

May 3, 2021

Mr. Michael Zuraf, AICP
Stafford County
1300 Courthouse Road
Stafford, Virginia 22554
Phone: (540) 658-8668

Reference: **Clift Farm** – Revised Traffic Impact Analysis (TIA)
Stafford County, Virginia

Dear Mr. Zuraf,

Ramey Kemp & Associates, Inc. (RKA) has revised this Traffic Impact Analysis (TIA) for the proposed age-restricted neighborhood on the north side of Leeland Road and both sides of Clift Farm Road. The original TIA in July 2021 was based on 141 age-restricted homes. The current development plan includes 180 age-restricted homes with four full-movement driveways on Clift Farm Road. If approved, the proposed neighborhood is expected to be built by 2025.

Figure 1 shows the site location and study intersections, and Figure 2 shows the preliminary site plan.

Existing Roadway Conditions

Leeland Road is a two-lane Major Collector with a current average daily traffic (ADT) volume of approximately 1,800 vehicles per day (vpd), and a posted speed limit of 45 miles per hour (mph) in the vicinity of the site.

Clift Farm Road is a two-lane local roadway with a current ADT volume of approximately 100 vpd and a posted speed limit of 35 mph.

Figure 3 shows the existing lane configurations.

Background Traffic Growth

The 2019 ADT data collected by VDOT was used to estimate the current peak hour volumes at the intersection of Leeland Road and Clift Farm Road. Based on the scoping meeting with the County and VDOT, the 2019 peak hour traffic volumes were grown by an annual rate of 1.0% for one year to estimate the existing 2020 peak hour traffic volumes which are shown in Figure 3. The 2019 turning movement volumes were grown by an annual rate of 1.0% per year for six years to estimate the no-build 2025 peak hour volumes, which are shown in Figure 6.

Site Traffic Distribution

The following site traffic distribution was assumed based on a review of the existing traffic volumes, the adjacent roadway network, and engineering judgement:

- 90% to / from the west on Leeland Road
- 10% to / from the east on Leeland Road

Trip Generation

Table 1 shows the trip potential of the proposed neighborhood during a typical weekday, AM peak hour, and PM peak hour based on the ITE *Trip Generation Manual – 10th Edition*.

Table 1: ITE Trip Generation – Weekday – 10th Edition

Land Use (ITE Land Use Code)	Size	Weekday Daily Traffic (vpd)		AM Peak Hour (vph)		PM Peak Hour (vph)	
		Enter	Exit	Enter	Exit	Enter	Exit
Senior Adult Housing – Detached (251) <i>Equation</i>	180 homes	472	472	21	43	46	30
Senior Adult Housing – Detached (251) <i>Average Rate</i>	180 homes	385	385	14	29	33	21

This analysis is based on the ITE trip generation equation to be conservative.

Figure 4 shows the site trip distribution and Figure 5 shows the site trip assignment. Figure 6 shows the build 2025 peak hour volumes.

VDOT Turn Lane Warrant Analysis

The projected build-out AM and PM peak hour traffic volumes at the proposed site driveways and the intersection of Leeland Road at Clift Farm Road were compared to the turn lane warrants in the Virginia Department of Transportation (VDOT) *Access Management Design Standards for Entrances and Intersections*, and no turn lanes are warranted. The turn lane warrant diagrams are enclosed for reference.

Traffic Capacity Analysis

Traffic capacity analysis for the study intersection was performed using Synchro 10, which is a comprehensive software package that allows the user to model signalized and unsignalized intersections to determine levels-of-service (LOS) based on the thresholds specified in the Highway Capacity Manual (HCM) – 6th Edition.

Table 2 summarizes the capacity analysis results for the unsignalized intersection of Leeland Road at Clift Farm Road, and the Synchro outputs are enclosed for reference.

Table 2: Level-of-Service Summary for Leeland Road at Clift Farm Road

CONDITION	LANE GROUP	AM PEAK HOUR				PM PEAK HOUR			
		Lane LOS	Lane Delay (sec)	Queue (ft)	Overall LOS ³ (Delay)	Lane LOS	Lane Delay (sec)	Queue (ft)	Overall LOS ³ (Delay)
Existing (2020) Traffic Conditions	EBL/T ²	A	7.6	0	N/A	A	7.4	0	N/A
	WBT/R	-	-	-		-	-	-	
	SBL/R ¹	A	9.3	0		A	8.9	0	
No-Build (2025) Traffic Conditions	EBL/T ²	A	7.6	0	N/A	A	7.4	0	N/A
	WBT/R	-	-	-		-	-	-	
	SBL/R ¹	A	9.4	0		A	8.9	0	
Build (2025) Traffic Conditions	EBL/T ²	A	7.7	3	N/A	A	7.5	3	N/A
	WBT/R	-	-	-		-	-	-	
	SBL/R ¹	A	9.7	5		A	9.1	3	

1. Level of service for minor approach

2. Level of service for major street left turn movement

3. HCM methodology does not provide lane group or overall LOS, delay, and queue lengths for major street through movements or right turns at unsignalized intersections

Capacity analysis indicates the minor street left turn movement currently operates with short delays (less than 25 seconds) during the AM and PM peak hours. Under no-build conditions, the minor street left turn movement is expected to continue to operate with short delays (less than 25 seconds) during both peak hours. Under build conditions, the minor street left turn movement is expected to continue to operate with short delays (less than 25 seconds) during both peak hours with queue lengths of just 1 car.

Recommendations

Clift Farm Road intersects Leeland Road at an angle of approximately 45 degrees. The pavement on Clift Farm Road flares out, and should be striped to improve the approach angle for southbound drivers. The existing trees and shrubs along the north side of Leeland Road east of Clift Farm Road should also be cut back to provide at least 555 feet of sight distance, which is the VDOT minimum on a two-lane roadway that is posted 45 mph.

We appreciate your attention to this matter. Please contact me at (804) 217-8560 if you have any questions about this report.

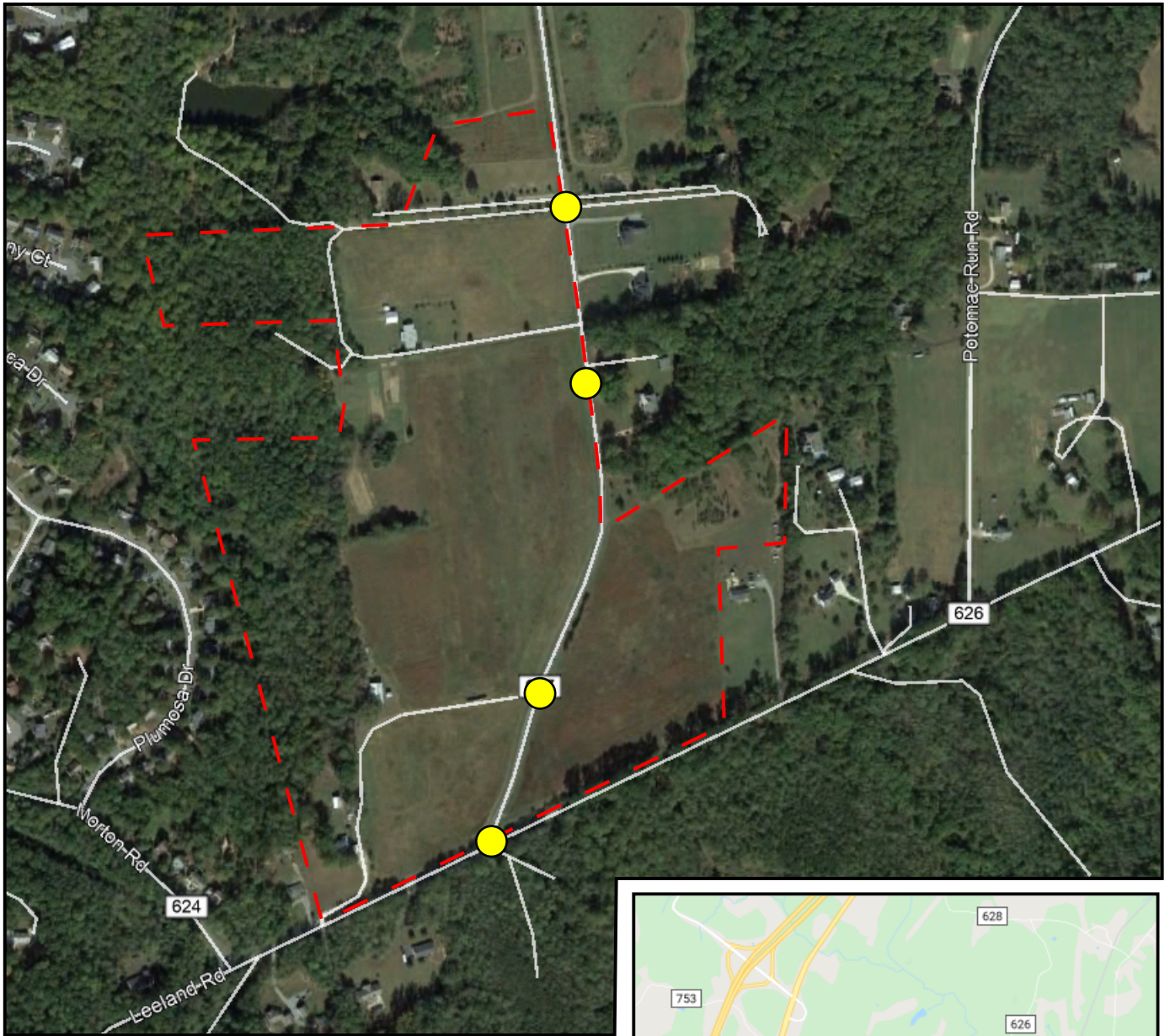
Sincerely yours,
Ramey Kemp & Associates, Inc.



Carl Hultgren, P.E., PTOE
State Traffic Engineering Lead

Enclosures: Figures, VDOT ADT data, Turn lane warrant diagrams, Synchro output

Copy to: Ms. Margaret Niemann, VDOT
Mr. James Jarrell, IV, Jarrell Properties, Inc.
Mr. Jon Ernest, ASLA, Monteverde Engineering & Design Studio



Inset



LEGEND



Study Intersection



Site Boundary



Overview

Moving forward.



RAMEY KEMP ASSOCIATES

Clift Farm
Stafford County, Virginia

Site Location and
Study Intersections

Scale: Not to Scale

Figure 1

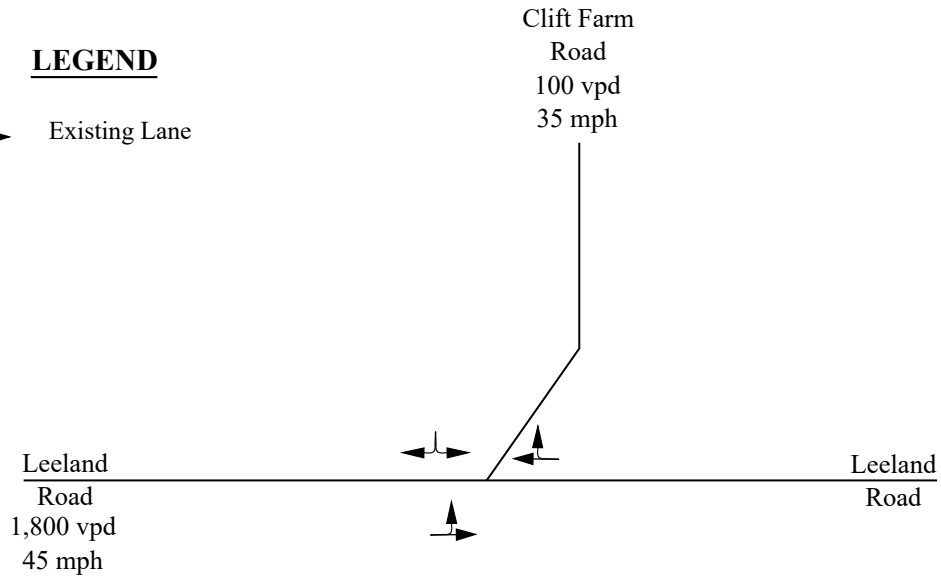
[illegible]



Existing Lanes

LEGEND

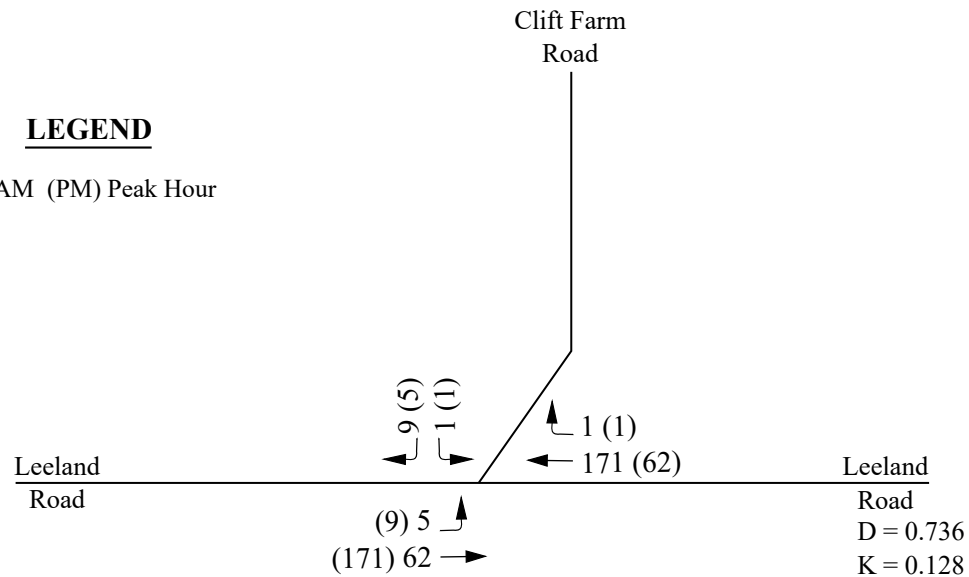
→ Existing Lane



Existing (2020) Peak Hour Traffic Volumes

LEGEND

X (Y) AM (PM) Peak Hour



Moving forward.



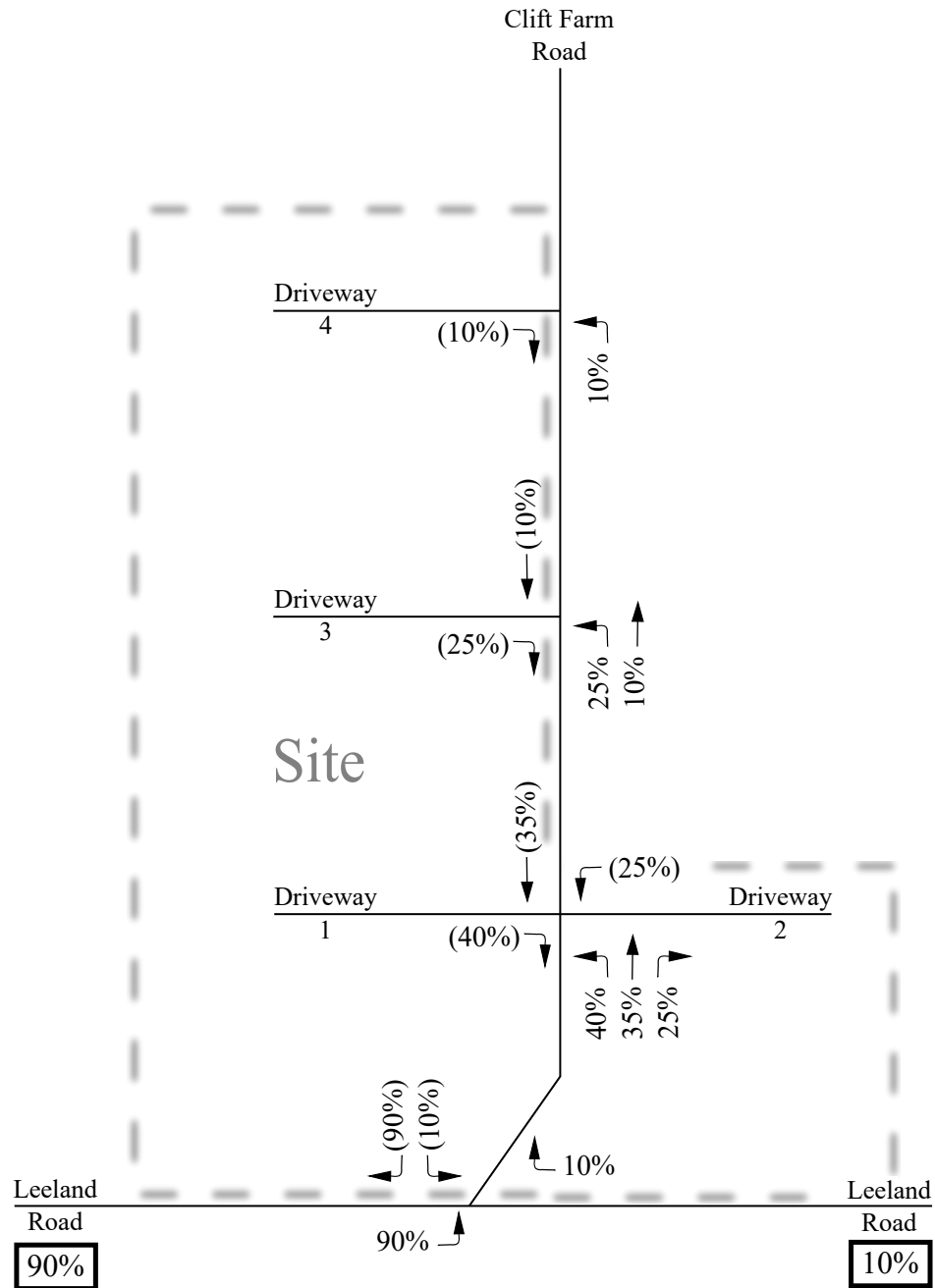
RAMEY KEMP ASSOCIATES

Clift Farm
Stafford County, Virginia

Existing Lanes and Peak Hour
Traffic Volumes

Scale: Not to Scale

Figure 3



LEGEND

X% (Y%) Entering (Exiting) Trip Distribution

XX% Regional Trip Distribution

Moving forward.

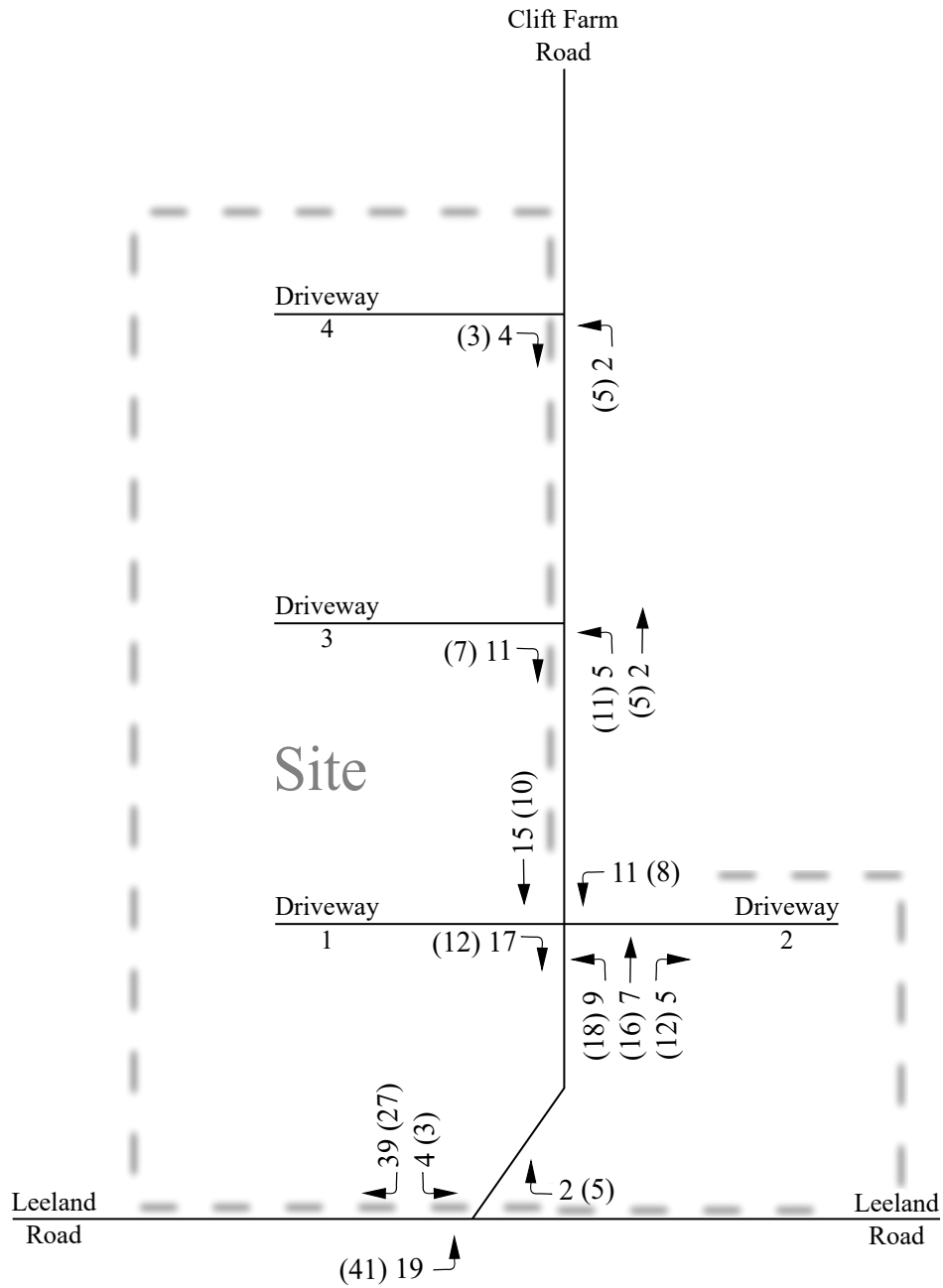


Clift Farm
Stafford County, Virginia

Site Trip Distribution

Scale: Not to Scale

Figure 4



LEGEND

X (Y) AM (PM) Peak Hour

Moving forward.



RAMEY KEMP ASSOCIATES

Clift Farm
Stafford County, Virginia

Site Trip Assignment

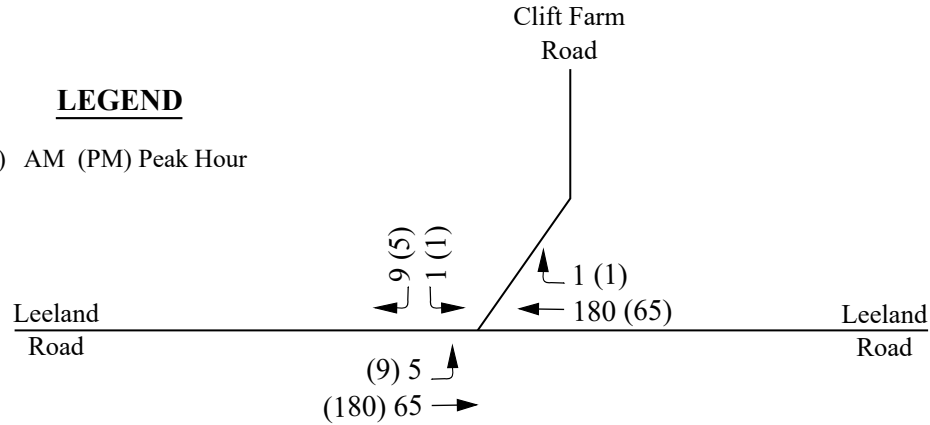
Scale: Not to Scale

Figure 5

No-Build (2025) Peak Hour Volumes

LEGEND

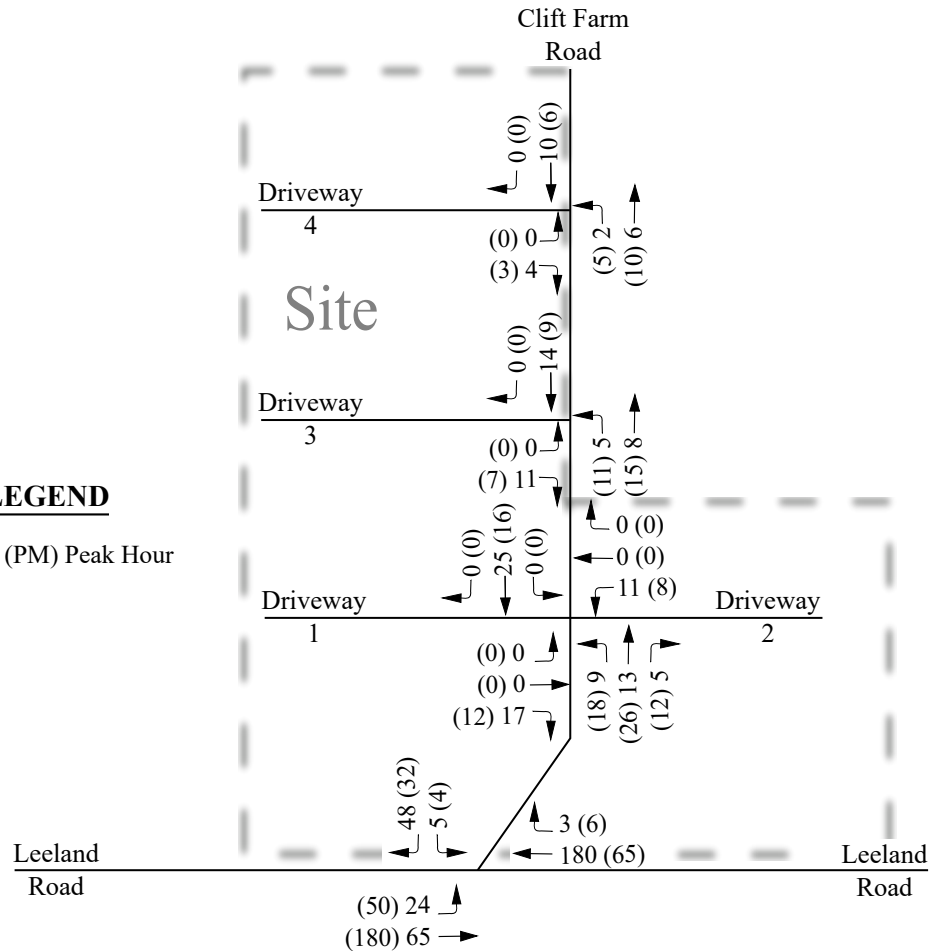
X (Y) AM (PM) Peak Hour



Build (2025) Peak Hour Volumes

LEGEND

X (Y) AM (PM) Peak Hour



Moving forward.



Clift Farm
Stafford County, Virginia

No-Build (2025) and
Build (2025) Peak Hour
Traffic Volumes

Scale: Not to Scale

Figure 6

Virginia Department of Transportation
Traffic Engineering Division
2019
Annual Average Daily Traffic Volume Estimates By Section of Route
Stafford Maintenance Area

Route	Length	AADT	QA	4Tire	Bus	-----Truck-----				QC	K Factor	QK	Dir Factor	AAWDT	QW	Year
						2Axle	3+Axle	1Trail	2Trail							
Stafford County																
From 89-624 Morton Rd																
(626) Leeland Rd	0.54	1800	G	95%	1%	1%	4%	0%	0%	C	0.128	F	0.736	1900	G	2019
To 89-625 Leeland Rd																
From 89-628 Eskimo Hill Rd																
(626) Potomac Run Rd	2.33	1700	G	94%	1%	1%	4%	0%	0%	C	0.138	F	0.764	1600	G	2019
To 89-628 Eskimo Hill Rd																
From US 1 S. Jefferson Davis Hwy																
(627) Forbes St	2.08	5200	G	99%	0%	0%	0%	0%	0%	C	0.136	F	0.747	5500	G	2019
To 89-624 Morton Rd																
From Cul-de-Sac																
(627) Mountain View Rd	0.75	70	G	100%	0%	0%	0%	0%	0%	C	0.194	F	0.583	70	G	2019
To 89-8900 Centreport Pkwy																
From 89-8900 Centreport Pkwy																
(627) Mountain View Rd	2.57	6200	G	99%	0%	0%	0%	0%	0%	F	0.103	F	0.656	6100	G	2019
To 89-651 Kellogg Mill Rd																
From 89-651 Kellogg Mill Rd																
(627) Mountain View Rd	2.27	7200	G	99%	0%	0%	0%	0%	0%	F	0.101	F	0.622	7100	G	2019
To 89-648 N. Shelton Shop Rd																
From 89-648 N. Shelton Shop Rd																
(627) Mountain View Rd	2.54	3800	G	99%	0%	0%	0%	0%	0%	F	0.127	F	0.783	4100	G	2019
To 89-643 Joshua Rd																
From 89-643 Joshua Rd																
(627) Mountain View Rd	1.76	4000	G	98%	0%	1%	1%	0%	0%	C	0.096	F	0.642	4300	G	2019
To 89-616 Poplar Rd																
From 89-648 Shelton Shop Rd																
(628) Winding Creek Rd	0.14	2700	R													
To 89-1282 Glenwood Ave																
From 89-1282 Glenwood Ave																
(628) Winding Creek Rd	0.13	1800	R													
To 89-1284 Oaklawn Rd																
From 89-1284 Oaklawn Rd																
(628) Winding Creek Rd	0.49	1600	R													
To 89-709 Flatford Rd																
From 89-709 Flatford Rd																
(628) Winding Creek Rd	0.56	2100	R													
To 89-733 Embrey Mill Rd																
From 89-733 Embrey Mill Rd																
(628) Winding Creek Rd	0.60	3900	R													
To 89-630 E. Courthouse Rd																
From 89-630 E. Courthouse Rd																
(628) Ramoth Church Rd	1.76	2600	G	98%	0%	1%	1%	0%	0%	C	0.161	F	0.809	2600	G	2019
To 89-651 Accokeek Furnace Rd																
From 89-651 Accokeek Furnace Rd																
(628) Ramoth Church Rd	3.10	2900	G	97%	0%	1%	1%	0%	0%	C	0.136	F	0.918	2800	G	2019
To US 1 Jefferson Davis Hwy																
From US 1 Jefferson Davis Hwy																
(628) Eskimo Hill Rd	1.77	3000	G	93%	1%	2%	4%	1%	0%	C	0.122	F	0.737	2900	G	2019
To 89-632 Southern View Dr																
From 89-632 Southern View Dr																
(628) Eskimo Hill Rd	1.20	1800	G	97%	1%	1%	1%	0%	0%	C	0.127	F	0.573	1800	G	2019
To 89-608 Brooke Rd																
From 89-608 Brooke Rd																
(629) Andrew Chapel Rd	0.89	4800	G	99%	0%	1%	0%	0%	0%	C	0.106	F	0.636	5100	G	2019
To 89-648 Shelton Shop Rd																
From 89-648 Shelton Shop Rd																
(630) Courthouse Rd	4.02	11000	G	99%	0%	1%	0%	0%	0%	F	0.102	F	0.661	12000	G	2019
To I-95																
From I-95																
(630) Courthouse Rd	0.84	16000	G	97%	1%	1%	1%	1%	0%	C	0.085	F	0.575	18000	G	2019
To US 1 Jefferson Davis Hwy																
From US 1 Jefferson Davis Hwy																
(630) Courthouse Rd	0.93	8200	G	99%	0%	1%	0%	0%	0%	F	0.099	F	0.678	8900	G	2019
To 89-1345; 89-1557																
From 89-1345; 89-1557																
(630) Courthouse Rd	1.63	6000	G	99%	0%	1%	0%	0%	0%	C	0.107	F	0.653	6400	G	2019
To 89-629 Andrew Chapel Rd																
From 89-629 Andrew Chapel Rd																
(630) Courthouse Rd	0.96	620	G	98%	1%	0%	0%	0%	0%	C	0.105	F	0.507	660	G	2019
To 89-666 Aquia Creek Rd																

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

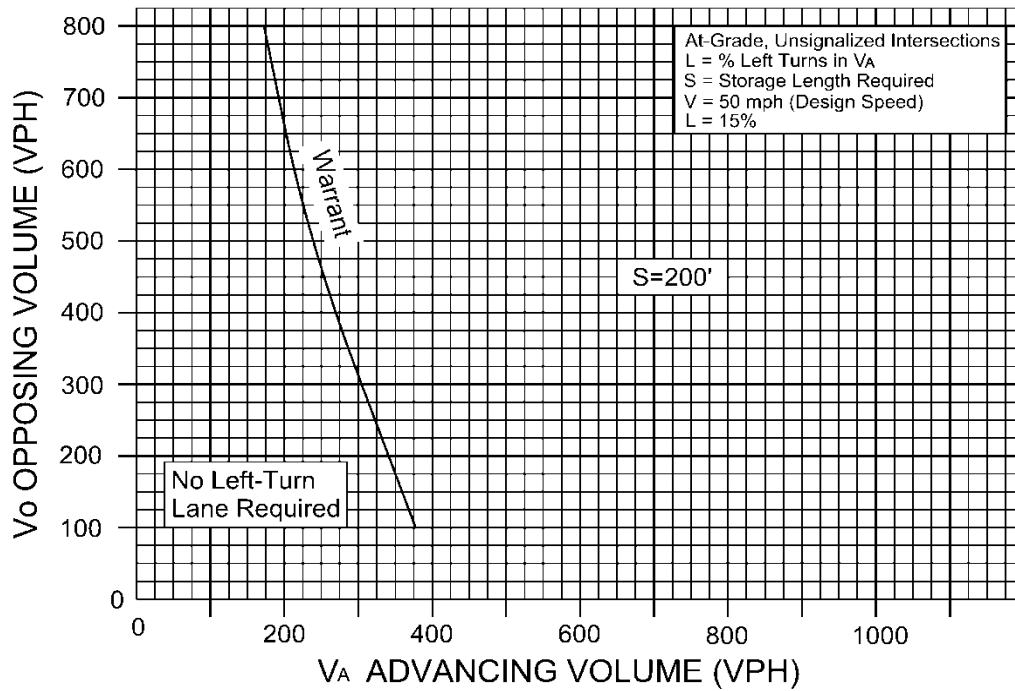


FIGURE 3-13

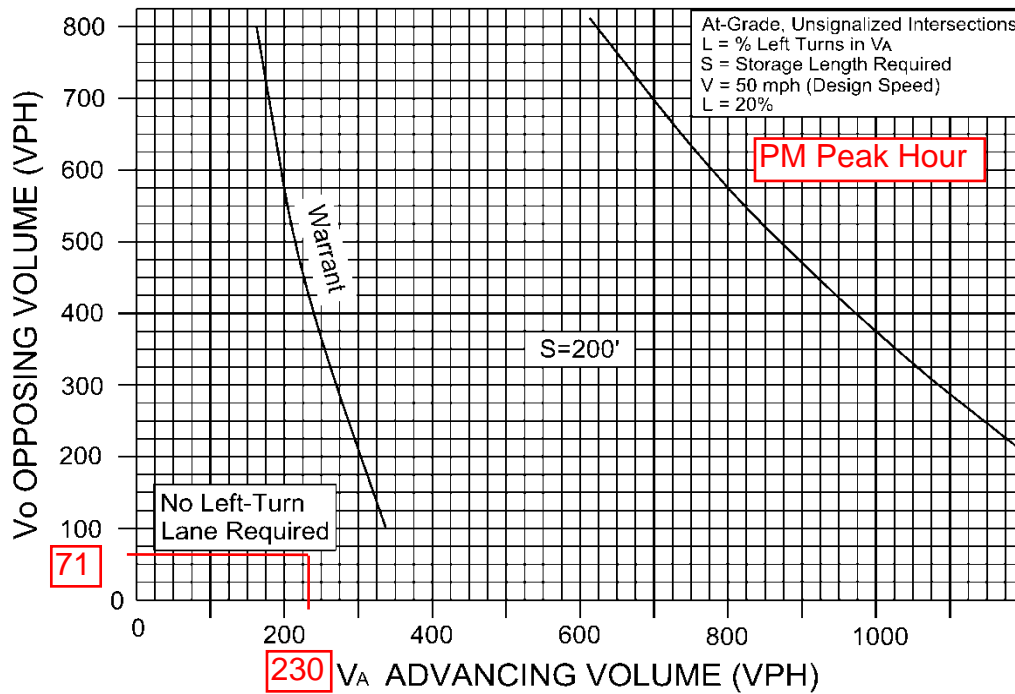


FIGURE 3-14

Leeland Road at Clift Farm Road
Eastbound Left-turn Lane Warrant
Build (2025) Volumes

F-66

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

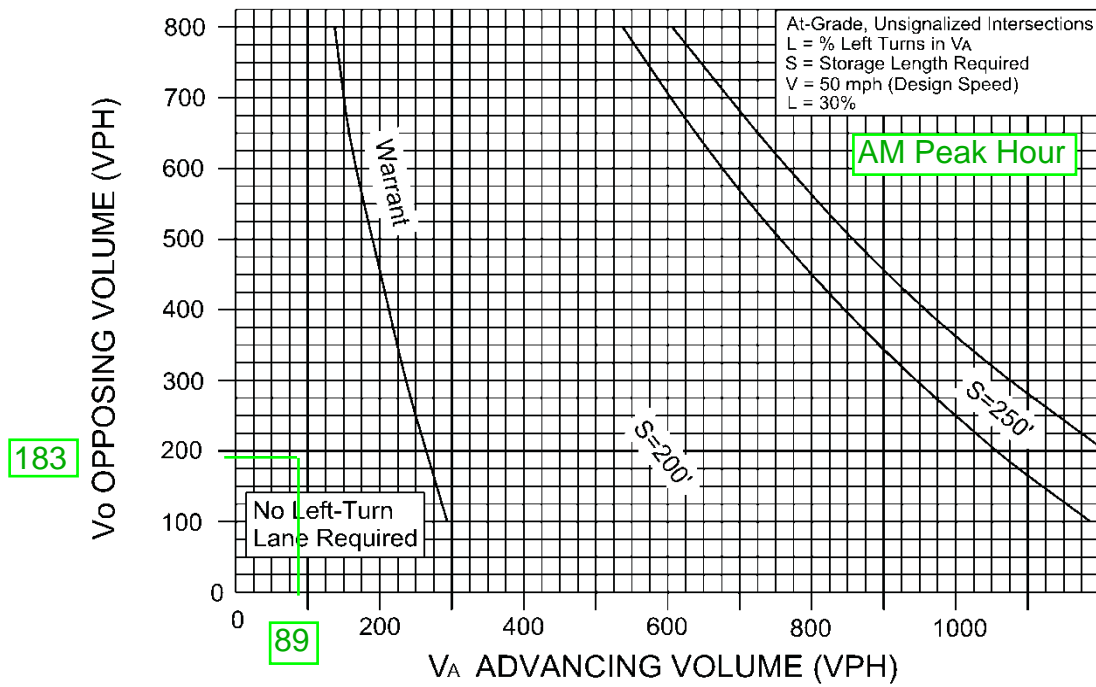


FIGURE 3-15

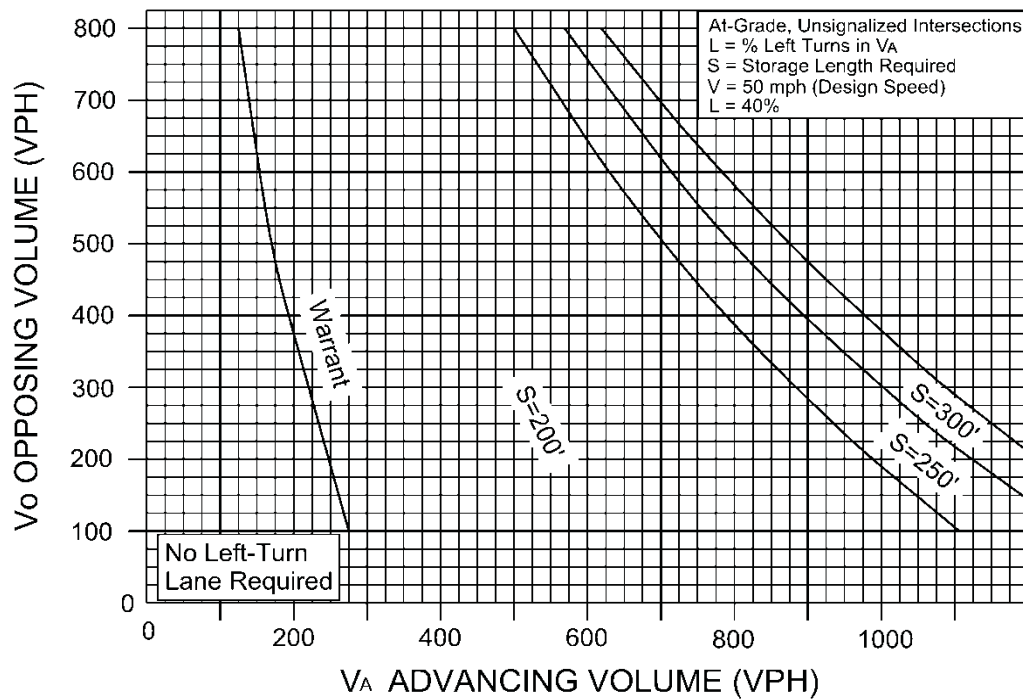
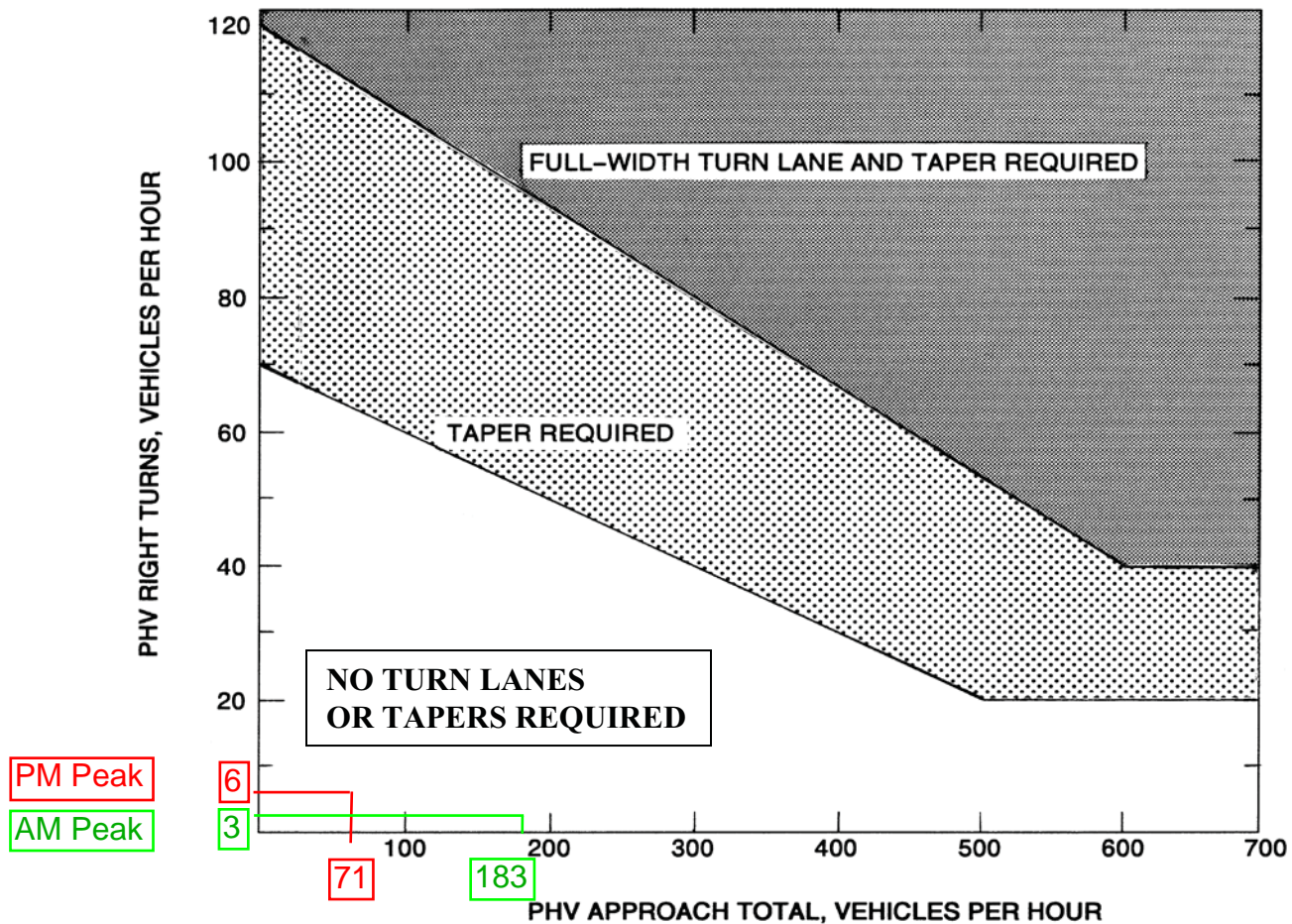


FIGURE 3-16



Appropriate Radius required at all Intersections and Entrances (Commercial or Private).

LEGEND

PHV - Peak Hour Volume (also Design Hourly Volume equivalent)

Adjustment for Right Turns

For posted speeds at or under 45 mph, PHV right turns > 40, and PHV total < 300.

Adjusted right turns = PHV Right Turns - 20

If PHV is not known use formula: $PHV = ADT \times K \times D$

K = the percent of AADT occurring in the peak hour

D = the percent of traffic in the peak direction of flow

Note: An average of 11% for K x D will suffice.

When right turn facilities are warranted, see Figure 3-1 for design criteria.*

FIGURE 3-26 WARRANTS FOR RIGHT TURN TREATMENT (2-LANE HIGHWAY)

Cliff Farm Road at Driveway 1
Northbound Left-turn Lane Warrant
Build (2025) Volumes

F-63

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

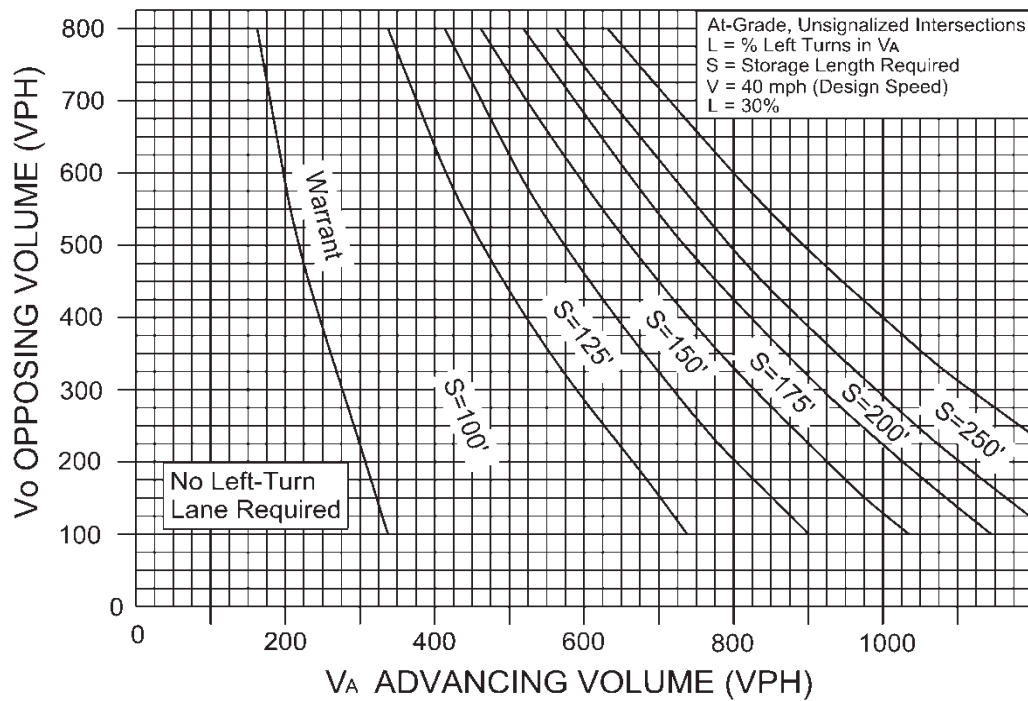


FIGURE 3-9

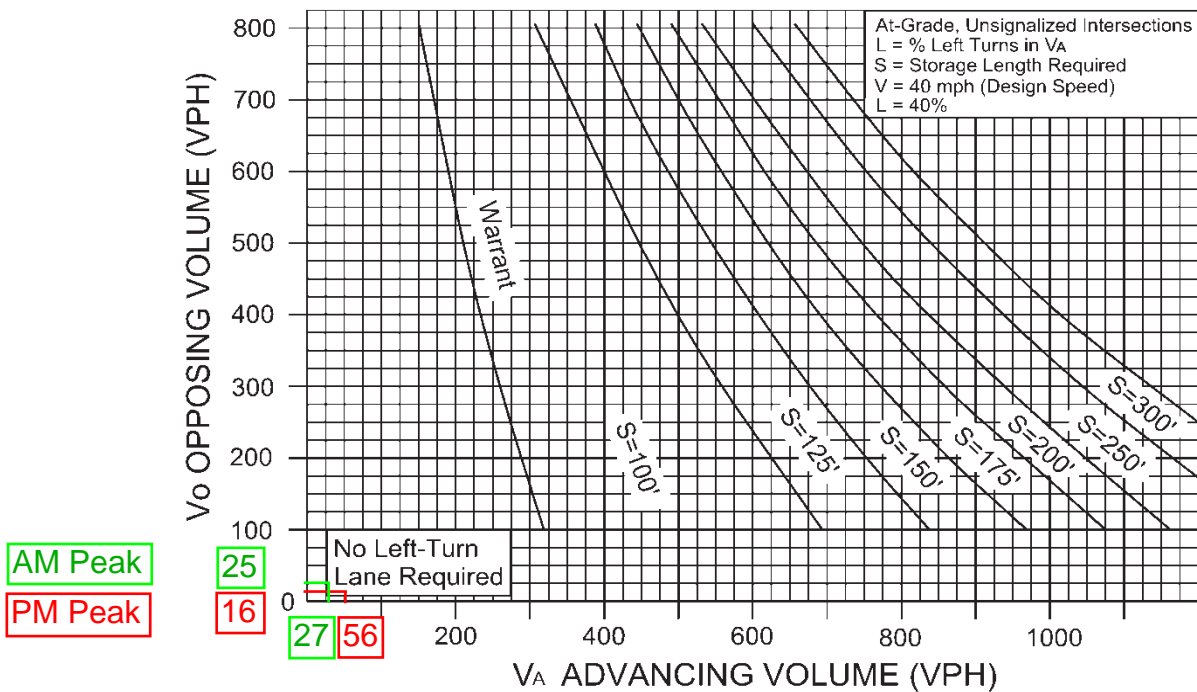


FIGURE 3-10

Cliff Farm Road at Driveway 3
Northbound Left-turn Lane Warrant
Build (2025) Volumes

F-63

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

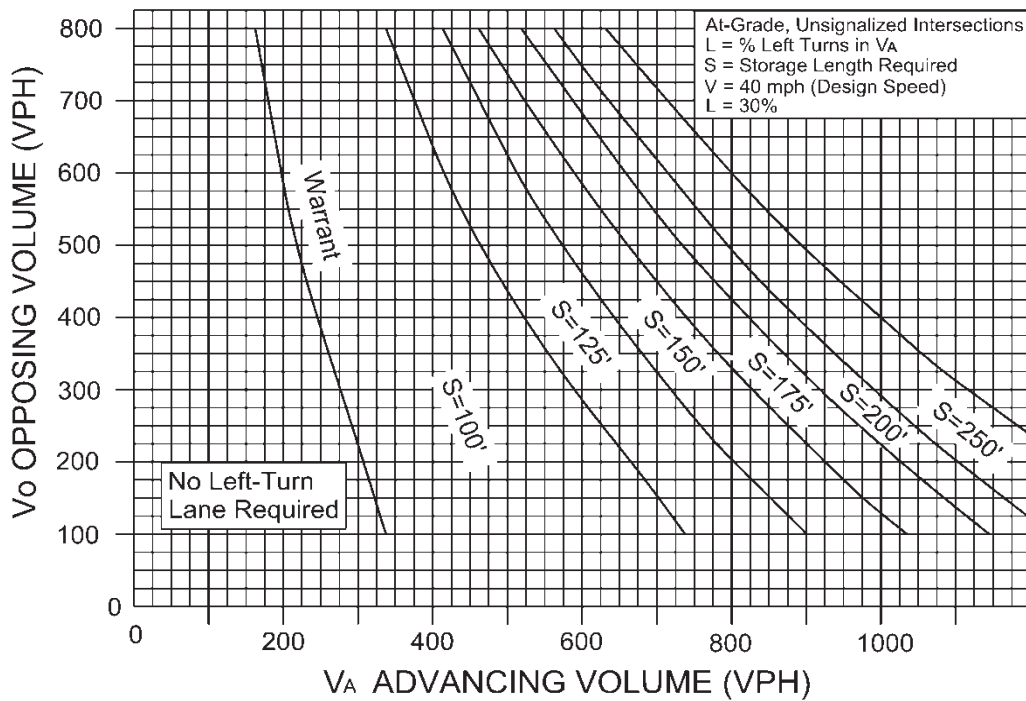


FIGURE 3-9

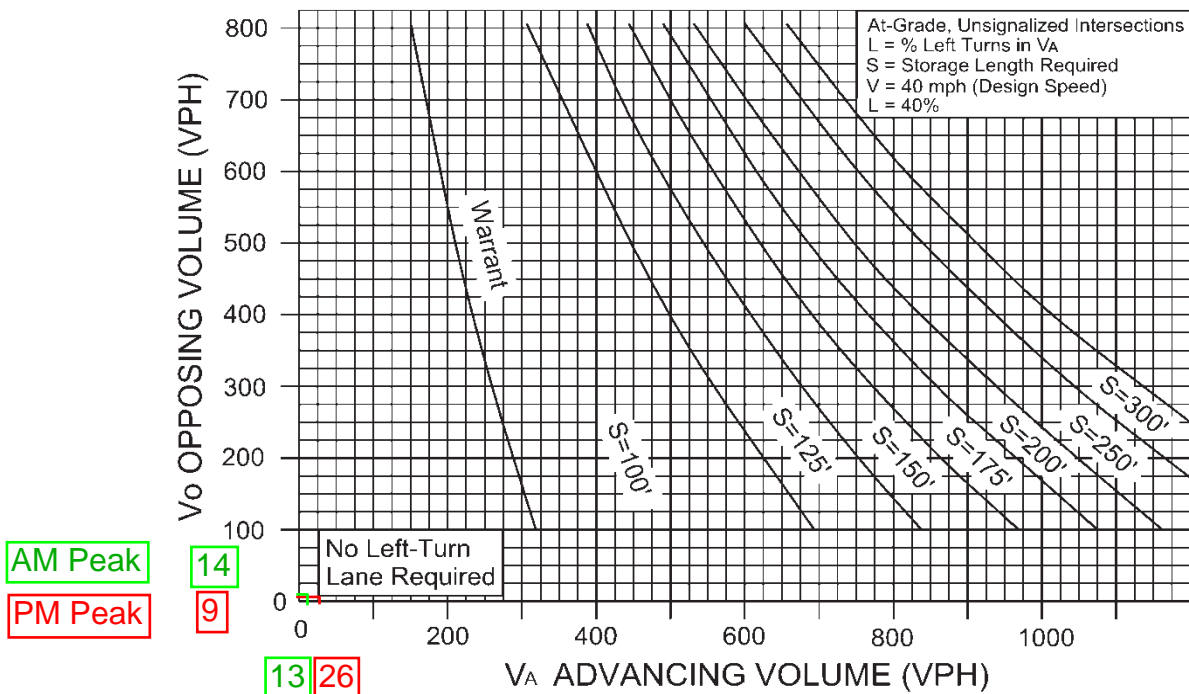


FIGURE 3-10

Cliff Farm Road at Driveway 4
Northbound Left-turn Lane Warrant
Build (2025) Volumes

F-63

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

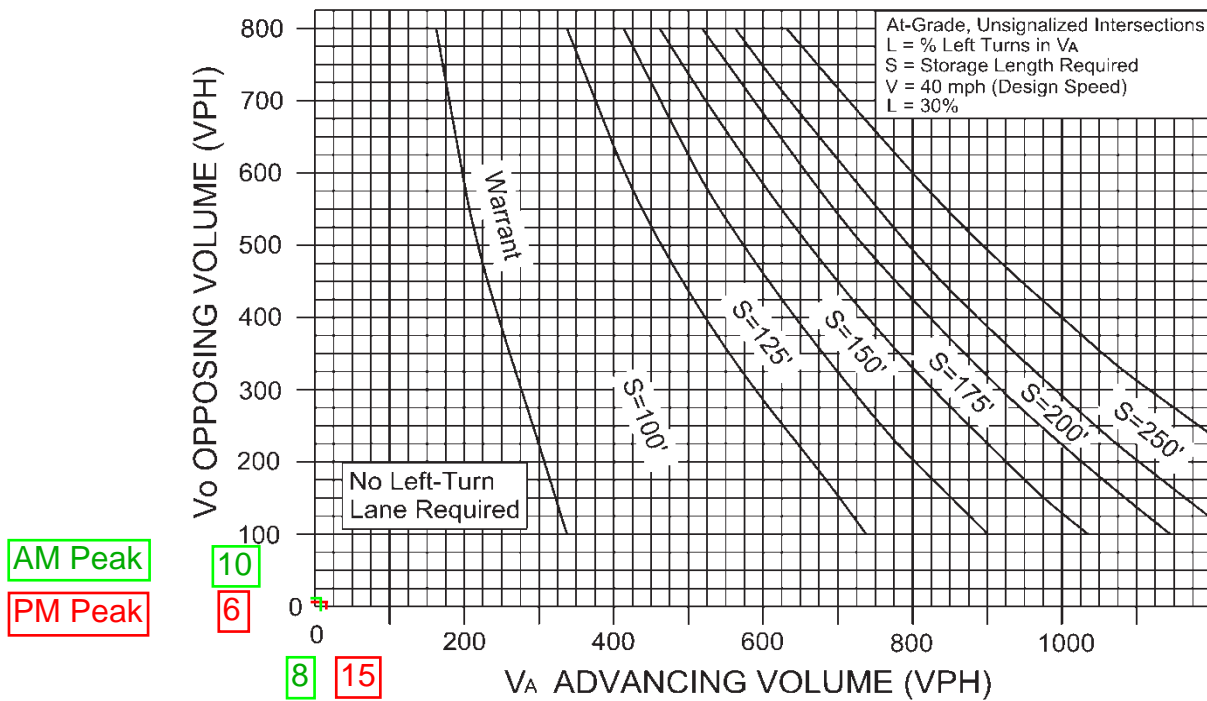


FIGURE 3-9

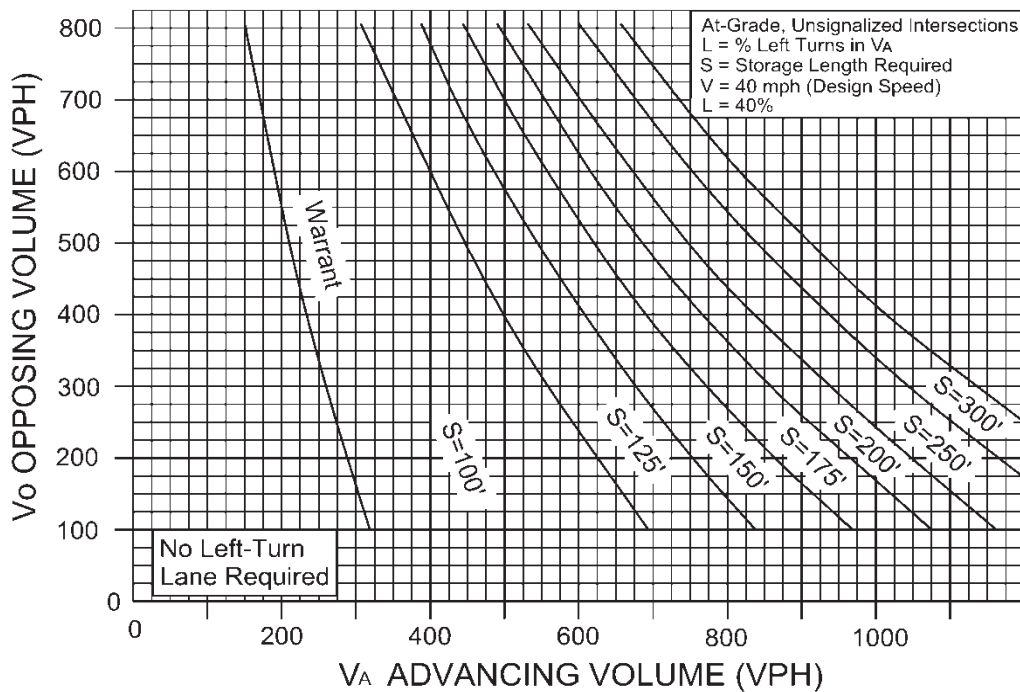


FIGURE 3-10




Clift Farm Road - Stafford, VA
1: Leeland Road & Clift Farm Road

Existing (2020) Conditions
Timing Plan: AM Peak Hour

Intersection

Int Delay, s/veh 0.5

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	5	62	171	1	1	9
Future Vol, veh/h	5	62	171	1	1	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	5	67	186	1	1	10

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	187	0	-	0	264	187
Stage 1	-	-	-	-	187	-
Stage 2	-	-	-	-	77	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1387	-	-	-	725	855
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	946	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1387	-	-	-	722	855
Mov Cap-2 Maneuver	-	-	-	-	722	-
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	946	-

Approach EB WB SB

HCM Control Delay, s	0.6	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1387	-	-	-	840
HCM Lane V/C Ratio	0.004	-	-	-	0.013
HCM Control Delay (s)	7.6	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0




Clift Farm Road - Stafford, VA
1: Leeland Road & Clift Farm Road

Existing (2020) Conditions
Timing Plan: PM Peak Hour

Intersection

Int Delay, s/veh 0.5

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	9	171	62	1	1	5
Future Vol, veh/h	9	171	62	1	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	10	186	67	1	1	5

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	68	0	-	0	274	68
Stage 1	-	-	-	-	68	-
Stage 2	-	-	-	-	206	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1533	-	-	-	716	995
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	829	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1533	-	-	-	711	995
Mov Cap-2 Maneuver	-	-	-	-	711	-
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	829	-

Approach EB WB SB

HCM Control Delay, s	0.4	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1533	-	-	-	933
HCM Lane V/C Ratio	0.006	-	-	-	0.007
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0




Clift Farm Road - Stafford, VA
1: Leeland Road & Clift Farm Road

No-Build (2025) Conditions
Timing Plan: AM Peak Hour

Intersection

Int Delay, s/veh 0.5

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	5	65	180	1	1	9
Future Vol, veh/h	5	65	180	1	1	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	5	71	196	1	1	10

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	197	0	-	0	278	197
Stage 1	-	-	-	-	197	-
Stage 2	-	-	-	-	81	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1376	-	-	-	712	844
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	942	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1376	-	-	-	709	844
Mov Cap-2 Maneuver	-	-	-	-	709	-
Stage 1	-	-	-	-	833	-
Stage 2	-	-	-	-	942	-

Approach EB WB SB

HCM Control Delay, s	0.5	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1376	-	-	-	828
HCM Lane V/C Ratio	0.004	-	-	-	0.013
HCM Control Delay (s)	7.6	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0




Clift Farm Road - Stafford, VA
1: Leeland Road & Clift Farm Road

No-Build (2025) Conditions
Timing Plan: PM Peak Hour

Intersection

Int Delay, s/veh 0.5

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	9	180	65	1	1	5
Future Vol, veh/h	9	180	65	1	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	10	196	71	1	1	5

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	72	0	-	0	288	72
Stage 1	-	-	-	-	72	-
Stage 2	-	-	-	-	216	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1528	-	-	-	702	990
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	820	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1528	-	-	-	697	990
Mov Cap-2 Maneuver	-	-	-	-	697	-
Stage 1	-	-	-	-	944	-
Stage 2	-	-	-	-	820	-

Approach EB WB SB

HCM Control Delay, s	0.4	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1528	-	-	-	925
HCM Lane V/C Ratio	0.006	-	-	-	0.007
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0




Clift Farm Road - Stafford, VA
1: Leeland Road & Clift Farm Road

Build (2025) Conditions
Timing Plan: AM Peak Hour

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
----------	-----	-----	-----	-----	-----	-----

Lane Configurations						
Traffic Vol, veh/h	24	65	180	3	5	48
Future Vol, veh/h	24	65	180	3	5	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	26	71	196	3	5	52

Major/Minor	Major1	Major2	Minor2
-------------	--------	--------	--------

Conflicting Flow All	199	0	0	321	198
Stage 1	-	-	-	198	-
Stage 2	-	-	-	123	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1373	-	-	673	843
Stage 1	-	-	-	835	-
Stage 2	-	-	-	902	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1373	-	-	660	843
Mov Cap-2 Maneuver	-	-	-	660	-
Stage 1	-	-	-	818	-
Stage 2	-	-	-	902	-

Approach	EB	WB	SB
----------	----	----	----

HCM Control Delay, s	2.1	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
-----------------------	-----	-----	-----	-----	-------




Capacity (veh/h)	1373	-	-	-	822
HCM Lane V/C Ratio	0.019	-	-	-	0.07
HCM Control Delay (s)	7.7	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Clift Farm Road - Stafford, VA
1: Leeland Road & Clift Farm Road

Build (2025) Conditions
Timing Plan: PM Peak Hour

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	180	65	6	4	27
Future Vol, veh/h	50	180	65	6	4	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	194	70	6	4	29

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	76	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1523	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1523	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1523	-	-	-	913
HCM Lane V/C Ratio	0.035	-	-	-	0.037
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1