Kimley»Horn

SOUTH CAROLINA
KIMLEY-HORN AND ASSOCIATES, INC.
No. C00166
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
LICENSED PROFESSIONAL ENGINEER
No. 33615
DILLON BRENT TURNER
June 14, 2022

TECHNICAL MEMORANDUM

To: Kristen Crane, Planning Director, Town of James Island

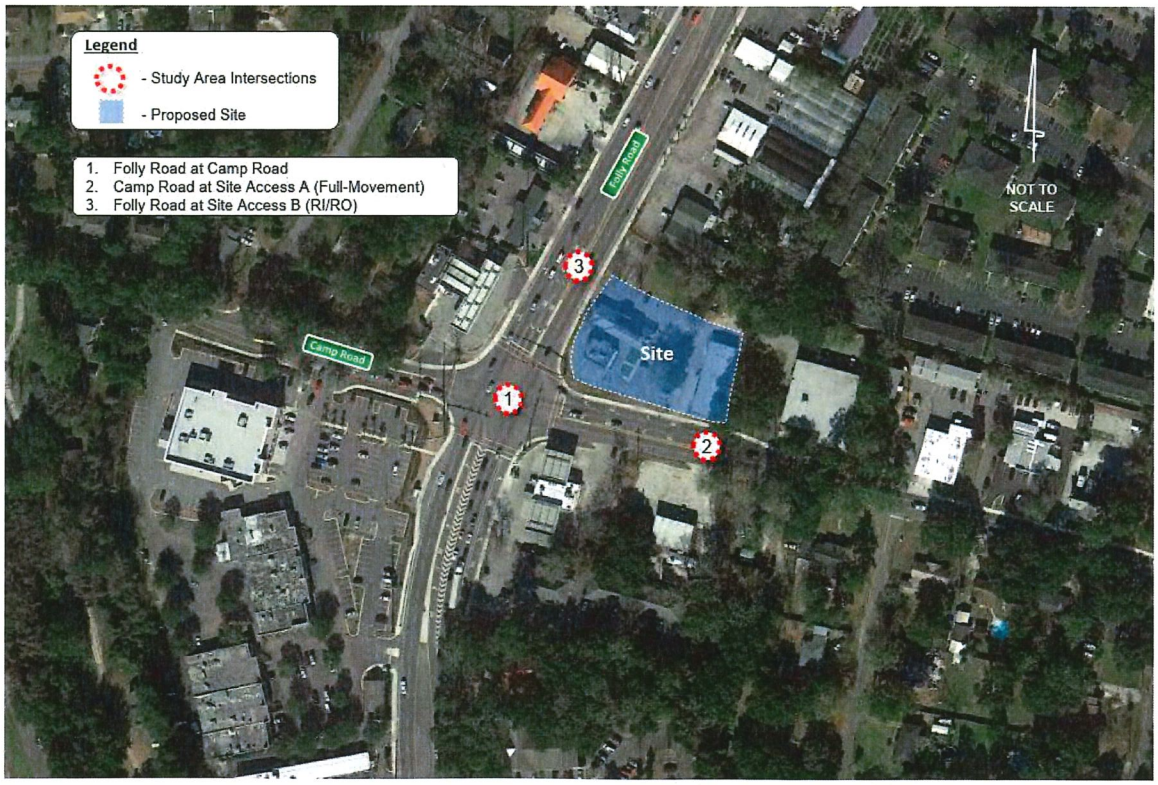
From: Dillon Turner, P.E., PTOE – Kimley-Horn

Date: June 14, 2022

Subject: 896 Folly Road Redevelopment TIA Update

The purpose of this technical memorandum is to update the trip generation, capacity analysis results, and recommendations of the ***896 Folly Road Redevelopment Traffic Impact Analysis*** (Kimley-Horn, October 2020) due to a land use change from high-turnover sit-down restaurant to fast-food restaurant with drive-through for the proposed development. The proposed development is located in the northeast quadrant of the intersection of SC 171 (Folly Road) with Camp Road in James Island, South Carolina. **Figure 1** illustrates the location of the proposed development.

Figure 1 – Site Location



Trip Generation Update

The traffic generation potential of the proposed development was determined using the trip generation rates published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition* for the various Land Use Codes (LUCs) represented within the proposed site. These trip generation estimates include reductions for internal capture and pass-by trips as prescribed by the ITE *Trip Generation Handbook, 3rd Edition*.

The ***896 Folly Road Redevelopment Traffic Impact Analysis*** (Kimley-Horn, October 2020) analyzed:

- Drive-In Bank (LUC 912)
  - 3,470 SF gross floor area
- High-Turnover Sit-Down Restaurant (LUC 932)
  - 2,310 SF gross floor area

The updated trip generation includes:

- Drive-In Bank (LUC 912)
  - 3,470 SF gross floor area
- Fast-food Restaurant with Drive-Through (LUC 934)
  - 2,365 SF gross floor area

Internally captured trips are trips that begin and end within the project site and do not access the external roadway network. The National Cooperative Highway Research Program (NCHRP) Report 684 *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*, produced by the Transportation Research Board, was used to calculate the internal capture for the development.

Pass-by trips are trips already on the roadway network that turn into the site as they pass by on the adjacent street. Pass-by percentages were calculated for the bank and high-turnover sit-down restaurant component of the proposed site based on the equations and data presented in the ITE *Trip Generation Handbook*. Pass-by volumes were limited to ten percent of the adjacent street traffic.

The previous site plan is attached in **Attachment A**. The updated site plan is attached in **Attachment B**.

Table 1 – Trip Generation from the 896 Folly Road Redevelopment Traffic Impact Analysis

Land Use	Intensity	AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out
ITE 912 -Drive-In Bank	3,470 SF	33	19	14	71	36	35
ITE 932 - High-Turnover Sit-Down Rest.	2,310 SF	32	18	14	40	21	19
Subtotal		65	37	28	111	57	54
Internal Capture		8	4	4	22	11	11
Pass-By		6	3	3	30	15	15
Net New External Trips		51	30	21	59	31	28

Table 1 summarizes the projected trip generation of the proposed development. During a typical weekday, the proposed development has the potential to generate 51 and 59 net new external trips during the AM and PM peak hours, respectively. The previous projected traffic volumes for this trip generation are attached in **Attachment C**.

Table 2 – Updated Trip Generation for the 896 Folly Road Redevelopment

Land Use	Intensity	AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out
ITE 912 -Drive-In Bank	3,470 SF	33	19	14	71	36	35
ITE 934 – Fast-food with Drive-Through	2,365 SF	95	48	37	77	40	37
Subtotal		128	67	61	148	76	72
Internal Capture		8	4	4	28	14	14
Pass-By		50	25	25	50	25	25
Net New External Trips		70	38	32	70	37	33

Table 2 summarizes the projected trip generation of the proposed development. During a typical weekday, the proposed development has the potential to generate 70 and 70 net new external trips during the AM and PM peak hours, respectively.

The updated traffic volumes for this trip generation are attached in **Attachment D.**

Table 3 – Trip Generation Comparison for the Land Use Changes

Trip Generation Scenario	AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out
Net New External Trips – Updated Trip Generation	70	38	32	70	37	33
Net New External Trips – Original Trip Generation	51	30	21	59	31	28
Δ (Updated – Original)	19	8	11	11	6	5

As shown in **Table 3**, by changing the proposed land use from high-turnover sit-down restaurant to fast-food with drive-through, the net new trip generation is anticipated to increase by 19 trips in the AM peak hour and 11 trips during the PM peak hour. The updated build volumes are attached.

Capacity Analysis

Capacity analyses were performed for the AM and PM peak hours using Synchro Version 11 software to determine the operating characteristics at the signalized and stop-controlled intersections of the adjacent street network and to evaluate the impacts of the proposed development. In the *Highway Capacity Manual, 6th Edition* (HCM), capacity is defined as "the maximum sustainable hourly flow rate at which persons or vehicles reasonably can be expected to traverse a point of uniform section of a lane or roadway during a given time period under prevailing conditions." Synchro uses methodologies contained in the HCM to determine the operating characteristics of an intersection, which are typically evaluated in terms of level of service (LOS).

The HCM defines LOS as a "quantitative stratification of a performance measure or measures representing quality of service" and is used to "translate complex numerical performance results into a simple A-F system representative of travelers' perceptions of the quality of service provided by a facility or service". The HCM defines six levels of service, LOS A through LOS F, with A having the best operating conditions from the traveler's perspective and F having the worst. However, it must be understood that "the LOS letter results hides much of the complexity of facility performance", and that "the appropriate LOS for a given system element in the community is a decision for local policy makers". According to the HCM, "for cost, environmental impact, and other reasons, roadways are typically designed not to provide LOS A conditions during peak periods but instead to provide some lower LOS that balances individual travelers' desires against society's desires and financial resources. Nevertheless, during low-volume periods of the day, a system element may operate at LOS A."

LOS for a two-way stop-controlled (TWSC) intersection is determined by the control delay at the side-street approaches, typically during the highest volume periods of the day, the AM and PM peak periods. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. With respect to field measurements, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue to the time the vehicle departs

from the stop line. It is typical for stop sign-controlled side streets and driveways intersecting major streets to experience long delays during peak hours, particularly for left-turn movements. The majority of the traffic moving through the intersection on the major street experiences little or no delay.

Tables 4A and **4B** list the LOS control delay thresholds published in the HCM for unsignalized and signalized intersections, respectively, as well as the unsignalized operational descriptions assumed herein.

Table 4.0A

Vehicular LOS Control Delay Thresholds for Unsignalized Intersections

Level-of-Service	Average Control Delay per Vehicle [sec/veh]	
A	≤ 10	Short Delays
B	> 10 – 15	
C	> 15 – 25	
D	> 25 – 35	Moderate Delays
E	> 35 – 50	
F	> 50	Long Delays

Table 4.0B

Vehicular LOS Control Delay Thresholds for Signalized Intersections

Level-of-Service	Average Control Delay per Vehicle [sec/veh]
A	≤ 10
B	> 10 – 20
C	> 20 – 35
D	> 35 – 55
E	> 55 – 80
F	> 80

Capacity analyses were performed for 2020 Existing, 2022 Background, and 2022 Build traffic conditions. Mitigation of traffic impacts caused by the proposed development were noted and recommended based on guidance provided in the SCDOT Access and Roadside Management Standards (ARMS) Manual, where applicable. When determining the proposed development's traffic impact to the study area intersections, the 2022 Background and 2022 Build-Out conditions were compared.

Existing signal timing plans were provided by the City of Charleston and are included in the **Appendix**. All signal timing and phasing were coded in Synchro in accordance with SCDOT Signal Design Guidelines and Synchro Default Settings. Observed peak hour factors (PHFs) were used in all analyses, where available. A PHF of 0.90 was assumed for all site trips.

Synchro LOS results are reported in **Table 5**. The 95th percentile queues and SimTraffic queues are shown in the attached the Synchro and SimTraffic Reports. **Attachment E** shows the previous capacity analysis results and **Attachment F** shows the updated capacity analysis results.

Table 5 summarizes the LOS and control delay changes for the original study and the updated study based on the change in land use.

Table 5 – Capacity Analysis Results (LOS/Delay)

Intersection	Condition	Previous Intersection LOS (Delay -seconds)	Updated Intersection LOS (Delay -seconds)	Δ in Delay (seconds)
AM Peak Hour				
Camp Road at Folly Road	2020 Existing	F (134.7)	F (134.7)	0
	2022 Background	F (150.4)	F (150.4)	0
	2022 Build	F (154.2)	F (159.5)	5.3
Camp Road at Site Access #1	2022 Build[1]	D (28.7)/C (20.1)	D (33.8)/C (21.5)	5.1/1.4
Folly Road at Site Access #2	2022 Build[2]	B (12.0)	B (12.2)	0.2
PM Peak Hour				
Camp Road at Folly Road	2020 Existing	E (66.8)	E (66.8)	0
	2022 Background	E (75.1)	E (75.1)	0
	2022 Build	E (78.3)	E (79.3)	1
Camp Road at Site Access #1	2022 Build[1]	D (31.1)/C (15.9)	D (33.3)/C (16.5)	2.2/0.6
Folly Road at Site Access #2	2022 Build[2]	B (10.4)	B (10.4)	0

1- Delay listed for side-street NB first, SB second

2 - Delay listed for side-street WB movement

As shown in **Table 5**, there are not anticipated to be significant changes in the LOS and delay by changing the land use from high-turnover sit-down restaurant to fast-food with drive through. The highest change in delay was 5.3 seconds at the intersection of Camp road at Folly Road during the AM peak hour. Please note the existing and background delays are unchanged since the same volumes and horizon year were analyzed.

Recommendations

Based on the capacity analyses performed at each of the identified study intersections, along with review of the auxiliary turn-lane warrants contained herein, the following improvements have been identified to mitigate the impact of the proposed development on the adjacent street network under 2022 Build Conditions (please note, these recommendations are ***unchanged*** from the ***896 Folly Road Redevelopment Traffic Impact Analysis*** (Kimley-Horn, October 2020)):

SC 171 (Folly Road) at Camp Road

- No improvements recommended

Camp Road at Site Access A

- Construct a full-movement driveway with one ingress and one egress lane
- No further improvements recommended

SC 171 (Folly Road) at Site Access B

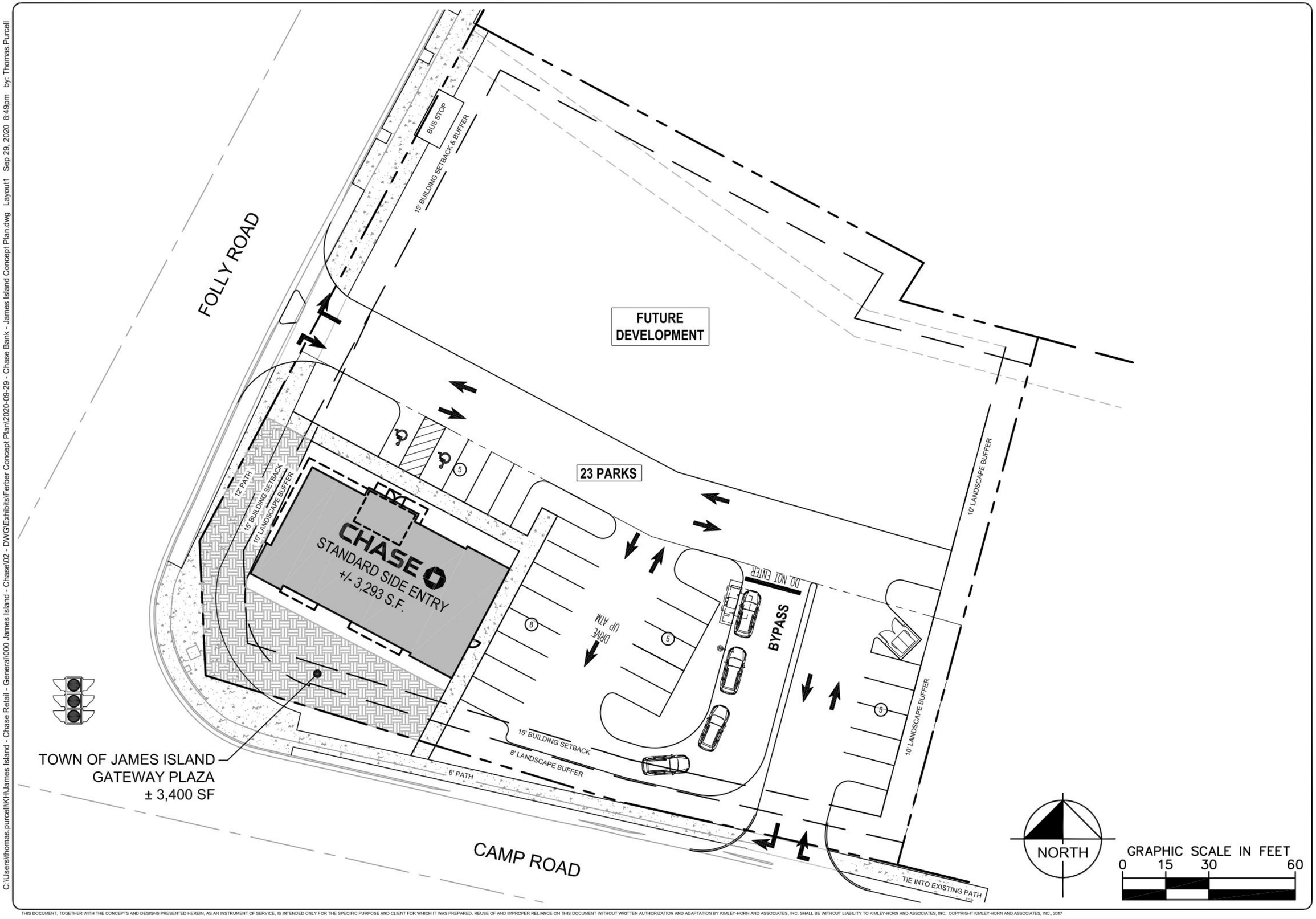
- Construct a right-in/right-out driveway with one ingress and one egress lane
- No further improvements recommended

The recommended improvements identified within the study are attached in **Attachment G**. The improvements shown **Attachment G** have previously be approved by SCDOT and the Town of James Island. All additions and attachments to the State and Town roadway system shall be properly permitted, designed and constructed in conformance to standards maintained by the agencies.

Attachments

Attachment A – Previous Site Plan
Attachment B – Updated Site Plan
Attachment C – Previous Volume Figures
Attachment D – Updated Build Volume Figures
Attachment E – Previous Synchro and SimTraffic Reports
Attachment F – Updated Synchro and SimTraffic Reports for the Build Condition
Attachment G – Recommended Laneage Figure

Attachment A – Previous Site Plan



Kimley»Horn
115 FAIRCHILD STREET, SUITE 250
CHARLESTON, SOUTH CAROLINA 29492
PHONE: (843) 737-6390 I www.kimley-horn.com

CLIENT:
THE FERBER COMPANY

TITLE:
CONCEPTUAL SITE PLAN

PROJECT:
CHASE BANK - JAMES ISLAND

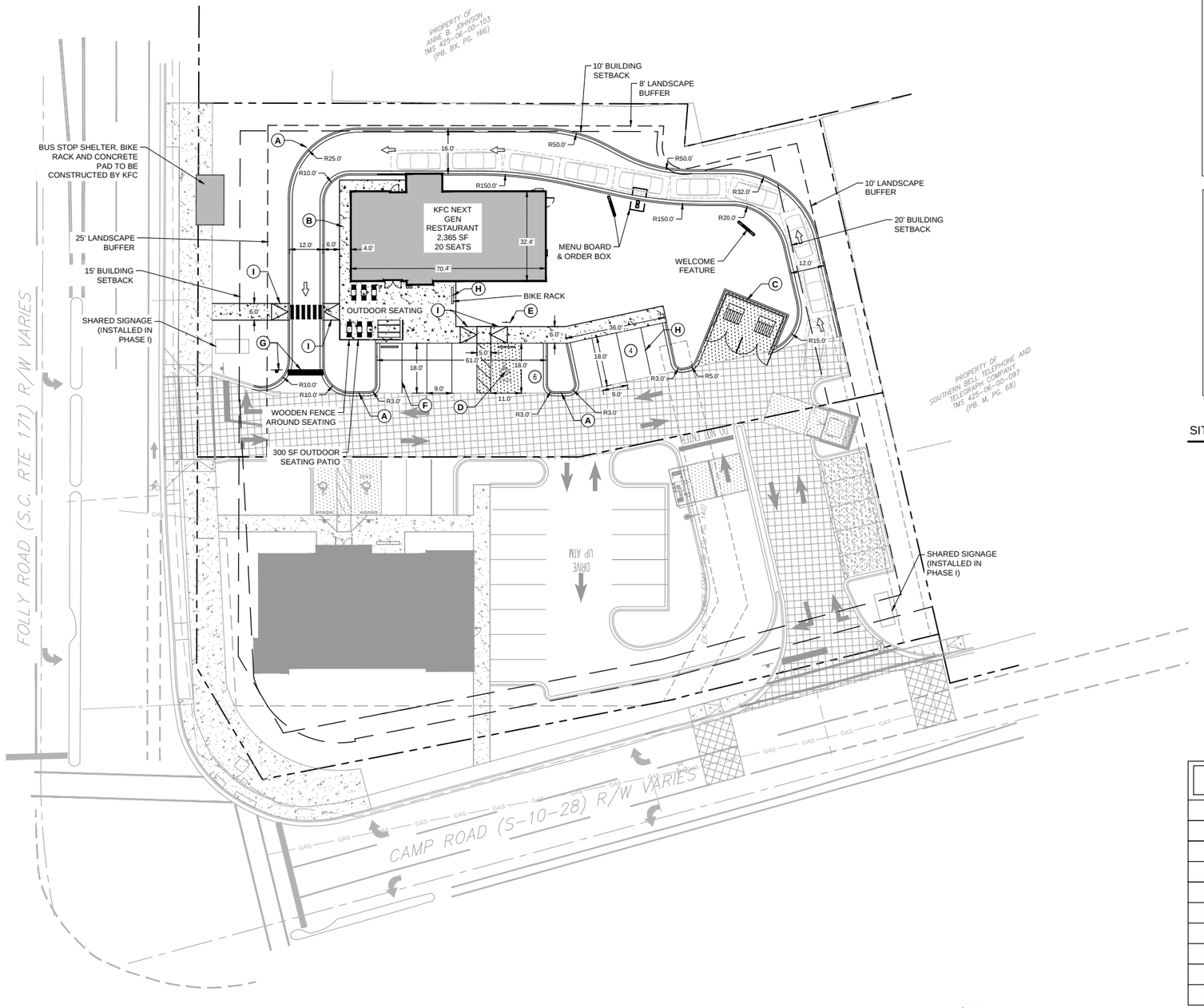
JOB NO.:	013893000
SCALE:	1" = 30'
DATE:	09/29/20

SHEET:
EXHIBIT A

C:\Users\thomas.purcell\KH\James Island - Chase Retail - General\000 James Island - Chase\02 - DWG\Exhibits\Ferber Concept Plan\2020-09-29 - Chase Bank - James Island Concept Plan.dwg Layout1 Sep 29, 2020 8:49pm by: Thomas.Purcell

Kimley»Horn

Attachment B – Updated Site Plan



SITE NOTES:

1. EXISTING CONDITIONS SHOWN HEREON ARE FROM AN ALTA / NSPS LAND TITLE SURVEY PREPARED BY PARKER LAND SURVEYING, LLC. DATED 10/22/2020.
2. THE PROPOSED BUILDING INFORMATION SHOWN HEREON IS FROM AN ELECTRONIC FILE PROVIDED BY LIS ARCHITECTS ON 04/13/2022 AND IS FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR SHALL REFERENCE ARCHITECTURAL PLANS FOR EXACT BUILDING INFORMATION.
3. ALL DIMENSIONS ARE FROM FACE OF CURB TO FACE OF CURB UNLESS OTHERWISE NOTED.
4. SIDEWALK INSTALLED AGAINST BACK OF CURB SHALL BE INSTALLED PER THE PLAN AS MEASURED FROM THE BACK OF CURB.
5. ALL SIGNAGE AND STRIPING MUST MEET THE LATEST REQUIREMENTS SET FORTH BY MUTCD, SCDOT, AND SOUTH CAROLINA STATE CODE.
6. REFERENCE LANDSCAPE PLANS FOR ALL HARDSCAPE AND LANDSCAPE DETAILS AND SPECIFICATIONS.

PARKING COUNT:

BUILDING USE:	GENERAL BUSINESS (B-3)
BUILDING SIZE:	+/- 2,365 SF (425 SF INDOOR SEATING)
REQUIRED PARKING:	8 SPACES (1 SPACE PER 75 SF INDOOR SEATING, PLUS 1 PER 200 SF OUTDOOR SEATING)
PARKING PROVIDED:	9 REGULAR SPACES 1 ADA VAN SPACES 10 TOTAL SPACES
ADA SPACES REQUIRED:	1 (1 TO 25 SPACES)
ADA REQUIREMENTS MET:	YES

SITE LEGEND

- (A) 18" CONCRETE CURB AND GUTTER TYPICAL (SEE SITE DETAIL SHEET)
- (B) STANDARD DUTY CONCRETE SIDEWALK (SEE SITE DETAIL SHEET)
- (C) TRASH ENCLOSURE WITH GATES (REFER TO ARCHITECTURAL PLANS FOR DETAILS)
- (D) ACCESSIBLE PARKING SPACE TYPICAL. SEE SITE DETAIL SHEET FOR ACCESSIBLE PARKING SPACE SIZE AND SIGN
- (E) ADA PARKING SIGN (SEE SITE DETAIL SHEET)
- (F) 4" SOLID WHITE PAINT STRIPE, TYPICAL
- (G) STOP SIGN AND 24" WIDE PAINTED WHITE STOP BAR (SEE SITE DETAIL SHEET)
- (H) BIKE RACK (REFER TO ARCHITECTURAL PLANS FOR DETAIL)
- (I) ADA RAMP (SEE SITE DETAIL SHEET)

SITE PLAN LEGEND	
	PROPOSED 18" CURB AND GUTTER - CATCH
	PROPOSED 18" CURB AND GUTTER - SPILL
(A)	PROPOSED SITE NOTE
(100)	PROPOSED PARKING SPACES
	PROPOSED STANDARD DUTY ASPHALT PAVEMENT
	PROPOSED HEAVY DUTY ASPHALT PAVEMENT
	PROPOSED PERVIOUS PAVEMENT
	PROPOSED STANDARD DUTY CONCRETE PAVEMENT
	PROPOSED HEAVY DUTY CONCRETE PAVEMENT
	PROPOSED BUILDING

NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

South Carolina 811 Call 811 Before You Dig

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2022 KIMLEY-HORN AND ASSOCIATES, INC.
115 FAIRCHILD STREET, SUITE 250
CHARLESTON, SOUTH CAROLINA 29492
PHONE (843) 737-6390
WWW.KIMLEY-HORN.COM

KIMLEY-HORN AND ASSOCIATES, INC
No. C00166

SCALE: AS SHOWN
DRAWN BY: CS
DESIGNED BY: TJP
CHECKED BY: TJP

CLIENT: KFC

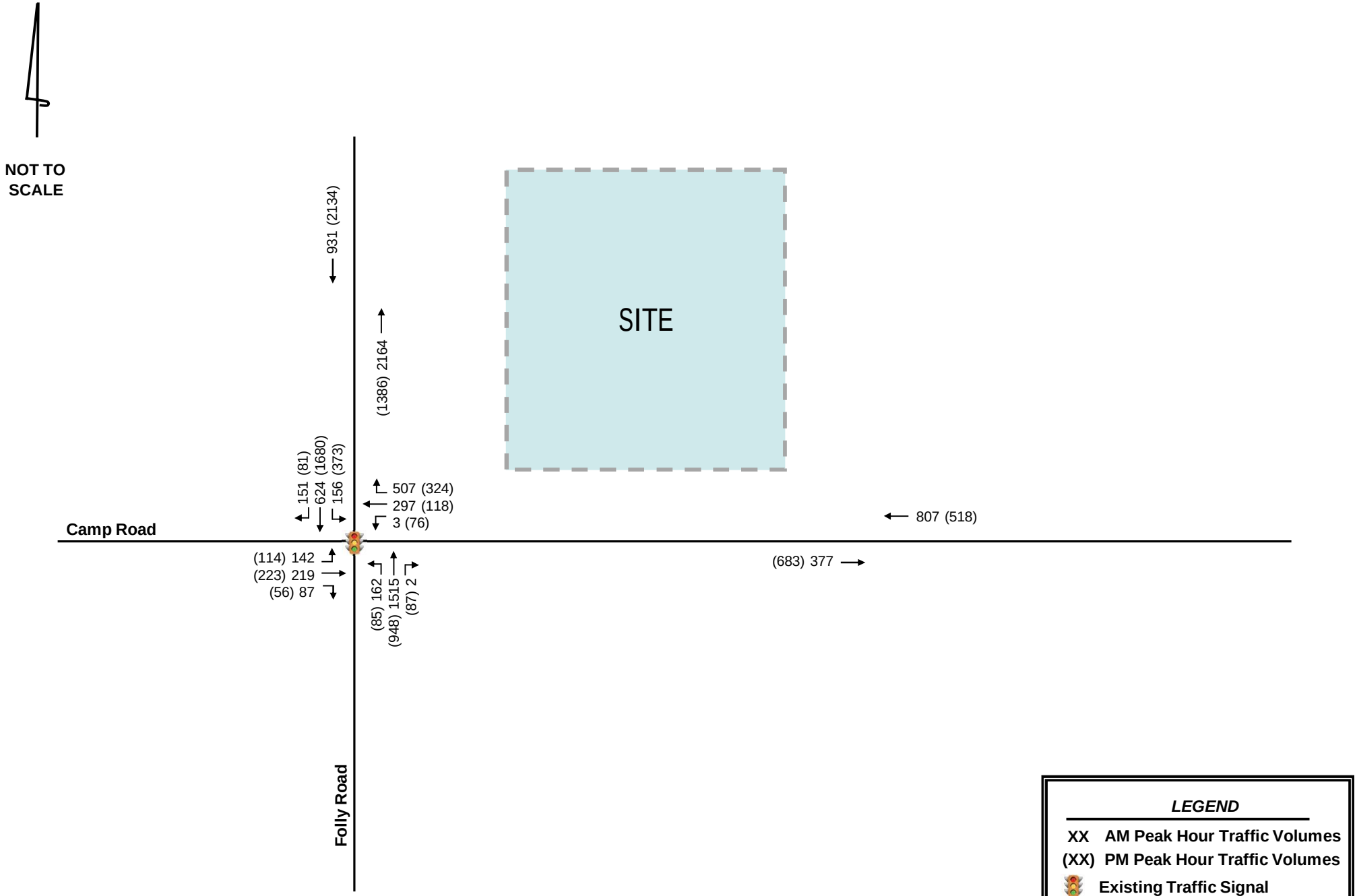
PROJECT: KFC - JAMES ISLAND
890 FOLLY ROAD | CHARLESTON | SC

TITLE: SITE PLAN

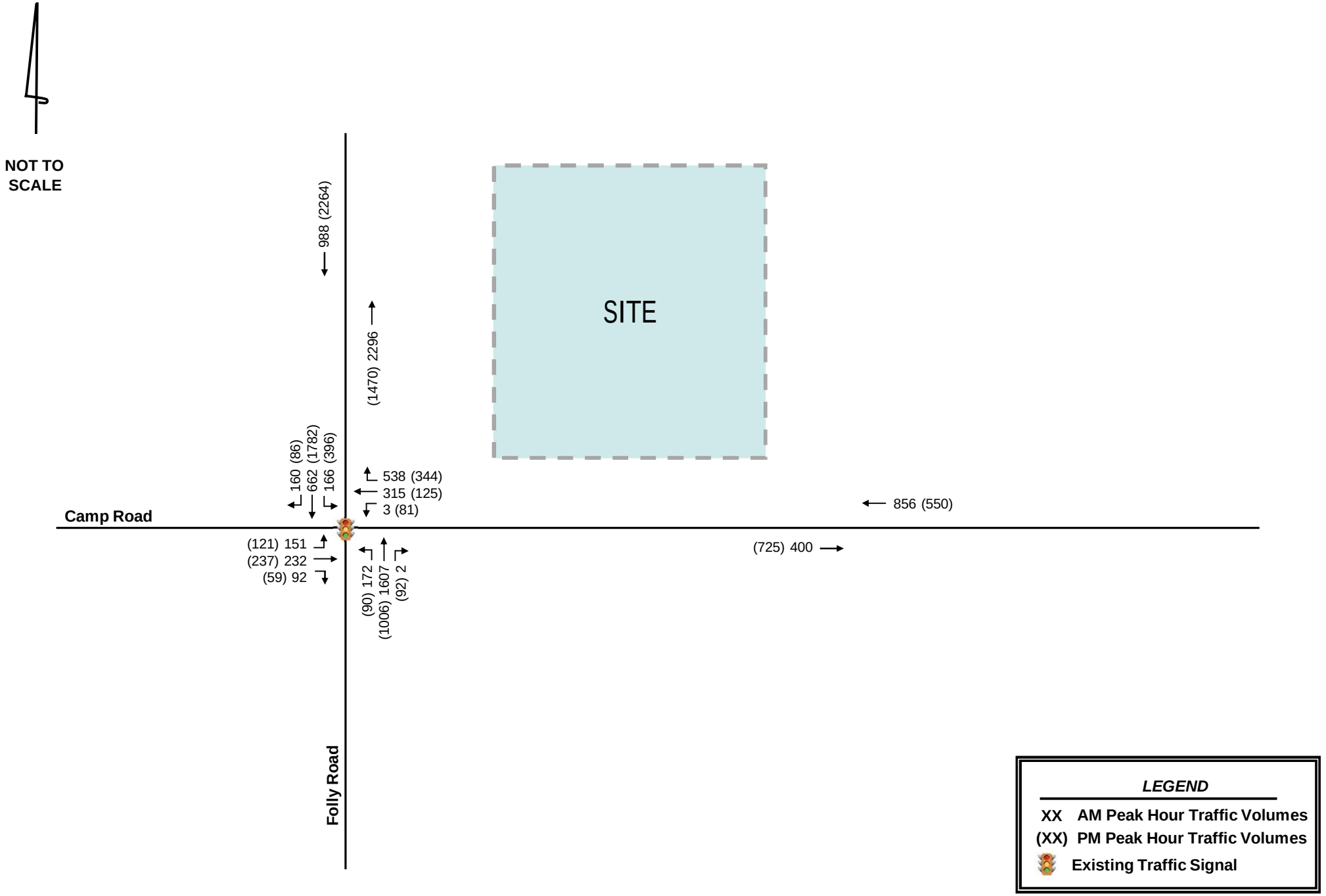
DATE 05/02/2022
PROJECT NO. 014783000
SHEET NUMBER C2-00

Kimley»Horn

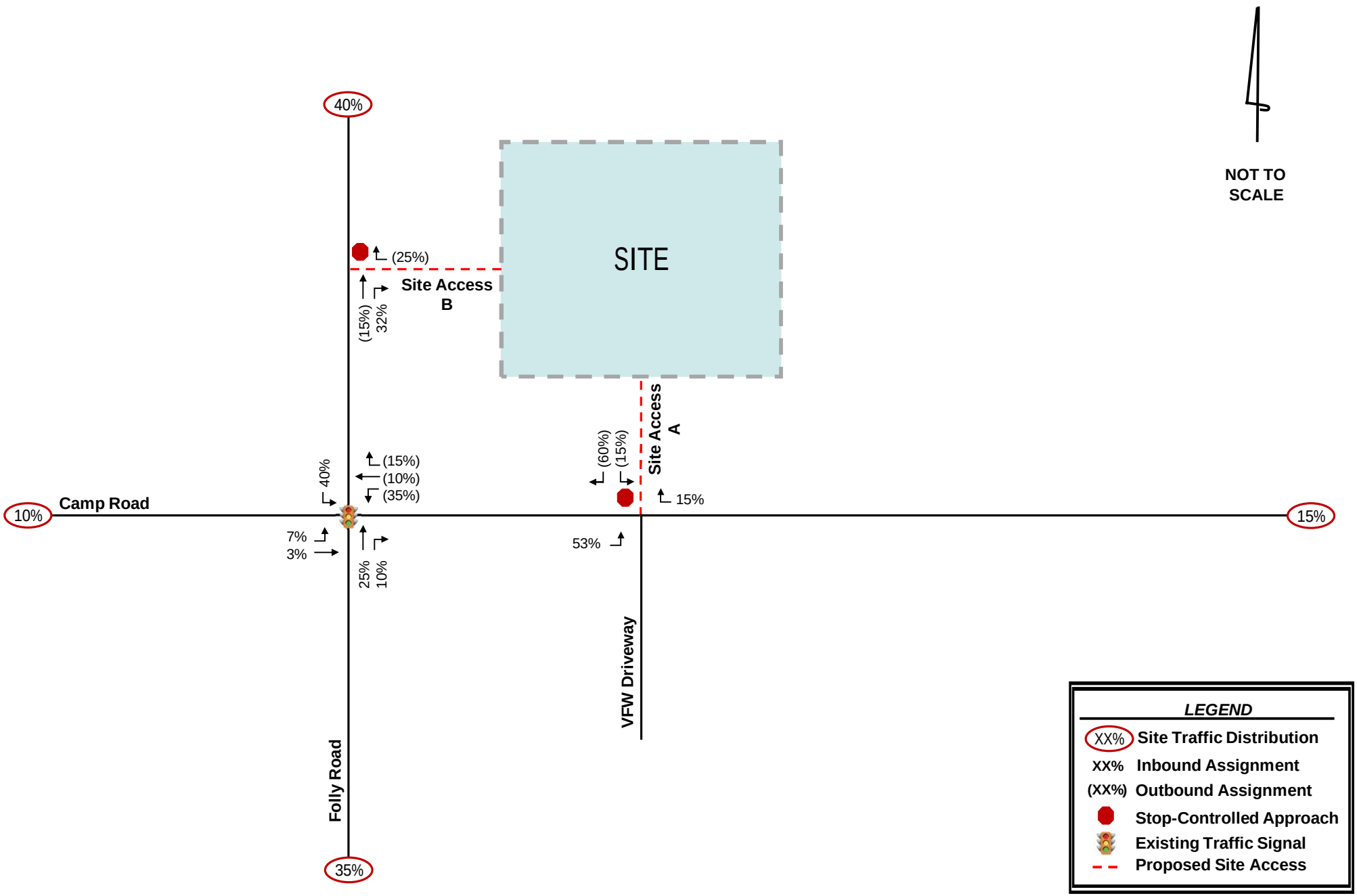
Attachment C – Previous Volume Figures



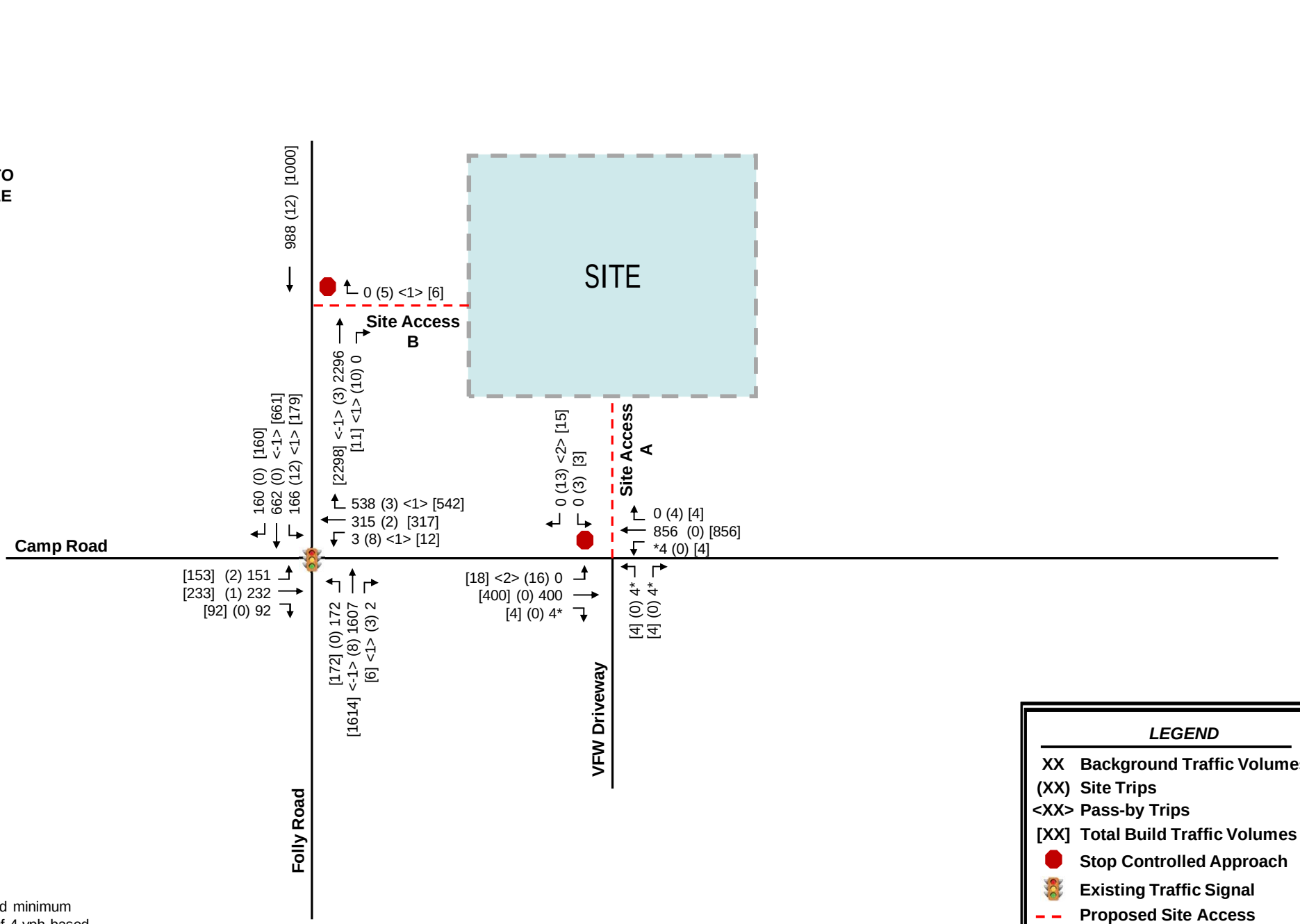
Kimley»Horn	896 Folly Road Redevelopment	2020 Existing Peak Hour Traffic Volumes	Attachment C



Kimley»Horn	896 Folly Road Redevelopment	2022 Background Peak Hour Traffic Volumes	Attachment C

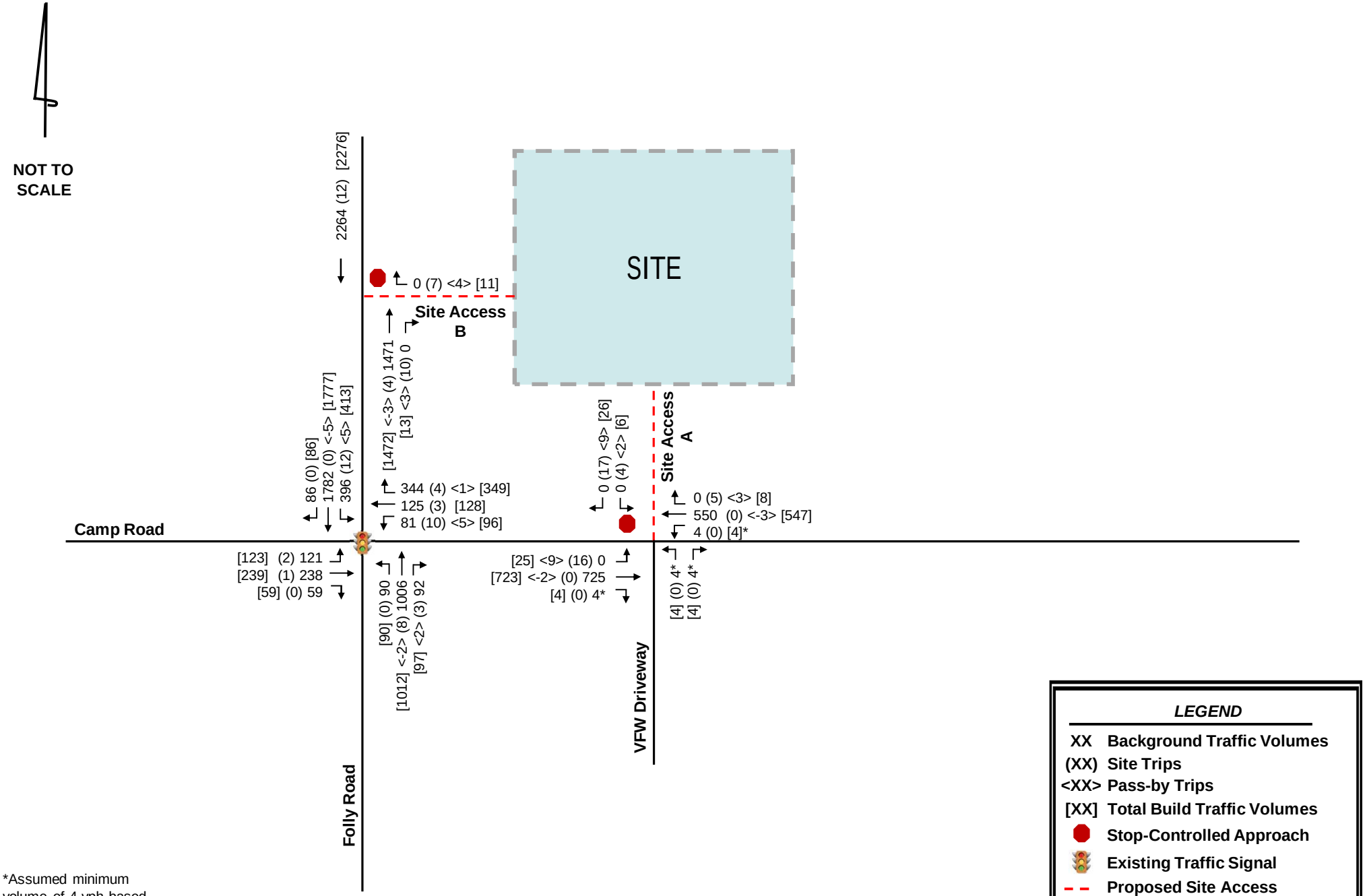


Kimley»Horn	896 Folly Road Redevelopment	Site Traffic Distribution and Assignment	Attachment C



*Assumed minimum volume of 4 vph based on lack of data

Kimley»Horn	896 Folly Road Redevelopment	2022 Build Traffic Volumes (AM Peak Hour)	Attachment C

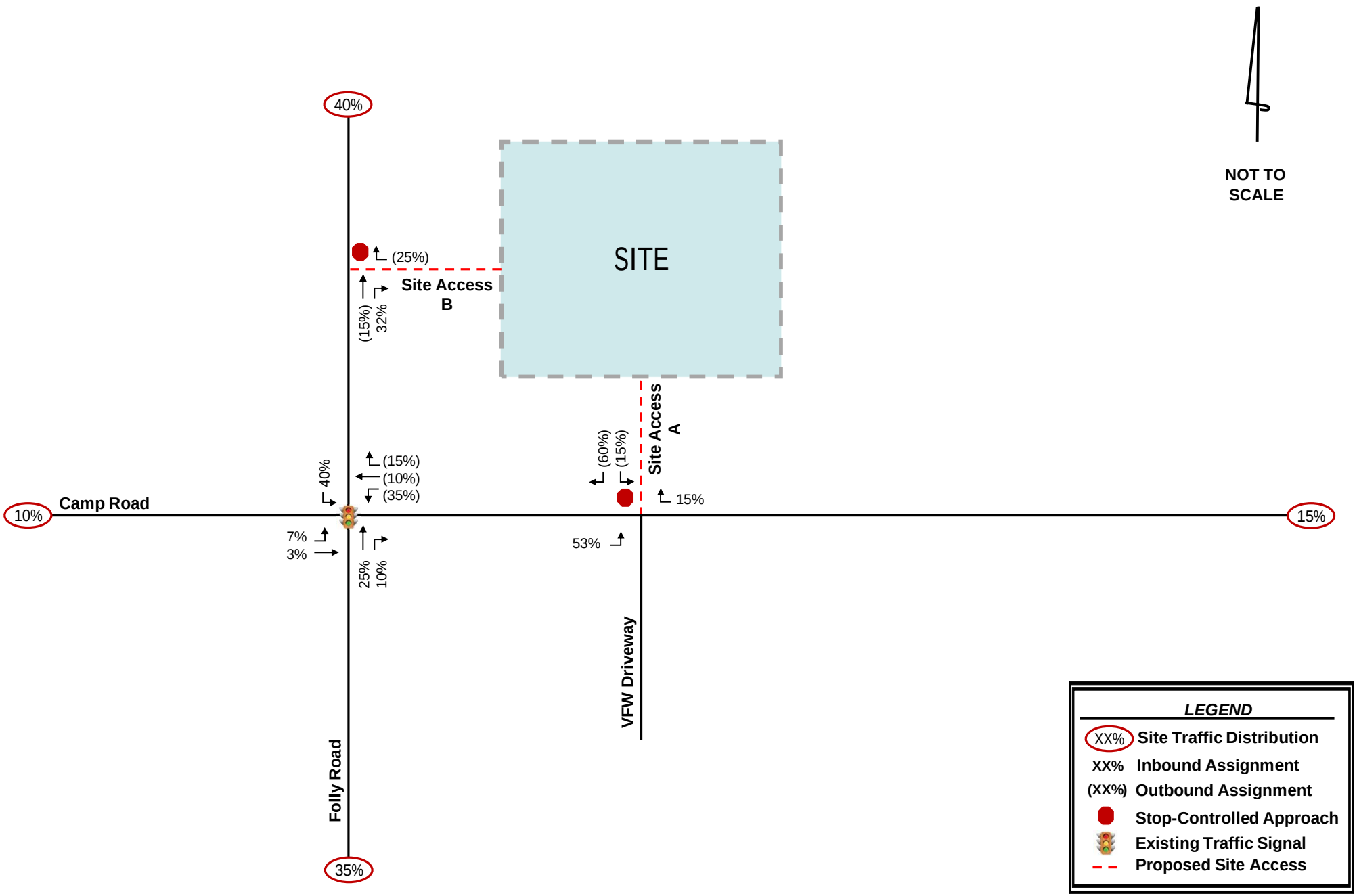


*Assumed minimum volume of 4 vph based on lack of data

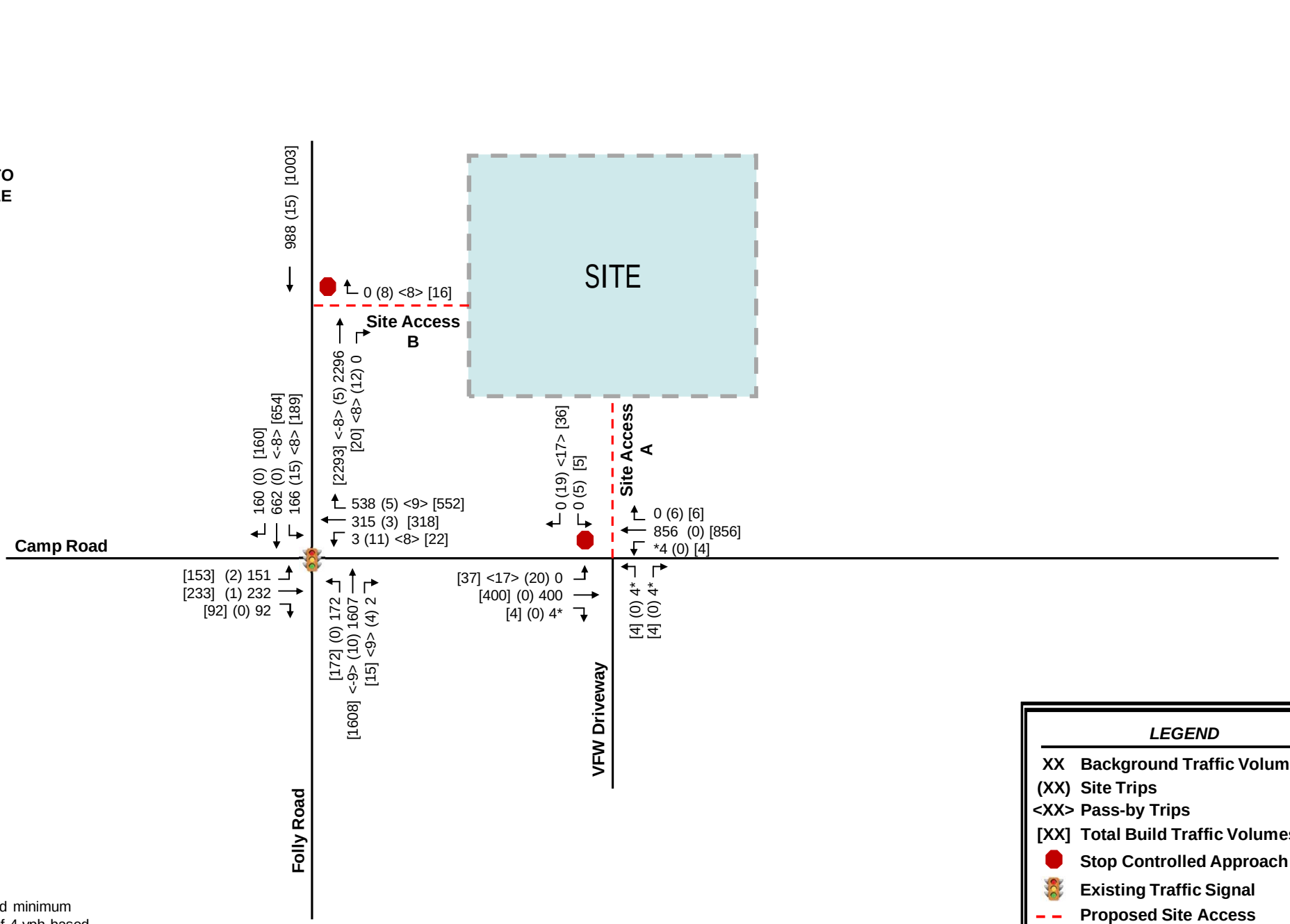
Kimley»Horn	896 Folly Road Redevelopment	2022 Build Traffic Volumes (PM Peak Hour)	Attachment C

Kimley»Horn

Attachment D – Updated Build Volume Figures

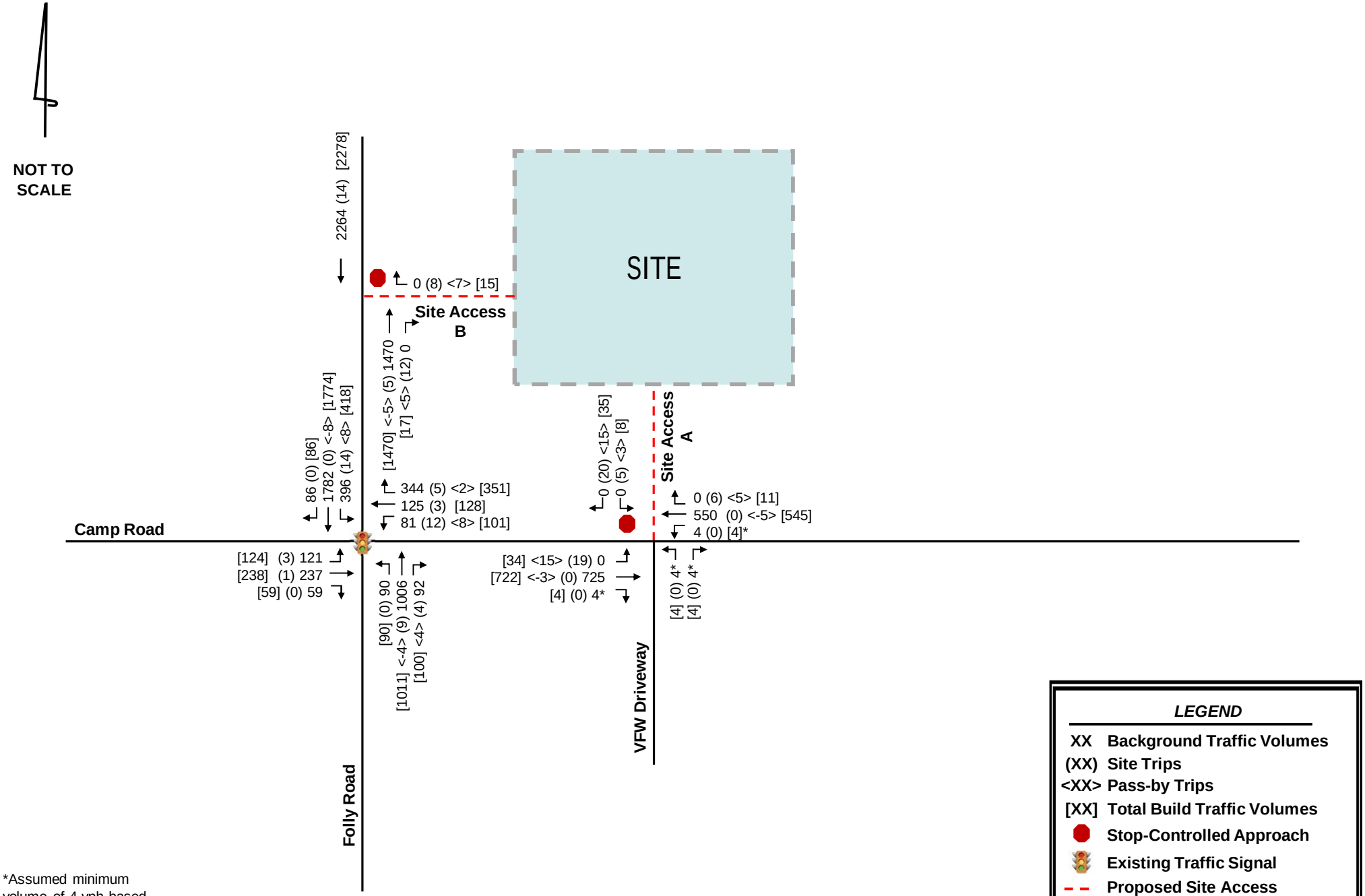


Kimley»Horn	896 Folly Road Redevelopment	Site Traffic Distribution and Assignment	Attachment D



*Assumed minimum volume of 4 vph based on lack of data

Kimley»Horn	896 Folly Road Redevelopment	2022 Build Traffic Volumes (AM Peak Hour)	Attachment D



*Assumed minimum volume of 4 vph based on lack of data

Kimley»Horn	896 Folly Road Redevelopment	2022 Build Traffic Volumes (PM Peak Hour)	Attachment D

Kimley»Horn

Attachment E – Previous Synchro and SimTraffic Reports

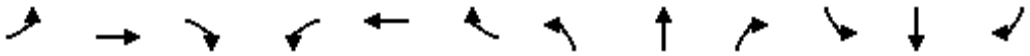
Intersection Capacity Analysis
2020 Existing

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	171	369	3	323	551	191	1782	2	171	852
v/c Ratio	1.09	0.90	0.02	1.34	1.22	1.61	0.94	0.00	0.74	0.46
Control Delay	147.9	85.3	48.7	230.6	160.7	352.4	46.9	0.0	96.4	24.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	147.9	85.3	48.7	230.6	160.7	352.4	46.9	0.0	96.4	24.1
Queue Length 50th (ft)	~173	384	3	~467	~674	~302	952	0	98	290
Queue Length 95th (ft)	#295	#658	12	#674	#919	#443	957	0	#151	345
Internal Link Dist (ft)		430		541			608			638
Turn Bay Length (ft)	175		200		225	325		225	225	
Base Capacity (vph)	157	410	182	241	452	119	1904	1072	232	1862
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.09	0.90	0.02	1.34	1.22	1.61	0.94	0.00	0.74	0.46

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	219	87	3	297	507	162	1515	2	156	624	151
Future Volume (veh/h)	142	219	87	3	297	507	162	1515	2	156	624	151
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	1856	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	171	264	105	3	323	551	191	1782	2	171	686	166
Peak Hour Factor	0.83	0.83	0.83	0.92	0.92	0.92	0.85	0.85	0.85	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	245	97	53	242	302	120	1937	874	210	1527	369
Arrive On Green	0.07	0.19	0.19	0.01	0.13	0.13	0.07	0.55	0.55	0.06	0.54	0.54
Sat Flow, veh/h	1767	1263	502	1781	1870	1585	1781	3554	1585	3456	2838	686
Grp Volume(v), veh/h	171	0	369	3	323	551	191	1782	2	171	429	423
Grp Sat Flow(s),veh/h/ln	1767	0	1765	1781	1870	1585	1781	1777	1585	1728	1777	1747
Q Serve(g_s), s	12.0	0.0	32.9	0.2	22.0	22.0	11.5	77.8	0.1	8.3	25.0	25.1
Cycle Q Clear(g_c), s	12.0	0.0	32.9	0.2	22.0	22.0	11.5	77.8	0.1	8.3	25.0	25.1
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	167	0	342	53	242	302	120	1937	874	210	956	940
V/C Ratio(X)	1.02	0.00	1.08	0.06	1.33	1.83	1.59	0.92	0.00	0.81	0.45	0.45
Avail Cap(c_a), veh/h	167	0	342	168	242	302	120	1937	874	234	956	940
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(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.1	0.0	68.5	57.7	74.0	68.8	79.3	35.3	17.1	78.9	23.9	23.9
Incr Delay (d2), s/veh	75.9	0.0	71.3	0.2	175.9	384.9	298.9	8.6	0.0	15.8	1.5	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	5.0	0.0	21.6	0.1	22.4	45.3	15.3	34.7	0.0	4.1	10.8	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	140.0	0.0	139.8	57.8	249.9	453.7	378.2	43.9	17.1	94.7	25.4	25.5
LnGrp LOS	F	A	F	E	F	F	F	D	B	F	C	C
Approach Vol, veh/h		540			877			1975			1023	
Approach Delay, s/veh		139.9			377.3			76.2			37.0	
Approach LOS		F			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	100.0	9.1	40.9	18.8	101.2	20.0	30.0
Change Period (Y+Rc), s	8.5	8.5	8.0	8.0	8.5	8.5	8.0	8.0
Max Green Setting (Gmax), s	11.5	91.5	12.0	22.0	11.5	91.5	12.0	22.0
Max Q Clear Time (g_c+I1), s	13.5	27.1	2.2	34.9	10.3	79.8	14.0	24.0
Green Ext Time (p_c), s	0.0	40.6	0.0	0.0	0.0	11.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	134.7
HCM 6th LOS	F

Notes

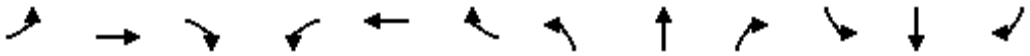
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	128	314	79	123	338	96	1065	98	397	1873
v/c Ratio	0.57	1.53	0.52	0.63	0.66	1.09	0.60	0.10	0.87	0.91
Control Delay	67.0	307.2	66.8	87.7	44.7	192.2	32.7	0.6	91.5	39.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	307.2	66.8	87.7	44.7	192.2	32.7	0.6	91.5	39.7
Queue Length 50th (ft)	121	~484	73	134	246	~119	450	0	224	952
Queue Length 95th (ft)	185	#683	123	208	358	#246	525	6	287	1101
Internal Link Dist (ft)		430		541			608			638
Turn Bay Length (ft)	175		200		225	325		225	225	
Base Capacity (vph)	231	205	168	208	532	88	1769	1036	494	2052
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	1.53	0.47	0.59	0.64	1.09	0.60	0.09	0.80	0.91

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	223	56	76	118	324	85	948	87	373	1680	81
Future Volume (veh/h)	114	223	56	76	118	324	85	948	87	373	1680	81
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	1856	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	251	63	79	123	338	96	1065	98	397	1787	86
Peak Hour Factor	0.89	0.89	0.89	0.96	0.96	0.96	0.89	0.89	0.89	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	191	48	129	209	378	89	1765	864	439	1980	95
Arrive On Green	0.07	0.13	0.13	0.05	0.11	0.11	0.05	0.50	0.50	0.13	0.57	0.57
Sat Flow, veh/h	1767	1432	359	1781	1870	1585	1781	3554	1585	3456	3453	165
Grp Volume(v), veh/h	128	0	314	79	123	338	96	1065	98	397	914	959
Grp Sat Flow(s),veh/h/ln	1767	0	1791	1781	1870	1585	1781	1777	1585	1728	1777	1841
Q Serve(g_s), s	10.9	0.0	22.7	6.5	10.6	19.0	8.5	36.6	5.1	19.3	76.7	78.9
Cycle Q Clear(g_c), s	10.9	0.0	22.7	6.5	10.6	19.0	8.5	36.6	5.1	19.3	76.7	78.9
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	213	0	239	129	209	378	89	1765	864	439	1019	1056
V/C Ratio(X)	0.60	0.00	1.31	0.61	0.59	0.89	1.08	0.60	0.11	0.91	0.90	0.91
Avail Cap(c_a), veh/h	213	0	239	168	209	378	89	1765	864	498	1019	1056
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(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.6	0.0	73.6	61.0	71.8	62.6	80.8	30.8	18.7	73.2	31.8	32.3
Incr Delay (d2), s/veh	3.4	0.0	166.8	1.7	2.9	22.0	118.1	1.5	0.3	17.4	12.1	12.9
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	5.1	0.0	21.5	3.0	5.3	16.4	6.8	15.9	2.0	9.6	35.1	37.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.0	0.0	240.4	62.7	74.7	84.6	198.8	32.3	19.0	90.6	44.0	45.2
LnGrp LOS	E	A	F	E	E	F	F	C	B	F	D	D
Approach Vol, veh/h		442			540			1259			2270	
Approach Delay, s/veh		189.6			79.1			44.0			52.6	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	106.0	16.3	30.7	30.1	92.9	20.0	27.0
Change Period (Y+Rc), s	8.5	8.5	8.0	8.0	8.5	8.5	8.0	8.0
Max Green Setting (Gmax), s	8.5	97.5	12.0	19.0	24.5	81.5	12.0	19.0
Max Q Clear Time (g_c+I1), s	10.5	80.9	8.5	24.7	21.3	38.6	12.9	21.0
Green Ext Time (p_c), s	0.0	16.5	0.0	0.0	0.3	36.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	66.8
HCM 6th LOS	E

Notes

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

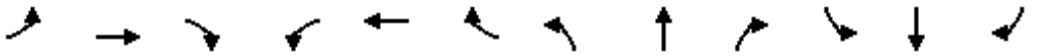
Intersection Capacity Analysis
2022 Background

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	182	391	3	342	585	202	1891	2	182	903
v/c Ratio	1.16	0.95	0.02	1.42	1.29	1.70	0.99	0.00	0.78	0.48
Control Delay	168.5	94.9	49.0	260.3	189.5	389.1	57.5	0.0	100.4	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	168.5	94.9	49.0	260.3	189.5	389.1	57.5	0.0	100.4	24.8
Queue Length 50th (ft)	~199	414	3	~511	~754	~328	1076	0	105	314
Queue Length 95th (ft)	#322	#709	12	#723	#1001	#471	1071	0	#166	372
Internal Link Dist (ft)		430		541			608			638
Turn Bay Length (ft)	175		200		225	325		225	225	
Base Capacity (vph)	157	410	170	241	452	119	1904	1072	232	1862
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.16	0.95	0.02	1.42	1.29	1.70	0.99	0.00	0.78	0.48

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	232	92	3	315	538	172	1607	2	166	662	160
Future Volume (veh/h)	151	232	92	3	315	538	172	1607	2	166	662	160
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	1856	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	182	280	111	3	342	585	202	1891	2	182	727	176
Peak Hour Factor	0.83	0.83	0.83	0.92	0.92	0.92	0.85	0.85	0.85	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	245	97	53	242	306	120	1926	869	221	1527	370
Arrive On Green	0.07	0.19	0.19	0.01	0.13	0.13	0.07	0.54	0.54	0.06	0.54	0.54
Sat Flow, veh/h	1767	1264	501	1781	1870	1585	1781	3554	1585	3456	2837	687
Grp Volume(v), veh/h	182	0	391	3	342	585	202	1891	2	182	455	448
Grp Sat Flow(s),veh/h/ln	1767	0	1765	1781	1870	1585	1781	1777	1585	1728	1777	1747
Q Serve(g_s), s	12.0	0.0	32.9	0.2	22.0	22.0	11.5	88.6	0.1	8.8	27.0	27.1
Cycle Q Clear(g_c), s	12.0	0.0	32.9	0.2	22.0	22.0	11.5	88.6	0.1	8.8	27.0	27.1
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	167	0	342	53	242	306	120	1926	869	221	956	940
V/C Ratio(X)	1.09	0.00	1.14	0.06	1.41	1.91	1.68	0.98	0.00	0.82	0.48	0.48
Avail Cap(c_a), veh/h	167	0	342	168	242	306	120	1926	869	234	956	940
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(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.1	0.0	68.5	57.7	74.0	68.6	79.3	38.1	17.4	78.6	24.4	24.4
Incr Delay (d2), s/veh	95.5	0.0	93.3	0.2	208.5	421.0	337.7	16.6	0.0	18.3	1.7	1.7
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	5.9	0.0	23.7	0.1	24.6	49.1	16.6	41.4	0.0	4.5	11.7	11.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	159.6	0.0	161.9	57.8	282.5	489.5	417.0	54.8	17.4	96.9	26.1	26.1
LnGrp LOS	F	A	F	E	F	F	F	D	B	F	C	C
Approach Vol, veh/h		573			930			2095			1085	
Approach Delay, s/veh		161.1			412.0			89.7			38.0	
Approach LOS		F			F			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	100.0	9.1	40.9	19.4	100.6	20.0	30.0
Change Period (Y+Rc), s	8.5	8.5	8.0	8.0	8.5	8.5	8.0	8.0
Max Green Setting (Gmax), s	11.5	91.5	12.0	22.0	11.5	91.5	12.0	22.0
Max Q Clear Time (g_c+I1), s	13.5	29.1	2.2	34.9	10.8	90.6	14.0	24.0
Green Ext Time (p_c), s	0.0	42.3	0.0	0.0	0.0	0.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	150.4
HCM 6th LOS	F

Notes

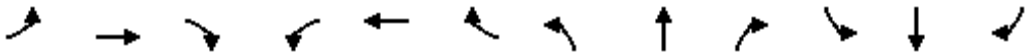
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	136	332	84	130	358	101	1130	103	421	1987
v/c Ratio	0.62	1.62	0.55	0.66	0.69	1.15	0.64	0.10	0.90	0.97
Control Delay	69.6	342.2	68.1	89.9	47.3	207.0	34.4	0.8	94.0	47.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.6	342.2	68.1	89.9	47.3	207.0	34.4	0.8	94.0	47.8
Queue Length 50th (ft)	129	~526	77	142	272	~131	494	0	239	1092
Queue Length 95th (ft)	195	#727	130	218	393	#262	570	8	#321	#1314
Internal Link Dist (ft)		430		541			608			638
Turn Bay Length (ft)	175		200		225	325		225	225	
Base Capacity (vph)	226	205	168	208	530	88	1753	1029	494	2049
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	1.62	0.50	0.63	0.68	1.15	0.64	0.10	0.85	0.97

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	237	59	81	125	344	90	1006	92	396	1782	86
Future Volume (veh/h)	121	237	59	81	125	344	90	1006	92	396	1782	86
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	1856	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	266	66	84	130	358	101	1130	103	421	1896	91
Peak Hour Factor	0.89	0.89	0.89	0.96	0.96	0.96	0.89	0.89	0.89	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	188	47	134	209	389	89	1742	858	461	1981	94
Arrive On Green	0.07	0.13	0.13	0.05	0.11	0.11	0.05	0.49	0.49	0.13	0.57	0.57
Sat Flow, veh/h	1767	1435	356	1781	1870	1585	1781	3554	1585	3456	3453	164
Grp Volume(v), veh/h	136	0	332	84	130	358	101	1130	103	421	968	1019
Grp Sat Flow(s),veh/h/ln	1767	0	1791	1781	1870	1585	1781	1777	1585	1728	1777	1841
Q Serve(g_s), s	11.6	0.0	22.3	6.9	11.3	19.0	8.5	40.4	5.4	20.4	86.8	89.9
Cycle Q Clear(g_c), s	11.6	0.0	22.3	6.9	11.3	19.0	8.5	40.4	5.4	20.4	86.8	89.9
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	208	0	235	134	209	389	89	1742	858	461	1019	1056
V/C Ratio(X)	0.65	0.00	1.42	0.63	0.62	0.92	1.13	0.65	0.12	0.91	0.95	0.97
Avail Cap(c_a), veh/h	208	0	235	168	209	389	89	1742	858	498	1019	1056
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(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	0.0	73.9	61.1	72.1	62.6	80.8	32.4	19.1	72.7	34.0	34.6
Incr Delay (d2), s/veh	5.7	0.0	210.0	1.8	4.2	26.5	136.1	1.9	0.3	19.6	18.4	20.5
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	5.6	0.0	23.9	3.2	5.7	17.9	7.3	17.6	2.1	10.3	41.0	44.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.7	0.0	283.9	62.9	76.3	89.1	216.8	34.3	19.4	92.3	52.4	55.1
LnGrp LOS	E	A	F	E	E	F	F	C	B	F	D	E
Approach Vol, veh/h		468			572			1334			2408	
Approach Delay, s/veh		221.1			82.3			47.0			60.5	
Approach LOS		F			F			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	106.0	16.7	30.3	31.2	91.8	20.0	27.0
Change Period (Y+Rc), s	8.5	8.5	8.0	8.0	8.5	8.5	8.0	8.0
Max Green Setting (Gmax), s	8.5	97.5	12.0	19.0	24.5	81.5	12.0	19.0
Max Q Clear Time (g_c+I1), s	10.5	91.9	8.9	24.3	22.4	42.4	13.6	21.0
Green Ext Time (p_c), s	0.0	5.6	0.0	0.0	0.2	34.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	75.1
HCM 6th LOS	E

Notes

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

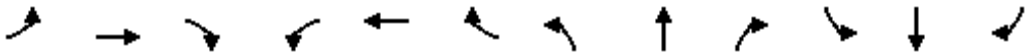
Intersection Capacity Analysis
2022 Build

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	184	392	13	345	589	202	1899	7	197	902
v/c Ratio	1.14	1.14	0.11	1.43	1.30	1.70	1.00	0.01	0.85	0.48
Control Delay	162.8	146.7	50.8	265.1	193.0	389.1	58.6	0.0	107.7	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	162.8	146.7	50.8	265.1	193.0	389.1	58.6	0.0	107.7	24.8
Queue Length 50th (ft)	~193	~576	11	~518	~763	~328	1085	0	113	313
Queue Length 95th (ft)	#317	#711	31	#730	#1013	#471	1081	0	#186	371
Internal Link Dist (ft)		430		225			608			138
Turn Bay Length (ft)	175					325		225		
Base Capacity (vph)	161	344	161	241	452	119	1904	1072	232	1862
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.14	1.14	0.08	1.43	1.30	1.70	1.00	0.01	0.85	0.48

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	233	92	12	317	542	172	1614	6	179	661	160
Future Volume (veh/h)	153	233	92	12	317	542	172	1614	6	179	661	160
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	1856	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	281	111	13	345	589	202	1899	7	197	726	176
Peak Hour Factor	0.83	0.83	0.83	0.92	0.92	0.92	0.85	0.85	0.85	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	226	89	81	242	312	120	1913	887	234	1526	370
Arrive On Green	0.07	0.18	0.18	0.02	0.13	0.13	0.07	0.54	0.54	0.07	0.54	0.54
Sat Flow, veh/h	1767	1266	500	1781	1870	1585	1781	3554	1585	3456	2836	687
Grp Volume(v), veh/h	184	0	392	13	345	589	202	1899	7	197	455	447
Grp Sat Flow(s),veh/h/ln	1767	0	1766	1781	1870	1585	1781	1777	1585	1728	1777	1747
Q Serve(g_s), s	12.0	0.0	30.3	1.0	22.0	22.0	11.5	90.1	0.3	9.6	27.0	27.0
Cycle Q Clear(g_c), s	12.0	0.0	30.3	1.0	22.0	22.0	11.5	90.1	0.3	9.6	27.0	27.0
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	167	0	315	81	242	312	120	1913	887	234	956	940
V/C Ratio(X)	1.10	0.00	1.24	0.16	1.43	1.89	1.68	0.99	0.01	0.84	0.48	0.48
Avail Cap(c_a), veh/h	167	0	315	168	242	312	120	1913	887	234	956	940
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(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.1	0.0	69.8	57.5	74.0	68.2	79.3	38.9	16.5	78.4	24.4	24.4
Incr Delay (d2), s/veh	99.3	0.0	133.9	0.3	213.7	410.5	337.7	19.0	0.0	22.3	1.7	1.7
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	6.1	0.0	25.4	0.5	24.9	49.2	16.6	42.7	0.1	5.0	11.7	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	163.4	0.0	203.7	57.8	287.7	478.7	417.0	57.9	16.6	100.7	26.1	26.1
LnGrp LOS	F	A	F	E	F	F	F	E	B	F	C	C
Approach Vol, veh/h		576			947			2108			1099	
Approach Delay, s/veh		190.9			403.4			92.2			39.4	
Approach LOS		F			F			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	100.0	11.7	38.3	20.0	100.0	20.0	30.0
Change Period (Y+Rc), s	8.5	8.5	8.0	8.0	8.5	8.5	8.0	8.0
Max Green Setting (Gmax), s	11.5	91.5	12.0	22.0	11.5	91.5	12.0	22.0
Max Q Clear Time (g_c+I1), s	13.5	29.0	3.0	32.3	11.6	92.1	14.0	24.0
Green Ext Time (p_c), s	0.0	42.3	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	154.2
HCM 6th LOS	F

Notes

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

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	18	400	4	4	856	4	4	0	4	3	0	15
Future Vol, veh/h	18	400	4	4	856	4	4	0	4	3	0	15
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	444	4	4	951	4	4	0	4	3	0	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	955	0	0	448	0	0	1456	1449	224	1223	1449	953
Stage 1	-	-	-	-	-	-	486	486	-	961	961	-
Stage 2	-	-	-	-	-	-	970	963	-	262	488	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	718	-	-	1111	-	-	99	131	780	145	131	313
Stage 1	-	-	-	-	-	-	532	550	-	307	334	-
Stage 2	-	-	-	-	-	-	304	333	-	721	549	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	718	-	-	1111	-	-	90	125	780	139	125	313
Mov Cap-2 Maneuver	-	-	-	-	-	-	90	125	-	139	125	-
Stage 1	-	-	-	-	-	-	512	530	-	296	331	-
Stage 2	-	-	-	-	-	-	286	330	-	690	529	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	28.7	20.1
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	161	718	-	-	1111	-	-	259
HCM Lane V/C Ratio	0.055	0.028	-	-	0.004	-	-	0.077
HCM Control Delay (s)	28.7	10.2	0.2	-	8.3	0	-	20.1
HCM Lane LOS	D	B	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	6	2298	11	0	1000
Future Volume (Veh/h)	0	6	2298	11	0	1000
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	7	2553	12	0	1111
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			218			
pX, platoon unblocked	0.48	0.48			0.48	
vC, conflicting volume	2837	1282			2565	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2662	0			2100	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	9	524			125	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3	SB 4
Volume Total	7	1702	863	278	278	278	278
Volume Left	0	0	0	0	0	0	0
Volume Right	7	0	12	0	0	0	0
cSH	524	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.01	1.00	0.51	0.16	0.16	0.16	0.16
Queue Length 95th (ft)	1	0	0	0	0	0	0
Control Delay (s)	12.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	12.0	0.0		0.0			
Approach LOS	B						

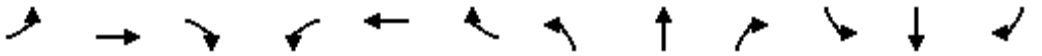
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	138	333	100	133	364	101	1137	109	439	1981
v/c Ratio	0.62	1.62	0.64	0.67	0.69	1.15	0.66	0.11	0.91	0.97
Control Delay	69.6	344.2	73.3	89.5	47.2	207.0	35.2	1.0	96.0	48.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.6	344.2	73.3	89.5	47.2	207.0	35.2	1.0	96.0	48.4
Queue Length 50th (ft)	130	~529	92	144	276	~131	505	0	251	1101
Queue Length 95th (ft)	198	#729	151	223	401	#262	574	11	#345	#1307
Internal Link Dist (ft)		430		215			608			143
Turn Bay Length (ft)	175					325		225		
Base Capacity (vph)	227	205	168	208	534	88	1734	1021	494	2040
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	1.62	0.60	0.64	0.68	1.15	0.66	0.11	0.89	0.97

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	238	59	96	128	349	90	1012	97	413	1777	86
Future Volume (veh/h)	123	238	59	96	128	349	90	1012	97	413	1777	86
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	1856	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	138	267	66	100	133	364	101	1137	109	439	1890	91
Peak Hour Factor	0.89	0.89	0.89	0.96	0.96	0.96	0.89	0.89	0.89	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	176	43	149	209	396	89	1725	865	477	1980	95
Arrive On Green	0.07	0.12	0.12	0.06	0.11	0.11	0.05	0.49	0.49	0.14	0.57	0.57
Sat Flow, veh/h	1767	1437	355	1781	1870	1585	1781	3554	1585	3456	3453	165
Grp Volume(v), veh/h	138	0	333	100	133	364	101	1137	109	439	965	1016
Grp Sat Flow(s),veh/h/ln	1767	0	1792	1781	1870	1585	1781	1777	1585	1728	1777	1841
Q Serve(g_s), s	11.8	0.0	20.8	8.3	11.6	19.0	8.5	41.2	5.7	21.3	86.2	89.3
Cycle Q Clear(g_c), s	11.8	0.0	20.8	8.3	11.6	19.0	8.5	41.2	5.7	21.3	86.2	89.3
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	206	0	219	149	209	396	89	1725	865	477	1019	1056
V/C Ratio(X)	0.67	0.00	1.52	0.67	0.64	0.92	1.13	0.66	0.13	0.92	0.95	0.96
Avail Cap(c_a), veh/h	206	0	219	168	209	396	89	1725	865	498	1019	1056
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(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.1	0.0	74.6	61.5	72.2	62.1	80.8	33.1	18.9	72.3	33.8	34.5
Incr Delay (d2), s/veh	6.6	0.0	255.4	6.0	4.8	25.8	136.1	2.0	0.3	21.3	18.0	20.0
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	5.7	0.0	25.1	4.0	5.8	18.1	7.3	18.0	2.2	10.8	40.6	44.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.7	0.0	330.0	67.5	77.0	87.8	216.8	35.1	19.2	93.6	51.8	54.5
LnGrp LOS	E	A	F	E	E	F	F	D	B	F	D	D
Approach Vol, veh/h		471			597			1347			2420	
Approach Delay, s/veh		253.5			82.0			47.4			60.5	
Approach LOS		F			F			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	106.0	18.2	28.8	32.0	91.0	20.0	27.0
Change Period (Y+Rc), s	8.5	8.5	8.0	8.0	8.5	8.5	8.0	8.0
Max Green Setting (Gmax), s	8.5	97.5	12.0	19.0	24.5	81.5	12.0	19.0
Max Q Clear Time (g_c+I1), s	10.5	91.3	10.3	22.8	23.3	43.2	13.8	21.0
Green Ext Time (p_c), s	0.0	6.2	0.0	0.0	0.2	34.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	78.3
HCM 6th LOS	E

Notes

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

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	723	4	4	547	8	4	0	4	6	0	26
Future Vol, veh/h	25	723	4	4	547	8	4	0	4	6	0	26
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	803	4	4	608	9	4	0	4	7	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	617	0	0	807	0	0	1496	1486	404	1079	1484	613
Stage 1	-	-	-	-	-	-	861	861	-	621	621	-
Stage 2	-	-	-	-	-	-	635	625	-	458	863	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	961	-	-	816	-	-	93	124	597	184	124	492
Stage 1	-	-	-	-	-	-	317	371	-	474	478	-
Stage 2	-	-	-	-	-	-	466	476	-	553	371	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	961	-	-	816	-	-	84	117	597	174	117	492
Mov Cap-2 Maneuver	-	-	-	-	-	-	84	117	-	174	117	-
Stage 1	-	-	-	-	-	-	300	351	-	449	475	-
Stage 2	-	-	-	-	-	-	436	473	-	520	351	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	31.1	15.9
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	147	961	-	-	816	-	-	366
HCM Lane V/C Ratio	0.06	0.029	-	-	0.005	-	-	0.097
HCM Control Delay (s)	31.1	8.9	0.2	-	9.4	0	-	15.9
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	11	1471	13	0	2276
Future Volume (Veh/h)	0	11	1471	13	0	2276
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	12	1634	14	0	2529
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			223			
pX, platoon unblocked	0.76	0.76			0.76	
vC, conflicting volume	2273	824			1648	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2039	124			1213	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	37	684			432	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3	SB 4
Volume Total	12	1089	559	632	632	632	632
Volume Left	0	0	0	0	0	0	0
Volume Right	12	0	14	0	0	0	0
cSH	684	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.64	0.33	0.37	0.37	0.37	0.37
Queue Length 95th (ft)	1	0	0	0	0	0	0
Control Delay (s)	10.4	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.4	0.0		0.0			
Approach LOS	B						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

Queueing and Blocking Reports
2020 Existing

Intersection: 1: Folly Road & Camp Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	275	472	126	600	325	425	693	686	68	176	203	276
Average Queue (ft)	176	295	7	571	315	419	644	604	3	78	126	155
95th Queue (ft)	305	490	74	631	378	451	758	831	46	176	191	265
Link Distance (ft)		449		558			642	642				659
Upstream Blk Time (%)		7		71			84	13				
Queuing Penalty (veh)		0		0			0	0				
Storage Bay Dist (ft)	175		200		225	325			225	225	225	
Storage Blk Time (%)	16	34		68	51	96	2	19			0	2
Queuing Penalty (veh)	50	48		347	153	731	4	0			0	3

Intersection: 1: Folly Road & Camp Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	274
Average Queue (ft)	142
95th Queue (ft)	256
Link Distance (ft)	659
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 1337

Intersection: 1: Folly Road & Camp Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	275	502	169	248	260	314	427	390	299	293	450	676
Average Queue (ft)	191	467	65	120	116	125	268	225	33	179	287	429
95th Queue (ft)	363	485	130	205	209	249	403	364	129	283	476	690
Link Distance (ft)		449		558			642	642				659
Upstream Blk Time (%)		87										3
Queuing Penalty (veh)		0										0
Storage Bay Dist (ft)	175		200		225	325			225	225	225	
Storage Blk Time (%)	5	89	0	2	1	0	4	6		3	11	24
Queuing Penalty (veh)	15	101	1	8	2	1	3	6		23	90	89

Intersection: 1: Folly Road & Camp Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	686
Average Queue (ft)	427
95th Queue (ft)	683
Link Distance (ft)	659
Upstream Blk Time (%)	3
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 338

Queueing and Blocking Reports
2022 Background

Intersection: 1: Folly Road & Camp Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	275	484	155	598	325	425	694	685	37	190	223	306
Average Queue (ft)	191	360	7	576	320	416	640	614	1	95	137	172
95th Queue (ft)	328	560	73	589	362	465	762	801	33	198	209	287
Link Distance (ft)		449		558			642	642				659
Upstream Blk Time (%)		26		73			83	15				
Queuing Penalty (veh)		0		0			0	0				
Storage Bay Dist (ft)	175		200		225	325			225	225	225	
Storage Blk Time (%)	21	46		56	62	94	4	22		0	0	3
Queuing Penalty (veh)	70	70		305	197	757	6	0		0	1	5

Intersection: 1: Folly Road & Camp Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	320
Average Queue (ft)	162
95th Queue (ft)	287
Link Distance (ft)	659
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 1411

Intersection: 1: Folly Road & Camp Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	275	489	152	292	292	345	462	422	255	327	450	700
Average Queue (ft)	206	465	66	128	141	183	292	247	47	200	340	548
95th Queue (ft)	368	486	126	229	255	328	425	382	177	304	531	787
Link Distance (ft)		449		558			642	642				659
Upstream Blk Time (%)		88										11
Queuing Penalty (veh)		0										0
Storage Bay Dist (ft)	175		200		225	325			225	225	225	
Storage Blk Time (%)	6	89	0	2	4	2	5	8		4	16	29
Queuing Penalty (veh)	19	108	0	9	8	8	5	8		36	142	115

Intersection: 1: Folly Road & Camp Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	687
Average Queue (ft)	539
95th Queue (ft)	769
Link Distance (ft)	659
Upstream Blk Time (%)	9
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 458

Queueing and Blocking Reports
2022 Build

Intersection: 1: Folly Road & Camp Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	275	486	46	229	232	425	701	683	172	132	195	202
Average Queue (ft)	206	421	11	200	209	420	643	609	10	92	133	158
95th Queue (ft)	347	572	35	259	269	448	755	793	90	156	202	234
Link Distance (ft)		449	215	215	215		642	642		132	132	132
Upstream Blk Time (%)		49		34	40		79	11		1	19	16
Queuing Penalty (veh)		0		98	118		0	0		4	49	40
Storage Bay Dist (ft)	175					325			225			
Storage Blk Time (%)	27	64				96	4	20				
Queuing Penalty (veh)	86	99				776	6	1				

Intersection: 1: Folly Road & Camp Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	196
Average Queue (ft)	138
95th Queue (ft)	214
Link Distance (ft)	132
Upstream Blk Time (%)	11
Queuing Penalty (veh)	27
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Camp Road & Site Access #1

Movement	EB	EB	WB	NB	SB
Directions Served	LT	TR	LTR	LTR	LTR
Maximum Queue (ft)	135	134	336	43	78
Average Queue (ft)	31	13	304	10	26
95th Queue (ft)	101	73	319	34	74
Link Distance (ft)	215	215	287	84	141
Upstream Blk Time (%)			73	0	
Queuing Penalty (veh)			0	0	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Folly Road & Site Access #2

Movement	WB	NB	SB	SB	SB	SB
Directions Served	R	T	T	T	T	T
Maximum Queue (ft)	10	18	13	80	141	111
Average Queue (ft)	1	1	0	10	25	14
95th Queue (ft)	8	10	0	52	88	65
Link Distance (ft)	140	132			483	483
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			25	25		
Storage Blk Time (%)				3	5	
Queuing Penalty (veh)				8	24	

Network Summary

Network wide Queuing Penalty: 1336

Intersection: 1: Folly Road & Camp Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	275	493	188	201	212	347	468	438	250	191	221	219
Average Queue (ft)	191	465	89	117	136	178	294	242	38	144	190	187
95th Queue (ft)	361	489	164	201	222	341	440	394	154	193	216	236
Link Distance (ft)		449	203	203	203		642	642		134	134	134
Upstream Blk Time (%)		88	0	2	3					22	51	36
Queuing Penalty (veh)		0	1	4	6					126	292	202
Storage Bay Dist (ft)	175					325			225			
Storage Blk Time (%)	4	89				7	5	8				
Queuing Penalty (veh)	12	110				34	5	8				

Intersection: 1: Folly Road & Camp Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	221
Average Queue (ft)	189
95th Queue (ft)	239
Link Distance (ft)	134
Upstream Blk Time (%)	38
Queuing Penalty (veh)	217
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Camp Road & Site Access #1

Movement	EB	EB	WB	NB	SB
Directions Served	LT	TR	LTR	LTR	LTR
Maximum Queue (ft)	125	112	198	32	62
Average Queue (ft)	21	7	27	7	18
95th Queue (ft)	79	52	129	28	46
Link Distance (ft)	203	203	296	75	125
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Folly Road & Site Access #2

Movement	WB	SB	SB	SB	SB
Directions Served	R	T	T	T	T
Maximum Queue (ft)	4	137	250	519	521
Average Queue (ft)	0	60	203	431	414
95th Queue (ft)	0	170	333	625	626
Link Distance (ft)	137			480	480
Upstream Blk Time (%)				20	17
Queuing Penalty (veh)				0	0
Storage Bay Dist (ft)		25	25		
Storage Blk Time (%)		4	36	31	
Queuing Penalty (veh)		22	203	348	

Network Summary

Network wide Queuing Penalty: 1590

Kimley»Horn

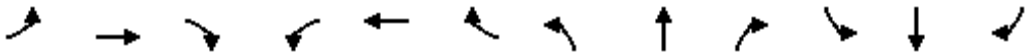
Attachment F - Updated Synchro and SimTraffic Reports for the Build Condition

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	184	392	24	346	600	202	1892	18	208	895
v/c Ratio	1.12	1.26	0.19	1.44	1.33	1.70	0.99	0.02	0.90	0.48
Control Delay	156.1	192.7	52.9	266.7	202.6	389.1	57.6	0.0	114.5	24.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	156.1	192.7	52.9	266.7	202.6	389.1	57.6	0.0	114.5	24.7
Queue Length 50th (ft)	~188	~576	21	~520	~789	~328	1077	0	121	310
Queue Length 95th (ft)	#312	#716	48	#732	#1038	#471	1072	0	#201	367
Internal Link Dist (ft)		430		225			608			138
Turn Bay Length (ft)	175					325		225		
Base Capacity (vph)	164	310	164	241	452	119	1904	1072	232	1862
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	1.26	0.15	1.44	1.33	1.70	0.99	0.02	0.90	0.48

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	233	92	22	318	552	172	1608	15	189	654	160
Future Volume (veh/h)	153	233	92	22	318	552	172	1608	15	189	654	160
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	1856	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	281	111	24	346	600	202	1892	18	208	719	176
Peak Hour Factor	0.83	0.83	0.83	0.92	0.92	0.92	0.85	0.85	0.85	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	213	84	99	242	312	120	1913	904	234	1523	373
Arrive On Green	0.07	0.17	0.17	0.03	0.13	0.13	0.07	0.54	0.54	0.07	0.54	0.54
Sat Flow, veh/h	1767	1266	500	1781	1870	1585	1781	3554	1585	3456	2830	693
Grp Volume(v), veh/h	184	0	392	24	346	600	202	1892	18	208	451	444
Grp Sat Flow(s),veh/h/ln	1767	0	1766	1781	1870	1585	1781	1777	1585	1728	1777	1746
Q Serve(g_s), s	12.0	0.0	28.6	1.9	22.0	22.0	11.5	89.4	0.8	10.2	26.7	26.7
Cycle Q Clear(g_c), s	12.0	0.0	28.6	1.9	22.0	22.0	11.5	89.4	0.8	10.2	26.7	26.7
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	167	0	297	99	242	312	120	1913	904	234	956	940
V/C Ratio(X)	1.10	0.00	1.32	0.24	1.43	1.92	1.68	0.99	0.02	0.89	0.47	0.47
Avail Cap(c_a), veh/h	167	0	297	168	242	312	120	1913	904	234	956	940
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(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.1	0.0	70.7	57.5	74.0	68.2	79.3	38.8	15.9	78.6	24.3	24.3
Incr Delay (d2), s/veh	99.3	0.0	166.1	0.5	215.5	426.1	337.7	18.2	0.0	30.6	1.7	1.7
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	6.1	0.0	26.6	0.9	25.0	50.5	16.6	42.2	0.3	5.5	11.6	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	163.4	0.0	236.8	58.0	289.5	494.4	417.0	56.9	15.9	109.3	26.0	26.0
LnGrp LOS	F	A	F	E	F	F	F	E	B	F	C	C
Approach Vol, veh/h		576			970			2112			1103	
Approach Delay, s/veh		213.4			410.5			91.0			41.7	
Approach LOS		F			F			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	100.0	13.4	36.6	20.0	100.0	20.0	30.0
Change Period (Y+Rc), s	8.5	8.5	8.0	8.0	8.5	8.5	8.0	8.0
Max Green Setting (Gmax), s	11.5	91.5	12.0	22.0	11.5	91.5	12.0	22.0
Max Q Clear Time (g_c+I1), s	13.5	28.7	3.9	30.6	12.2	91.4	14.0	24.0
Green Ext Time (p_c), s	0.0	42.1	0.0	0.0	0.0	0.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	159.5
HCM 6th LOS	F

Notes

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

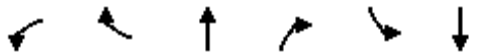
Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	400	4	4	856	6	4	0	4	5	0	36
Future Vol, veh/h	37	400	4	4	856	6	4	0	4	5	0	36
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	444	4	4	951	7	4	0	4	6	0	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	958	0	0	448	0	0	1511	1494	224	1267	1493	955
Stage 1	-	-	-	-	-	-	528	528	-	963	963	-
Stage 2	-	-	-	-	-	-	983	966	-	304	530	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	716	-	-	1111	-	-	90	123	780	135	123	312
Stage 1	-	-	-	-	-	-	503	527	-	306	333	-
Stage 2	-	-	-	-	-	-	299	332	-	681	526	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	716	-	-	1111	-	-	73	113	780	126	113	312
Mov Cap-2 Maneuver	-	-	-	-	-	-	73	113	-	126	113	-
Stage 1	-	-	-	-	-	-	465	487	-	283	330	-
Stage 2	-	-	-	-	-	-	259	329	-	626	486	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0	33.8	21.5
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	134	716	-	-	1111	-	-	264
HCM Lane V/C Ratio	0.066	0.057	-	-	0.004	-	-	0.173
HCM Control Delay (s)	33.8	10.3	0.3	-	8.3	0	-	21.5
HCM Lane LOS	D	B	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0	-	-	0.6



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	16	2293	20	0	1003
Future Volume (Veh/h)	0	16	2293	20	0	1003
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	18	2548	22	0	1114
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			218			
pX, platoon unblocked	0.47	0.47			0.47	
vC, conflicting volume	2838	1285			2570	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2658	0			2094	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	9	515			123	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3	SB 4
Volume Total	18	1699	871	278	278	278	278
Volume Left	0	0	0	0	0	0	0
Volume Right	18	0	22	0	0	0	0
cSH	515	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.03	1.00	0.51	0.16	0.16	0.16	0.16
Queue Length 95th (ft)	3	0	0	0	0	0	0
Control Delay (s)	12.2	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	12.2	0.0		0.0			
Approach LOS	B						

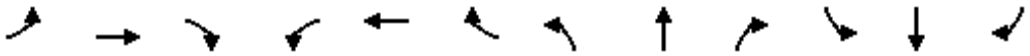
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	139	333	105	133	366	101	1136	112	445	1978
v/c Ratio	0.62	1.62	0.67	0.66	0.69	1.15	0.66	0.11	0.92	0.97
Control Delay	69.8	344.2	75.7	89.3	47.3	207.0	35.3	1.0	97.2	48.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.8	344.2	75.7	89.3	47.3	207.0	35.3	1.0	97.2	48.2
Queue Length 50th (ft)	131	~529	97	144	279	~131	504	0	255	1097
Queue Length 95th (ft)	199	#729	158	223	406	#262	574	13	#353	#1304
Internal Link Dist (ft)		430		215			608			143
Turn Bay Length (ft)	175					325		225		
Base Capacity (vph)	227	205	168	208	534	88	1731	1020	494	2039
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	1.62	0.63	0.64	0.69	1.15	0.66	0.11	0.90	0.97

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	238	59	101	128	351	90	1011	100	418	1774	86
Future Volume (veh/h)	124	238	59	101	128	351	90	1011	100	418	1774	86
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	1856	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	267	66	105	133	366	101	1136	112	445	1887	91
Peak Hour Factor	0.89	0.89	0.89	0.96	0.96	0.96	0.89	0.89	0.89	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	172	43	154	209	398	89	1720	866	483	1980	95
Arrive On Green	0.07	0.12	0.12	0.06	0.11	0.11	0.05	0.48	0.48	0.14	0.57	0.57
Sat Flow, veh/h	1767	1437	355	1781	1870	1585	1781	3554	1585	3456	3452	165
Grp Volume(v), veh/h	139	0	333	105	133	366	101	1136	112	445	964	1014
Grp Sat Flow(s),veh/h/ln	1767	0	1792	1781	1870	1585	1781	1777	1585	1728	1777	1841
Q Serve(g_s), s	11.9	0.0	20.4	8.7	11.6	19.0	8.5	41.2	5.9	21.6	85.9	89.0
Cycle Q Clear(g_c), s	11.9	0.0	20.4	8.7	11.6	19.0	8.5	41.2	5.9	21.6	85.9	89.0
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	206	0	214	154	209	398	89	1720	866	483	1019	1056
V/C Ratio(X)	0.67	0.00	1.55	0.68	0.64	0.92	1.13	0.66	0.13	0.92	0.95	0.96
Avail Cap(c_a), veh/h	206	0	214	168	209	398	89	1720	866	498	1019	1056
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(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.1	0.0	74.8	61.6	72.2	61.9	80.8	33.3	18.8	72.2	33.8	34.4
Incr Delay (d2), s/veh	6.9	0.0	270.3	7.4	4.8	25.5	136.1	2.0	0.3	21.9	17.8	19.7
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	5.7	0.0	25.5	4.3	5.8	18.2	7.3	18.0	2.3	11.0	40.4	43.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.1	0.0	345.1	69.0	77.0	87.5	216.8	35.3	19.1	94.1	51.6	54.2
LnGrp LOS	E	A	F	E	E	F	F	D	B	F	D	D
Approach Vol, veh/h		472			604			1349			2423	
Approach Delay, s/veh		263.8			82.0			47.5			60.5	
Approach LOS		F			F			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	106.0	18.6	28.4	32.2	90.8	20.0	27.0
Change Period (Y+Rc), s	8.5	8.5	8.0	8.0	8.5	8.5	8.0	8.0
Max Green Setting (Gmax), s	8.5	97.5	12.0	19.0	24.5	81.5	12.0	19.0
Max Q Clear Time (g_c+I1), s	10.5	91.0	10.7	22.4	23.6	43.2	13.9	21.0
Green Ext Time (p_c), s	0.0	6.5	0.0	0.0	0.1	34.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	79.3
HCM 6th LOS	E

Notes

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

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	722	4	4	545	11	4	0	4	8	0	35
Future Vol, veh/h	34	722	4	4	545	11	4	0	4	8	0	35
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	802	4	4	606	12	4	0	4	9	0	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	618	0	0	806	0	0	1520	1506	403	1097	1502	612
Stage 1	-	-	-	-	-	-	880	880	-	620	620	-
Stage 2	-	-	-	-	-	-	640	626	-	477	882	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	960	-	-	817	-	-	89	120	598	179	121	492
Stage 1	-	-	-	-	-	-	309	364	-	475	479	-
Stage 2	-	-	-	-	-	-	463	476	-	539	363	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	960	-	-	817	-	-	77	111	598	167	112	492
Mov Cap-2 Maneuver	-	-	-	-	-	-	77	111	-	167	112	-
Stage 1	-	-	-	-	-	-	287	338	-	441	476	-
Stage 2	-	-	-	-	-	-	423	473	-	496	337	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.1	33.3	16.5
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	136	960	-	-	817	-	-	361
HCM Lane V/C Ratio	0.065	0.039	-	-	0.005	-	-	0.132
HCM Control Delay (s)	33.3	8.9	0.3	-	9.4	0	-	16.5
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	15	1470	17	0	2278
Future Volume (Veh/h)	0	15	1470	17	0	2278
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	17	1633	19	0	2531
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			223			
pX, platoon unblocked	0.76	0.76			0.76	
vC, conflicting volume	2275	826			1652	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2042	127			1218	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	37	681			430	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3	SB 4
Volume Total	17	1089	563	633	633	633	633
Volume Left	0	0	0	0	0	0	0
Volume Right	17	0	19	0	0	0	0
cSH	681	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.64	0.33	0.37	0.37	0.37	0.37
Queue Length 95th (ft)	2	0	0	0	0	0	0
Control Delay (s)	10.4	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.4	0.0		0.0			
Approach LOS	B						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 1: Folly Road & Camp Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	275	495	59	231	231	425	691	679	188	135	204	215
Average Queue (ft)	225	408	18	205	201	417	648	625	10	93	137	156
95th Queue (ft)	340	563	48	264	274	459	742	776	93	158	206	236
Link Distance (ft)		449	215	215	215		642	642		132	132	132
Upstream Blk Time (%)		39		42	37		85	17		3	22	16
Queuing Penalty (veh)		0		126	111		0	0		7	54	39
Storage Bay Dist (ft)	175					325			225			
Storage Blk Time (%)	29	66				95	4	22				
Queuing Penalty (veh)	90	102				766	7	3				

Intersection: 1: Folly Road & Camp Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	198
Average Queue (ft)	144
95th Queue (ft)	226
Link Distance (ft)	132
Upstream Blk Time (%)	12
Queuing Penalty (veh)	31
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Camp Road & Site Access #1

Movement	EB	EB	WB	NB	SB
Directions Served	LT	TR	LTR	LTR	LTR
Maximum Queue (ft)	132	141	331	52	156
Average Queue (ft)	48	18	304	10	82
95th Queue (ft)	117	87	318	38	172
Link Distance (ft)	215	215	287	84	141
Upstream Blk Time (%)			73	1	28
Queuing Penalty (veh)			0	0	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Folly Road & Site Access #2

Movement	WB	NB	SB	SB	SB	SB
Directions Served	R	T	T	T	T	T
Maximum Queue (ft)	16	25	52	104	136	134
Average Queue (ft)	1	1	3	13	28	17
95th Queue (ft)	9	18	32	65	96	88
Link Distance (ft)	140	132			483	483
Upstream Blk Time (%)		0				
Queuing Penalty (veh)		0				
Storage Bay Dist (ft)			25	25		
Storage Blk Time (%)				4	5	
Queuing Penalty (veh)				11	25	

Network Summary

Network wide Queuing Penalty: 1375

Intersection: 1: Folly Road & Camp Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	275	495	204	206	208	327	476	426	218	193	212	201
Average Queue (ft)	195	465	99	119	128	183	292	242	39	149	191	186
95th Queue (ft)	361	481	183	200	210	345	443	396	150	199	206	232
Link Distance (ft)		449	203	203	203		642	642		134	134	134
Upstream Blk Time (%)		88	1	4	2					27	53	35
Queuing Penalty (veh)		0	3	9	3					158	302	197
Storage Bay Dist (ft)	175					325			225			
Storage Blk Time (%)	5	89				5	5	7				
Queuing Penalty (veh)	15	111				23	5	8				

Intersection: 1: Folly Road & Camp Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	210
Average Queue (ft)	190
95th Queue (ft)	235
Link Distance (ft)	134
Upstream Blk Time (%)	38
Queuing Penalty (veh)	214
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Camp Road & Site Access #1

Movement	EB	EB	WB	NB	SB
Directions Served	LT	TR	LTR	LTR	LTR
Maximum Queue (ft)	132	129	234	35	76
Average Queue (ft)	23	9	29	9	24
95th Queue (ft)	81	65	141	32	58
Link Distance (ft)	203	203	296	75	125
Upstream Blk Time (%)			1		1
Queuing Penalty (veh)			0		0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

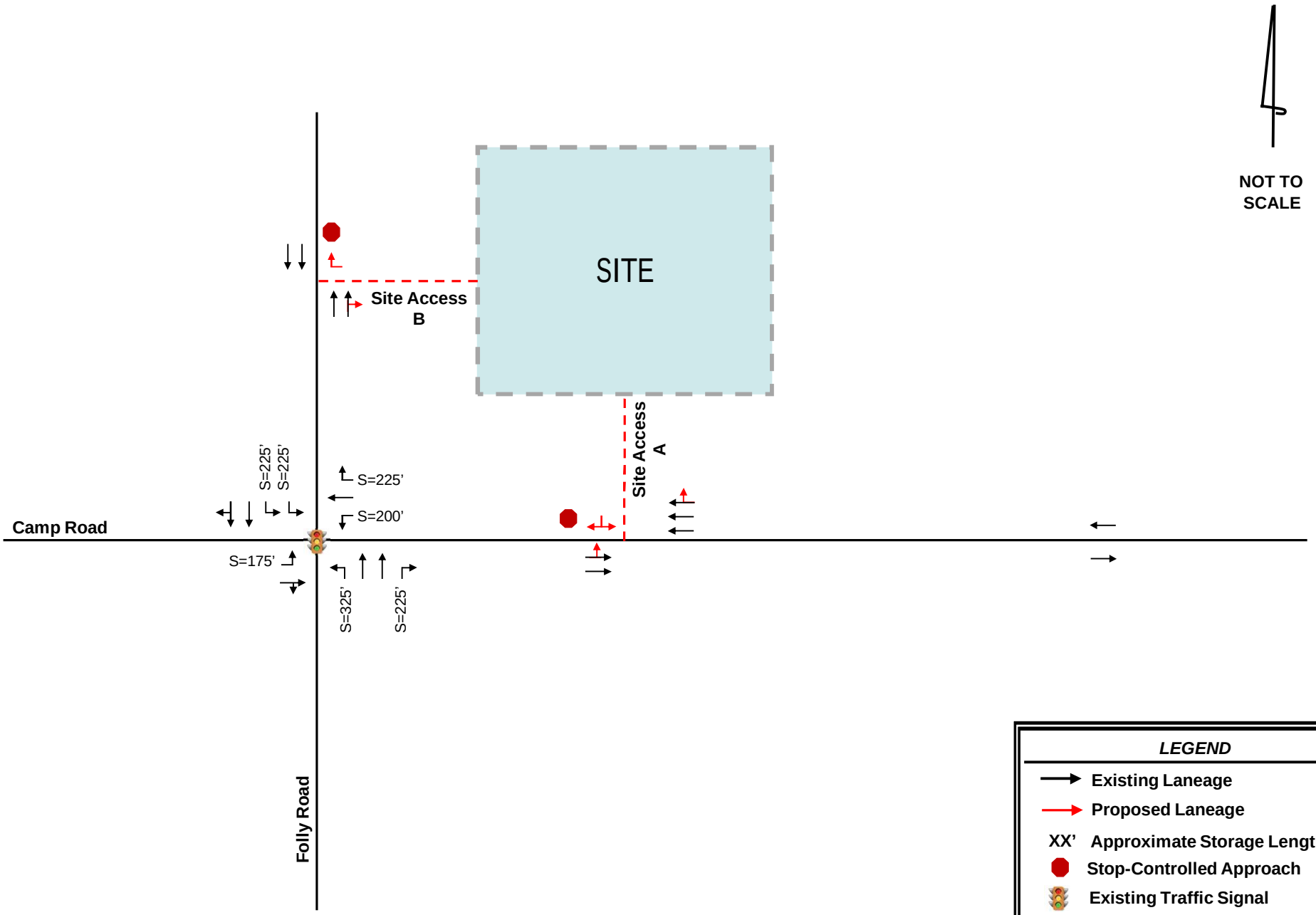
Intersection: 3: Folly Road & Site Access #2

Movement	SB	SB	SB	SB
Directions Served	T	T	T	T
Maximum Queue (ft)	137	250	521	521
Average Queue (ft)	60	206	406	401
95th Queue (ft)	170	332	619	619
Link Distance (ft)			480	480
Upstream Blk Time (%)			18	16
Queuing Penalty (veh)			0	0
Storage Bay Dist (ft)	25	25		
Storage Blk Time (%)	4	36	30	
Queuing Penalty (veh)	22	208	341	

Network Summary

Network wide Queuing Penalty: 1618

Attachment G – Recommended Laneage Figure



Kimley»Horn	896 Folly Road Redevelopment	2022 Build Recommended Laneage	Attachment G