LEMAY ROAD SIDEWALK GAP REPORT

Lemay Road from Vandegrift Avenue to Ardennes Avenue

Twinbrook Safe Routes to School and Transit Access Feasibility Studies
City of Rockville Contract No. BCS 2017-01H

December 2024

Prepared For:

City of Rockville
111 Maryland Ave,
Rockville, Maryland 20850

Prepared By:

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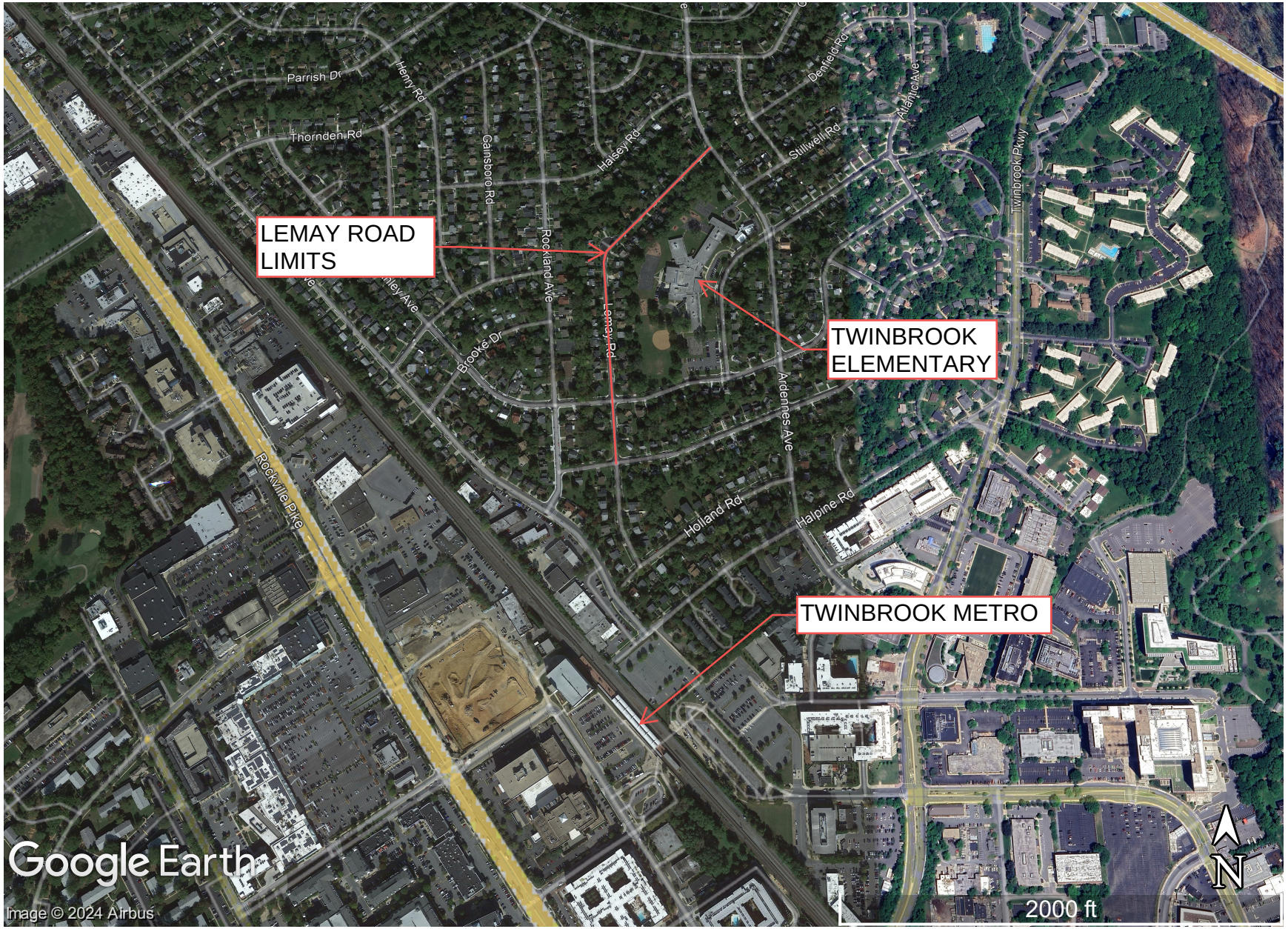
1. LOCATION MAP



LEMAY ROAD
FIGURE 1: LOCATION MAP

I. PROJECT INTRODUCTION

This report has been prepared for the City of Rockville as one of their Vision Zero Projects. Vision Zero is a priority initiative of the Mayor and Council to create safe and livable neighborhoods. The Twinbrook Safe Routes to School and Transit Access feasibility study focuses on improving multimodal access and mobility in the Twinbrook neighborhood in Rockville. The goal of this project is to evaluate the feasibility of constructing new sidewalks along roads and identify opportunities to improve intersection safety for all modes of transportation, especially for trips to and from Twinbrook Elementary School and the Twinbrook Metro Station.

The following sidewalk segments were studied:

1. Brooke Drive between Lewis Avenue and Rockland Avenue
2. Crawford Drive between Rockcrest Circle and Hillcrest Park
3. Crawford Drive between Atlantic Avenue and Ardennes Avenue
4. Halsey Road between Henry Road and Ardennes Avenue
5. Lemay Road between Vandegrift Avenue and Ardennes Avenue
6. Midway Avenue between Crawford Dive and Stillwell Road
7. Wade Avenue between Edmonston Drive and Crawford Drive

The intersections studied included:

1. Ardennes Avenue and Crawford Drive
2. Ardennes Avenue and Halsey Road
3. Ardennes Avenue and Halpine Road
4. Ardennes Avenue and Ridgway Avenue
5. Ardennes Avenue and Wainwright Avenue
6. Chapman Avenue and Bouic Avenue
7. Chapman Avenue and Twinbrook Parkway
8. Lemay Road and Ridgway Avenue

This project was funded by a Maryland Department of Transportation (MDOT) Transportation Alternatives (TA) Program grant, and the improvements and cost estimate are proposed by the project team consisting of Mercado Consultants and AECOM.

II. PROJECT DESCRIPTION

This report discusses the feasibility of sidewalk improvements along the western side of Halsey Road between Vandegrift Avenue and Ardennes Avenue. Please see Appendix A for the sidewalk options and cost estimate.

III. DESIGN CRITERIA AND ASSUMPTIONS

The design criteria used for the proposed sidewalks comes from the ADA Standards for Accessible Design and the recently adopted Public Right-of-Way Accessibility Guidelines. A 5-foot minimum width sidewalk is proposed to meet this standard. The running slopes on the ramps are 12:1 maximum, and the proposed landing pads are a minimum of 5-foot x 5-foot with a 48:1 maximum cross-slope. The depressed landing pads located at crossings contain a 2-foot wide minimum detectable warning surface.

The buffer between the proposed sidewalk and back of curb is a minimum 2-foot but may vary to avoid impacts with utilities or trees. Proposed sidewalk must also tie into adjacent existing sidewalk where applicable.

It is assumed the sidewalk is also proposed entirely within the City of Rockville's right-of-way. Temporary construction easements will only be necessary for driveway reconstruction to tie-in to existing driveway grades. Driveways will be reconstructed in-kind. Impacted fences, mailboxes, and other resident belongings located within the City of Rockville's right-of-way are to be relocated. Impacted steps or resident walkways are to be reconstructed to tie into the proposed sidewalk. The study looked at shifting sidewalk to avoid moving utilities such as inlets, fire hydrants, and utility poles. At a time of more detailed design, the City of Rockville should coordinate with Pepco about moving utility poles.

Retaining walls or knee walls are to be proposed at locations with steep slope adjacent to the proposed sidewalk.

Marked crosswalks are proposed at intersections along the proposed sidewalk. Proposed marked crosswalks are to include advanced warning signage and stop bars at stop-controlled intersections. The MD MUTCD is to be followed for crosswalk placement. Per the MD MUTCD marked crosswalks are to be 6-foot wide minimum.

The Fire Department Access Performance-Based Design Guide also dictates the roadway clear width to be 20-feet minimum for emergency vehicles. The curb radius recommended at intersections is 25-feet minimum and was used to upgrade curb radii throughout the site. Intersections used specific AASHTO design vehicles proposed by the City of Rockville.

IV. EXISTING CONDITIONS

Lemay Road is an undivided two-way road, classified as a secondary residential street. The southernmost limits of the study, the intersection of Lemay Road and Vandegrift Avenue, is located 0.4 miles from the Twinbrook Metro Station and 0.3 miles from Twinbrook Elementary. The northernmost limits of the study, the intersection of Lemay Road and Ardennes Avenue, is located 0.7 miles from the Twinbrook Metro Station and 0.2 miles from Twinbrook Elementary School.

The proposed sidewalk gap on Lemay Road extends from Vandegrift Avenue to Ardennes Avenue and measures approximately 1950 linear feet. The limits of Lemay Road are intersected by three streets, Vandegrift Avenue, Ridgway Avenue, and Ardennes Avenue. All the intersecting roads have existing sidewalk to tie into on both sides of the road. There is an Intersection Improvement Study taking place at the intersection of Lemay Road and Ridgway Avenue.

Existing utilities poles and fire hydrants are located on the west side of Lemay Road throughout the entire study limits. There are many trees on both sides of Lemay Road. The roadway clear width is approximately 25-feet along Lemay Road, except in one section where the roadway clear width increases to approximately 73-feet. There are residents on both the east and west sides of Lemay Road who do not have a driveway. On street parking is not limited to houses without a driveway, there are multiple vehicles parked on the street throughout the study limits.

There is a very steep grade change between the edge of road and front of resident's homes for approximately one-third of homes between Ridgway Avenue and Ardennes Avenue. The road is at a higher elevation that the front of resident's homes at many locations.

Please see Appendix B for existing site photos.

V. CRASH DATA

There is one police-reported crash at this location during the 2018-2022 study period. Please see Appendix C for Crash Data.

VI. ALTERNATIVES CONSIDERED

Two alternatives were considered for the western sidewalk gap along Lemay Road. Both alternatives were designed using the criteria mentioned in the Design Criteria and Assumptions section. The first alternative considered for Lemay Road, Option 1, was to keep a consistent clear road width. This meant moving the curb alignment between 5923 and 5933 Lemay Road. Existing roadway clear width increases between these homes to up to 73-feet, and the proposed design maintained an approximate 25-foot width through the study limits. Behind the new curb alignment, a 2-foot buffer is proposed and then 5-foot wide sidewalk. The existing asphalt behind the proposed curb and sidewalk would no longer remain and the City of Rockville would need to decide how to convert this space. Option 1 impacts include tree removal (26), driveway impact (18), and easements required (19).

The second alternative on the west side of Lemay Road, Option 2, was similarly designed except for moving the curb alignment. In this option the existing curb alignment was maintained throughout the study limits. Impacts of Option 2 include tree removal (27), bush removal (4), driveways impact (19), and easements required (15).

Options 1 and 2 both tie into adjacent existing sidewalk at Vandegrift Avenue, Ridgway Avenue, and Ardennes Avenue. Both options propose continental style marked crosswalks with stop bars across Lemay Road at Ridgway Avenue, and across Lemay Road at Ardennes Avenue. Both options also propose marked crosswalks with advanced warning signs across the west side of Ridgway Avenue at Lemay Road.

VII. PUBLIC INPUT

Residents and the Study Team participated in the walk the block meeting for Lemay Road sidewalk gap on May 30th. The primary concerns were related to the proximity of the sidewalk to the right-of-way, and if the sidewalk would require property impacts. Residents were also very concerned with the tree removal required for either option. Many residents were content with the existing condition of having sidewalk only on the east side of Lemay Road. Another primary concern for a few residents was flooding. Currently some residents experience flooding on their property due to the existing drainage conditions on their properties. Their main concern is the additional impervious areas would worsen conditions. Please see Appendix C for formal resident comments received for this location.

VIII. RECOMMENDATIONS

The study team recommends not proceeding with any proposed sidewalk on the west side of Lemay Road from Vandegrift Avenue to Ardennes Avenue. The study team came to this conclusion based on several factors. Residents showed strong opposition through the in-person “walk the block” meeting as well as formal written comments. Residents had strong opposition to the tree removal required for either option. There was also resident concern over an existing drainage issue that may be aggravated with the addition of sidewalk. The removal of on-street parking in Option 1 was also not preferred. Construction costs were also high for either option due to the new curb alignment in Option 1 or retaining wall in Options 2.

A. IMPACTS:

Option 1 impacts include:
- Tree removal: 26
- Bush removal: 0
- Driveways impacted: 18
- Easements required: 19

Option 2 impacts include:
- Tree removal: 27
- Bush removal: 4
- Driveways impacted: 19
- Easements required: 15

B. COST ESTIMATE:

Project cost was estimated using the unit cost method plus an overall 40% contingency to reflect the current level of study. Unit costs were gathered for proposed items in each option and quantities were gathered. The unit costs used were derived from similar projects within Montgomery County. The approximate cost for constructing Option 1 is $615,000 and for Option 2 is $610,000. Please see Appendix A for cost estimate breakdown.

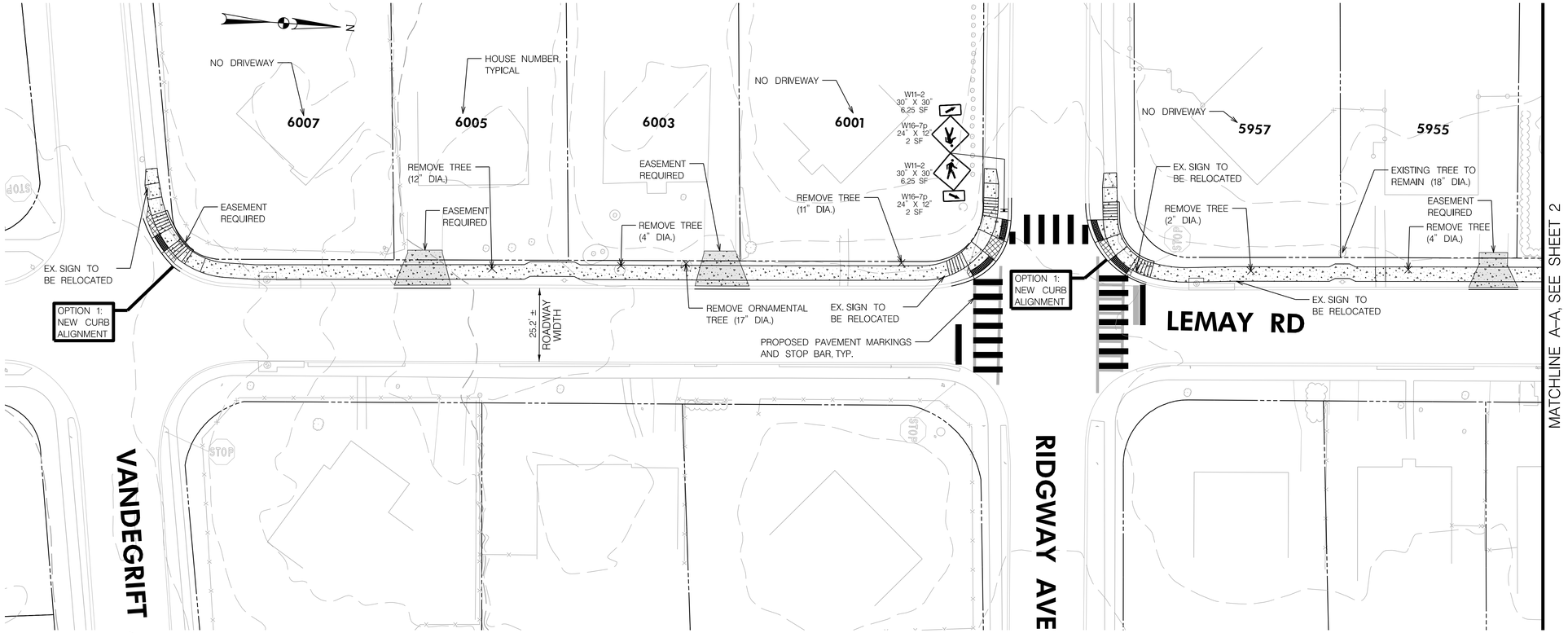
IX. SUMMARY

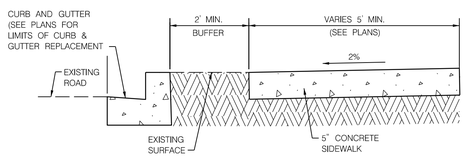
Construction of the sidewalk on Lemay Road is not recommended.

Options 1 was met with strong resident opposition for moving the curb alignment which eliminated some on-street parking. Both options had opposition due to the tree impacts and concern over increased flooding due to added impervious sidewalk. Construction costs are also high for either option due to the new curb alignment for Option 1 or the segments of retaining wall needed for Option 2.

APPENDIX A:

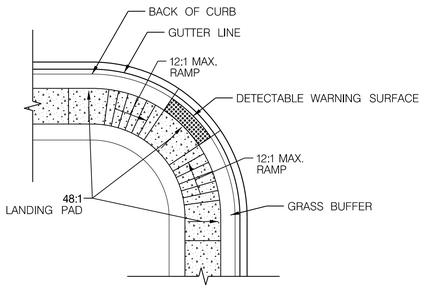
PLAN SHEET(S) AND ESTIMATE





DETAIL FOR SIDEWALK CONSTRUCTION

NOT TO SCALE



NOTES:

1. DIRECTION OF 2% CROSS SLOPE WILL BE CONSISTENT WITH EXISTING DRAINAGE CONDITIONS.
2. A CURB SHALL BE ADDED TO THE BACK OF THE SIDEWALK WHERE NEEDED TO PROTECT EXISTING LANDCAPE AND WHERE THE SLOPE BEHIND THE SIDEWALK IS GREATER THAN 10 PERCENT.
3. EXISTING MULCH BEDS SHALL RETURN TO MULCH BEDS IF DISTURBED.

LEGEND

- 5 INCH CONCRETE SIDEWALK
- CONCRETE REMOVAL
- 8 INCH PORTLAND CEMENT CONCRETE DRIVEWAY
- 8 INCH ASPHALT DRIVEWAY
- DETECTABLE WARNING SURFACE
- NEW CURB
- APPROX. RIGHT OF WAY
- ADA RAMP

OPTION 1 NOTES:

1. TREES TO BE REMOVED: 26
2. UTILITIES TO BE RELOCATED: 3
3. DRIVEWAYS IMPACTED: 18
4. EASEMENTS REQUIRED: 19

DRAFT

MERCADO CONSULTANTS, INC.

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

NOTE: TOPOGRAPHY BASED ON MOBILE LIDAR SCAN

20' 0 20' 40'
SCALE: 1" = 20'

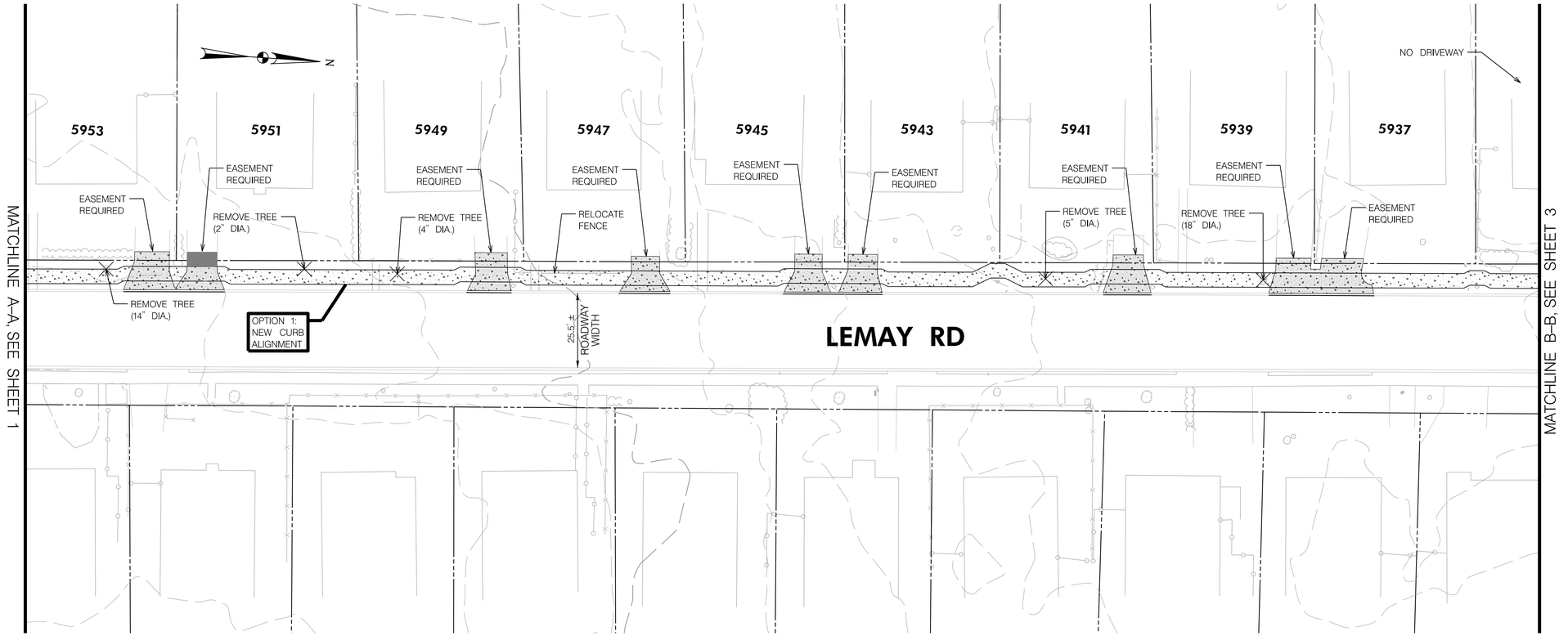
SIDEWALK GAP PLANS
LEMAY RD FROM VANDEGRIFT AVE TO ARDENNES AVE – OPTION 1

TWINBROOK SAFE ROUTES TO SCHOOL AND TRANSIT ACCESS FEASIBILITY STUDIES
City of Rockville, Maryland

DATE SUBMITTED: 10/07/2024
CONTRACT NO. BCS 2017-01H

SCALE 1"=20'

SHEET NO. 1 OF 4



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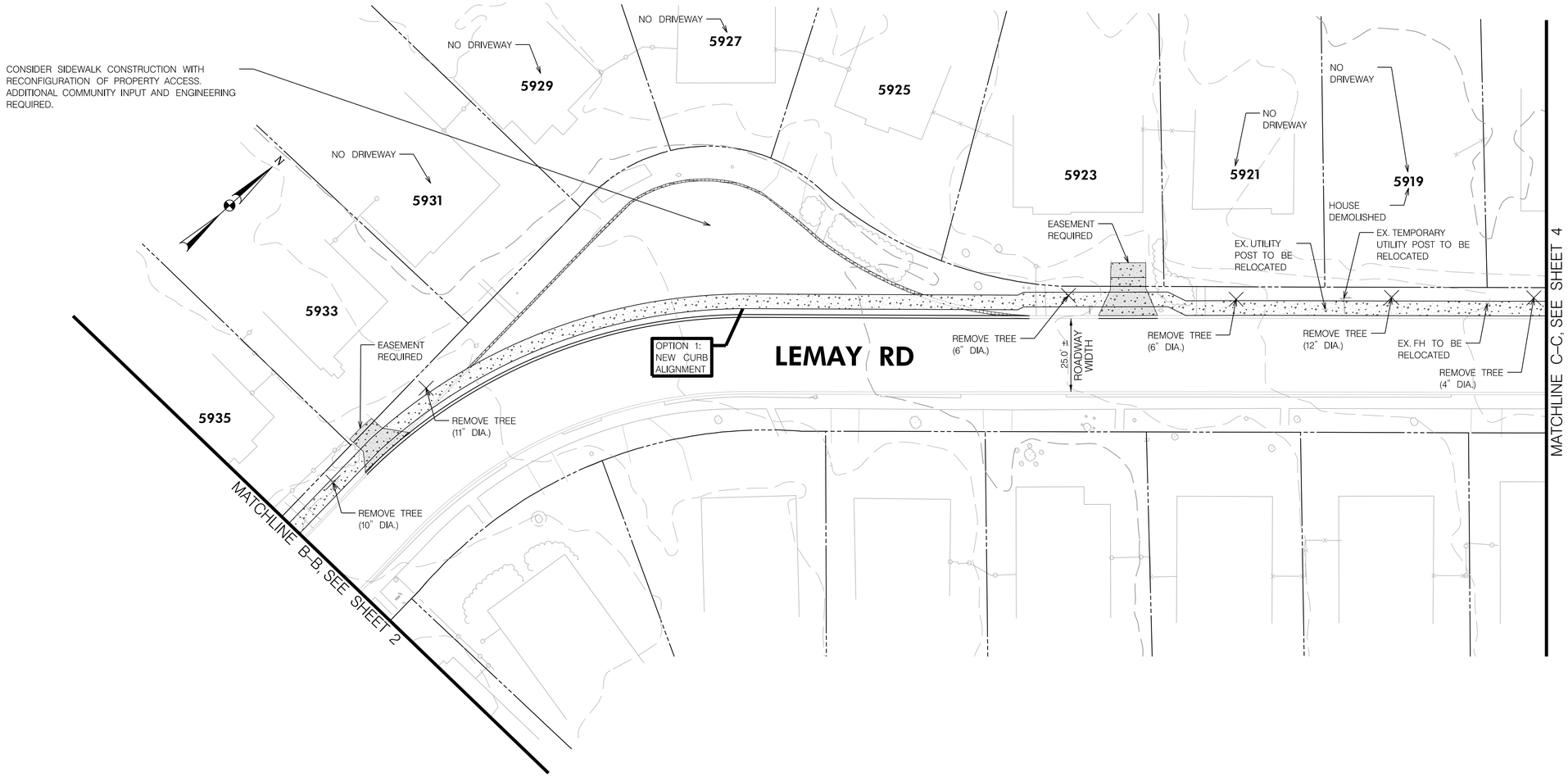

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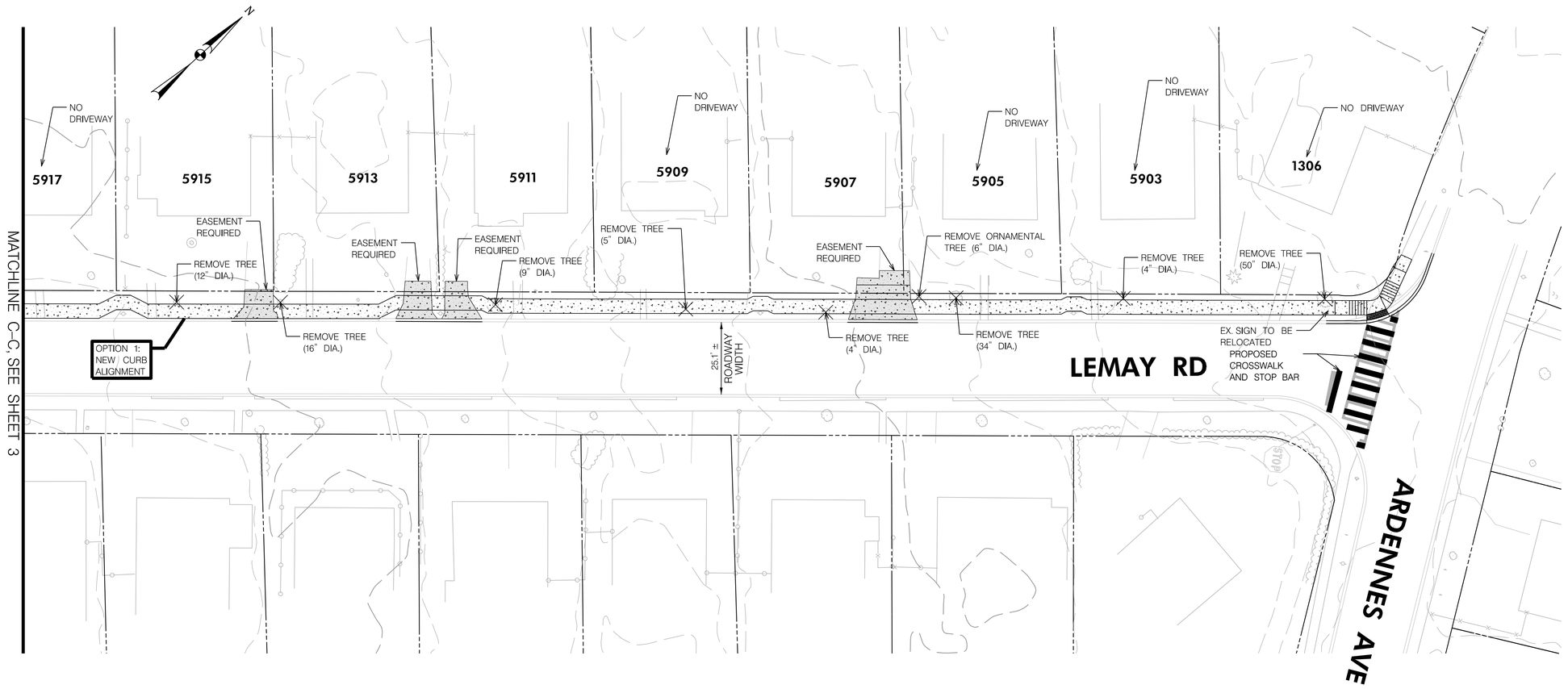

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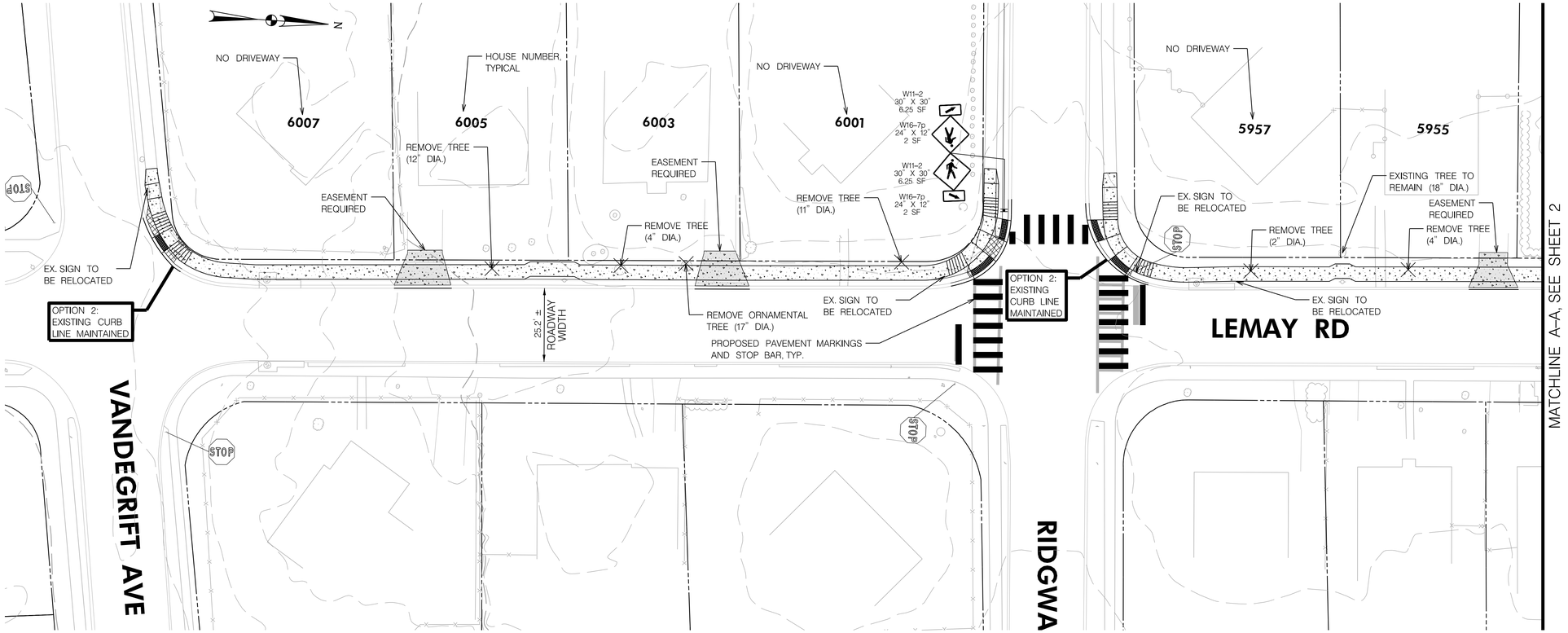

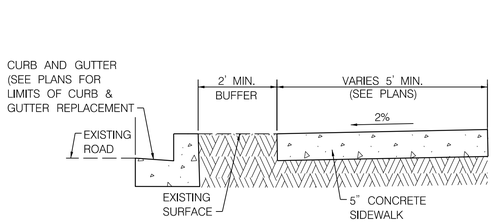

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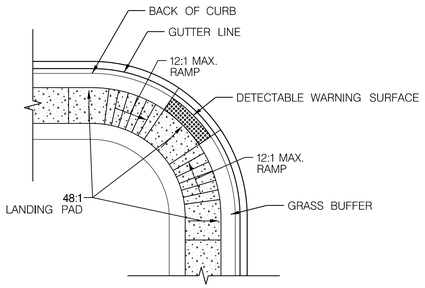

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OPTION 2 NOTES:

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2. BUSHES TO BE REMOVED: 4
3. UTILITIES TO BE RELOCATED: 3
4. DRIVEWAYS IMPACTED: 19
5. EASEMENTS REQUIRED: 15

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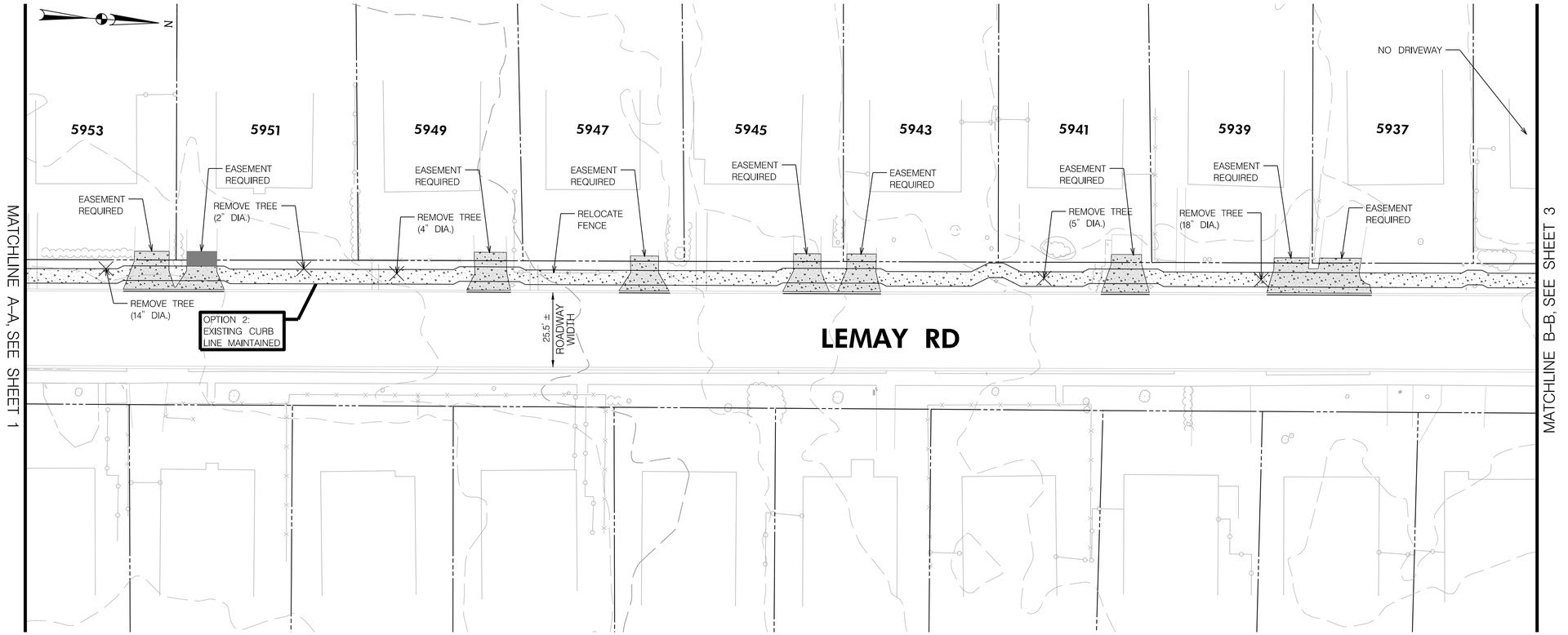

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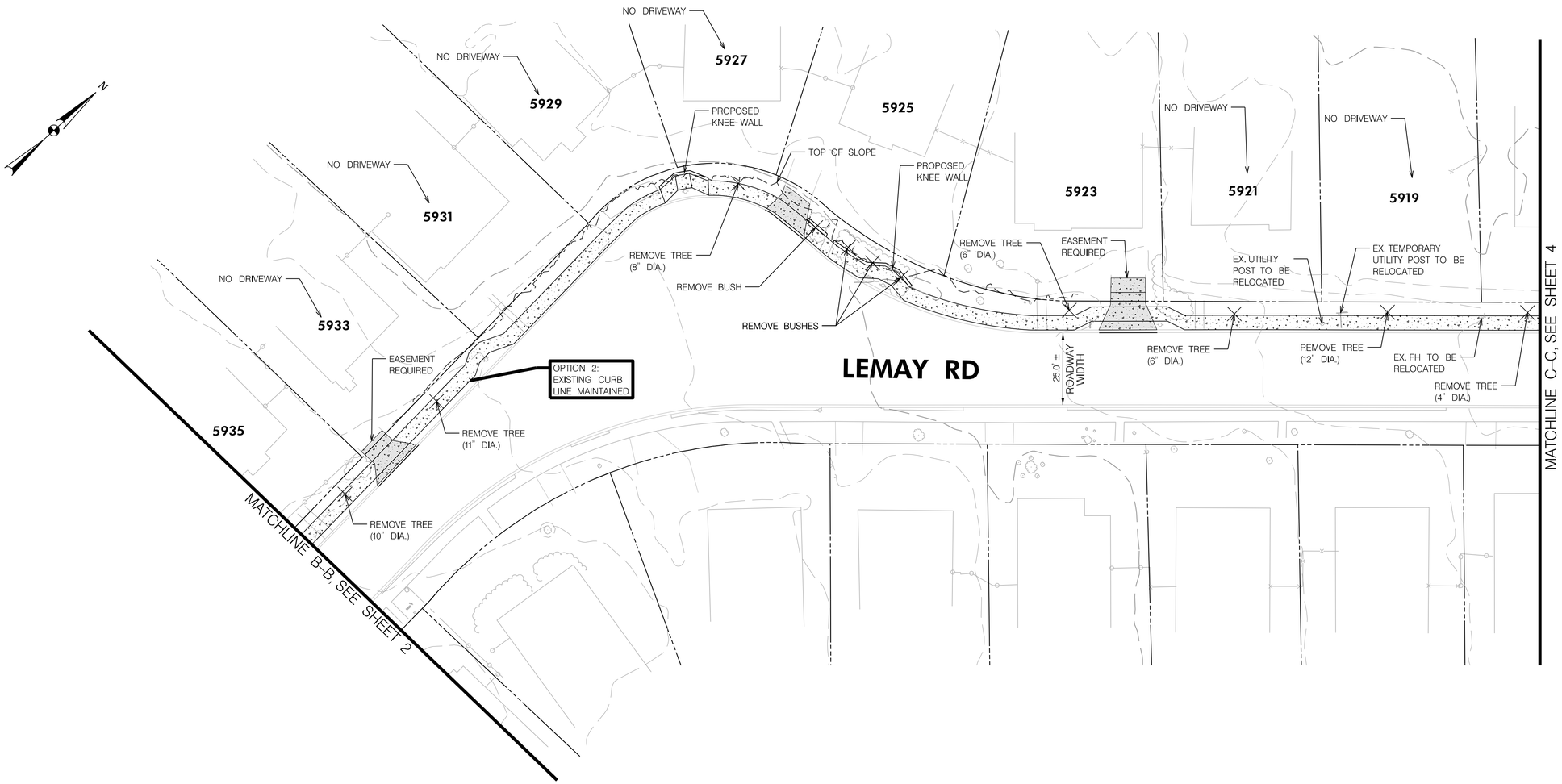

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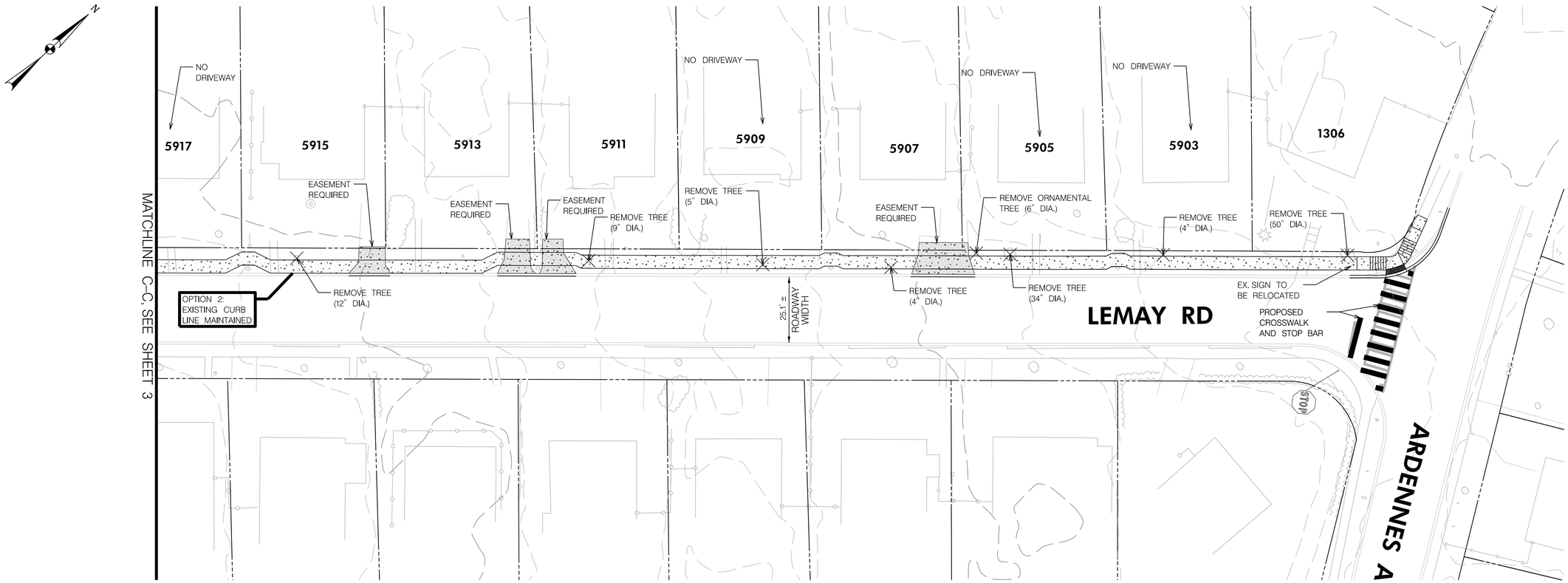

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SHEET NO. 4 OF 4

Engineer's Cost Estimate

Contract No. BCS 2017-01H
Twinbrook Safe Routes to School and
Transit Access Feasibility Studies
Lemay Road - Option 1
December 30, 2024

ITEM NO.	CATEGORY CODE	ITEM DESCRIPTION	UNIT	VANDEGRIFT TO RIDGWAY QUANTITY	VANDEGRIFT TO RIDGWAY UNIT COST	VANDEGRIFT TO RIDGWAY TOTAL COST	RIDGWAY TO ARDENNES QUANTITY	RIDGWAY TO ARDENNES UNIT COST	RIDGWAY TO ARDENNES TOTAL COST	TOTAL COST
	CATEGORY 1									
		TREE REMOVAL	EA	4	$1,000.00	4,000.00	22	$1,000.00	22,000.00	26,000.00
					CATEGORY 1 TOTAL	**$4,000.00**			**$22,000.00**	**$26,000.00**
	CATEGORY 2									
		CLASS 1 EXCAVATION	CY	33	$60.00	$1,980.00	170	$60.00	$10,200.00	$12,180.00
					CATEGORY 2 TOTAL	**$1,980.00**			**$10,200.00**	**$12,180.00**
	CATEGORY 3									
		STEPS OR PATH RELOCATION (SET)	EA	2	$500.00	$1,000.00	19	$500.00	$9,500.00	$10,500.00
					CATEGORY 3 TOTAL	**$1,000.00**			**$9,500.00**	**$10,500.00**
	CATEGORY 4									
					CATEGORY 4 TOTAL	**$0.00**			**$0.00**	**$0.00**
	CATEGORY 5									
		HOT ASPHALT MIX FOR DRIVEWAY	TON	0	$175.00	$0.00	2	$175.00	$350.00	$350.00
		PAVEMENT MARKINGS FOR CROSSWALK	LF	71	$5.00	$355.00	303	$5.00	$1,515.00	$1,870.00
		PAVEMENT MARKINGS FOR STOP BAR	LF	14	$5.00	$70.00	27	$5.00	$135.00	$205.00
					CATEGORY 5 TOTAL	**$425.00**			**$2,000.00**	**$2,425.00**
	CATEGORY 6									
		5 INCH CONCRETE FOR SIDEWALK	CY	25	$1,000.00	$25,000.00	111	$1,000.00	$111,000.00	$136,000.00
		7 INCH CONCRETE FOR DRIVEWAY	CY	8	$1,500.00	$12,000.00	57	$1,500.00	$85,500.00	$97,500.00
		TYPE A CURB ANY HEIGHT OR DEPTH	LF	17	$100.00	$1,700.00	27	$100.00	$2,700.00	$4,400.00
		TYPE A COMBINATION CURB AND GUTTER ANY HEIGHT OR DEPTH	LF	103	$150.00	$15,450.00	591	$150.00	$88,650.00	$104,100.00
					CATEGORY 6 TOTAL	**$54,150.00**			**$287,850.00**	**$342,000.00**
	CATEGORY 7									
					CATEGORY 7 TOTAL	**$0.00**			**$0.00**	**$0.00**
	CATEGORY 8									
		UTILITY RELOCATION	EA	0	$15,000.00	0.00	3	$15,000.00	45,000.00	45,000.00
		SHEET ALUMINUM SIGN	SF	17	$45.00	742.50	0	$45.00	0.00	742.50
					CATEGORY 8 TOTAL	**$742.50**			**$45,000.00**	**$45,742.50**
					SUBTOTAL	**$62,297.50**		**SUBTOTAL**	**$376,550.00**	**$438,847.50**
					40% CONTINGENCY	**$24,919.00**		**40% CONTINGENCY**	**$150,620.00**	**$175,539.00**
					TOTAL	**$87,216.50**		**TOTAL**	**$527,170.00**	**$614,386.50**

Engineer's Cost Estimate

Contract No. BCS 2017-01H
Twinbrook Safe Routes to School and
Transit Access Feasibility Studies
Lemay Road - Option 2
December 30, 2024

ITEM NO.	CATEGORY CODE	ITEM DESCRIPTION	UNIT	VANDEGRIFT TO RIDGWAY QUANTITY	VANDEGRIFT TO RIDGWAY UNIT COST	VANDEGRIFT TO RIDGWAY TOTAL COST	RIDGWAY TO ARDENNES QUANTITY	RIDGWAY TO ARDENNES UNIT COST	RIDGWAY TO ARDENNES TOTAL COST	TOTAL COST
	CATEGORY 1									
		TREE REMOVAL	EA	4	$1,000.00	4,000.00	23	$1,000.00	23,000.00	27,000.00
		BUSH REMOVAL	EA	0	$250.00	0.00	4	$250.00	1,000.00	1,000.00
					CATEGORY 1 TOTAL	**$4,000.00**			**$24,000.00**	**$28,000.00**
	CATEGORY 2									
		CLASS 1 EXCAVATION	CY	33	$60.00	$1,980.00	170	$60.00	$10,200.00	$12,180.00
					CATEGORY 2 TOTAL	**$1,980.00**			**$10,200.00**	**$12,180.00**
	CATEGORY 3									
		STEPS OR PATH RELOCATION (SET)	EA	2	$500.00	$1,000.00	21	$500.00	$10,500.00	$11,500.00
		KNEE WALL	LF	0	$350.00	$0.00	62	$350.00	$21,700.00	$21,700.00
					CATEGORY 3 TOTAL	**$1,000.00**			**$32,200.00**	**$33,200.00**
	CATEGORY 4									
					CATEGORY 4 TOTAL	**$0.00**			**$0.00**	**$0.00**
	CATEGORY 5									
		HOT ASPHALT MIX FOR DRIVEWAY	TON	0	$175.00	$0.00	2	$175.00	$350.00	$350.00
		PAVEMENT MARKINGS FOR CROSSWALK	LF	71	$5.00	$355.00	303	$5.00	$1,515.00	$1,870.00
		PAVEMENT MARKINGS FOR STOP BAR	LF	14	$5.00	$70.00	27	$5.00	$135.00	$205.00
					CATEGORY 5 TOTAL	**$425.00**			**$2,000.00**	**$2,425.00**
	CATEGORY 6									
		5 INCH CONCRETE FOR SIDEWALK	CY	24	$1,000.00	$24,000.00	113	$1,000.00	$113,000.00	$137,000.00
		7 INCH CONCRETE FOR DRIVEWAY	CY	7	$1,500.00	$10,500.00	59	$1,500.00	$88,500.00	$99,000.00
		TYPE A CURB ANY HEIGHT OR DEPTH	LF	17	$100.00	$1,700.00	27	$100.00	$2,700.00	$4,400.00
		TYPE A COMBINATION CURB AND GUTTER ANY HEIGHT OR DEPTH	LF	103	$150.00	$15,450.00	388	$150.00	$58,200.00	$73,650.00
					CATEGORY 6 TOTAL	**$51,650.00**			**$262,400.00**	**$314,050.00**
	CATEGORY 7									
					CATEGORY 7 TOTAL	**$0.00**			**$0.00**	**$0.00**
	CATEGORY 8									
		UTILITY RELOCATION	EA	0	$15,000.00	0.00	3	$15,000.00	45,000.00	45,000.00
		SHEET ALUMINUM SIGN	SF	17	$45.00	742.50	0	$45.00	0.00	742.50
					CATEGORY 8 TOTAL	**$742.50**			**$45,000.00**	**$45,742.50**
					SUBTOTAL	**$59,797.50**		**SUBTOTAL**	**$375,800.00**	**$435,597.50**
					40% CONTINGENCY	**$23,919.00**		**40% CONTINGENCY**	**$150,320.00**	**$174,239.00**
					TOTAL	**$83,716.50**		**TOTAL**	**$526,120.00**	**$609,836.50**

APPENDIX B:

SITE PHOTOS

Lemay Road – Looking North toward Vandegrift Avenue

Lemay Road – Looking South toward Vandegrift Avenue

Lemay Road – Looking North toward Ridgway Avenue

Lemay Road – Looking South toward Ridgway Avenue

Lemay Road – Looking North toward Proposed Curb Alignment

Lemay Road – Looking Southwest toward Proposed Curb Alignment

Lemay Road – Looking Northeast toward Ardennes Avenue

Lemay Road – Looking Southwest toward Ardennes Avenue

APPENDIX C:

CRASH DATA REPORT

Maryland State Highway Administration

Office of Traffic and Safety - Traffic Development and Support

SHA ADC Study Worksheet Output rev. 10/2017-1

Name: Robert Booker

Date: 04/19/2024

Location: LEMAY RD ~ ARDENNES AVE - VANDEGRIFT AVE

Logmiles: From 0 To 0.37 Length: 0.37

County: Montgomery, D3

Period: January 01, 2018 To December 31, 2022

Note:

YEAR >>	2018	2019	2020	2021	2022	Total
Fatal	0	0	0	0	0	0
No. Killed	0	0	0	0	0	0
Injury	0	0	0	0	1	1
No. Injured	0	0	0	0	2	2
Prop. Damage	0	0	0	0	0	0
Total Crashes	0	0	0	0	1	1
Severity Index	0	0	0	0	2	Avg 0
Opposite Dir.	0	0	0	0	0	0
Rear End	0	0	0	0	0	0
Sideswipe	0	0	0	0	0	0
Left Turn	0	0	0	0	0	0
Angle	0	0	0	0	1	1
Pedestrian	0	0	0	0	0	0
Parked Veh.	0	0	0	0	0	0
Fixed Object	0	0	0	0	0	0
Other	0	0	0	0	0	0
U-Turn	0	0	0	0	0	0
Backing	0	0	0	0	0	0
Animal	0	0	0	0	0	0
Railroad	0	0	0	0	0	0
Fire / Expl.	0	0	0	0	0	0
Overturn	0	0	0	0	0	0
Truck Related	0	0	0	0	0	0
Night Time	0	0	0	0	0	0
Wet Surface	0	0	0	0	0	0
Alcohol	0	0	0	0	0	0
Intersection	0	0	0	0	1	1
Total Vehicles	0	0	0	0	2	2
Total Trucks	0	0	0	0	0	0
Truck %	0.0	0.0	0.0	0.0	0.0	0.0

Comments:

Maryland State Highway Administration
Office of Traffic and Safety - Traffic Development and Support
SHA ADC Summary Output rev. 10/2017-1

Name: Robert Booker
Date: 04/19/2024

Location: LEMAY RD ~ ARDENNES AVE - VANDEGRIFT AVE
Logmiles: From 0 To 0.37 Length: 0.37
County: Montgomery, D3
Period: January 1, 2018 To December 31, 2022
Note:

SEVERITY	FATAL	INJURY	P-DAMAGE	TOTAL
Accidents		1		1
Veh Occ		2		
Pedestrian				

AVG Severity Index: 0

DAY OF THE WEEK

SUN	MON	TUE	WED	THU	FRI	SAT	UNK
				1			

MONTH OF THE YEAR

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	UNK
1												

CONDITION	DRIVER	PED
Normal:	2	
Alcohol:		
Other:		

TIME

	12	01	02	03	04	05	06	07	08	09	10	11	UNK
AM:										1			
PM:													

VEHICLES INVOLVED PER ACCIDENT

1	2	3	4	5	6+	UNK	TOTAL
	1						2

VEHICLE TYPE

	Motorcycle/Moped		Tractor Trailer
1	Passenger Vehicle		Passenger Bus
	Sport Utility Veh		School Bus
1	Pick-Up Truck		Emergency Veh
	Trucks (2+3 axles)		Other Types

SURFACE

	Wet
1	Dry
	Sno/Ice
	Mud
	Other

MOVEMENTS

NORTH			SOUTH			EAST			WEST		
LF	ST	RT	LF	ST	RT	LF	ST	RT	LF	ST	RT
	1						1				

OTHER MOVEMENTS

PROBABLE CAUSES

	Influence of Drugs		Improper Lane Change
	Influence of Alcohol		Improper Backing
	Influence of Medication		Improper Passing
	Influence of Combined Subst.		Improper Signal
	Physical/Mental Difficulty		Improper Parking
	Fell Asleep/Fainted, etc.		Passenger Interfere/Obstruct.
1	Fail to give full Attention		Illegally in Roadway
	Lic. Restr. Non-compliance		Bicycle Violation
	Fail to Drive in Single Lane		Clothing Not Visible
	Improper Right Turn on Red		Sleet, Hail, Freezing Rain
	Fail to Yield Right-of-way		Severe Crosswinds
	Fail to Obey Stop Sign		Rain, Snow
	Fail to Obey Traffic Signal		Animal
	Fail to Obey Other Control		Vision Obstruction
	Fail to Keep Right of Center		Vehicle Defect
	Fail to Stop for School Bus		Wet
	Wrong Way on One Way		Icy or Snow Covered
	Exceeded Speed Limit		Debris or Obstruction
	Operator Using Cell Phone		Ruts, Holes or Bumps
	Stopping in Lane Roadway		Road Under Construction
	Too Fast for Conditions		Traffic Control Device Inop.
	Followed too Closely		Shoulders Low, Soft or High
	Improper Turn		Other or Unknown

COLLISION TYPES		FATAL	INJURY	PROP	TOTAL
Opposite Dir	Related:				
	UnRelated:				
Rear End	Related:				
	UnRelated:				
Sideswipe	Related:				
	UnRelated:				
Left Turn	Related:				
	UnRelated:				
Angle	Related:		1		1
	UnRelated:				
Pedestrian	Related:				
	UnRelated:				
Parked Vehicle	Related:				
	UnRelated:				
Other Collision	Related:				
	UnRelated:				

F	Bridge	01
I	Building	02
X	Culvert/Ditch	03
E	Curb	04
D	Guardrail/Barrier	05
	Embankment	06
O	Fence	07
B	Light Pole	08
J	Sign Pole	09
E	Other Pole	10
C	Tree/Shrubbery	11
T	Contr. Barrier	12
S	Crash Attenuator	13
	Other Fixed Object	

WEATHER

1	Clear / Cloudy
	Foggy
	Raining
	Snow / Sleet
	Other

ILLUMINATION

1	Day
	Dawn/Dusk
	Dark - Lights On
	Dark - No Lights
	Other

TOTALS

18-22	1

Maryland State Highway Administration

Office of Traffic and Safety - Traffic Development and Support

SHA ADC History Output rev. 10/2023-1 - Combined Year Listing

Name: Robert Booker

Date: 04/19/2024

Location: LEMAY RD ~ ARDENNES AVE - VANDEGRIFT AVE

Logmiles: From 0 To 0.37 Length: 0.37

County: Montgomery, D3 Period: January 01, 2018 To December 31, 2022

Note:

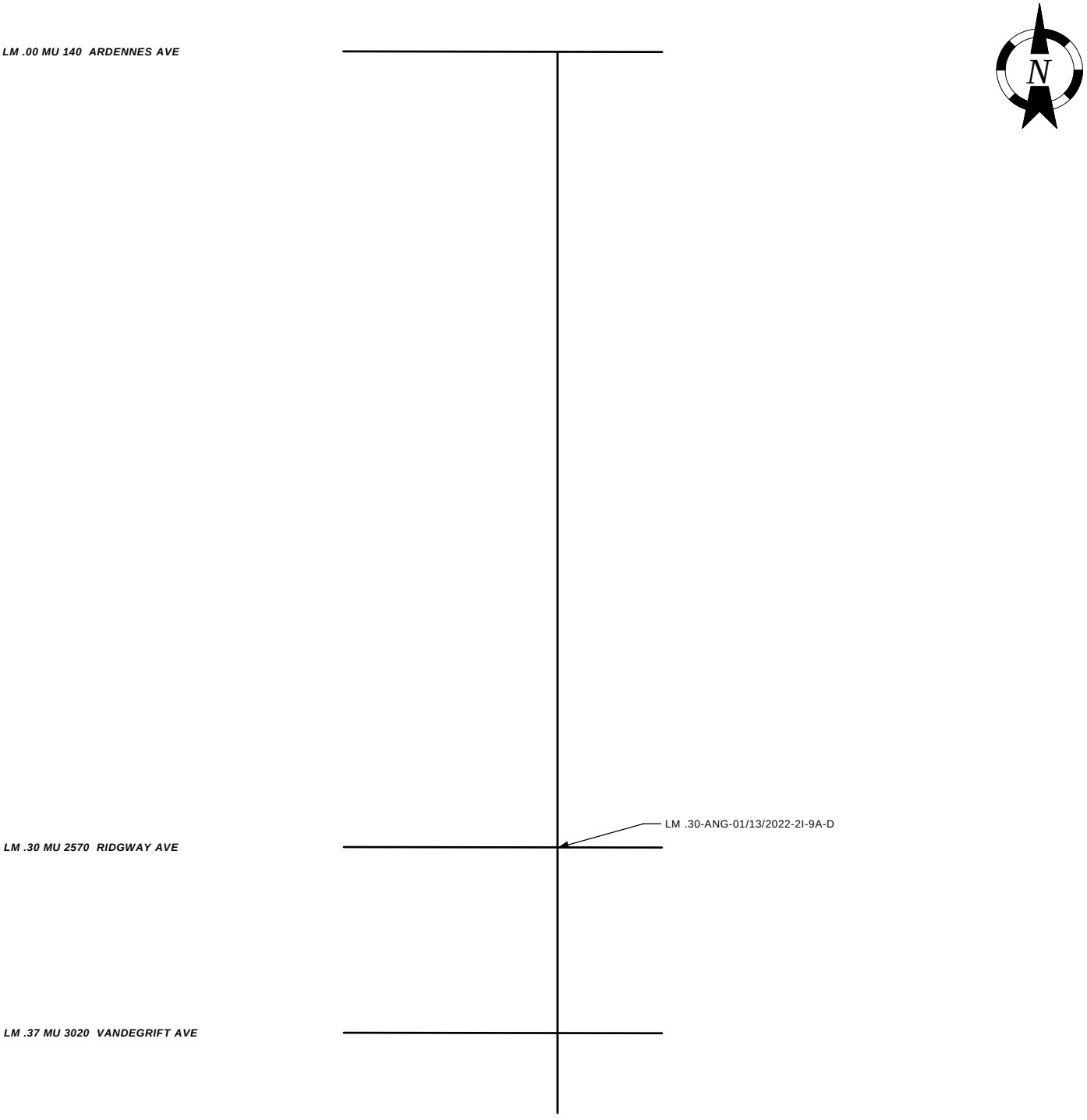
MilePt	Int Rel	Date	Severity	Time	Light	Surface	Alc Rel	FixObj	Collision	Movement V1	Movement V2	Probable Cause
MU1660												
0.300	☐	01132022	2 Injured	09A	Day	Dry			ANGLE	NS	ES	Fail to give full attention

Fixed Object: 01 = Bridge 02 = Building 03 = Culvert/Ditch 04 = Curb 05 = Guardrail/Barrier 06 = Embankment 07 = Fence
08 = Light Pole 09 = Sign Post 10 = Other Pole 11 = Tree/Shrubbery 12 = Construction Barrier 13 = Crash Attenuator

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Office of Traffic & Safety
Traffic Development & Support Division
Crash Analysis Safety Team

Location: Lemay Rd ~ Ardennes Ave to Vandegriift Ave
County: MONTGOMERY
Study Period: 01/01/2018 to 12/31/2022
Analyst: Robert L. Booker, Jr. Date: 04/19/2024



KEY:LogMile-CollisionType (FixedObjectStruck) -Date-Severity-Time-Surface-Illumination-Alcohol

template 12-14-23

F - Fatalities	SS - Sideswipe	FO - Fixed Object	OFFRD - Off Road	00 - Not Applicable	08 - Light Support Pole	N - Night
I - Injury	PARKD - Parked Vehicle	OOBJ - Other Object	RUNWY - Downhill Runaway	01 - Bridge or Overpass	09 - Sign Support Pole	X - Alcohol
P - Property Damage	PED - Pedestrian	OT - Overturn	FIRE - Explosion Fire	02 - Building	10 - Other Pole	D - Dry Surface
OD - Opposite Direction	BIKE - Bicycle	SPILL - Spilled Cargo	BCKNG - Backing	03 - Culvert or Ditch	11 - Tree Shrubbery	W - Wet Surface
LT - Left Turn	PEDAL - Other Pedalcycle	JCKKNF - Jackknife	UTURN - U-Turn	04 - Curb	12 - Construction Barrier	I - Icy Surface
RE - Rear End	CONVY - Other Conveyance	SPRTD - Units Separated	OTHR - Other	05 - Guardrail or Barrier	13 - Crash Attenuator	S - Snowy Surface
ANG - Angle	ANIML - Animal	NCOLL - Other Non Collision	UNK - Unknown	06 - Embankment	88 - Other	
				07 - Fence	99 - Unknown	

APPENDIX D:

RESIDENT COMMENTS

Resident Comment 1:
Not crazy about this idea –
Utility poles can't build a sidewalk with poles in the middle
Permission for properties

Does not support reducing the roadway width
Vehicles are too wide
Garbage trucks
Maintain on-street parking

Not worth the tax money for the convenience of a few people on the other side of the street.

Resident Comment 2:

Dear Mayor and Council of Rockville,

I would like to thank the city staff for hosting the public meeting on May 30, 2024, regarding the proposed sidewalk on the west side of Lemay Rd. in Twinbrook, and for fielding residents' questions. Below are my preliminary comments regarding the proposed sidewalk, recommendations for the city's sidewalk feasibility evaluation, as well as mitigation measures that should be considered as part of the evaluation and ultimate decision.

While I generally support new sidewalks *where there is a demonstrated need to provide pedestrian safety*, I oppose the proposed sidewalk on the west side of Lemay Rd. because I don't think it will serve that purpose, and for many other reasons described below.

1. The Proposed Sidewalk on West Side of Lemay Rd. Will Not Serve the Intended Purpose.

The most popular pedestrian routes on Lemay Rd. are between Ardennes or any residence on Lemay Rd. and the Twinbrook Metro Station or locations on the other side of the metro and train tracks along Rockville Pike. Some pedestrians (e.g., dog walkers) also use Lemay Rd. to walk a loop around Twinbrook Elementary School. The proposed sidewalk would follow the outside curve of Lemay Rd. and is therefore a longer route than the existing sidewalk for pedestrians to those destinations. People generally take the shortest routes between points A and B, and so they will continue to use the existing sidewalk on the inside of the curve over using a longer route.

If there were a new sidewalk on the outside curve (west side) of Lemay Rd., it would only encourage more pedestrian crossings, especially at the L-shaped curve at the middle of the segment between Ardennes and Ridgeway by walkers taking short cuts to the shorter, existing sidewalk. It is important to note that this L-shaped curve creates a blind spot for drivers going either direction on Lemay Rd. Adding a sidewalk that would encourage more street crossings there *would increase safety hazards* for both pedestrians and drivers on Lemay Rd. Therefore, the proposed sidewalk on Lemay Rd. would not serve the city's stated purpose of creating safe routes to schools.

The existing sidewalk on the east side of Lemay Rd. provides a shorter (more direct) and safer route than a new sidewalk on the west side of Lemay Rd. would. The city's sidewalk evaluation should clearly and *thoroughly demonstrate both quantitatively and qualitatively* that: (a) pedestrians would use a sidewalk that would be a longer route to the most popular destinations; (b) pedestrian crossings would not increase at the L-shaped curve, or elsewhere on Lemay Rd. to reach the short cut (i.e., the existing sidewalk); and (c) a new sidewalk on the west side of Lemay Rd. would improve safety for pedestrians and drivers.

2. There is Low Existing Foot Traffic on Lemay Rd - No Demonstrated Need to Justify the Costs for a New Sidewalk on the West Side of Lemay Rd.

There is not enough foot traffic on Lemay Rd to justify a new, 5-ft-wide sidewalk. In the 10 years I've lived on Lemay Rd, it is extremely rare to see elementary school children use Lemay Rd. to walk to school. Almost all parents drive their kids to school for numerous reasons. I think mostly residents, mail carriers, and occasionally teachers on their lunch breaks use the existing sidewalk. The existing sidewalk on the east side of Lemay Rd. easily accommodates all the current foot traffic to the metro and other destinations, including strollers, wheelchairs, scooters, etc. A new sidewalk on the west side of the street wouldn't be used enough to justify the cost, as other Lemay Rd. neighbors stated during the public meeting on May 30, 2024.

Furthermore, 5-ft-wide sidewalk would be excessively wide for the type of street and the amount of foot traffic. Lemay Rd. is a low-traffic, side street in a quiet residential neighborhood, not a major thoroughfare like Rockville Pike. There is no demonstrated need for a promenade-style sidewalk on the west side of Lemay Rd. Constructing such a sidewalk would be akin to building a bridge to nowhere.

Spending funds on excessively wide sidewalks that wouldn't be used over other higher priority needs would be a colossal waste of the city of Rockville residents' hard earned tax dollars and a disservice to the city residents. The city's sidewalk evaluation should include a vigorous survey of residents' use of the sidewalks in Twinbrook and specifically on Lemay Rd. to take their children to Twinbrook Elementary School. The evaluation should use the survey results to clearly and thoroughly demonstrate whether there is a need for a new sidewalk on Lemay Rd. and show transparently how and why a sidewalk on the west side is prioritized in relation to, *and at the expense of*, other needs in the city such as: addressing food insecurity, housing shortages, stormwater runoff management and preventing/mitigating dangerous flash flooding around homes and apartment buildings, and preparing other adaptions to mitigate for climate change, especially in Environmental Justice (EJ) communities like Twinbrook.

3. The Adverse Environmental Effects of the Proposed Sidewalk on the West Side of Lemay Rd. Would Outweigh Any Benefits.

There are numerous adverse environmental effects associated with adding the proposed 1,628-foot-long by 5-foot-wide sidewalk on the west side of Lemay Rd.

- Flooding = Adverse Environmental Effects & Increase in Safety Hazards —>
    - Adding 8,140 square feet (i.e., 1,628 ft x 5 ft) of impervious surface will only exacerbate the many known stormwater runoff and flooding issues on our street, in Twinbrook, and downstream from Twinbrook. During the public meeting, many neighbors described existing flooding in their yards after any typical rain event. A new sidewalk on Lemay Rd. would increase flooding on our street, in Twinbrook, and downstream from Twinbrook because there are insufficient existing stormwater management structures and new stormwater management proposals to address the increases in runoff. The sidewalk evaluation must contemplate all additional costs associated with addressing stormwater management needs.
    - Stormwater from Twinbrook neighborhood drains into the creeks Twinbrook Park, Rockcrest Park, and along the bike path between these parks, flows through two large culverts under Twinbrook Parkway, and then towards Rock Creek Park. I frequently walk and pull non-native, invasive plants these parks and the signs of frequent flash flooding are evident: (a) severe soil erosion throughout the parks and along the bike paths; (b) leaves and debris lines on riparian tree trunks and banks; (c) substrate around the fence posts along the bike path is compromised and the fence posts and path itself are gradually falling towards the creek; (d) structurally unstable concrete walls & fencing around the culverts that allow water to pass under Ardennes and Atlantic Ave. The concrete walls & fencing around the culverts that allow water to pass under Ardennes

and Atlantic Ave. were repaired within the past few years, but they are already structurally compromised again by frequent flash flooding and associated erosion.

- The remnant Hurricane Ida storms caused flash flooding from Twinbrook neighborhood that killed a 19-year old man in the apartment complex across from Twinbrook Park (https://www.washingtonpost.com/transportation/2021/09/01/storm-closed-roads-flooding-dc/). This man's death was tragic. Sadly, this could happen again because stormwater management in Twinbrook and Rockville in general has not been sufficiently addressed commensurate with increased precipitation and stronger more frequent storms associated with climate change. The amount of flooding from stormwater runoff from Twinbrook and Rockville at large and associated safety hazards to people and their properties is unacceptable.
- This year weather experts have warned that we should expect a very active hurricane season. The city should focus on preparing for remnants of storms like Ida to continue to affect Rockville and its residents. The city should use current weather data that accounts for climate change/is calibrated to the recent trends of higher rainfall and more frequent and stronger storms in the NE U.S. for its sidewalk evaluation.
- In addition, clay soils are prominent in Twinbrook and after rain events water pools in some areas for a week or more. Standing pools of water provide opportunities for mosquitoes to proliferate and there are many mosquito-borne illnesses. Increases in runoff and pooling would increase Twinbrook residents' exposure to mosquitoes and mosquito-borne illnesses. The city's sidewalk evaluation should clearly show should not exacerbate flooding or pooling from stormwater runoff and associated health risks to residents

- Tree Removal = Loss of Environmental Benefits & Increase Adverse Environmental and Human Health Effects —>
  - Because the proposed sidewalk on the west side of Lemay Rd would be 5-ft wide, the city would have to remove ALL of the 19 lovely city trees in the right-of-way (ROW) along the 1,628-foot-long block, as well as the beautiful rain garden on my property. The city staff at the public meeting on May 30, 2024, explained that the trees and other plants would not be replaced on the majority of the west side of Lemay Rd because *there wouldn't be enough space* remaining in the ROW to plant trees with a 5-ft-wide sidewalk.
  - There also wouldn't be enough space remaining for me to plant a new rain garden. My rain garden is small, but it is packed with a diverse assemblage of native plants that provide cover and forage for wildlife year-round. The species composition of my rain garden includes buttonbushes, swamp marigolds (*Bidens aristosa*), obedient plants, false indigos, purple coneflowers, jewelweeds, common milkweeds, swamp milkweeds, blue-eyed grass, violets, a stone crop species, as well as some perennial ornamental bulbs (irises & daffodils). My rain garden and other plantings in my yard have effectively absorbed the majority of runoff from my property compared with the solid lawn that was present when I bought my house. Without the rain garden, my property will become a net addition to stormwater runoff volume again.
  - The existing city trees on the west side of Lemay Rd. are all over 3 inches diameter at breast height (dbh) and most are larger than that. Trees 3 inches dbh or greater provide spring-summer-fall roosting habitat for federally listed and proposed bat species like the northern long-eared bat and tricolored bat. Tree removal, especially during the active

season could kill these species' pups, displace them from roosting sites, and degrade suitable foraging habitat.

- The city trees provide significant shade in the summer for the homes on the west side of Lemay Rd. Eliminating shade and adding 8,140 square feet of new pavement in front of our houses would increase the heat island effect on our properties and increase the strain on our air conditioning systems to keep our houses cool during the summer. Many residents can't afford to pay even more for energy costs amidst the current very prolonged inflation. Heat islands also exacerbate existing health issues (e.g., migraines, asthma, heart conditions, etc.), can cause new health conditions, and can cause dangerous conditions for vulnerable populations during electricity outages. This will put residents on our side of the street at a distinct and significant disadvantage in the midst of increasingly hotter temperatures and extended heat waves associated with climate change. Twinbrook is part of an Environmental Justice (EJ) community that was determined to be both underserved and overburdened (https://www.mdlcv.org/wp-content/uploads/2023/12/MontgomeryCounty_EJ.pdf). Increasing the heat island effect by building an excessively wide sidewalk and not replacing city trees on the west side of Lemay Rd. would represent a "disproportionately high and adverse effect" on the health and overall resiliency to the effects of climate change for the residents of that side of the street. Engaging in development projects that result in "disproportionately high and adverse effects" on EJ communities is unethical and directly contrary to the goals of the city's Climate Action Plan (CAP).
- The city trees also provide significant screening of the unsightly power and cable lines on the west side of Lemay Rd. and increase residents' property values for that reason. The city staff indicated that typically sidewalks increase property values. That may generally be the case. However, that statement did not factor in the adverse effect of exposed power lines on aesthetics (curb appeal), not to mention the potential safety hazards associated with having the power lines so close to houses. Late last year, a power line fell on the driveway of a neighbor's property on Ardennes, blocking access (egress and ingress). A couple of years ago, a very tall pine tree fell on the power lines in front of our house and was suspended there for about 10 hours -- posing an extreme safety hazard to us, blocking our egress from our property, knocking out the power until Pepco could finally arrive to cut the tree from the power lines. The top of the tree was dangling over the street and above the existing sidewalk that entire time. It was a very stressful situation because the tree could have fallen on residents or pedestrians or damaged cars or other property, and apparently neither Pepco nor the Rockville Police had enough staff or equipment to block off the area to minimize potential safety hazards. Residents with power lines on their side of the street are already adversely affected by the overhead lines themselves and removing all the city trees would exacerbate that issue, further lowering property values. The sidewalk evaluation should include a thorough evaluation of the effects of adding a sidewalk on the power line side of Lemay Rd. on safety hazards, aesthetics, and associated property values.
- A street with mismatched sidewalk sizes would also be damaging to historic value, extremely aesthetically displeasing, and would further risk property values for all the residents on Lemay Rd.

4. Recommendations the Sidewalk Feasibility Evaluation

In addition to the recommendations for the Sidewalk Feasibility Evaluation that are outlined

above, I request that the city complete a thorough environmental assessment (EA) or environmental impact statement (EIS) of the direct, indirect, and cumulative effects of adding a sidewalk on the west side of Lemay Rd, and all the other new proposed sidewalk and paving projects, compared with other viable alternatives, vs. a No Action alternative. The EA or EIS should address: a) stormwater management; b) risk of flooding and damaging residential and commercial properties; c) safety hazards associated with flash flooding in Twinbrook and downstream of Twinbrook (where our stormwater drains); d) heat island effects (health, energy costs, economic stability) on residents, including EJ communities, where sidewalks would permanently eliminate all city trees in the ROW; and e) impacts on fish, wildlife, and plants species, and their habitats, including non-native invasive species and rare, threatened, endangered, proposed, and candidate species, species of concern (at state and federal levels)(e.g., endangered northern long-eared bat, proposed tricolored bat, and candidate monarch butterfly) as well as suitable habitats for these species. As part of the EA/EIS preparation, the city should include consultation with the U.S. Fish and Wildlife Service and Maryland state agencies responsible for fish and wildlife conservation/management, water quality permits, and stormwater management. The city should also follow the U.S. EPA's *Promising Practices* guidance to complete an evaluation of project-related effects on EJ communities. The city should provide a minimum of 60-day public comment period and a public meeting after issuing a draft EA or EIS.

In addition, given that Twinbrook is an EJ community, the city's outreach efforts for all proposed projects, including the proposed sidewalk on the west side of Lemay Rd. should be greatly expanded. The public meeting on May 30, 2024, was originally scheduled for the day before that (May 29, 2024). The only notification of that change that I saw was by happenstance checking the city website the day of the original meeting date. One of my neighbors on Lemay Rd. and I knocked on the doors of about 8 other neighbors' houses on the west side of Lemay Rd. to check whether they knew about the proposal or the public meeting. Most of them were not aware of either. Several of them do not speak English as their first language. It's not clear how many more neighbors on Lemay Rd. are unaware of the proposal and/or didn't know about the public meeting. In addition, I know one neighbor on Lemay Rd. who only received half of the original flyer notification of the public meeting. The other half ripped off and apparently got lost in the mail system. The city staff should be more inclusive and repetitive in their communications for this project to ensure that all the residents receive and understand the proposal, and are aware of the opportunities for public comment.

During the meeting, city staff said we could email to be added to an email distribution list for any updates to the city's process for the sidewalk evaluations. A few days after the meeting, I sent an email, but I still haven't heard back. Please ask city staff to confirm that my email was added to the email distribution list for the proposed sidewalk on the west side of Lemay Rd.

5. Mitigation Measures to Include in the Sidewalk Feasibility Evaluation

If a sidewalk is demonstrated to be necessary for safety purposes on Lemay Rd., I request that the city:

- *Bury the power lines* prior to building the sidewalk to minimize adverse effects to the residents' property values due to lack of city trees or any other vegetation tall enough to screen the existing power lines.
- *Buy solar panel arrays* for residents where city trees will not be replaced due to lack of sufficient space in the ROW after the 5-ft-wide sidewalk construction, to offset increased energy expenses and mitigate adverse health and environmental effects associated with the increased heat island effect.
- *Build new sidewalks that are congruent with existing sidewalk sizes.* Smaller, traditional 3-ft-wide sidewalk widths on side streets and neighborhood streets (like Lemay Rd.) are appropriate and sufficient where existing/historic sidewalks are only about 3-ft-wide. Only major thoroughfares or areas with demonstrated needs should have wider sidewalks.

- *Use permeable pavers on any new sidewalks and when existing sidewalks need replacement*.
- *Set a city-wide standard for a net zero increase in areas paved by the city* to minimize cumulative effects of stormwater runoff and associated flooding & heat island effects. The city of Rockville asks residents not to increase paved areas and to replace existing paved areas with permeable pavers or gardens. The city should hold itself accountable for reducing, or at least not increasing the total extent of paved areas too.

Thank you in advance for considering these comments and recommendations.