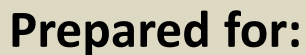


Nassau County, Florida



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8833 Perimeter Park Boulevard, Suite 103
Jacksonville, FL 32216
904.619.3368

Project No.: 1155-220-040
Date: 08/23/2022

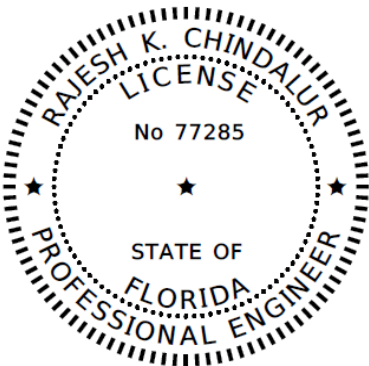


PROFESSIONAL ENGINEER CERTIFICATE

I, Rajesh Ramn K. Chindalur, PE #77285, certify that I currently hold an active license in the state of Florida and am competent through education or experience to provide engineering services in the civil discipline contained in this plan, print, specification, or report.

PROJECT:	Breakers Campsite – Traffic Impact Study
LOCATION:	Nassau County, Florida
CLIENT:	Intact Construction Management Group LLC

I further certify that this plan, print, specification, or report was prepared by me or under my responsible charge as defined in Chapter 61G15-18.001 F.A.C. Moreover, if offered by a corporation, partnership, or through a fictitious name, I certify that the company offering the engineering services, Chindalur Traffic Solutions, Inc., 8833 Perimeter Park Boulevard, Suite 103, Jacksonville, Florida 32216, holds an active certificate of authorization #30806 to provide engineering service.



*THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY*

ON THE DATE ADJACENT TO THE SEAL.

*PRINTED COPIES OF THIS DOCUMENT ARE
NOT CONSIDERED SIGNED AND SEALED
AND THE SIGNATURE MUST BE VERIFIED
ON ANY ELECTRONIC COPIES.*

*CHINDALUR TRAFFIC SOLUTIONS, INC.
8833 PERIMETER PARK BOULEVARD, SUITE 103
JACKSONVILLE, FL 32216
CERTIFICATE OF AUTHORIZATION #30806
RAJESH RAMN K. CHINDALUR, P.E. NO. 77285*

*THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THIS DOCUMENT IN
ACCORDANCE WITH RULE 61G15-23.004, F.A.C.*

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Summary and Conclusions:

A Campground/Recreational Vehicle Park that is anticipated to include 17 campsites/spots is proposed for development on the parcel located on the southwest quadrant of Sadler Road and Ryan Road intersection in the City of Fernandina Beach, FL. Access to the proposed campsite will be provided via a driveway on Sadler Road (entry only) and a driveway on Ryan Road (exit only). This traffic impact study evaluated the traffic impacts of the proposed campsite on Sadler Road and the following three intersections on Sadler Road during the weekday AM peak, PM peak and Saturday mid-day peak hour traffic conditions.

- Sadler Road at South 14th Street
- Sadler Road at Will Hardee Road
- Sadler Road at Ryan Road
- Sadler Road at Project Entrance Driveway (Build-Out Conditions Only)
- Sadler Road at Project Exit Driveway (Build-Out Conditions Only)

Existing Saturday Mid-day peak, AM peak and PM peak traffic volumes at the above stated study intersections were obtained on May 14th and May 17th, 2022.

Trip Generation for the proposed Campsite was estimated using the rates and equations included in the 11th Edition of the Trip Generation Manual, published by the Institute of Transportation Engineers (ITE). ITE Land Use Code 416 (Campground/Recreational Vehicle Park) was used to estimate the AM peak and PM peak trips anticipated from the proposed Campsite. As shown in this table, about 6 AM peak and 7 PM peak trips are anticipated to be generated by the proposed Campsite.

Future conditions analysis was performed under the year 2027 traffic volumes. The year 2027 traffic volumes were estimated by applying a growth factor of 1.1 (2.0% per year for five years). Majority of the patrons are anticipated to be entering and exiting the Campsite from the west. Hence, 80% of the project traffic is assigned to and from the west and 20% to the and from the east on Sadler Road.

The Sadler Road segments are anticipated to continue operating at LOS D or better under the year 2027 background and build-out conditions. As shown in this table, project traffic volumes are anticipated to be less than 1.0% of the roadway segments MSV.

All the critical approaches and movements at the above stated study intersections are currently operating at LOS D or better and anticipated to continue operating at LOS D or better under the year 2027 background and build-out conditions.

The westbound left turns on Sadler Road at the project entrance intersection and the eastbound project exit driveway on Ryan Road are anticipated to operate LOS C or better under the year 2027 build-out conditions. The existing center two-way left-turn lane would provide refuge to the westbound left turning project traffic on Sadler Road and an eastbound right turn lane is not anticipated to be warranted on Sadler Road at the project entrance driveway.

Introduction:

A Campground/Recreational Vehicle Park that is anticipated to include 17 campsites/spots is proposed for development on the parcel located on the southwest quadrant of Sadler Road and Ryan Road intersection in the City of Fernandina Beach, FL. The location of the proposed camp site is show in **Figure 01**. Access to the proposed campsite will be provided via a driveway on Sadler Road (entry only) and a driveway on Ryan Road (exit only). A copy of the preliminary site plan is included as **Attachment A**.

As per Nassau County TIA guidelines and as discussed with staff require a traffic impact study evaluating the traffic impacts of the proposed campsite on Sadler Road and the following three intersections on Sadler Road during the weekday AM peak, PM peak and Saturday mid-day peak hour traffic conditions.

- Sadler Road at South 14th Street
- Sadler Road at Will Hardee Road
- Sadler Road at Ryan Road
- Sadler Road at Project Entrance Driveway (Build-Out Conditions Only)
- Sadler Road at Project Exit Driveway (Build-Out Conditions Only)

The study is consistent with the scope and methodology that discussed with Staff on 05/18/2022. A copy of the methodology document is included as **Attachment B**.

Existing Conditions

Sadler Road is a five-section roadway with two travel lanes in each direction and a center two-way-left-turn lane. Sadler Road also has a posted speed limit of 35 miles per hour. **Figure 02** shows existing conditions on Sadler Road study intersections.

Data Collection:

Existing Saturday Mid-day peak, AM peak and PM peak traffic volumes at the above stated study intersections were obtained on May 14th and May 17th, 2022. These counts were further adjusted by applying a season factor of 0.9 to account for seasonal variations. The season factor was obtained from the FDOT traffic counts portal. **Attachment C** includes the traffic counts data and FDOT season factor data. **Figure 03** shows the year 2022 AM peak, PM peak and Saturday Mid-Day peak traffic volumes at the above stated study intersections.

Trip Generation:

Trip Generation for the proposed Campsite was estimated using the rates and equations included in the 11th Edition of the Trip Generation Manual, published by the Institute of Transportation Engineers (ITE). ITE Land Use Code 416 (Campground/Recreational Vehicle Park) was used to estimate the AM peak and PM peak trips anticipated from the proposed Campsite. **Table 01** summarizes the AM peak and PM peak trip generation for the proposed Campsite/Recreational Vehicle Park. As shown in this table, about 6 AM peak and 7 PM peak trips are anticipated to be generated by the proposed Campsite. ITE Trip Generation Manual does not provide trip generation rates for the Saturday Mid-day peak hours. Hence, as discussed and agreed during the

methodology meeting, the Saturday Mid-day peak trip generation was estimated by applying the ratio of weekday to weekend trips from the Hotel land use code to the Campsite weekday PM peak trips. As shown in previous stated **Table 01**, a ratio of 1.08 was applied to the weekday PM peak trips to estimate Saturday Mid-day peak trips.

Year 2027 Background Traffic Volumes:

Future conditions analysis was performed under the year 2027 traffic volumes. The year 2027 traffic volumes were estimated by applying a growth factor of 1.1 (2.0% per year for five years). The growth factor was estimated by performing trends analysis of the historical AADT on Sadler Road. The historical AADT on Sadler Road was obtained from the FDOT traffic counts online portal. **Attachment D** includes the Sandler Road historical AADT data and trends analysis plot. As shown in this trends plot, traffic on Sadler Road has a growth rate less than 2.0% per year. However, a minimum growth rate of 2.0% per year was applied to estimate a growth rate of 1.1 to estimate year 2027 background traffic volumes. **Figure 03** shows the year 2027 background conditions traffic volumes at the above stated study intersections.

Project Traffic Distribution and Assignment:

Majority of the patrons are anticipated to be entering and exiting the Campsite from the west. Hence, 80% of the project traffic is assigned to and from the west and 20% to the and from the east on Sadler Road. This distribution percentage was applied to the trip generation included in previously stated **Table 01** to determine the project traffic assignment on Sandler Road and the above stated study intersections. **Figure 04** shows the project traffic distribution and assignment on Sadler Road and at the study intersections on Sadler Road.

Year 2027 Build-Out Traffic Volumes:

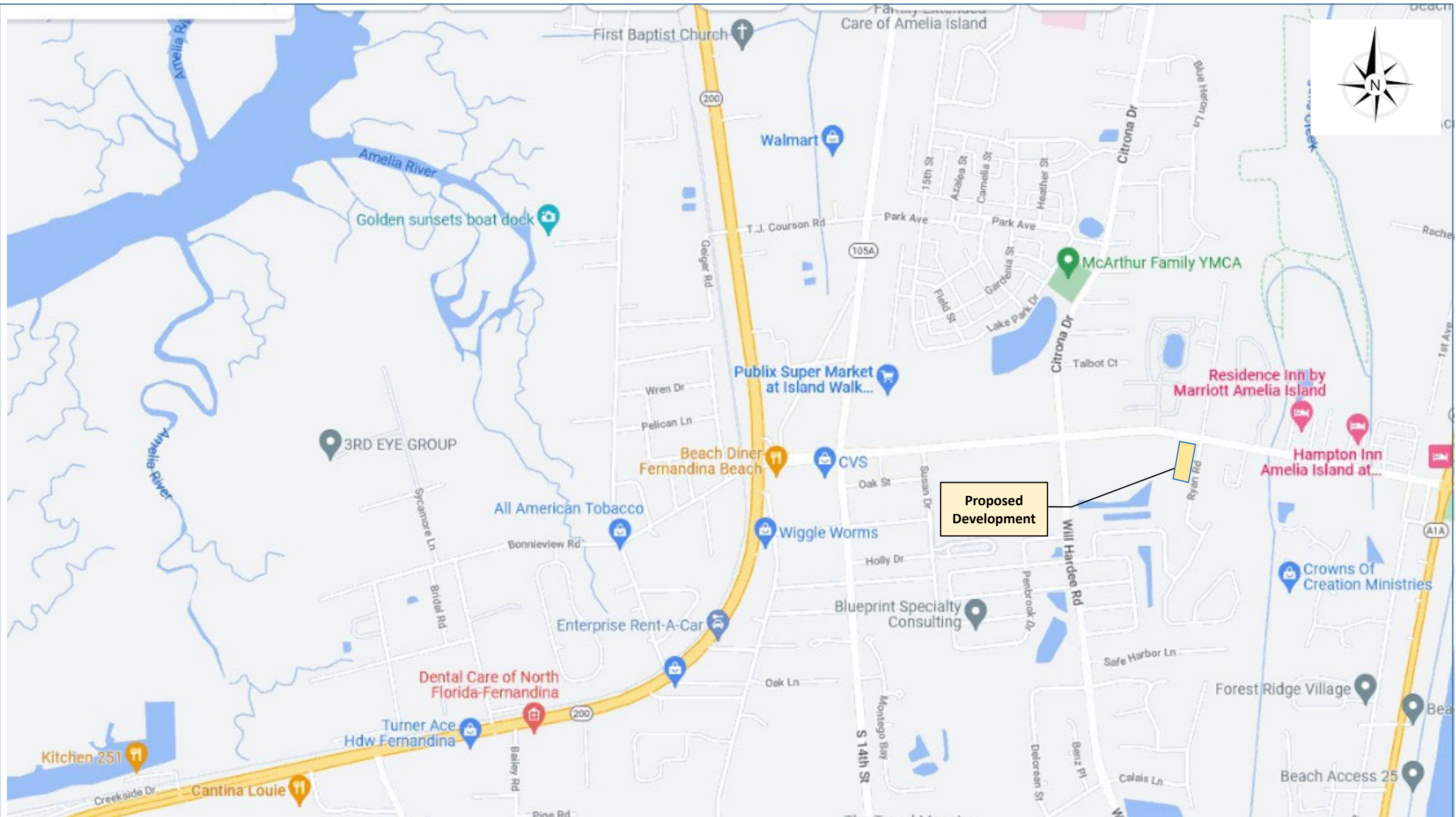
The year 2027 build-out traffic volumes include the year 2027 background traffic volumes and the project traffic distribution and assignment. **Figure 05** shows the year 2027 build-out traffic volumes on Sadler Road at the above stated study intersections and the project access driveways on Sadler Road and Ryan Road.

Roadway Segment Analysis: **Table 02** also summarizes roadway segments analysis on Sadler Road under the year 2022 existing conditions, year 2027 background conditions and year 2027 build-out conditions. As shown in this table, Sadler Road segments are currently operating at LOS D or better. These segments are anticipated to continue operating at LOS D or better under the year 2027 background and build-out conditions. As shown in this table, project traffic volumes are anticipated to be less than 1.0% of the roadway segments MSV.

Intersection Capacity Analysis: Intersection capacity analysis of the study intersections under the existing conditions, year 2027 background and year 2027 build-out conditions was performed using the Synchro 11 software. This software uses the HCM 6 criteria and methodology to determine the LOS and delay at signalized intersections. Table 03 summarizes the existing conditions year 2022, year 2027 background conditions and year 2027 build-out conditions' intersection Delay and LOS. **Attachment E** includes these HCM worksheets.

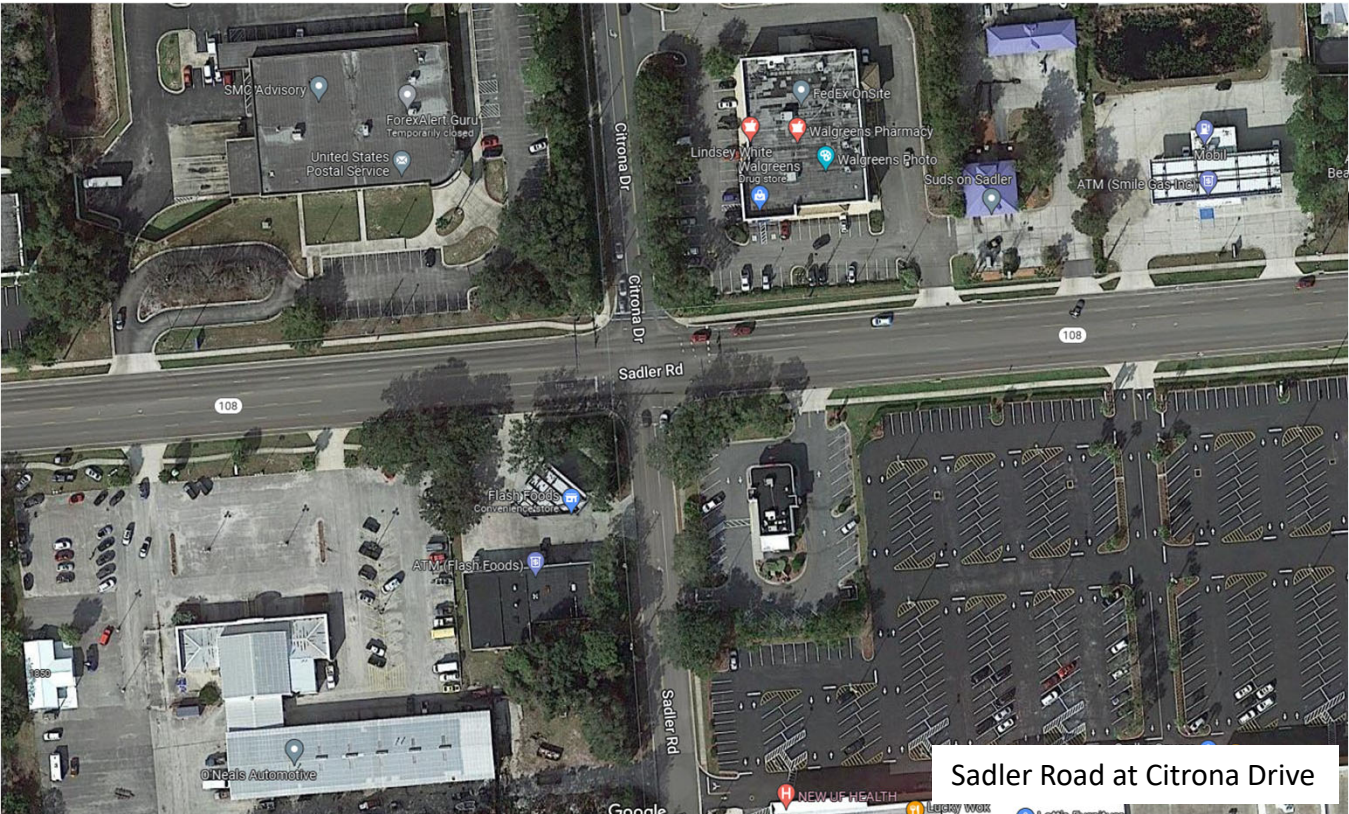
As summarized in this table, all the critical approaches and movements at the above stated study intersections are currently operating at LOS D or better and anticipated to continue operating at LOS D or better under the year 2027 background and build-out conditions.

Project Access Intersections: The westbound left turns on Sadler Road at the project entrance intersection and the eastbound project exit driveway on Ryan Road are anticipated to operate LOS C or better under the year 2027 build-out conditions. The existing center two-way left-turn lane would provide refuge to the westbound left turning project traffic on Sadler Road. A maximum queue of no greater than 1 vehicle is anticipated on Ryan Road at Sadler Road under the build-out conditions of the proposed Campsite. No greater than 4 eastbound right turns are anticipated on Sadler Road at the project entrance driveway. These minimal right turns are not anticipated to warrant a right turn lane.



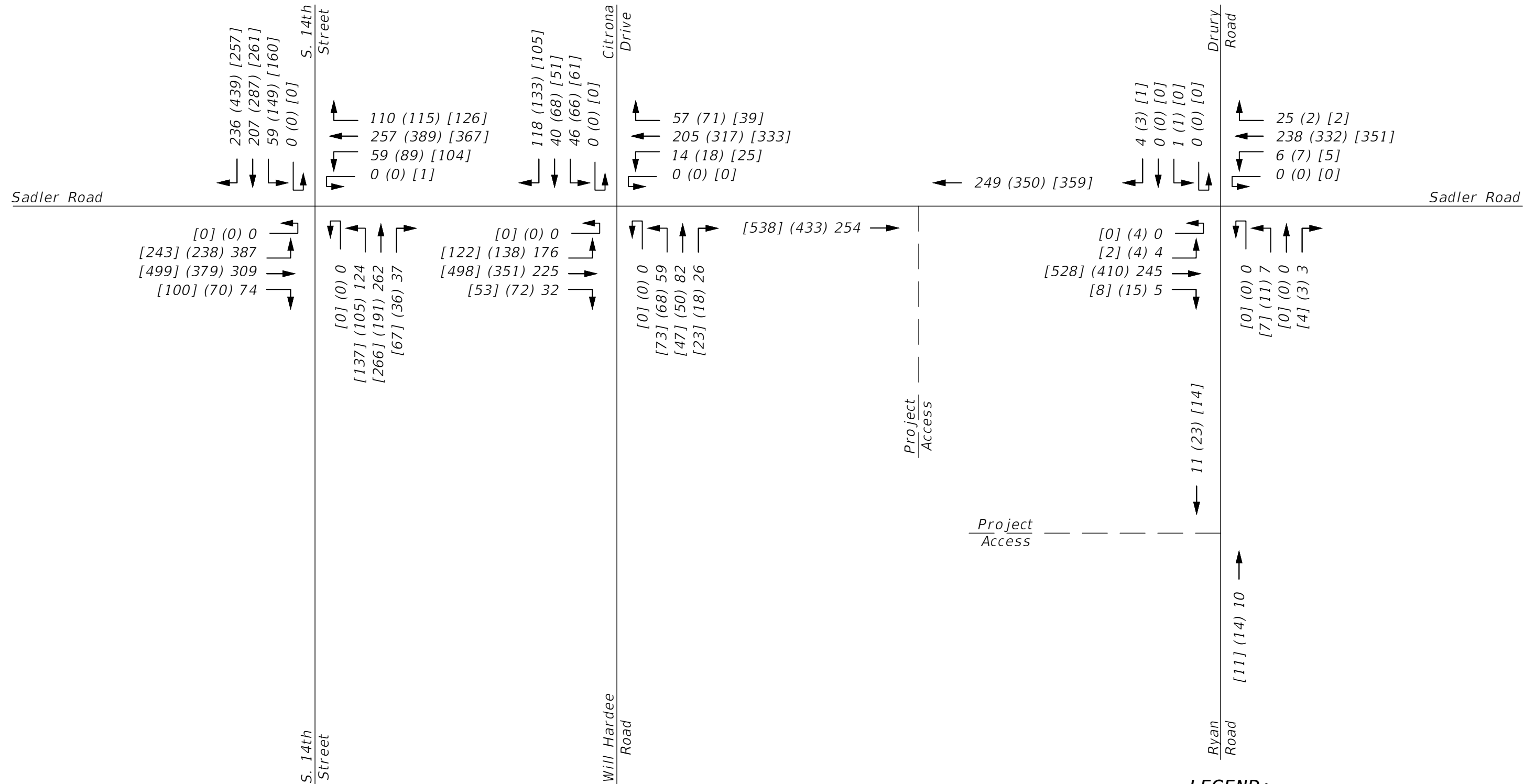
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Figure 01 – Location Map
 Breakers Campsite - TIA
 Nassau County, Florida



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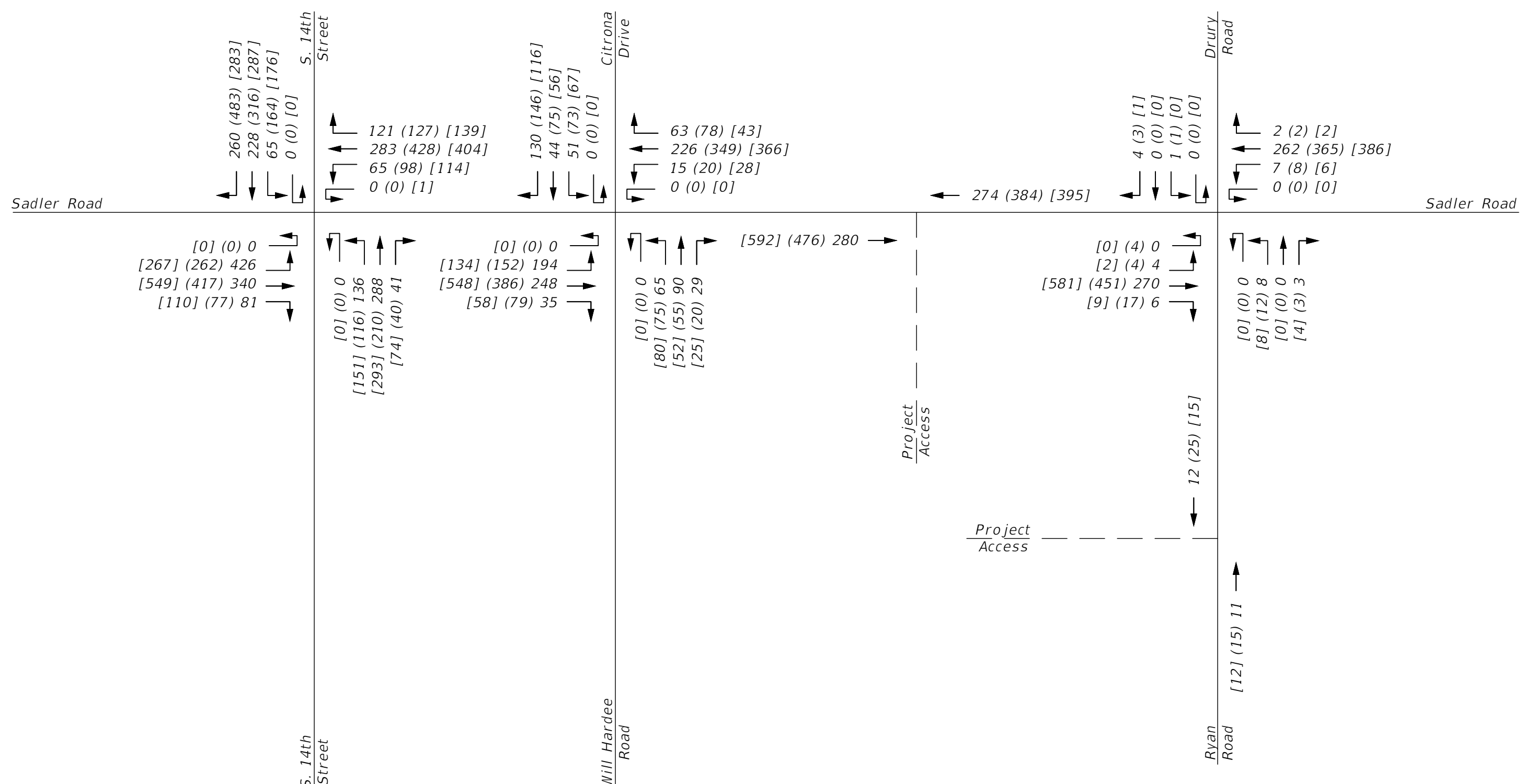
Figure 02 – Existing Conditions on Sadler Road
 Breakers Campsite - TIA
 Nassau County, Florida



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Figure 03 - Year 2022 AM and PM Peak Hour Traffic Volumes

Breakers Campsite - TIA
Nassau County, Florida



LEGEND:

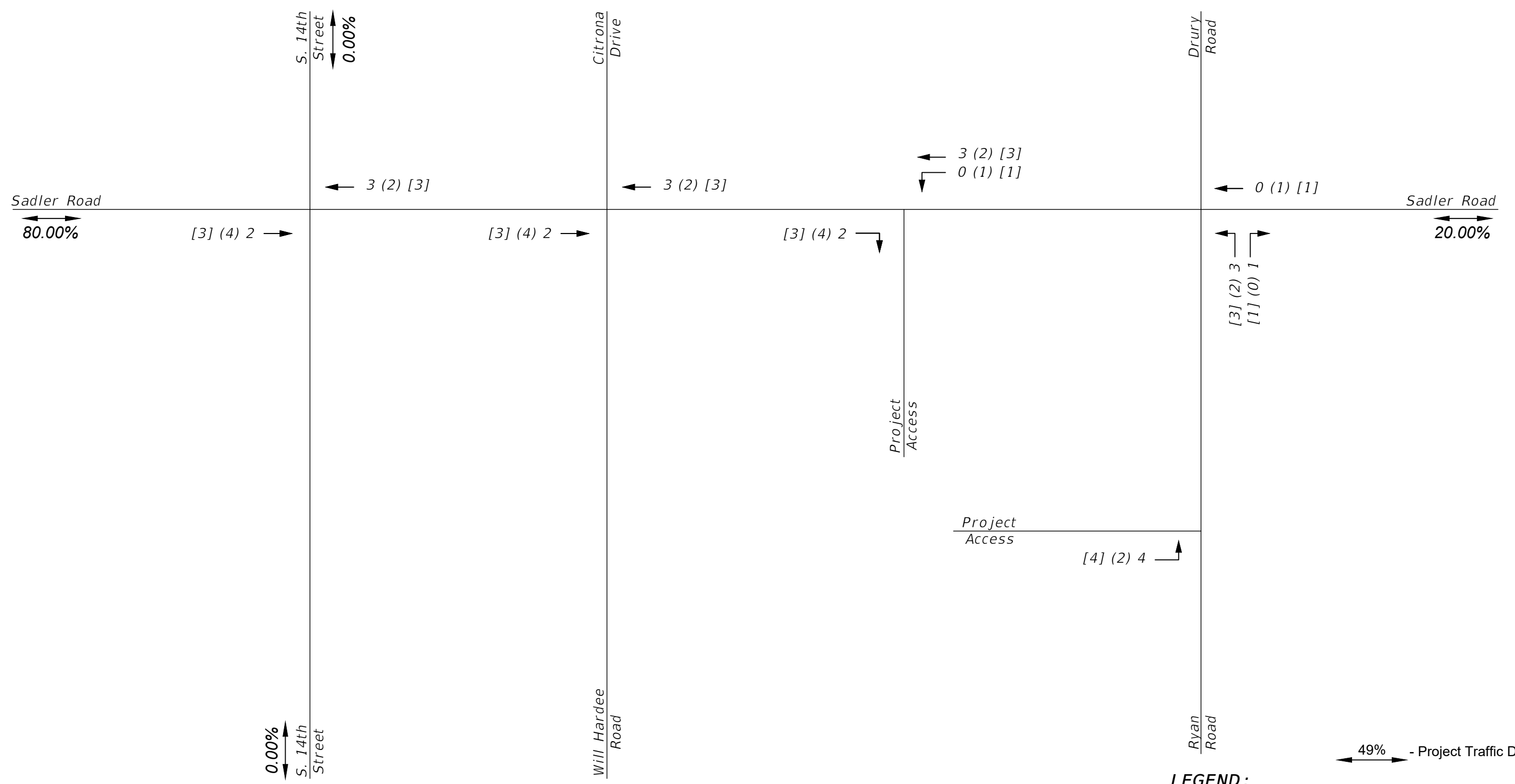
- 534 - AM Peak Hour Traffic = 8:00 AM - 9:00 AM
- (923) - PM Peak Hour Traffic = 4:00 PM - 5:00 PM
- [550] - Saturday Peak Hour = 11:30 AM - 12:30 PM



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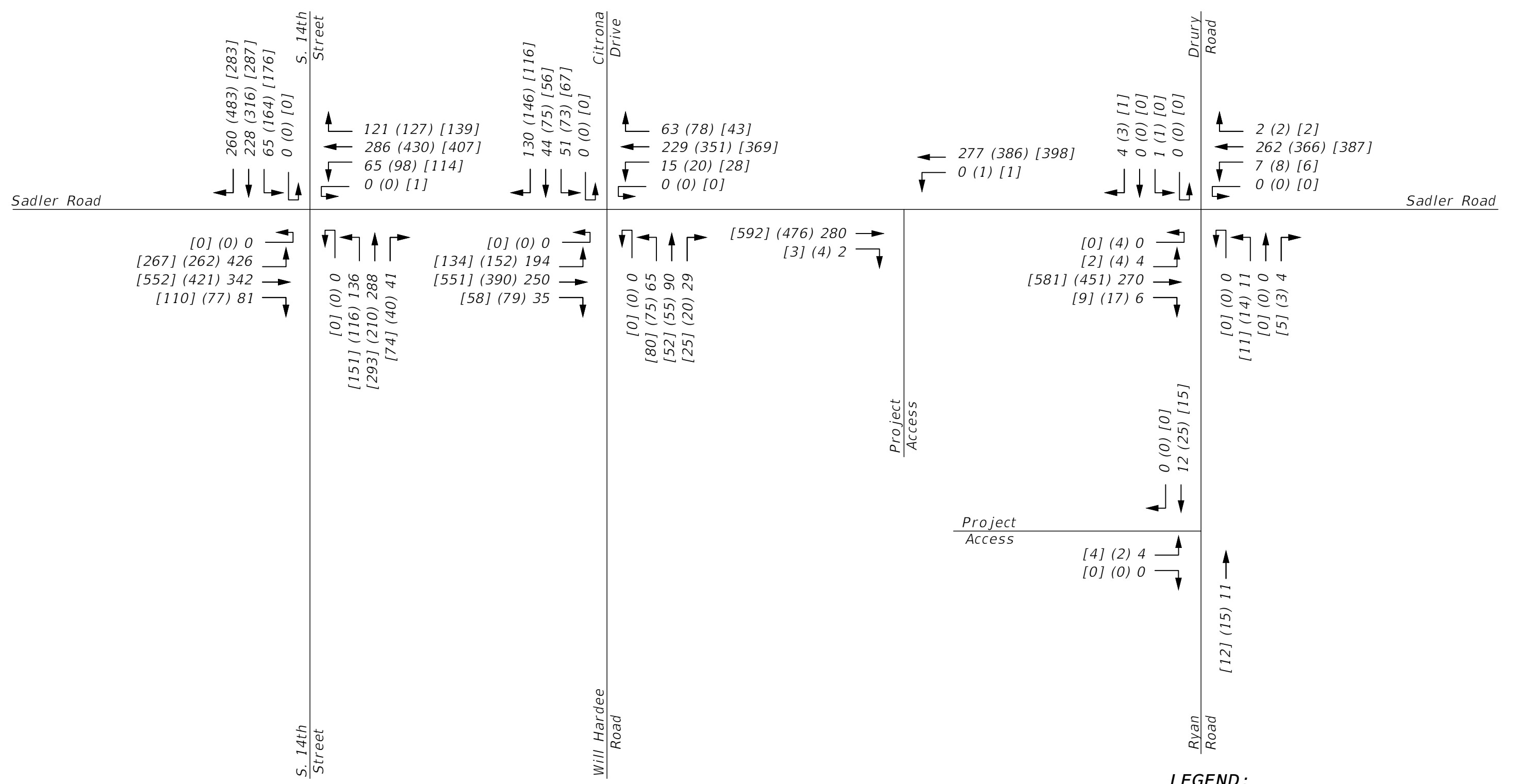
Figure 04 - Year 2027 AM and PM Peak Hour Background Traffic Volumes

Breakers Campsite - TIA
Nassau County, Florida



49% - Project Traffic Distribution

- LEGEND:**
- 534 - AM Peak Hour Traffic = 8:00 AM - 9:00 AM
 - (923) - PM Peak Hour Traffic = 4:00 PM - 5:00 PM
 - [550] - Saturday Peak Hour = 11:30 AM - 12:30 PM



LEGEND:

- 534 - AM Peak Hour Traffic = 8:00 AM - 9:00 AM
- (923) - PM Peak Hour Traffic = 4:00 PM - 5:00 PM
- [550] - Saturday Peak Hour = 11:30 AM - 12:30 PM



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Figure 06 - Year 2027 AM and PM Peak Hour Build-Out Traffic Volumes

Breakers Campsite - TIA
Nassau County, Florida

Table 01
Trip Generation
Breakers Campsite, Nassau County, FL

ITE Land Use Code	Description	Units	Quantity	Time Period	Rate or Equation	Percent		Trips		
						Entering	Exiting	Total	Entering	Exiting
416	Campground/Recreational Vehicle Park	Occupied Campsites	17	AM Peak of Adjacent Street Traffic	$T = 0.16(X) + 2.93$	36.00%	64.00%	6	2	4
				PM Peak of Adjacent Street Traffic	$\ln(T) = 0.71 \ln(X) - 0.06$	65.00%	35.00%	7	5	2
				Saturday Peak	$T = 1.08 * \text{PM Peak Trips}$	45.00%	55.00%	8	4	4

Trip Generation for Hotel Land Use Code to Estimate Saturday Peak Project Trips

310	Hotel	Occupied Rooms	17	Weekday PM Peak of Generator	$T = 0.73 * (X)$	57.00%	43.00%	12	7	5
				Saturday Peak Hour of Generator	$T = 0.79 * (X)$	45.00%	55.00%	13	6	7

Net Increase Week Day Peak to Week End Peak 108.00%

Source: Trip Generation Manual, 11th Edition, Institute of Transportation Engineers

Table 02
Roadway Segment Analysis
Breakers Campsite, Nassau County, FL

Roadway	Sadler Road	Sadler Road
Terminii	S 8th Street to S 14th Street	S 14th Street to Flagler Street
PM Peak MSV	2,920	2,920
Year 2022 PM Peak Traffic	1,620	1,157
Year 2022 Traffic % of MSV	55.48%	39.62%
Year 2022 Segment LOS	D	C
Growth Factor	1.10	1.10
Year 2027 Background Traffic	1,782	1,273
Year 2027 Background Traffic % of MSV	61.03%	43.60%
Year 2027 Background Conditions Segment LOS	D	C
PM Peak Project Traffic	6	6
Project Traffic % of MSV	0.21%	0.21%
Year 2027 Build-Out Traffic	1,788	1,279
Year 2027 Build-Out Traffic % of MSV	61.23%	43.80%
Year 2027 Build-Out Conditions Segment LOS	D	C

Source:

Attachment C & D: Traffic Counts Data, FDOT QLOS Summary Tables, Table 01 and Figure 05

Table 03
HCM Delay and LOS
Breakers Campsite TIA - Nassau County, FL

Intersection	Approach	Traffic Control	AM Peak			PM Peak			Saturday Peak			Notes
			Delay	LOS	95Th %ile Q	Delay	LOS	95Th %ile Q	Delay	LOS	95Th %ile Q	
Year 2022 Existing Conditions												
Sadler Road at South 14th Street	Intersection	Signal	26.20	C		26.60	B		31.30	C		
	EB	Signal	13.90	B		15.50	B		17.30	B		
	WB	Signal	24.70	C		20.30	C		24.30	C		
	NB	Signal	42.80	D		30.60	C		45.70	D		
	SB	Signal	31.00	C		39.30	D		43.60	D		
Sadler Road at Citrona Drive/Will Hardee Road	Intersection	Signal	22.40	C		21.00	C		21.40	C		
	EB	Signal	14.20	B		17.90	C		19.00	B		
	WB	Signal	11.50	B		11.70	B		10.70	B		
	NB	Signal	34.30	C		32.90	C		33.90	C		
	SB	Signal	40.60	D		40.20	D		40.60	D		
Sadler Road at Ryan Road/Drury Road	EBL	Yield	7.80	A	-	8.20	A	-	8.10	A	-	Northbound Queue Southbound Queue
	WBL	Yield	7.80	A	-	8.30	A	-	8.50	A	-	
	NB	Stop	11.50	B	25	15.50	C	25	15.20	C	25	
	SB	Stop	9.70	A	-	11.20	B	25	9.50	A	-	
Year 2025 Background Conditions												
Sadler Road at South 14th Street	Intersection	Signal	29.10	C		31.90	C		31.70	C		
	EB	Signal	17.10	B		17.10	B		23.00	C		
	WB	Signal	32.30	C		30.90	C		34.90	C		
	NB	Signal	44.40	D		31.40	C		45.40	D		
	SB	Signal	30.10	C		45.10	D		29.90	C		
Sadler Road at Citrona Drive/Will Hardee Road	Intersection	Signal	23.30	C		22.10	C		22.20	C		
	EB	Signal	15.20	B		18.60	B		20.40	C		
	WB	Signal	13.00	B		13.20	B		11.90	B		
	NB	Signal	33.30	C		32.00	C		33.10	C		
	SB	Signal	41.70	D		41.10	D		40.00	D		
Sadler Road at Ryan Road/Drury Road	EBL	Stop	7.80	A	-	8.30	A	-	8.20	A	-	Northbound Queue Southbound Queue
	WBL	Stop	7.90	A	-	8.50	A	-	8.70	A	-	
	NB	Stop	12.00	B	25	17.00	C	25	17.00	C	25	
	SB	Stop	9.90	A	-	11.70	B	25	9.60	A	-	
Year 2025 Build-Out Conditions												
Sadler Road at South 14th Street	Intersection	Signal	29.10	C		31.90	C		31.70	C		
	EB	Signal	17.20	B		17.20	B		23.00	C		
	WB	Signal	32.40	C		31.00	C		35.00	C		
	NB	Signal	44.40	D		31.40	C		45.40	D		
	SB	Signal	30.10	C		45.10	D		29.90	C		
Sadler Road at Citrona Drive/Will Hardee Road	Intersection	Signal	23.30	C		22.10	C		22.20	C		
	EB	Signal	15.30	B		18.70	B		20.40	C		
	WB	Signal	13.00	B		13.20	B		12.00	B		
	NB	Signal	33.30	C		32.00	C		33.10	C		
	SB	Signal	41.70	D		41.10	D		40.00	D		
Sadler Road at Campsite Entrance Driveway		WBL	Yield	0.00	A	-	0.00	A	-	0.00	A	-
Sadler Road at Ryan Road/Drury Road	EBL	Stop	7.80	A	-	8.30	A	-	8.20	A	-	Northbound Queue Southbound Queue
	WBL	Stop	7.90	A	-	8.50	A	-	8.70	A	-	
	NB	Stop	12.10	B	25	17.30	C	25	17.40	C	25	
	SB	Stop	9.90	A	-	11.70	B	25	9.60	A	-	
Ryan Road at Campsite Exit Driveway		EBL	Stop	8.60	A	-	8.70	A	-	8.70	A	-

Attachment A

Conceptual Site Plan

(Source: Gillette and Associates, Inc.)

PROPERTY INFORMATION:

- PID#: 00-00-30-0600-0002-0200
- ACREAGE: 1.38 ACRES (60,000 SF)
- LOCATION: FERNANDINA BEACH, FL
- FLOOD ZONE: X
- ZONING: CG (PER REZONING R21-011)
- FUTURE LAND USE: COMMERCIAL
- PROPOSED USE: CAMPGROUND

DEVELOPMENT REQUIREMENTS:

- MAX LOT COVERAGE: 50%

SETBACK REQUIREMENTS:

- FRONT: 25 FEET
- REAR: 25 FEET
- SIDES: 25 FEET

UTILITIES:

- WATER: CITY OF FERNANDINA BEACH
- SEWER: CITY OF FERNANDINA BEACH
- POWER: F.P.U.

NOT FOR CONSTRUCTION

NOTE: SOME DETAILS IN THESE DRAWINGS ARE TO BE CONSIDERED TYPICAL AND MAY NOT BE CALLED OUT ON PLANS. CONTRACTOR SHALL BECOME FAMILIAR WITH AND FOLLOW ALL DETAILS DURING CONSTRUCTION IN ALL TYPICAL AREAS.

REGISTERED DESIGN PROFESSIONAL

PRELIMINARY BINDING SITE PLAN SUBMITTAL

GILLETTE & ASSOCIATES, INC.
CIVIL, ENVIRONMENTAL, MECHANICAL, & STRUCTURAL ENGINEERING

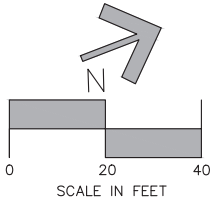
CERTIFICATE OF AUTHORIZATION NO. 9332
ASA R. GILLETTE, P.E. • FL PE NO. 56177
20 S. 4th STREET * FERNANDINA BEACH, FL 32034
PHONE: 904-261-8819 * www.gilletteassociates.com

BREAKERS CAMP GROUND
2194 SADLER ROAD,
FERNANDINA BEACH, FLORIDA 32034

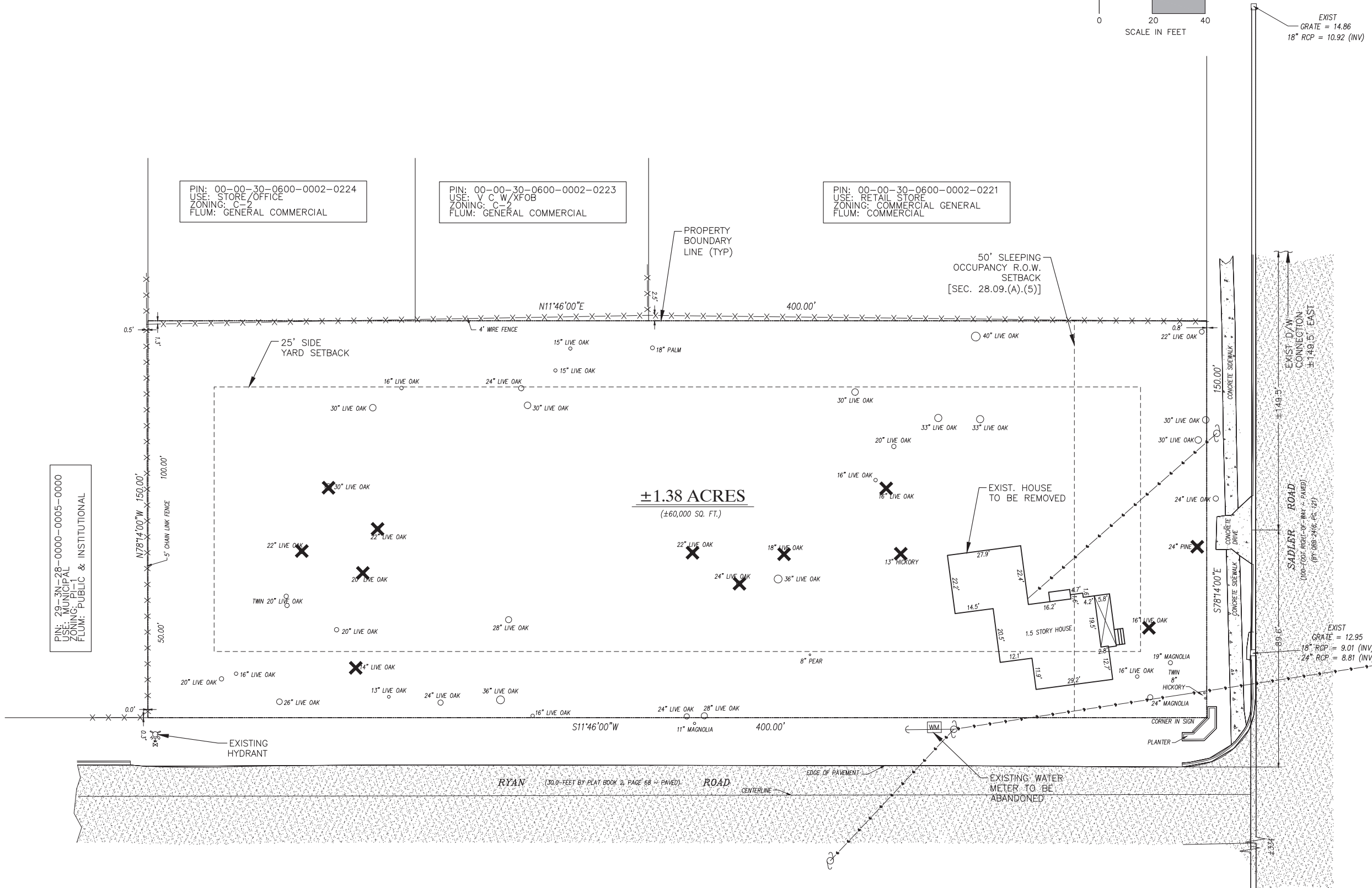
ISSUE DATE: 04/27/22

PREDEVELOPED
SITE PLAN

North / Elev Key Sheet
PRE-1
Page 1 of X



EXIST
GRATE = 14.86
18" RCP = 10.92 (INV)



X = TREE TO BE REMOVED

LEGEND

GRAVEL CONCRETE

EXIST
GRATE = 9.69
24" RCP = 5.19 (INV)

PROPERTY INFORMATION:

- PID#: 00-00-30-0600-0002-0200
- ACREAGE: 1.38 ACRES (60,000 SF)
- LOCATION: FERNANDINA BEACH, FL
- FLOOD ZONE: X
- ZONING: CG (PER REZONING R21-011)
- FUTURE LAND USE: COMMERCIAL
- PROPOSED USE: CAMPGROUND

DEVELOPMENT REQUIREMENTS:

- MAX LOT COVERAGE: 50%
- PROPOSED LOT COVERAGE: 44.6%
- TOTAL IMPERVIOUS AREA CALCULATED BASED ON ASSUMPTION OF NO PERVIOUS MATERIALS USED

SETBACK REQUIREMENTS:

- FRONT: 25 FEET
- REAR: 25 FEET
- SIDES: 25 FEET

UTILITIES:

- WATER: CITY OF FERNANDINA BEACH
- SEWER: CITY OF FERNANDINA BEACH
- POWER: F.P.U.

SEPTIC/SEWAGE CALCULATIONS:

TRAILER VEHICLE SPACES = 17
CHECK-IN OFFICE SPACE = 350 SF
MANAGERS OFFICE SPACE = 300 SF
MANAGERS 1 BEDROOM SPACE = 750 SF
BATH HOUSE = 170 SF

- "TRANSIENT RECREATIONAL VEHICLE PARK"

(B) RECREATIONAL VEHICLE SPACE FOR OVERNIGHT STAY, WITH WATER AND SEWER HOOKUP PER VEHICLE SPACE

= 75 GALLONS PER TRAILER VEHICLE SPACE

75 GAL * (17 SPOTS) = 1,275 GALLONS

- "RESIDENTIAL"

(A) SINGLE/MULTIPLE FAMILY DWELLING. ONE (1) BEDROOM W/ 750 SF OR LESS BUILDING AREA = 100 GALLONS

MANAGERS SLEEPING QUARTERS = 100 GALLONS

- "OFFICE BUILDING"

15 GALLONS PER 100 SQUARE FEET OF FLOOR SPACE

(650 SF TOTAL OFFICE/ 100 SF) * 15 GALLONS = 98 GALLONS

- "BATH HOUSE" CALCULATIONS ALREADY CONSIDERED CALCULATED INTO THE "TRANSIENT RECREATIONAL VEHICLE PARK" CALCULATIONS. SINCE THE VEHICLE SPACES ARE ASSUMED WITH WATER & SEWER HOOKUPS.

TOTAL ESTIMATED SEWAGE FLOW

= 1,473 GALLONS/DAY

ESTIMATED SEPTIC TANK MINIMUM EFFECTIVE CAPACITY = 2,700 GALLONS

ESTIMATED PUMP TANK MINIMUM TOTAL CAPACITY = 1,900 GALLONS

NOT FOR CONSTRUCTION

NOTE: SOME DETAILS IN THESE DRAWINGS ARE TO BE CONSIDERED TYPICAL AND MAY NOT BE CALLED OUT ON PLANS. CONTRACTOR SHALL BECOME FAMILIAR WITH AND FOLLOW ALL DETAILS DURING CONSTRUCTION IN ALL TYPICAL AREAS.

REGISTERED DESIGN PROFESSIONAL

PRELIMINARY BINDING SITE PLAN SUBMITTAL

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ASA R. GILLETTE, P.E. • FL PE NO. 56177

20 S. 4th STREET * FERNANDINA BEACH, FL 32034
PHONE: 904-261-8819 * www.gilletteassociates.com

BREAKERS CAMP GROUND

2194 SADLER ROAD,
FERNANDINA BEACH, FLORIDA 32034

ISSUE DATE: 04/27/22

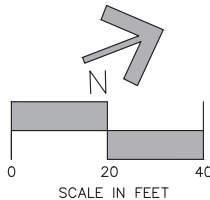
GEOMETRY
SITE PLAN

North / Elev Key Sheet

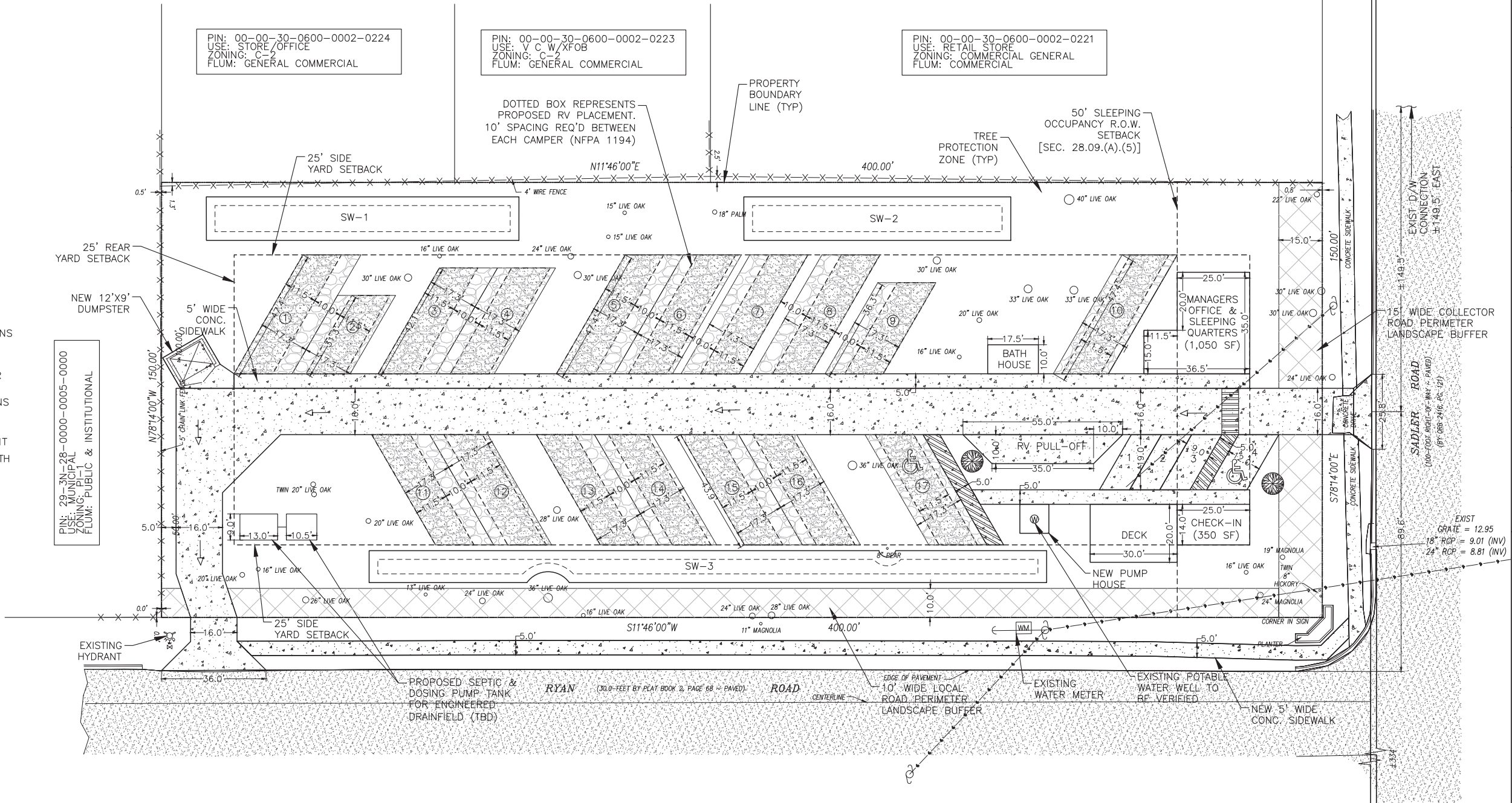
GE-1

Page 2 of X

ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177



EXIST
GRATE = 14.86
18" RCP = 10.92 (INV)



LEGEND

- GRAVEL: RV SITE
- GRAVEL: RV PARKING SPOT
- CONCRETE

PROPERTY INFORMATION:

- PID#: 00-00-30-0600-0002-0200
- ACREAGE: 1.38 ACRES (60,000 SF)
- LOCATION: FERNANDINA BEACH, FL
- FLOOD ZONE: X
- ZONING: CG (PER REZONING R21-011)
- FUTURE LAND USE: COMMERCIAL
- PROPOSED USE: CAMPGROUND

TREE MITIGATION CALCULATIONS:

TOTAL DBH: 1,039"
TOTAL DBH SAVED: 798"
PROPOSED REMOVED DBH: 241"
MITIGATION REQUIRED:
241" * 25% = 61"

*THE ABOVE DBH MITIGATION REQUIRED IS A
ROUGH VALUATION GIVEN TO THE CURRENT
DESIGN SHOWN AND DOES NOT TAKE INTO
ACCOUNT THE PRESERVATION CREDITS THAT
WILL BE AWARDED FOR SAVING TREES.

- TREES SHOWN WITH A TPZ AROUND THEM
ARE CONSIDERED SAVED TREES.

LANDSCAPE BUFFER REQUIREMENTS:

NORTH PROPERTY LINE:

ADJACENT COLLECTOR ROAD: SADLER ROAD
REQUIRED BUFFER: PERIMETER 15- FEET

EAST PROPERTY LINE:

ADJACENT LOCAL ROAD: RYAN ROAD
REQUIRED BUFFER: PERIMETER 10- FEET

SOUTH PROPERTY LINE:

REQUIRED BUFFER: NONE

WEST PROPERTY LINE:

REQUIRED BUFFER: NONE

NOT FOR CONSTRUCTION

NOTE: SOME DETAILS IN THESE DRAWINGS
ARE TO BE CONSIDERED TYPICAL AND
MAY NOT BE CALLED OUT ON PLANS.
CONTRACTOR SHALL BECOME FAMILIAR
WITH AND FOLLOW ALL DETAILS DURING
CONSTRUCTION IN ALL TYPICAL AREAS.

REGISTERED DESIGN PROFESSIONAL

ITEM DATE 04/27/22 PRELIMINARY BINDING SITE PLAN SUBMITTAL

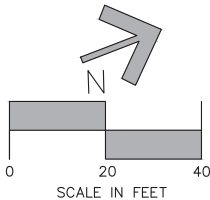
GILLETTE & ASSOCIATES, INC.
CIVIL, ENVIRONMENTAL, MECHANICAL, & STRUCTURAL ENGINEERING
CERTIFICATE OF AUTHORIZATION NO. 9332
ASA R. GILLETTE, P.E. * FL PE NO. 56177
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BREAKERS CAMP GROUND
2194 SADLER ROAD,
FERNANDINA BEACH, FLORIDA 32034

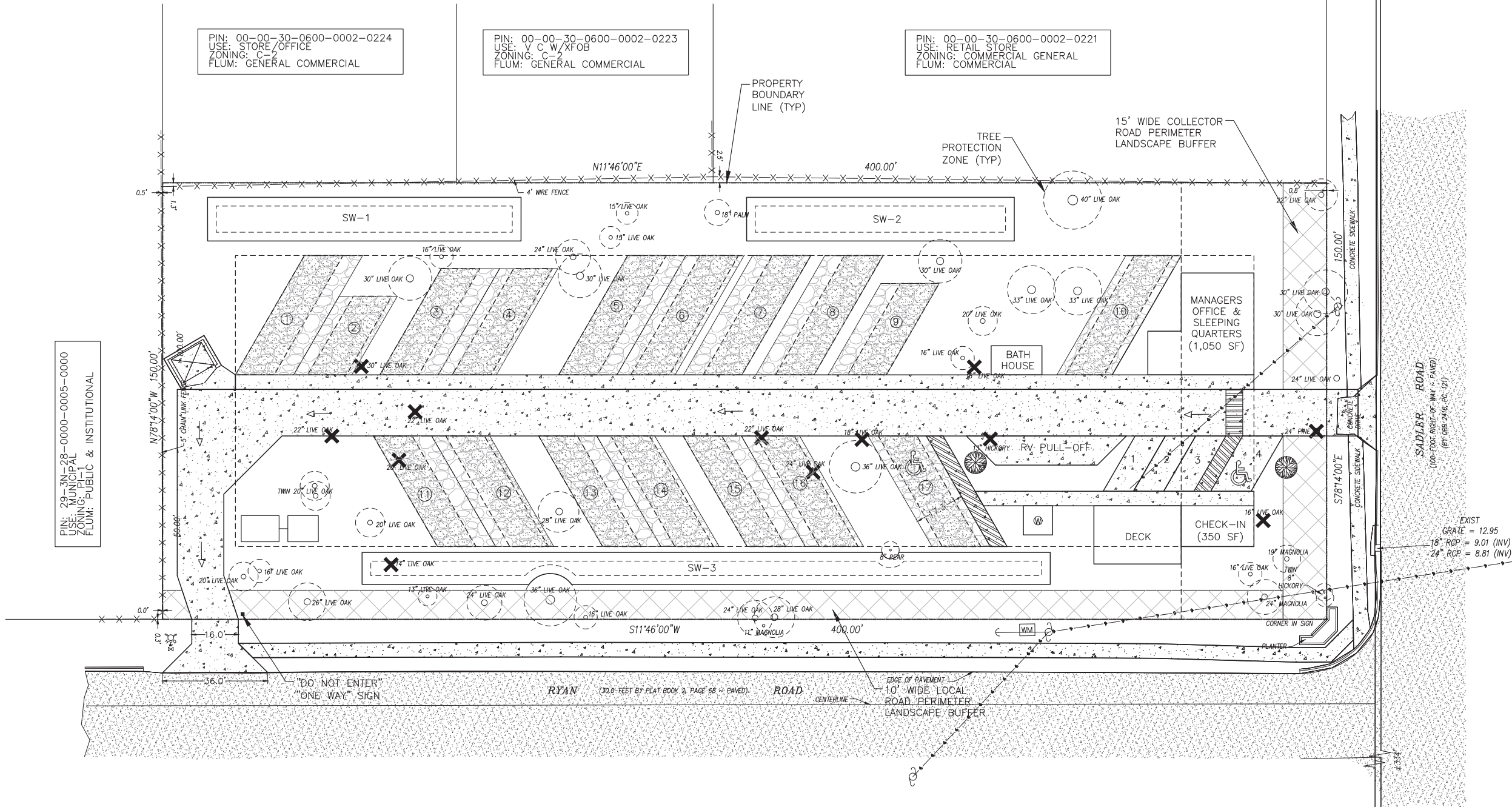
ISSUE DATE: 04/27/22

LANDSCAPE
PLAN

North / Elev Key Sheet
S W N E
LS-1
Page 3 of X



EXIST
GRATE = 14.86
18" RCP = 10.92 (INV)



X = TREE TO BE REMOVED

LEGEND

- | | | | |
|--|--------------|--|----------|
| | GRAVEL: | | CONCRETE |
| | GRAVEL: RV | | |
| | PARKING SPOT | | |

Attachment B

Study Methodology Document

Introduction:

A Campground/Recreational Vehicle Park that is anticipated to include 17 campsites/spots is proposed for development on the parcel located on the southwest quadrant of Sadler Road and Ryan Road intersection in the City of Fernandina Beach, FL. Access to the proposed campsite will be provided via a driveway on Sadler Road (entry only) and a driveway on Ryan Road (exit only).

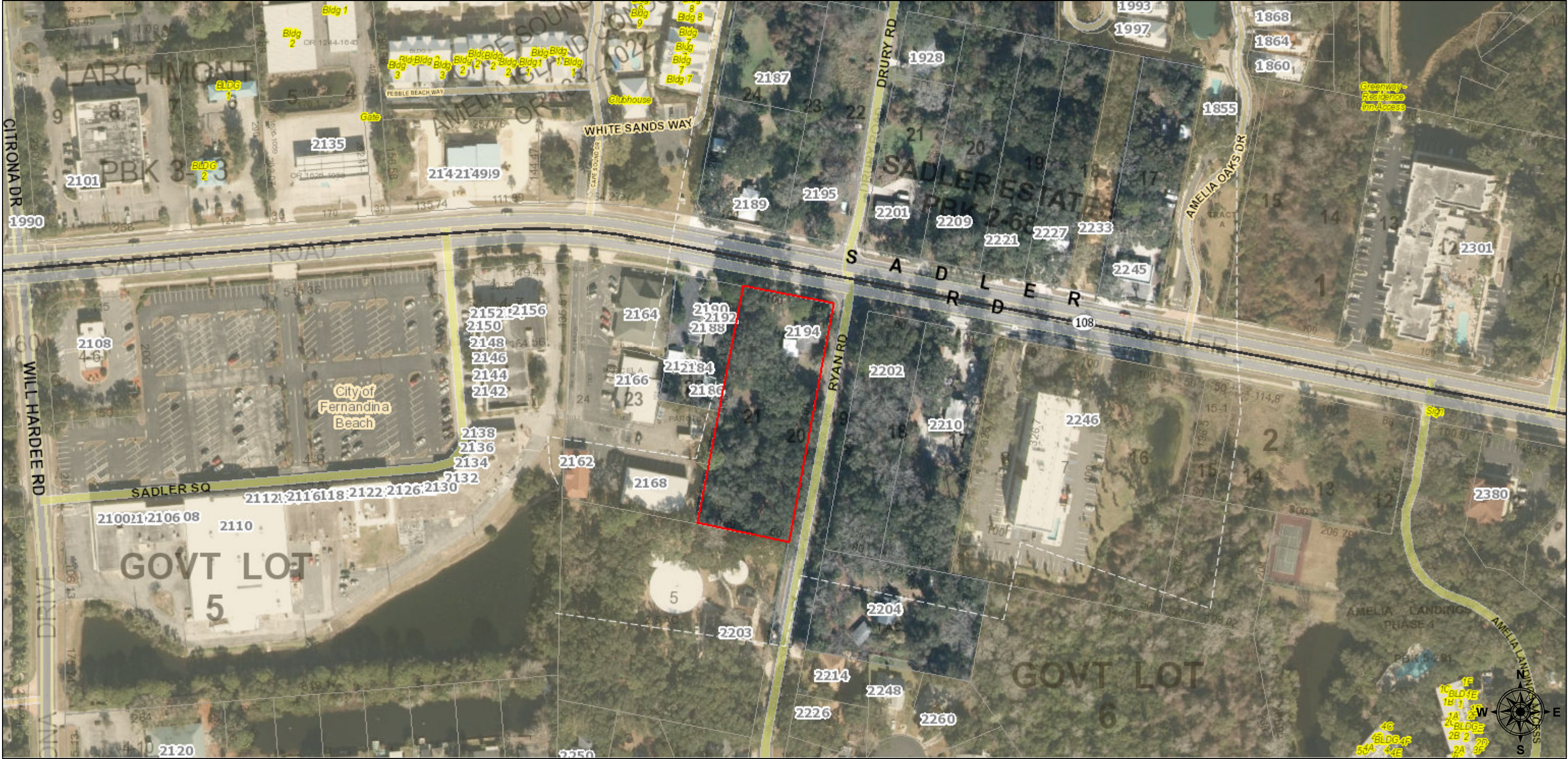
Nassau County staff require a traffic impact study evaluating the traffic impacts of the proposed campsite on Sadler Road and the three intersections on Sadler Road during the weekday AM peak, PM peak and Saturday mid-day peak hour traffic conditions. This document includes the scope and methodology for the required traffic study.

Traffic Study Tasks:

The following is a summary of tasks will be included in the traffic study:

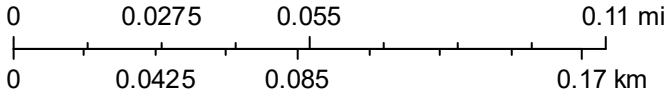
- Prepare a methodology document and submit to Nassau County staff for approval (This Document)
- Perform roadway segment analysis on Sadler Road (between SR 200 and Fletcher Road)
- Roadway segments traffic volumes will be obtained from the latest FDOT traffic counts database and Nassau County data bases
- The following intersections will be required to be evaluated during the weekday AM peak, PM peak and weekend mid-day peak time periods under the existing, future background and build-out conditions of the proposed campsite:
 - Sadler Road at Will Hardee Road
 - Sadler Road at 14th Street
 - Sadler Road at Ryan Road
- Obtain Saturday 24-hour hose counts on Sadler Road to determine the Saturday mid-day peak hour
- AM peak (7:00 to 9:00 AM), PM peak (4:00 to 6:00 PM) and Saturday mid-day peak period counts will be obtained at the above stated intersections
- Estimate the anticipated trip generation by the proposed development using rate and equations included in the latest edition of the ITE Trip Generation Manual.
- Weekend trip generation will be estimated using the ratio of weekday to weekend trips from the Hotel land use code as weekend trip generation for a RV Campground is not provided in the ITE trip generation manual
- Develop project traffic distribution based using existing traffic patterns on Sadler Road (Majority of the RVs are anticipated to be oriented to and from the west on Sadler Road)
- Estimate future traffic volumes by applying a minimum growth rate of 2.0% per year to the roadway and intersection traffic volumes
- Evaluate roadway segments and intersections under the future background and project build-out conditions
- Summarize the analysis and the study findings in a report suitable for a submittal to Nassau County.

Breakers Campsite



May 18, 2022

1:2,257



Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

PROPERTY INFORMATION:

- PID#: 00-00-30-0600-0002-0200
- ACREAGE: 1.38 ACRES (60,000 SF)
- LOCATION: FERNANDINA BEACH, FL
- FLOOD ZONE: X
- ZONING: CG (PER REZONING R21-011)
- FUTURE LAND USE: COMMERCIAL
- PROPOSED USE: CAMPGROUND

DEVELOPMENT REQUIREMENTS:

- MAX LOT COVERAGE: 50%

SETBACK REQUIREMENTS:

- FRONT: 25 FEET
- REAR: 25 FEET
- SIDES: 25 FEET

UTILITIES:

- WATER: CITY OF FERNANDINA BEACH
- SEWER: CITY OF FERNANDINA BEACH
- POWER: F.P.U.

NOT FOR CONSTRUCTION

NOTE: SOME DETAILS IN THESE DRAWINGS ARE TO BE CONSIDERED TYPICAL AND MAY NOT BE CALLED OUT ON PLANS. CONTRACTOR SHALL BECOME FAMILIAR WITH AND FOLLOW ALL DETAILS DURING CONSTRUCTION IN ALL TYPICAL AREAS.

REGISTERED DESIGN PROFESSIONAL

PRELIMINARY BINDING SITE PLAN SUBMITTAL

GILLETTE & ASSOCIATES, INC.
CIVIL, ENVIRONMENTAL, MECHANICAL, & STRUCTURAL ENGINEERING

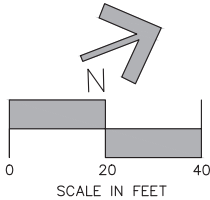
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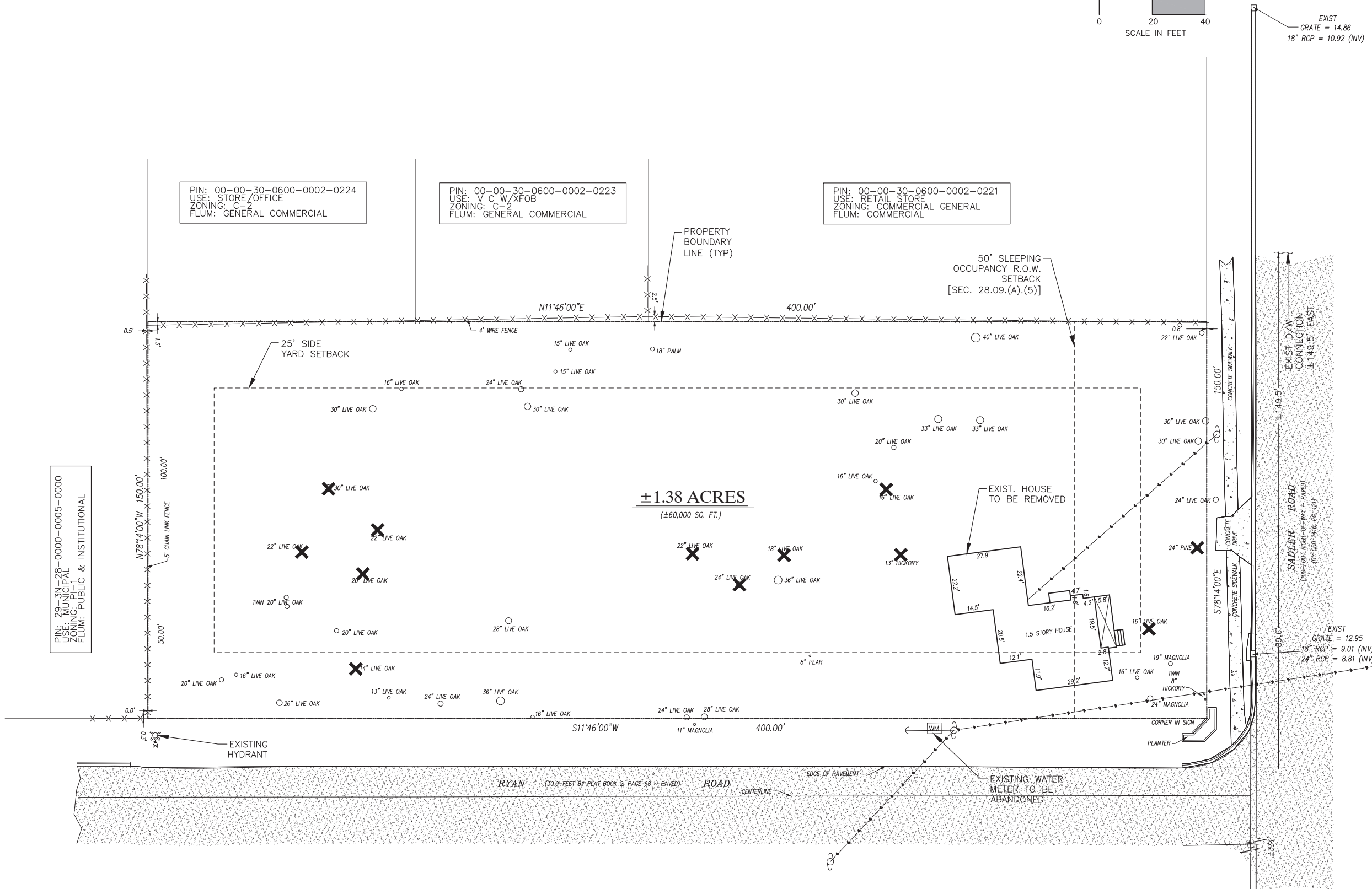
ISSUE DATE: 04/27/22

PREDEVELOPED
SITE PLAN

North / Elev Key Sheet
PRE-1
Page 1 of X



EXIST
GRATE = 14.86
18" RCP = 10.92 (INV)



X = TREE TO BE REMOVED

LEGEND

GRAVEL CONCRETE

EXIST
GRATE = 9.69
24" RCP = 5.19 (INV)

- PID#: 00-00-30-0600-0002-0200
- ACREAGE: 1.38 ACRES (60,000 SF)
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- ZONING: CG (PER REZONING R21-011)
- FUTURE LAND USE: COMMERCIAL
- PROPOSED USE: CAMPGROUND

- MAX LOT COVERAGE: 50%
- PROPOSED LOT COVERAGE: 44.6%
- TOTAL IMPERVIOUS AREA CALCULATED
BASED ON ASSUMPTION OF NO PVIOUS
MATERIALS USED

- FRONT: 25 FEET
- REAR: 25 FEET
- SIDES: 25 FEET

- WATER: CITY OF FERNANDINA BEACH
- SEWER: CITY OF FERNANDINA BEACH
- POWER: F.P.U.

TRAILER VEHICLE SPACES = 17
CHECK-IN OFFICE SPACE = 350 SF
MANAGERS OFFICE SPACE = 300 SF
MANAGERS 1 BEDROOM SPACE = 750 SF
BATH HOUSE = 170 SF

- (B) RECREATIONAL VEHICLE SPACE FOR
OVERNIGHT STAY, WITH WATER AND SEWER
HOOKUP PER VEHICLE SPACE

75 GAL * (17 SPOTS) = 1,275 GALLONS

- (A) SINGLE/MULTIPLE FAMILY DWELLING. ONE
(1) BEDROOM W/ 750 SF OR LESS BUILDING
AREA = 100 GALLONS

15 GALLONS PER 100 SQUARE FEET OF FLOOR SPACE

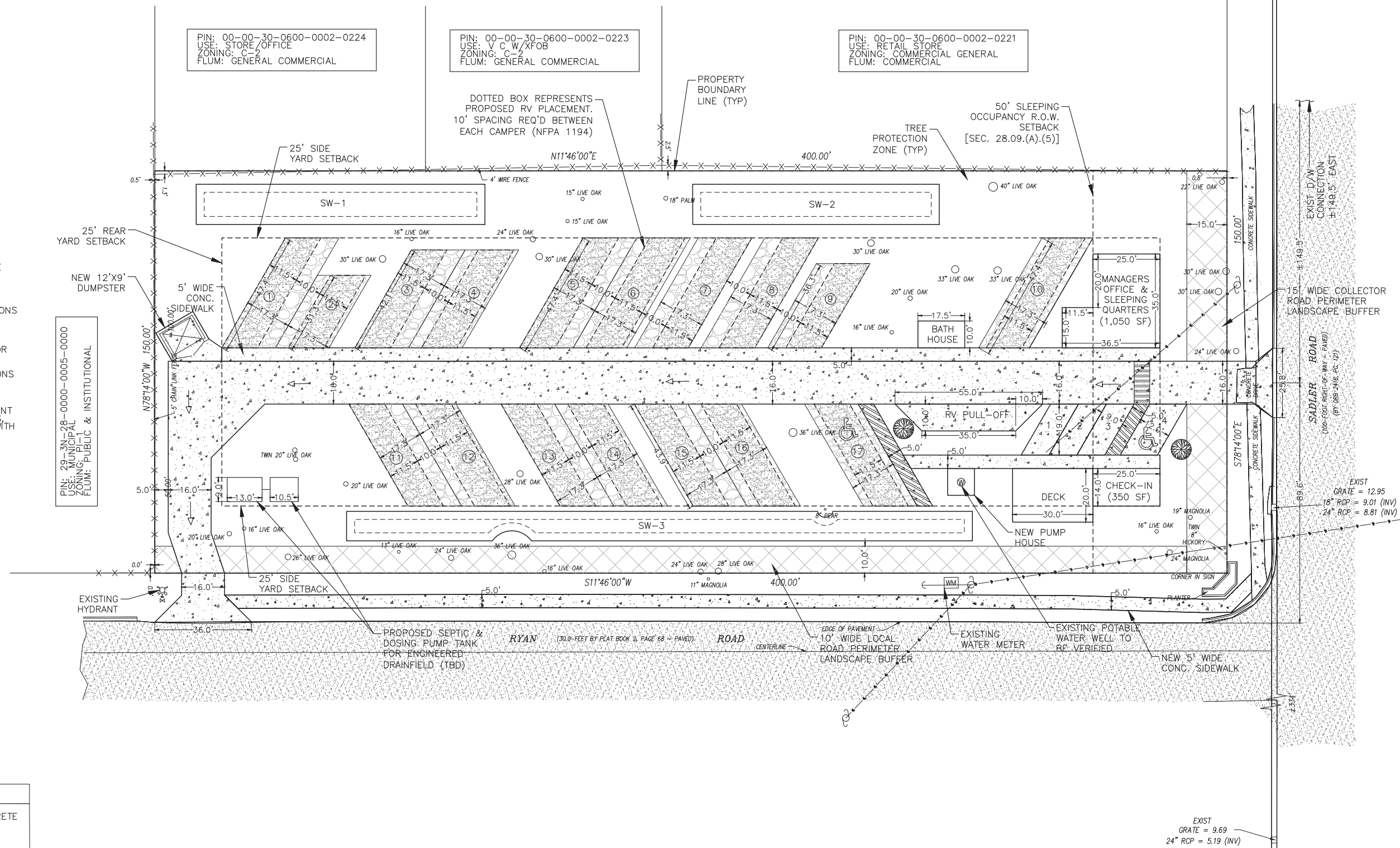
$$(650 \text{ SF TOTAL OFFICE} / 100 \text{ SF}) * 15 \text{ GALLONS} \\ = 98 \text{ GALLONS}$$

- "BATH HOUSE" CALCULATIONS ALREADY CONSIDERED CALCULATED INTO THE "TRANSIENT RECREATIONAL VEHICLE PARK" CALCULATIONS. SINCE THE VEHICLE SPACES ARE ASSUMED WITH WATER & SEWER HOOKUPS.

TOTAL ESTIMATED SEWAGE FLOW
= 1,473 GALLONS/DAY

ESTIMATED SEPTIC TANK MINIMUM EFFECTIVE
CAPACITY = 2,700 GALLONS

ESTIMATED PUMP TANK MINIMUM TOTAL
CAPACITY = 1,900 GALLONS



LEGEND

	GRAVEL: RV SITE		CONCRETE
	GRAVEL: RV PARKING SPOT		

NOT FOR CONSTRUCTION NOTE: SOME DETAILS IN THESE DRAWINGS

REGISTERED DESIGN PROFESSIONAL

REV	DATE	ITEM
A	04/27/22	PRELIMINARY BINDING SITE PLAN SUBMITTAL

GILLETTE & ASSOCIATES, INC.
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GEOMETRY
SITE PLAN

North / Elev Key	Sheet
	GE-1
	Page 2 of X

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- TREES SHOWN WITH A TPZ AROUND THEM
ARE CONSIDERED SAVED TREES.

LANDSCAPE BUFFER REQUIREMENTS:

NORTH PROPERTY LINE:

ADJACENT COLLECTOR ROAD: SADLER ROAD
REQUIRED BUFFER: PERIMETER 15- FEET

EAST PROPERTY LINE:

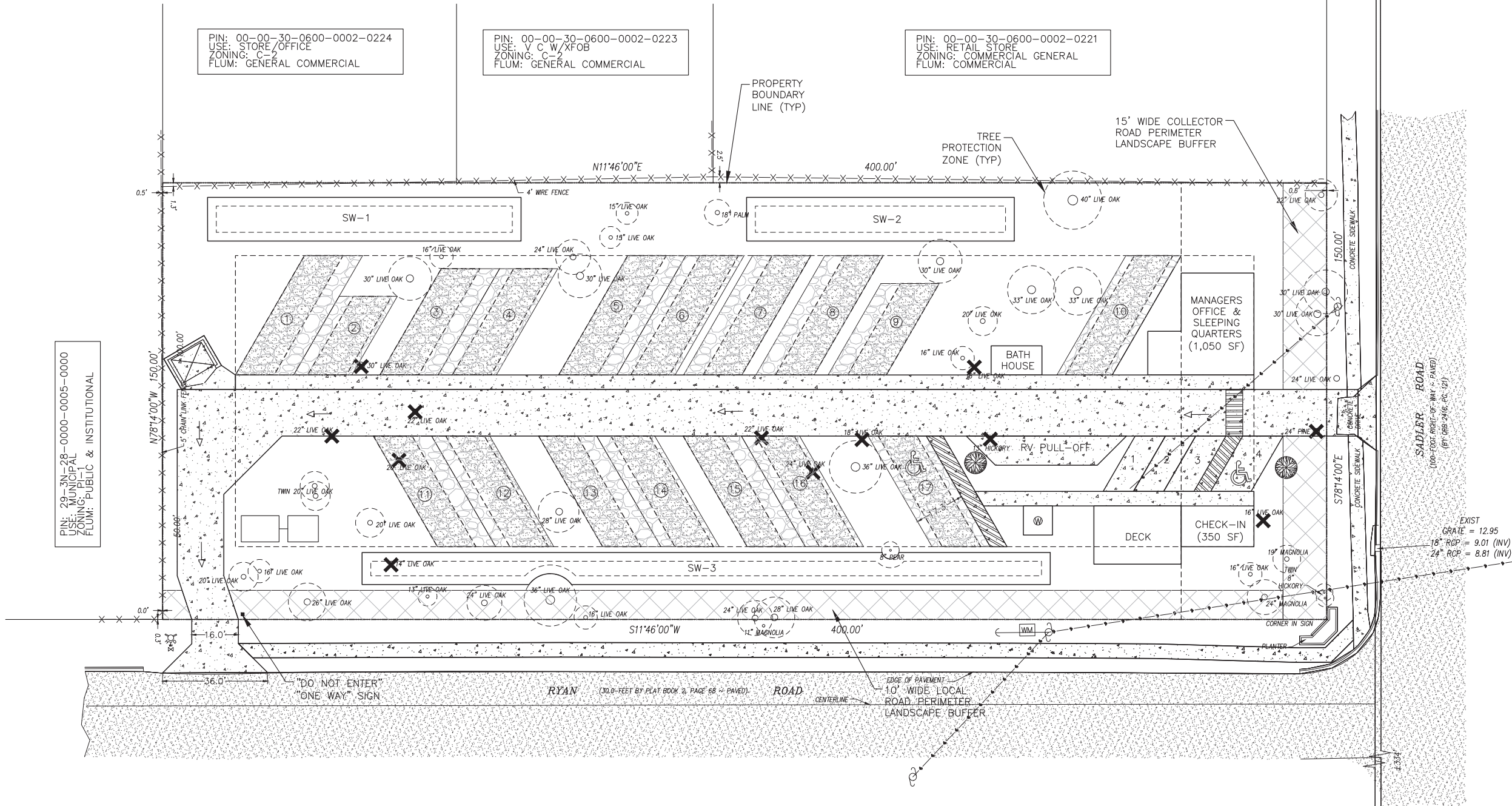
ADJACENT LOCAL ROAD: RYAN ROAD
REQUIRED BUFFER: PERIMETER 10- FEET

SOUTH PROPERTY LINE:

REQUIRED BUFFER: NONE

WEST PROPERTY LINE:

REQUIRED BUFFER: NONE



X = TREE TO BE REMOVED

LEGEND

- GRAVEL: RV SITE
- GRAVEL: RV PARKING SPOT
- CONCRETE

NOTE: SOME DETAILS IN THESE DRAWINGS
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REGISTERED DESIGN PROFESSIONAL
PRELIMINARY BINDING SITE PLAN SUBMITTAL
04/27/22
A
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

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BREAKERS CAMP GROUND
2194 SADLER ROAD,
FERNANDINA BEACH, FLORIDA 32034

ISSUE DATE: 04/27/22
LANDSCAPE
PLAN

North / Elev Key Sheet
S W N E
LS-1
Page 3 of X

Attachment C

Traffic Counts Data and FDOT Season Factors



ALL TRAFFIC DATA SERVICES

(303) 216-2439

www.alltrafficdata.net

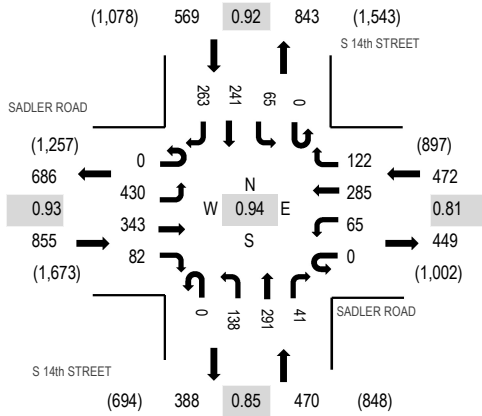
Location: 1 S 14th STREET & SADLER ROAD AM

Date: Tuesday, May 17, 2022

Peak Hour: 07:15 AM - 08:15 AM

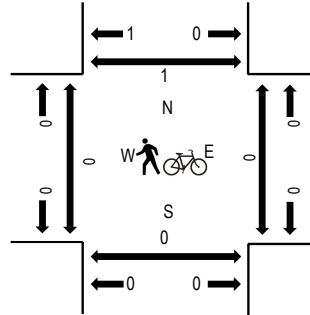
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	SADLER ROAD Eastbound				SADLER ROAD Westbound				S 14th STREET Northbound				S 14th STREET Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	74	62	11	0	15	46	8	0	19	38	7	0	12	35	38	365	2,212	0	0	0	0
7:15 AM	0	109	104	18	0	17	66	35	0	33	66	8	0	12	68	66	602	2,366	0	0	0	0
7:30 AM	0	85	68	20	0	12	97	37	0	51	79	9	0	20	64	71	613	2,314	1	0	0	1
7:45 AM	0	121	84	26	0	20	71	29	0	32	86	16	0	19	60	68	632	2,272	0	0	0	0
8:00 AM	0	115	87	18	0	16	51	21	0	22	60	8	0	14	49	58	519	2,284	0	1	0	0
8:15 AM	0	96	115	11	0	12	74	22	0	14	66	16	0	23	45	56	550		1	0	1	0
8:30 AM	0	87	110	13	0	16	68	25	0	18	75	16	0	27	47	69	571		0	0	0	0
8:45 AM	0	98	124	17	0	25	80	34	0	21	77	11	0	30	59	68	644		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	3
Lights	0	430	337	82	0	65	272	121	0	137	291	41	0	65	230	262	2,333
Mediums	0	0	5	0	0	0	12	0	0	1	0	0	0	0	11	1	30
Total	0	430	343	82	0	65	285	122	0	138	291	41	0	65	241	263	2,366



(303) 216-2439
www.alltrafficdata.net

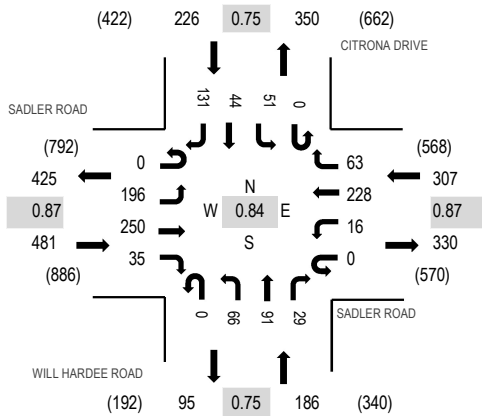
Location: 2 WILL HARDEE ROAD & SADLER ROAD AM

Date: Tuesday, May 17, 2022

Peak Hour: 08:00 AM - 09:00 AM

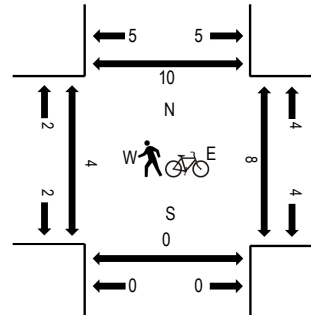
Peak 15-Minutes: 08:30 AM - 08:45 AM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	SADLER ROAD Eastbound				SADLER ROAD Westbound				WILL HARDEE ROAD Northbound				CITRONA DRIVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	27	29	5	0	2	37	9	0	13	6	4	0	8	8	24	172	1,016	0	0	0	0
7:15 AM	0	49	36	8	0	3	49	12	0	17	25	3	0	13	11	24	250	1,080	0	0	0	0
7:30 AM	1	62	52	12	0	6	65	11	0	13	18	7	0	10	11	28	296	1,102	0	0	0	2
7:45 AM	0	55	56	13	0	6	47	14	0	16	24	8	0	14	12	33	298	1,164	0	0	0	5
8:00 AM	0	41	50	4	0	5	51	4	0	15	19	5	0	13	7	22	236	1,200	0	1	0	0
8:15 AM	0	50	53	11	0	2	59	19	0	11	18	9	0	8	12	20	272		2	3	0	5
8:30 AM	0	59	74	6	0	4	59	25	0	19	37	6	0	13	13	43	358		0	1	0	1
8:45 AM	0	46	73	14	0	5	59	15	0	21	17	9	0	17	12	46	334		0	1	0	2

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Lights	0	188	247	34	0	16	226	62	0	65	90	29	0	51	44	123	1,175
Mediums	0	8	2	1	0	0	1	1	0	1	1	0	0	0	0	8	23
Total	0	196	250	35	0	16	228	63	0	66	91	29	0	51	44	131	1,200



ALL TRAFFIC DATA SERVICES

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www.alltrafficdata.net

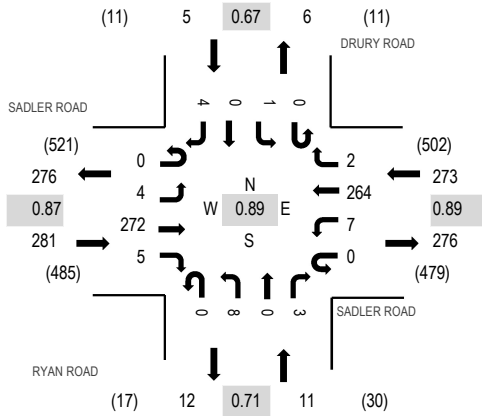
Location: 3 RYAN ROAD & SADLER ROAD AM

Date: Tuesday, May 17, 2022

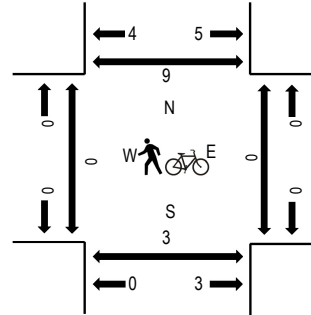
Peak Hour: 08:00 AM - 09:00 AM

Peak 15-Minutes: 08:30 AM - 08:45 AM

Peak Hour - Motorized Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SADLER ROAD Eastbound				SADLER ROAD Westbound				RYAN ROAD Northbound				DRURY ROAD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	1	34	0	0	0	48	0	0	2	0	1	0	0	0	0	86	458	0	0	0	0
7:15 AM	0	2	43	0	0	0	53	0	0	7	0	0	0	1	0	1	107	496	0	0	0	2
7:30 AM	0	1	57	3	0	1	64	0	0	5	0	2	0	1	0	0	134	525	0	0	1	3
7:45 AM	0	1	61	1	0	0	63	0	0	1	0	1	0	2	0	1	131	552	0	2	4	7
8:00 AM	0	1	60	0	0	1	55	1	0	2	0	2	0	1	0	1	124	570	0	0	0	0
8:15 AM	0	2	55	2	0	4	68	0	0	3	0	1	0	0	0	1	136		0	0	2	2
8:30 AM	0	1	77	2	0	1	75	1	0	2	0	0	0	0	0	2	161		0	0	0	4
8:45 AM	0	0	80	1	0	1	66	0	0	1	0	0	0	0	0	0	149		0	0	0	2

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Lights	0	4	271	5	0	7	261	2	0	8	0	3	0	1	0	4	566
Mediums	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3
Total	0	4	272	5	0	7	264	2	0	8	0	3	0	1	0	4	570



ALL TRAFFIC DATA SERVICES

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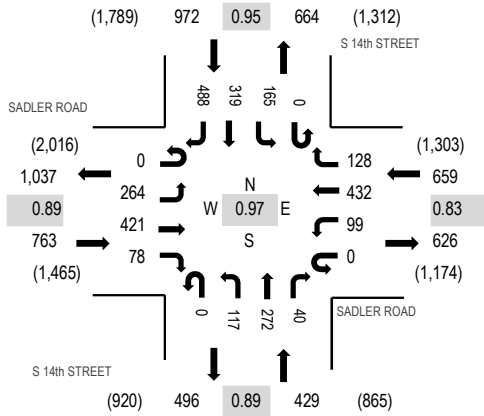
Location: 1 S 14th STREET & SADLER ROAD PM

Date: Tuesday, May 17, 2022

Peak Hour: 04:00 PM - 05:00 PM

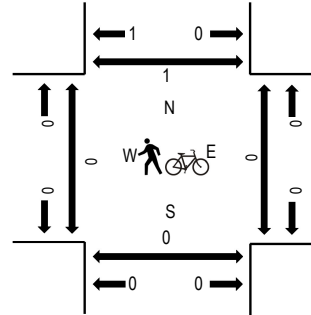
Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	SADLER ROAD Eastbound				SADLER ROAD Westbound				S 14th STREET Northbound				S 14th STREET Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	58	100	25	0	26	132	41	0	26	61	8	0	41	86	122	726	2,823	0	0	0	0
4:15 PM	0	73	105	18	0	31	102	31	0	40	57	9	0	38	88	126	718	2,792	0	1	0	1
4:30 PM	0	62	90	17	0	16	99	33	0	30	84	11	0	40	78	137	697	2,715	0	0	0	0
4:45 PM	0	71	126	18	0	26	99	23	0	21	70	12	0	46	67	103	682	2,672	0	0	0	0
5:00 PM	0	61	90	22	0	20	120	25	0	32	67	11	0	27	74	146	695	2,599	0	0	0	0
5:15 PM	0	64	93	22	0	24	127	32	0	22	59	11	0	33	62	92	641		0	0	0	0
5:30 PM	0	56	87	17	0	21	108	32	0	25	77	12	0	35	71	113	654		0	0	0	1
5:45 PM	0	73	107	10	0	25	79	31	0	34	71	15	0	27	56	81	609		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	3	0	0	0	0	1	0	0	0	0	0	0	0	1	2	7
Lights	0	260	421	78	0	99	431	128	0	117	270	40	0	165	318	485	2,812
Mediums	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	1	4
Total	0	264	421	78	0	99	432	128	0	117	272	40	0	165	319	488	2,823



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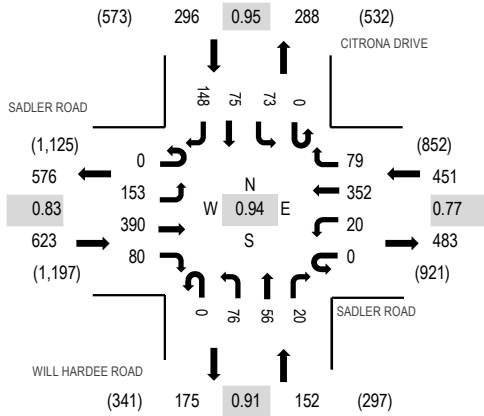
Location: 2 WILL HARDEE ROAD & SADLER ROAD PM

Date: Tuesday, May 17, 2022

Peak Hour: 04:15 PM - 05:15 PM

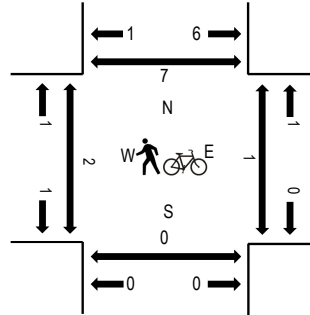
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	SADLER ROAD Eastbound				SADLER ROAD Westbound				WILL HARDEE ROAD Northbound				CITRONA DRIVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	24	97	26	0	5	95	13	0	17	10	6	0	23	20	33	369	1,486	0	0	1	0
4:15 PM	0	33	95	17	0	8	90	19	0	18	9	3	0	15	14	29	350	1,522	1	0	0	3
4:30 PM	0	28	103	22	0	0	86	13	0	21	11	6	0	22	16	38	366	1,509	0	0	0	0
4:45 PM	0	52	119	21	0	2	64	22	0	16	21	4	0	18	23	39	401	1,481	0	0	0	1
5:00 PM	0	40	73	20	0	10	112	25	0	21	15	7	0	18	22	42	405	1,433	0	0	0	0
5:15 PM	0	44	79	19	0	6	74	10	0	15	10	7	0	10	14	49	337		0	0	0	3
5:30 PM	0	37	76	18	0	5	84	12	0	20	12	8	0	13	16	37	338		0	0	0	0
5:45 PM	0	42	99	13	0	6	78	13	0	19	17	4	0	16	18	28	353		0	0	2	2

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Lights	0	153	390	80	0	20	351	79	0	76	56	20	0	73	75	148	1,521
Mediums	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	153	390	80	0	20	352	79	0	76	56	20	0	73	75	148	1,522



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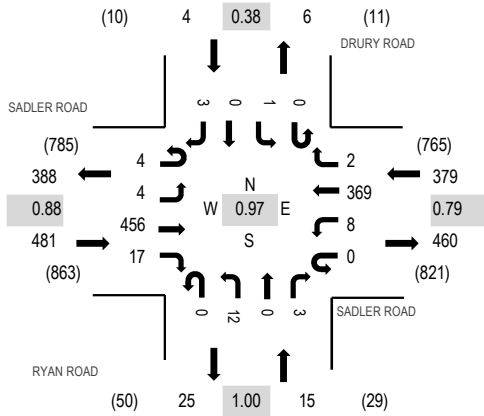
Location: 3 RYAN ROAD & SADLER ROAD PM

Date: Tuesday, May 17, 2022

Peak Hour: 04:00 PM - 05:00 PM

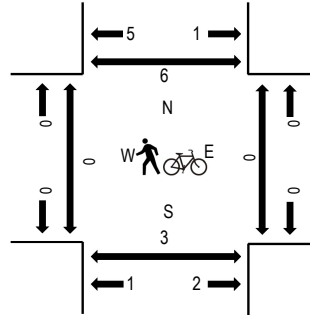
Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	SADLER ROAD Eastbound				SADLER ROAD Westbound				RYAN ROAD Northbound				DRURY ROAD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	1	1	108	4	0	3	102	2	0	2	0	1	0	0	0	3	227	879	0	0	0	1
4:15 PM	2	0	107	2	0	4	98	0	0	3	0	1	0	0	0	0	217	877	0	0	0	0
4:30 PM	1	3	112	4	0	0	88	0	0	4	0	0	0	1	0	0	213	834	0	0	0	0
4:45 PM	0	0	129	7	0	1	81	0	0	3	0	1	0	0	0	0	222	794	0	0	0	0
5:00 PM	0	0	86	7	0	1	126	0	0	3	0	1	0	0	0	1	225	788	0	0	0	0
5:15 PM	0	0	84	2	0	1	81	1	0	4	0	0	0	0	0	1	174		0	0	0	2
5:30 PM	0	1	81	5	0	2	77	0	0	3	0	0	0	1	0	3	173		0	0	0	0
5:45 PM	0	3	107	6	0	1	96	0	0	2	0	1	0	0	0	0	216		0	0	0	1

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Lights	4	4	456	17	0	8	368	2	0	12	0	3	0	1	0	3	878
Mediums	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	4	456	17	0	8	369	2	0	12	0	3	0	1	0	3	879

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Page 1

Site Code: 1
Station ID: 1
SADLER ROAD WEST OF
RYAN ROAD

Start Time	14-May-22 Sat	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		14	144			17	96				
12:15		11	135			12	90				
12:30		11	107			6	103				
12:45		6	126	42	512	14	99	49	388	91	900
01:00		11	144			12	99				
01:15		8	140			8	101				
01:30		14	122			6	106				
01:45		5	136	38	542	13	100	39	406	77	948
02:00		5	122			8	92				
02:15		4	121			7	110				
02:30		3	129			11	109				
02:45		1	132	13	504	13	112	39	423	52	927
03:00		1	121			7	109				
03:15		3	108			2	123				
03:30		4	131			4	109				
03:45		1	124	9	484	3	109	16	450	25	934
04:00		2	97			1	106				
04:15		4	109			5	134				
04:30		3	100			3	121				
04:45		1	117	10	423	4	134	13	495	23	918
05:00		2	112			2	115				
05:15		8	89			9	121				
05:30		5	108			5	113				
05:45		12	116	27	425	12	122	28	471	55	896
06:00		13	108			6	123				
06:15		17	100			13	95				
06:30		19	112			27	108				
06:45		32	91	81	411	28	99	74	425	155	836
07:00		26	100			31	93				
07:15		27	102			31	94				
07:30		32	96			43	80				
07:45		50	91	135	389	39	87	144	354	279	743
08:00		50	81			52	85				
08:15		58	79			56	89				
08:30		66	97			66	75				
08:45		69	85	243	342	87	72	261	321	504	663
09:00		62	87			74	71				
09:15		75	75			104	40				
09:30		91	54			93	49				
09:45		125	66	353	282	123	47	394	207	747	489
10:00		108	41			96	41				
10:15		116	44			97	45				
10:30		121	33			98	42				
10:45		112	46	457	164	111	43	402	171	859	335
11:00		120	35			87	48				
11:15		116	29			96	34				
11:30		142	21			85	26				
11:45		145	27	523	112	115	25	383	133	906	245
Total		1931	4590			1842	4244			3773	8834
Percent		29.6%	70.4%			30.3%	69.7%			29.9%	70.1%
Grand Total		1931	4590			1842	4244			3773	8834
Percent		29.6%	70.4%			30.3%	69.7%			29.9%	70.1%
ADT		ADT 12,607		AADT 12,607							

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	1	4
Lights	0	269	553	111	1	113	407	140	0	152	256	74	0	177	290	284	2,827
Mediums	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	3
Total	0	270	554	111	1	115	408	140	0	152	256	74	0	178	290	285	2,834



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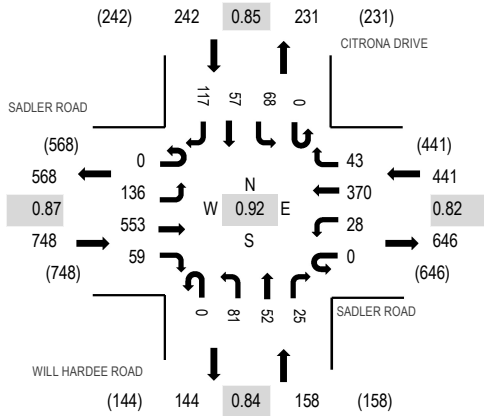
Location: 2 WILL HARDEE ROAD & SADLER ROAD Noon

Date: Saturday, May 14, 2022

Peak Hour: 11:30 AM - 12:30 PM

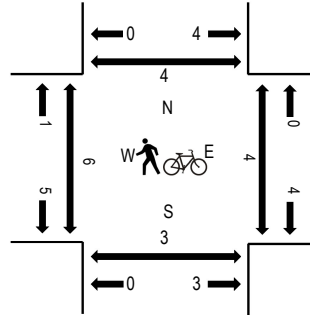
Peak 15-Minutes: 11:45 AM - 12:00 PM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	SADLER ROAD Eastbound				SADLER ROAD Westbound				WILL HARDEE ROAD Northbound				CITRONA DRIVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
11:30 AM	0	34	135	19	0	6	82	12	0	24	10	4	0	25	14	31	396	1,589	0	0	0	0
11:45 AM	0	42	159	13	0	11	111	12	0	21	11	8	0	11	9	25	433		0	0	0	1
12:00 PM	0	27	128	13	0	5	78	10	0	20	19	8	0	18	17	21	364		0	0	0	0
12:15 PM	0	33	131	14	0	6	99	9	0	16	12	5	0	14	17	40	396		1	3	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	136	552	59	0	28	370	43	0	81	52	25	0	68	57	117	1,588
Mediums	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	136	553	59	0	28	370	43	0	81	52	25	0	68	57	117	1,589



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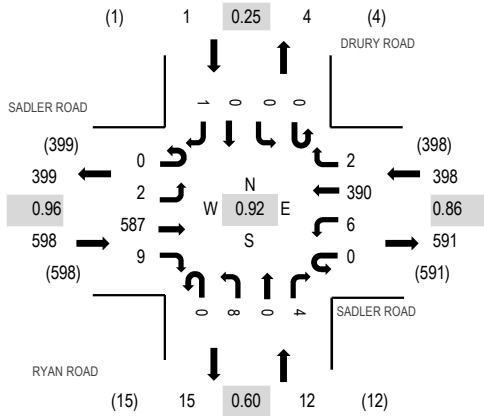
Location: 3 RYAN ROAD & SADLER ROAD Noon

Date: Saturday, May 14, 2022

Peak Hour: 11:30 AM - 12:30 PM

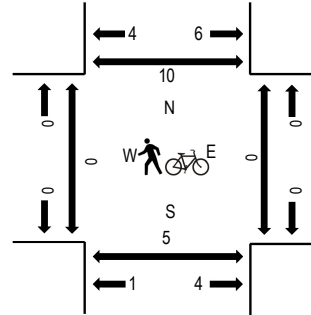
Peak 15-Minutes: 11:45 AM - 12:00 PM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	SADLER ROAD Eastbound				SADLER ROAD Westbound				RYAN ROAD Northbound				DRURY ROAD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
11:30 AM	0	0	154	1	0	1	87	0	0	0	0	0	0	0	0	0	243	1,009	0	0	0	0
11:45 AM	0	0	151	2	0	2	114	0	0	4	0	1	0	0	0	0	274		0	0	1	0
12:00 PM	0	0	143	3	0	0	100	2	0	3	0	1	0	0	0	0	252		0	0	1	0
12:15 PM	0	2	139	3	0	3	89	0	0	1	0	2	0	0	0	1	240		0	0	0	1

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	2	586	9	0	6	390	2	0	8	0	4	0	0	0	1	1,008
Mediums	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	587	9	0	6	390	2	0	8	0	4	0	0	0	1	1,009

2021 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 7400 NASSAU COUNTYWIDE

WEEK	DATES	SF	MOCF: 0.93 PSCF
1	01/01/2021 - 01/02/2021	0.99	1.06
2	01/03/2021 - 01/09/2021	1.12	1.20
3	01/10/2021 - 01/16/2021	1.25	1.34
4	01/17/2021 - 01/23/2021	1.23	1.32
5	01/24/2021 - 01/30/2021	1.21	1.30
6	01/31/2021 - 02/06/2021	1.20	1.29
7	02/07/2021 - 02/13/2021	1.18	1.27
8	02/14/2021 - 02/20/2021	1.16	1.25
9	02/21/2021 - 02/27/2021	1.11	1.19
10	02/28/2021 - 03/06/2021	1.06	1.14
11	03/07/2021 - 03/13/2021	1.01	1.09
12	03/14/2021 - 03/20/2021	0.97	1.04
13	03/21/2021 - 03/27/2021	0.96	1.03
14	03/28/2021 - 04/03/2021	0.96	1.03
15	04/04/2021 - 04/10/2021	0.96	1.03
16	04/11/2021 - 04/17/2021	0.96	1.03
*17	04/18/2021 - 04/24/2021	0.94	1.01
*18	04/25/2021 - 05/01/2021	0.93	1.00
*19	05/02/2021 - 05/08/2021	0.91	0.98
*20	05/09/2021 - 05/15/2021	0.90	0.97
*21	05/16/2021 - 05/22/2021	0.90	0.97
*22	05/23/2021 - 05/29/2021	0.91	0.98
*23	05/30/2021 - 06/05/2021	0.92	0.99
*24	06/06/2021 - 06/12/2021	0.93	1.00
*25	06/13/2021 - 06/19/2021	0.94	1.01
*26	06/20/2021 - 06/26/2021	0.95	1.02
*27	06/27/2021 - 07/03/2021	0.95	1.02
*28	07/04/2021 - 07/10/2021	0.96	1.03
*29	07/11/2021 - 07/17/2021	0.96	1.03
30	07/18/2021 - 07/24/2021	0.97	1.04
31	07/25/2021 - 07/31/2021	0.99	1.06
32	08/01/2021 - 08/07/2021	1.00	1.08
33	08/08/2021 - 08/14/2021	1.02	1.10
34	08/15/2021 - 08/21/2021	1.03	1.11
35	08/22/2021 - 08/28/2021	1.02	1.10
36	08/29/2021 - 09/04/2021	1.01	1.09
37	09/05/2021 - 09/11/2021	1.00	1.08
38	09/12/2021 - 09/18/2021	0.99	1.06
39	09/19/2021 - 09/25/2021	0.98	1.05
40	09/26/2021 - 10/02/2021	0.97	1.04
41	10/03/2021 - 10/09/2021	0.96	1.03
42	10/10/2021 - 10/16/2021	0.95	1.02
43	10/17/2021 - 10/23/2021	0.97	1.04
44	10/24/2021 - 10/30/2021	0.98	1.05
45	10/31/2021 - 11/06/2021	0.99	1.06
46	11/07/2021 - 11/13/2021	1.00	1.08
47	11/14/2021 - 11/20/2021	1.01	1.09
48	11/21/2021 - 11/27/2021	1.01	1.09
49	11/28/2021 - 12/04/2021	1.00	1.08
50	12/05/2021 - 12/11/2021	1.00	1.08
51	12/12/2021 - 12/18/2021	0.99	1.06
52	12/19/2021 - 12/25/2021	1.12	1.20
53	12/26/2021 - 12/31/2021	1.25	1.34

* PEAK SEASON

08-MAR-2022 12:36:25

830UPD

2_7400_PKSEASON.TXT

Attachment D

Historical AADT and Trends Analysis Plot

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 74 - NASSAU

SITE: 9002 - SADLER RD. E. OF 14TH ST. (HPMS)

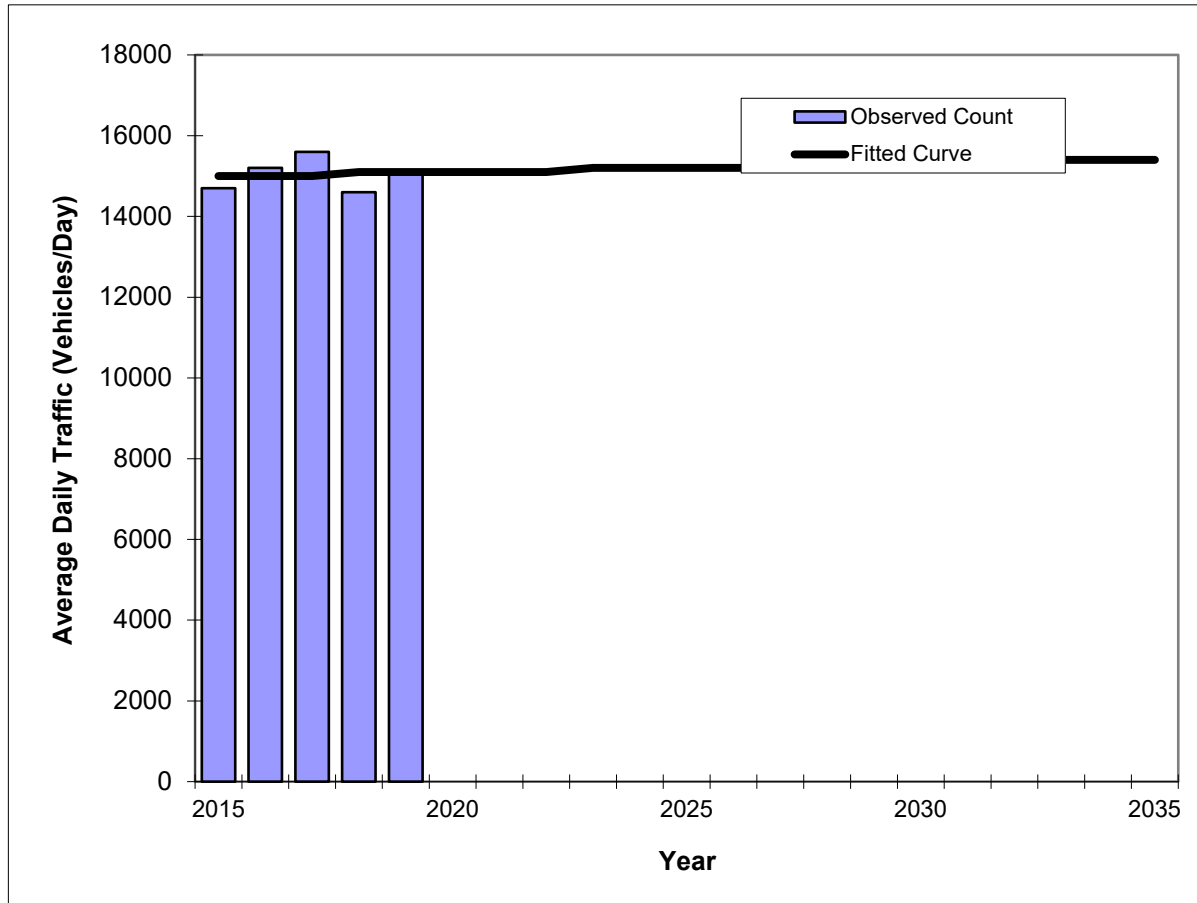
YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2021	14400	F	E 7000		W 7400	9.00	53.80	4.50
2020	14400	C	E 7000		W 7400	9.00	53.70	4.60
2019	15100	C	E 7400		W 7700	9.00	54.30	3.40
2018	14600	C	E 7000		W 7600	9.00	54.50	4.50
2017	15600	C	E 7600		W 8000	9.00	55.10	4.00
2016	15200	C	E 7500		W 7700	9.00	56.00	5.90
2015	14700	C	E 7100		W 7600	9.00	55.30	1.50
2014	14800	C	E 7300		W 7500	9.00	55.10	1.50
2013	15000	C	E 7200		W 7800	9.00	56.90	1.50
2012	15200	C	E 7400		W 7800	9.00	54.70	4.50
2011	15400	C	E 7700		W 7700	9.00	55.80	4.20
2010	16100	C	E 8000		W 8100	12.04	58.48	5.00
2009	15300	C	E 7600		W 7700	11.44	57.12	5.90
2008	15700	C	E 7800		W 7900	10.08	59.26	7.50

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

Traffic Trends - V03.a **SADLER ROAD -- E. OF 14TH ST**

FIN#	1234
Location	1

County:	Nassau (74)
Station #:	0
Highway:	SADLER ROAD



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	14700	15000
2016	15200	15000
2017	15600	15000
2018	14600	15100
2019	15100	15100
2022 Opening Year Trend		
2022	N/A	15100
2023 Mid-Year Trend		
2023	N/A	15200
2025 Design Year Trend		
2025	N/A	15200
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	20
Trend R-squared:	0.61%
Trend Annual Historic Growth Rate:	0.17%
Trend Growth Rate (2019 to Design Year):	0.11%
Printed:	26-Jul-22
Straight Line Growth Option	

*Axle-Adjusted

TABLE 4

Generalized **Peak Hour Two-Way** Volumes for Florida's
Urbanized Areas¹

January 2020

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS						FREEWAYS					
Class I (40 mph or higher posted speed limit)						Core Urbanized					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	1,510	1,600	**	4	4,050	5,640	6,800	7,420	
4	Divided	*	3,420	3,580	**	6	5,960	8,310	10,220	11,150	
6	Divided	*	5,250	5,390	**	8	7,840	10,960	13,620	14,850	
8	Divided	*	7,090	7,210	**	10	9,800	13,510	17,040	18,580	
						12	11,600	16,350	20,930	23,200	
Class II (35 mph or slower posted speed limit)						Urbanized					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	660	1,330	1,410	4	4,130	5,640	7,070	7,690	
4	Divided	*	1,310	2,920	3,040	6	6,200	8,450	10,510	11,530	
6	Divided	*	2,090	4,500	4,590	8	8,270	11,270	13,960	15,380	
8	Divided	*	2,880	6,060	6,130	10	10,350	14,110	17,310	19,220	
Non-State Signalized Roadway Adjustments						Freeway Adjustments					
(Alter corresponding state volumes by the indicated percent.)						Auxiliary Lanes					
Non-State Signalized Roadways						Present in Both Directions					
- 10%						+ 1,800					
Ramp Metering						+ 5%					
Median & Turn Lane Adjustments						UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		Lanes	Median	B	C	D	E
2	Divided	Yes	No	+5%		2	Undivided	1,050	1,620	2,180	2,930
2	Undivided	No	No	-20%		4	Divided	3,270	4,730	5,960	6,780
Multi	Undivided	Yes	No	-5%		6	Divided	4,910	7,090	8,950	10,180
Multi	Undivided	No	No	-25%							
—	—	—	Yes	+ 5%							
One-Way Facility Adjustment						Uninterrupted Flow Highway Adjustments					
Multiply the corresponding two-directional volumes in this table by 0.6						Lanes	Median	Exclusive left lanes	Adjustment factors		
						2	Divided	Yes	+5%		
						Multi	Undivided	Yes	-5%		
						Multi	Undivided	No	-25%		
BICYCLE MODE ²						¹ Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.					
(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						² Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.					
Paved						³ Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.					
Shoulder/Bicycle						* Cannot be achieved using table input value defaults.					
Lane Coverage	B	C	D	E		** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.					
0-49%	*	260	680	1,770		Source:					
50-84%	190	600	1,770	>1,770		Florida Department of Transportation					
85-100%	830	1,700	>1,770	**		Systems Implementation Office					
PEDESTRIAN MODE ²						https://www.fdot.gov/planning/systems/					
(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Sidewalk Coverage	B	C	D	E							
0-49%	*	*	250	850							
50-84%	*	150	780	1,420							
85-100%	340	960	1,560	>1,770							
BUS MODE (Scheduled Fixed Route) ³											
(Buses in peak hour in peak direction)											
Sidewalk Coverage	B	C	D	E							
0-84%	> 5	≥ 4	≥ 3	≥ 2							
85-100%	> 4	≥ 3	≥ 2	≥ 1							

TABLE 4
(continued)

Generalized **Peak Hour Two-Way** Volumes for Florida's
Urbanized Areas

January 2020

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities				Interrupted Flow Facilities					
					State Arterials			Class I		
	Freeways	Core Freeways	Highways		Class I		Class II		Bicycle	Pedestrian
ROADWAY CHARACTERISTICS										
Area type (urban, rural)	urban	urban								
Number of through lanes (both dir.)	4-10	4-12	2	4-6	2	4-8	2	4-8	4	4
Posted speed (mph)	70	65	50	50	45	50	30	30	45	45
Free flow speed (mph)	75	70	55	55	50	55	35	35	50	50
Auxiliary Lanes (n,y)	n	n								
Median (d, twlt, n, nr, r)				d	n	r	n	r	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l	l
% no passing zone			80							
Exclusive left turn lane impact (n, y)			[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)					n	n	n	n	n	n
Facility length (mi)	3	3	5	5	2	2	1.9	1.8	2	2
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.090	0.085	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.550	0.560	0.565	0.560	0.565	0.565
Peak hour factor (PHF)	0.95	0.95	0.95	0.95	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)	2,400	2,400	1,700	2,200	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	4.0	4.0	2.0	2.0	1.0	1.0	1.0	1.0	2.5	2.0
Speed Adjustment Factor (SAF)	0.975	0.975		0.975						
Capacity Adjustment Factor (CAF)	0.968	0.968		0.968						
% left turns					12	12	12	12	12	12
% right turns					12	12	12	12	12	12
CONTROL CHARACTERISTICS										
Number of signals					4	4	10	10	4	6
Arrival type (1-6)					3	3	4	4	4	4
Signal type (a, c, p)					c	c	c	c	c	c
Cycle length (C)					120	150	120	120	120	120
Effective green ratio (g/C)					0.44	0.45	0.44	0.44	0.44	0.44
MULTIMODAL CHARACTERISTICS										
Paved shoulder/bicycle lane (n, y)									n, 50%, y	n
Outside lane width (n, t, w)									t	t
Pavement condition (d, t, u)									t	
On-street parking (n, y)										
Sidewalk (n, y)										n, 50%, y
Sidewalk/roadway separation(a, t, w)										t
Sidewalk protective barrier (n, y)										n
LEVEL OF SERVICE THRESHOLDS										
Level of Service	Freeways	Highways		Arterials			Bicycle	Ped	Bus	
	Density	Two-Lane	Multilane	Class I ats	Class II ats		Score	Score	Buses/hr.	
		%ffs	Density							
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph		≤ 2.75	≤ 2.75	≤ 6	
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph		≤ 3.50	≤ 3.50	≤ 4	
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph		≤ 4.25	≤ 4.25	< 3	
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph		≤ 5.00	≤ 5.00	< 2	

% ffs = Percent free flow speed ats = Average travel speed

Attachment E

Intersection Capacity Analysis -
HCM Delay and LOS Worksheets

Attachment E1

Year 2022 Existing Conditions –
HCM Delay and LOS Worksheets

HCM 6th Signalized Intersection Summary 4: S. 14th Street & Sadler Road

Existing Conditions AM Peak
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	387	309	74	59	257	110	124	262	37	59	207	236
Future Volume (veh/h)	387	309	74	59	257	110	124	262	37	59	207	236
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1870	1900	1900	1826	1885	1885	1900	1900	1900	1826	1885
Adj Flow Rate, veh/h	416	332	80	73	317	136	146	308	44	64	225	257
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.85	0.85	0.85	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	0	0	5	1	1	0	0	0	5	1
Cap, veh/h	628	1406	334	538	898	378	286	350	50	194	319	540
Arrive On Green	0.16	0.49	0.49	0.03	0.25	0.25	0.08	0.22	0.22	0.04	0.17	0.17
Sat Flow, veh/h	1810	2848	677	1810	2380	1000	1795	1626	232	1810	1826	1598
Grp Volume(v), veh/h	416	205	207	73	229	224	146	0	352	64	225	257
Grp Sat Flow(s),veh/h/ln	1810	1777	1748	1810	1735	1646	1795	0	1858	1810	1826	1598
Q Serve(g_s), s	11.8	6.0	6.1	2.2	9.7	10.1	5.8	0.0	16.5	2.6	10.4	11.4
Cycle Q Clear(g_c), s	11.8	6.0	6.1	2.2	9.7	10.1	5.8	0.0	16.5	2.6	10.4	11.4
Prop In Lane	1.00		0.39	1.00		0.61	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	628	877	863	538	655	621	286	0	400	194	319	540
V/C Ratio(X)	0.66	0.23	0.24	0.14	0.35	0.36	0.51	0.00	0.88	0.33	0.70	0.48
Avail Cap(c_a), veh/h	786	877	863	562	655	621	308	0	485	216	404	613
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	13.0	13.1	15.8	24.6	24.7	26.8	0.0	34.2	29.4	34.9	23.5
Incr Delay (d2), s/veh	1.5	0.6	0.7	0.1	1.5	1.6	1.4	0.0	14.7	1.0	4.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	2.4	2.4	0.9	4.3	4.3	2.5	0.0	8.8	1.1	4.8	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	13.7	13.7	15.9	26.0	26.3	28.2	0.0	48.9	30.4	38.9	24.2
LnGrp LOS	B	B	B	B	C	C	C	A	D	C	D	C
Approach Vol, veh/h	828			526			498			546		
Approach Delay, s/veh	13.9			24.7			42.8			31.0		
Approach LOS	B			C			D			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	48.9	12.1	20.2	19.2	38.5	8.5	23.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.4	38.0	8.7	19.9	22.5	20.9	5.1	23.5				
Max Q Clear Time (g_c+I1), s	4.2	8.1	7.8	13.4	13.8	12.1	4.6	18.5				
Green Ext Time (p_c), s	0.0	2.5	0.0	1.2	0.9	1.7	0.0	0.9				
Intersection Summary												
HCM 6th Ctrl Delay	26.2											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 5: Will Hardee Road/Citrona Drive & Sadler Road

Existing Conditions AM Peak
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	225	32	14	205	57	59	82	26	46	40	118
Future Volume (veh/h)	176	225	32	14	205	57	59	82	26	46	40	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1870	1856	1900	1885	1870	1870	1885	1900	1900	1900	1811
Adj Flow Rate, veh/h	202	259	37	16	236	66	79	109	35	61	53	157
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	4	2	3	0	1	2	2	1	0	0	0	6
Cap, veh/h	715	1806	255	672	1450	397	208	219	70	270	64	191
Arrive On Green	0.02	0.19	0.19	0.02	0.52	0.52	0.05	0.16	0.16	0.04	0.15	0.15
Sat Flow, veh/h	1753	3126	441	1810	2779	760	1781	1367	439	1810	423	1252
Grp Volume(v), veh/h	202	146	150	16	150	152	79	0	144	61	0	210
Grp Sat Flow(s),veh/h/ln	1753	1777	1791	1810	1791	1748	1781	0	1806	1810	0	1675
Q Serve(g_s), s	4.3	6.1	6.3	0.4	3.9	4.1	3.3	0.0	6.5	2.5	0.0	10.9
Cycle Q Clear(g_c), s	4.3	6.1	6.3	0.4	3.9	4.1	3.3	0.0	6.5	2.5	0.0	10.9
Prop In Lane	1.00		0.25	1.00		0.43	1.00		0.24	1.00		0.75
Lane Grp Cap(c), veh/h	715	1027	1035	672	935	912	208	0	290	270	0	256
V/C Ratio(X)	0.28	0.14	0.15	0.02	0.16	0.17	0.38	0.00	0.50	0.23	0.00	0.82
Avail Cap(c_a), veh/h	906	1027	1035	770	935	912	285	0	492	322	0	419
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.1	17.9	17.9	9.6	11.2	11.3	30.6	0.0	34.5	30.3	0.0	36.9
Incr Delay (d2), s/veh	0.2	0.3	0.3	0.0	0.4	0.4	1.1	0.0	1.3	0.4	0.0	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.6	2.7	0.1	1.6	1.6	1.5	0.0	2.9	1.1	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.3	18.1	18.2	9.6	11.6	11.7	31.7	0.0	35.8	30.7	0.0	43.5
LnGrp LOS	A	B	B	A	B	B	C	A	D	C	A	D
Approach Vol, veh/h	498			318			223			271		
Approach Delay, s/veh	14.2			11.5			34.3			40.6		
Approach LOS	B			B			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.1	56.5	9.1	18.2	11.2	51.5	8.4	18.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	34.5	8.5	22.5	16.5	24.5	6.5	24.5				
Max Q Clear Time (g_c+I1), s	2.4	8.3	5.3	12.9	6.3	6.1	4.5	8.5				
Green Ext Time (p_c), s	0.0	1.7	0.0	0.8	0.4	1.6	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay	22.4											
HCM 6th LOS	C											

Queues
4: S. 14th Street & Sadler Road

Existing Conditions AM Peak
Timing Plan: AM Peak

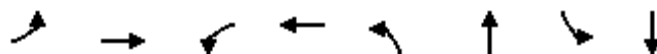
									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	416	412	73	453	146	352	64	225	257
v/c Ratio	0.69	0.25	0.17	0.40	0.47	0.76	0.30	0.67	0.32
Control Delay	18.4	14.4	16.8	27.7	26.3	42.8	23.6	43.6	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	14.4	16.8	27.7	26.3	42.8	23.6	43.6	3.6
Queue Length 50th (ft)	129	70	23	111	58	183	24	117	10
Queue Length 95th (ft)	206	103	41	152	94	255	50	188	45
Internal Link Dist (ft)		706		2112		653		730	
Turn Bay Length (ft)	335		485				235		
Base Capacity (vph)	664	1663	436	1133	313	492	212	400	893
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.25	0.17	0.40	0.47	0.72	0.30	0.56	0.29
Intersection Summary									

Queues

Existing Conditions AM Peak

5: Will Hardee Road/Citrona Drive & Sadler Road

Timing Plan: AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	202	296	16	302	79	144	61	210
v/c Ratio	0.28	0.13	0.02	0.17	0.35	0.56	0.25	0.64
Control Delay	13.8	13.8	7.8	12.6	29.3	39.7	27.0	20.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.8	13.8	7.8	12.6	29.3	39.7	27.0	20.6
Queue Length 50th (ft)	72	51	3	41	35	68	27	28
Queue Length 95th (ft)	m127	93	11	78	53	95	44	58
Internal Link Dist (ft)		2112		866		730		654
Turn Bay Length (ft)	550		500		365		450	
Base Capacity (vph)	777	2246	684	1780	240	508	248	521
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	0.26	0.13	0.02	0.17	0.33	0.28	0.25	0.40

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th TWSC
6: Ryan Road/Drury Road & Sadler Road

Existing Conditions AM Peak
Timing Plan: AM Peak

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	245	5	6	238	2	7	0	3	1	0	4
Future Vol, veh/h	4	245	5	6	238	2	7	0	3	1	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	89	89	89	71	71	71	67	67	67
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	5	282	6	7	267	2	10	0	4	1	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	269	0	0	288	0	0	443	578	144	433	580	135
Stage 1	-	-	-	-	-	-	295	295	-	282	282	-
Stage 2	-	-	-	-	-	-	148	283	-	151	298	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1306	-	-	1286	-	-	503	430	884	511	428	895
Stage 1	-	-	-	-	-	-	695	673	-	707	681	-
Stage 2	-	-	-	-	-	-	845	681	-	842	671	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1306	-	-	1286	-	-	496	426	884	505	424	895
Mov Cap-2 Maneuver	-	-	-	-	-	-	496	426	-	505	424	-
Stage 1	-	-	-	-	-	-	692	670	-	704	678	-
Stage 2	-	-	-	-	-	-	835	678	-	835	668	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			11.5			9.7		
HCM LOS							B			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	571	1306	-	-	1286	-	-	775
HCM Lane V/C Ratio	0.025	0.004	-	-	0.005	-	-	0.01
HCM Control Delay (s)	11.5	7.8	-	-	7.8	-	-	9.7
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

HCM 6th Signalized Intersection Summary 4: S. 14th Street & Sadler Road

Existing Conditions PM Peak
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	379	70	89	389	115	105	191	36	149	287	439
Future Volume (veh/h)	238	379	70	89	389	115	105	191	36	149	287	439
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1870	1900	1900	1900	1900	1900	1885	1900	1900	1900	1885
Adj Flow Rate, veh/h	267	426	79	107	469	139	118	215	40	157	302	462
Peak Hour Factor	0.89	0.89	0.89	0.83	0.83	0.83	0.89	0.89	0.89	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	0	0	0	0	1	0	0	0	1
Cap, veh/h	507	1371	252	509	1101	324	257	360	67	307	420	529
Arrive On Green	0.11	0.46	0.46	0.05	0.40	0.40	0.07	0.23	0.23	0.06	0.22	0.22
Sat Flow, veh/h	1810	2996	552	1810	2750	809	1810	1546	288	1810	1900	1598
Grp Volume(v), veh/h	267	251	254	107	307	301	118	0	255	157	302	462
Grp Sat Flow(s),veh/h/ln	1810	1777	1771	1810	1805	1754	1810	0	1833	1810	1900	1598
Q Serve(g_s), s	7.3	8.0	8.2	3.1	11.0	11.2	4.5	0.0	11.2	5.1	13.2	19.9
Cycle Q Clear(g_c), s	7.3	8.0	8.2	3.1	11.0	11.2	4.5	0.0	11.2	5.1	13.2	19.9
Prop In Lane	1.00		0.31	1.00		0.46	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	507	813	810	509	723	702	257	0	427	307	420	529
V/C Ratio(X)	0.53	0.31	0.31	0.21	0.42	0.43	0.46	0.00	0.60	0.51	0.72	0.87
Avail Cap(c_a), veh/h	760	813	810	522	723	702	308	0	479	307	420	529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	15.4	15.5	14.4	19.5	19.5	25.5	0.0	30.7	27.9	32.5	28.3
Incr Delay (d2), s/veh	0.9	1.0	1.0	0.2	1.8	1.9	1.3	0.0	1.7	1.4	5.9	14.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	3.3	3.3	1.2	4.7	4.7	1.9	0.0	5.0	2.7	6.6	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	16.4	16.5	14.6	21.3	21.4	26.7	0.0	32.4	29.3	38.3	43.3
LnGrp LOS	B	B	B	B	C	C	C	A	C	C	D	D
Approach Vol, veh/h	772				715				373			
Approach Delay, s/veh	15.5				20.3				30.6			
Approach LOS	B				C				C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	45.7	10.7	24.4	14.4	40.5	9.6	25.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.4	38.0	8.7	19.9	22.5	20.9	5.1	23.5				
Max Q Clear Time (g_c+I1), s	5.1	10.2	6.5	21.9	9.3	13.2	7.1	13.2				
Green Ext Time (p_c), s	0.0	3.1	0.1	0.0	0.6	2.2	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay	26.6											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 5: Will Hardee Road/Citrona Drive & Sadler Road

Existing Conditions PM Peak
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	351	72	18	317	71	68	50	18	66	68	133
Future Volume (veh/h)	138	351	72	18	317	71	68	50	18	66	68	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	166	403	87	26	401	90	75	55	20	69	72	140
Peak Hour Factor	0.83	0.87	0.83	0.68	0.79	0.79	0.91	0.91	0.91	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	619	1695	363	548	1561	347	205	206	75	322	88	171
Arrive On Green	0.02	0.19	0.19	0.03	0.54	0.54	0.05	0.15	0.15	0.05	0.15	0.15
Sat Flow, veh/h	1810	2958	633	1810	2912	647	1810	1330	483	1810	577	1121
Grp Volume(v), veh/h	166	244	246	26	245	246	75	0	75	69	0	212
Grp Sat Flow(s),veh/h/ln	1810	1805	1786	1810	1791	1769	1810	0	1813	1810	0	1698
Q Serve(g_s), s	3.5	10.3	10.5	0.6	6.6	6.7	3.1	0.0	3.3	2.9	0.0	10.9
Cycle Q Clear(g_c), s	3.5	10.3	10.5	0.6	6.6	6.7	3.1	0.0	3.3	2.9	0.0	10.9
Prop In Lane	1.00		0.35	1.00		0.37	1.00		0.27	1.00		0.66
Lane Grp Cap(c), veh/h	619	1034	1023	548	960	948	205	0	281	322	0	258
V/C Ratio(X)	0.27	0.24	0.24	0.05	0.26	0.26	0.37	0.00	0.27	0.21	0.00	0.82
Avail Cap(c_a), veh/h	836	1034	1023	631	960	948	288	0	494	370	0	425
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.3	19.8	19.8	9.0	11.2	11.2	30.7	0.0	33.5	30.2	0.0	37.0
Incr Delay (d2), s/veh	0.2	0.5	0.5	0.0	0.6	0.7	1.1	0.0	0.5	0.3	0.0	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.0	5.1	0.2	2.6	2.7	1.4	0.0	1.5	1.3	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.5	20.3	20.4	9.1	11.9	11.9	31.8	0.0	34.0	30.5	0.0	43.4
LnGrp LOS	A	C	C	A	B	B	C	A	C	C	A	D
Approach Vol, veh/h	656			517			150			281		
Approach Delay, s/veh	17.3			11.7			32.9			40.2		
Approach LOS	B			B			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	56.1	8.9	18.2	10.2	52.7	8.6	18.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	34.5	8.5	22.5	16.5	24.5	6.5	24.5				
Max Q Clear Time (g_c+I1), s	2.6	12.5	5.1	12.9	5.5	8.7	4.9	5.3				
Green Ext Time (p_c), s	0.0	3.0	0.0	0.8	0.3	2.7	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay	21.0											
HCM 6th LOS	C											

Queues
4: S. 14th Street & Sadler Road

Existing Conditions PM Peak

Timing Plan: PM Peak

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	267	505	107	608	118	255	157	302	462
v/c Ratio	0.55	0.31	0.24	0.47	0.46	0.59	0.56	0.81	0.64
Control Delay	15.5	15.8	18.4	30.9	26.1	34.8	31.3	51.3	18.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.5	15.8	18.4	30.9	26.1	34.8	31.3	51.3	18.2
Queue Length 50th (ft)	78	93	40	161	45	120	61	161	141
Queue Length 95th (ft)	124	130	69	217	82	192	106	#269	200
Internal Link Dist (ft)		706		2112		653		730	
Turn Bay Length (ft)	335		485				235		
Base Capacity (vph)	616	1641	437	1283	268	487	280	420	865
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.31	0.24	0.47	0.44	0.52	0.56	0.72	0.53

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

Existing Conditions PM Peak

5: Will Hardee Road/Citrona Drive & Sadler Road

Timing Plan: PM Peak

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	166	490	26	491	75	75	69	212
v/c Ratio	0.27	0.23	0.04	0.27	0.32	0.27	0.25	0.69
Control Delay	13.5	15.8	8.4	14.6	27.3	26.8	25.6	30.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	15.8	8.4	14.6	27.3	26.8	25.6	30.1
Queue Length 50th (ft)	56	86	5	78	32	28	30	58
Queue Length 95th (ft)	98	151	13	119	60	62	56	121
Internal Link Dist (ft)		2112		866		730		654
Turn Bay Length (ft)	550		500		365		450	
Base Capacity (vph)	694	2156	590	1789	247	511	285	506
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	0.24	0.23	0.04	0.27	0.30	0.15	0.24	0.42
Intersection Summary								

HCM 6th TWSC
6: Ryan Road/Drury Road & Sadler Road

Existing Conditions PM Peak
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	410	15	7	332	2	11	0	3	1	0	3
Future Vol, veh/h	8	410	15	7	332	2	11	0	3	1	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	79	79	79	100	100	100	38	38	38
Heavy Vehicles, %	0	0	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	9	466	17	9	420	3	11	0	3	3	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	423	0	0	483	0	0	721	934	242	691	941	212
Stage 1	-	-	-	-	-	-	493	493	-	440	440	-
Stage 2	-	-	-	-	-	-	228	441	-	251	501	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1147	-	-	1090	-	-	319	268	765	335	265	800
Stage 1	-	-	-	-	-	-	532	550	-	571	581	-
Stage 2	-	-	-	-	-	-	760	580	-	737	546	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1147	-	-	1090	-	-	312	264	765	330	261	800
Mov Cap-2 Maneuver	-	-	-	-	-	-	312	264	-	330	261	-
Stage 1	-	-	-	-	-	-	528	546	-	566	576	-
Stage 2	-	-	-	-	-	-	746	575	-	728	542	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			15.5			11.2		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	357	1147	-	-	1090	-	-	590
HCM Lane V/C Ratio	0.039	0.008	-	-	0.008	-	-	0.018
HCM Control Delay (s)	15.5	8.2	-	-	8.3	-	-	11.2
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

HCM 6th Signalized Intersection Summary 4: S. 14th Street & Sadler Road

Existing Conditions Saturday Peak
Timing Plan: Saturday Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	243	499	100	105	367	126	137	266	67	160	261	257
Future Volume (veh/h)	243	499	100	105	367	126	137	266	67	160	261	257
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1900	1900	1870	1900	1900	1900	1900	1900	1885	1900	1900
Adj Flow Rate, veh/h	276	567	114	114	399	137	163	317	80	190	311	306
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	1	0	0	2	0	0	0	0	0	1	0	0
Cap, veh/h	517	1341	269	422	1029	349	284	350	88	210	391	517
Arrive On Green	0.12	0.45	0.45	0.04	0.26	0.26	0.09	0.24	0.24	0.06	0.21	0.21
Sat Flow, veh/h	1795	2996	601	1781	2646	898	1810	1464	369	1795	1900	1610
Grp Volume(v), veh/h	276	341	340	114	271	265	163	0	397	190	311	306
Grp Sat Flow(s),veh/h/ln	1795	1805	1792	1781	1805	1738	1810	0	1833	1795	1900	1610
Q Serve(g_s), s	7.7	11.6	11.6	3.4	11.1	11.3	6.2	0.0	18.9	5.1	14.0	14.3
Cycle Q Clear(g_c), s	7.7	11.6	11.6	3.4	11.1	11.3	6.2	0.0	18.9	5.1	14.0	14.3
Prop In Lane	1.00		0.34	1.00		0.52	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	517	808	802	422	702	676	284	0	438	210	391	517
V/C Ratio(X)	0.53	0.42	0.42	0.27	0.39	0.39	0.57	0.00	0.91	0.90	0.80	0.59
Avail Cap(c_a), veh/h	759	808	802	429	702	676	296	0	479	210	420	542
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.4	16.9	16.9	15.3	24.4	24.5	25.6	0.0	33.3	33.5	33.9	25.6
Incr Delay (d2), s/veh	0.9	1.6	1.6	0.3	1.6	1.7	2.5	0.0	19.7	36.7	9.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.9	4.9	1.4	5.2	5.1	2.8	0.0	10.5	3.8	7.3	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.2	18.5	18.6	15.7	26.0	26.2	28.1	0.0	53.0	70.2	43.6	27.2
LnGrp LOS	B	B	B	B	C	C	C	A	D	E	D	C
Approach Vol, veh/h		957			650			560			807	
Approach Delay, s/veh		17.3			24.3			45.7			43.6	
Approach LOS		B			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	44.8	12.6	23.0	14.9	39.5	9.6	26.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.4	38.0	8.7	19.9	22.5	20.9	5.1	23.5				
Max Q Clear Time (g_c+I1), s	5.4	13.6	8.2	16.3	9.7	13.3	7.1	20.9				
Green Ext Time (p_c), s	0.0	4.3	0.0	1.0	0.6	1.9	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			31.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary
5: Will Hardee Road/Citrona Drive & Sadler Road

Existing Conditions Saturday Peak
Timing Plan: Saturday Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	498	53	25	333	39	73	47	23	61	51	105
Future Volume (veh/h)	122	498	53	25	333	39	73	47	23	61	51	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	140	572	61	30	406	48	87	56	27	72	60	124
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.84	0.84	0.84	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	645	1905	203	479	1783	210	219	175	85	303	75	155
Arrive On Green	0.02	0.19	0.19	0.03	0.55	0.55	0.06	0.14	0.14	0.05	0.14	0.14
Sat Flow, veh/h	1810	3292	350	1810	3228	379	1810	1211	584	1810	553	1142
Grp Volume(v), veh/h	140	313	320	30	224	230	87	0	83	72	0	184
Grp Sat Flow(s),veh/h/ln	1810	1805	1837	1810	1791	1817	1810	0	1795	1810	0	1694
Q Serve(g_s), s	2.9	13.4	13.5	0.6	5.8	5.8	3.7	0.0	3.7	3.0	0.0	9.5
Cycle Q Clear(g_c), s	2.9	13.4	13.5	0.6	5.8	5.8	3.7	0.0	3.7	3.0	0.0	9.5
Prop In Lane	1.00		0.19	1.00		0.21	1.00		0.33	1.00		0.67
Lane Grp Cap(c), veh/h	645	1045	1063	479	989	1004	219	0	260	303	0	230
V/C Ratio(X)	0.22	0.30	0.30	0.06	0.23	0.23	0.40	0.00	0.32	0.24	0.00	0.80
Avail Cap(c_a), veh/h	876	1045	1063	557	989	1004	288	0	489	349	0	424
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.0	20.8	20.8	8.7	10.3	10.3	31.4	0.0	34.5	31.4	0.0	37.7
Incr Delay (d2), s/veh	0.1	0.6	0.6	0.1	0.5	0.5	1.2	0.0	0.7	0.4	0.0	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	6.6	6.7	0.2	2.3	2.3	1.6	0.0	1.7	1.3	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.1	21.4	21.4	8.8	10.8	10.9	32.6	0.0	35.2	31.8	0.0	44.1
LnGrp LOS	A	C	C	A	B	B	C	A	D	C	A	D
Approach Vol, veh/h		773			484			170			256	
Approach Delay, s/veh		19.0			10.7			33.9			40.6	
Approach LOS		B			B			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	56.6	9.6	16.7	9.5	54.2	8.7	17.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	34.5	8.5	22.5	16.5	24.5	6.5	24.5				
Max Q Clear Time (g_c+I1), s	2.6	15.5	5.7	11.5	4.9	7.8	5.0	5.7				
Green Ext Time (p_c), s	0.0	3.8	0.0	0.7	0.3	2.5	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			21.4									
HCM 6th LOS			C									

Queues
4: S. 14th Street & Sadler Road

Existing Conditions Saturday Peak

Timing Plan: Saturday Peak

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	276	681	114	536	163	397	190	311	306
v/c Ratio	0.55	0.42	0.30	0.43	0.62	0.87	1.03	0.80	0.42
Control Delay	15.7	17.4	21.6	30.8	31.2	52.0	103.5	50.4	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	17.4	21.6	30.8	31.2	52.0	103.5	50.4	10.6
Queue Length 50th (ft)	82	134	46	145	63	205	75	166	58
Queue Length 95th (ft)	127	177	83	212	102	#306	#163	236	93
Internal Link Dist (ft)		706		2112		653		730	
Turn Bay Length (ft)	335		485				235		
Base Capacity (vph)	626	1633	374	1257	269	491	184	420	885
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.42	0.30	0.43	0.61	0.81	1.03	0.74	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

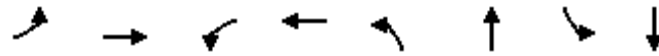
Queue shown is maximum after two cycles.

Queues

5: Will Hardee Road/Citrona Drive & Sadler Road

Existing Conditions Saturday Peak

Timing Plan: Saturday Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	140	633	30	454	87	83	72	184
v/c Ratio	0.22	0.29	0.06	0.24	0.37	0.33	0.28	0.64
Control Delay	11.3	16.7	7.5	13.2	30.0	27.8	27.8	26.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.3	16.7	7.5	13.2	30.0	27.8	27.8	26.6
Queue Length 50th (ft)	47	135	5	70	39	30	32	40
Queue Length 95th (ft)	m77	m190	16	110	65	61	57	89
Internal Link Dist (ft)		2112		866		730		654
Turn Bay Length (ft)	550		500		365		450	
Base Capacity (vph)	732	2150	551	1887	246	510	261	509
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	0.19	0.29	0.05	0.24	0.35	0.16	0.28	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th TWSC
6: Ryan Road/Drury Road & Sadler Road

Existing Conditions Saturday Peak
Timing Plan: Saturday Peak

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	528	8	5	351	2	7	0	4	0	0	1
Future Vol, veh/h	2	528	8	5	351	2	7	0	4	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	86	86	86	60	60	60	25	25	25
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	550	8	6	408	2	12	0	7	0	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	410	0	0	558	0	0	774	980	279	700	983	205
Stage 1	-	-	-	-	-	-	558	558	-	421	421	-
Stage 2	-	-	-	-	-	-	216	422	-	279	562	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1160	-	-	1023	-	-	292	252	724	330	251	808
Stage 1	-	-	-	-	-	-	487	515	-	586	592	-
Stage 2	-	-	-	-	-	-	772	592	-	710	513	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1160	-	-	1023	-	-	289	250	724	325	249	808
Mov Cap-2 Maneuver	-	-	-	-	-	-	289	250	-	325	249	-
Stage 1	-	-	-	-	-	-	486	514	-	585	588	-
Stage 2	-	-	-	-	-	-	764	588	-	702	512	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			15.2			9.5		
HCM LOS							C			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	370	1160	-	-	1023	-	-	808
HCM Lane V/C Ratio	0.05	0.002	-	-	0.006	-	-	0.005
HCM Control Delay (s)	15.2	8.1	-	-	8.5	-	-	9.5
HCM Lane LOS	C	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Attachment E2

Year 2027 Background Conditions
– HCM Delay and LOS Worksheets

HCM 6th Signalized Intersection Summary

4: S. 14th Street & Sadler Road

Year 2027 Background Conditions AM Peak

Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	426	340	81	65	283	121	136	288	41	65	228	260
Future Volume (veh/h)	426	340	81	65	283	121	136	288	41	65	228	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1870	1900	1900	1826	1885	1885	1900	1900	1900	1826	1885
Adj Flow Rate, veh/h	458	366	87	80	349	149	160	339	48	71	248	283
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.85	0.85	0.85	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	0	0	5	1	1	0	0	0	5	1
Cap, veh/h	596	1353	318	486	799	335	295	378	53	194	344	599
Arrive On Green	0.19	0.47	0.47	0.02	0.11	0.11	0.09	0.23	0.23	0.05	0.19	0.19
Sat Flow, veh/h	1810	2855	671	1810	2381	999	1795	1628	231	1810	1826	1598
Grp Volume(v), veh/h	458	226	227	80	253	245	160	0	387	71	248	283
Grp Sat Flow(s),veh/h/ln	1810	1777	1750	1810	1735	1646	1795	0	1859	1810	1826	1598
Q Serve(g_s), s	13.9	6.9	7.1	2.6	12.2	12.6	6.2	0.0	18.2	2.8	11.5	12.1
Cycle Q Clear(g_c), s	13.9	6.9	7.1	2.6	12.2	12.6	6.2	0.0	18.2	2.8	11.5	12.1
Prop In Lane	1.00		0.38	1.00		0.61	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	596	842	829	486	582	552	295	0	431	194	344	599
V/C Ratio(X)	0.77	0.27	0.27	0.16	0.43	0.44	0.54	0.00	0.90	0.37	0.72	0.47
Avail Cap(c_a), veh/h	711	842	829	508	582	552	307	0	485	213	404	651
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.9	14.3	14.3	18.5	32.0	32.2	25.7	0.0	33.5	28.7	34.3	21.4
Incr Delay (d2), s/veh	4.2	0.8	0.8	0.2	2.3	2.5	1.8	0.0	17.9	1.2	5.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	2.8	2.8	1.1	6.0	5.9	2.7	0.0	10.0	1.2	5.4	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.1	15.1	15.1	18.7	34.3	34.7	27.5	0.0	51.4	29.8	39.4	22.0
LnGrp LOS	B	B	B	B	C	C	C	A	D	C	D	C
Approach Vol, veh/h	911			578			547			602		
Approach Delay, s/veh	17.1			32.3			44.4			30.1		
Approach LOS	B			C			D			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	47.1	12.6	21.5	21.3	34.7	8.7	25.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.4	38.0	8.7	19.9	22.5	20.9	5.1	23.5				
Max Q Clear Time (g_c+I1), s	4.6	9.1	8.2	14.1	15.9	14.6	4.8	20.2				
Green Ext Time (p_c), s	0.0	2.8	0.0	1.2	0.9	1.6	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay	29.1											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

Year 2027 Background Conditions AM Peak

5: Will Hardee Road/Citrona Drive & Sadler Road

Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (veh/h)	194	248	35	15	226	63	65	90	29	51	44	130
Future Volume (veh/h)	194	248	35	15	226	63	65	90	29	51	44	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1870	1856	1900	1885	1870	1870	1885	1900	1900	1900	1811
Adj Flow Rate, veh/h	223	285	40	17	260	72	87	120	39	68	59	173
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	4	2	3	0	1	2	2	1	0	0	0	6
Cap, veh/h	682	1754	244	632	1381	375	215	240	78	282	71	207
Arrive On Green	0.03	0.18	0.18	0.02	0.50	0.50	0.06	0.18	0.18	0.05	0.17	0.17
Sat Flow, veh/h	1753	3134	435	1810	2785	756	1781	1363	443	1810	426	1249
Grp Volume(v), veh/h	223	160	165	17	165	167	87	0	159	68	0	232
Grp Sat Flow(s),veh/h/ln	1753	1777	1792	1810	1791	1749	1781	0	1805	1810	0	1675
Q Serve(g_s), s	5.1	6.8	7.0	0.4	4.6	4.8	3.6	0.0	7.2	2.8	0.0	12.1
Cycle Q Clear(g_c), s	5.1	6.8	7.0	0.4	4.6	4.8	3.6	0.0	7.2	2.8	0.0	12.1
Prop In Lane	1.00		0.24	1.00		0.43	1.00		0.25	1.00		0.75
Lane Grp Cap(c), veh/h	682	994	1003	632	888	868	215	0	317	282	0	277
V/C Ratio(X)	0.33	0.16	0.16	0.03	0.19	0.19	0.40	0.00	0.50	0.24	0.00	0.84
Avail Cap(c_a), veh/h	858	994	1003	727	888	868	284	0	491	331	0	419
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.97	0.97	0.97	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.0	18.9	19.0	10.7	12.6	12.6	29.6	0.0	33.5	29.3	0.0	36.4
Incr Delay (d2), s/veh	0.3	0.3	0.3	0.0	0.5	0.5	1.2	0.0	1.2	0.4	0.0	8.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	3.0	3.1	0.2	1.9	1.9	1.6	0.0	3.2	1.2	0.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.3	19.3	19.3	10.7	13.1	13.1	30.8	0.0	34.7	29.8	0.0	45.2
LnGrp LOS	A	B	B	B	B	B	C	A	C	C	A	D
Approach Vol, veh/h	548			349			246			300		
Approach Delay, s/veh	15.2			13.0			33.3			41.7		
Approach LOS	B			B			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.2	54.9	9.5	19.4	12.0	49.1	8.6	20.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	34.5	8.5	22.5	16.5	24.5	6.5	24.5				
Max Q Clear Time (g_c+I1), s	2.4	9.0	5.6	14.1	7.1	6.8	4.8	9.2				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.8	0.4	1.8	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay	23.3											
HCM 6th LOS	C											

Queues
4: S. 14th Street & Sadler Road

Year 2027 Background Conditions AM Peak

Timing Plan: AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	458	453	80	498	160	387	71	248	283
v/c Ratio	0.79	0.28	0.21	0.48	0.52	0.80	0.35	0.70	0.34
Control Delay	23.9	15.0	17.4	30.6	27.2	45.0	24.7	44.3	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	15.0	17.4	30.6	27.2	45.0	24.7	44.3	5.5
Queue Length 50th (ft)	154	78	26	135	62	200	26	128	26
Queue Length 95th (ft)	#245	114	44	166	102	#294	55	208	67
Internal Link Dist (ft)		706		2112		653		730	
Turn Bay Length (ft)	335		485				235		
Base Capacity (vph)	627	1637	390	1033	309	492	200	400	888
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.28	0.21	0.48	0.52	0.79	0.35	0.62	0.32

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

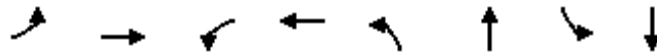
Queue shown is maximum after two cycles.

Queues

Year 2027 Background Conditions AM Peak

5: Will Hardee Road/Citrona Drive & Sadler Road

Timing Plan: AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	223	325	17	332	87	159	68	232
v/c Ratio	0.32	0.15	0.03	0.19	0.38	0.58	0.27	0.68
Control Delay	14.8	16.2	8.5	14.1	29.1	39.3	26.5	23.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	16.2	8.5	14.1	29.1	39.3	26.5	23.4
Queue Length 50th (ft)	82	58	3	48	39	76	30	41
Queue Length 95th (ft)	m142	m107	13	92	56	101	46	70
Internal Link Dist (ft)		2112		866		730		654
Turn Bay Length (ft)	550		500		365		450	
Base Capacity (vph)	747	2126	648	1714	240	507	252	520
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	0.30	0.15	0.03	0.19	0.36	0.31	0.27	0.45

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th TWSC
6: Ryan Road/Drury Road & Sadler Road

Year 2027 Background Conditions AM Peak

Timing Plan: AM Peak

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	270	6	7	262	2	8	0	3	1	0	4
Future Vol, veh/h	4	270	6	7	262	2	8	0	3	1	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	89	89	89	71	71	71	67	67	67
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	5	310	7	8	294	2	11	0	4	1	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	296	0	0	317	0	0	487	636	159	476	638	148
Stage 1	-	-	-	-	-	-	324	324	-	311	311	-
Stage 2	-	-	-	-	-	-	163	312	-	165	327	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1277	-	-	1255	-	-	468	398	864	477	397	878
Stage 1	-	-	-	-	-	-	668	653	-	680	662	-
Stage 2	-	-	-	-	-	-	829	661	-	826	651	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1277	-	-	1255	-	-	461	394	864	471	393	878
Mov Cap-2 Maneuver	-	-	-	-	-	-	461	394	-	471	393	-
Stage 1	-	-	-	-	-	-	665	650	-	677	658	-
Stage 2	-	-	-	-	-	-	818	657	-	819	648	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			12			9.9		
HCM LOS							B			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	528	1277	-	-	1255	-	-	749
HCM Lane V/C Ratio	0.029	0.004	-	-	0.006	-	-	0.01
HCM Control Delay (s)	12	7.8	-	-	7.9	-	-	9.9
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

HCM 6th Signalized Intersection Summary 4: S. 14th Street & Sadler Road

Year 2027 Background Conditions PM Peak

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	262	417	77	98	428	127	116	210	40	164	316	483
Future Volume (veh/h)	262	417	77	98	428	127	116	210	40	164	316	483
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1870	1900	1900	1900	1900	1900	1885	1900	1900	1900	1885
Adj Flow Rate, veh/h	294	469	87	118	516	153	130	236	45	173	333	508
Peak Hour Factor	0.89	0.89	0.89	0.83	0.83	0.83	0.89	0.89	0.89	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	0	0	0	0	1	0	0	0	1
Cap, veh/h	462	1338	247	482	1053	311	251	367	70	295	420	547
Arrive On Green	0.12	0.45	0.45	0.02	0.13	0.13	0.07	0.24	0.24	0.06	0.22	0.22
Sat Flow, veh/h	1810	2995	552	1810	2748	811	1810	1539	293	1810	1900	1598
Grp Volume(v), veh/h	294	277	279	118	338	331	130	0	281	173	333	508
Grp Sat Flow(s),veh/h/ln	1810	1777	1771	1810	1805	1754	1810	0	1832	1810	1900	1598
Q Serve(g_s), s	8.3	9.2	9.3	3.5	15.7	15.8	4.9	0.0	12.4	5.1	14.9	19.9
Cycle Q Clear(g_c), s	8.3	9.2	9.3	3.5	15.7	15.8	4.9	0.0	12.4	5.1	14.9	19.9
Prop In Lane	1.00		0.31	1.00		0.46	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	462	794	791	482	691	672	251	0	437	295	420	547
V/C Ratio(X)	0.64	0.35	0.35	0.24	0.49	0.49	0.52	0.00	0.64	0.59	0.79	0.93
Avail Cap(c_a), veh/h	694	794	791	486	691	672	292	0	478	295	420	547
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.96	0.96	0.96	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.9	16.3	16.3	15.7	31.1	31.2	25.6	0.0	30.8	29.2	33.1	28.5
Incr Delay (d2), s/veh	1.5	1.2	1.2	0.3	2.4	2.5	1.6	0.0	2.6	3.0	10.0	22.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.8	3.8	1.5	8.0	7.8	2.1	0.0	5.6	1.2	7.8	13.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.3	17.5	17.6	16.0	33.5	33.6	27.2	0.0	33.4	32.2	43.1	50.8
LnGrp LOS	B	B	B	B	C	C	C	A	C	C	D	D
Approach Vol, veh/h	850			787			411			1014		
Approach Delay, s/veh	17.1			30.9			31.4			45.1		
Approach LOS	B			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	44.7	11.2	24.4	15.4	39.0	9.6	26.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.4	38.0	8.7	19.9	22.5	20.9	5.1	23.5				
Max Q Clear Time (g_c+l1), s	5.5	11.3	6.9	21.9	10.3	17.8	7.1	14.4				
Green Ext Time (p_c), s	0.0	3.4	0.0	0.0	0.7	1.2	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay	31.9											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

Year 2027 Background Conditions PM Peak

5: Will Hardee Road/Citrona Drive & Sadler Road

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	386	79	20	349	78	75	55	20	73	75	146
Future Volume (veh/h)	152	386	79	20	349	78	75	55	20	73	75	146
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	183	444	95	29	442	99	82	60	22	77	79	154
Peak Hour Factor	0.83	0.87	0.83	0.68	0.79	0.79	0.91	0.91	0.91	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	580	1643	349	506	1496	333	211	222	81	340	95	185
Arrive On Green	0.02	0.18	0.18	0.03	0.51	0.51	0.05	0.17	0.17	0.05	0.16	0.16
Sat Flow, veh/h	1810	2962	629	1810	2912	647	1810	1326	486	1810	576	1122
Grp Volume(v), veh/h	183	269	270	29	271	270	82	0	82	77	0	233
Grp Sat Flow(s),veh/h/ln	1810	1805	1787	1810	1791	1769	1810	0	1812	1810	0	1698
Q Serve(g_s), s	4.0	11.5	11.7	0.7	7.8	7.9	3.3	0.0	3.5	3.1	0.0	12.0
Cycle Q Clear(g_c), s	4.0	11.5	11.7	0.7	7.8	7.9	3.3	0.0	3.5	3.1	0.0	12.0
Prop In Lane	1.00		0.35	1.00		0.37	1.00		0.27	1.00		0.66
Lane Grp Cap(c), veh/h	580	1001	991	506	920	909	211	0	304	340	0	279
V/C Ratio(X)	0.32	0.27	0.27	0.06	0.29	0.30	0.39	0.00	0.27	0.23	0.00	0.83
Avail Cap(c_a), veh/h	786	1001	991	585	920	909	288	0	493	382	0	424
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.2	21.1	21.1	9.9	12.5	12.6	29.8	0.0	32.7	29.1	0.0	36.4
Incr Delay (d2), s/veh	0.3	0.6	0.6	0.0	0.8	0.8	1.2	0.0	0.5	0.3	0.0	8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	5.7	5.7	0.3	3.2	3.2	1.5	0.0	1.6	1.4	0.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.4	21.7	21.8	10.0	13.3	13.4	30.9	0.0	33.1	29.5	0.0	45.0
LnGrp LOS	A	C	C	A	B	B	C	A	C	C	A	D
Approach Vol, veh/h	722			570			164			310		
Approach Delay, s/veh	18.6			13.2			32.0			41.1		
Approach LOS	B			B			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	54.4	9.2	19.3	10.8	50.7	8.9	19.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	34.5	8.5	22.5	16.5	24.5	6.5	24.5				
Max Q Clear Time (g_c+I1), s	2.7	13.7	5.3	14.0	6.0	9.9	5.1	5.5				
Green Ext Time (p_c), s	0.0	3.3	0.0	0.8	0.3	2.9	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay	22.1											
HCM 6th LOS	C											

Queues
4: S. 14th Street & Sadler Road

Year 2027 Background Conditions PM Peak

Timing Plan: PM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	294	556	118	669	130	281	173	333	508
v/c Ratio	0.63	0.36	0.30	0.56	0.52	0.62	0.64	0.85	0.68
Control Delay	17.9	17.2	19.7	34.3	27.7	35.5	34.9	54.8	20.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	17.2	19.7	34.3	27.7	35.5	34.9	54.8	20.2
Queue Length 50th (ft)	88	104	44	196	50	134	68	180	174
Queue Length 95th (ft)	137	144	74	240	90	212	117	#312	238
Internal Link Dist (ft)		706		2112		653		730	
Turn Bay Length (ft)	335		485				235		
Base Capacity (vph)	582	1531	397	1190	258	487	271	420	866
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.36	0.30	0.56	0.50	0.58	0.64	0.79	0.59

Intersection Summary

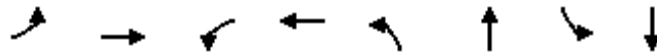
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

Year 2027 Background Conditions PM Peak

5: Will Hardee Road/Citrona Drive & Sadler Road

Timing Plan: PM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	183	539	29	541	82	82	77	233
v/c Ratio	0.32	0.25	0.05	0.31	0.35	0.28	0.26	0.71
Control Delay	14.6	17.2	9.2	16.1	27.1	26.3	25.1	31.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.6	17.2	9.2	16.1	27.1	26.3	25.1	31.7
Queue Length 50th (ft)	64	98	6	93	35	31	33	69
Queue Length 95th (ft)	108	163	15	138	62	65	59	136
Internal Link Dist (ft)		2112		866		730		654
Turn Bay Length (ft)	550		500		365		450	
Base Capacity (vph)	655	2114	554	1727	247	511	299	506
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	0.28	0.25	0.05	0.31	0.33	0.16	0.26	0.46

Intersection Summary

HCM 6th TWSC
6: Ryan Road/Drury Road & Sadler Road

Year 2027 Background Conditions PM Peak

Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	451	17	8	365	2	12	0	3	1	0	3
Future Vol, veh/h	8	451	17	8	365	2	12	0	3	1	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	79	79	79	100	100	100	38	38	38
Heavy Vehicles, %	0	0	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	9	513	19	10	462	3	12	0	3	3	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	465	0	0	532	0	0	792	1026	266	759	1034	233
Stage 1	-	-	-	-	-	-	541	541	-	484	484	-
Stage 2	-	-	-	-	-	-	251	485	-	275	550	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1107	-	-	1046	-	-	283	237	738	299	234	775
Stage 1	-	-	-	-	-	-	498	524	-	538	555	-
Stage 2	-	-	-	-	-	-	737	555	-	713	519	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1107	-	-	1046	-	-	276	233	738	294	230	775
Mov Cap-2 Maneuver	-	-	-	-	-	-	276	233	-	294	230	-
Stage 1	-	-	-	-	-	-	494	520	-	534	549	-
Stage 2	-	-	-	-	-	-	723	549	-	704	515	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			17			11.7		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	316	1107	-	-	1046	-	-	550
HCM Lane V/C Ratio	0.047	0.008	-	-	0.01	-	-	0.019
HCM Control Delay (s)	17	8.3	-	-	8.5	-	-	11.7
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

HCM 6th Signalized Intersection Summary Year 2027 Background Conditions Saturday Peak

4: S. 14th Street & Sadler Road

Timing Plan: Saturday Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	549	110	115	404	139	151	293	74	176	287	283
Future Volume (veh/h)	267	549	110	115	404	139	151	293	74	176	287	283
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1900	1900	1870	1900	1900	1900	1900	1900	1885	1900	1900
Adj Flow Rate, veh/h	303	624	125	125	439	151	180	349	88	210	342	337
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	1	0	0	2	0	0	0	0	0	1	0	0
Cap, veh/h	450	1159	232	347	820	279	326	379	96	276	492	636
Arrive On Green	0.14	0.39	0.39	0.02	0.10	0.10	0.09	0.26	0.26	0.09	0.26	0.26
Sat Flow, veh/h	1795	2998	599	1781	2642	901	1810	1464	369	1795	1900	1610
Grp Volume(v), veh/h	303	375	374	125	299	291	180	0	437	210	342	337
Grp Sat Flow(s),veh/h/ln	1795	1805	1792	1781	1805	1738	1810	0	1834	1795	1900	1610
Q Serve(g_s), s	9.7	14.5	14.5	4.2	14.1	14.3	6.4	0.0	20.9	7.7	14.6	14.4
Cycle Q Clear(g_c), s	9.7	14.5	14.5	4.2	14.1	14.3	6.4	0.0	20.9	7.7	14.6	14.4
Prop In Lane	1.00		0.33	1.00		0.52	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	450	698	693	347	560	539	326	0	475	276	492	636
V/C Ratio(X)	0.67	0.54	0.54	0.36	0.53	0.54	0.55	0.00	0.92	0.76	0.70	0.53
Avail Cap(c_a), veh/h	595	698	693	347	560	539	418	0	499	276	492	636
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.6	21.4	21.4	20.4	34.2	34.3	22.4	0.0	32.4	24.2	30.1	20.8
Incr Delay (d2), s/veh	1.9	3.0	3.0	0.6	3.5	3.7	1.5	0.0	21.9	11.8	4.2	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	6.4	6.4	1.8	7.3	7.2	2.7	0.0	11.7	4.0	7.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.5	24.3	24.4	21.0	37.7	38.0	23.9	0.0	54.3	36.0	34.4	21.7
LnGrp LOS	B	C	C	C	D	D	C	A	D	D	C	C
Approach Vol, veh/h	1052				715				617			
Approach Delay, s/veh	23.0				34.9				45.4			
Approach LOS	C				C				D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	39.3	13.0	27.8	16.8	32.4	13.0	27.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.4	33.6	13.1	19.9	19.5	19.5	8.5	24.5				
Max Q Clear Time (g_c+I1), s	6.2	16.5	8.4	16.6	11.7	16.3	9.7	22.9				
Green Ext Time (p_c), s	0.0	4.3	0.2	1.1	0.6	1.1	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	31.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary Year 2027 Background Conditions Saturday Peak

5: Will Hardee Road/Citrona Drive & Sadler Road

Timing Plan: Saturday Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	548	58	28	366	43	80	52	25	67	56	116
Future Volume (veh/h)	134	548	58	28	366	43	80	52	25	67	56	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	154	630	67	34	446	52	95	62	30	79	66	136
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.84	0.84	0.84	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	608	1848	196	438	1720	200	226	189	91	318	81	167
Arrive On Green	0.02	0.19	0.19	0.03	0.53	0.53	0.06	0.16	0.16	0.05	0.15	0.15
Sat Flow, veh/h	1810	3292	350	1810	3233	375	1810	1209	585	1810	554	1141
Grp Volume(v), veh/h	154	345	352	34	246	252	95	0	92	79	0	202
Grp Sat Flow(s),veh/h/ln	1810	1805	1837	1810	1791	1818	1810	0	1795	1810	0	1695
Q Serve(g_s), s	3.3	15.0	15.0	0.8	6.7	6.8	4.0	0.0	4.1	3.3	0.0	10.4
Cycle Q Clear(g_c), s	3.3	15.0	15.0	0.8	6.7	6.8	4.0	0.0	4.1	3.3	0.0	10.4
Prop In Lane	1.00		0.19	1.00		0.21	1.00		0.33	1.00		0.67
Lane Grp Cap(c), veh/h	608	1013	1031	438	953	967	226	0	280	318	0	248
V/C Ratio(X)	0.25	0.34	0.34	0.08	0.26	0.26	0.42	0.00	0.33	0.25	0.00	0.81
Avail Cap(c_a), veh/h	829	1013	1031	511	953	967	288	0	489	357	0	424
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.76	0.76	0.76	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.8	22.2	22.2	9.6	11.4	11.4	30.5	0.0	33.8	30.4	0.0	37.2
Incr Delay (d2), s/veh	0.2	0.7	0.7	0.1	0.7	0.7	1.2	0.0	0.7	0.4	0.0	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	7.3	7.5	0.3	2.7	2.8	1.8	0.0	1.8	1.5	0.0	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.9	22.9	22.9	9.7	12.1	12.1	31.8	0.0	34.5	30.8	0.0	43.6
LnGrp LOS	A	C	C	A	B	B	C	A	C	C	A	D
Approach Vol, veh/h		851			532			187			281	
Approach Delay, s/veh		20.4			11.9			33.1			40.0	
Approach LOS		C			B			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.4	55.0	9.9	17.7	10.0	52.4	9.1	18.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	34.5	8.5	22.5	16.5	24.5	6.5	24.5				
Max Q Clear Time (g_c+I1), s	2.8	17.0	6.0	12.4	5.3	8.8	5.3	6.1				
Green Ext Time (p_c), s	0.0	4.1	0.0	0.8	0.3	2.7	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			22.2									
HCM 6th LOS			C									

Queues

Year 2027 Background Conditions Saturday Peak

4: S. 14th Street & Sadler Road

Timing Plan: Saturday Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	303	749	125	590	180	437	210	342	337
v/c Ratio	0.69	0.55	0.43	0.59	0.55	0.90	0.83	0.78	0.41
Control Delay	22.9	22.8	28.5	38.9	24.3	54.0	48.7	46.7	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.9	22.8	28.5	38.9	24.3	54.0	48.7	46.7	9.5
Queue Length 50th (ft)	103	167	53	175	65	229	77	180	60
Queue Length 95th (ft)	158	217	93	234	102	#345	#162	#286	100
Internal Link Dist (ft)		706		2112		653		730	
Turn Bay Length (ft)	335		485				235		
Base Capacity (vph)	509	1366	290	1001	368	511	252	439	883
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.55	0.43	0.59	0.49	0.86	0.83	0.78	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

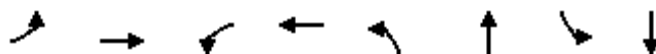
Queue shown is maximum after two cycles.

Queues

Year 2027 Background Conditions Saturday Peak

5: Will Hardee Road/Citrona Drive & Sadler Road

Timing Plan: Saturday Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	154	697	34	498	95	92	79	202
v/c Ratio	0.26	0.33	0.07	0.27	0.40	0.34	0.29	0.67
Control Delay	10.6	17.0	8.1	14.3	30.0	27.4	27.3	28.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	17.0	8.1	14.3	30.0	27.4	27.3	28.4
Queue Length 50th (ft)	54	150	6	81	42	33	35	50
Queue Length 95th (ft)	m89	m226	19	126	68	65	59	101
Internal Link Dist (ft)		2112		866		730		654
Turn Bay Length (ft)	550		500		365		450	
Base Capacity (vph)	696	2111	507	1836	247	511	272	509
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	0.22	0.33	0.07	0.27	0.38	0.18	0.29	0.40

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th TWSC
6: Ryan Road/Drury Road & Sadler Road

Year 2027 Background Conditions Saturday Peak

Timing Plan: Saturday Peak

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	581	9	6	386	2	8	0	4	0	0	1
Future Vol, veh/h	2	581	9	6	386	2	8	0	4	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	86	86	86	60	60	60	25	25	25
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	605	9	7	449	2	13	0	7	0	0	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	451	0	0	614	0	0	853	1079	307	771	1082	226
Stage 1	-	-	-	-	-	-	614	614	-	464	464	-
Stage 2	-	-	-	-	-	-	239	465	-	307	618	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1120	-	-	975	-	-	256	220	695	293	219	783
Stage 1	-	-	-	-	-	-	451	486	-	553	567	-
Stage 2	-	-	-	-	-	-	749	566	-	683	484	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1120	-	-	975	-	-	253	218	695	288	217	783
Mov Cap-2 Maneuver	-	-	-	-	-	-	253	218	-	288	217	-
Stage 1	-	-	-	-	-	-	450	485	-	552	563	-
Stage 2	-	-	-	-	-	-	740	562	-	675	483	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			17			9.6		
HCM LOS							C			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	321	1120	-	-	975	-	-	783				
HCM Lane V/C Ratio	0.062	0.002	-	-	0.007	-	-	0.005				
HCM Control Delay (s)	17	8.2	-	-	8.7	-	-	9.6				
HCM Lane LOS	C	A	-	-	A	-	-	A				
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0				

Attachment E3

Year 2027 Build-Out Conditions –
HCM Delay and LOS Worksheets

HCM 6th Signalized Intersection Summary 4: S. 14th Street & Sadler Road

Year 2027 Build-Out Conditions AM Peak

Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	426	342	81	65	286	121	136	288	41	65	228	260
Future Volume (veh/h)	426	342	81	65	286	121	136	288	41	65	228	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900	1900	1826	1885	1885	1900	1900	1900	1826	1885
Adj Flow Rate, veh/h	458	368	87	80	353	149	160	339	48	71	248	283
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.85	0.85	0.85	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	0	0	5	1	1	0	0	0	5	1
Cap, veh/h	595	1354	317	486	801	333	295	378	53	194	344	599
Arrive On Green	0.19	0.47	0.47	0.02	0.11	0.11	0.09	0.23	0.23	0.05	0.19	0.19
Sat Flow, veh/h	1810	2859	668	1810	2390	992	1795	1628	231	1810	1826	1598
Grp Volume(v), veh/h	458	227	228	80	255	247	160	0	387	71	248	283
Grp Sat Flow(s),veh/h/ln	1810	1777	1750	1810	1735	1647	1795	0	1859	1810	1826	1598
Q Serve(g_s), s	13.9	6.9	7.1	2.6	12.3	12.6	6.2	0.0	18.2	2.8	11.5	12.1
Cycle Q Clear(g_c), s	13.9	6.9	7.1	2.6	12.3	12.6	6.2	0.0	18.2	2.8	11.5	12.1
Prop In Lane	1.00		0.38	1.00		0.60	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	595	842	829	486	582	552	295	0	431	194	344	599
V/C Ratio(X)	0.77	0.27	0.27	0.16	0.44	0.45	0.54	0.00	0.90	0.37	0.72	0.47
Avail Cap(c_a), veh/h	710	842	829	507	582	552	307	0	485	213	404	651
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.9	14.3	14.3	18.5	32.1	32.2	25.7	0.0	33.5	28.7	34.3	21.4
Incr Delay (d2), s/veh	4.3	0.8	0.8	0.2	2.3	2.6	1.8	0.0	17.9	1.2	5.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	2.8	2.8	1.1	6.1	5.9	2.7	0.0	10.0	1.2	5.4	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.2	15.1	15.1	18.7	34.4	34.8	27.5	0.0	51.4	29.8	39.4	22.0
LnGrp LOS	B	B	B	B	C	C	C	A	D	C	D	C
Approach Vol, veh/h		913			582			547			602	
Approach Delay, s/veh		17.2			32.4			44.4			30.1	
Approach LOS		B			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	47.1	12.6	21.5	21.3	34.7	8.7	25.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.4	38.0	8.7	19.9	22.5	20.9	5.1	23.5				
Max Q Clear Time (g_c+I1), s	4.6	9.1	8.2	14.1	15.9	14.6	4.8	20.2				
Green Ext Time (p_c), s	0.0	2.8	0.0	1.2	0.9	1.6	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			29.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary
5: Will Hardee Road/Citrona Drive & Sadler Road

Year 2027 Build-Out Conditions AM Peak

Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	250	35	15	229	63	65	90	29	51	44	130
Future Volume (veh/h)	194	250	35	15	229	63	65	90	29	51	44	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1870	1856	1900	1885	1870	1870	1885	1900	1900	1900	1811
Adj Flow Rate, veh/h	223	287	40	17	263	72	87	120	39	68	59	173
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	4	2	3	0	1	2	2	1	0	0	0	6
Cap, veh/h	680	1755	242	630	1385	372	215	240	78	282	71	207
Arrive On Green	0.03	0.18	0.18	0.02	0.50	0.50	0.06	0.18	0.18	0.05	0.17	0.17
Sat Flow, veh/h	1753	3137	433	1810	2792	749	1781	1363	443	1810	426	1249
Grp Volume(v), veh/h	223	161	166	17	167	168	87	0	159	68	0	232
Grp Sat Flow(s),veh/h/ln	1753	1777	1792	1810	1791	1750	1781	0	1805	1810	0	1675
Q Serve(g_s), s	5.1	6.9	7.0	0.4	4.7	4.8	3.6	0.0	7.2	2.8	0.0	12.1
Cycle Q Clear(g_c), s	5.1	6.9	7.0	0.4	4.7	4.8	3.6	0.0	7.2	2.8	0.0	12.1
Prop In Lane	1.00		0.24	1.00		0.43	1.00		0.25	1.00		0.75
Lane Grp Cap(c), veh/h	680	994	1003	630	888	868	215	0	317	282	0	277
V/C Ratio(X)	0.33	0.16	0.17	0.03	0.19	0.19	0.40	0.00	0.50	0.24	0.00	0.84
Avail Cap(c_a), veh/h	856	994	1003	726	888	868	284	0	491	331	0	419
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.97	0.97	0.97	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.0	19.0	19.0	10.7	12.6	12.6	29.6	0.0	33.5	29.3	0.0	36.4
Incr Delay (d2), s/veh	0.3	0.3	0.3	0.0	0.5	0.5	1.2	0.0	1.2	0.4	0.0	8.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	3.0	3.1	0.2	1.9	1.9	1.6	0.0	3.2	1.2	0.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.3	19.3	19.4	10.7	13.1	13.1	30.8	0.0	34.7	29.8	0.0	45.2
LnGrp LOS	A	B	B	B	B	B	C	A	C	C	A	D
Approach Vol, veh/h	550			352				246			300	
Approach Delay, s/veh	15.3			13.0				33.3			41.7	
Approach LOS	B			B				C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.2	54.9	9.5	19.4	12.0	49.1	8.6	20.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	34.5	8.5	22.5	16.5	24.5	6.5	24.5				
Max Q Clear Time (g_c+I1), s	2.4	9.0	5.6	14.1	7.1	6.8	4.8	9.2				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.8	0.4	1.8	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay	23.3											
HCM 6th LOS	C											

Queues

Year 2027 Build-Out Conditions AM Peak

4: S. 14th Street & Sadler Road

Timing Plan: AM Peak

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	458	455	80	502	160	387	71	248	283
v/c Ratio	0.79	0.28	0.21	0.49	0.52	0.80	0.35	0.70	0.34
Control Delay	24.2	15.0	17.5	30.9	27.2	45.0	24.7	44.3	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.2	15.0	17.5	30.9	27.2	45.0	24.7	44.3	5.6
Queue Length 50th (ft)	154	79	26	137	62	200	26	128	27
Queue Length 95th (ft)	#250	115	44	168	102	#294	55	208	68
Internal Link Dist (ft)		706		2112		653		730	
Turn Bay Length (ft)	335		485				235		
Base Capacity (vph)	624	1637	389	1031	309	492	200	400	887
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.28	0.21	0.49	0.52	0.79	0.35	0.62	0.32

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

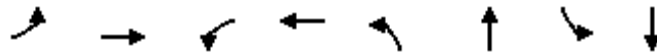
Queue shown is maximum after two cycles.

Queues

Year 2027 Build-Out Conditions AM Peak

5: Will Hardee Road/Citrona Drive & Sadler Road

Timing Plan: AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	223	327	17	335	87	159	68	232
v/c Ratio	0.32	0.15	0.03	0.20	0.38	0.58	0.27	0.68
Control Delay	14.8	16.2	8.5	14.1	29.1	39.3	26.5	23.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	16.2	8.5	14.1	29.1	39.3	26.5	23.4
Queue Length 50th (ft)	82	58	3	48	39	76	30	41
Queue Length 95th (ft)	m142	m108	13	93	56	101	46	70
Internal Link Dist (ft)		2112		866		730		654
Turn Bay Length (ft)	550		500		365		450	
Base Capacity (vph)	745	2126	648	1716	240	507	252	520
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	0.30	0.15	0.03	0.20	0.36	0.31	0.27	0.45

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th TWSC
6: Ryan Road/Drury Road & Sadler Road

Year 2027 Build-Out Conditions AM Peak
Timing Plan: AM Peak

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	270	6	7	262	2	11	0	4	1	0	4
Future Vol, veh/h	4	270	6	7	262	2	11	0	4	1	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	89	89	89	71	71	71	67	67	67
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	5	310	7	8	294	2	15	0	6	1	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	296	0	0	317	0	0	487	636	159	476	638	148
Stage 1	-	-	-	-	-	-	324	324	-	311	311	-
Stage 2	-	-	-	-	-	-	163	312	-	165	327	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1277	-	-	1255	-	-	468	398	864	477	397	878
Stage 1	-	-	-	-	-	-	668	653	-	680	662	-
Stage 2	-	-	-	-	-	-	829	661	-	826	651	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1277	-	-	1255	-	-	461	394	864	470	393	878
Mov Cap-2 Maneuver	-	-	-	-	-	-	461	394	-	470	393	-
Stage 1	-	-	-	-	-	-	665	650	-	677	658	-
Stage 2	-	-	-	-	-	-	818	657	-	817	648	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			12.1			9.9		
HCM LOS							B			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	526	1277	-	-	1255	-	-	748
HCM Lane V/C Ratio	0.04	0.004	-	-	0.006	-	-	0.01
HCM Control Delay (s)	12.1	7.8	-	-	7.9	-	-	9.9
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

HCM 6th TWSC
17: Ryan Road & Project Exit Driveway

Year 2027 Build-Out Conditions AM Peak
Timing Plan: AM Peak

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	0	0	11	12	0
Future Vol, veh/h	4	0	0	11	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	0	0	12	13	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	25	-	-	0	-	0
Stage 1	13	-	-	-	-	-
Stage 2	12	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	991	0	0	-	-	0
Stage 1	1010	0	0	-	-	0
Stage 2	1011	0	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	991	-	-	-	-	-
Mov Cap-2 Maneuver	991	-	-	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.6	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT EBLn1		SBT			
Capacity (veh/h)	- 991		-			
HCM Lane V/C Ratio	- 0.004		-			
HCM Control Delay (s)	- 8.6		-			
HCM Lane LOS	- A		-			
HCM 95th %tile Q(veh)	- 0		-			

HCM 6th Signalized Intersection Summary 4: S. 14th Street & Sadler Road

Year 2027 Build-Out Conditions PM Peak

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	262	421	77	98	430	127	116	210	40	164	316	483
Future Volume (veh/h)	262	421	77	98	430	127	116	210	40	164	316	483
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1870	1900	1900	1900	1900	1900	1885	1900	1900	1900	1885
Adj Flow Rate, veh/h	294	473	87	118	518	153	130	236	45	173	333	508
Peak Hour Factor	0.89	0.89	0.89	0.83	0.83	0.83	0.89	0.89	0.89	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	0	0	0	0	1	0	0	0	1
Cap, veh/h	461	1340	245	480	1054	310	251	367	70	295	420	547
Arrive On Green	0.12	0.45	0.45	0.02	0.13	0.13	0.07	0.24	0.24	0.06	0.22	0.22
Sat Flow, veh/h	1810	3000	549	1810	2751	809	1810	1539	293	1810	1900	1598
Grp Volume(v), veh/h	294	279	281	118	339	332	130	0	281	173	333	508
Grp Sat Flow(s),veh/h/ln	1810	1777	1772	1810	1805	1754	1810	0	1832	1810	1900	1598
Q Serve(g_s), s	8.3	9.3	9.4	3.5	15.7	15.9	4.9	0.0	12.4	5.1	14.9	19.9
Cycle Q Clear(g_c), s	8.3	9.3	9.4	3.5	15.7	15.9	4.9	0.0	12.4	5.1	14.9	19.9
Prop In Lane	1.00		0.31	1.00		0.46	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	461	794	791	480	691	672	251	0	437	295	420	547
V/C Ratio(X)	0.64	0.35	0.35	0.25	0.49	0.49	0.52	0.00	0.64	0.59	0.79	0.93
Avail Cap(c_a), veh/h	693	794	791	484	691	672	292	0	478	295	420	547
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.96	0.96	0.96	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.9	16.3	16.4	15.8	31.1	31.2	25.6	0.0	30.8	29.2	33.1	28.5
Incr Delay (d2), s/veh	1.5	1.2	1.2	0.3	2.4	2.5	1.6	0.0	2.6	3.0	10.0	22.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.8	3.8	1.5	8.0	7.8	2.1	0.0	5.6	1.2	7.8	13.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.4	17.6	17.6	16.0	33.5	33.7	27.2	0.0	33.4	32.2	43.1	50.8
LnGrp LOS	B	B	B	B	C	C	C	A	C	C	D	D
Approach Vol, veh/h	854			789			411			1014		
Approach Delay, s/veh	17.2			31.0			31.4			45.1		
Approach LOS	B			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	44.7	11.2	24.4	15.4	39.0	9.6	26.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.4	38.0	8.7	19.9	22.5	20.9	5.1	23.5				
Max Q Clear Time (g_c+I1), s	5.5	11.4	6.9	21.9	10.3	17.9	7.1	14.4				
Green Ext Time (p_c), s	0.0	3.5	0.0	0.0	0.7	1.2	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay	31.9											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary
5: Will Hardee Road/Citrona Drive & Sadler Road

Year 2027 Build-Out Conditions PM Peak

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	390	79	20	351	78	75	55	20	73	75	146
Future Volume (veh/h)	152	390	79	20	351	78	75	55	20	73	75	146
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	183	448	95	29	444	99	82	60	22	77	79	154
Peak Hour Factor	0.83	0.87	0.83	0.68	0.79	0.79	0.91	0.91	0.91	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	579	1646	347	504	1497	331	211	222	81	340	95	185
Arrive On Green	0.02	0.18	0.18	0.03	0.51	0.51	0.05	0.17	0.17	0.05	0.16	0.16
Sat Flow, veh/h	1810	2968	625	1810	2915	645	1810	1326	486	1810	576	1122
Grp Volume(v), veh/h	183	271	272	29	272	271	82	0	82	77	0	233
Grp Sat Flow(s),veh/h/ln	1810	1805	1788	1810	1791	1769	1810	0	1812	1810	0	1698
Q Serve(g_s), s	4.0	11.6	11.8	0.7	7.8	7.9	3.3	0.0	3.5	3.1	0.0	12.0
Cycle Q Clear(g_c), s	4.0	11.6	11.8	0.7	7.8	7.9	3.3	0.0	3.5	3.1	0.0	12.0
Prop In Lane	1.00		0.35	1.00		0.36	1.00		0.27	1.00		0.66
Lane Grp Cap(c), veh/h	579	1001	992	504	920	909	211	0	304	340	0	279
V/C Ratio(X)	0.32	0.27	0.27	0.06	0.30	0.30	0.39	0.00	0.27	0.23	0.00	0.83
Avail Cap(c_a), veh/h	785	1001	992	582	920	909	288	0	493	382	0	424
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.2	21.1	21.2	10.0	12.5	12.6	29.8	0.0	32.7	29.1	0.0	36.4
Incr Delay (d2), s/veh	0.3	0.6	0.6	0.0	0.8	0.8	1.2	0.0	0.5	0.3	0.0	8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	5.7	5.7	0.3	3.2	3.2	1.5	0.0	1.6	1.4	0.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.4	21.7	21.8	10.0	13.4	13.4	30.9	0.0	33.1	29.5	0.0	45.0
LnGrp LOS	A	C	C	A	B	B	C	A	C	C	A	D
Approach Vol, veh/h		726			572			164			310	
Approach Delay, s/veh		18.7			13.2			32.0			41.1	
Approach LOS		B			B			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	54.4	9.2	19.3	10.8	50.7	8.9	19.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	34.5	8.5	22.5	16.5	24.5	6.5	24.5				
Max Q Clear Time (g_c+I1), s	2.7	13.8	5.3	14.0	6.0	9.9	5.1	5.5				
Green Ext Time (p_c), s	0.0	3.3	0.0	0.8	0.3	2.9	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			22.1									
HCM 6th LOS			C									

Queues

Year 2027 Build-Out Conditions PM Peak

4: S. 14th Street & Sadler Road

Timing Plan: PM Peak

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	294	560	118	671	130	281	173	333	508
v/c Ratio	0.63	0.37	0.30	0.56	0.52	0.62	0.64	0.85	0.68
Control Delay	17.9	17.3	19.7	34.4	27.7	35.5	34.9	54.8	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	17.3	19.7	34.4	27.7	35.5	34.9	54.8	20.3
Queue Length 50th (ft)	88	105	45	197	50	134	68	180	175
Queue Length 95th (ft)	137	145	74	241	90	212	117	#312	239
Internal Link Dist (ft)		706		2112		653		730	
Turn Bay Length (ft)	335		485				235		
Base Capacity (vph)	582	1531	396	1190	258	487	271	420	865
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.37	0.30	0.56	0.50	0.58	0.64	0.79	0.59

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

Year 2027 Build-Out Conditions PM Peak

5: Will Hardee Road/Citrona Drive & Sadler Road

Timing Plan: PM Peak

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	183	543	29	543	82	82	77	233
v/c Ratio	0.32	0.26	0.05	0.31	0.35	0.28	0.26	0.71
Control Delay	14.7	17.2	9.2	16.1	27.1	26.3	25.1	31.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	17.2	9.2	16.1	27.1	26.3	25.1	31.7
Queue Length 50th (ft)	64	100	6	93	35	31	33	69
Queue Length 95th (ft)	109	165	15	139	62	65	59	136
Internal Link Dist (ft)		2112		866		730		654
Turn Bay Length (ft)	550		500		365		450	
Base Capacity (vph)	654	2113	552	1727	247	511	299	506
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	0.28	0.26	0.05	0.31	0.33	0.16	0.26	0.46
Intersection Summary								

HCM 6th TWSC
6: Ryan Road/Drury Road & Sadler Road

Year 2027 Build-Out Conditions PM Peak
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	451	17	8	366	2	14	0	3	1	0	3
Future Vol, veh/h	8	451	17	8	366	2	14	0	3	1	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	79	79	79	100	100	100	38	38	38
Heavy Vehicles, %	0	0	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	9	513	19	10	463	3	14	0	3	3	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	466	0	0	532	0	0	793	1027	266	760	1035	233
Stage 1	-	-	-	-	-	-	541	541	-	485	485	-
Stage 2	-	-	-	-	-	-	252	486	-	275	550	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1106	-	-	1046	-	-	283	236	738	299	234	775
Stage 1	-	-	-	-	-	-	498	524	-	537	555	-
Stage 2	-	-	-	-	-	-	736	554	-	713	519	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1106	-	-	1046	-	-	276	232	738	294	230	775
Mov Cap-2 Maneuver	-	-	-	-	-	-	276	232	-	294	230	-
Stage 1	-	-	-	-	-	-	494	520	-	533	549	-
Stage 2	-	-	-	-	-	-	722	548	-	704	515	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			17.3			11.7		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	310	1106	-	-	1046	-	-	550
HCM Lane V/C Ratio	0.055	0.008	-	-	0.01	-	-	0.019
HCM Control Delay (s)	17.3	8.3	-	-	8.5	-	-	11.7
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

HCM 6th TWSC
17: Ryan Road & Project Exit Driveway

Year 2027 Build-Out Conditions PM Peak
Timing Plan: PM Peak

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	0	0	15	25	0
Future Vol, veh/h	2	0	0	15	25	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	0	0	16	27	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	43	-	-	0	-	0
Stage 1	27	-	-	-	-	-
Stage 2	16	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	968	0	0	-	-	0
Stage 1	996	0	0	-	-	0
Stage 2	1007	0	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	968	-	-	-	-	-
Mov Cap-2 Maneuver	968	-	-	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.7	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT EBLn1		SBT			
Capacity (veh/h)	- 968		-			
HCM Lane V/C Ratio	- 0.002		-			
HCM Control Delay (s)	- 8.7		-			
HCM Lane LOS	- A		-			
HCM 95th %tile Q(veh)	- 0		-			

HCM 6th Signalized Intersection Summary

4: S. 14th Street & Sadler Road

Year 2027 Build-Out Conditions Saturday Peak

Timing Plan: Saturday Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	552	110	115	407	139	151	293	74	176	287	283
Future Volume (veh/h)	267	552	110	115	407	139	151	293	74	176	287	283
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1900	1900	1870	1900	1900	1900	1900	1900	1885	1900	1900
Adj Flow Rate, veh/h	303	627	125	125	442	151	180	349	88	210	342	337
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	1	0	0	2	0	0	0	0	0	1	0	0
Cap, veh/h	449	1160	231	346	821	278	326	379	96	276	492	636
Arrive On Green	0.14	0.39	0.39	0.02	0.10	0.10	0.09	0.26	0.26	0.09	0.26	0.26
Sat Flow, veh/h	1795	3000	597	1781	2647	896	1810	1464	369	1795	1900	1610
Grp Volume(v), veh/h	303	377	375	125	300	293	180	0	437	210	342	337
Grp Sat Flow(s),veh/h/ln	1795	1805	1793	1781	1805	1739	1810	0	1834	1795	1900	1610
Q Serve(g_s), s	9.7	14.6	14.6	4.2	14.2	14.4	6.4	0.0	20.9	7.7	14.6	14.4
Cycle Q Clear(g_c), s	9.7	14.6	14.6	4.2	14.2	14.4	6.4	0.0	20.9	7.7	14.6	14.4
Prop In Lane	1.00		0.33	1.00		0.52	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	449	698	693	346	560	540	326	0	475	276	492	636
V/C Ratio(X)	0.67	0.54	0.54	0.36	0.54	0.54	0.55	0.00	0.92	0.76	0.70	0.53
Avail Cap(c_a), veh/h	594	698	693	346	560	540	418	0	499	276	492	636
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.6	21.4	21.4	20.4	34.2	34.3	22.4	0.0	32.4	24.2	30.1	20.8
Incr Delay (d2), s/veh	1.9	3.0	3.0	0.6	3.5	3.8	1.5	0.0	21.9	11.8	4.2	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	6.4	6.4	1.8	7.4	7.2	2.7	0.0	11.7	4.0	7.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.5	24.4	24.4	21.0	37.8	38.1	23.9	0.0	54.3	36.0	34.4	21.7
LnGrp LOS	B	C	C	C	D	D	C	A	D	D	C	C
Approach Vol, veh/h	1055				718				617			
Approach Delay, s/veh	23.0				35.0				45.4			
Approach LOS	C				C				D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	39.3	13.0	27.8	16.8	32.4	13.0	27.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.4	33.6	13.1	19.9	19.5	19.5	8.5	24.5				
Max Q Clear Time (g_c+I1), s	6.2	16.6	8.4	16.6	11.7	16.4	9.7	22.9				
Green Ext Time (p_c), s	0.0	4.3	0.2	1.1	0.6	1.1	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	31.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary

Year 2027 Build-Out Conditions Saturday Peak

5: Will Hardee Road/Citrona Drive & Sadler Road

Timing Plan: Saturday Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	551	58	28	369	43	80	52	25	67	56	116
Future Volume (veh/h)	134	551	58	28	369	43	80	52	25	67	56	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	154	633	67	34	450	52	95	62	30	79	66	136
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.84	0.84	0.84	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	606	1849	195	436	1722	198	226	189	91	318	81	167
Arrive On Green	0.02	0.19	0.19	0.03	0.53	0.53	0.06	0.16	0.16	0.05	0.15	0.15
Sat Flow, veh/h	1810	3294	348	1810	3237	372	1810	1209	585	1810	554	1141
Grp Volume(v), veh/h	154	346	354	34	248	254	95	0	92	79	0	202
Grp Sat Flow(s),veh/h/ln	1810	1805	1837	1810	1791	1818	1810	0	1795	1810	0	1695
Q Serve(g_s), s	3.3	15.0	15.1	0.8	6.8	6.8	4.0	0.0	4.1	3.3	0.0	10.4
Cycle Q Clear(g_c), s	3.3	15.0	15.1	0.8	6.8	6.8	4.0	0.0	4.1	3.3	0.0	10.4
Prop In Lane	1.00		0.19	1.00		0.20	1.00		0.33	1.00		0.67
Lane Grp Cap(c), veh/h	606	1013	1031	436	953	967	226	0	280	318	0	248
V/C Ratio(X)	0.25	0.34	0.34	0.08	0.26	0.26	0.42	0.00	0.33	0.25	0.00	0.81
Avail Cap(c_a), veh/h	827	1013	1031	509	953	967	288	0	489	357	0	424
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.76	0.76	0.76	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.8	22.2	22.2	9.6	11.4	11.5	30.5	0.0	33.8	30.4	0.0	37.2
Incr Delay (d2), s/veh	0.2	0.7	0.7	0.1	0.7	0.7	1.2	0.0	0.7	0.4	0.0	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	7.4	7.5	0.3	2.7	2.8	1.8	0.0	1.8	1.5	0.0	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.9	22.9	22.9	9.7	12.1	12.1	31.8	0.0	34.5	30.8	0.0	43.6
LnGrp LOS	A	C	C	A	B	B	C	A	C	C	A	D
Approach Vol, veh/h	854			536			187			281		
Approach Delay, s/veh	20.4			12.0			33.1			40.0		
Approach LOS	C			B			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.4	55.0	9.9	17.7	10.0	52.4	9.1	18.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	34.5	8.5	22.5	16.5	24.5	6.5	24.5				
Max Q Clear Time (g_c+I1), s	2.8	17.1	6.0	12.4	5.3	8.8	5.3	6.1				
Green Ext Time (p_c), s	0.0	4.1	0.0	0.8	0.3	2.7	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay	22.2											
HCM 6th LOS	C											

Queues
4: S. 14th Street & Sadler Road

Year 2027 Build-Out Conditions Saturday Peak

Timing Plan: Saturday Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	303	752	125	593	180	437	210	342	337
v/c Ratio	0.69	0.55	0.43	0.59	0.55	0.90	0.83	0.78	0.42
Control Delay	23.0	22.9	28.7	39.1	24.3	54.0	48.7	46.7	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	22.9	28.7	39.1	24.3	54.0	48.7	46.7	9.5
Queue Length 50th (ft)	103	168	53	177	65	229	77	180	60
Queue Length 95th (ft)	158	218	93	235	102	#345	#162	#286	101
Internal Link Dist (ft)		706		2112		653		730	
Turn Bay Length (ft)	335		485				235		
Base Capacity (vph)	508	1366	289	1001	368	511	252	439	883
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.55	0.43	0.59	0.49	0.86	0.83	0.78	0.38

Intersection Summary

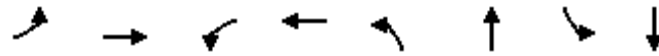
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

Year 2027 Build-Out Conditions Saturday Peak

5: Will Hardee Road/Citrona Drive & Sadler Road

Timing Plan: Saturday Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	154	700	34	502	95	92	79	202
v/c Ratio	0.26	0.33	0.07	0.27	0.40	0.34	0.29	0.67
Control Delay	10.6	17.1	8.1	14.4	30.0	27.4	27.3	28.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	17.1	8.1	14.4	30.0	27.4	27.3	28.4
Queue Length 50th (ft)	54	151	6	82	42	33	35	50
Queue Length 95th (ft)	m89	m227	19	127	68	65	59	101
Internal Link Dist (ft)		2112		866		730		654
Turn Bay Length (ft)	550		500		365		450	
Base Capacity (vph)	694	2111	505	1836	247	511	272	509
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	0.22	0.33	0.07	0.27	0.38	0.18	0.29	0.40

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th TWSC
6: Ryan Road/Drury Road & Sadler Road

Year 2027 Build-Out Conditions Saturday Peak
Timing Plan: Saturday Peak

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	581	9	6	387	2	11	0	5	0	0	1
Future Vol, veh/h	2	581	9	6	387	2	11	0	5	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	86	86	86	60	60	60	25	25	25
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	605	9	7	450	2	18	0	8	0	0	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	452	0	0	614	0	0	853	1080	307	772	1083	226
Stage 1	-	-	-	-	-	-	614	614	-	465	465	-
Stage 2	-	-	-	-	-	-	239	466	-	307	618	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1119	-	-	975	-	-	256	220	695	293	219	783
Stage 1	-	-	-	-	-	-	451	486	-	552	566	-
Stage 2	-	-	-	-	-	-	749	566	-	683	484	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1119	-	-	975	-	-	253	218	695	287	217	783
Mov Cap-2 Maneuver	-	-	-	-	-	-	253	218	-	287	217	-
Stage 1	-	-	-	-	-	-	450	485	-	551	562	-
Stage 2	-	-	-	-	-	-	740	562	-	674	483	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			17.4			9.6		
HCM LOS							C			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	316	1119	-	-	975	-	-	783				
HCM Lane V/C Ratio	0.084	0.002	-	-	0.007	-	-	0.005				
HCM Control Delay (s)	17.4	8.2	-	-	8.7	-	-	9.6				
HCM Lane LOS	C	A	-	-	A	-	-	A				
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0				

HCM 6th TWSC
17: Ryan Road & Project Exit Driveway

Year 2027 Build-Out Conditions Saturday Peak
Timing Plan: Saturday Peak

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	0	0	12	15	0
Future Vol, veh/h	4	0	0	12	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	0	0	13	16	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	29	-	-	0	-	0
Stage 1	16	-	-	-	-	-
Stage 2	13	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	986	0	0	-	-	0
Stage 1	1007	0	0	-	-	0
Stage 2	1010	0	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	986	-	-	-	-	-
Mov Cap-2 Maneuver	986	-	-	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.7	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT EBLn1		SBT			
Capacity (veh/h)	- 986		-			
HCM Lane V/C Ratio	- 0.004		-			
HCM Control Delay (s)	- 8.7		-			
HCM Lane LOS	- A		-			
HCM 95th %tile Q(veh)	- 0		-			