby false button (*Spermacoce verticillata*) and Guinea grass (*Panicum maximum*). Occasionally, ragweed (*Ambrosia artimisiifolia*), dayflower (*Commelina* sp.), wild grape (*Vitis rotundifolia*), broomsedge bluestem (*Andropogon virginicus*), catbriar (*Smilax* spp.), wild poinsettia (*Poinsettia cyathophora*), Florida threeawn (*Aristida rhizomophora*), and dog fennel (*Eupatorium capillifolium*) also occur. Select photographs of this cover type are provided in Attachment B.

Disturbed Pine Oak Cabbage Palm – FLUCFCS 4141: Disturbed Pine Oak Cabbage Palm cover type occurs along the northern and eastern property boundaries. It comprises 2.1 acres. Evidence of disturbance observed includes abundant solid waste, soil disturbance and invasion of exotic plants. Only a few slash pine (*Pinus elliottii*) remain in the community and they occur in the northern extreme of the cover type. Other canopy plants include cabbage palm, laurel oak (*Quercus laurifolia*), melaleuca (*Melaleuca quinquenervia*) and Brazilian pepper with occasional horse bush (*Peltophorum dubium*), Mexican fan palm (*Washingtonia robusta*), and Queen Palm (*Syagrus romanzoffiana*). Subcanopy vegetation comprises Brazilian pepper, cabbage palm, melaleuca, Guinea grass and carrotwood (*Cupaniopsis anacardioides*). Ground cover includes Brazilian pepper, cabbage palm, carrotwood, Surinam cherry (*Ugenia uniflora*), blechnum fern (*Blechnum serrulatum*), with occasional marlberry (*Ardisia escallonioides*), beauty berry (*Callicarpa americana*), caesar weed (*Urena lobata*), frostweed, cat briar (*Smilax* sp.), and monk orchid (*Oceoclades maculata*).

Brazilian Pepper – FLUCFCS 4220; Brazilian Pepper cover type occurs south of the Disturbed Pine Oak Cabbage Palm and north of Disturbed Herbaceous and Disturbed Mixed Hardwoods in the northwestern forested portion of the property. It

comprises approximately 0.92 acres. Canopy trees are dominated by the exotic Brazilian pepper (*Schinus terebinthifolius*) with occasional representation by cabbage palm (*Sabal palmetto*), laurel oak and queen palm. Brazilian pepper also dominates the subcanopy with occasional laurel oak and cabbage palm. Ground cover plants are sparse and include seedlings of Brazilian pepper, Caesar weed (*Urena lobata*), pepper vine and frostweed (*Verbesina virginica*). Select photographs of this cover type are provided in Attachment B.

Brazilian Pepper Cabbage Palm – FLUCFCS 4221; Brazilian Pepper Cabbage Palm cover type occurs mostly as isolated tree “heads” within the Disturbed Herbaceous cover and includes an upland fringing community along the west central site boundary. It comprises approximately 0.92 acres. This community is highly disturbed as evidenced by dominance of exotic and invasive plants and scattered solid waste in each area. The largest of the heads contains an active homeless camp with several tents, makeshift tables and clothes lines (Figure 2) and Attachment B. Trees in the canopy layer of this cover type are dominated by the exotic Brazilian pepper and include Cabbage palm and an occasional laurel oak. Subcanopy plants include Brazilian pepper, strangler fig (*Ficus aurea*), occasional laurel oak and the invasive Surinam cherry (*Ugenia uniflora*). Ground cover plants are sparse but include Brazilian pepper, West Indian dropseed, Caesar weed, bahia grass and Florida threeawn. Select photographs of this cover type are provided in Attachment B.

Disturbed Mixed Hardwoods – FLUCFCS 4381; Disturbed Mixed Hardwoods cover type occurs in a small area along the west central portion of the property south of the Brazilian Pepper and north of the Disturbed Herbaceous cover type. It comprises 0.39 acres. Canopy vegetation comprises False Tamarind (*Lysiloma latisiliquum*), cabbage palm, rosewood (*Dalbergia sissoo*), Brazilian pepper and laurel oak. Subcanopy plants include Brazilian pepper, rosewood, cabbage palm, Surinam cherry and laurel oak. Ground cover comprises seedlings of canopy and subcanopy species as well as Guinea grass, pepper vine, frostweed, Bahia grass and Caesar weed. A photograph of this cover type is provided in Attachment B.

Ditches – FLUCFCS 5101; Ditches cover type occurs as a 10-20 foot wide mostly dry drainage ditch along and just within the western property boundary from Okeechobee Road north to the Disturbed Pine Oak Cabbage Palm community. It comprises approximately 0.29 acres. On the day of this assessment, standing water was observed to occur only in the northern half of the ditch. The southern two fifths of the ditch and its banks are open and without any shrubs or trees. The northern three fifths of the ditch length are covered by

overhanging vegetation and the portion west of the Disturbed Mixed Hardwoods community has Primrose willow (*Ludwigia peruviana*) plants growing in the ditch. No canopy trees actually grow in the ditch but overhanging Brazilian pepper predominates over the ditch in that community and an occasional laurel oak and Carolina willow (*Salix caroliniana*) overhang to the south. Herbaceous plants growing in the open portion of the ditch include Guinea grass, West Indian dropseed, pepper vine, Caesar weed, rattlebox, blechnum fern (*Blechnum serrulatum*), with occasional maidencane (*Panicum hemitomon*) and plants typically found in the Disturbed Herbaceous cover type to the east. Select photographs of this cover type are provided in Attachment B.

A Gopher Tortoise Burrow Survey was conducted on the property. No active or inactive burrows were found. No other animals listed as protected by federal, state, or local environmental regulatory agencies, nor any signs of such animals, were observed on the parcel. Unlisted animal species and/or sign observed on the parcel included southern leopard frog (*Lithobates utricularia*), common oak toad (*Bufo quercicus*), Cuban anole (*Anolis sagrei*), Southern black racer (*Coluber constrictor*), mourning dove (*Zenaida macroura*), northern cardinal (*Cardinalis cardinalis*), blue jay (*Cyanocitta cristata*), mockingbird (*Mimus polyglottos*), loggerhead shrike (*Lanius ludovicianus*), zebra longwing butterfly (*Heliconius charitonia*) and a few other butterflies. Sign of animal occurrence observed include common rabbit (*Sylvilagus floridanus*) scat.

No plant species regulated by the Florida Department of Agriculture and Consumer Services were observed on the property.

Recommendations: Ft. Pierce Land Development Regulations address Tree Protection of native trees. A tree removal permit and a land clearing permit must be obtained prior to conducting any site work. No tree removal permit is required should only Brazilian pepper, Australian pine or Melaleuca trees be removed. Ft. Pierce Landscape Code defines material standards as to species and sizes. A tree survey may be necessary as the few native trees occurring onsite are required to be protected onsite or replaced with same species in future landscaping areas.

A small area of low land adjacent to and east of northern portions of the western drainage ditch is jurisdictional wetland and a wetland delineation was conducted to determine and mark the actual jurisdictional wetland limits on site in accordance with South Florida Water Management District (SFWMD) rules. The wetland delineation has been approved by SFWMD and the wetland has been determined to be an isolated wetland less than 0.5

acre in area. Should the wetland be maintained as part of the site plan, a 25 foot wide upland buffer must be maintained outside and surrounding the jurisdictional wetland line. Should the isolated wetland be impacted by the project, no mitigation would be required in accordance with SFWMD rules.

Because native upland habitat does not occur on site, Ft. Pierce Land Development Regulations (LDR) do not require any portion of onsite upland habitat to be protected in an upland preserve area on site.

Additionally, in accordance with Fort Pierce rules, all prohibited exotic plant species occurring on the property must be eradicated as a condition of building permit approval. Consequently, all prohibited species, including Brazilian pepper, camphor tree, Old World climbing fern and Guinea grass found on the site must be removed during the development process.

DNI can assist in addressing all of the above topics by conducting pre-permit application meetings with environmental regulatory agencies, preparing permit applications in cooperation with planners and engineers, and defining options that will assist in the development goals for the parcel.

Figures:

Figure 1 – Location Map

Figure 2 – Vegetative Communities Map

References:

Florida Association of Environmental Soil Scientists. 1995. Hydric Soils of Florida Handbook, second edition. University of Florida, United States Department of Agriculture, Florida Department of Environmental Protection, and St. Johns River Water Management District. 409p.

Florida Fish and Wildlife Conservation Commission. 2013. Florida's Endangered Species, Threatened Species and Species of Special Concern, Official Lists. Tallahassee, Florida. 12p.

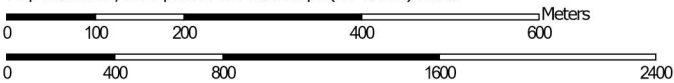
U. S. Department of Agriculture, Soil Conservation Service. 2014. NRCS Web Soil Survey, Custom Soil Resource Report for St Lucie County

Attachment A
Area Soils Map

Soil Map—St. Lucie County, Florida
(6.87 Acre Parcel)



Map Scale: 1:8,520 if printed on A landscape (11" x 8.5") sheet.












































Feet

800 1600 2400
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Natural Resources Web Soil Survey Conservation Service National Cooperative Soil Survey Soil Map—St. Lucie County, Florida (6.87 Acre Parcel)

MAP LEGEND

MAP INFORMATION

Area of Interest (AOI)		Interest (AOI) 1:24,000.		Spoil Area		
Area of				Stony Spot		
Soils		Map Unit Polygons		Very Stony Spot		
Soil		Map Unit Lines		Wet Spot		
Soil		Other		Map Unit Points		
Soil Special		Line Features		Special Point		Features
Blowout		Water Features		Streams and		
Borrow		Pit		Measurements.		Please rely on the bar scale on each map sheet for map
Clay		Transportation		Spot		Natural Resources Conservation Service
Closed		Source of Map:		Rails		URL:
Gravel		Web Soil Survey		Depression		Coordinate System: Web Mercator (EPSG:3857)
Lava Flow		Pit		Interstate Highways		Maps from the Web Soil Survey are based on the Web Mercator
Marsh		Gravelly Spot		US Routes		projection, which preserves direction and shape but distorts
Mine		Major Roads		Local Roads		distance and area. A projection that preserves area, such as the
Perennial Water		Local Roads				equal-area conic projection, should be used if more
Rock		Background				accurate calculations of distance or area are required
Sandy		or Quarry				or swamp Aerial Photography This product is generated
Severely Eroded Spot		Florida Miscellaneous Water				NRCS certified data as of the version date(s) listed
Sodic Spot		Survey Area Data: Version 11, Sep 17, 2018				Soil Survey Area: St. Lucie County
		Soil map units are labeled (as space allows) for map scales				1:50,000 or larger.
		Outcrop				Date(s) aerial images were used
		2019—Mar Saline Spot				23, 2019
		Spot				or other base map on which
						compiled and digitized probably differs from the
						displayed on these maps. As a result, some minor
		Sinkhole shifting of map unit boundaries may be evident. Slide or Slip				
		Sodic Spot				

The soil surveys that comprise your AOI were m

Warning: Soil Map may not be valid at this
 Enlargement of maps beyond the scale of
 misunderstanding of the detail of mapping
 line placement. The maps do not show the
 contrasting soils that could have been shown
 scale.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2	Ankona and Farmton sands	12.2	3.7%
4	Arents, 0 to 5 percent slopes	5.6	1.7%
21	Lawnwood and Myakka sands	1.9	0.6%
25	Nettles and Oldsmar sands	29.7	9.0%
31	Pepper and EauGallie sands	55.0	16.6%
32	Pineda sand, 0 to 2 percent slopes	1.5	0.4%
40	Samsula muck, frequently ponded, 0 to 1 percent slopes	2.7	0.8%
44	Tantile and Pomona sands	188.8	57.0%
50	Waveland and Immokalee fine sands	1.2	0.4%
52	Waveland-Urban land complex	29.7	9.0%
99	Water	2.6	0.8%
Totals for Area of Interest		330.9	100.0%

Attachment B
Selected Photographs



Brazilian Pepper Cabbage Palm Head & Disturbed Herbaceous cover at SE property corner view to W



Disturbed Herbaceous cover and Human Path at SE property corner view to N



Disturbed Pine Oak Cabbage Palm, Disturbed Herbaceous & Human Path at NE corner view to S



Disturbed Herbaceous and Pine Oak Cabbage Palm at NE corner view to W



Adjacent land, Ditch, Disturbed Herbaceous & Brazilian Pepper head at SW corner view to N



Ditch, Disturbed Herbaceous & Brazilian Pepper Cabbage Palm head at SW corner view to ENE



Disturbed Herbaceous & Brazilian Pepper Heads from S of Disturbed Mixed Hardwoods view to SE



BP head, Disturbed Herbaceous and Brazilian Pepper head along street near SW corner view to E



Eastern Disturbed Pine Oak Cabbage Palm interior view to SE



Northern Disturbed Pine Oak Cabbage Palm western interior view to SW



False Tamarind tree and Brazilian pepper in Disturbed Mixed Hardwoods View to NW



Disturbed Herbaceous, Wetland portion of Ditch and Mexican fan palms in NW portion view to NNW



Homeless camp in Largest Brazilian Pepper Cabbage Palm head in SW portion of site view to ESE