

TOWN OF ORANGE



COUNCIL MEETING PACKAGE

MONDAY, NOVEMBER 18, 2024

7:00 P.M.



**Meeting Agenda
Monday, November 18, 2024
Town of Orange Community Meeting Room**

7:00 p.m.

- 1. Call to order by the Mayor.**
- 2. Pledge of Allegiance.**
- 3. Roll Call – Town Council:**

Mayor Martha B. Roby
Vice-Mayor Frederick W. Sherman, Jr.
Councilmember Jason R. Cashell

Councilmember Jeremiah V. Pent
Councilmember Donna Waugh-Robinson

- 4. Adoption of Agenda**
- 5. Public Comment - Town Council receives public input from residents and taxpayers of the Town. Citizens are encouraged to sign up prior to the meeting beginning and turn in a/their slip to the Town Clerk. Please note that Public Comment is limited to 3 minutes per individual.**

[A] Public Comment on Railroad Quiet Zone.

- 6. Consideration of Town Council Meeting Minutes of October 21, 2024.**

- 7. Reports**
[A] Finance Report – (Director of Finance)

- 8. Unfinished Business:**
[A] Continued discussion of Post Office Parking.
[B] Continued discussion of North Madison Road Crosswalk Study.

- 9. New Business:**
[A] Consideration to cancel the January 6th Town Council Work Session meeting, and move the regular Monday, January 20th meeting to Tuesday, January 21st because the 20th falls on a Town Holiday Martin Luther King Jr. Day.

- 10. Adjournment.**

PUBLIC COMMENT



UNFINISHED BUSINESS
November 18, 2024

AGENDA ITEM: 5A

Public Comment on Railroad Quiet Zone.

SUMMARY:

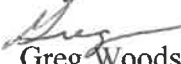
- Please see attached memorandums from the Town Manager and Director of Finance..



**Town of Orange
Town Manager's Office**

119 Belleview Avenue, Orange, Virginia 22960 - 1401
Phone: (540) 672-5505 Fax: (540) 672-4435
Email –townmanager@townoforangeva.gov

MEMORANDUM

TO: Mayor and Council Members
FROM:  Greg Woods, Town Manager
DATE: November 12, 2024
SUBJECT: Quiet Zone – Federal Railroad Administration Response

We have contacted the Federal Railroad Administration (FRA) regarding the Railroad Crossing Elimination (RCE) Grant's applicability for safety improvements that would allow for application for a Quiet Zone within the Town limits for wither all day or nighttime. First, we must recognize that no grant exists to convert to a "Quiet Zone" as that is a regulatory issue. Completing safety improvements are not a guarantee that a quiet zone would be achieved. A Quiet Zone is for a minimum of ½ mile and depending upon railroad, we may have two running from the CSX/BB line and the NS line.

Costs: The criteria and cost for the quiet zone will be determined by Norfolk Southern and VDOT according to the Regional VP – State Relations for NC and VA. This may also require CSX/BB cooperation.

Grants: The RCE is for a minimum of \$1,250,000 of which the Town will be responsible for \$250,000. This grant is competitive and given out based upon need determined by the last 5 years accidents at the crossings. We have none. We are also looking into (as requested) the RAISE grant which may have some applicability.

Benefits: There is a perceived belief that the quiet zone would increase tourism and therefore justify the cost to the taxpayers.

Please see the attached memorandum from the Director of Finance detailing the notes from her discussion with the FRA. At question is whether the match or "cost" to do so is justified as the best use of the taxpayers' dollars. We have several projects that require funding and limited funds above the threshold to keep the Town sound. We have a few projects that are mandated, and others that have been planned and some authorized. The use of funding for the quiet zone could impact those projects. We are currently prioritizing spending of the ARPA funds as the top priority to avoid returning any funding.

Greg Woods

From: Dianna Gomez
Sent: Friday, October 18, 2024 3:08 PM
To: Greg Woods
Subject: Railroad Crossing Elimination Grant Program - Additional information from Stefani

1. The total spend level is actually \$1,250,000 (80% of \$1,250,000 is \$1,000,000) so we have to contribute \$250,000 minimum for each year rather than \$200,000.
2. Quiet Zones are a Regulatory issue and not funded by any grant program. We can only apply for the safety component of Quiet Zones.
3. If there are no accidents in the last five years, it could be a problem since the grant is very competitive.
4. We can apply for sequential cycles in separate years, but there is no preferential treatment. Applications for each year are awarded independent of prior years.
5. The date for the start of the next grant has not been determined yet.
6. The Planning cycle (Track 1) can be below \$1,250,000.
7. Project Development (Track 2) and Final Design/Construction (Track 3) cannot be below \$1,250,000 and if the Planning cycle is combined with either of these stages, the total cannot be below \$1,250,000.
8. Unfortunately, this grant is not geared towards small communities.

Dianna Gomez
Director of Finance
Town of Orange
119 Belleview Avenue
Orange, Virginia 22960
(540) 672-1020



MINUTES

Town Council Meeting Minutes
October 21, 2024
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The Orange Town Council held a regular meeting at 7 p.m. in the Town's Community Meeting Room. Town Councilmembers present were: Vice-Mayor Frederick W. "Rick" Sherman, Jr., Councilmembers Jason Cashell, Jeremiah Pent and Donna Waugh-Robinson. Staff members present were: Town Manager Gregory S. Woods, Town Clerk Wendy J. Chewning, MMC, Town Attorney Catherine Lea, Director of Finance Dianna Gomez, and Deputy Chief Rebecca Nelson. Mayor Martha B. Roby was absent.

CALL TO ORDER

Vice-Mayor Sherman led everyone in the Pledge of Allegiance. The Town Clerk called roll and noted a quorum was present.

ADOPTION OF AGENDA

Vice-Mayor Sherman stated that Mayor Roby was ill, and he would be presiding over the meeting this evening.

A motion was made by Councilmember Waugh-Robinson, seconded by Councilmember Pent, to adopt the agenda, as presented. On vote: Mayor Roby – absent, Vice-Mayor Sherman – aye, Councilmember Cashell – aye, Councilmember Pent – aye, and Councilmember Waugh-Robinson – aye. The motion carried.

PUBLIC COMMENT

There was no public comment.

TOWN COUNCIL CONSIDERED TOWN COUNCIL MEETING MINUTES OF
SEPTEMBER 16TH AND OCTOBER 7TH, 2024

A motion was made by Councilmember Waugh-Robinson, seconded by Councilmember Pent, to adopt the minutes of September 16th and October 7th, 2024, as presented. On vote, Mayor Roby – absent, Vice-Mayor Sherman – aye, Councilmember Cashell – aye, Councilmember Pent – aye, and Councilmember Waugh-Robinson – aye. The motion carried.

REPORTS

DIRECTOR OF FINANCE - FINANCE REPORT

The Director of Finance reported on the third month for FY25.

The Director of Finance reported that the General Fund Tax revenues were \$787K YTD and included one significant YTD favorable variance to budget and that was \$63K for Meals Tax.

The Director of Finance reported that in addition to the favorable tax revenue variances, interest income was \$34K favorable to the budget due to timing of ARPA Fund deposits.

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The Director of Finance reported that Water Sales Revenue YTD was \$482K and was \$73K favorable to the budget.

The Director of Finance reported that Sewer Sales Revenue YTD was \$617K and the revenue was \$41K in favor with the budget.

The Director of Finance reported that payments for the month were \$746K. The Director of Finance reported further that a \$145K payment was made to Sheehy Ford for 3 police vehicles, \$18K was paid to Johnston Construction for Standpipe Construction that will be reimbursed by VDH this month, \$23K was paid to EZ Performance Center for 2 mowers, \$19K paid Ferrebee-Johnson for a chain hoist, \$26K paid Paint n Paper for the Community Room flooring, and \$51K went to WW Associates for Engineering services related to the millimeter screen project. The Director of Finance reported that other payments were normal course of business expenses.

The Director of Finance reported that expenditures from the \$7.6M ARPA funding (including VDH) were \$3.4M ITD, of which \$140K went toward engineering services and equipment for the Liquid Feed project at the Water Plant, \$231K went toward the new SCADA system for the Sewer Plant, \$113K was used for sewer system upgrades, \$123K paid for a dump truck, \$434K had gone to Standpipe Engineering services, a new generator and land, \$107K had been used for the Macon Road Mixer, \$90K covered Water Line Engineering Services, \$446K had been spent on the Sewer Line Engineering services, \$87K covered an intake pump and pump repairs, and \$68K covered engineering services for the millimeter screen project. The Director of Finance reported that we had submitted \$1.562M to VDH for Standpipe Construction and had been reimbursed \$1.426M. The Director of Finance reported further that we had submitted \$136K to VDH for reimbursement and the Water Meter Replacement project was expected to be approximately \$1.256M.

The Director of Finance gave a brief summary from the Virginia Investment Pool Monthly Report: The Director of Finance stated it was anticipated that further rate cuts will occur by year end. The VIP Stable Value fund yield was 5.29% for September; this fund tends to closely track the Fed Funds rate. The Town of Orange had \$971K invested in the fund. The VIP High Quality Bond fund yield was 4.19% for September; this fund benefited from a \$2,894 positive price return with the decline in interest rates. The Town of Orange had \$706K invested in the fund.

VML CONFERENCE

Vice-Mayor Sherman stated that the VML Conference was a good one and they met several people that could help benefit the Town.

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UNFINISHED BUSINESS

TOWN COUNCIL CONSIDERED A VDOT RESOLUTION RES2025-03 CONFIRMING THE LOCALITY'S COMMITMENT TO FUNDING THE LOCALITY'S SHARE OF PROJECTS AND PROVIDE SIGNATORY AUTHORIZATION

The Town Manager stated that during the September 16, 2024, Town Council meeting that the Resolution presented was for a specific road project as well as future road projects. Staff wanted to clear up this with Town Council to make sure that this was understood. The Town Manager stated that if Council wishes the Resolution will stand, as adopted.

Town Council made no changes to the Resolution RES2025-03 adopted on September 16, 2024.

NEW BUSINESS

TOWN COUNCIL DISCUSSED MUSIC IN THE PARK 2025

The Town Manager reported that OEI Events reported attracting on an average 200 to 300 guests per concert for this year's Music In the Park which was a pretty big increase from this year FY2024/25. The Town Manager stated that staff was requesting that Town Council approve the Music in the Park series for 2025/26 and authorize the Town Manager to enter into a contract with OEI Events for the planning of these events. After discussion, it was the consensus of Town Council to proceed with the Music in the Park for 2025-2026 with OEI Events.

TOWN COUNCIL DISCUSSED ORANGE USPS REQUEST FOR DESIGNATED PARKING

The Orange United States Postal Service has made a request for designated parking spaces to be used by the post office only. The Town Manager reported that the space requested was used frequently by people to stop and deposit their mail in the box on the corner, used at night for parking by the Orange School of Performing Arts, and as overflow parking for homes and businesses when needed. The Town Manager reported that he had requested a follow-up meeting about hours required and/or other alternatives and to date had received nothing back from the Postmaster.

The Town Manager stated that parking was at the discretion of Town Council, and he was looking for direction. After discussion, it was the consensus of Town Council to have the Town Manager talk to the Postmaster directly to come up with a solution.

With no further business the meeting adjourned at 7:45 p.m.

Wendy J. Chewning, MMC
Town Clerk

Frederick W. Sherman, Vice-Mayor

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FINANCE REPORT



Town of Orange
Director of Finance's Office

119 Belleview Avenue, Orange Virginia 22960 - 1401
Phone: (540) 672-1020 Fax: (540) 672-2821
Email - directoroffinance@townoforangeva.gov

MEMORANDUM

TO: Mayor and Council Members
FROM: Dianna Gomez, Director of Finance
DATE: November 6, 2024
SUBJECT: Summary Financial Report – October 2024

The following is a summary report of the financial condition of the Town as of October 31, 2024, the fourth period of FY 2025 budget as approved and amended (amendments made in August 2024). The report covers 33% of the current fiscal year. Please review the attached schedules for specific category results.

General Fund

General Fund revenues year to date were \$2,036,007 or 26.49% of the FY 2024 annual budget. Referring to our annual projections spreadsheet (attached), the revenue position for the Net General Fund (excluding reserve usage) is \$207,911 higher than the budget.

Tax revenue for the month was \$375,234 of which 43% was derived from Meals Tax, 15% was derived from Real Estate Tax and 12% came from Personal Property Tax. Tax bills were mailed out early this year and we have received \$57K in Real Estate Tax and \$47K in Personal Property Tax this month, well before the deadline.

Year to date Tax revenue was \$103,452 higher than budget. This was driven by Meals Tax and early collection of Real Estate/Personal Property Taxes.

Year to date Interest Income was \$40,977 favorable to budget due to timing of ARPA spending.

Year to date General Fund expenditures were \$2,478,168 or 32.24% of the amount budgeted for FY 2024. Expenditures are in line for this period considering the timing of the debt payments (\$246,243).

Water Fund

Water Fund revenues year to date were \$619,191 or 11.39% of the annual budget. Year to date revenue (excluding reserve usage) was \$85,587 higher than the budget driven by Water Sales and Interest Income.

"A Main Street Community"
&
"A Designated Enterprise Zone"

Year to date Water Fund expenditures of \$801,979 were 14.76% of the annual budget. Received VDH reimbursement of \$1,425,128 inception to date. Costs are in line with the budget for the period considering the timing of the debt payments (\$99,903) and \$136,424 payment to Johnston Construction that will be reimbursed by VDH in November.

Waste Water Fund

Sewer Fund Revenues year to date were \$769,885 or 25.72% of the annual budget. Year to date revenue (excluding reserve usage) was \$47,255 higher than budget driven by Sewer Sales, Sludge and an increase in the Nutrient Credit Exchange payment.

Year to date Sewer Fund expenditures of \$824,940 were 27.56% of the annual budget. Costs are in line for this period considering the timing of the debt payments (\$136,687) and payment for the dump truck (\$123,214).

Cash Balances

The combined cash balance for the Town's Funds as of October 31, 2024 was \$8,082,686 with \$4,221,513 reserved for projects or dedicated to specific uses. The cash balance includes \$1,676,184 on deposit with the Virginia Investment Pool Trust Fund. Significant payments occurred in July for the US Bank loan.

Debt Balances

A summary of the Town's Debt as of October 31, 2024 is included with this report. The summary includes the significant debt payments and payoffs.

**Town of Orange
Revenue Accounts
Month of October 2024**

Description	FY-2025 Budget	Actual Revenues			Projected		FY-2024 Variance to Budget
		Previous Months	Current Month	FY-2025 Year-To-Date	Remaining Months	FY-2025 Revenues	
General Fund							
Taxes							
Real Estate	640,000	18,334	57,217	75,551	575,412	650,963	10,963
Personal Property	215,000	10,897	46,469	57,367	161,106	218,473	3,473
Public Service Corp.	28,000	-	243	243	27,757	28,000	0
Delinquent	-	-	-	-	-	-	-
Cigarette	66,000	12,600	5,520	18,120	44,000	62,120	(3,880)
Bank Franchise	150,000	-	-	-	150,000	150,000	-
Utility Consumer	231,600	55,971	19,000	74,972	154,400	229,372	(2,228)
Electric Consumption	15,000	3,729	1,160	4,889	10,000	14,889	(111)
Local Sales	370,000	125,749	34,257	160,007	215,835	375,842	5,842
Motor Vehicle Registration Fees	95,000	10,163	21,419	31,582	63,500	95,082	82
Business & Prof. License	200	-	-	-	200	200	-
Meals	1,650,000	475,460	159,499	634,960	1,100,000	1,734,960	84,960
Transient/Occupancy	160,000	45,856	20,781	66,638	100,000	166,638	6,638
Communications	120,000	28,047	9,667	37,714	80,000	117,714	(2,286)
Sub-Total Taxes	3,740,800	786,808	375,234	1,162,042	2,682,210	3,844,252	103,452
Licenses & Permits							
Licenses & Permits	100	175	-	175	-	175	75
Sub-Total Licenses	100	175	-	175	-	175	75
Fines & Forfeitures							
Court Fines	90,000	28,523	9,209	37,732	60,000	97,732	7,732
Sub-Total Fines	90,000	28,523	9,209	37,732	60,000	97,732	7,732
Intergovernmental - State							
Skills Games Fee	-	-	-	-	-	-	-
Rolling Stock	6,600	8,117	-	8,117	-	8,117	1,517
Motor Vehicle Rental	30,000	13,491	4,293	17,784	20,000	37,784	7,784
Mobile Home (RV) Registration	-	-	-	-	-	-	-
Law Enforcement Assistance	132,504	34,312	-	34,312	99,378	133,690	1,186
PPTR Revenue	89,615	89,615	-	89,615	-	89,615	-
State Highway Maint. Fund	1,261,800	327,330	-	327,330	946,350	1,273,680	11,880
Misc. Grants - (DMV) Law Enf. OT	2,000	6,974	51	7,024	-	7,024	5,024
Litter Control Grant	3,745	-	-	-	3,745	3,745	-
Fire Programs Grant	19,108	25,010	-	25,010	-	25,010	5,902
Sub-Total Intergovernmental	1,545,372	504,849	4,344	509,192	1,069,473	1,578,665	33,293
Investments/Sales of Assets							
Interest Income	150,000	71,242	19,735	90,977	100,000	190,977	40,977
TowerCom Capital Lease	-	-	-	-	-	-	-
Sale of Surplus Property	-	-	-	-	-	-	-
Sales of Recycled Materials	-	-	80	80	-	80	80
Sub-Total Investments/Sales of Asset	150,000	71,242	19,815	91,057	100,000	191,057	41,057
User Fees							
Planning & Development Fees	2,500	2,377	361	2,738	750	3,488	988
Transit Collections	22,776	5,421	5,694	11,115	11,388	22,503	(273)
Porterfield Park Shelter	3,000	200	50	250	2,000	2,250	(750)
Depot Community Room	300	340	365	705	200	905	605
Public Works Community Room	2,800	400	315	715	1,868	2,583	(217)
Trash Collection - Commercial	50,000	7,722	2,607	10,329	33,332	43,661	(6,339)
Trash Collection - Residential	106,000	32,300	10,873	43,173	70,668	113,841	7,841
Taylor Park	100	150	-	150	-	150	50
Sub-Total User Fees	187,476	48,910	20,265	69,175	120,206	189,381	1,905
Miscellaneous Revenue							
Misc. General Fund Revenue	10,000	5,998	4,487	10,485	6,664	17,149	7,149
DMV Stop Fees	1,200	358	150	508	800	1,308	108
Administrative Fee	2,000	505	265	770	1,332	2,102	102
VRTA Reimbursements - TOOT	-	13,508	-	13,508	-	13,508	13,508
Expenditure Refunds	20,000	13,419	1,111	14,530	5,000	19,530	(470)
Internal Charges	443,412	110,853	36,951	147,805	295,608	443,413	-
ARPA - NEU FUNDS	-	-	-	-	-	-	-
Capital Fund (Real Estate Applied)	(122,292)	-	-	-	(122,292)	(122,292)	-
Add'l Transfers to Capital Fund	(2,044,992)	-	-	-	(2,044,992)	(2,044,992)	-
Reserve Fund	1,849,555	-	-	-	1,849,555	1,849,555	-
Sub-Total Miscellaneous	158,883	144,642	42,964	187,606	(8,325)	179,281	20,398
Total General Fund	5,872,631	1,585,148	471,831	2,056,979	4,023,564	6,080,543	207,911

**Town of Orange
Revenue Accounts
Month of October 2024**

Description	FY-2025 Budget	Actual Revenues			Projected		FY-2024 Variance to Budget
		Previous Months	Current Month	FY-2025 Year-To-Date	Remaining Months	FY-2025 Revenues	
Capital Fund							
Byrd Street Project	-	-	-	-	-	-	-
VDOT - Paving Reimbursement	616,000	-	-	-	616,000	616,000	-
ISTEA Mainstreet Project	-	-	-	-	-	-	-
ISTEA Railroad Avenue	-	-	-	-	-	-	-
General Fund Capital Proceeds	122,292	-	-	-	122,292	122,292	-
Add'l Transfers from General Fund	1,074,708	-	-	-	1,074,708	1,074,708	-
Loan Proceeds	-	-	-	-	-	-	-
Capital Reserve Fund	-	-	-	-	-	-	-
Total Capital Fund	1,813,000	-	-	-	1,813,000	1,813,000	-
Net General Fund	7,685,631	1,585,148	471,831	2,056,979	5,836,564	7,893,543	207,911
Water Fund							
Investments/Sales of Assets							
Interest Income	36,000	32,614	9,197	41,811	24,000	65,811	29,811
Sale of Surplus Property	-	-	-	-	-	-	-
Sub-Total Investments/Asset Sales	36,000	32,614	9,197	41,811	24,000	65,811	29,811
Utility Revenues							
Water Sales	1,411,000	401,288	125,490	526,779	940,668	1,467,447	56,447
Water Availability	75,000	42,244	-	42,244	33,000	75,244	244
Water Reconnection Fees	20,000	2,800	1,750	4,550	13,332	17,882	(2,118)
Sub-Total Utility	1,506,000	446,332	127,240	573,572	987,000	1,560,572	54,572
Miscellaneous Revenue							
Miscellaneous Revenues	41,400	3,199	805	4,004	38,600	42,604	1,204
Expenditure Refunds	2,545,521	-	-	-	2,545,521	2,545,521	-
Water Fund Grant	1,288,120	-	-	-	1,288,120	1,288,120	-
Reserve Fund	17,906	-	-	-	17,906	17,906	-
Sub-Total Miscellaneous	3,892,947	3,199	805	4,004	3,890,147	3,894,151	1,204
Total Water Fund	5,434,947	482,145	137,242	619,387	4,901,147	5,520,534	85,587
Sewer Fund							
Investments/Sales of Assets							
Interest Income	-	-	-	-	-	-	-
Sub-Total Interest	-	-	-	-	-	-	-
Utility Revenues							
Sewer Sales	1,630,000	418,900	135,493	554,393	1,086,668	1,641,061	11,061
Sewer Availability	308,250	135,630	-	135,630	172,620	308,250	-
Sewer Sales - Sludge	60,000	27,434	10,686	38,121	40,000	78,121	18,121
Sub-Total Utility	1,998,250	581,964	146,179	728,143	1,299,288	2,027,431	29,181
Miscellaneous Revenue							
Miscellaneous Revenues	2,000	2	-	2	2,000	2,002	2
Nutrient Credit Exchange	5,000	15,728	-	15,728	-	15,728	10,728
Leachate Sales	130,000	-	-	-	130,000	130,000	-
Septic Hauling	56,000	19,363	6,648	26,011	37,332	63,343	7,343
Expenditure Refunds	-	-	-	-	-	-	-
Transfers	847,992	-	-	-	847,992	847,992	-
Reserve Fund	(45,943)	-	-	-	(45,943)	(45,943)	-
Sub-Total Miscellaneous	995,049	35,093	6,648	41,741	971,381	1,013,122	18,073
Total Sewer Fund	2,993,299	617,058	152,827	769,885	2,270,669	3,040,554	47,255
Total Revenues	16,113,877	2,684,351	761,900	3,446,251	13,008,380	16,454,631	340,753

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TOWN OF ORANGE

Fund Balances

The following numbers represent our best estimates of unencumbered fund balances (cash) as of October 31, 2024:

	Cash Balance	Encumbered	Unencumbered Balance
General Fund	\$ 9,220,785	\$ -	\$ 9,220,785
Capital Improvement Fund	(3,833,645)	579,755	(4,413,400)
Water Fund	4,165,260	2,635,304	1,529,956
Sewer Fund	(1,665,803)	810,364	(2,476,167)
Water Deposit Fund	100,036	100,036	-
Taylor Park Fund	73,965	73,965	-
Grant Fund	22,089	22,089	-
Totals	<u>\$ 8,082,686</u>	<u>\$ 4,221,513</u>	<u>\$ 3,861,173</u>

Town Debt Service
As of October 31, 2024

	Original Debt	Principal @ 06/30/2024	FY - 2025 Principal & Interest			Principal Remaining
			Budgeted	Paid	Remaining	
General Fund						
Route 20 Expansion	\$ 1,372,000	\$ 92,400	\$ 93,347	\$ 93,347	\$ -	\$ -
Public Works Center	\$ 931,000	\$ 62,700	\$ 63,343	\$ 63,343	\$ -	\$ -
Debt Service Activity	<u>\$ 2,303,000</u>	<u>\$ 155,100</u>	<u>\$ 156,690</u>	<u>\$ 156,690</u>	<u>\$ -</u>	<u>\$ -</u>
Water Fund						
Macon Road Tank	\$ 392,000	\$ 26,400	\$ 26,671	\$ 26,671	\$ -	\$ -
Raw Water Storage Basin	\$ 2,196,000	\$ 1,023,200	\$ 132,467	\$ 73,233	\$ 59,234	\$ 965,000
Debt Service Activity	<u>\$ 2,588,000</u>	<u>\$ 1,049,600</u>	<u>\$ 159,137</u>	<u>\$ 99,903</u>	<u>\$ 59,234</u>	<u>\$ 965,000</u>
Sewer Fund						
Wastewater Treatment Plant Upgrade	\$ 2,009,000	\$ 135,300	\$ 136,687	\$ 136,687	\$ -	\$ -
New WWTP - Total /Cumulative Debt	\$ 15,882,032	\$ 7,478,503	\$ 650,304	\$ -	\$ 650,304	\$ 7,478,503
Debt Service Activity	<u>\$ 17,891,032</u>	<u>\$ 7,613,803</u>	<u>\$ 786,991</u>	<u>\$ 136,687</u>	<u>\$ 650,304</u>	<u>\$ 7,478,503</u>
Total Debt Service	<u>\$ 22,782,032</u>	<u>\$ 8,818,503</u>	<u>\$ 1,102,818</u>	<u>\$ 393,280</u>	<u>\$ 709,538</u>	<u>\$ 8,443,503</u>

Town of Orange
 ARPA Funds
 As of October 31, 2024

VDH Funds			Allocated	Spent	Balance	Committed	Remaining Funds
	Standpipe Phase 1	Construction	1,864,914.00	1,592,754.13	272,159.87	272,159.87	-
	Standpipe Phase 2	Reservoir Etc.	869,286.00	-	869,286.00	869,286.00	-
			<u>2,734,200.00</u>	<u>1,592,754.13</u>	<u>1,141,445.87</u>	<u>1,141,445.87</u>	<u>-</u>
Town of Orange Funds							
Water	Standpipe Phase 2	Reservoir Etc.	1,169,915.06	-	1,169,915.06	1,169,915.06	-
	Standpipe Phase 1	Engineering	353,439.00	353,439.00	-	-	-
	Standpipe Phase 1	Generator	61,057.00	61,057.00	-	-	-
	Standpipe Phase 1	Land	10,000.00	10,000.00	-	-	-
	Macon Road Mixer		107,383.38	107,383.38	-	-	-
	Water Line (NS Railroad)		90,260.56	90,260.56	-	-	-
	Millimeter Screen		277,423.25	67,500.00	209,923.25	-	209,923.25
	125 HP Intake Pump		87,383.12	87,383.12	-	-	-
	125 HP Intake Pump		-	-	-	-	-
	Liquid Feed System		140,287.18	140,287.18	-	-	-
	Water Meter Replacement		1,255,465.69	-	1,255,465.69	1,255,465.69	-
Wastewater	Sludge Truck	(WWTP)	123,214.00	123,214.00	-	-	-
	System Upgrades	(WWTP)	302,785.57	121,763.46	181,022.11	181,022.11	-
	Scada System	(WWTP)	231,132.43	231,132.43	-	-	-
	Sewer Lines - GreenFields		544,605.37	252,108.89	292,496.48	292,496.48	-
	Sewer Lines - Houseworth		213,978.04	71,684.04	142,294.00	142,294.00	-
	Sewer Lines - Brizzolara		318,854.35	124,302.97	194,551.38	194,551.38	-
			-	-	-	-	-
	Totals		<u>5,287,184.00</u>	<u>1,841,516.03</u>	<u>3,445,667.97</u>	<u>3,235,744.72</u>	<u>209,923.25</u>
			<u>8,021,384.00</u>	<u>3,434,270.16</u>	<u>4,587,113.84</u>	<u>4,377,190.59</u>	<u>209,923.25</u>

**FINANCIAL STATEMENT ENDING
OCTOBER, 2024**

**Town of Orange
Financial Statement
October, 2024
33.33% of Budget Year
Fund Summaries**

REVENUES

FUND	FY-2024 BUDGET		COLLECTED MTD	COLLECTED YTD	PERCENT COLLECTED	REMAINING BALANCE
	ORIGINAL	CHANGES				
GENERAL	5,689,631.00	183,000.00	471,733.87	2,036,007.22	26.49%	3,836,623.78
GF-CAP IMPROVEMENTS	525,000.00	1,288,000.00	-	-		1,813,000.00
WATER	1,601,306.00	3,833,641.00	137,193.34	619,190.58	11.39%	4,815,756.42
SEWER	2,145,307.00	847,992.00	152,826.97	769,884.63	25.72%	2,223,414.37
GRANTS/SPECIAL REVENUE	-	-	61.23	20,824.08	0.00%	(20,824.08)
WATER DEPOSIT	-	-	48.82	198.19	0.00%	(198.19)
TAYLOR PARK	-	-	35.63	145.80	0.00%	(145.80)
TOTAL	\$ 9,961,244.00	\$ 6,152,633.00	\$ 761,899.86	\$ 3,446,250.50	N/A	\$ 12,667,626.50

Note: A () in Remaining Balance means that we have collected more than anticipated.

EXPENDITURES

FUND	FY-2024 BUDGET		EXPENSED MTD	EXPENSED YTD	PERCENT EXPENSED	REMAINING BALANCE
	ORIGINAL	CHANGES				
GENERAL	5,689,631.00	183,000.00	534,389.11	2,189,273.48	32.24%	3,683,357.52
GF-CAP IMPROVEMENTS	525,000.00	1,288,000.00	68,557.49	288,894.31		1,524,105.69
WATER	1,601,306.00	3,833,641.00	137,922.63	801,978.50	14.76%	4,632,968.50
SEWER	2,145,307.00	847,992.00	145,158.93	824,939.94	27.56%	2,168,359.06
GRANTS/SPECIAL REVENUE	-	-	3,268.24	9,966.05	0.00%	(9,966.05)
WATER DEPOSIT	-	-	-	-	0.00%	-
TAYLOR PARK	-	-	-	-	0.00%	-
TOTAL	\$ 9,961,244.00	\$ 6,152,633.00	\$ 889,296.40	\$ 4,115,052.28	N/A	\$ 11,998,824.72

NOTE: A () in Remaining Balance means we have spent more than what we planned

**Town of Orange
Financial Statement
October, 2024
33.33% of Budget Year
General Fund**

REVENUES

DESCRIPTION	FY-2024 BUDGET		COLLECTED MTD	COLLECTED YTD	PERCENT COLLECTED	REMAINING BALANCE
	ORIGINAL	CHANGES				
LOCAL TAXES	3,740,800.00	-	375,233.88	1,162,039.82	31.06%	2,578,760.18
LICENSES & PERMITS	100.00	-	-	225.00	225.00%	(125.00)
FINES	90,000.00	-	9,209.37	37,731.88	41.92%	52,268.12
STATE FUNDS	1,545,372.00	-	4,626.55	502,501.62	32.52%	1,042,870.38
INV / SALE OF ASSETS	-	-	-	-	0.00%	0.00
USER FEES	187,476.00	-	20,264.77	69,112.95	36.86%	118,363.05
MISCELLANEOUS	626,612.00	-	62,399.30	264,395.95	42.19%	362,216.05
ARPA - NEU FUNDS	-	-	-	-	0.00%	0.00
RESERVE FUND	24,271.00	1,702,992.00	-	-	0.00%	1,727,263.00
TRANSF TO CAP. IMPROVEM.	(525,000.00)	(1,519,992.00)	-	-	0.00%	(2,044,992.00)
TOTAL	\$ 5,689,631.00	\$ 183,000.00	\$ 471,733.87	\$ 2,036,007.22	34.67%	\$ 3,836,623.78

Note: A () in Remaining Balance means that we have collected more than anticipated.

EXPENDITURES

DEPARTMENT	FY-2024 BUDGET		EXPENSED MTD	EXPENSED YTD	PERCENT EXPENSED	REMAINING BALANCE
	ORIGINAL	CHANGES				
LEGISLATIVE	142,334.00	3,000.00	5,742.84	97,062.65	66.79%	48,271.35
TOWN MANAGER	471,486.00	(63,000.00)	32,268.95	117,346.69	28.73%	291,139.31
TOWN ATTORNEY	38,500.00	-	-	6,905.00	17.94%	31,595.00
FINANCE DEPARTMENT	430,037.00	-	63,863.27	161,092.90	37.46%	268,944.10
ELECTIONS	2,500.00	-	-	-	0.00%	2,500.00
POLICE DEPARTMENT	1,894,764.00	-	173,512.40	651,386.59	34.38%	1,243,377.41
FIRE AND RESCUE	59,500.00	-	-	65,010.00	109.26%	(5,510.00)
PUBLIC WORKS	1,613,810.00	180,000.00	153,244.72	528,944.55	29.49%	1,264,865.45
TRASH COLLECTION	203,676.00	-	16,927.37	74,588.70	36.62%	129,087.30
MUNICIPAL BUILDING	49,145.00	-	5,195.37	28,093.56	57.16%	21,051.44
DEPOT	16,000.00	-	3,874.90	17,546.56	109.67%	(1,546.56)
TRANSPORTATION SYSTEM	126,936.00	-	31,734.25	63,468.50	50.00%	63,467.50
PARKS AND GROUNDS	29,700.00	-	4,801.20	8,175.39	27.53%	21,524.61
COMMUNITY DEVELOPMENT	200,016.00	-	10,991.99	45,508.55	22.75%	154,507.45
ECONOMIC DEVELOPMENT	-	63,000.00	7,199.68	10,246.90	16.26%	52,753.10
NON-DEPT - DEBT & OTHER	411,227.00	-	25,032.17	313,896.94	76.33%	97,330.06
NON-DEPT - DONATIONS	-	-	-	-	0.00%	0.00
NON-DEPT - CAPITAL	-	-	-	-	0.00%	0.00
TOTAL	\$ 5,689,631.00	\$ 183,000.00	\$ 534,389.11	\$ 2,189,273.48	37.28%	\$ 3,683,357.52

NOTE: A () in Remaining Balance means we have spent more than what we planned

Town of Orange
Financial Statement
October, 2024
33.33% of Budget Year
General Fund - Capital Improvements

REVENUES

DESCRIPTION	FY-2024 BUDGET		COLLECTED MTD	COLLECTED YTD	PERCENT COLLECTED	REMAINING BALANCE
	ORIGINAL	CHANGES				
TRANSFER FROM GENERAL	525,000.00	672,000.00	-	-	0.00%	1,197,000.00
STATE/FEDERAL FUNDS	-	616,000.00	-	-	0.00%	616,000.00
MISCELLANEOUS	-	-	-	-	0.00%	0.00
MADISON/MAIN STREET SIGNAL LIGHT	-	-	-	-	0.00%	0.00
TOTAL	\$ 525,000.00	\$ 1,288,000.00	\$ -	\$ -	0.00%	\$ 1,813,000.00

Note: A () in Remaining Balance means that we have collected more than anticipated.

EXPENDITURES

DEPARTMENT	FY-2024 BUDGET		EXPENSED MTD	EXPENSED YTD	PERCENT EXPENSED	REMAINING BALANCE
	ORIGINAL	CHANGES				
ROAD PROJECTS	345,000.00	531,000.00	98.89	25,766.05	2.94%	850,233.95
MACHINERY & EQUIPMENT	125,000.00	117,000.00	-	647.50	0.27%	241,352.50
MADISON/MAIN STREET SIGNAL LIGHT	-	616,000.00	-	-	0.00%	616,000.00
COMPUTERS	30,000.00	-	68,256.60	235,545.08	785.15%	(205,545.08)
FIBER OPTICS BACKBONE (ARPA)	-	-	-	-	0.00%	0.00
CELL TOWER	-	-	-	-	0.00%	0.00
COMMUNITY ROOM IMPROVEMENTS	25,000.00	24,000.00	202.00	26,935.68	54.97%	22,064.32
CAP. OUTLAYS - WATER/SEWER LINE	-	-	-	-	0.00%	0.00
TOTAL	\$ 525,000.00	\$ 1,288,000.00	\$ 68,557.49	\$ 288,894.31	\$ 8.43	\$ 1,524,105.69

NOTE: A () in Remaining Balance means we have spent more than what we planned

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Financial Statement
October, 2024
33.33% of Budget Year
Water Fund

REVENUES

DESCRIPTION	FY-2024 BUDGET		SALES MTD	SALES YTD	PERCENT COLLECTED	REMAINING BALANCE
	ORIGINAL	CHANGES				
TRANSFER FROM GENERAL	-	-	-	-	0.00%	-
INV/ SALE OF ASSETS	-	-	-	-	0.00%	-
WATER SALES	1,411,000.00	-	125,490.20	526,778.50	37.33%	884,221.50
WATER AVAILABILITY	75,000.00	-	-	42,243.75	56.33%	32,756.25
WATER RECONNECTIONS	20,000.00	-	1,750.00	4,550.00	22.75%	15,450.00
EXPENDITURE REFUNDS	-	-	-	-	0.00%	-
MISCELLANEOUS	77,400.00	-	9,953.14	45,618.33	58.94%	31,781.67
ARPA - NEU FUNDS	-	1,288,120.00	-	-	0.00%	1,288,120.00
RESERVE FUND	17,906.00	2,545,521.00	-	-	0.00%	2,563,427.00
TOTAL	\$ 1,601,306.00	\$ 3,833,641.00	\$ 137,193.34	\$ 619,190.58	11.39%	\$4,815,756.42

Note: A () in Remaining Balance means that we have collected more than anticipated.

DEPARTMENT	FY-2024 BUDGET		EXPENSED MTD	EXPENSED YTD	PERCENT EXPENSED	REMAINING BALANCE
	ORIGINAL	CHANGES				
WATER/SEWER LINE PROJ.	-	3,822,641.00	18,500.00	215,923.90	5.65%	3,606,717.10
WATER TREATMENT	1,156,139.00	-	102,534.50	391,696.78	33.88%	764,442.22
WATER DISTRIBUTION	285,989.00	11,000.00	16,888.13	94,454.42	31.80%	202,534.58
NON-DEPT - DEBT & OTHER	159,178.00	-	-	99,903.40	62.76%	59,274.60
TOTAL	\$ 1,601,306.00	\$ 3,833,641.00	\$ 137,922.63	\$ 801,978.50	\$ 1.34	\$ 4,632,968.50

**Town of Orange
Financial Statement
October, 2024
33.33% of Budget Year
Sewer Fund**

REVENUES

DESCRIPTION	FY-2024 BUDGET		COLLECTED MTD	COLLECTED YTD	PERCENT COLLECTED	REMAINING BALANCE
	ORIGINAL	CHANGES				
LICENSES & PERMITS	-	-	-	-	0.00%	-
TRANSFER FROM GENERAL	-	-	-	-	0.00%	-
SEWER SALES	1,630,000.00	-	135,492.88	554,392.77	34.01%	1,075,607.23
SEWER AVAILABILITY FEES	308,250.00	-	-	135,630.00	44.00%	172,620.00
SEWER SALES - SLUDGE	60,000.00	-	10,686.19	38,120.59	63.53%	21,879.41
NUTRIENT CREDIT	5,000.00	-	-	15,728.38	314.57%	(10,728.38)
LEACHATE	130,000.00	-	-	-	0.00%	130,000.00
SEPTIC HAULING	56,000.00	-	6,647.90	26,011.24	46.45%	29,988.76
MISCELLANEOUS	2,000.00	-	-	1.65	0.08%	1,998.35
RESERVE FUND	(45,943.00)	-	-	-	0.00%	(45,943.00)
TRANSFER FROM GENERAL	-	847,992.00	-	-	-	-
TOTAL	\$ 2,145,307.00	\$ 847,992.00	\$ 152,826.97	\$ 769,884.63	25.72%	\$ 1,375,422.37

Note: A () in Remaining Balance means that we have collected more than anticipated.

EXPENDITURES

DEPARTMENT	FY-2024 BUDGET		EXPENSED MTD	EXPENSED YTD	PERCENT EXPENSED	REMAINING BALANCE
	ORIGINAL	CHANGES				
SEWER TREATMENT	1,134,292.00	-	131,071.30	420,299.75	37.05%	713,992.25
SEWER COLLECTION	223,935.00	-	16,278.10	81,716.04	36.49%	142,218.96
NON-DEPT - DEBT & OTHER	787,080.00	-	-	136,686.82	17.37%	650,393.18
CAPITAL OUTLAYS - ARPA	-	847,992.00	(2,190.47)	186,237.33	21.96%	661,754.67
TOTAL	\$ 2,145,307.00	\$ 847,992.00	\$ 145,158.93	\$ 824,939.94	27.56%	\$ 2,168,359.06

NOTE: A () in Remaining Balance means we have spent more than what we planned

BILLS AND CLAIMS

For the month OCTOBER, 2024

**TOWN OF ORANGE
CHECK REGISTER**

OCTOBER 1 - 31, 2024

Check #	Check Date	Vendor Name	Net Amount
100124	10/22/2024	ANTHEM BLUE CROSS & BLUE SHIELD	\$ 69,658.00
100224	10/22/2024	TREASURER OF VIRGINIA	56,637.57
100324	10/22/2024	EMPOWER RETIREMENT	3,100.00
100424	10/22/2024	MISSION SQUARE	917.90
100524	10/22/2024	EMPOWER RETIREMENT	686.69
100624	10/22/2024	MISSION SQUARE	917.90
100724	10/22/2024	MISSION SQUARE	686.69
36236	10/3/2024	AMAZON CAPITAL SERVICES	2,337.44
36237	10/3/2024	AMERICAN GREEN	330.00
36238	10/3/2024	AMSOIL INC	238.36
36239	10/3/2024	A SEAT AT THE TABLE	360.00
36240	10/3/2024	AXON ENTERPRISE, INC	28,831.32
36241	10/3/2024	TRUIST	3,155.83
36242	10/3/2024	BEGGARS BANQUET	26.00
36243	10/3/2024	BMS DIRECT	2,972.88
36244	10/3/2024	CAPITAL CITY SERVICES CO	6,771.60
36245	10/3/2024	CCLS INCORPORATED	32.43
36246	10/3/2024	CENTRAL VIRGINIA ELECTRIC COOP	323.56
36247	10/3/2024	CHASE MARSHALL	59.96
36248	10/3/2024	AT&T MOBILITY	1,594.90
36249	10/3/2024	CINTAS CORPORATION #385	-
36250	10/3/2024	CINTAS CORPORATION #385	2,575.37
36251	10/3/2024	CIVICPLUS	3,481.67
36252	10/3/2024	COECO FINANCIAL SERVICES	672.33
36253	10/3/2024	COMCAST	600.96
36254	10/3/2024	COMPANION LIFE INSURANCE	327.00
36255	10/3/2024	CREATIVE DISPLAYS, INC	5,280.00
36256	10/3/2024	DEBORAH MARLENE WAREHAM	50.00
36257	10/3/2024	DMV	175.00
36258	10/3/2024	DORSETT TECHNOLOGIES, INC	285.00
36259	10/3/2024	ENNIS INC	245.23
36260	10/3/2024	EZ PERFORMANCE CENTER	58.49
36261	10/3/2024	FAYE'S OFFICE SUPPLY	2,871.85
36262	10/3/2024	FEREBEE-JOHNSON CO., INC	5,911.04
36263	10/3/2024	GALLS, LLC	26.98
36264	10/3/2024	HIGHWAY MOTORS	125.95

36265	10/3/2024	JAMES MADISON MEMORIAL FOUNDATION	2,500.00
36266	10/3/2024	KIMBALL MIDWEST	175.42
36267	10/3/2024	LINDE GAS & EQUIPMENT INC	36.71
36268	10/3/2024	KILINE MADISON	19.42
36269	10/3/2024	LEXISNEXIS MATTHEW BENDER	93.43
36270	10/3/2024	MINNESOTA LIFE INSURANCE CO	1,929.56
36271	10/3/2024	MOSCA DESIGN	27.56
36272	10/3/2024	OEI EVENTS	2,500.00
36273	10/3/2024	ORANGE CO AFRICAN AMERICAN	80.00
36274	10/3/2024	ORANGE MOTOR SPECIALTY	1,273.35
36275	10/3/2024	ORANGE ROTARY CLUB	1,700.00
36276	10/3/2024	PACE ANALYTICAL SERVICES, INC	867.10
36277	10/3/2024	BEALE, ADRIENNE S	1,034.08
36278	10/3/2024	PRIVIA MEDICAL GROUP LLC	115.00
36279	10/3/2024	ROXXON	593.19
36280	10/3/2024	SEDWICK	4,436.01
36281	10/3/2024	SELECT SPECIALTY PRODUCTS INC	371.50
36282	10/3/2024	W.A. SHERMAN COMPANY	1,041.48
36283	10/3/2024	STEROBEN ASSOCIATES	4,090.00
36284	10/3/2024	KIM STRAWSER	104.52
36285	10/3/2024	TOWN OF ORANGE	66.79
36286	10/3/2024	TRANSAMERICA EMPLOYEE BENEFITS	1,241.30
36287	10/3/2024	UNIVAR SOLUTIONS	7,215.00
36288	10/3/2024	VACORP	240.28
36289	10/3/2024	VUPS	78.89
36290	10/3/2024	CHEWNING, WENDY	90.00
36291	10/3/2024	GREGORY S. WOODS	43.07
36292	10/3/2024	WRIGHT'S IRON INC	425.00
36293	10/3/2024	ZEP MANUFACTURING COMPANY	560.28
36294	10/10/2024	ADT SECURITY SERVICES	293.73
36295	10/10/2024	BEACON HILL BOARDING	175.00
36296	10/10/2024	ROBERT C. BRAGG	57.99
36297	10/10/2024	CINTAS	328.31
36298	10/10/2024	CRYSTAL SPRINGS	11.99
36299	10/10/2024	DOMINION ENERGY VIRGINIA	17,016.30
36300	10/10/2024	EDMUNDS GOVTECH	30,096.20
36301	10/10/2024	FISHER AUTO PARTS	1,465.11
36302	10/10/2024	HACH COMPANY	1,431.88
36303	10/10/2024	LINDE GAS & EQUIPMENT INC	144.93
36304	10/10/2024	MATTHEW BENDER & CO., INC	427.36
36305	10/10/2024	ORANGE CO AFRICAN AMERICAN	40.00
36306	10/10/2024	ORANGE COUNTY TOWING & AUTOMOTIVE	110.00
36307	10/10/2024	ORANGE COUNTY TREASURER	8,969.85
36308	10/10/2024	O'REILLY	245.42

36309	10/10/2024	PACE ANALYTICAL SERVICES, INC	384.20
36310	10/10/2024	TRACTOR SUPPLY CREDIT PLAN	175.93
36311	10/10/2024	COLDIRON, KERRY	5.23
36312	10/10/2024	SNOW, EDWARD L.	23.64
36313	10/10/2024	VERIZON	1,622.23
36314	10/10/2024	WW ASSOCIATES, INC	5,250.00
36315	10/18/2024	ADRIENNE BEALE	68.43
36316	10/18/2024	ADT SECURITY SERVICES	496.24
36317	10/18/2024	ADVANCE AUTO PARTS	121.77
36318	10/18/2024	AMOS APPAREL	611.70
36319	10/18/2024	BAKER, DWIGHT	50.85
36320	10/18/2024	CHARLIE OBAUGH CHEVROLET GMC	49,045.00
36321	10/18/2024	AT&T MOBILITY	609.26
36322	10/18/2024	COMCAST	854.00
36323	10/18/2024	DEBORAH MARLENE WAREHAM	250.00
36324	10/18/2024	DOMINION ENERGY VIRGINIA	26,559.67
36325	10/18/2024	DIX, JR JAMES A	2,722.23
36326	10/18/2024	GALLS, LLC	339.34
36327	10/18/2024	MASON INSURANCE AGENCY	5,668.09
36328	10/18/2024	MEYERCORD REVENUE INC	3,407.40
36329	10/18/2024	MID-ATLANTIC WASTE SYSTEMS	231.58
36330	10/18/2024	NATIONAL CHILD SAFETY COUNCIL	660.00
36331	10/18/2024	EVERGRO COOPERATIVE	63.08
36332	10/18/2024	PACE ANALYTICAL SERVICES, INC	1,208.40
36333	10/18/2024	SHEENA PAYETTE	113.91
36334	10/18/2024	PITNEY BOWES GLOBAL FINANCIAL	172.11
36335	10/18/2024	SOUTHERN STATES	10,077.47
36336	10/18/2024	UNIVAR SOLUTIONS	11,563.99
36337	10/18/2024	VIRGINIA BUSINESS SYSTEMS	316.23
36338	10/18/2024	GREGORY S. WOODS	320.63
36339	10/22/2024	ACCESS TELECOM INC	11,799.00
36340	10/22/2024	ADT SECURITY SERVICES	144.64
36341	10/22/2024	AFLAC	1,408.00
36342	10/22/2024	AMERICAN GREEN	259.00
36343	10/22/2024	BEACON HILL BOARDING	200.00
36344	10/22/2024	ROBERT C. BRAGG	57.99
36345	10/22/2024	BUFORD BREEDEN	18.67
36346	10/22/2024	CCLS INCORPORATED	72.98
36347	10/22/2024	DOMINION ENERGY VIRGINIA	892.38
36348	10/22/2024	ECONO SIGNS LLC	4,095.14
36349	10/22/2024	ENVIRONMENTAL SYSTEMS SERVICE	210.00
36350	10/22/2024	EZ PERFORMANCE CENTER	89.99
36351	10/22/2024	GRELEN NURSERY	2,775.00
36352	10/22/2024	ID NETWORKS	6,850.00

36353	10/22/2024	JAMES RIVER EQUIPMENT	7,655.90
36354	10/22/2024	LINDA CONTAOI & ROBERT DAWLEY	11.41
36355	10/22/2024	MADISON FORD	172.84
36356	10/22/2024	MID-ATLANTIC WASTE SYSTEMS	485.09
36357	10/22/2024	MOBOTREX	1,350.00
36358	10/22/2024	ORANGE TIRE INC	676.00
36359	10/22/2024	O'REILLY	4.69
36360	10/22/2024	OVIVO USA, LLC	6,626.16
36361	10/22/2024	PACE ANALYTICAL SERVICES, INC	272.00
36362	10/22/2024	PAINT 'N' PAPER	89.99
36363	10/22/2024	PIEDMONT POWER	46.77
36364	10/22/2024	RED BUD SUPPLY, INC	163.82
36365	10/22/2024	REXEL	137.67
36366	10/22/2024	RAPIDAN SERVICE AUTHORITY	64.55
36367	10/22/2024	TROJAN UV	5,319.10
36368	10/22/2024	UNIVERSITY OF VIRGINIA	500.00
36369	10/22/2024	COECO OFFICE SYSTEMS, INC	20.00
36370	10/22/2024	VIRGINIA BUSINESS SYSTEMS	167.04
36371	10/23/2024	GOODWIN WILLIAM LLC	1,560.00
36372	10/30/2024	ADT SECURITY SERVICES	117.11
36373	10/30/2024	ATLANTIC PUMP & EQUIPMENT CO	13,250.00
36374	10/30/2024	TRUIST	4,184.17
36375	10/30/2024	CENTRAL VIRGINIA ELECTRIC COOP	332.18
36376	10/30/2024	COECO FINANCIAL SERVICES	1,011.45
36377	10/30/2024	COMCAST	1,047.90
36378	10/30/2024	COMPANION LIFE INSURANCE	308.25
36379	10/30/2024	DEBORAH MARLENE WAREHAM	200.00
36380	10/30/2024	DOMINION ENERGY VIRGINIA	139.62
36381	10/30/2024	DIX, JR JAMES A	370.00
36382	10/30/2024	EZ PERFORMANCE CENTER	12,014.42
36383	10/30/2024	FEREBEE-JOHNSON CO., INC	3,624.07
36384	10/30/2024	GOODWIN WILLIAM LLC	1,200.00
36385	10/30/2024	GRAINGER	194.30
36386	10/30/2024	GREG MADISON WELDING, INC	960.00
36387	10/30/2024	HIGHWAY MOTORS	277.58
36388	10/30/2024	HOLTZMAN OIL CORP	1,056.06
36389	10/30/2024	MCCLUNG-LOGAN EQUIP. CO.	322.78
36390	10/30/2024	MID-ATLANTIC WASTE SYSTEMS	597.19
36391	10/30/2024	OAKERSON, EVANS	48.15
36392	10/30/2024	PACE ANALYTICAL SERVICES, INC	740.20
36393	10/30/2024	PAINT 'N' PAPER	869.15
36394	10/30/2024	SHEENA PAYETTE	47.01
36395	10/30/2024	PRIVIA MEDICAL GROUP LLC	115.00
36396	10/30/2024	QUALIFICATION TARGETS INC	127.27

36397	10/30/2024	RINKER DESIGN ASSOCIATES, P.C.	1,750.00
36398	10/30/2024	RED BUD SUPPLY, INC	306.57
36399	10/30/2024	ROBERTS RENTAL LLC	1,600.00
36400	10/30/2024	SHADE EQUIPMENT CO., INC	7,458.16
36401	10/30/2024	SILK MILL GRILL	947.94
36402	10/30/2024	KIM STRAWSER	51.04
36403	10/30/2024	THOMAS MORGAN	226.00
36404	10/30/2024	TOWN OF ORANGE	3,557.02
36405	10/30/2024	TRANSAMERICA EMPLOYEE BENEFITS	1,241.30
36406	10/30/2024	UNIVAR SOLUTIONS	25,368.86
36407	10/30/2024	USABUEBOOK	958.53
36408	10/30/2024	VIRGINIA REGIONAL TRANSIT	31,734.25
36409	10/30/2024	VIRGINIA BUSINESS SYSTEMS	91.97
36410	10/30/2024	CHEWNING, WENDY	90.00
			\$ 591,812.84

UNFINISHED BUSINESS



UNFINISHED BUSINESS SUMMARY

November 18, 2024

AGENDA ITEM: 8A

Continued discussion of Post Office parking.

SUMMARY:

- Please see attached memo from the Town Manager.
- This is a continued discussion from the October 21st Town Council meeting.



**Town of Orange
Town Manager's Office**

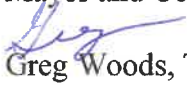
119 Belleview Avenue, Orange, Virginia 22960 - 1401

Phone: (540) 672-5505 Fax: (540) 672-4435

Email –townmanager@townoforangeva.gov

MEMORANDUM

TO: Mayor and Council Members

FROM:  Greg Woods, Town Manager

DATE: November 12, 2024

SUBJECT: Orange USPS Request for Designated Parking

As requested by Council at the October 21, meeting, I have met with Ms. Davis from the Post office. We have discussed using the lot behind Town Hall and have shown her the lot. The lot would only be problematic on court days if the post office vehicles have not left the lot when the courts have overflow parking needs. The lot would not be designated (that is specifically designated), but it does have cameras to watch over the vehicles and on most days would not be any issue.

The post office said they prefer the Belleview parking but would accept the Town Hall option. The post office has been using this option since it was offered. Unless Council wishes to designate Belleview Avenue parking, I believe this option would work.



UNFINISHED BUSINESS SUMMARY

November 18, 2024

AGENDA ITEM: 8B

Continued discussion of North Madison Road Crosswalk Study.

SUMMARY:

- Please see attached documentation from the Director of Community Development.
- Please also find attached memorandum from Rinker Design Associates, LLC.

Mid-Block Pedestrian Crossing Study at N. Madison Road

For the following Locations:

1. Uncontrolled Mid-Block Crossing:

N. Madison Road
South of W. Nelson Street/ Woodmark Street

September 2024

Prepared for
Town of Orange



Prepared by
Rinker Design Associates, LLC.



**RINKER DESIGN
ASSOCIATES**

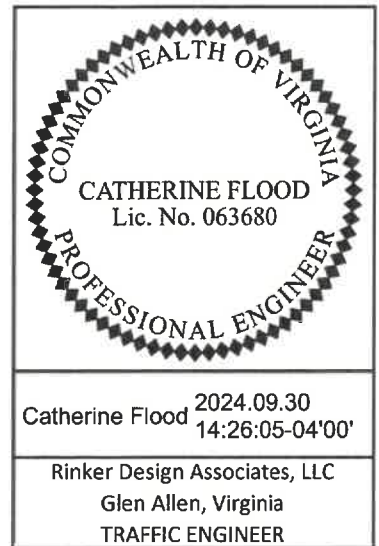


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APPENDICES

Appendix A: Proposed Design Layout Exhibit

Appendix B: VDOT Historical Traffic Data

Appendix C: VDOT's IIM TE-384.1 Pedestrian Crossing Accommodations at Unsignalized Locations

Section 1: Introduction

Purpose: This report presents the results of a formal unsignalized crosswalk study per the requirements of VDOT IIM-TE-384.1 *Pedestrian Crossing Accommodations at Unsignalized Approaches* to determine if the installation of a crosswalk on N. Madison Rd, south of the W. Nelson St/ Woodmark St intersection is warranted. The proposed location of the crosswalk is shown below in **Figure A**.

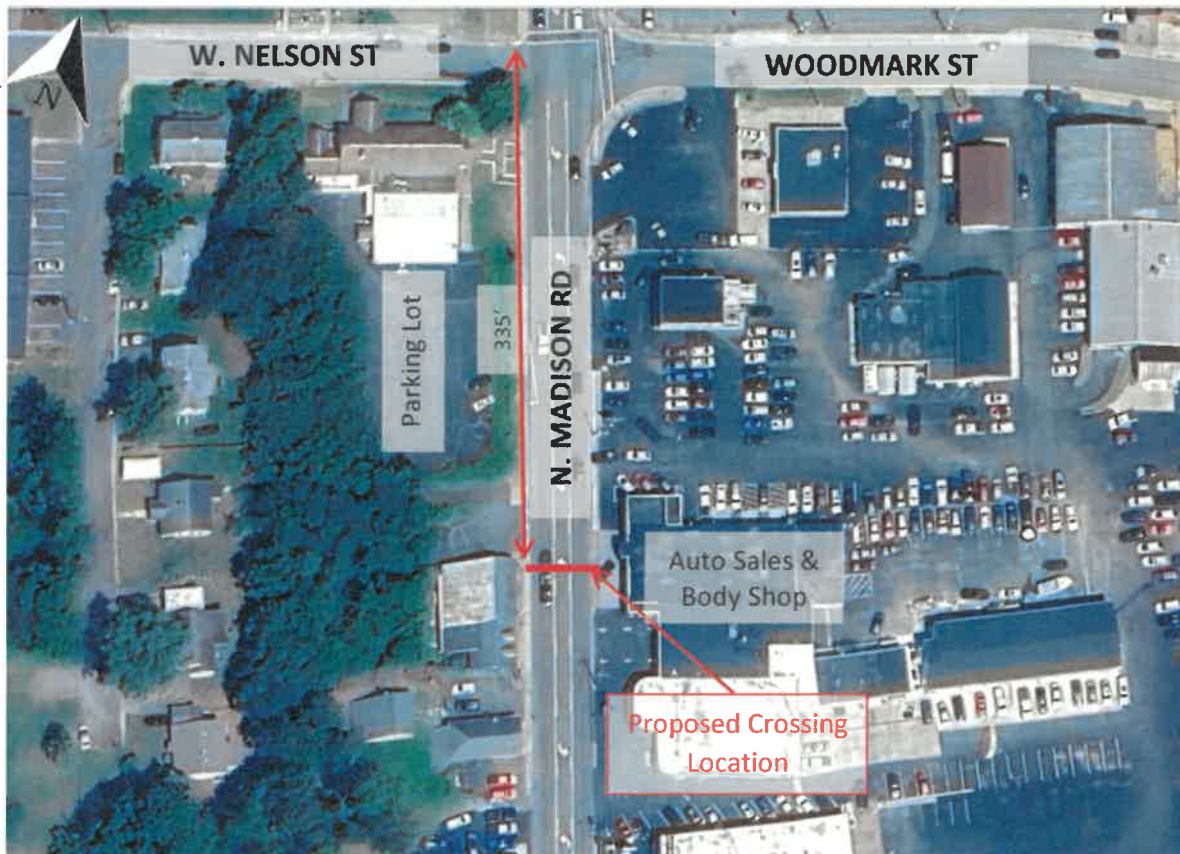


Figure A: Overall Study Area Map

Brief Background: The crosswalk analyzed in this report will provide pedestrian access within the Town of Orange community by adding a mid-block crossing of N. Madison Rd, a major road running through the Town of Orange. There are existing sidewalks in the area and at the proposed crossing location and would provide direct access from the employee parking area to the west side of N Madison Road to the Auto Sales & Body Shop on the east side where pedestrians will naturally cross. N. Madison Rd is located centrally to churches, car dealerships, and other businesses.

The northbound and southbound directions (N. Madison Rd) are free flowing and not stop or yield controlled. Traffic conditions and physical characteristics of the study location will be considered to determine if the proposed pedestrian crosswalk is viable. A layout of the proposed mid-block crossing location is shown in **Figure B**. A detailed layout of the proposed

design is shown in **Appendix A** which depicts the ADA compliant curb ramps and sidewalk connections/transitions to be installed in conjunction with the crosswalks.



Figure B: N. Madison Road Proposed Crosswalk Location

Section 2: Location Characteristics

The study crossing is at an uncontrolled leg of N. Madison Road and crosses one travel lane (north-south) in each direction with a two-way left-turn lane.

The posted speed limit along N. Madison Rd is 25 mph with an Average Daily Traffic (ADT) of 14,511 vehicles per day (vpd) for 2022 (The latest officially published data from VDOT). This ADT is used for evaluation of Table 3 in IIM-TE-384.1, shown in **Figure G**. See **Appendix B** for VDOT's Historical Traffic Data.

This crosswalk location will serve to improve pedestrian connectivity within the Town of Orange and connect the western and eastern sides of Madison Road, including the employee parking area on the west side of N. Madison Road to the Auto Sales & Body Shop on the east side where pedestrians will naturally cross.

Section 3: Pedestrian Crosswalk Analysis

This section presents a detailed evaluation of the potential installation of a crosswalk across the southern leg of N. Madison Rd. The Virginia Department of Transportation's (VDOT) Instructional and Information Memoranda (IIM)-TE-384.1 *Pedestrian Crossing Accommodations at Unsignalized Locations* was used to evaluate the crossing. Appropriate excerpts can be found

in **Appendix C**. The IIM provides recommendations for ‘Considering Marked Crosswalks and Other Needed Pedestrian Improvements at Uncontrolled Locations’. The basic justifications for determining whether a crosswalk is recommended, and requisite countermeasures are provided in the IIM-TE-384.1 in the form of a flow chart shown in **Figure C** illustrating the four-step process. Each evaluation step and results of the analysis are presented below.

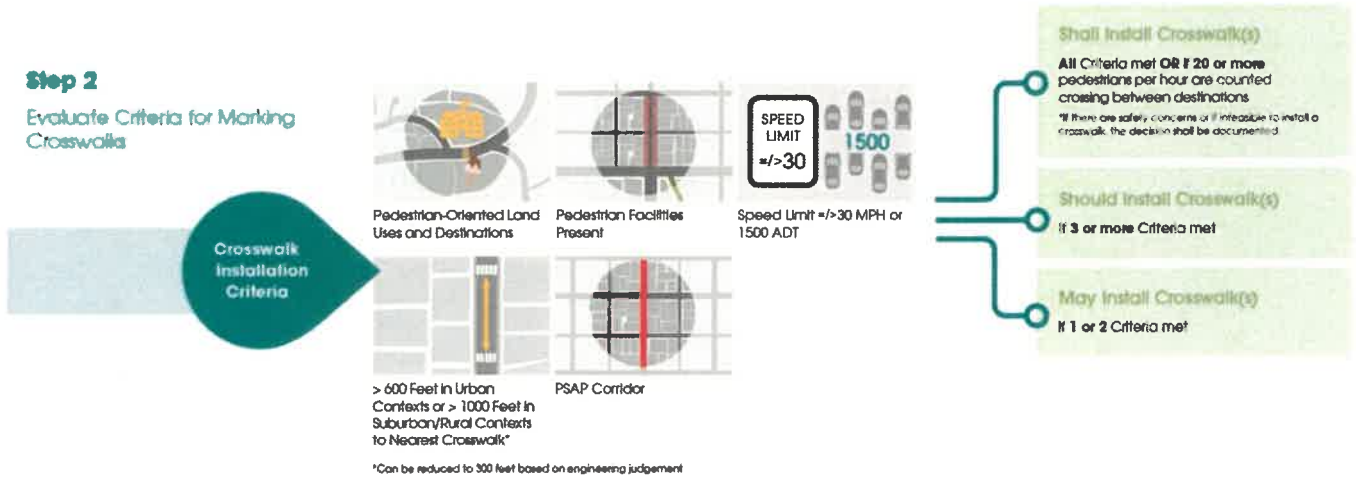
Step 1

Screen for Minimum Requirements



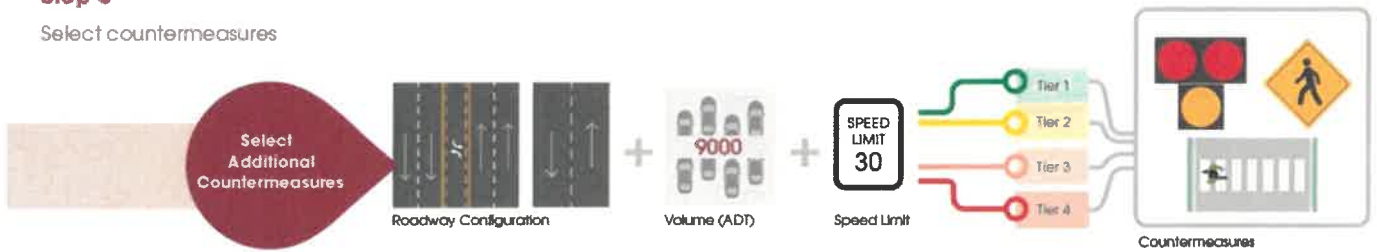
Step 2

Evaluate Criteria for Marking Crosswalks



Step 3

Select countermeasures



Step 4

Select marking pattern for crosswalks

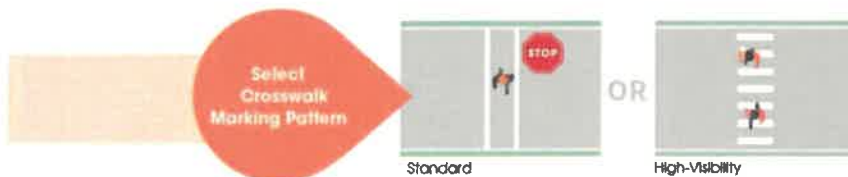


Figure C: Process Flow Chart

The following steps, as labeled in **Figure C**, were taken in accordance with the flow chart:

Step 1 – Screen for Minimum Requirements:

Distance to the Nearest Marked Crossing

- (1) Currently, the closest crosswalk on N. Madison Rd is about 335 feet north of the proposed crosswalk at the intersection of N Madison Rd and Woodmark St.

Sight Distance

- (2) Drivers have an unrestricted view of the entire proposed crosswalk and entry points to the crosswalk, based on stopping sight distance requirements from the VDOT Road Design Manual, shown in **Figure D**. Sight distance graphics are provided in **Figure E**. N. Madison Rd has a posted speed of 25 mph and has a 1.3% downgrade in the northbound direction and a 2% upgrade in the southbound direction. The posted speed limit + 7 mph was used to calculate the operating speed. A 32-mph operating speed was used to determine the stopping sight distance. Stopping sight distances were calculated through interpolation using the values circled in **Figure D** and their corresponding operating speeds.

A minimum sight distance of 223 ft is required for the northbound approach. A minimum sight distance of 217 ft is required for the southbound approach. Minimum pedestrian and stopping sight distance is present; therefore this requirement is met.

Table 2: Stopping Sight Distance Requirements Approaching Mid-Block Crosswalks or Crosswalks at Unsignalized Intersection Approaches (feet)

Operating Speed	Level Grade	Downgrades			Upgrades		
		-3%	-6%	-9%	+3%	+6%	+9%
25 mph	155	158	165	173	147	143	140
30 mph	200	205	215	227	200	184	179
35 mph	250	257	271	287	237	229	222
40 mph	305	315	333	354	289	278	269
45 mph	360	378	400	427	344	331	320
50 mph	425	446	474	507	405	388	375
55 mph	495	520	553	593	469	450	433
> 55 mph	Crosswalks should not be marked across uncontrolled approaches with operating speeds greater than 55mph.						

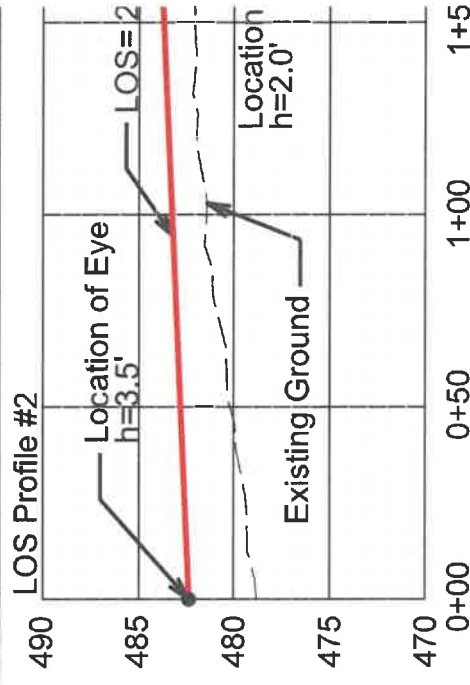
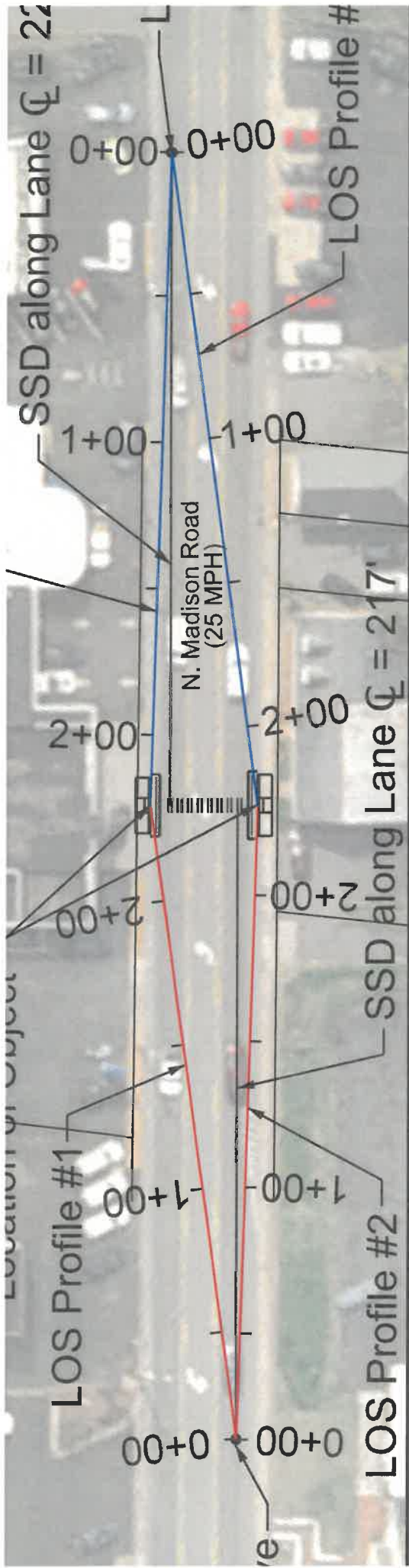
Figure D: Stopping Sight Distance Requirements

Location Tiers

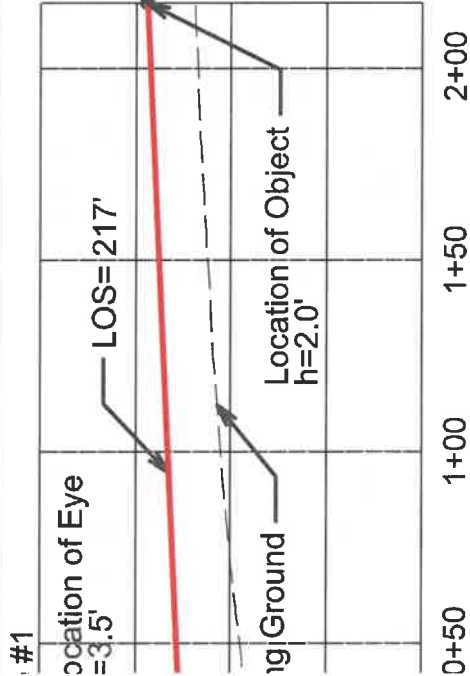
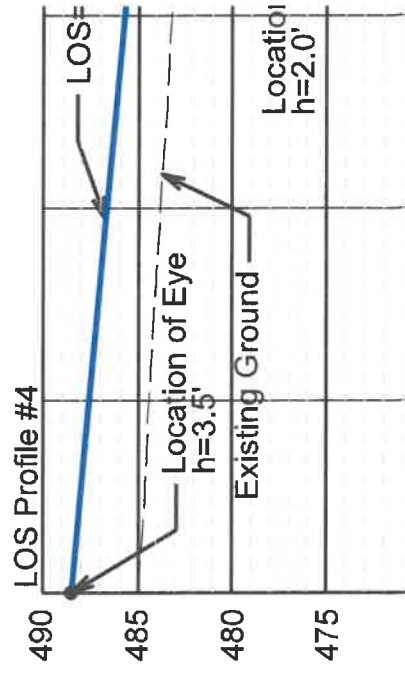
- (3) Based on IIM-TE-384.1 Table 3 (**Figure G**), the location falls into Tier 2. This requirement is met.

Summary

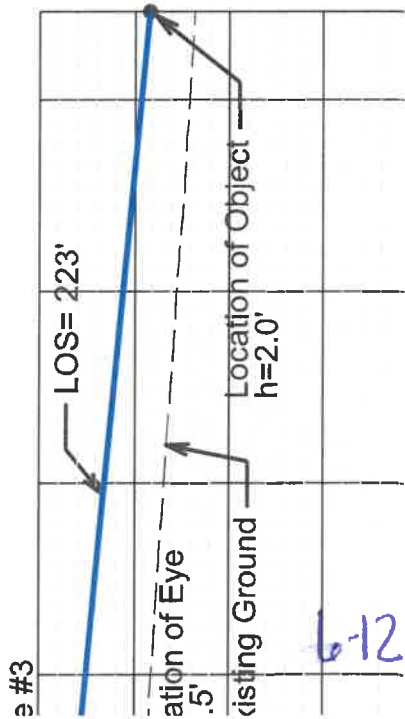
Based on the above, the proposed crosswalk does meet all minimum requirements.



AASHTO Table 3-2 Stopping Sight Distance
determine the stopping sight distance. Assume
speed and a 2% upgrade to yield a more conservative
stopping distance needed for this approach



AASHTO Table 3-2 Stopping Sight Distance on Grades was used to
determine the stopping sight distance. Assuming a 32 mph design
speed and a 2% upgrade to yield a more conservative distance, the
stopping distance needed for this approach is 217 ft.



Step 2 – Evaluate Criteria for Marking Crosswalks:

Pedestrian Oriented Land Uses and Destinations

- (1) The proposed crosswalk would connect the residential and parking areas on the west side of the crossing to car dealerships, physical therapy, bank, restaurants, and commercial businesses located on the east side of N. Madison Road; generators and attractors are shown in **Figure F**. Therefore, this location is between two pedestrian oriented land uses and meets this criteria.

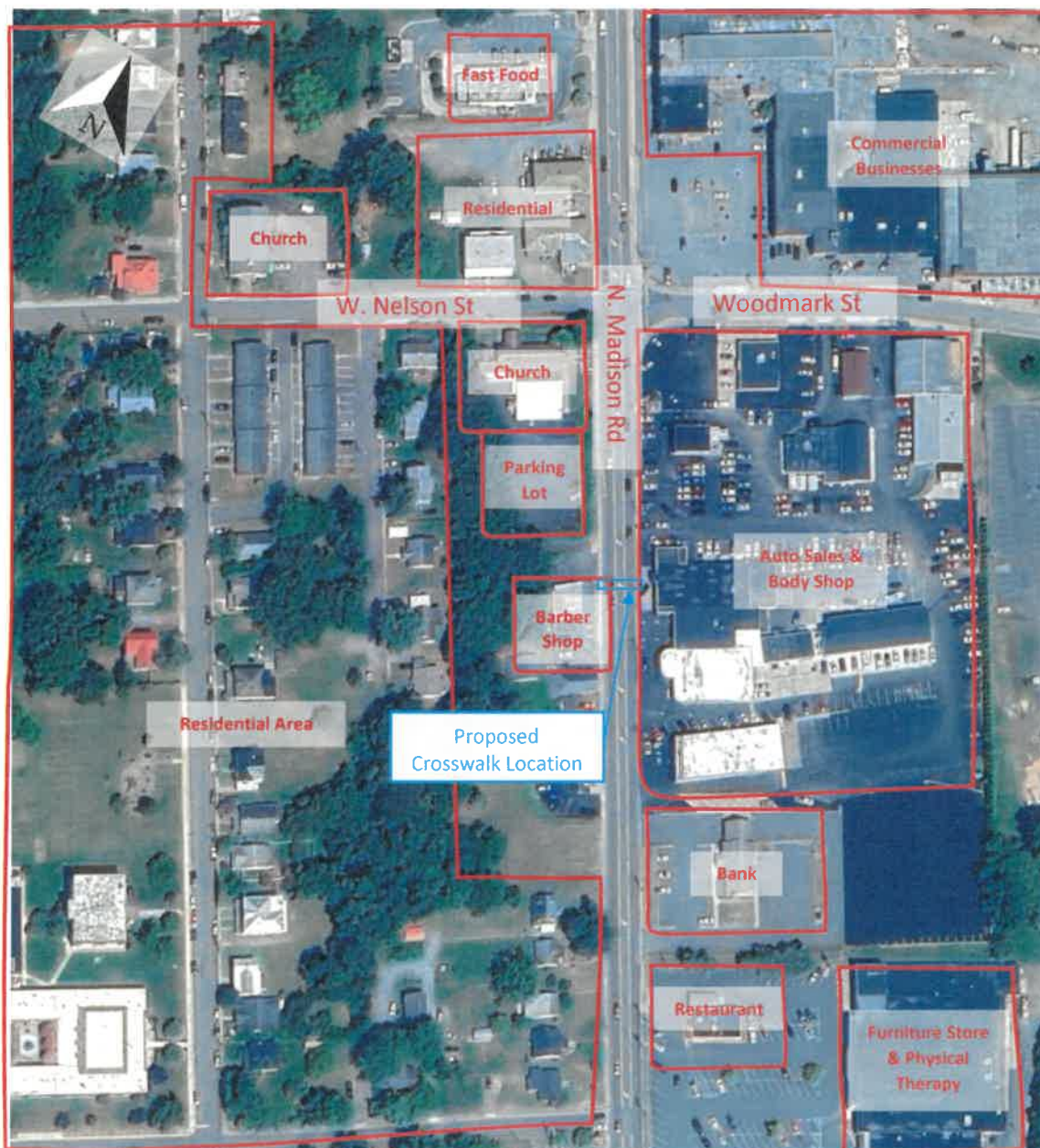


Figure F: Pedestrian Generators and Attractors

Pedestrian Facilities or Access Route

- (2) This crossing location is in a location with existing pedestrian facilities. Existing sidewalks are located on the eastern and western sides of N Madison Rd. ADA compliant ramps will be provided prior to the marked crosswalk. The crossing location is also central to multiple pedestrian-oriented land uses, including parking for the car dealership, commercial businesses, a bank, furniture store, physical therapy, and a restaurant. Therefore, this criteria is met.

Speeds and Traffic Volumes

- (3) The existing posted speed limit is 25 mph. N. Madison Road had an Average Daily Traffic (ADT) of 14,511 vehicles per day (vpd) for 2022. Therefore, this criteria is met since the ADT exceeds the 1500 vpd.

Crosswalk Proximity

- (4) There is a crosswalk located across N Madison Rd about 335 feet north of proposed crosswalk. Therefore, this criteria is not met.

Pedestrian Safety Action Plan (PSAP) Corridors and Crash Clusters

- (5) Using the VDOT Pedestrian Safety Action Plan (PSAP) Corridors and Crash Clusters tool, there have been no crashes in the area of the proposed crosswalk and Madison Rd is not a priority corridor. Therefore, this criteria is not met.

Summary

Based on the above, the proposed crosswalk meets 3 of the criteria and therefore the crosswalk should be installed.

Step 3 – Select Additional Countermeasures:

- (1) N. Madison Rd is an undivided two-lane roadway with a two-way-left-turn lane with a posted speed limit of 25 mph and an ADT of 14,511 vpd. Table 3 in IIM-TE-384.1 was utilized to determine recommended countermeasures. Table 3 results are shown in **Figure G**, and Tier 2 countermeasures were determined.

Table 3: Recommendations for Considering Marked Crosswalks and Other Needed Pedestrian Improvements Across Unsignalized Approaches (Undivided/Single-Lane Roads)

Table 3 includes reference to the minimum and recommended countermeasures per Tier, and optional countermeasures that may be considered where the recommended is not appropriate to the context or site. Crossings located at Tier 3 or 4 locations require an engineering study to make final determination of countermeasures to be installed with the marked crosswalk.

Roadway Configuration (R to total R of boxes)		Roadway ADT and Speed Limit											
		1,000 to 5,000 VPD			5,000 to 12,000 VPD			12,000 to 15,000 VPD			More than 15,000 VPD		
		≤ 30 MPH	35 MPH	≥ 40 MPH	≤ 30 MPH	35 MPH	≥ 40 MPH	≤ 30 MPH	35 MPH	≥ 40 MPH	≤ 30 MPH	35 MPH	≥ 40 MPH
Single lane street		VE/TC	VE/TC	VE/TC	VE/TC	VE/TC	VE/TC	VE/TC	VE/TC	VE/TC	VE/TC	VE/TC	VE/TC
2 Lanes (undivided two-way street)		VE/TC	VE/TC	VE/RRFB	VE/TC	VE/TC	VE/RRFB	VE/TC	VE/RRFB	VE/RRFB	VE/RRFB	VE/RRFB	PHB
2 Lanes (center turn lane)		VE/TC	VE/RI	RI/RRFB	VE/RI	RI/RRFB	RI/RRFB	RI/RRFB	RI/RRFB	PHB/RI	RI/RRFB	PHB/RI	PHB/RI
4 Lanes (two-way street without median)		RD/RRFB	RD/RRFB	PHB/RI	RD/RRFB	RD/RRFB	PHB/RI	RD/RRFB	PHB/RI	PHB/RI	PHB/RI	PHB/RI	PHB/RI
2 Lanes (center turn lane)		RD/RRFB	PHB/RI	PHB/RI	RD/RRFB	PHB/RI	PHB/RI	PHB/RI	PHB/RI	PHB/RI	PHB/RI	PHB/RI	PHB/RI
4 Lanes (two-way street without median)*		PHB/RI	PHB/RI	PHB/RI	RD	PHB/RI	PHB/RI	PHB/RI	PHB/RI	PHB/RI	PHB/RI	PHB/RI	PHB/RI

*All 15,000 vpd lane roadways with speeds 45 and 55 mph = Tier 4

Tier 1 High Visibility Crosswalk with W11-2, S1-1 (School), or W11-15 (Trail) signage is required and consideration of the following:

Recommended: Visibility Enhancements (VE)

Optional, if Recommended is not appropriate: Traffic Calming Measures (TC)

Tier 2 High Visibility Crosswalk with W11-2, S1-1 (School), or W11-15 (Trail) signage is required and consideration of the following:

Recommended: Refuge Island (RI), and/or

Recommended: Rectangular Rapid Flashing Beacon (RRFB)

Optional, if Recommended is not appropriate: Visibility Enhancements (VE)

Optional, if Recommended is not appropriate: Advance yield markings and R1-5 signs (ADV)

Tier 3 High Visibility Crosswalk with W11-2, S1-1 (School), or W11-15 (Trail) signage is required and inclusion of one or more of the following:

Recommended: Roadway Reconfiguration (RD), and/or

Recommended: Pedestrian Hybrid Beacon (PHB)

Optional, if Recommended is not appropriate: Advance yield markings and R1-5 signs (ADV)

Optional, if Recommended is not appropriate: Rectangular Rapid Flashing Beacon (RRFB)

Tier 4 High Visibility Crosswalk with W11-2, S1-1 (School), or W11-15 (Trail) signage is required and inclusion of one or more of the following:

Recommended: Pedestrian Hybrid Beacon (PHB), and/or

Recommended: Roadway Reconfiguration (RD)

Optional, if Recommended is not appropriate: Review for Signal

Figure G: Recommended Countermeasures

Step 4 – Select Crosswalk Marking Pattern:

- (1) A high-visibility crosswalk pattern with bar pairs shall be installed since the proposed crosswalk is at an unsignalized crossing.

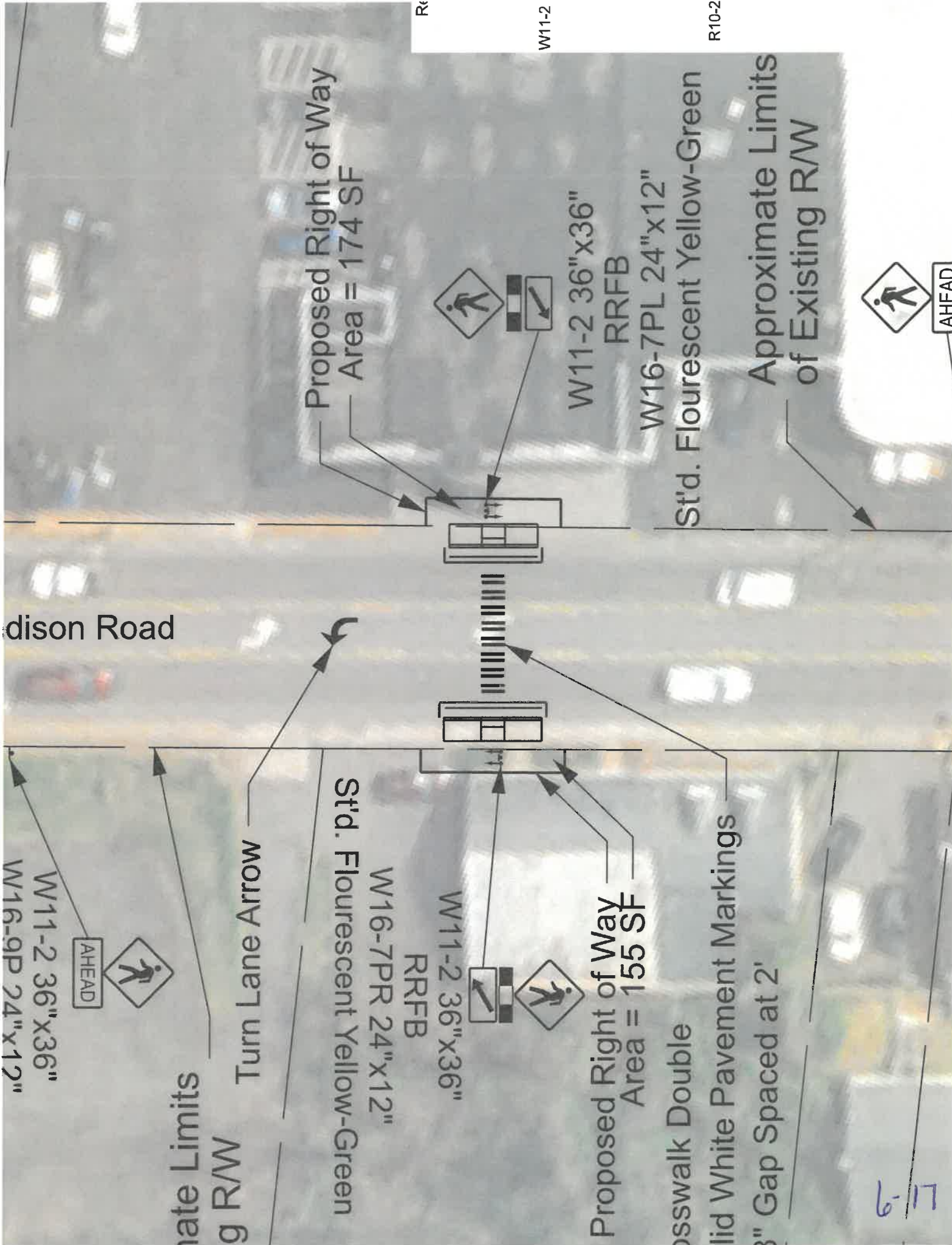
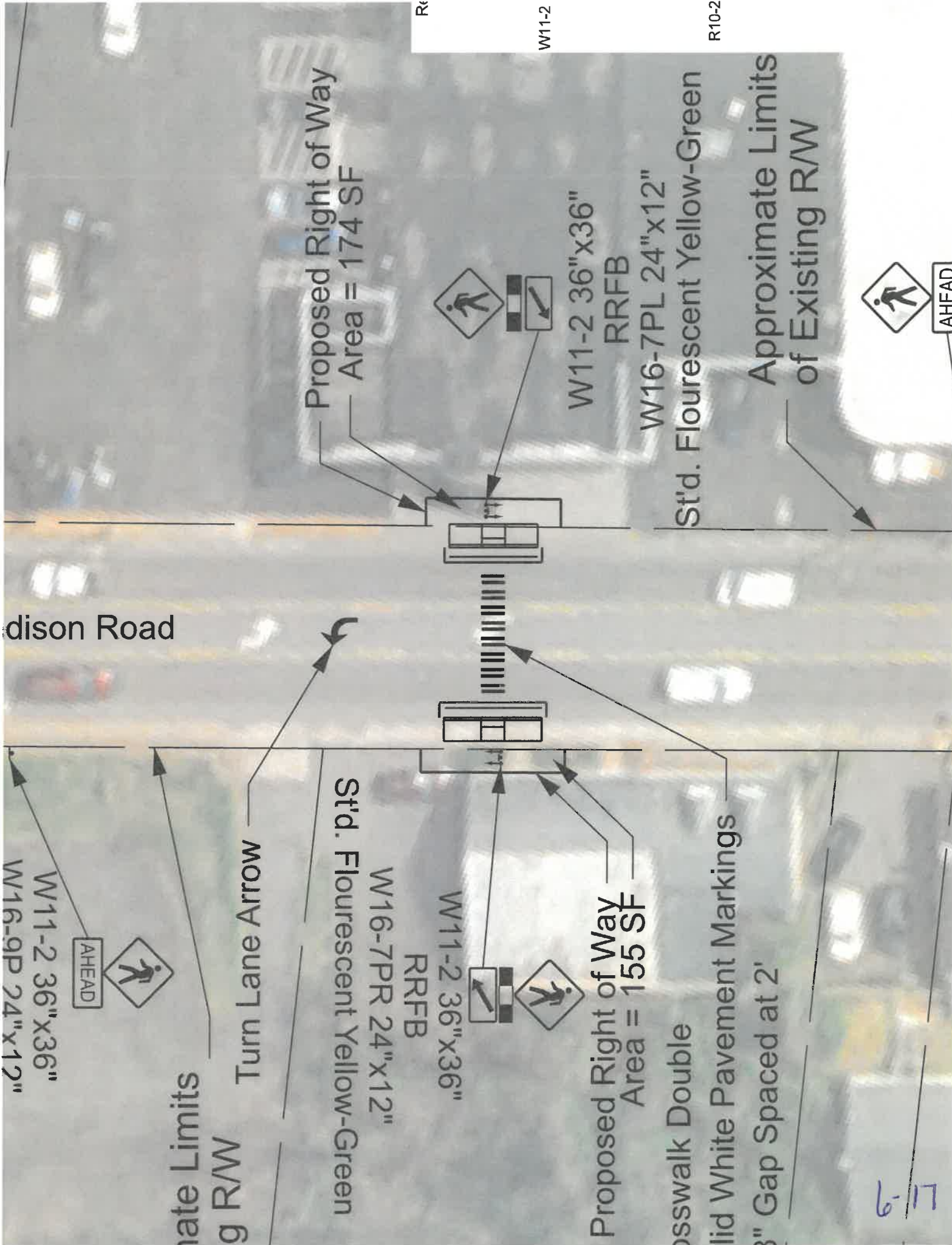
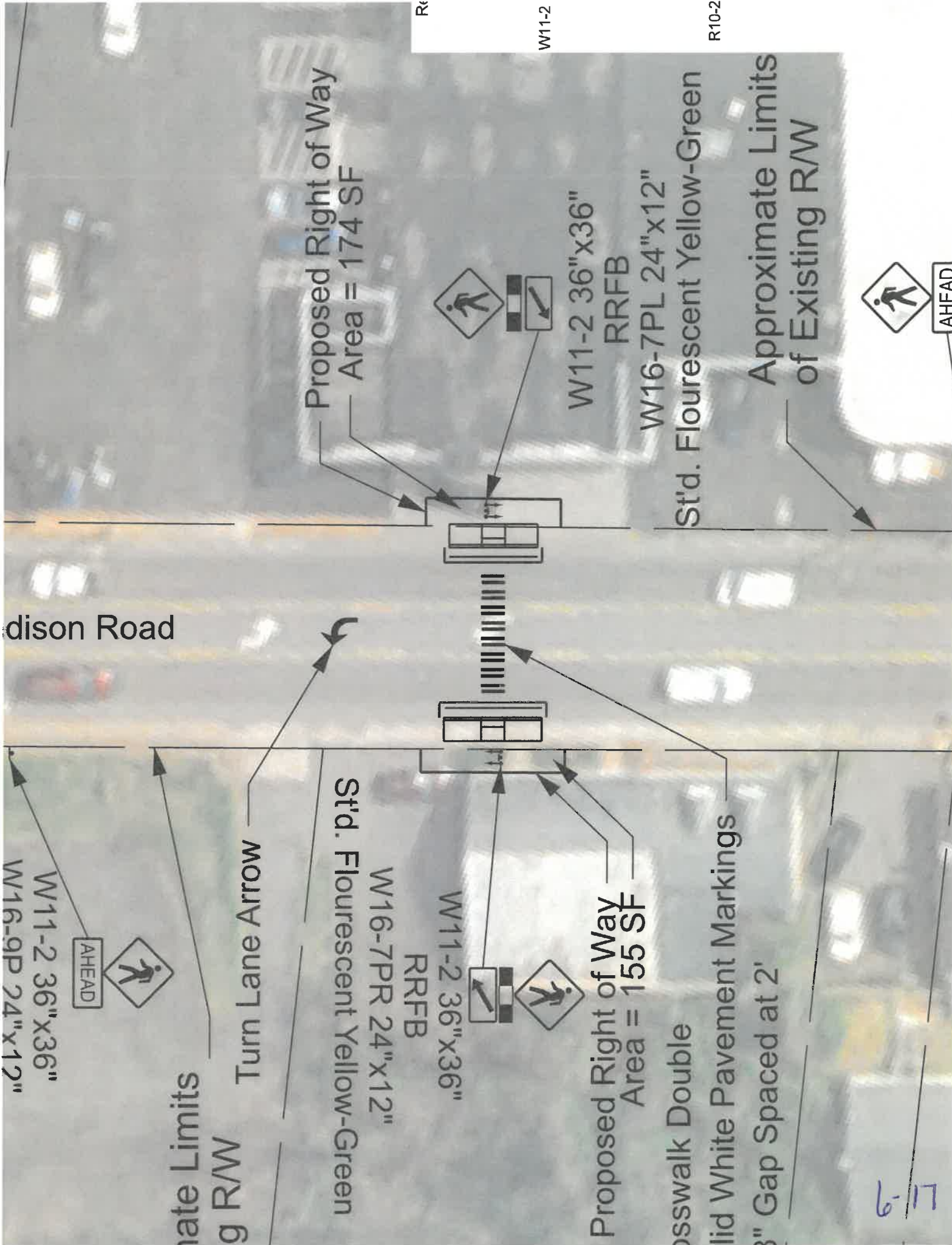
Section 4: Pedestrian Crosswalk Analysis Results

Based on the pedestrian crosswalk analysis, a crosswalk should be installed at the study area location. As shown in **Figure G**, a high visibility crosswalk with W11-2 (Pedestrian Crossing) and W16-7P (Diagonal Arrow) signage is required on each side of the crossing facing each direction. A high visibility crosswalk should have pairs of 8" lines with 8" gap that are spaced two feet apart and shifted to avoid the wheel paths of through vehicles.

The Tier 2 countermeasures recommend consideration of visibility enhancements.

A Rectangular Rapid Flashing Beacon (RRFB) is recommended for this crossing. RRFB were selected to best alert vehicles of pedestrians about the cross Madison Rd. It is also recommended to include advance crossing assembly signs (W11-2 and W16-9P (Ahead)). Advance crossing warning signs will be placed approximately 100 feet from the crosswalk in the northbound and southbound directions. Signing and Pavement Marking Layout is shown in **Figure H**.

The RRFB will run on solar power using a solar panel attached to the top of the RRFB pole and a pole mounted cabinet. A detail of the RRFB is included in **Figure H**.



Madison Road

Proposed Right of Way
Area = 174 SF

Approximate Limits of Existing R/W

Turn Lane Arrow

St'd. Fluorescent Yellow-Green

W11-2 36"x36" RRFB

W16-7PL 24"x12" St'd. Fluorescent Yellow-Green

Proposed Right of Way
Area = 155 SF

Crosswalk Double Solid White Pavement Markings
3" Gap Spaced at 2"

Legend:
W11-2
R10-2

Madison Road

Proposed Right of Way
Area = 174 SF

Approximate Limits of Existing R/W

Turn Lane Arrow

St'd. Fluorescent Yellow-Green

W11-2 36"x36" RRFB

W16-7PL 24"x12" St'd. Fluorescent Yellow-Green

Proposed Right of Way
Area = 155 SF

Crosswalk Double Solid White Pavement Markings
3" Gap Spaced at 2"

Legend:
W11-2
R10-2

Madison Road

Proposed Right of Way
Area = 174 SF

Approximate Limits of Existing R/W

Turn Lane Arrow

St'd. Fluorescent Yellow-Green

W11-2 36"x36" RRFB

W16-7PL 24"x12" St'd. Fluorescent Yellow-Green

Proposed Right of Way
Area = 155 SF

Crosswalk Double Solid White Pavement Markings
3" Gap Spaced at 2"

Legend:
W11-2
R10-2

Madison Road

Proposed Right of Way
Area = 174 SF

Approximate Limits of Existing R/W

Turn Lane Arrow

St'd. Fluorescent Yellow-Green

W11-2 36"x36" RRFB

W16-7PL 24"x12" St'd. Fluorescent Yellow-Green

Proposed Right of Way
Area = 155 SF

Crosswalk Double Solid White Pavement Markings
3" Gap Spaced at 2"

Legend:
W11-2
R10-2

Madison Road

Proposed Right of Way
Area = 174 SF

Approximate Limits of Existing R/W

Turn Lane Arrow

St'd. Fluorescent Yellow-Green

W11-2 36"x36" RRFB

W16-7PL 24"x12" St'd. Fluorescent Yellow-Green

Proposed Right of Way
Area = 155 SF

Crosswalk Double Solid White Pavement Markings
3" Gap Spaced at 2"

Legend:
W11-2
R10-2

Madison Road

Proposed Right of Way
Area = 174 SF

Approximate Limits of Existing R/W

Turn Lane Arrow

St'd. Fluorescent Yellow-Green

W11-2 36"x36" RRFB

W16-7PL 24"x12" St'd. Fluorescent Yellow-Green

Proposed Right of Way
Area = 155 SF

Crosswalk Double Solid White Pavement Markings
3" Gap Spaced at 2"

Legend:
W11-2
R10-2

Madison Road

Proposed Right of Way
Area = 174 SF

Approximate Limits of Existing R/W

Turn Lane Arrow

St'd. Fluorescent Yellow-Green

W11-2 36"x36" RRFB

W16-7PL 24"x12" St'd. Fluorescent Yellow-Green

Proposed Right of Way
Area = 155 SF

Crosswalk Double Solid White Pavement Markings
3" Gap Spaced at 2"

Legend:
W11-2
R10-2

Madison Road

Proposed Right of Way
Area = 174 SF

Approximate Limits of Existing R/W

Turn Lane Arrow

St'd. Fluorescent Yellow-Green

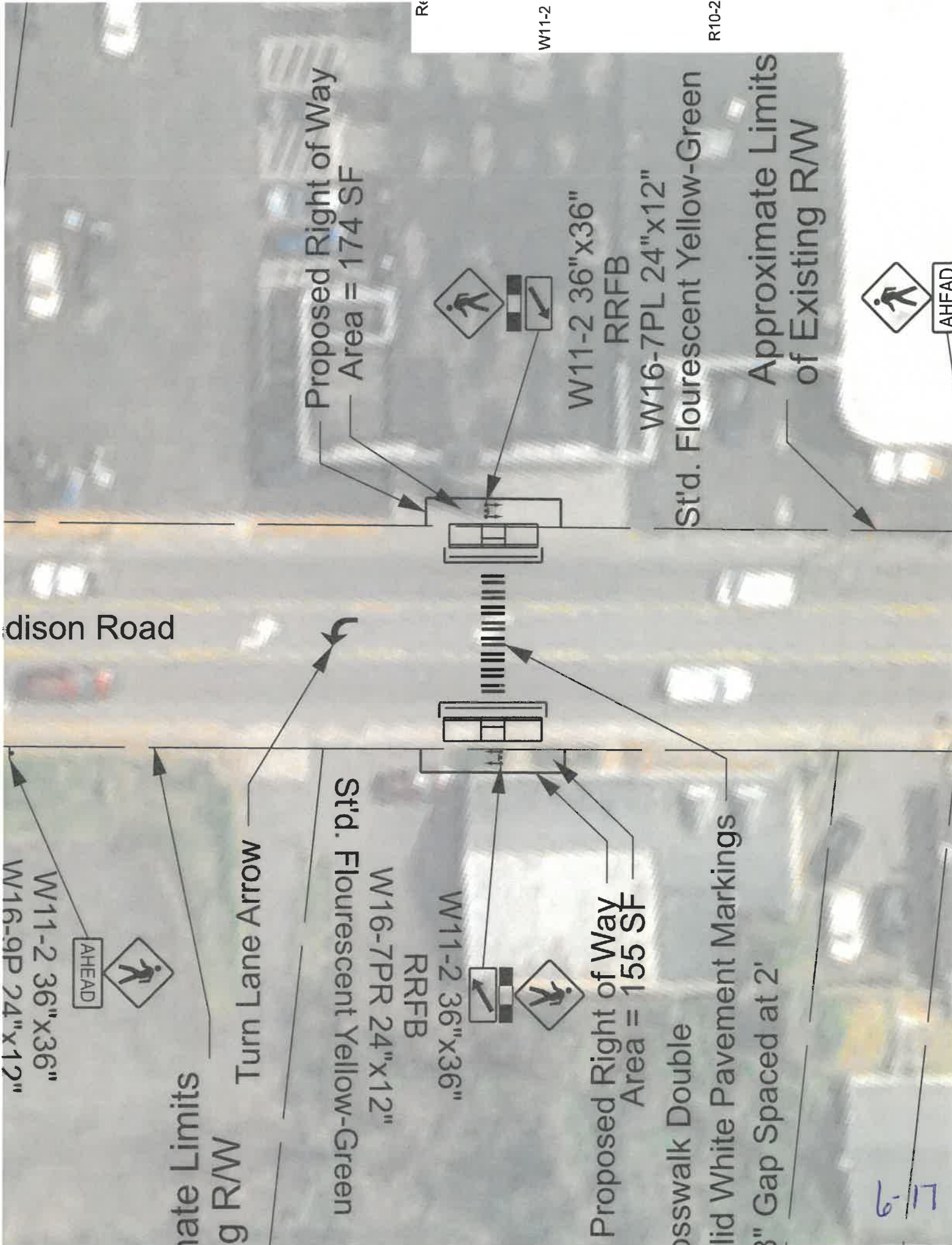
W11-2 36"x36" RRFB

W16-7PL 24"x12" St'd. Fluorescent Yellow-Green

Proposed Right of Way
Area = 155 SF

Crosswalk Double Solid White Pavement Markings
3" Gap Spaced at 2"

Legend:
W11-2
R10-2

[illegible]

An aerial photograph of Madison Road with various traffic engineering annotations. The road runs horizontally across the middle. On the left side, there are two pedestrian crossing signs (W11-2) and one 'AHEAD' sign (W16-9P). A dashed white line indicates the 'Proposed Right of Way' with an area of 174 SF. On the right side, there are two pedestrian crossing signs (W11-2), one 'AHEAD' sign (W16-9P), and a dashed white line indicating the 'Approximate Limits of Existing R/W'. Annotations include 'Turn Lane Arrow' pointing to a curved arrow on the road surface, 'St'd. Fluorescent Yellow-Green' pointing to the dashed white line, and 'Proposed Right of Way Area = 155 SF' pointing to the dashed white line on the right. There are also labels for 'Crosswalk Double Solid White Pavement Markings' and '8" Gap Spaced at 2''.

Section 5: Right of Way

Existing right of way within the project limits was reviewed using the Town of Orange GIS data. Due to the existing right of way being directly behind the existing sidewalk, a permanent easement or permanent right of way will be required to install the flashing beacons. Approximately 329 square feet of right of way will be required. See **Figure H** for the required area on each parcel.

Section 6: Conclusions

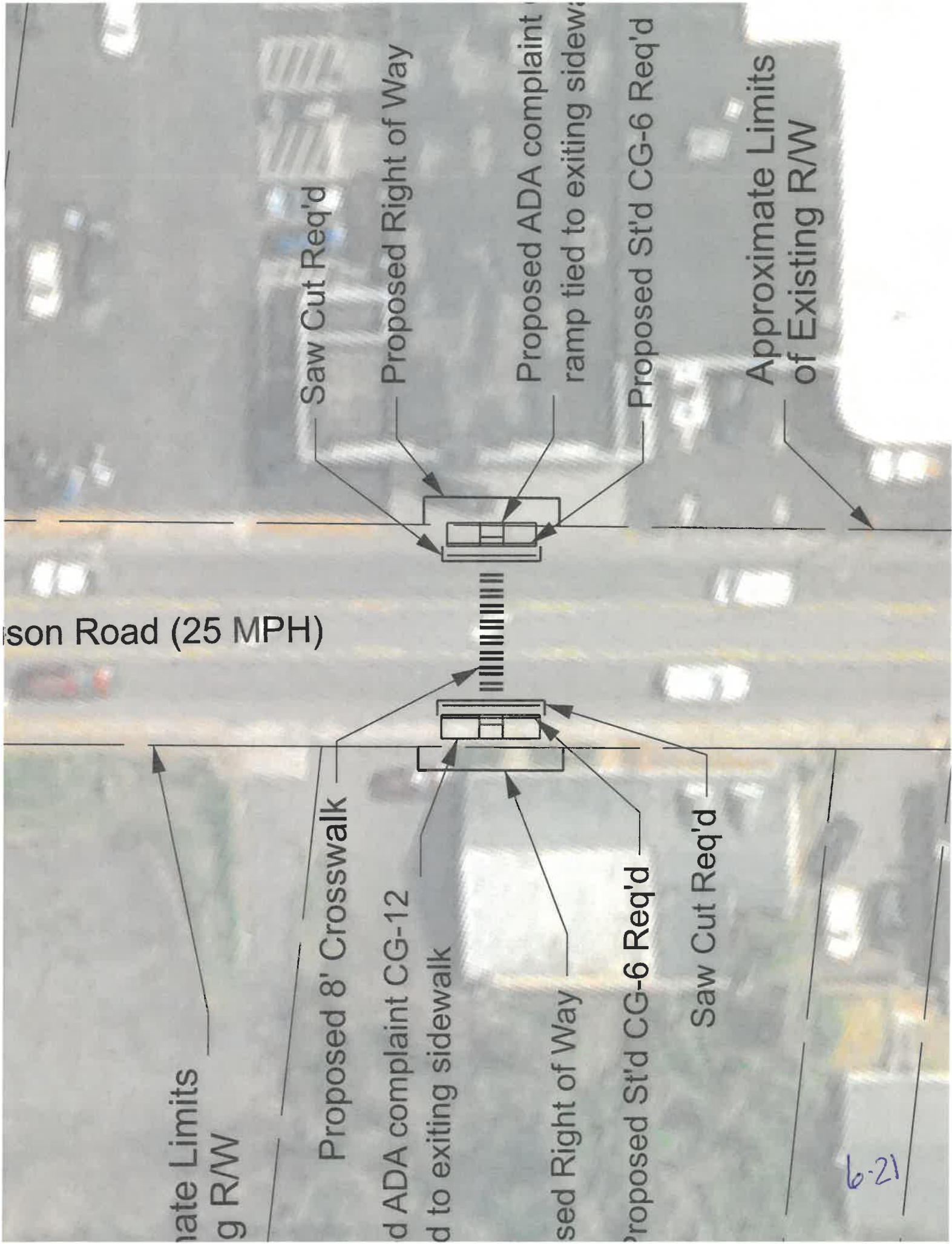
As shown by the crosswalk analysis prepared within **Section 2** of this report, the proposed high visibility crosswalk across the uncontrolled N. Madison Rd is recommended and will be designed with concurrence from VDOT, as it meets all the minimum requirements set forth by IIM-TE-384.1.

- The proposed crosswalk is on a direct route between significant pedestrian generators and attractors.
- There is not another existing marked crosswalk within 300 feet of the proposed crosswalk in the northbound or southbound direction.
- The proposed crosswalk will not produce an unacceptable safety hazard.
- Along N. Madison Road, the sight distance from the study intersection meets the requirements outlined in the IIM-TE-384.1 Table 2. IIM-TE-384.1 Table 2 is shown in **Figure D**. Line of Sight Exhibit can be found in **Figure E** to provide further representation of the sight distance at the study intersection.
- The proposed signing and pavement marking layout can be found in **Figure H**.

Appendices

Appendix A

Proposed Design Layout Exhibit



son Road (25 MPH)

ate Limits
g R/W

Proposed 8' Crosswalk

d ADA complaint CG-12

d to exiting sidewalk

sed Right of Way

Proposed St'd CG-6 Req'd

Saw Cut Req'd

Saw Cut Req'd

Proposed Right of Way

Proposed ADA complaint
ramp tied to exiting sidewalk

Proposed St'd CG-6 Req'd

Approximate Limits
of Existing R/W

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Appendix B

VDOT Historical Traffic Data

Appendix C

VDOT's IIM-TE-384 Pedestrian Crossing Accommodations at Unsignalized Location

VIRGINIA DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION
INSTRUCTIONAL & INFORMATIONAL MEMORANDUM

GENERAL SUBJECT: Pavement Markings Signs Pedestrians	NUMBER: IIM-TE-384.1
	SUPERSEDES: IIM-TE-384.0
SPECIFIC SUBJECT: Pedestrian Crossing Accommodations at Unsignalized Approaches	DATE: August 12, 2022
	SUNSET DATE: None
	APPROVAL: /original signed by/ Raymond J. Khoury, P.E. State Traffic Engineer Richmond, VA Approved August 12, 2022

CONTENTS

Traffic Engineering Division Memorandum IIM-TE-384.1

Background and Purpose
Applicable Projects and Effective Date
Process Flow Chart for Determining Appropriate Pedestrian Crossing
Accommodations at Unsignalized Approaches
Installation of Marked Crosswalks at Unsignalized Intersections
References and Terms

BACKGROUND AND PURPOSE

VDOT summarizes pedestrian crash trends for a five-year period in the Pedestrian Crash Assessment, describing the predominance of fatalities and serious injuries at midblock and unsignalized crossing locations. Based on the 2014-2018 Pedestrian Crash Assessment, two-thirds (2/3) of fatal and injury pedestrian crashes occurred at unsignalized intersections or midblock locations, and 87 percent of fatalities and 78 percent of injury crashes occurred at locations where no marked crosswalk was available. VDOT completed its first Pedestrian Safety Action Plan (PSAP) in 2018, calling for improved guidance for pedestrian crossings at unsignalized locations. The PSAP reported countermeasures and mapped locations (<http://bit.ly/VDOTPSAP>) are identified as priorities for improving pedestrian safety.

This Memorandum provides consistent, uniform guidance to designers for determining when to install marked crosswalks, what type of crosswalk to install, and what other traffic control devices or geometric improvements should potentially be considered in conjunction with the marked crosswalk at unsignalized intersection approaches and unsignalized mid-block locations. Unsignalized intersections can include stop sign controlled, yield sign controlled, and uncontrolled approaches. Pedestrian accommodations include marked crosswalks as well as any facility, design feature, operational change, or maintenance activity that improves the environment in which pedestrians travel. Marked crosswalks, by themselves or in conjunction with other traffic control devices and other pedestrian accommodations, such as curb

1 ramps or landings, can provide important safety benefits for crossing pedestrians. However, studies¹
2 have demonstrated that marked crosswalks placed alone at unsignalized approaches across multi-lane
3 roadways with high vehicular AADTs are not sufficient without additional geometric pedestrian safety
4 improvements or other traffic control devices. High visibility crosswalks are more visible and provide a
5 longer perception distance allowing drivers to react.

6
7 This Memorandum updates IIM-TE 384.0 "Pedestrian Crossing Accommodations at Unsignalized
8 Locations" issued in 2016. This updated Memorandum includes substantial changes to IIM-TE-384.0.
9 Major revisions include provisions for marked crosswalks and corresponding countermeasures for multi-
10 lane roadways with posted speed limits at or over 45 miles per hour; new criteria for establishing the
11 need for a marked crosswalk; and updated guidance on the installation of high-visibility crosswalk
12 markings. This updated Memorandum provides additional guidance beyond what is in the [2009 Manual](#)
13 [on Uniform Traffic Control Devices](#) (MUTCD) and the [2011 Virginia Supplement to the MUTCD](#), latest
14 version. This document focuses on pedestrian crossing guidance for unsignalized intersection crossings
15 and mid-block crossings and should be used in conjunction with a separate IIM established for pedestrian
16 accommodations at signalized intersections.

17 **APPLICABLE PROJECTS and EFFECTIVE DATE**

18
19
20 **This IIM applies to all VDOT-maintained roads, and to crosswalks on locality-maintained roads**
21 **that are being constructed with state or federal funds.** This IIM does not apply to activities on locally
22 maintained streets that are not funded with state or federal funds, however localities must still construct
23 all crosswalk improvements in accordance with the MUTCD. Applicable projects include:

- 24 • New roadway construction projects (VDOT-administered or VDOT-funded)
- 25 • Roadway widening or improvement projects (VDOT-administered or VDOT-funded)
- 26 • Land development or locality-led projects requiring a VDOT land use permit
- 27 • Revenue-sharing projects on VDOT system

28
29 Application of this IIM is not required for other projects, such as maintenance and alteration activities.
30 However, if decisions regarding unsignalized pedestrian crossings are made as part of other VDOT
31 activities, then those decisions shall be made in accordance with this Memorandum. Table 1 summarizes
32 the effective dates for application of this updated IIM-TE-384.1.

33
34

¹ Zegeer, Charles V., et. al. *Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations* (FHWA: 2009),
<http://www.fhwa.dot.gov/publications/research/safety/04100/>

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Table 1: Project Applicability & Effective Dates

Project Type	Applicability & Effective Date
Land Use Permit Projects	This updated IIM shall be in effect for all projects where the first draft of the study that recommends proposed crossing treatment(s) has not yet been submitted to VDOT as of the date of issuance for this IIM.
VDOT Construction Projects	Design-Bid-Build: This updated IIM shall be in effect for all projects for which the Public Hearing plans have not yet been finalized as of the issuance date of this updated IIM. Design-Build or PPTA: This updated IIM shall be effective for all projects for which the RFQ has not yet been published as of the issuance date of this updated IIM.
All Projects	For any of the above-referenced projects that are in development beyond the stages noted as of this updated IIM issuance date, this updated IIM may be applied if desired by the permittee (for Land Use Permit projects) or VDOT project manager (for Construction Projects). Documentation shall be provided to support any change in recommendation based on the revised criteria in this updated IIM.

Public requests for crosswalks or other improvements are to be addressed as part of VDOT projects or activities, or as District funding resources allow for consideration and implementation. The focus of this Memorandum is crosswalk improvements. Please refer to the [VDOT Road Design Manual](#), Appendix A(1) and other IIMs and VDOT policies to determine if additional improvements related to the crosswalk are required. For additional information on application of this Memorandum, see VDOT's [IIM 384.1 Crosswalk Determination Form](#).

This Memorandum may be used, but is not required to be used, to proactively evaluate corridors or locations for potential crosswalk installation prior to the initiation of applicable project activities subject to this Memorandum. This Memorandum may be a resource for studies that include pedestrian crossing assessments in the study scope and when the proposed treatments are subsequently advancing to Project Implementation stages (reference Table 32 in this [VDOT Publication Traffic Operations and Safety Analysis Manual](#) for definitions and other information).

PROCESS FLOW CHART FOR DETERMINING APPROPRIATE PEDESTRIAN CROSSING ACCOMMODATIONS AT UNSIGNALIZED APPROACHES

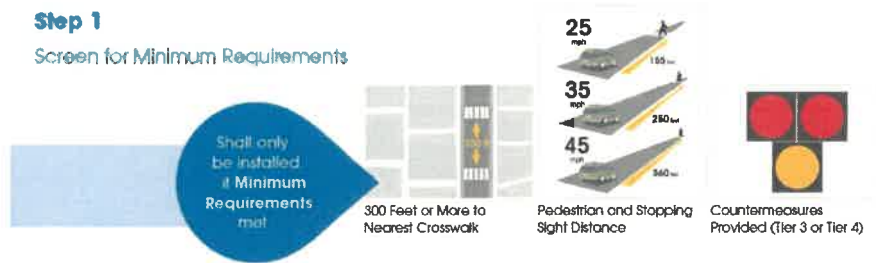
The following flow chart illustrates a four-step process for determining if a marked crosswalk should be provided, whether other countermeasures are needed, and what type of marking pattern is used. Additional requirements for each step are explained in more detail in the following sections of this Memorandum. Crosswalk and countermeasure design should follow the most recent information found in the American Association of State Highway and Transportation Officials (AASHTO) Policy on Geometric Design of Highways and Streets, hereafter referred to as the "Green Book", and the [VDOT Road Design Manual](#).

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PROCESS FLOW CHART FOR DETERMINING APPROPRIATE PEDESTRIAN CROSSING ACCOMMODATIONS AT UNSIGNALIZED APPROACHES

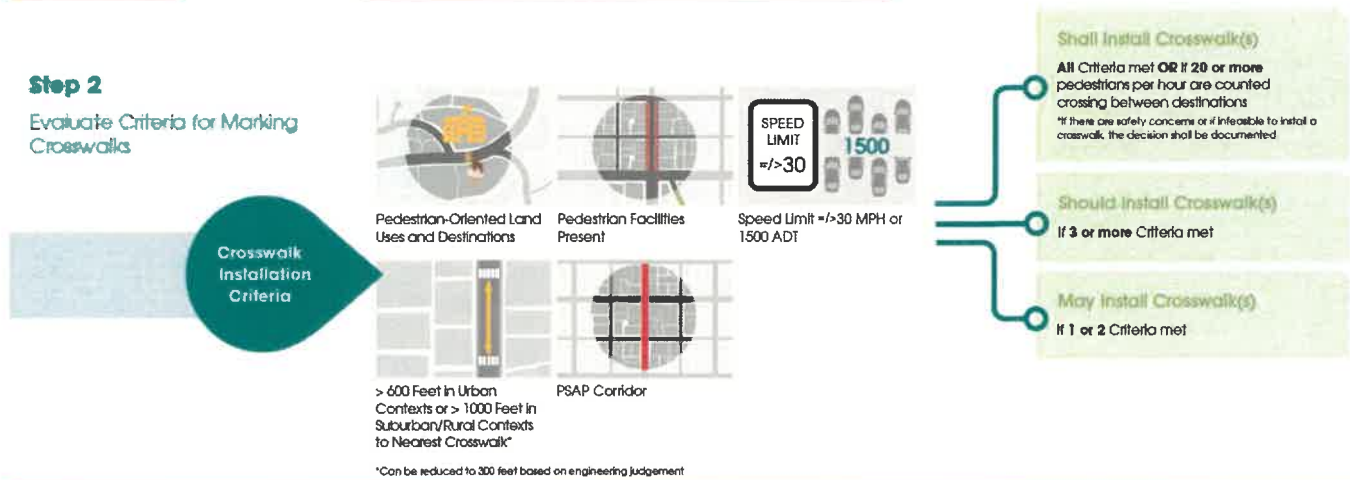
Step 1

Screen for Minimum Requirements



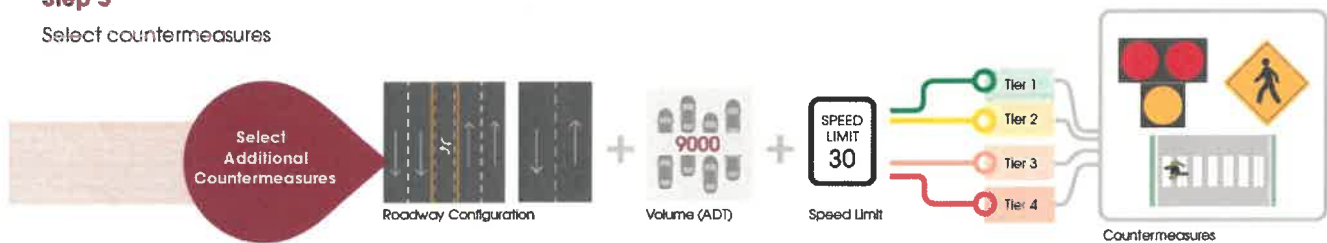
Step 2

Evaluate Criteria for Marking Crosswalks



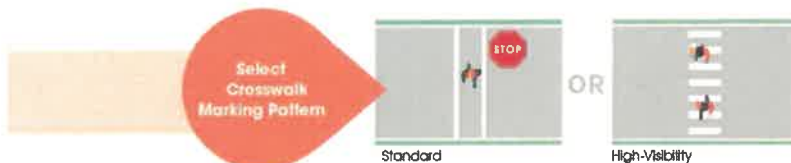
Step 3

Select countermeasures



Step 4

Select marking pattern for crosswalks



6-2B

INSTALLATION OF MARKED CROSSWALKS AT UNSIGNALIZED APPROACHES

All unsignalized crossings at intersections and midblock locations within the bounds of applicable projects and activities are subject to this IIM. In general, sections of roadway outside of or between intersections are described as midblock locations. Crosswalks, whether marked or unmarked, at intersections without a traffic control signal are unsignalized crossings subject to this IIM. Intersections are defined in the [VDOT Road Design Manual](#) as the general area where two or more highways join or cross, and midblock locations are between intersections. Driveways are not considered intersections but may provide access to pedestrian-oriented land uses, and this IIM may be applied to those conditions.

Engineering judgement should be used to identify the potential candidate locations for individual crossings within the bounds of applicable projects and activities. The determination of these candidate locations should be based on pedestrian desire lines, field observations, and local input, in addition to the guidance in this Memorandum.

Crosswalks shall only be installed where a safety screening has been performed per Step 1, below. As such, all evaluations for a marked crosswalk shall first consider safety conditions of the candidate site. Locations that don't meet all of the safety screening requirements shall not be evaluated further for marked crosswalk installation. If a candidate location meets all of the safety screening requirements, it can then be further evaluated for the potential installation of a marked crosswalk per criteria described below in Steps 2 to 4 (See Process Flow Chart for Determining Appropriate Pedestrian Crossing Accommodations at Unsignalized Approaches on page 4).

An engineering study shall be performed under the following circumstances:

- At all midblock locations
- Where a PHB or RRFB is being considered for the crosswalk
- Where all of the safety screening (Step 1) requirements and all five of the crosswalk installation criteria (Step 2) are met at a location, but installing a crosswalk is considered infeasible.

An engineering study shall address each of the requirements and criteria within this Memorandum, to support the proposed recommendations. An engineering study may include traffic and pedestrian operations or in-depth crash analyses, depending on the potential implications of new traffic control devices or countermeasures. Engineering studies may also consider additional options, including or in addition to the countermeasures included in this IIM, that improve safety at crossings or restrict pedestrian crossing activity where crossing countermeasures are infeasible. The District Traffic Engineer or their designee is responsible for determining what conditions will be considered as part of the engineering study or evaluation. If the crossing locations pertain to a land use permit, the permit reviewer (Land Use Engineer) may conduct initial evaluations for the study location(s) prior to the DTE or designee's approval. Data collection templates may be used to facilitate crosswalk engineering studies, such as the [IIM 384.1 Crosswalk Determination Form](#).

Step 1: Screen for Minimum Requirements

Locations shall be screened, and all requirements met before any crosswalk can be installed at a candidate location. If any safety screening requirements are not met, a crosswalk shall not be installed, and no additional evaluation of the candidate location is necessary. When the safety screening is applied to a potential crosswalk location, adjacent sections of the corridor should also be reviewed to ensure that the best location for the potential crosswalk(s) is selected.

Marked crosswalks **may** be considered for installation at locations where **all** of the following safety screening requirements are true:

- The center of the area considered for a proposed crosswalk is at least 300 feet from the center of the closest marked crosswalk or signalized intersection stop bar. The closest marked crosswalk includes existing marked crosswalks, other marked crosswalks recommended for installation by this Memorandum, and the stop bar location at a signalized intersection (potential future signalized crosswalk location).
- Drivers have an unrestricted view* of the entire proposed crosswalk and entry points to the crosswalk, based on Stopping Sight Distance requirements. Sight distance calculations should follow the most recent information found in the AASHTO Policy on Geometric Design of Highways and Streets and [VDOT Road Design Manual](#). Pedestrians at the location of the proposed crosswalk should also have an unrestricted view of approaching vehicles, based on operating vehicle speed, traffic volumes and engineering judgement.
- If, based on the roadway configuration, operating speed, and traffic volume, the location falls into Tier 3 or Tier 4 (see Tables 3 and 4 of this ILM), other pedestrian safety countermeasures must already exist or must be provided at the time of the crosswalk installation. Implementation resources (i.e. capital project, SMART SCALE, HSIP) must be identified for additional countermeasures prior to installing crosswalks for Tier 3 or 4 locations.

*Unrestricted view should be equal to or exceeding the Stopping Sight Distance (SSD) requirements shown in **Table 2** and as per the latest effective version of [VDOT's Road Design Manual](#). If the sight distance requirements cannot be met and the crosswalk cannot be located at a place where sight distance requirements will be met, the crosswalk should not be installed except in conjunction with mitigation measures such as removing objects that obstruct sight distance, reduction of operating speed, or installation of PHB or RRFB. Special consideration should be made for locations where high pedestrian crossing is expected, such as at trail crossings and in urban contexts.

Table 2: Stopping Sight Distance Requirements Approaching Mid-Block Crosswalks or Crosswalks at Unsignalized Intersection Approaches (feet)

Operating Speed	Level Grade	Downgrades			Upgrades		
		-3%	-6%	-9%	+3%	+6%	+9%
25 mph	155	158	165	173	147	143	140
30 mph	200	205	215	227	200	184	179
35 mph	250	257	271	287	237	229	222
40 mph	305	315	333	354	289	278	269
45 mph	360	378	400	427	344	331	320
50 mph	425	446	474	507	405	388	375
55 mph	495	520	553	593	469	450	433
> 55 mph	Crosswalks should not be marked across uncontrolled approaches with operating speeds greater than 55mph.						

Source: This table is provided for convenience and is current as of November 2019, for the purposes of reviewing existing roadway conditions and crosswalks. For new construction, refer to Appendix A1 in the [VDOT Road Design Manual](#) to identify the correct values for stopping sight distance. Operating speed can refer to actual 85th percentile speed if speed data is available. Otherwise, operating speed can be estimated as the posted speed limit plus 7 mph or based on documented engineering judgment. For operating speeds not in 5 mph increments, users should interpolate from this table to find the minimum SSD requirements.

Step 2. Evaluate Criteria for Marking Crosswalks

Crosswalk installation criteria are used to determine whether or not a crosswalk is installed, after meeting the safety screening requirements in Step 1 (See Process Flow Chart for Determining Appropriate Pedestrian Crossing Accommodations at Unsignalized Approaches on page 4). The number of crosswalk installation criteria met after evaluation determines the requirements for installation of the crosswalk, as described below:

6-30

Crosswalks shall be installed when all crosswalk installation criteria are met or the location has 20 pedestrians or more per hour counted crossing between pedestrian-oriented land uses. Pedestrian counts are not required, but if collected, pedestrian counts should cover a section of corridor 200 to 300 feet in either direction from the location being reviewed for a new crosswalk. If there are safety concerns or other reasons why the crosswalk is not feasible, these shall be documented in an engineering study, and a crosswalk is not required.

Crosswalks should be installed where three or more of the crosswalk installation criteria are met.

Crosswalks may be installed where one or two crosswalk installation criteria are met.

Crosswalk Installation Criteria

There are five crosswalk installation criteria, for which more detail is provided in the sections that follow:

- A. Candidate location is located between two pedestrian-oriented land uses or destinations.
- B. Candidate location connects to at least one pedestrian facility or pedestrian access route.
- C. Candidate location is on a road with a posted speed limit equal to or greater than 30 mph OR on a road with more than 1,500 vehicles per day.
- D. Candidate location is more than 600 feet in urban contexts, or more than 1,000 feet in suburban or rural contexts, to the nearest crosswalk.
- E. Candidate location is on an identified Pedestrian Safety Action Plan (PSAP) priority corridor or within the functional area of an intersection within a PSAP crash cluster. (Refer to most current [VDOT PSAP location map](#))

In all cases, the [IIM 384.1 Crosswalk Determination Form](#) may be used to record determinations for these criteria. Additional documentation may be required where these criteria recommend marking a crosswalk(s) but an engineering study supports a decision to not mark a crosswalk(s) based on unsafe conditions or feasibility challenges.

Context is a key consideration for determining whether a location meets these criteria. Since the 7th edition of Green Book, a new approach for considering both functional and context classifications for designing roadways is included. The following describes each context classification (See section 1.5 for more information):

- Rural: Areas with lowest density, few houses or structures (widely dispersed or no residential, commercial, and industrial uses), and usually large setbacks.
- Rural Town: Areas with low density but diverse land uses with commercial main street character, potential for on-street parking and sidewalks, and small setbacks.
- Suburban: Areas with low to medium density, mixed land uses within and among structures (including mixed-use town centers, commercial corridors, and residential areas), and varied setbacks.
- Urban: Areas with high density, mixed land uses and prominent destinations, potential for some on-street parking and sidewalks, and mixed setbacks.
- Urban Core: Areas with highest density, mixed land uses within and among predominately high-rise structures, and small setbacks.

Criterion A: Pedestrian-Oriented Land Uses and Destinations

Pedestrian-oriented land uses and destinations, including transit stops, will generate pedestrian crossings regardless of whether a marked crosswalk exists or not. When pedestrian-oriented land uses exist adjacent to roadways where pedestrians are not prohibited, it is VDOT's policy to provide adequate pedestrian crossing opportunities and to direct pedestrians to those locations.

6.31

1 Pedestrian-oriented land uses and destinations include, but are not limited to, sidewalks, shared use
2 paths, and trails; transit stops and rail stations; medium to high density residential; schools and university
3 campuses; parks and recreation centers; hospitals and health centers; libraries and senior centers;
4 shopping centers, convenience stores, and restaurants; hotels and tourist destinations; and parking
5 garages and convention centers; and other pedestrian origins or destinations. For the purposes of this
6 Memorandum, medium density residential development is approximately a minimum of 2 units per acre
7 (gross number of housing units per acre).
8

9 These pedestrian-oriented land uses can be major generators for pedestrian trips where development
10 density is high or where land uses are diverse. Pedestrians should be expected to cross roads where
11 complimentary destinations (such as a hotel and restaurant) are sited on opposite sides of the roadway.
12

13 Pedestrians are more likely to walk along and cross the roadway where pedestrian-oriented land uses or
14 destinations are visible and within close proximity. A ¼ mile distance between destinations is a frequently
15 cited “walkable” distance and may indicate a higher pedestrian travel demand and need for marked
16 crosswalks. However, pedestrian travel routes and travel may extend to land uses or destinations far
17 beyond properties adjacent to the roadway. To the extent possible, marked crosswalks should match
18 pedestrian desire lines by connecting pedestrian-oriented land uses using the shortest route that is
19 practical. Additionally, District Land Use should request developers to consider strategic placement of
20 developments and building entrances in locations to match pedestrian desire lines.
21

22 Installing marked crosswalks in areas where there is minimal likelihood of existing or future pedestrian
23 activity (based on adjacent land uses) is not recommended. If pedestrian-oriented land uses do not
24 currently exist on both sides of the roadway, the designer should consult with the District Planner, Land
25 Use Engineer, and/or the locality to assess whether there is a potential for a pedestrian-oriented land
26 use(s) in the near future. If the designer determines that future pedestrian-oriented land uses are planned,
27 traffic control devices should be placed where they will not conflict with a future marked crosswalk.
28

29 *Criterion B: Pedestrian Facility or Access Route*

30

31 It is preferred that pedestrian facilities (such as sidewalks or shared use paths) or other pedestrian access
32 routes parallel to the roadway be available on either end of a proposed crossing and along both sides of
33 the roadway. However, pedestrian facilities or access routes on both sides of the roadway are not
34 required to implement a crosswalk project. To satisfy this criterion, the crossing location should connect
35 between at least one pedestrian facility or access route(s) and a pedestrian-oriented land use or transit
36 service opposite the pedestrian access route.
37

38 Crosswalks may be considered in the absence of a pedestrian facility or access route on either side of
39 the road in certain situations. The following conditions are examples of locations that may require a
40 crosswalk, but don't include pedestrian facilities or access routes on both sides of the roadway. These
41 locations should also be considered and prioritized for future sidewalk installation:

- 42 • A worn path or traversable shoulder is on one side of the roadway across from a pedestrian-
43 oriented land use or transit stop(s).
- 44 • The side street approach(s) to the roadway connects to pedestrian-oriented land uses.
- 45 • The crossing is located at an accessible trail or shared use path crossing.
46

47 In accordance with the [VDOT Road Design Manual, Appendix A\(1\)](#), detectable warnings, and curb ramps
48 or level landing areas, are required to communicate where the pedestrian is entering the roadway at a
49 marked crosswalk.
50

51 If pedestrian facilities do not currently exist on both sides of the crossing, the designer should consult
52 with the District Planner and/or locality to review plans for future pedestrian facilities. The District Traffic

6-32

Engineer should make final determination about the location of the crosswalk(s), consistent with planned facilities on both approaches to the crosswalk.

Criterion C: Speeds and Traffic Volumes

Roads with a posted speed limit equal to or greater than 30 mph or where volumes exceed 1,500 vehicles per day (AADT) pose more risk for severe injury pedestrian crashes. Marked crosswalks may be considered for streets with lower posted limits, lower volume collector streets, or in non-residential areas where pedestrians are expected or observed to cross frequently.

Criterion D: Crosswalk Proximity

Crosswalks should be placed in locations where drivers have opportunity to react and yield to a pedestrian in the crosswalk, and in locations where pedestrians can be expected to cross. Pedestrians are more likely to cross at a marked crosswalk that reduces time and increases their visibility when travelling between destinations. Similarly, longer walking distances to marked crossings increase the risks that pedestrians are willing to take to cross the roadway. Given the [MUTCD standard measure of pedestrian walking speed of 3.5 ft/s](#), an additional 200 feet will add approximately one minute to a pedestrian's travel time.

Per the Safety Screening Requirements in Step 1, candidate locations for crosswalks shall be more than 300 feet from the nearest crosswalk. Nearest crosswalk includes marked crosswalks at intersections and midblock locations. This requirement does not limit the ability to mark a crosswalk on multiple legs of an intersection. The distance between the candidate crossing location and the nearest intersection or crosswalk should be no greater than 1000 feet. In urban contexts, the distance between the candidate crossing and nearest crosswalks should be no greater than 600 feet, depending on block length. In suburban or rural contexts, the distance between crosswalks will vary based on distance between pedestrian-oriented land uses.

Crosswalk spacing should be determined where engineering judgement determines that the crossing(s) are needed, based on destinations and context. Treatments that redirect pedestrian crossings (such as landscaping or fences) may be considered where appropriate. The treatments shall be applied in accordance with the [VDOT Road Design Manual](#).

Criterion E: Pedestrian Safety Action Plan (PSAP) Corridors and Crash Clusters

VDOT developed its first [PSAP](#) in 2018 to identify areas with significant pedestrian crash history and corridors that bear characteristics of risk for pedestrian crashes (as determined by VDOT). Refer to the most recently published version of the [PSAP](#) to identify crash clusters and priority corridors. Crossing locations within crash clusters (within the functional area of intersections identified in a crash cluster) or along priority corridors are key considerations for marking new crosswalks. The version of the PSAP that is most recent at the time of initial draft study/design submittal may continue to be used for subsequent submittals.

Step 3. Select Additional Countermeasures

Marked crosswalks across unsignalized approaches should be further evaluated for additional crossing treatments or visibility enhancements at the crosswalk. The roadway configuration, posted speed limit, and traffic volumes are important considerations when evaluating these treatments. Review those conditions for the time when the crosswalk will be installed.

6-33

Engineering judgment is required to determine the number of approaches to an intersection that will be marked with a crosswalk. Table 3 includes a matrix identifying a recommended countermeasure per Tier for crosswalks at unsignalized approaches across undivided roadways (roads without a raised median) or single lane, one-way streets. Minimum requirements and recommended additional treatments are referenced per Tier below the matrix in Table 3. Table 4 includes a matrix identifying a recommended countermeasure per Tier for crosswalks at unsignalized approaches across roadways divided by a median or that are multi-lane, one-way streets. Minimum requirements and recommended additional treatments are referenced per Tier below the matrix in Table 4.

Tables 3 and 4 are informed by national guidance including [*Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations \(FHWA: 2009\)*](#) and the [*Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations \(FHWA: 2018\)*](#). On controlled approaches, the parallel facility speed and volume should also be a factor, especially the speed and volume of right and left-turning vehicles from the primary street.

Tables 3 and 4 identify required, recommended and optional countermeasures according to four (4) tier categories. Tier 1 includes countermeasures designed for roadways where drivers are more likely to yield to pedestrians in the crosswalk and crash risk is lowest. The tiers increase as countermeasures respond to conditions where the risk of pedestrian crashes or fatalities are highest, with Tier 4 including roadway configurations and conditions that may lead to increased crash risk. The countermeasures listed for each tier are listed in increasing order of effectiveness to reduce crash risk. The high-visibility crosswalk is recommended or required for most types of unsignalized crossings (per this IIM). Some countermeasures are installed in tandem with complimentary treatments or other countermeasures. For example, the in-street sign (R1-6) should be installed with refuge islands and raised crosswalks. Conversely, some treatments will be standalone, such as the PHB. Countermeasures recommended for the next highest Tier may be considered, per the findings of an engineering study.

By selecting Roadway Reconfiguration (Tiers 3 or 4), the decision-maker should consider the tier associated with the proposed roadway configuration (after a Roadway Reconfiguration would be implemented). For example, if the current configuration is a four-lane, undivided roadway, and the Roadway Reconfiguration is proposed as a three-lane (including a center turn lane); the proposed roadway configuration should be reviewed for recommended countermeasures, such as the refuge island.

Crossings located at Tier 3 or 4 locations require an engineering study to make final determination of countermeasures to be installed with the marked crosswalk. ADTs referenced in Tables 3 and 4 are based on the total volumes for all travel lanes associated with a combined roadway segment, as determined by VDOT. ADTs may be recorded separately for each direction of travel for a divided roadway. The designer should confirm the assignment of ADTs for divided roadways and combine ADTs for each direction of travel, as necessary. Tables 3 and 4 include reference to recommended countermeasures per Tier, and optional countermeasures that may be considered where the recommended is not appropriate to the context or site. The following notes explain each countermeasure and additional considerations for engineering review:

ADV: Advance yield markings and R1-5 signs (ADV). Advance yield markings and signs shall be used as per the MUTCD (3B.16).

PHB: Pedestrian Hybrid Beacon, should be installed with Refuge Island on 4- or 6- lane divided roads or 5-lane roads.

1 RD: Roadway Reconfiguration to 3-Lane or 2-lane divided roads, should be installed with Refuge
2 Island on Tier 3 or 4 roads. Refer to [FHWA and VDOT guidance for Roadway Reconfigurations \(Road](#)
3 [Diets\)](#) for additional considerations.

4
5 RI: Refuge Island should be installed with In Street Signs on 2-lane divided roads.

6
7 RRFB: Rectangular Rapid Flashing Beacon, should be installed with Refuge Island, where applied to
8 Tier 3 or 4 roads.

9
10 TC: Traffic Calming Measures, including raised crosswalks for roads with posted speed limit lower than
11 35 mph. Refer to [VDOT Traffic Calming Guide for Neighborhood Streets for more information and](#)
12 [specifications](#). Traffic calming measures and speed management techniques should be considered for
13 all locations, appropriate to the roadway type and development context. Speed management
14 techniques may be deployed along a corridor or at specific locations, using strategies such as
15 explained by [VDOT Bicycle and Pedestrian Treatments](#) resource information.

16
17 VE: Visibility Enhancements, including but not limited to In-street signs, parking restriction, or curb
18 extension. Parking restriction applies to roads with on street parking, and shall be used in compliance
19 with the MUTCD (2B and 3B). Curb extension may be used where on street parking or wide travel
20 lanes provide space.
21

Table 3: Recommendations for Considering Marked Crosswalks and Other Needed Pedestrian Improvements Across Unsignalized Approaches (Undivided/Single-Lane Roads)

Table 3 includes reference to the minimum and recommended countermeasures per Tier, and optional countermeasures that may be considered where the recommended is not appropriate to the context or site. Crossings located at Tier 3 or 4 locations require an engineering study to make final determination of countermeasures to be installed with the marked crosswalk.

Roadway Configuration (# is total N of lanes)		Roadway ADT and Speed Limit											
		1,500 to 9,000 VPD			9,000 to 12,000 VPD			12,000 to 15,000 VPD			More than 15,000 VPD		
		≤ 30 MPH	35 MPH	≥ 40 MPH	≤ 30 MPH	35 MPH	≥ 40 MPH	≤ 30 MPH	35 MPH	≥ 40 MPH	≤ 30 MPH	35 MPH	≥ 40 MPH*
Single lane, one-way street		VE/TC	VE/TC	VE/TC	VE/TC	VE/TC	VE/TC	VE/TC	VE/TC	VE/TC	VE/TC	VE/TC	VE/TC
2 Lanes (undivided two-way street)		VE/TC	VE/TC	VE/RRFB	VE/TC	VE/TC	VE/RRFB	VE/TC	VE/RRFB	VE/RRFB	VE/RRFB	VE/RRFB	PHB
3 Lanes (center turn lane)		VE/TC	VE/RI	RI/RRFB	VE/RI	RI/RRFB	RI/RRFB	RI/RRFB	RI/RRFB	PHB/RD	RI/RRFB	PHB/RD	PHB/RD
4 Lanes (two-way street without median)		RD/RRFB	RD/RRFB	PHB/RD	RD/RRFB	RD/RRFB	PHB/RD	RD/RRFB	PHB/RD	PHB/RD	PHB/RD	PHB/RD	PHB/RD
5 Lanes (center turn lane)		RD/RRFB	PHB/RD	PHB/RD	RD/RRFB	PHB/RD	PHB/RD	PHB/RD	PHB/RD	PHB/RD	PHB/RD	PHB/RD	PHB/RD
6 Lanes+ (two-way street without median)*		PHB/RD	PHB/RD	PHB/RD	RD	PHB/RD	PHB/RD	PHB/RD	PHB/RD	PHB/RD	PHB/RD	PHB/RD	PHB/RD

*all 15,000 vpd lane roadways with speeds 45 and 55 mph = Tier 4

Tier 1

High Visibility Crosswalk with W11-2, S1-1 (School), or W11-15 (Trail) signage is required and consideration of the following:

Recommended: Visibility Enhancements (VE)

Optional, if Recommended is not appropriate: Traffic Calming Measures (TC)

Tier 2

High Visibility Crosswalk with W11-2, S1-1 (School), or W11-15 (Trail) signage is required and consideration of the following:

Recommended: Refuge Island (RI), and/or

Recommended: Rectangular Rapid Flashing Beacon (RRFB)

Optional, if Recommended is not appropriate: Visibility Enhancements (VE)

Optional, if Recommended is not appropriate: Advance yield markings and R1-5 signs (ADV)

Tier 3

High Visibility Crosswalk with W11-2, S1-1 (School), or W11-15 (Trail) signage is required and inclusion of one or more of the following:

Recommended: Roadway Reconfiguration (RD), and/or

Recommended: Pedestrian Hybrid Beacon (PHB)

Optional, if Recommended is not appropriate: Advance yield markings and R1-5 signs (ADV)

Optional, if Recommended is not appropriate: Rectangular Rapid Flashing Beacon (RRFB)

Tier 4

High Visibility Crosswalk with W11-2, S1-1 (School), or W11-15 (Trail) signage is required and inclusion of one or more of the following:

Recommended: Pedestrian Hybrid Beacon (PHB), and/or

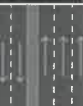
Recommended: Roadway Reconfiguration (RD)

Optional, if Recommended is not appropriate: Review for Signal

6-36

Table 4: Recommendations for Considering Marked Crosswalks and Other Needed Pedestrian Improvements Across Unsignalized Approaches (Divided or One-Way Roads)

Table 4 includes reference to minimum and recommended countermeasures per Tier, and optional countermeasures that may be considered where the recommended is not appropriate to the context or site. Crossings located at Tier 3 or 4 locations require an engineering study to make final determination of countermeasures to be installed with the marked crosswalk.

Roadway Configuration (# is total N of lanes)		Roadway ADT and Speed Limit											
		1,500 to 9,000 VPD			9,000 to 12,000 VPD			12,000 to 15,000 VPD			More than 15,000 VPD		
		≤ 30 MPH	35 MPH	≥ 40 MPH	≤ 30 MPH	35 MPH	≥ 40 MPH	≤ 30 MPH	35 MPH	≥ 40 MPH	≤ 30 MPH	35 MPH	≥ 40 MPH*
2 Lanes with raised median		VE/TC	VE/RI	RRFB/RI	VE/TC	VE/RI	RRFB/RI	VE/RI	RRFB/RI	RRFB/RI	RRFB/RI	RRFB/RI	PHB
2 Lanes One-Way		VE/ADV	ADV/RRFB	RD/RRFB	VE/ADV	RD/RRFB	RD/PHB	ADV/RRFB	RD/RRFB	RD/PHB	RD/RRFB	RD/RRFB	RD/PHB
4 Lanes (two-way street with median)		RD/RRFB	RD/RRFB	RD/PHB	RD/RRFB	RD/RRFB	RD/PHB	RD/RRFB	RD/RRFB	RD/PHB	RD/RRFB	RD/PHB	RD/PHB
3 Lanes One-Way		RD/RRFB	RD/RRFB	RD/PHB	RD/RRFB	RD/PHB	RD/PHB	RD/PHB	RD/PHB	RD/PHB	RD/PHB	RD/PHB	RD/PHB
6+ Lanes (two-way street with median)		RD/RRFB	RD/PHB	RD/PHB	RD/PHB	RD/PHB	RD/PHB	RD/PHB	RD/PHB	RD/PHB	RD/PHB	RD/PHB	RD/PHB

Tier 1 High Visibility Crosswalk with W11-2, S1-1 (School), or W11-15 (Trail) signage is required and consideration of the following:

Recommended: Visibility Enhancements (VE)

Optional, if Recommended is not appropriate: Refuge Island (RI)

Optional, if Recommended is not appropriate: Traffic Calming Measures (TC)

Optional, if Recommended is not appropriate: Advance yield markings and R1-5 signs (ADV)

Tier 2 High Visibility Crosswalk with W11-2, S1-1 (School), or W11-15 (Trail) signage is required and consideration of the following:

Recommended: Rectangular Rapid Flashing Beacon (RRFB)

Optional, if Recommended is not appropriate: Refuge Island (RI)

Optional, if Recommended is not appropriate: Advance yield markings and R1-5 signs (ADV)

Tier 3 High Visibility Crosswalk with W11-2, S1-1 (School), or W11-15 (Trail) signage is required and inclusion of one or more of the following:

Recommended: Roadway Reconfiguration (RD), and/or

Recommended: Pedestrian Hybrid Beacon (PHB)

Optional, if Recommended is not appropriate: Advance yield markings and R1-5 signs (ADV) not to be considered for 5 or 6 lane roads.

Optional, if Recommended is not appropriate: Rectangular Rapid Flashing Beacon (RRFB) with Refuge Island on 4 lane divided roads.

Tier 4 High Visibility Crosswalk with W11-2, S1-1 (School), or W11-15 (Trail) signage is required and inclusion of one or more of the following:

Recommended: Pedestrian Hybrid Beacon (PHB), and/or

Recommended: Roadway Reconfiguration (RD)

Optional, if Recommended is not appropriate: Review for Signal

6-37

Step 4. Select Crosswalk Marking Pattern

Marked crosswalk patterns can be divided into two general categories: standard, transverse lines (two parallel lines) and high visibility crosswalks (HVCs). Standard, transverse lines crosswalks use the two parallel lines pattern. High-visibility crosswalks have bar-pairs or longitudinal lines. Permissible crosswalk marking patterns that may be used on VDOT-maintained roadways are shown Table 5.

According to [an FHWA study](#)², high-visibility crosswalks can have up to double the detection distance (for drivers approaching the crosswalk) compared to transverse or basic crosswalks - an 8 second increase in detection distance for a 30 mph approach. However, some high-visibility crosswalk marking materials can also become slick when wet, potentially resulting in a loss of traction for vehicles (particularly motorcyclists and bicyclists) in the travel lanes as well as for pedestrians crossing the crosswalk. High-visibility crosswalks can lose some of their enhanced effectiveness if they become worn by vehicle traffic. Consider long term maintenance when selecting crosswalk marking patterns.

A high-visibility crosswalk pattern **shall be** installed at all unsignalized crossings, with the exception of STOP controlled approaches. Standard, transverse lines (two parallel lines) crosswalks should be installed for STOP-controlled approaches, except where engineering judgment determines the need for high-visibility crosswalks.

Crosswalk markings shall be the same width as the pedestrian facility on either side of the roadway or at least six feet wide (per [MUTCD Section 3B.18 Crosswalk Markings](#)) Wider crosswalks than described above should be provided at locations with heavy pedestrian volumes during peak periods, to avoid creating situations where pedestrians are "crowded out" of the crosswalk.

² Fitzpatrick, K., et al. *Crosswalk Marking Field Visibility Study* (FHWA: 2010), <http://www.fhwa.dot.gov/publications/research/safety/pedbike/10067/10067.pdf>

6-38

Table 5 –Permissible Crosswalk Types on VDOT-maintained Roadways

Type	Class	Design details	Sketch
Transverse Lines (two parallel lines)	Standard	- The transverse lines shall be between 6" and 12" in width. - Typically, VDOT uses 6" width, however 8", 10", or 12" widths can be used to increase the visibility of the lines.	
Longitudinal Lines ("continental")	High-Visibility	Longitudinal lines should be spaced to avoid the wheel paths of through vehicles.	
Bar Pairs	High-Visibility	- Identical to Longitudinal Lines crosswalk, but uses pairs of 8" lines with 8" gap (8/8/8 pattern) in lieu of a 24" longitudinal line. - Spacing between the 8/8/8 bar pairs shall be the same as the requirements of PM-3 for spacing between Longitudinal Lines. - The bar pairs should be spaced to avoid the wheel paths of through vehicles.	

Source: Standard Drawing PM-3, VDOT 2016 Road and Bridge Standards

Other high-visibility marking patterns, such as "ladder" or "zebra" markings, shall not be used except when necessary to match the pattern of other adjacent marked crosswalks. **The recommended marking pattern for high visibility crosswalks is the bar pair.**

Bar Pairs crosswalks have several advantages over Longitudinal Lines crosswalks:

- [An FHWA study](#) of the Bar Pairs pattern concluded that it behaves comparably with the Longitudinal Lines pattern in terms of driver recognition and behavior,
- Similar cost as Longitudinal Lines crosswalks (although installation is slightly more complicated, the Bar Pairs crosswalk uses less marking material),
- Easier for motorcyclist/bicyclist traffic to avoid traveling over the pavement marking material, which may be slippery when wet,
- Easier for pedestrians to avoid stepping directly on the pavement marking material, which may be slippery.

If an existing standard crosswalk is upgraded to a high-visibility crosswalk independent of a roadway resurfacing project, the transverse lines may be retained to eliminate the need for pavement marking eradication. The transverse lines should not be restored when the roadway is resurfaced.

6-39

Aesthetic Treatments Between Crosswalk Lines

Aesthetic treatments do not meet high visibility crosswalk marking requirements unless retro-reflective materials are used with appropriate contrast. Aesthetic treatments are not eligible for HSIP or other project funds administered by VDOT.

Localities may request the use of aesthetic treatments, such as stamped concrete, brick pavers, or thermoplastic patterned inlays, between the crosswalk lines. Such requests will be evaluated as per the latest edition of L&D Instructional & Informational Memorandum [IIM-LD-218](#). Such aesthetic treatments by themselves do not constitute a marked crosswalk; they shall be edged by Standard, transverse (two parallel lines) white lines to legally establish the marked crosswalk and also to provide visual contrast between the pavement and the aesthetic treatment.

As per [Section 3G.01 of the 2009 MUTCD](#), aesthetic or colored pavement between crosswalk lines should not use colors or patterns that degrade the contrast of the white transverse crosswalk lines or that might be mistaken by road users as a traffic control application. In addition, as per [FHWA Official Interpretation 3\(09\)-24\(I\)](#), aesthetic treatments must consist of muted earth-tone colors, and cannot have random/unsystematic elements, pictographs, or multiple colors.

Additional Considerations for Unsignalized Crosswalks

Alternative intersections or interchange ramps, such as roundabouts and interchanges, have features that require additional consideration for pedestrian crossings. High visibility marked crosswalks shall be provided across all legs of a roundabout (both entrances and exits) where the location meets conditions described in Step 1 and 2 of this Memorandum. Note that neighborhood traffic circles that do not meet the design criteria for a modern roundabout (e.g. lack of splitter islands) are not required to include marked crosswalks. For information about interchanges with multiple merging and diverging ramps, refer to [NCHRP Research Report 948](#) and [VDOT Road Design Manual Appendix A\(3\)](#) for specific guidance.

References and Terms

KEY TERMS

crosswalk - the portion of roadway designated for pedestrians to use in crossing the street, including both marked and unmarked (implied) crosswalks

high-visibility crosswalk: a crosswalk marking pattern such as longitudinal lines ("continental") or bar pairs

pedestrian access route – a continuous and unobstructed path of travel provided for pedestrians with disabilities within or coinciding with a pedestrian circulation path.

pedestrian crossing countermeasure(s) – safety treatments applied at crosswalks to increase driver yielding, pedestrian crossing compliance, or pedestrian visibility. Visual examples are available at [PEDSAFE \(Pedestrian Safety Guide and Countermeasure Selection System\)](#)

pedestrian facility – routes or access areas available for pedestrian travel outside the vehicle travelway between road crossings, including sidewalks, curb ramps, and wide shoulders.

standard crosswalk – a crosswalk marking pattern that consist of (2) parallel lines that are typically 6" in width, but can use 8"-12" widths

unsignalized approach – a part or leg of an intersection (of two roadways or a roadway and pedestrian facility) that is not controlled by a traffic signal

uncontrolled approach – a part of leg of an intersection (of two roadways or a roadway and pedestrian facility) that is not controlled by a regulatory sign (STOP or Yield) or traffic signal

uncontrolled crossing – a pedestrian crossing where the roadway approach is not controlled by a regulatory sign (STOP or Yield) or traffic signal

KEY REFERENCES

[2009 MUTCD with Revisions](#)

[2011 Virginia Supplement to the MUTCD With Revisions](#)

[VDOT Road Design Manual \(latest effective version\)](#)

[2016 VDOT Road and Bridge Standards](#)

[Instructional & Informational Memorandum IIM-LD-218, Latest Revision](#)

[FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations](#)

[FHWA Crosswalk Marking Field Visibility Study](#)

[VDOT PSAP](#)

From: [Warfield, Justin \(VDOT\)](#)
To: [Moore, Patrick \(VDOT\)](#); [Frooman, Steven \(VDOT\)](#); [Proctor, Charles C. \(VDOT\)](#); [Thornton, A. Scott \(VDOT\)](#)
Cc: [Price, John P. \(VDOT\)](#); [John Cooley](#)
Subject: RE: N. Madison Rd Crosswalk Study
Date: Monday, October 7, 2024 2:07:50 PM
Attachments: [image004.png](#)
[image005.png](#)
[image006.png](#)
[0015-068-000.1045m5_005.tif](#)
[0015-068-000.1045m5_002.tif](#)

Patrick,

A few comments are below:

- The study states several times that the crosswalk will serve commercial business on the east side of Route 15, including physical therapy, furniture store, bank, restaurant, & car dealership. However, the east side is limited to a short dead end crosswalk serving only the car dealership, which does not connect to the sidewalks further north or south. Should the proposed crosswalk be moved south to serve these other businesses? Or is it intended primarily to serve the car dealership? Do the sidewalk gaps on the east side along the car dealership property need to be constructed along with this crosswalk project? If this project is being initiated by the dealership, has the possibility been discussed of them constructing a continuous sidewalk along their frontage?
- RRFBs must be installed on the left and right sides of the roadway (2 assemblies) in each direction.
- Unless there is additional R/W beyond the sidewalk (which appears unlikely) sign easement (or R/W) will also be needed to install the advance W11-2/W16-9P signs.
- It may be difficult to locate a curb ramp on the west side that does not block the walkways to the existing building.
- Other issues with the proposed crosswalk location will need to be evaluated in more detail before proceeding toward construction: utility manhole in the east ramp, gutter pan slope transition, etc.
- I've attached what might be the most recent roadway plans (from the 40s). It looks like there may be some excess roadway width in the current cross section. Has a sidewalk bump-out been considered?



Justin Warfield, P.E.
District Location & Design Engineer
Culpeper District
Virginia Department of Transportation
540-829-7599
justin.warfield@VDOT.Virginia.gov

From: Moore, Patrick (VDOT) <Patrick.Moore@vdot.virginia.gov>
Sent: Friday, October 4, 2024 1:27 PM
To: Frooman, Steven (VDOT) <Steven.Frooman@vdot.virginia.gov>; Proctor, Charles C. (VDOT) <Charles.Proctor@VDOT.Virginia.gov>; Thornton, A. Scott (VDOT) <Scott.Thornton@vdot.virginia.gov>; Warfield, Justin (VDOT) <Justin.Warfield@vdot.virginia.gov>
Cc: Price, John P. (VDOT) <John.Price@VDOT.Virginia.gov>; John Cooley <townplanner@townoforangeva.gov>
Subject: FW: N. Madison Rd Crosswalk Study

6-42

Good afternoon Gentlemen,

I'm forwarding a request from the Town of Orange for VDOT review of a crosswalk study on N. Madison (Route 15) in the Town of Orange. Orange requests our feedback on this study. If appropriate and possible, would you please return comments by October 21?

Thank you,



Patrick Moore

Local Program Manager / Culpeper District

Virginia Department of Transportation

804-314-5954

Patrick.Moore@VDOT.Virginia.gov

From: John Cooley <townplanner@townoforangeva.gov>

Sent: Wednesday, October 2, 2024 9:37 AM

To: Moore, Patrick (VDOT) <Patrick.Moore@vdot.virginia.gov>

Subject: FW: N. Madison Rd Crosswalk Study

Patrick,

Please see the attached Mid-Block Pedestrian Crossing Study for the area on N Madison Road located between W Nelson Street and Newton Street. Would you please forward this to Traffic Engineering for their review and comments (if any). If you have any questions or need more information do not hesitate to contact me.

Regards,



John G. Cooley AICP, CZA

Office: (540) 672-6917

townplanner@townoforangeva.gov

This correspondence is intended to provide information only and does not constitute a decision or determination pursuant to Section 15.2-2311 of the Code of Virginia.

From: Katie Flood <kflood@rdacivil.com>

Sent: Monday, September 30, 2024 2:28 PM

To: John Cooley <townplanner@townoforangeva.gov>

Cc: William Wentzien <wwentzien@rdacivil.com>

Subject: N. Madison Rd Crosswalk Study

John,

See attached for the crosswalk study for N. Madison Rd.

Let me know if you have any questions.

Thanks.

6-43

Katie

Katie Flood, PE

Engineer II

D: (703)368-1886

E: kflood@rdacivil.com | W: www.rdacivil.com

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6-44



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To: John Cooley, AICP, CZA (Town of Orange)

From: William Wentzien, PE, PTOE (RDA)

Date: 11/7/2024

Subject: Madison Road Crosswalk Alternatives

Introduction

The purpose of this memo is to present two alternatives for a crosswalk on Madison Rd, south of the Madison Rd & Nelson St/Woodmark St intersection. The purpose of the crosswalk is to provide pedestrian access from the employee parking area on the west side of Madison Rd to the Auto Sales and Body Shop on the east side of Madison Rd. A separate crosswalk analysis document was completed to determine acceptable countermeasures for the crossing based on the roadway configuration, existing AADT, and roadway speed. The evaluation determined Rectangular Rapid Flashing Beacons (RRFB), or a pedestrian refuge island would be acceptable for the crossing.

Location

The crosswalk location was selected to provide a direct route between the employee parking area on the west side of Madison Rd to the Auto Sales and Body Shop on the east side of Madison Rd.

Any mid-block crossing (which this is considered to be as it is not at an intersection) is required to be located at least 300 ft from any existing crosswalk. Since there is an existing crosswalk at the Madison Rd & Nelson St/Woodmark St intersection, the proposed crossing was placed to the south of the driveway on the west side of Madison Rd to meet that separation requirement. This location provides the most direct route from the employee parking area to the associated business, while also meeting that separation requirement.

Further, any proposed crossing requires sidewalk connectivity on each side. The western ramp is within the existing sidewalk system and in a location that is easily modified to accept the ADA required ramp, away from the retaining wall, while remaining adjacent to the entrance to the parking area. The eastern ramp is located within the stamp concrete area in front of the Auto Sales and Body Shop which form a pedestrian walking area and is easily modified to accept the ADA required ramp. Other locations on the east side of Madison road would require additional sidewalk infrastructure to be constructed with potential alterations to the existing entrances and paved areas to develop an actual sidewalk system as the asphalt pavement would not provide the required separations (defined pedestrian space) between pedestrians and parking lot/entrance.

This studied location has an existing overhead streetlight 80 feet to the north. Further south the nearest streetlight is 180 feet away.

6-45



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RRFB

The first alternative for the crossing is to install RRFBs on either side of the crossing. Since Madison Rd is an undivided roadway, this would require two RRFBs on each side, with one facing each direction of travel. The RRFB would be placed directly behind the curb ramps. The proposed crosswalk will be installed on top of an existing left turn arrow. Therefore, a new turn lane arrow will be installed within the two-way left-turn lane after the crossing.

Existing right of way was reviewed using Town of Orange GIS data. The right of way is currently directly behind the existing sidewalk on both sides of Madison Rd. Installation of RRFBs would require the purchase of approximately 155 SF on the western parcel and 174 SF on the eastern parcel. Additional right of way may also be required for advanced warning signs on each approach to the crossing. A graphic of the RRFB option can be found attached.

The estimated construction cost, found below, includes the installation of four RRFBs, demolition of the existing sidewalk, two curb ramps, curb and gutter, advanced warning signs, eradication of conflicting pavement markings, and installation of new pavement markings.

Pedestrian Refuge Island

The second alternative for the crossing is to install a pedestrian refuge island in the existing two way left turn lane on Madison Rd. The pedestrian refuge island option will require installing pedestrian crossing signs on the refuge island as well as on either side of the crossing. The proposed crosswalk will be installed on top of an existing left turn arrow. Therefore, a new turn lane arrow will be installed within the two-way left-turn lane after the crossing.

RRFBs are not required with the installation of the refuge island. Therefore, this option includes regular post mounted signs within the refuge island and on either side of the crossing.

Similar to the RRFB option, additional right of way may be required for the advanced warning signs on each approach to the crossing, as well as the pedestrian crossing sign on the east side of Madison Rd. A graphic of the pedestrian refuge island option can be found attached.

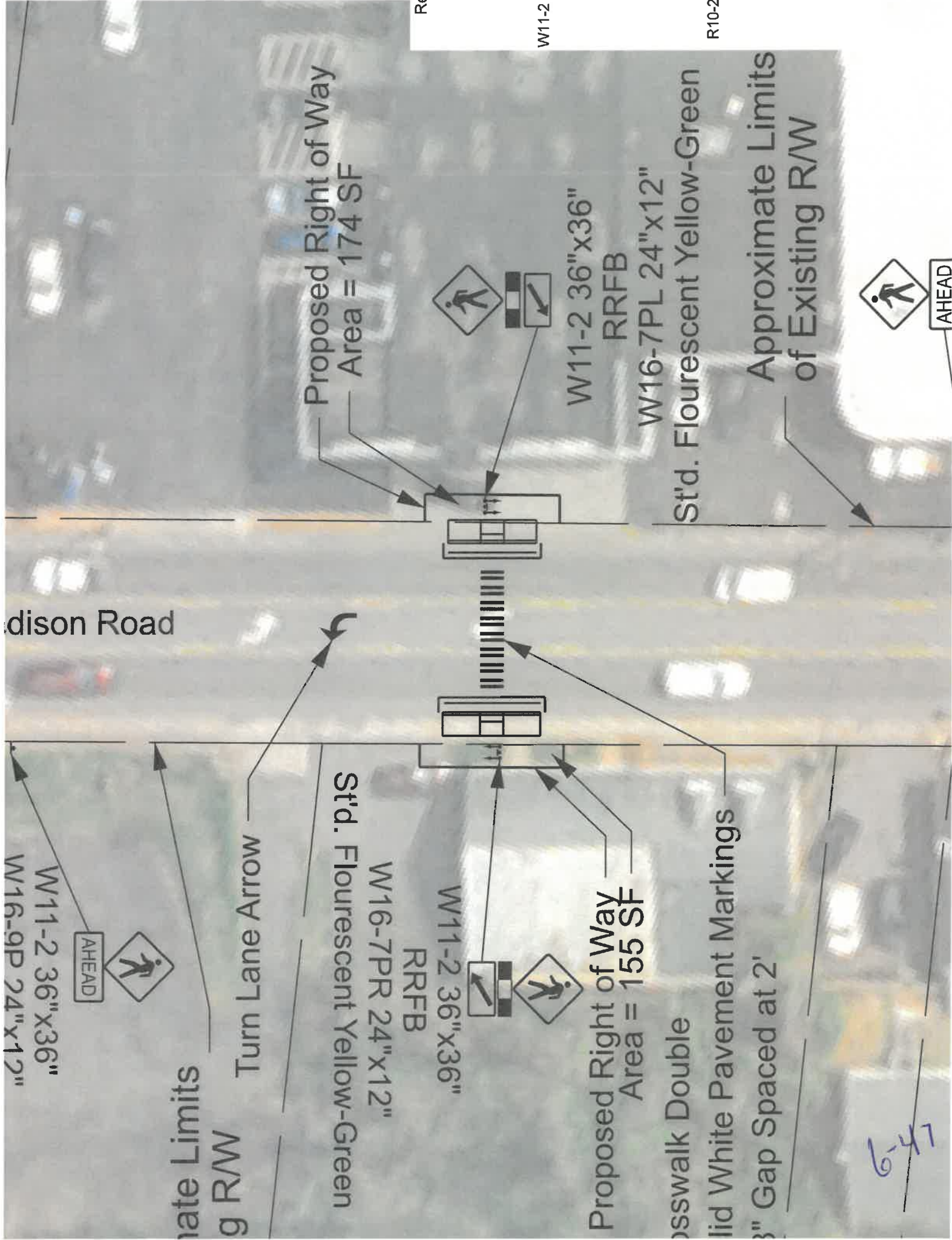
The estimated construction cost, found below, includes the installation of a refuge island in the existing two-way left-turn lane, demolition of the existing sidewalk, two curb ramps, curb and gutter, signing and the crosswalk, advanced warning signs, eradication of conflicting pavement markings, and installation of new pavement markings.

Cost Comparison

Costs estimates were developed for both options using the most recent VDOT averages. The following are the expected construction costs for each alternative. *Costs do not include the purchase of right of way or easements.*

- RRFB – \$45,958.25
- Refuge Island - \$46,324.83

6-46



W16-9PL 24"x12"
W11-2 36"x36"

AHEAD



Approximate Limits
of Existing R/W

Turn Lane Arrow

St'd. Fluorescent Yellow-Green
W16-7PL 24"x12"

RRFB

W11-2 36"x36"



Proposed Right of Way
Area = 155 SF

Crosswalk Double

Solid White Pavement Markings

3" Gap Spaced at 2'

Proposed Right of Way
Area = 174 SF

W11-2 36"x36"

RRFB

W16-7PL 24"x12"

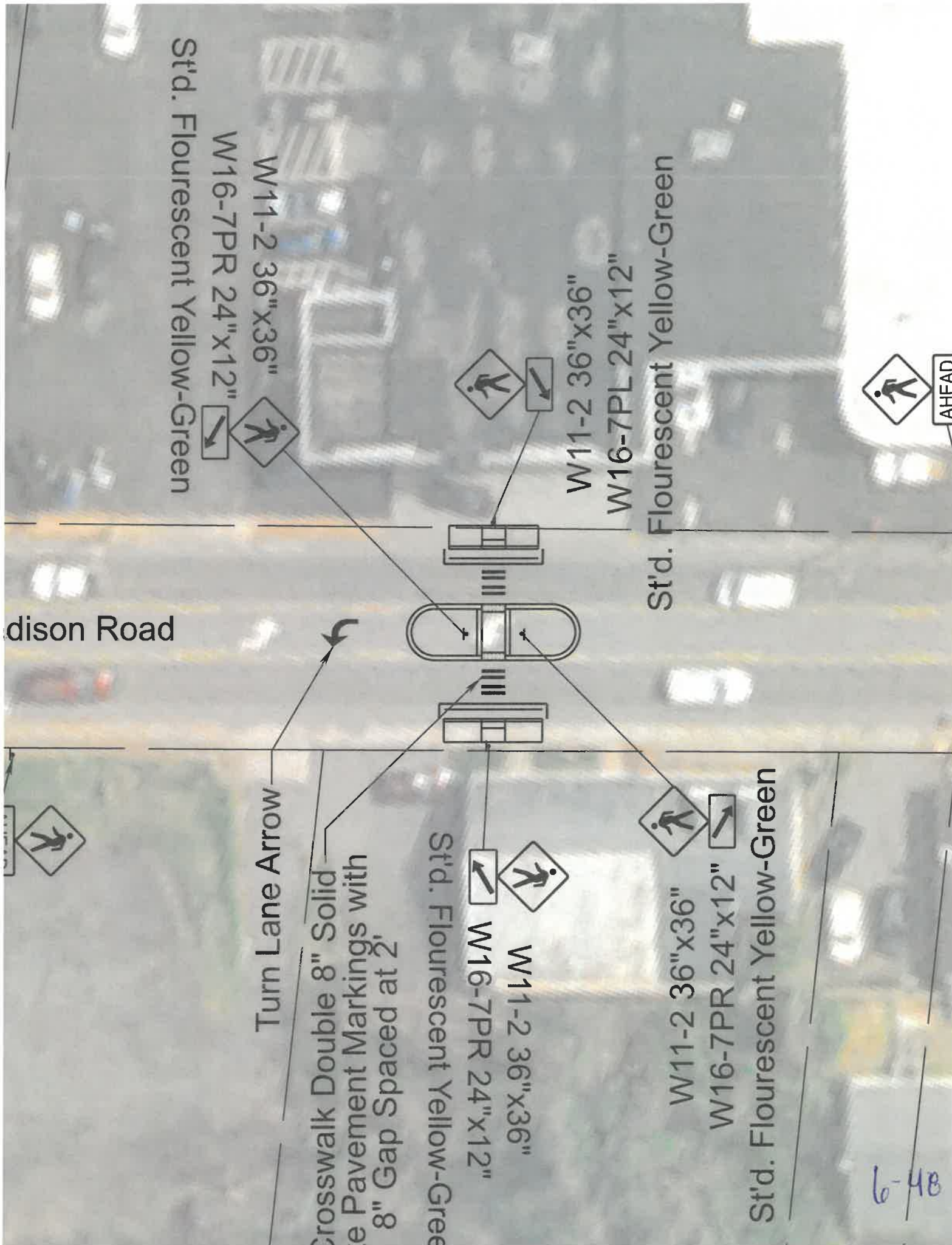
St'd. Fluorescent Yellow-Green

Approximate Limits
of Existing R/W



AHEAD

6-47



St'd. Flourescent Yellow-Green

W16-7PR 24"x12"

W11-2 36"x36"

W11-2 36"x36"

W16-7PL 24"x12"

St'd. Flourescent Yellow-Green

Madison Road

Turn Lane Arrow

Crosswalk Double 8" Solid
Pavement Markings with
8" Gap Spaced at 2'

St'd. Flourescent Yellow-Green

W16-7PR 24"x12"

W11-2 36"x36"

W11-2 36"x36"

W16-7PR 24"x12"

St'd. Flourescent Yellow-Green

6-48

DESCRIPTION	UNIT	SPEC	EST. QUANTITY	STATEWIDE BID TAB QUERY	3 MONTH DISTRICT AVERAGES (CULPEPER) (\$)	1 YEAR DISTRICT AVERAGES (CULPEPER) (\$)	2 YEAR DISTRICT AVERAGES (CULPEPER) (\$)	1 YEAR STATE WIDE AVERAGES (\$)	2 YEAR STATE WIDE AVERAGES (\$)	AVERAGE UNIT PRICE FROM HISTORICAL DATA (\$)	HIGHER PRICE
MOBILIZATION/CONSTRUCTION SURVEYING											
CONSTR.	LS	513	1	-	-	-	-	-	-	-	-
	LS	517	1	-	-	-	-	-	-	-	-
TAL											
ROADWAY											
PAV SURFACE	SY	504	2			\$378.17	\$378.17	\$369.78	\$460.36	\$396.62	\$460
ALK 4"	SY	504	22		-	\$75.12	\$75.12	\$92.82	\$87.48	\$82.64	\$92.
	LF	502	58		-	\$25.00	\$25.00	\$6.46	\$7.80	\$16.19	\$25.
CG-6	LF	502	40		\$50.00	\$50.00	\$50.00	\$47.76	\$47.10	\$48.97	\$50.
LE	SY	508	340		\$70.00	\$11.57	\$12.88	\$14.65	\$13.56	\$24.53	\$70.
TRAFFIC											
JGE	SF	701	66		\$40.00	\$43.47	\$44.37	\$53.55	\$41.32	\$44.54	\$53.
	LF	700	42		-	\$64.29	\$64.48	\$38.62	\$23.79	\$47.80	\$64.
	EA	700	2		\$1,000.00	\$2,078.93	\$1,619.89	\$785.81	\$578.45	\$1,212.62	\$2,07
	EA	703	4		-	\$5,792.07	\$5,792.07	\$6,686.04	\$7,501.96	\$6,443.04	\$7,50
	LF	704	120		-	\$5.47	\$5.47	\$2.80	\$2.24	\$4.00	\$5.4
ARR. TY B CL II	EA	704	1		-	\$385.91	\$376.34	\$422.65	\$393.58	\$394.62	\$422
T MRKG	SF	512	51		-	\$14.79	\$11.40	\$7.65	\$8.05	\$10.47	\$14.

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[illegible]

NEW BUSINESS



NEW BUSINESS
November 18, 2024

AGENDA ITEM: 9B

Consideration to cancel the January 6th Town Council Work Session meeting, and move the regular Monday, January 20th meeting to Tuesday, January 21st because the 20th falls on a Town Holiday, Martin Luther King, Jr. Day. (Town Manager)

SUMMARY:

- Staff is recommending that Monday, January 6th Town Council Work Session meeting be cancelled and the Monday, January 20th meeting be moved to Tuesday, January 21st because the 20th falls on a Town Holiday, Martin Luther King, Jr. Day.
- The 21st will be an organizational meeting where the Mayor and Vice-Mayor will be elected by Town Council along with Committee appointments.

MOTION:

“I move that Town Council cancel the Monday, January 6th Town Council work session meeting and move the Monday, January 20th meeting to Tuesday, January 21st at 7 p.m. due to the Monday Martin Luther King Jr. holiday.”