

Milford: South Walnut Street Traffic Calming and Bicycle/Pedestrian Improvement Project



September 19, 2023

Prepared for:



Prepared by:



Milford: South Walnut Street Traffic Calming and Bicycle/Pedestrian Improvement Project

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Executive Summary

The South Walnut Street Traffic Calming and Bicycle/Pedestrian Improvement Project is focused on developing strategies for traffic calming and improving bicycle/pedestrian movements along South Walnut Street between McCoy Street and South Maple Avenue. South Walnut Street is primarily a residential street with no traffic signals or stop signs and is generally straight with wide travel lanes. The community along the corridor report concerns with speeding and crashes. The sidewalks going northbound and southbound on South Walnut Street are disconnected in some areas.

The goal of the project is to improve bicycle and pedestrian connectivity along South Walnut Street, as well as provide traffic calming measures to reduce vehicular speeds and the number or severity of crashes. Improving the pedestrian crossing at Seabury Avenue and West Clarke Avenue is also a priority along with improving the intersection on South Walnut Street at the railroad crossing.

This study evaluated intersection modifications to improve mobility for pedestrians, cyclists, and motorists in compliance with the recently adopted Milford Bicycle Master Plan and Milford's Comprehensive Plan. This study also addressed traffic calming measures to reduce speeds and crashes.

Extensive data gathering occurred throughout the project, including traffic volumes, speeds, and crash statistics. The speed data is consistent with community reports of speeding and supports the need for additional traffic calming measures beyond the existing 25 MPH speed limit signs. Different traffic calming measures for intersections and road segments were analyzed. It has been determined that some intersections and road segments on South Walnut Street would benefit from the implementation of traffic calming measures. Reviewing three-year crash data reveals that crashes are highest in the afternoon and evening, which corresponds to the time traffic volumes are highest. The installation of multiway stop signs was also studied at three intersections within the study area. Based on the analysis it was concluded that stop sign installation is not warranted based on the traffic patterns of the intersections.

This project incorporated community outreach and engagement through two community workshops in order to collect input from residents on two options developed for the corridor's improvement. In addition to the community workshops, feedback has been gathered through questionnaires, comment forms, and conversations both during and subsequent to the two public workshops.

Two options proposing traffic calming measures, connecting the sidewalk gaps, and creating a separate low stress bicycle facility were presented to the community in the first public workshop. Option 2 was preferred and is recommended to move forward for further study. The main difference between the options is that Option 1 minimally affects the right of way, if at all, but removes all existing parking along South Walnut Street. Option 2 reduces, but does not completely remove parking. Option 2 affects more right of way than Option 1. Option 2 had overwhelming support from the community members at the workshops. Some revisions have been made based on feedback.

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Introduction

The South Walnut Street Traffic Calming and Bicycle/Pedestrian Improvement Project focused on implementing traffic calming and improving bicycle/pedestrian movements along South Walnut Street between McCoy Street and South Maple Avenue. Concerns along this road are characterized by speeding and crash concerns. The City of Milford engaged Century Engineering to evaluate the corridor for possible improvements to reduce traveling speeds and improve mobility for pedestrians, cyclists, and motorists. The street is primarily residential with multiple schools as well as the Milford School District building in the surrounding vicinity. This project supports the goals and recommendations of the Milford Comprehensive Plan and the Milford Bicycle Master Plan. Milford is committed to implementing both the Comprehensive Plan and the Bicycle Master Plan.

Study Location and Study Area

The study area is located in the City of Milford along South Walnut Street between McCoy Street to the south and South Maple Avenue to the north. Existing sidewalks are not continuous throughout the study area, which leads to safety concerns for pedestrians and bicyclists. It is a primarily residential street with private properties within the study area, however the route, which turns into Old State Road south of the City, serves as a regional connector route and an alternate to US113. There are no traffic signals or stop signs within the corridor along the study area. A railroad crossing is located at Jefferson Avenue. The study area is located just west of the Milford Little League fields and east of Milford Lakeview School. See **Figure 1**.



Figure 1 - Study Area Map

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Purpose and Need

The purpose and need of this study is to improve bicycle and pedestrian connectivity along South Walnut Street, reduce traffic speeds, provide traffic calming, improve pedestrian crossings at Seabury Avenue and West Clarke Avenue, and improve the South Walnut Street intersection with the railroad.

This project supports the City of Milford Comprehensive Plan Transportation goal “To enable the safe the efficient mobility of residents utilizing all modes of travel, be they pedestrians, cyclists, drivers, or transit riders, via a safe and interconnected transportation system”.

Existing Conditions, Proposed & Committed Development, and Future Traffic with Development

Existing Roadway Conditions

South Walnut Street is a bi-directional road compromised of one lane in each direction. There are no traffic signals or stop signs along the road in the study area. Side streets turning onto South Walnut Street are stop controlled. It is a primarily residential street with a posted speed limit of 25 mph. There are sidewalk gaps throughout the corridor with some areas of sidewalk being in good condition while others are narrower with cracking. The sidewalk landings at some of the crosswalks have sediment residue, which indicates that rainwater puddles there. There is a railroad crossing on the northern portion of study area at Jefferson Avenue. The community has expressed concerns about the complexity of this intersection and driver confusion. The community has also expressed concerns about the safety of the intersection of Seabury Avenue and West Clarke Avenue. It is difficult for pedestrians to cross at this side road, which also leads to Milford Lakeview School. Large trucks travel along Seabury Avenue and make a right turn onto South Walnut Street. Many of these trucks then turn left at McCoy Street.

Traffic Analysis

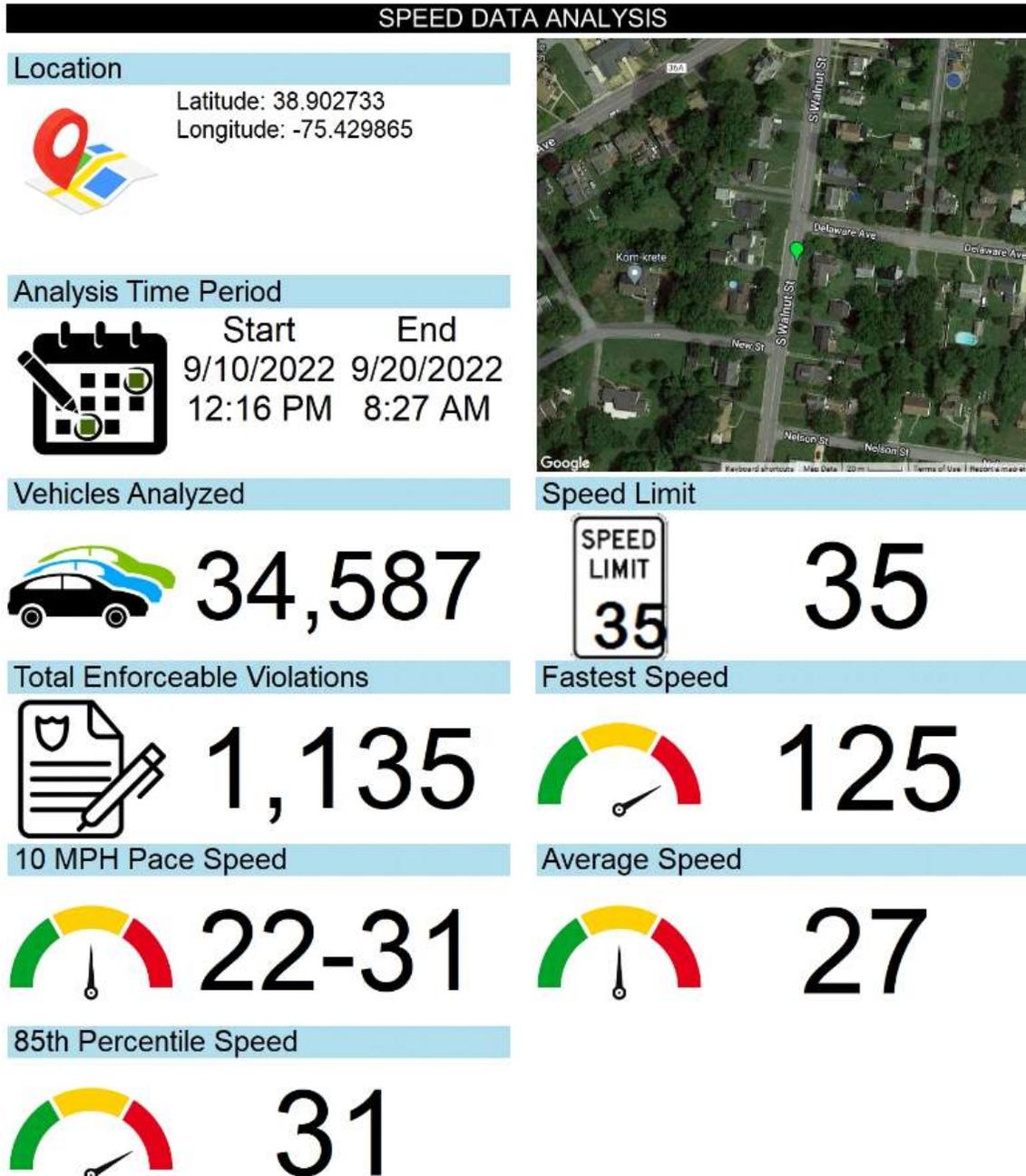
Traffic counts for this project were completed between September 10 and September 20, 2022, and also between January 15 and January 22, 2020 utilizing automatic traffic recorders. These counts did not include bicycles or pedestrian counts because the project was improving facilities for these transportation modes regardless of count results. The counts were used to determine vehicle volumes and speed data. Traffic Count data can be found in Appendix A.

Turning movement counts were completed on March 20, 2023 and March 21, 2023 to supplement existing data for the Stop Sign Warrant Analysis. These counts did include bicycles and pedestrians, however the resulting counts for bicycles and pedestrians did not show much activity those particular days. While count days show minimal numbers of pedestrians or bicycles at the time of the count, it is important to understand and recognize that this is a “snapshot” of the area at a particular time and day. The stop sign warrant analysis locations are not currently close enough to a large pedestrian generator to affect the stop sign warrant results. The traffic data collected was only one data set used in the analysis and development of the proposed alternatives. Qualitative data gathered from the walking/cycling community who use this corridor, many of which attended the two public workshops, was used to refine the options considered. It should also be noted that the preferred option that has resulted from this study does not

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preclude the addition of 4-way stop signs at any of the intersections along the corridor. Turning Movement Count data can be found in Appendix A.

A summary of volume/speed counts from September 2022 are shown below:



Conditions and speeds along the corridor are not only hazardous to motor vehicles, but especially hazardous for non-motorized traffic and pedestrians who are more vulnerable. The collected data aligns

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with the feedback from the first community workshop where community members expressed concern with safely walking and cycling along South Walnut Street.

The first step in determining recommendations to reduce speeds along this corridor is a speed analysis utilizing the NCHRP Report 966 Speed Limit Setting Tool to review whether any changes to the existing speed limit should be recommended. The analysis combines existing speed data with the results of a USLIMITS2 analysis. USLIMITS2 is an expert system tool designed to aid the conduction of engineering studies for setting the optimal speed limit for a road segment. This tool is web based and applicable to all types of roads with minimal exceptions, such as school and construction zones. Results of this analysis indicate that the appropriate speed limit for South Walnut Street is 25 MPH, which matches the speed limit already posted. See **Figure 2**.

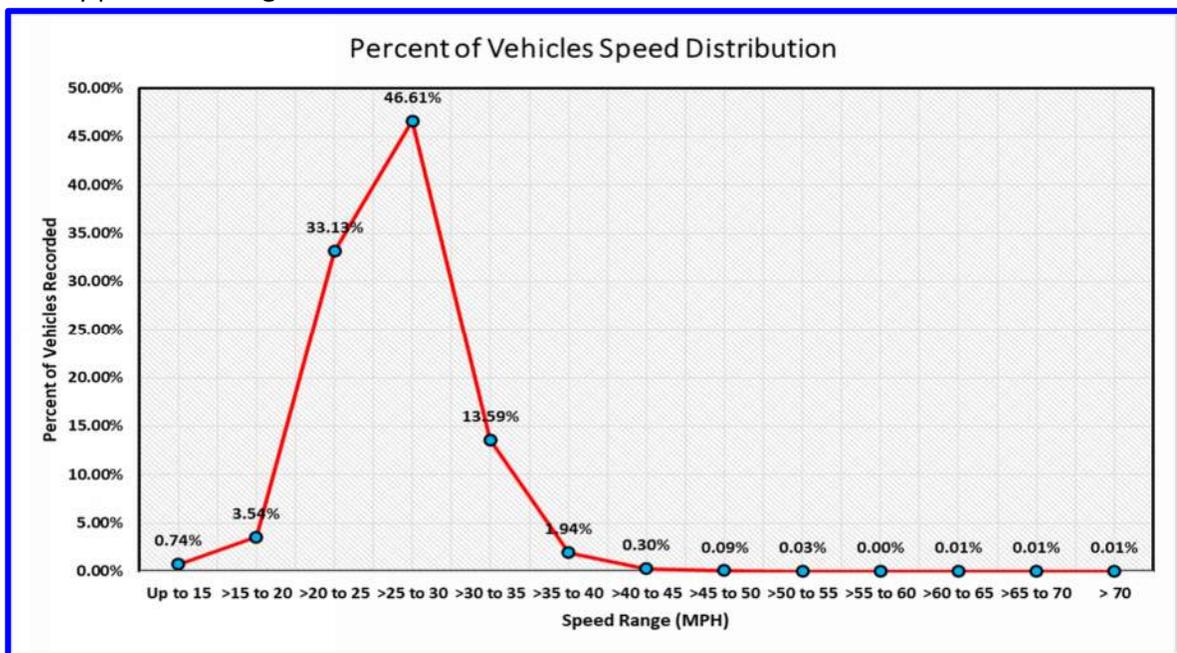


Figure 2- Percent of Vehicles Speed Distribution

The collected speed data indicated that some vehicles are traveling above the posted speed limit and that additional measures to control speeds should be considered. Several traffic calming measures were evaluated as a method to reduce speeds. The goal of traffic calming measures is to reduce negative effects of motor vehicle use, alter driver behavior, and improve conditions for non-motorized street users. These traffic calming measures can be implemented through physical alterations to the roadway, such as vertical deflections, horizontal shifts, and roadway narrowing to reduce vehicle speeds. they can also include psychological measures such as signage, road markings, buildings, trees, and gateway treatments to introduce the driver to a change in roadway type or land use, such as a wide open roadway in commercial or industrial area that transitions to a narrower, residential area.

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Table 1 depicts the different types of traffic calming measures suggested for analysis on this corridor.

Milford S. Walnut Street Speed and Safety Evaluation							
	Type	Name	Potential Effectiveness for Speed Reduction (FHWA PSCI)	Potential for Crash Reduction (-) /Increase (+) (FHWA PSCI)	Potential Crash Reduction (-) /Increase (+) (HSM)	Considered? Why/why not?	Rank
Road Segment Treatment							
1	Vertical	Speed Humps	-6 mph	-40% to -48% (All Severities, All Crashes)	1. Treated Road = -40% (Injury Crashes, All Crash Types) 2. Adjacent Roads = -5% (Injury Crashes, All Crash Types)	No, speed humps are not preferred due to issues with emergency vehicles etc.	1
2	Vertical	Speed Table	-4 mph	-36% to -64% (All Severities, All Crashes)		No, speed tables are not preferred due to issues with emergency vehicles etc.	2
Intersections Treatment							
3	Horizontal	Modern Roundabouts	-4 mph to -8 mph		-78% (All Severities, All Crash Types)	No, due to right of way constraints	1
4	Horizontal	Realigned Intersections				Yes, intersection improvements at S. Walnut/Seabury and S. Walnut and the R/R were recommended to assist in improving driver clarity	2
Road Segment Treatment							
5	Horizontal	Chicanes	-9 mph			No, roadway width that could be utilized for chicanes was utilized to add the shared use path	1
6	Horizontal	Lateral Shifts	Less than Chicanes			Yes, S. Walnut Street is recommended for a lateral shift between Delaware Ave and Clarke Ave	2
Road Segment Treatment: Road Width Reduction							
7	Width Reduction	Median Islands (Raised)	-3 mph	-39% (All Crashes) -44% (Fatal and Injury Crashes)	-39% (Injury Crashes, All Crash Types)	No, roadway width was narrowed to fit a new shared use path leaving no additional space for a median island	1
8	Width Reduction	Striping/Lane Markings	Reduction possible	Potential for less severe crash types	Potential for less severe crash types	Yes, lane widths were narrowed to 11' and shoulders/parking areas were reduced or eliminated	
Road Segment Treatment: Dynamic Signing							
9	Dynamic Signing	Radar Speed Signs	-2 mph to -5 mph		-46% (All Severities, All Crashes)	Potentially, coordinating with City of Milford	1

Table 1- Traffic Calming Measures Evaluation

A review of Traffic Calming Measures results in the following recommendations:

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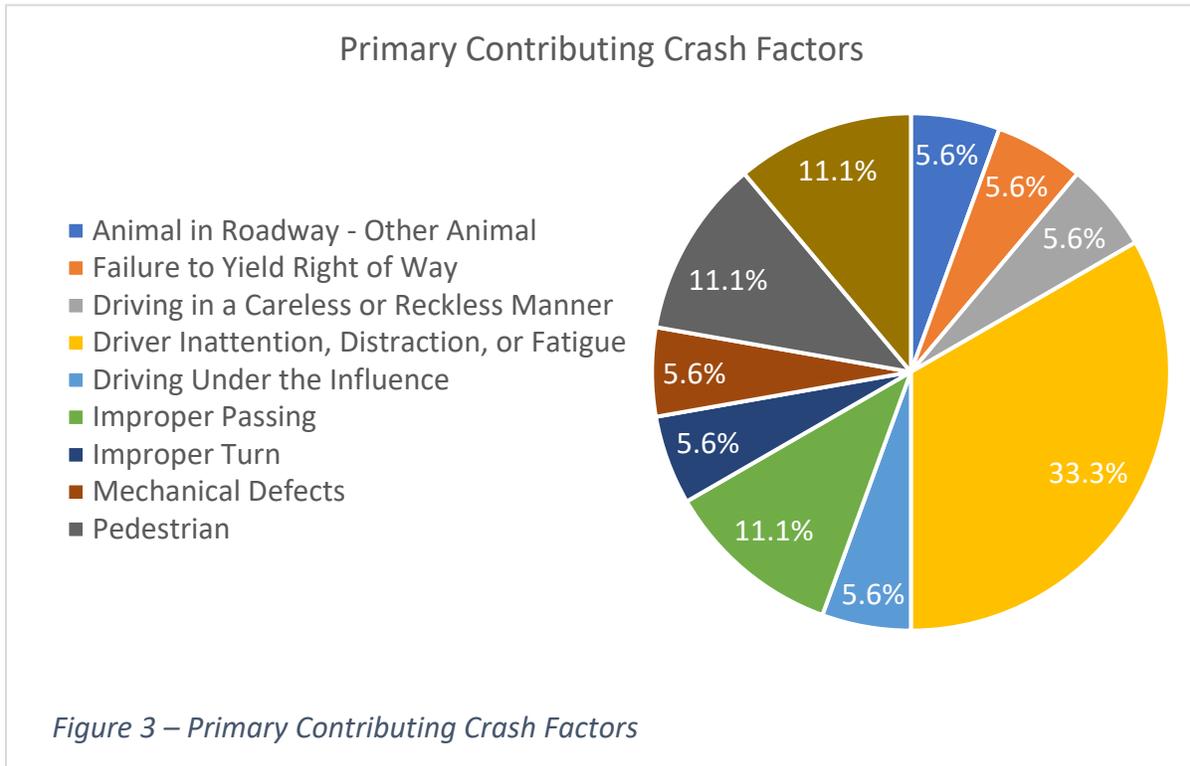
- ✓ Vertical measures such as speed humps and speed tables have been ruled out due to concerns about emergency vehicles response times if vertical measures were implemented.
- ✓ Existing right of way along South Walnut Street and the minor approach roads is restrictive and therefore rules out the introduction of a roundabout.
- ✓ Intersection realignments are recommended at two intersections. Based on community feedback, and field observations, improvements to South Walnut Street at the minor approaches at Seabury Avenue/West Clark Avenue, as well as, Jefferson Avenue could improve driver clarity, as well as, pedestrian and bicycle movements.
- ✓ A lateral shift along South Walnut Street from Delaware Avenue to Seabury Avenue is recommended to assist in reducing travel speeds.
- ✓ A 1' lane width reduction is recommended. The available data suggest that reducing lane widths with pavement markings reduces the potential for some severe crash types.
- ✓ New green space between the travel lane and the existing curb line is also recommended. This will assist in adjusting the perception of the drivers that the road is narrowed and assist in reducing speeds. These areas will also provide locations for beautification and landscaping. It is recommended during final design efforts to determine if the green space locations can be altered such that green space is added to both sides of the road alternatively creating in essence chicanes which will reduce vehicular speeds even further. This effort will need to be coordinated with the City of Milford's Electric Department for relocation of the existing utility poles.
- ✓ Enforcement and radar speed signs are also recommended. The data also shows a 2-5 MPH reduction in speed can occur when radar speed signs, which display the speed of drivers traveling over the threshold with the message "YOUR SPEED XX", are used. While the police force has numerous requests that are very similar for enforcement of speed limit signs, an occasional police vehicle parked in this area while officers are completing paperwork may be enough of a deterrent to reduce speeds.

Crash Evaluation

Crash data obtained from DeIDOT was analyzed corresponding to a three-year period from September 27, 2019, through September 27, 2022, along South Walnut Street within the study limits. There were 18 reported crashes during this time. None of the crashes were fatal.

The primary contributing factor for crashes along the project limits during the study period is driver inattention, distraction, or fatigue, followed by improper passing. It should be noted that both pedestrian crashes that occurred are bicycle-vehicle collisions. Physical improvements will not correct the primary reason of crashes, driver inattention, distraction, or fatigue. However, the next two primary reasons of crashes, improper passing and pedestrian may be prevented by improving road conditions, signage, and overall safety. Figure 3 shows a breakdown of crash types for this study area during the study period.

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Most of the reported crashes occurred during daylight conditions, clear weather, and dry road surface conditions. Fifteen out of the 18 reported crashes, approximately 83.4%, occurred under daylight conditions, followed by an additional 3 crashes at low-light conditions. An in-depth review of the time of day of crashes indicates that they are not confined to any particular time of day within the study limits. It appears that lighting is not a problem associated with crashes within the study limits. See **Figure 4**.

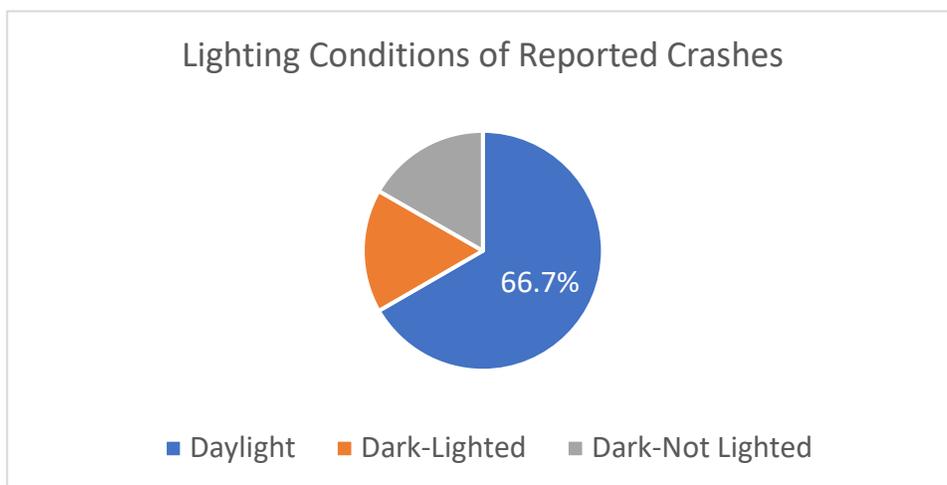


Figure 4 – Lighting Conditions of Reported Crashes

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Crashes, as shown in **Figure 5**, are highest between 2:00 PM and 8:00 PM, peaking at 4:00 PM. The spike at 4:00 PM may correlate to the evening rush hour. However, the times of crashes is relatively consistent throughout the afternoon and early evening, which may be related to sun glare or sunsetting light levels.

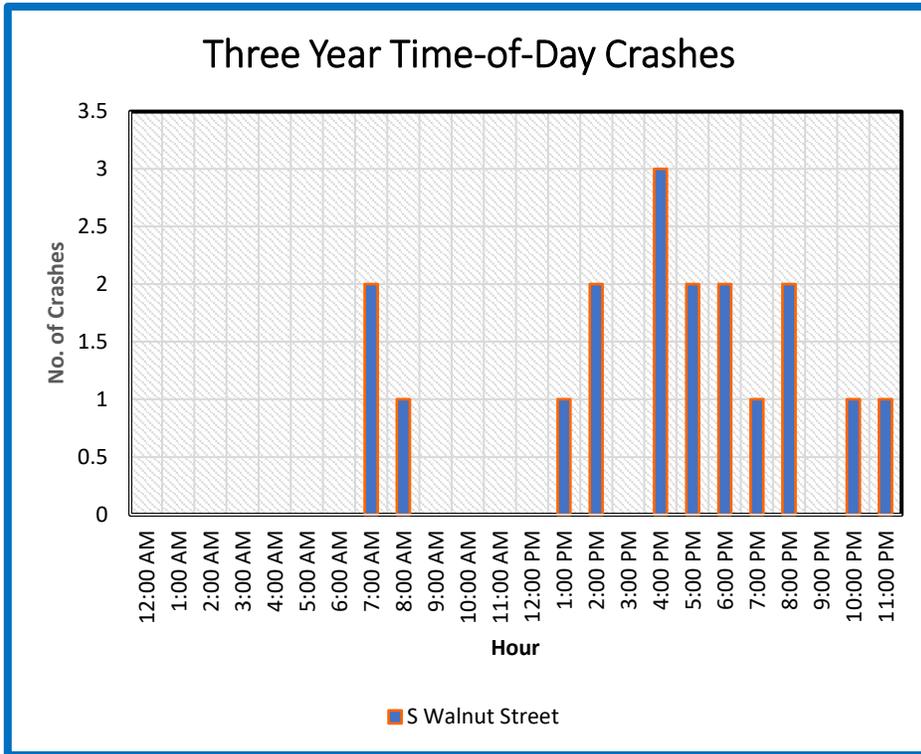


Figure 5 - Time-of-Day Crash Data (Three Year Period)

The highest number of annual crashes during the study period, as shown in **Figure 6**, is recorded during the 2020-2021 period, which saw a 5% increase over the 6 crashes between 2019 and 2020. This increase

may be the result of more vehicles within the study limits as a result of the Covid-19 Restrictions ending. The final year of the study, 2021 – 2022, was marked by an approximate 11% decrease from the preceding year, down from seven crashes to five crashes.

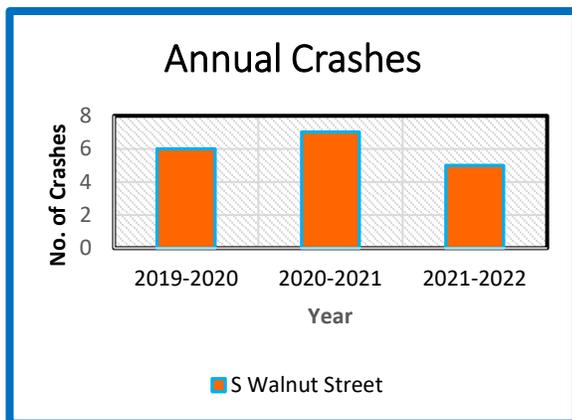


Figure 7 depicts the location of several crash clusters located at South Walnut Street’s intersections with Jefferson Avenue and Seabury Avenue / W. Clarke Avenue.

Figure 6 - Annual Crashes

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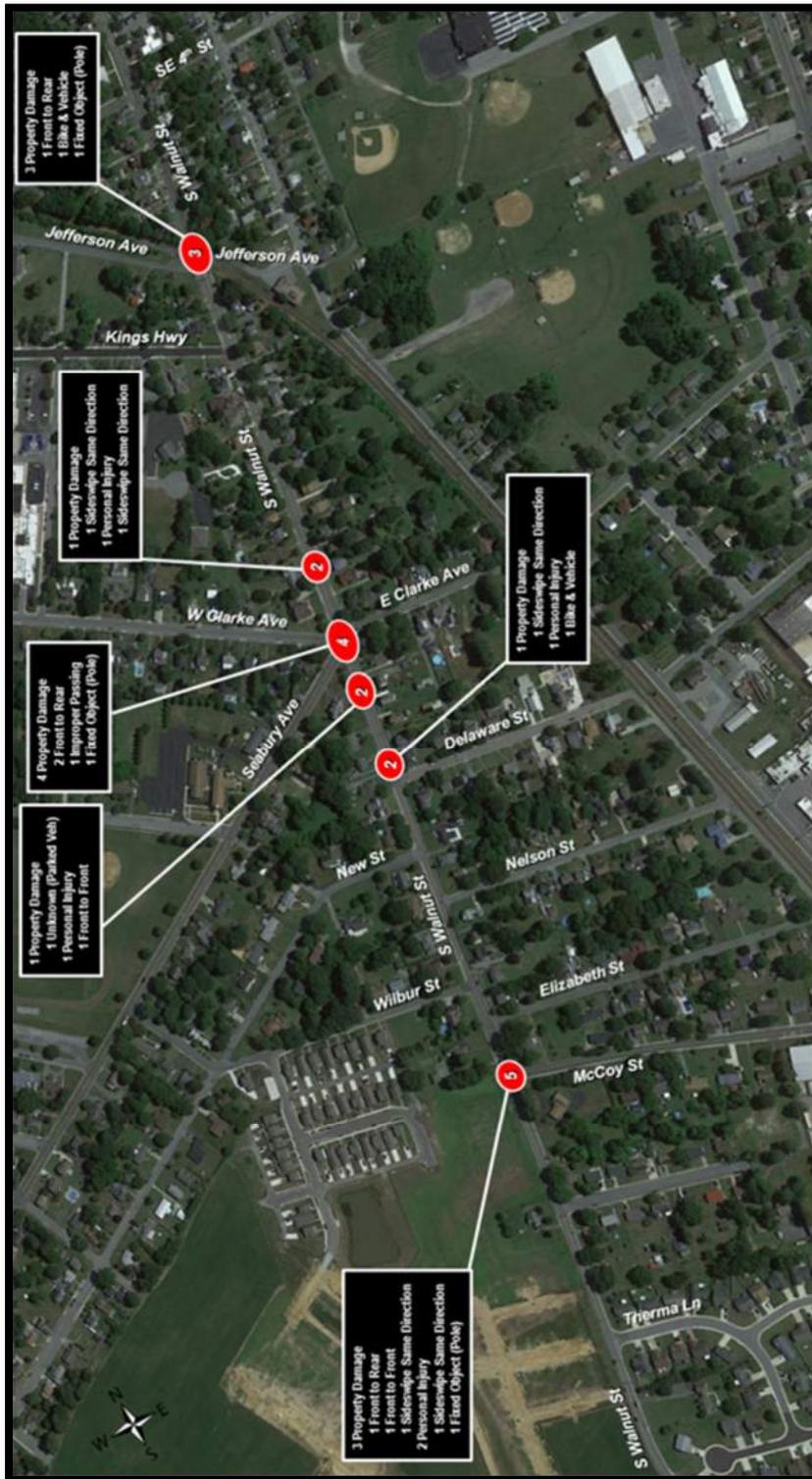


Figure 7- Crash Data Summary

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Stop Sign Warrant Analysis

In addition to traffic calming measures, a stop sign warrant analysis was completed to determine if multiway (all-way, 4-way) stop signs should be installed along the corridor. Three intersections were studied: South Walnut Street and McCoy Road, South Walnut Street and West Clarke Avenue, and South Walnut Street and Kings Highway. There are three categories of analysis considered in a stop sign warrant analysis: crash analysis, volume analysis, and other criteria.

Crash Analysis

Crash analysis takes into account the number of right and left turn collisions as well as right angle collisions at intersections. If there are more than 5 of those types of crashes, installing a multiway stop sign is considered. **Table 2** below shows that there is less than 5 of these types of crashes, so a stop sign is not warranted based on this criteria.

S. Walnut Street and McCoy Road	S. Walnut Street and W. Clarke Avenue	S. Walnut Street and Kings Highway
0	1	1
Stop Sign Not Warranted	Stop Sign Not Warranted	Stop Sign Not Warranted

Table 2- Crash Analysis Results

Volume Analysis

For the volume analysis, a major street must have at least 300 vehicles per hour, for any 8 hours of an average day. For minor streets, total traffic volumes must average at least 200 vehicles per hour for the same 8 hours. Total traffic in this instance combines vehicular, pedestrian, and bicycle traffic. The average delay of minor street vehicular traffic must be at least 30 seconds per vehicle during the highest volume hour. **Table 3, 4, and 5** below show that these criteria are not met for any of the three intersections, so multiway stop signs are not warranted based on traffic volumes.

Major Street: S Walnut Street Orientation:
 Minor Street: McCoy Street Orientation:

ENTER TRAFFIC VOLUMES IN THE TABLE BELOW

Time	S Walnut Street			McCoy Street			
	North	South	Total	East	West	Pedestrians/Bicycles	Total
6 - 7 AM	82	181	263	0	109	0	109
7 - 8 AM	82	181	263	0	109	0	109
8 - 9 AM	41	112	153	0	80	0	80
9 - 10 AM	50	143	193	0	104	0	104
10 - 11 AM	50	143	193	0	104	0	104
11 AM - 12 PM	59	174	233	0	128	1	129
12 - 1 PM	64	162	226	0	114	3	117
1 - 2 PM	56	185	241	0	98	1	99
2 - 3 PM	66	216	282	0	116	0	116
3 - 4 PM	76	246	322	0	133	1	134
4 - 5 PM	66	250	316	0	165	4	169
5 - 6 PM	14	187	201	0	133	2	135

Condition C.1 and C.2
 A minimum of vehicles per hour required on the major street and
 A minimum of units per hour required on the minor street
 A total of hours meet conditions C.1 and C.2

Multiway Stop Control is not warranted based on conditions C.1 and C.2

Table 3- Volume Analysis Results at South Walnut Street and McCoy Road

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Major Street: S Walnut Street
 Minor Street: Clarke Avenue

Orientation: North/South
 Orientation: East/West

ENTER TRAFFIC VOLUMES IN THE TABLE BELOW

Time	S Walnut Street			Clarke Avenue			
	North	South	Total	East	West	Pedestrians/Bicycles	Total
6 - 7 AM	173	120	293	35	25	0	60
7 - 8 AM	173	120	293	35	25	0	60
8 - 9 AM	157	135	292	28	14	0	42
9 - 10 AM	146	142	288	28	17	0	45
10 - 11 AM	146	142	288	28	17	0	45
11 AM - 12 PM	134	149	283	28	20	0	48
12 - 1 PM	135	161	296	50	15	0	65
1 - 2 PM	141	164	305	40	32	0	72
2 - 3 PM	156	188	343	42	37	0	78
3 - 4 PM	170	211	381	43	41	1	85
4 - 5 PM	171	203	374	35	42	0	77
5 - 6 PM	171	203	374	35	42	0	77

Condition C.1 and C.2 A minimum of 300 vehicles per hour required on the major street and
 A minimum of 200 units per hour required on the minor street
 A total of 0 hours meet conditions C.1 and C.2

Multiway Stop Control is not warranted based on conditions C.1 and C.2

Table 4- Volume Analysis Results at South Walnut Street and West Clarke Avenue

Major Street: S Walnut Street
 Minor Street: Kings Highway

Orientation: North/South
 Orientation: East/West

ENTER TRAFFIC VOLUMES IN THE TABLE BELOW

Time	S Walnut Street			Kings Highway			
	North	South	Total	East	West	Pedestrians/Bicycles	Total
6 - 7 AM	136	180	316	63	0	0	63
7 - 8 AM	136	180	316	63	0	1	64
8 - 9 AM	135	155	290	46	0	3	49
9 - 10 AM	130	138	268	50	0	0	50
10 - 11 AM	130	138	268	50	0	0	50
11 AM - 12 PM	124	121	245	54	0	0	54
12 - 1 PM	144	141	285	43	0	0	43
1 - 2 PM	131	127	258	59	0	0	59
2 - 3 PM	156	144	300	64	0	0	64
3 - 4 PM	180	161	341	69	0	0	69
4 - 5 PM	181	168	349	68	0	0	68
5 - 6 PM	173	176	349	61	0	0	61

Condition C.1 and C.2 A minimum of 300 vehicles per hour required on the major street and
 A minimum of 200 units per hour required on the minor street
 A total of 0 hours meet conditions C.1 and C.2

Multiway Stop Control is not warranted based on conditions C.1 and C.2

Other Criteria

For the analysis of other criteria, metrics such as left turn conflicts, pedestrian volumes, and visibility of cross traffic are considered. All three intersections presented no issues with any of these metrics, so therefore multiway stop signs are not warranted based on this criterion.

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Non-Warranted Stop Sign Consequences

As defined above, installing multiway stop signs at the three studied intersections is not warranted. When stop signs are implemented where not warranted, the results can have negative consequences. Motorist's behavior can become more abrupt and aggressive in order to make up for "lost time" or they do not comply with the stop sign. Specific to this study area, queues backing up at the Kings Highway approach of South Walnut Street could extend back to the railroad tracks. As an alternative to installing multiway stop signs, traffic speeds can be reduced with traffic calming measures such as narrowing lanes and introducing roadway curves. Speed limits can also be enforced by local law enforcement. The recommendations from the traffic calming analysis do not preclude the addition of stop signs if the City of Milford prefers the addition of stop signs in addition to the recommendations. Coordination with DelDOT will be required and DelDOT approval will be required.

Public Involvement

Public involvement is an integral element of any successful planning study. Public involvement and community outreach are important components of the Milford South Walnut Street Traffic Calming and Bicycle/Pedestrian Improvement Project. Residents, the business community, state, and local stakeholders provided input throughout the project. The following summarizes public involvement and outreach that occurred throughout the study and helped guide the development of conceptual improvement alternatives:

Community Workshop 1

December 15, 2022

- Location: Milford's City Hall
- Advertised through the City of Milford and the Dover/Kent MPO
- Century Engineering presented numerous boards with information including the study area, project goals, traffic calming study results, crash data, speed study evaluation, and comparison of two concept plan options that alleviate speeding.
- 26 Attendees
- Feedback was gathered from attendees through conversations with Century Engineering personnel, questionnaires, and comment forms.
- The boards presented were posted on the City of Milford's website so community members who did not attend could review the material and offer feedback
- See [Appendix B](#) for Public Involvement Summaries

Community Workshop 2

April 4, 2023

- Location: Milford's City Hall
- Advertised through the City of Milford and the Dover/Kent MPO
- Century Engineering presented numerous display boards with information including the study area, project goals, traffic calming study results, crash data, speed study evaluation, option 2 with revised with comments from the first public workshop, and stop sign analysis results.
- Feedback was gathered from attendees through conversations with Century Engineering personnel, questionnaires, and comment forms.

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- 27 Attendees
- See [Appendix B](#) for Public Involvement Summaries

Alternatives Considered/Preferred Alternative

Two options, incorporating the traffic calming recommendations, for this study were initially proposed. Both options add a shared use path on the southbound side of South Walnut Street, as well as, complete all sidewalk gaps on the northbound side. Both options also have the same traffic calming measures, such as realigned/reconfigured intersections, a lateral shift of South Walnut Street, lane width reduction, and striping/lane markings. The intersection of Seabury Avenue and W. Clarke Street with South Walnut Street and the intersection of the railroad tracks and Jefferson Avenue will be improved to aid in reducing driver confusion. The lateral shift and lane width reduction will help create more space for the multi-use path. Both options also recognize the existing historic region that begins north of the railroad tracks. To respect the historic characteristics of this portion of the study area the proposed shared use path is recommended to be brick versus asphalt or concrete.

Option 1 has minimal right of way impacts and minimal utility impacts. However, this option includes the removal of all parking along South Walnut Street and lacks a grass buffer to separate pedestrians from the road. Green space will be added to areas where existing sidewalk is replaced with the shared use path.

Option 2 will require temporary construction easements and permanent easements. The number of parking spaces along South Walnut Street will be reduced, but not completely eliminated, as in option 1. Both travel lanes will be 11 feet wide. Where there is street parking, the width of the proposed parking lane will be 10 feet. For green space, a three feet wide grass buffer will be added throughout the project limits. The areas between the parking spaces accommodate additional green space.

The intersections of South Walnut Street with Seabury Avenue/W. Clarke Avenue, and Walnut Street will be slightly realigned while preserving green space and parking. The intersection at the railroad tracks and Jefferson Avenue will also be realigned, and have a brick multi use path added north of the railroad within the historic area.

Option 2 is the preferred option. The majority of community members prefer option 2 due to the added crosswalks and grass buffer to promote safety as well as the overall beautification of the area. One recommendation to accompany Option 2 as it moves forward for future study is to determine if the additional green areas between parking spaces/utility pole placement can be alternated between east/west sides of the street to act as chicane to further slow traffic.

Conceptual plans are provided in [Appendix C](#) of this report.

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Cost Estimates

Conceptual cost estimates were developed for Preferred Option 2. The following provides a summary of the conceptual cost estimates:

Preferred Option 2

Preliminary Engineering	\$554,885.78
Right-of-Way	\$75,000
Construction Engineering	\$416,164.33
<u>Construction</u>	<u>\$2,774,428.89</u>
Total Cost	\$3,820,479.00 **Round to \$4,000,000

Conceptual cost estimate is provided in *Appendix D* of this report.

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Appendix A: Traffic Analysis Results

S Walnut Street Conceptual Plan from McCoy Street to Railroad Crossing): Speed and Safety Evaluation

INTRODUCTION

This project is for the conceptual design of traffic calming on S Walnut Street from McCoy Road to Railroad / Jefferson Avenue. This 0.55-mile segment of S Walnut Street has functional classification of major collector. The study area falls entirely within Investment Level 1 of the Delaware Strategies for State Policies and Spending (DSSPS). The State desires local government land use policies that promote higher densities and mixed-use type development which foster complete communities in Investment Level 1 areas. Per the DSSPS, in investment Level 1 Areas, state investments and policies should encourage a wide range of uses and densities, **promote a variety of transportation options**, foster efficient use of existing public and private investments, and enhance community identity and integrity. Overall, it is the State’s intent to use its spending and management tools to maintain and enhance character and promote well-designed and efficient new growth in Investment Level 1 Areas.

In line with this one of the goals in the 2022 Comprehensive Plan Amendment for City of Milford (COM) is to work with DelDOT and the Dover/Kent County Metropolitan Transportation Organization (MPO) to advance the city’s efforts to promote non-motorized transportation. This project falls under this effort, and DelDOT has proposed a variety of traffic calming measures the city could consider implementing. To assist in the decision-making process of selecting an appropriate option, a speed and safety evaluation was conducted to help assess the safety benefits of the proposed traffic calming measures. This evaluation is presented in the ensuing.

SPEED AND CRASH EVALUATION/ANALYSES

Current Speed Data/Conditions and Implications

S Walnut Street within the study limits has a posted speed limit of 25 MPH. Speed data for the S Walnut Street study segment was obtained for a full 7-day week from September 11, 2022, through September 19, 2022, at a location between the intersection with Seabury Avenue / Clarke Street and the intersection with McCoy Street. From the data, the average speed is 27 MPH and the 85th percentile speed is 31 MPH. **Figure 1** presents the vehicle speed distribution in increments of 5MPH ranges for the one full week of recorded data. The distribution affirms the average and 85th percentile speeds. **Figure 2** presents percent distribution of vehicles over the same 5 MPH increments. As shown in **Figure 2**, less than 40%, approximately 37.4% of all recorded vehicles were traveling at or below the 25 MPH posted speed limit. Over 60%, approximately 62.6% of all recorded vehicles were traveling at speeds greater than the posted speed limit of 25 MPH. Approximately 16% and 2.4% of the recorded vehicles were respectively traveling at speeds greater than 5 MPH and greater than 10 MPH above the posted speed limit. **A maximum speed of 125 MPH was also recorded.**

The relationship between impact speed and a pedestrian’s risk of death has been studied extensively, and it is an established fact that driving speed is a key risk factor in severe pedestrian crashes. Data covering this topic was obtained from the book “*Countermeasures That Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices, Tenth Edition, 2020*” by the National Highway Traffic Safety Administration (NHTSA). Results from one of the most robust studies according to the book, show that the average risk of severe injury for a pedestrian struck by a vehicle reaches 10% at an impact speed of 16 mph, 25% at 23 mph, 50% at 31 mph, 75% at 39 mph, and 90% at 46 mph. The average risk of death for a pedestrian reaches 10% at an impact speed of 23 mph, 25% at 32 mph, 50% at 42 mph, 75% at 50 mph, and 90% at 58 mph. Risks vary significantly by age. For example, the average risk of severe injury or death for a 70-year-old pedestrian struck by a car traveling at 25 mph is similar to the risk for a 30-year-old pedestrian struck at 35 mph.

Given these statistics, the residential nature of the developments along S Walnut Street within the study limits, and the proposed/committed future residential growth expected, it is imperative that effective traffic

S Walnut Street Conceptual Plan from McCoy Street to Railroad Crossing): Speed and Safety Evaluation

calming measures are implemented to ensure that no motorist can reach anywhere close to the excessive maximum speed of 125 MPH recorded. From the data, this is not only hazardous to other motorized traffic, but could especially have fatal consequences for the more vulnerable non-motorized traffic that must be safely and adequately accommodated in accordance with the COM Comprehensive Plan and the DSSPS.

Figure 1: One Week Recorded Vehicles Speed Distribution

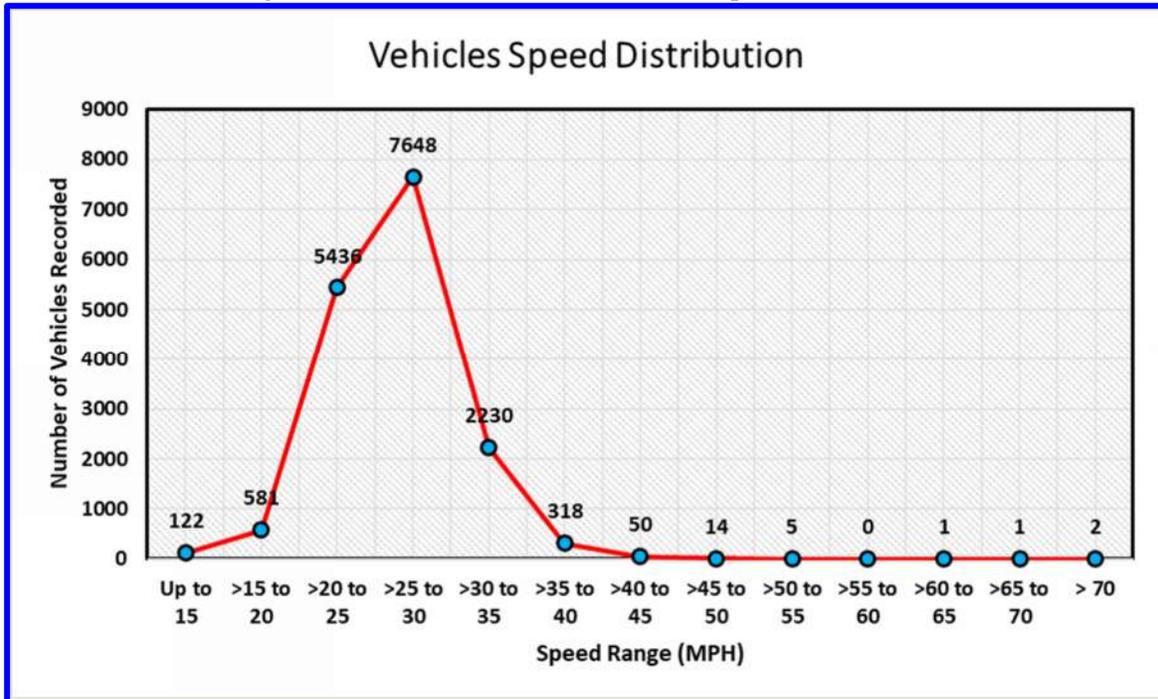
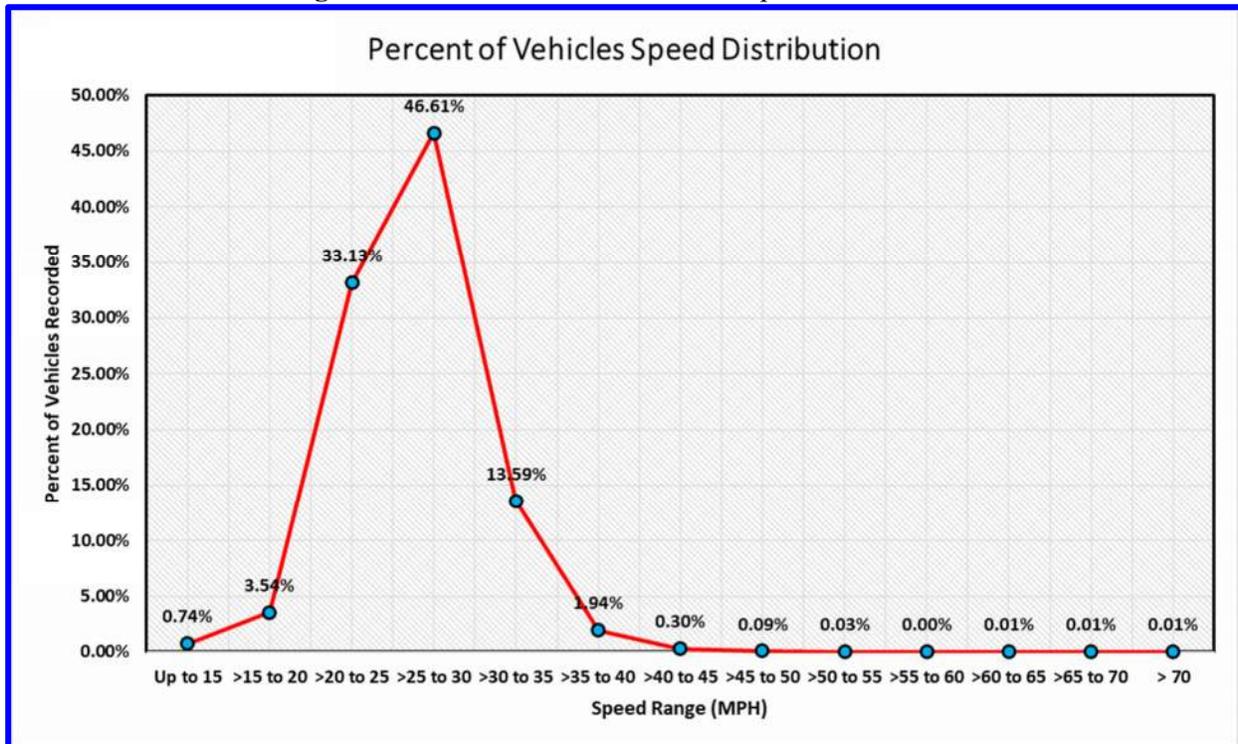


Figure 2: One Week Percent Vehicles Speed Distribution



S Walnut Street Conceptual Plan from McCoy Street to Railroad Crossing): Speed and Safety Evaluation

Current Crash History/Conditions and Implications

Three-year crash data covering the period from September 27, 2019, to September 27, 2022, for the S Walnut Street study segment show eighteen (18) reported crashes for that period. The approximate crash locations, number of crashes, type and severity are presented on the map in **Figure 3**. As shown in the figure, half (nine) of all the crashes occurred at the two main intersections of S Walnut Street and McCoy Street (five), and at S Walnut Street and Seabury Avenue/Clarke Avenue (four). **Table 1** summarizes the crash classifications/severity by collision type. Five (approximately 28%) collisions not between two vehicles were reported, making this the most frequent crash type. Sideswipe same direction was the second most frequent type of crash reported, with four (22%) occurring within the three-year period.

Table 2 summarizes the primary reasons reported for the crashes. The most frequent reason was reported as driver inattention, distraction and fatigue. This accounted for six or one-third of the three-year total crashes. As shown in the table, two (40%) of the collisions not between vehicles involved pedestrians. It should be noted that both pedestrian crashes involved a bicycle-vehicle collision. One of the pedestrian crashes resulted in personal injury and the other was reported as resulting in property damage only. **Table 3** provides the road surface, lighting and weather conditions under which the crashes occurred. As shown in the table, most of the crashes occurred under dry, daylight and clear weather conditions so the natural elements and lighting do not appear to be a problem.

Figure 4 presents the crashes per each 12-month period/year. As shown, crashes increased by 16.7% from six during the 2019-2020 period to seven during the 2020-2021 period. Crashes decreased by 28.6% from seven during the 2020-2021 period to five during the 2021-2022 period. No distinct crash trend can therefore be inferred from the current three-year data.

Figure 5 presents the crashes by time of day. As shown, the crashes are not clustered within a specific time of day but are distributed over the between 7:00 A.M. and midnight in line with the hours of expected traffic activity for a collector road serving residential neighborhoods. There are two defined peaks in the crash coinciding with the A.M. and P.M. peak hours, again, as is expected for a collector road serving residential neighborhoods.

Table 1: Crash Classification and Collision Type

Collision Type	Crash Classification									Crash Classification			
	Property Damage	Personal Injury	Total	Property Damage	Personal Injury	Total	Property Damage	Personal Injury	Total	Property Damage	Personal Injury	Total # of Crashes	% of Total Crashes
	September 27, 2019 - September 27, 2020			September 27, 2020 - September 27, 2021			September 27, 2021 - September 27, 2022			3-Year Totals			
Front to Front	0	0	0	1	0	1	1	1	2	2	1	3	16.7%
Front to Rear	3	0	3	0	0	0	0	0	0	3	0	3	16.7%
Angle	0	0	0	0	0	0	1	0	1	1	0	1	5.6%
Sideswipe, Same Direction	0	1	1	2	1	3	0	0	0	2	2	4	22.2%
Sideswipe, Opposite Direction	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Not a Collision Between Two Vehicles	0	0	0	2	1	3	1	1	2	3	2	5	27.8%
Unknown	1	0	1	0	0	0	0	0	0	1	0	1	5.6%
Other	1	0	1	0	0	0	0	0	0	1	0	1	5.6%
Total	5	1	6	5	2	7	3	2	5	13	5	18	100.0%

**S Walnut Street Conceptual Plan from McCoy Street to Railroad Crossing:
Speed and Safety Evaluation**

Figure 3: Crash Map



S Walnut Street Conceptual Plan from McCoy Street to Railroad Crossing): Speed and Safety Evaluation

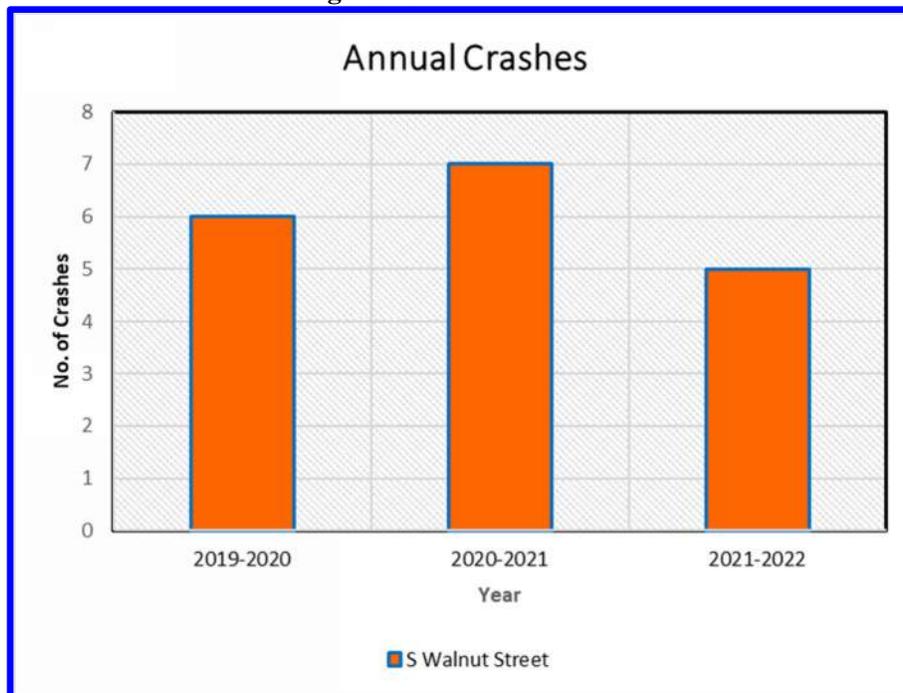
Table 2: Primary Reason for Crashes

Primary Reason for Crash		
Description	No. of Crashes	% Crash
Animal in Roadway - Other Animal	1	5.6%
Failure to Yield Right of Way	1	5.6%
Driving in a Careless or Reckless Manner	1	5.6%
Driver Inattention, Distraction, or Fatigue	6	33.3%
Driving Under the Influence	1	5.6%
Improper Passing	2	11.1%
Improper Turn	1	5.6%
Mechanical Defects	1	5.6%
Pedestrian	2	11.1%
Unknown	2	11.1%
Total	18	100.0%

Table 3: Crash Surface, Lighting and Weather Conditions

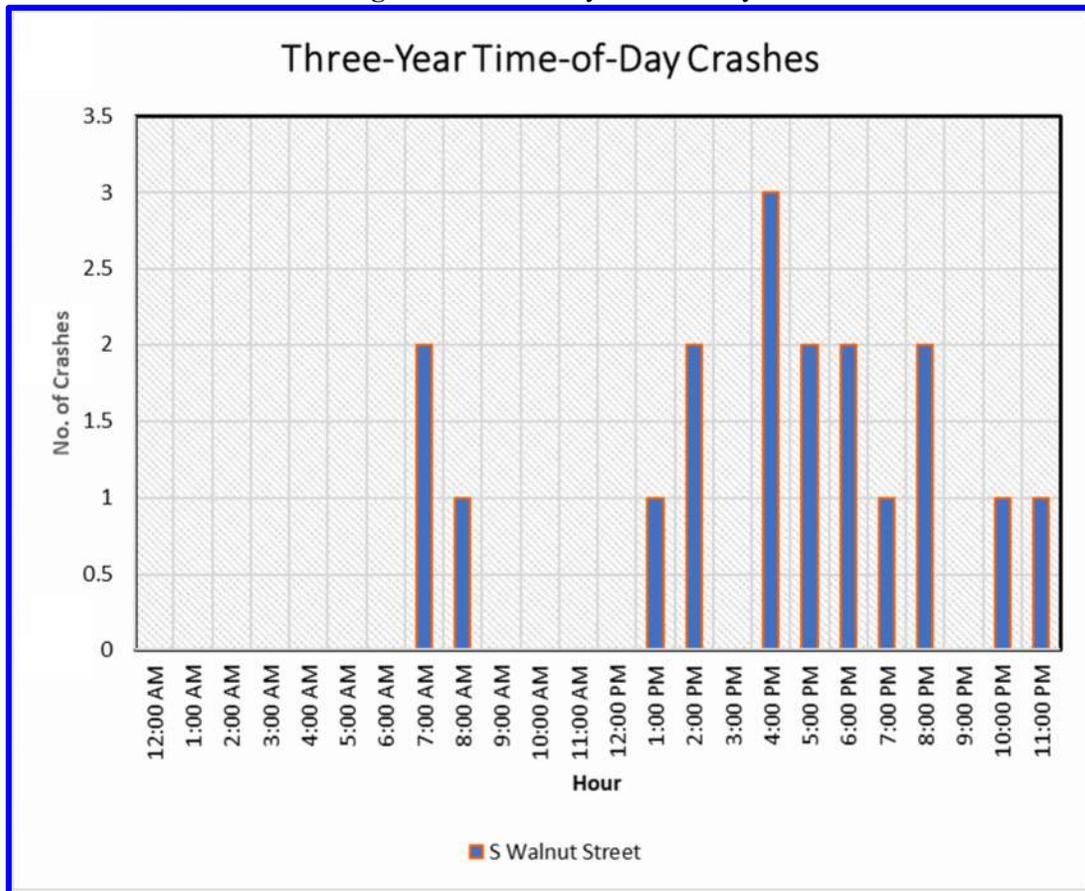
Surface Conditions			Lighting Conditions			Weather Conditions		
Description	# of Crashes	% of Total Crashes	Description	# of Crashes	% of Total Crashes	Description	# of Crashes	% of Total Crashes
Dry	17	94.4%	Daylight	12	66.7%	Clear	15	83.3%
Wet	1	5.6%	Dark-Lighted	3	16.7%	Cloudy	2	11.1%
Ice/Frost	0	0.0%	Dark-Not Lighted	3	16.7%	Rain	1	5.6%
Total	18	100.0%	Total	18	100.0%	Total	18	100.0%

Figure 4: Crashes Per Year



S Walnut Street Conceptual Plan from McCoy Street to Railroad Crossing): Speed and Safety Evaluation

Figure 5: Crashes By Time of Day



Crash rates measured in crashes per million vehicle miles (C/MVMT) was computed for this 0.55-mile urban major collector study segment of S Walnut Street for 2019, 2020, and 2021. These crash rates were compared to those for urban major collectors in Sussex County and Statewide. **Table 4** presents the crash rates, and **Table 5** presents how the study segment crash rates compare to the county and state rates for the same year. As shown in **Table 5**, the crash rates for this segment of S Walnut are between 9.93 and 21.43 times higher than those for similar roads in Sussex County, and between 7.09 to 15.74 times higher than those for similar roads within the state of Delaware.

Table 4: Crash Rates

Road	Crash Rate (C/MVMT)		
	2019	2020	2021
S Walnut St, McCoy St to Jefferson Ave	9.43	17.79	17.41
Sussex County 2-Lane Urban Major Collector	0.95	0.83	0.86
Statewide 2-Lane Urban Major Collector	1.33	1.13	1.12

S Walnut Street Conceptual Plan from McCoy Street to Railroad Crossing): Speed and Safety Evaluation

Table 5: How McCoy Street Crash Rates Compare to County and State Rates

McCoy Street Compared to:	Crash Rate Comparison		
	2019	2020	2021
Sussex County 2-Lane Urban Major Collector	9.93 Times	21.43 Times	20.24 Times
Statewide 2-Lane Urban Major Collector	7.09 Times	15.74 Times	15.54 Times

Speed Limit Analysis

To ascertain how appropriate the posted speed limit is for this segment of S Walnut Street based on the three-year crash history, functional class, traffic characteristics and nature of anticipated developments along the segment, the DelDOT Traffic Studies recommended method, USLimits2 analysis, was performed. This analysis recommended a posted speed of 25 MPH, which is the same as the current posted speed. The analyses estimated an overall crash rate of 1547 crashes per 100 million vehicle miles travelled (MVMT) for the study segment of S Walnut Street. This is approximately 2.46 times the rate for similar roadways nationally. The study segment’s estimated injury crash rate of 430 per MVMT is approximately 1.72 times the rate for similar roadways nationally.

Additional speed analysis was performed with NCHRP Report 966 Speed Limit Setting Tool. This study corroborated the results of the USLimits2 analysis, suggesting an appropriate speed limit of 25 MPH and identical overall and injury crash rates for the segment of S Walnut Street from McCoy Street to Jefferson Avenue.

TRAFFIC CALMING MEASURES

DelDOT provided nine traffic calming measures for the City of Milford to consider choosing from to address the speed/safety issues outlined in the preceding sections of this evaluation. The measures include vertical, horizontal, road width reduction and dynamic signing methods of traffic calming. The measures for which crash modification factors are provided in the 2010 AASHTO Highway Safety Manual were assessed / analyzed with provisions from the manual. Additionally, for the traffic calming measures for which data could be found for similar roadways under the Federal Highway Administration (FHWA) Proven Safety Countermeasures Initiative (PSCI), the measures were assessed based on the provisions therein. The horizontal traffic calming measures included those for road segments and those for intersections. The traffic calming measures evaluation is summarized in **Table 6**.

S Walnut Street Conceptual Plan from McCoy Street to Railroad Crossing): Speed and Safety Evaluation

Table 6: Traffic Calming Measures Evaluation

	Type	Name	Applicability & Acceptability for Functional Class (FHWA PSCI)	Potential Effectiveness for Speed Reduction (FHWA PSCI)	Potential for Crash Reduction (-) / Increase (+) (FHWA PSCI)	Potential Crash Reduction (-) / Increase (+) (HSM)	RANK
Road Segment Treatment							
1.	Vertical	Speed Humps	5	-6 mph	-40% to -48% (All Severities, All Crashes)	1. Treated Rd = -40% (Injury Crashes, All Crash Types) 2. Adjacent Rds = -5% (Injury Crashes, All Crash Types)	1
2.	Vertical	Speed Table	5	-4 mph	-36% to -64% (All Severities, All Crashes)	No Data	2
Intersections Treatment							
3.	Horizontal	Modern Roundabouts	3	-4 mph to -8 mph	No data for small to moderate (Modern) roundabout	-78% (All Severities, All Crash Types)	1
4.	Horizontal	Realigned Intersections	5	No Data	No Data	No Data	2
Road Segment Treatment							
5.	Horizontal	Chicanes	5	-9 mph	No Data	No Data	1
6.	Horizontal	Lateral Shifts	5	Less than for chicanes**	No Data	No Data	2
Road Segment Treatment: Road Width Reduction							
7.	Width Reduction	Median Islands (Raised)	5	-3 mph	-39% (All Crashes) -44% (fatal & Injury Crashes)	-39% (Injury Crashes, All Crash Types)	1
8.	Width Reduction	Striping/Lane Markings	5 [#]		No Data		None
Road Segment Treatment: Dynamic Signing							
9.	Dynamic Signing	Radar Speed Signs	5 [#]	-2 mph to -5 mph [^]	No Data	-46% (All Severities, All Crashes)	1

LEGEND

FHWA PSCI = Federal Highway Administration Proven Safety Countermeasures Initiative

HSM = ASHTO Highway Safety Manual (2010)

5 Traffic Calming Measure may be appropriate

3 Caution, Traffic Calming Measure could be appropriate

No data found. Deemed may be appropriate based solely on DelDOT's inclusion in Traffic Calming Measures for this location.

** No actual value provided in data for speed reduction

* For single vehicle run-off-the-road, & multiple vehicle head-on, sideswipe same direction and sideswipe opposite direction.

[^] Signs in studies displayed a feedback "YOUR SPEED XX" for drivers traveling over the threshold speed.

S Walnut Street Conceptual Plan from McCoy Street to Railroad Crossing): Speed and Safety Evaluation

CONCLUSION

Speed Limit

Both speed limit setting analyses performed indicate that 25 MPH is an appropriate speed limit for the segment of S Walnut Street analyzed in this study. The posted speed limit of 25 MPH appears to therefore be appropriate and should be maintained.

Intersections Traffic Calming Measures

As shown in **Table 6**, no data was available from the sources provided above for realigned intersections. That does not necessarily preclude it from being an effective safety measure as some jurisdictions have implemented it and not reported any adverse effects as an intersection safety measure. For the intersections within the study limits, the 5-leg intersection of S Walnut Street at Seabury Avenue / Clarke Street would benefit most from a roundabout conversion. With the estimated 78% reduction in all crash types at roundabouts as shown in **Table 6**, the four (4) reported crashes at the intersection would be reduced to approximately one (1). The 3-Leg intersection of S Walnut Street and McCoy Street may be suited to a realigned intersection. While there is no available data to estimate the percentage of crash reduction or the extent of speed reduction that would occur, the realignment would slow down motorized traffic. And as previously provided in this evaluation, lower speeds would lead to less crash severity at a minimum, even if there is no reduction in the number of crashes.

Road Segments Traffic Calming Measures

Regarding the treatments for the road segments, it appears from evaluation of the available data that lane width reduction exclusively with striping/pavement markings does not provide any apparent speed or crash reduction and may have to be used in combination with one of the other horizontal traffic calming measures to achieve those objectives. As a standalone treatment, the HSM analysis indicates that for an existing 12-foot lanes roadway, an increase from 5% for reduction to 11-foot lanes to 50% for reduction to 9-foot lanes is estimated for single vehicle run-off-the-road, and multiple vehicles head-on, same direction sideswipe, and opposite direction sideswipe crashes, all of which are currently experienced on S Walnut Street.

Regarding dynamic speed signing (radar speed signs) studies in Delaware show observed reduction in speed of 3 MPH, corroborating the range of 2 MPH to 5 MPH reduction from the FHWA PSCI data. Radar speed signs would therefore be an appropriate. It should be noted that the radar speed signs for the FHWA PSCI study sites used in this evaluation were speed feedback signs which display the speed of drivers traveling over the threshold with the message "YOUR SPEED XX". The HSM, however does not specify the exact type of dynamic / changeable speed warning signs.

General

It should be noted that the ranking for each identified group of traffic calming measures is based solely on their estimated effectiveness at speed reduction and / or crash reduction and the availability of data for assessment or lack thereof from the sources identified. The decision as to which traffic calming measures should be implemented for the study segment of S Walnut Street will not only be based on this evaluation, but also on other considerations including but not limited to cost effectiveness, right-of way availability, and utility and drainage features relocation limitations.

Century Engineering, LLC. A Kleinfelder Company

550 S Bay Rd, Dover DE
Phone: 302-734-9188 Fax: 302-734-4589

Intersection: Walnut St at McCoy St
Counted By: Brandan Martine
Date: 03-09-23
Weather: Clear 50

File Name : 23-03-09 Walnut at Mccoy
Site Code : 00000000
Start Date : 3/9/2023
Page No : 1

Groups Printed- Cars - Trucks - Bikes

Start Time	S WALNUT ST From North					MCCOY ST From East					S WALNUT ST From South					MCCOY ST From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	24	9	0	0	33	2	0	16	0	18	0	18	5	0	23	0	0	0	0	0	74
07:15 AM	38	10	0	0	48	7	0	25	0	32	0	14	11	0	25	0	0	0	0	0	105
07:30 AM	34	17	0	0	51	2	0	26	0	28	0	16	4	0	20	0	0	0	0	0	99
07:45 AM	34	15	0	0	49	5	0	26	0	31	0	9	5	0	14	0	0	0	0	0	94
Total	130	51	0	0	181	16	0	93	0	109	0	57	25	0	82	0	0	0	0	0	372
08:00 AM	20	11	0	0	31	2	0	14	0	16	0	10	1	0	11	0	0	0	0	0	58
08:15 AM	25	10	0	0	35	2	0	15	0	17	0	10	2	0	12	0	0	0	0	0	64
08:30 AM	12	8	0	0	20	2	0	20	0	22	0	5	3	0	8	0	0	0	0	0	50
08:45 AM	18	8	0	0	26	0	0	25	0	25	0	8	2	0	10	0	0	0	0	0	61
Total	75	37	0	0	112	6	0	74	0	80	0	33	8	0	41	0	0	0	0	0	233
*** BREAK ***																					
11:00 AM	25	17	0	0	42	3	0	21	0	24	0	10	3	0	13	0	0	0	0	0	79
11:15 AM	30	14	0	0	44	2	0	38	0	40	0	13	7	0	20	0	0	0	0	0	104
11:30 AM	28	13	0	0	41	2	0	35	0	37	0	8	2	0	10	0	0	0	0	0	88
11:45 AM	37	10	0	0	47	2	0	25	0	27	0	9	6	1	16	0	0	0	0	0	90
Total	120	54	0	0	174	9	0	119	0	128	0	40	18	1	59	0	0	0	0	0	361
12:00 PM	27	26	0	0	53	3	0	24	0	27	0	17	3	0	20	0	0	0	0	0	100
12:15 PM	28	9	0	3	40	2	0	25	0	27	0	19	0	0	19	0	0	0	0	0	86
12:30 PM	33	10	0	0	43	5	0	30	0	35	0	13	2	0	15	0	0	0	0	0	93
12:45 PM	18	8	0	0	26	0	0	25	0	25	0	9	1	0	10	0	0	0	0	0	61
Total	106	53	0	3	162	10	0	104	0	114	0	58	6	0	64	0	0	0	0	0	340
01:00 PM	37	19	0	0	56	0	0	20	0	20	0	12	4	0	16	0	0	0	0	0	92
01:15 PM	27	14	0	0	41	3	0	26	0	29	0	12	0	0	12	0	0	0	0	0	82
01:30 PM	26	20	0	0	46	3	0	19	0	22	0	8	3	1	12	0	0	1	0	1	81
01:45 PM	27	15	0	0	42	5	0	22	0	27	0	11	5	0	16	0	0	0	0	0	85
Total	117	68	0	0	185	11	0	87	0	98	0	43	12	1	56	0	0	1	0	1	340
*** BREAK ***																					
03:00 PM	53	20	0	0	73	3	0	33	0	36	0	11	3	1	15	0	1	0	0	1	125
03:15 PM	32	16	0	0	48	4	0	26	0	30	0	9	4	0	13	0	0	0	0	0	91
03:30 PM	31	31	0	0	62	2	0	35	0	37	0	19	8	0	27	0	0	0	0	0	126
03:45 PM	32	31	0	0	63	4	0	26	0	30	0	15	6	0	21	0	0	0	0	0	114
Total	148	98	0	0	246	13	0	120	0	133	0	54	21	1	76	0	1	0	0	1	456
04:00 PM	26	24	0	2	52	3	0	29	0	32	0	14	5	1	20	0	0	0	0	0	104
04:15 PM	32	19	0	0	51	9	0	28	0	37	0	16	2	0	18	0	0	0	0	0	106
04:30 PM	27	20	0	1	48	6	0	39	0	45	0	16	3	0	19	0	0	0	0	0	112
04:45 PM	64	35	0	0	99	2	0	49	0	51	0	7	2	0	9	0	0	0	0	0	159
Total	149	98	0	3	250	20	0	145	0	165	0	53	12	1	66	0	0	0	0	0	481
05:00 PM	30	15	0	0	45	6	0	30	0	36	0	13	3	0	16	0	0	0	0	0	97
05:15 PM	21	28	0	0	49	2	0	31	0	33	0	10	2	0	12	0	0	0	0	0	94
05:30 PM	26	20	0	2	48	5	0	22	0	27	0	16	3	0	19	0	0	0	0	0	94
05:45 PM	25	20	0	0	45	8	0	29	0	37	0	11	3	0	14	0	0	0	0	0	96
Total	102	83	0	2	187	21	0	112	0	133	0	50	11	0	61	0	0	0	0	0	381
Grand Total	947	542	0	8	1497	106	0	854	0	960	0	388	113	4	505	0	1	1	0	2	2964
Apprch %	63.3	36.2	0	0.5		11	0	89	0		0	76.8	22.4	0.8		0	50	50	0		
Total %	32	18.3	0	0.3	50.5	3.6	0	28.8	0	32.4	0	13.1	3.8	0.1	17	0	0	0	0	0.1	

Century Engineering, LLC. A Kleinfelder Company

550 S Bay Rd, Dover DE
Phone: 302-734-9188 Fax: 302-734-4589

Intersection: S Walnut St & Clarke Ave
Counted By: Kyle Newcomb
Date: 3/21/2023
Weather: Clear 50

File Name : 23-03-21 Walnut St and Clarke Ave
Site Code : 00000000
Start Date : 3/21/2023
Page No : 1

Groups Printed- Cars - Trucks - Bikes

Start Time	W Clarke Ave From North					S Walnut St From East					Seabury Ave From South					S Walnut St From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	4	0	4	13	27	0	0	40	8	0	5	0	13	1	22	6	0	29	86
07:15 AM	0	1	6	0	7	18	31	0	0	49	6	0	3	0	9	0	26	10	0	36	101
07:30 AM	0	0	3	0	3	10	39	0	0	49	4	0	2	0	6	0	17	9	0	26	84
07:45 AM	6	0	5	0	11	6	29	0	0	35	3	0	4	0	7	0	21	8	0	29	82
Total	6	1	18	0	25	47	126	0	0	173	21	0	14	0	35	1	86	33	0	120	353
08:00 AM	1	0	3	0	4	9	31	1	0	41	6	0	3	0	9	1	19	6	0	26	80
08:15 AM	3	0	2	0	5	9	28	0	0	37	3	0	2	0	5	0	29	6	0	35	82
08:30 AM	0	0	1	0	1	4	33	1	0	38	9	0	2	0	11	0	38	5	0	43	93
08:45 AM	0	0	4	0	4	6	34	1	0	41	2	0	1	0	3	0	26	5	0	31	79
Total	4	0	10	0	14	28	126	3	0	157	20	0	8	0	28	1	112	22	0	135	334
*** BREAK ***																					
11:00 AM	0	0	5	0	5	10	17	0	0	27	6	0	1	0	7	0	28	6	0	34	73
11:15 AM	2	0	5	0	7	12	22	0	0	34	5	0	1	0	6	0	31	8	0	39	86
11:30 AM	1	0	4	0	5	8	24	0	0	32	5	0	2	0	7	0	38	8	0	46	90
11:45 AM	1	0	2	0	3	15	26	0	0	41	6	0	2	0	8	0	23	7	0	30	82
Total	4	0	16	0	20	45	89	0	0	134	22	0	6	0	28	0	120	29	0	149	331
12:00 PM	1	0	2	0	3	9	26	0	0	35	7	0	3	0	10	1	32	11	0	44	92
12:15 PM	1	0	3	0	4	14	27	1	0	42	9	0	8	0	17	0	30	12	0	42	105
12:30 PM	1	1	2	0	4	7	25	0	0	32	8	0	3	0	11	0	34	5	0	39	86
12:45 PM	1	0	3	0	4	4	22	0	0	26	6	0	6	0	12	0	31	5	0	36	78
Total	4	1	10	0	15	34	100	1	0	135	30	0	20	0	50	1	127	33	0	161	361
01:00 PM	0	0	2	0	2	12	13	0	0	25	10	0	2	0	12	1	26	9	0	36	75
01:15 PM	0	0	1	0	1	5	18	0	0	23	6	0	3	0	9	0	34	7	0	41	74
01:30 PM	5	1	15	0	21	16	34	0	0	50	6	0	5	0	11	0	36	10	0	46	128
01:45 PM	2	0	6	0	8	13	30	0	0	43	5	0	3	0	8	0	32	9	0	41	100
Total	7	1	24	0	32	46	95	0	0	141	27	0	13	0	40	1	128	35	0	164	377
*** BREAK ***																					
03:00 PM	3	0	13	0	16	8	23	1	0	32	9	0	4	0	13	4	47	13	0	64	125
03:15 PM	0	0	8	0	8	10	41	0	0	51	9	0	4	0	13	1	37	6	1	45	117
03:30 PM	1	0	8	0	9	10	30	0	0	40	5	0	3	0	8	1	45	9	0	55	112
03:45 PM	0	0	8	0	8	12	35	0	0	47	4	0	5	0	9	0	38	9	0	47	111
Total	4	0	37	0	41	40	129	1	0	170	27	0	16	0	43	6	167	37	1	211	465
04:00 PM	2	0	8	0	10	12	38	1	0	51	6	0	5	0	11	1	45	4	0	50	122
04:15 PM	3	0	3	0	6	6	37	0	0	43	2	0	2	0	4	1	41	4	0	46	99
04:30 PM	4	0	9	0	13	6	29	0	0	35	6	0	4	0	10	0	40	7	0	47	105
04:45 PM	0	0	13	0	13	10	32	0	0	42	6	0	4	0	10	1	52	7	0	60	125
Total	9	0	33	0	42	34	136	1	0	171	20	0	15	0	35	3	178	22	0	203	451
05:00 PM	2	0	3	0	5	3	30	0	0	33	8	0	4	0	12	0	45	12	0	57	107
05:15 PM	4	0	3	0	7	10	37	1	0	48	8	0	2	0	10	1	37	7	0	45	110
*** BREAK ***																					
Total	6	0	6	0	12	13	67	1	0	81	16	0	6	0	22	1	82	19	0	102	217
Grand Total	44	3	154	0	201	287	868	7	0	1162	183	0	98	0	281	14	1000	230	1	1245	2889
Apprch %	21.9	1.5	76.6	0		24.7	74.7	0.6	0		65.1	0	34.9	0		1.1	80.3	18.5	0.1		
Total %	1.5	0.1	5.3	0	7	9.9	30	0.2	0	40.2	6.3	0	3.4	0	9.7	0.5	34.6	8	0	43.1	

Century Engineering, LLC. A Kleinfelder Company

550 S Bay Rd, Dover DE
Phone: 302-734-9188 Fax: 302-734-4589

Intersection: Kings Hwy at S Walnut St
Counted By: Mark G
Date: 03/20/2023
Weather: Clear 50

File Name : 23-03-20 Kings Hwy at S Walnut
Site Code : 00000000
Start Date : 3/20/2023
Page No : 1

Groups Printed- Cars - Trucks - Bikes

Start Time	S Walnut St From North					From East					S Walnut St From South					Kings Hwy From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	27	4	0	31	0	0	0	0	0	3	56	0	0	59	9	0	8	0	17	107
07:15 AM	0	27	9	0	36	0	0	0	1	1	8	27	0	0	35	10	0	7	0	17	89
07:30 AM	0	28	9	0	37	0	0	0	0	0	5	38	0	0	43	7	0	10	0	17	97
07:45 AM	1	26	5	0	32	0	0	0	0	0	12	31	0	0	43	8	0	4	0	12	87
Total	1	108	27	0	136	0	0	0	1	1	28	152	0	0	180	34	0	29	0	63	380
08:00 AM	1	22	8	0	31	0	0	0	0	0	6	35	1	0	42	1	0	11	0	12	85
08:15 AM	0	23	7	0	30	0	0	0	0	0	5	35	0	0	40	4	0	6	1	11	81
08:30 AM	0	29	8	0	37	0	0	0	2	2	7	30	0	0	37	4	0	8	0	12	88
08:45 AM	0	34	3	0	37	0	0	0	0	0	7	29	0	0	36	4	0	7	0	11	84
Total	1	108	26	0	135	0	0	0	2	2	25	129	1	0	155	13	0	32	1	46	338
*** BREAK ***																					
11:00 AM	0	31	1	0	32	0	0	0	0	0	9	32	0	0	41	3	0	4	0	7	80
11:15 AM	0	28	0	0	28	0	0	0	0	0	3	20	0	0	23	3	0	6	0	9	60
11:30 AM	0	27	2	0	29	0	0	0	0	0	3	25	0	0	28	5	0	13	0	18	75
11:45 AM	0	32	3	0	35	0	0	0	0	0	3	26	0	0	29	9	0	11	0	20	84
Total	0	118	6	0	124	0	0	0	0	0	18	103	0	0	121	20	0	34	0	54	299
12:00 PM	0	28	3	0	31	0	0	0	0	0	8	29	0	0	37	1	0	6	0	7	75
12:15 PM	0	43	6	0	49	0	0	0	0	0	7	29	0	0	36	3	0	5	0	8	93
12:30 PM	0	31	2	0	33	0	0	0	0	0	0	30	0	0	30	6	0	10	0	16	79
12:45 PM	0	29	2	0	31	0	0	0	0	0	7	31	0	0	38	1	0	11	0	12	81
Total	0	131	13	0	144	0	0	0	0	0	22	119	0	0	141	11	0	32	0	43	328
01:00 PM	0	30	5	0	35	0	0	0	0	0	3	31	0	0	34	1	0	7	0	8	77
01:15 PM	0	25	3	0	28	0	0	0	0	0	4	18	0	0	22	3	0	10	0	13	63
01:30 PM	0	35	3	0	38	0	0	0	0	0	1	29	0	0	30	5	0	7	0	12	80
01:45 PM	0	26	4	0	30	0	0	0	0	0	6	35	0	0	41	8	0	18	0	26	97
Total	0	116	15	0	131	0	0	0	0	0	14	113	0	0	127	17	0	42	0	59	317
*** BREAK ***																					
03:00 PM	0	39	6	0	45	0	0	0	0	0	5	34	0	0	39	4	0	7	0	11	95
03:15 PM	0	47	3	0	50	0	0	0	0	0	3	27	0	0	30	5	0	11	0	16	96
03:30 PM	0	37	3	0	40	0	0	0	0	0	11	44	0	0	55	9	0	14	0	23	118
03:45 PM	0	42	3	0	45	0	0	0	0	0	4	33	0	0	37	5	0	14	0	19	101
Total	0	165	15	0	180	0	0	0	0	0	23	138	0	0	161	23	0	46	0	69	410
04:00 PM	0	40	3	0	43	0	0	0	0	0	6	30	0	0	36	7	0	7	0	14	93
04:15 PM	0	45	8	0	53	0	0	0	0	0	7	44	0	0	51	9	0	11	0	20	124
04:30 PM	0	35	2	0	37	0	0	0	0	0	5	38	0	0	43	5	0	11	0	16	96
04:45 PM	0	42	6	0	48	0	0	0	0	0	3	35	0	0	38	9	0	9	0	18	104
Total	0	162	19	0	181	0	0	0	0	0	21	147	0	0	168	30	0	38	0	68	417
05:00 PM	0	45	5	0	50	0	0	0	0	0	6	33	0	0	39	3	0	13	0	16	105
05:15 PM	0	45	2	0	47	0	0	0	0	0	6	41	0	0	47	2	0	8	0	10	104
05:30 PM	0	36	2	0	38	0	0	0	0	0	7	40	0	0	47	3	1	15	0	19	104
05:45 PM	0	36	2	0	38	0	0	0	0	0	4	39	0	0	43	5	0	11	0	16	97
Total	0	162	11	0	173	0	0	0	0	0	23	153	0	0	176	13	1	47	0	61	410
Grand Total	2	1070	132	0	1204	0	0	0	3	3	174	1054	1	0	1229	161	1	300	1	463	2899
Apprch %	0.2	88.9	11	0		0	0	0	100		14.2	85.8	0.1	0		34.8	0.2	64.8	0.2		
Total %	0.1	36.9	4.6	0	41.5	0	0	0	0.1	0.1	6	36.4	0	0	42.4	5.6	0	10.3	0	16	



**Traffic Engineering and Management
Supplemental Multiway Stop Control Evaluation Form**

Location:

Date: March 30, 2023

County:

Analyst: B. Martine

*The decision to install multiway stop control should be based on an engineering study.
The following criteria should be considered in the engineering study for a multiway STOP sign installation.*

PART 1.

A. Where traffic control signals are justified, the multiway stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.

Question 1: Is a traffic signal being considered at this intersection?
Proceed to Section B

Question 2: Is the traffic signal warranted at this intersection?
Proceed to Part B

Question 3: Will a multiway stop control improve the safety and/or capacity of the intersection?

Multiway Stop Control is not warranted, proceed to Section B

B. A crash problem, as indicated by 5 or more reported crashes in a 12-month period that are susceptible to correction by a multiway stop installation. Such crashes include right- and left-turn collisions as well as right angle collisions.

Number of collisions that have occurred within a 12-month period that are susceptible to correction by a multiway stop control. 0

Multiway Stop Control is not warranted, proceed to Section C

C. Minimum Volumes:

1. The vehicular volume entering the intersction from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day, and
2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approach (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour, but
3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the above values.

Major Street: S Walnut Street
 Minor Street: McCoy Street

Orientation:
 Orientation: East/West

ENTER TRAFFIC VOLUMES IN THE TABLE BELOW

Time	S Walnut Street			McCoy Street			
	North	South	Total	East	West	Pedestrians/Bicycles	Total
6 - 7 AM	82	181	263	0	109	0	109
7 - 8 AM	82	181	263	0	109	0	109
8 - 9 AM	41	112	153	0	80	0	80
9 - 10 AM	50	143	193	0	104	0	104
10 - 11 AM	50	143	193	0	104	0	104
11 AM - 12 PM	59	174	233	0	128	1	129
12 - 1 PM	64	162	226	0	114	3	117
1 - 2 PM	56	185	241	0	98	1	99
2 - 3 PM	66	216	282	0	116	0	116
3 - 4 PM	76	246	322	0	133	1	134
4 -5 PM	66	250	316	0	165	4	169
5 - 6 PM	14	187	201	0	133	2	135

Condition C.1 and C.2

A minimum of	300	vehicles per hour required on the major street and
A minimum of	200	units per hour required on the minor street
A total of	0	hours meet conditions C.1 and C.2

Multiway Stop Control is not warranted based on conditions C.1 and C.2

Condition C.3

Does the 85th-percentile approach speed of major-street traffic exceed 40 mph?

No

Proceed to Section D

A minimum of	210	vehicles per hour required on the major street and
A minimum of	140	units per hour required on the minor street
A total of	N/A	hours meets condition C.3

Multiway Stop Control is not warranted based on Condition C.3

D. Where no single criterion is satisfied, but where Criteria B, C.1 and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

Is a multiway stop control warranted from the criteria set forth in either sections A, B or C?

No

Proceed to next criteria

Step 1 Number of collisions that have occurred within a 12-month period that are susceptible to correction by a multiway stop control

0

Multiway Stop Control is not warranted, proceed to Part 2

Step 2 A minimum of 240 vehicles per hour required on the major street and
 A minimum of 160 units per hour required on the minor street
 A total of N/A hours meets condition D.2

Multiway Stop Control is not warranted based on Section D

Multiway Stop Control is not warranted based on Sections A - D, proceed to Part 2

PART 2.

Other criteria that may be considered in an engineering study include:

- A. The need to control left-turn conflicts;
- B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
- C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to reasonably safely negotiate the intersection unless conflicting cross traffic is also required to stop; and
- D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multiway stop control would improve traffic operational characteristics of the intersection.

Question A: Is there a need to control left-turn conflicts? No

Question B: Is this intersection near an area that generates high pedestrian volumes (i.e., church, school, etc.) No

Question C.1 Is sight distance restricted for vehicles on the minor-street approach? No

Proceed to Question D.1

Question C.2 Have adequate improvements been implemented to improve sight distance?

Question C.3 Have these improvements worked?

Question D.1 Is this the intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics? No

Proceed to end of worksheet

Question D.2 Will a multiway stop control improve traffic operational characteristics of the intersection (NOTE: Capacity analyses must be performed in order to answer this question)? No

Existing Two-Way Stop Control Level of Service (minor street approaches)

East	LOS	_____	Delay	_____	sec/veh
West	LOS	_____	Delay	_____	sec/veh

Proposed Multi-way Stop Control Level of Service (entire intersection)

LOS	_____	Delay	_____	sec/veh
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Multiway Stop Control should not be considered at this intersection



**Traffic Engineering and Management
Supplemental Multiway Stop Control Evaluation Form**

Location:

Date: March 30, 2023

County:

Analyst: Century

*The decision to install multiway stop control should be based on an engineering study.
The following criteria should be considered in the engineering study for a multiway STOP sign installation.*

PART 1.

A. Where traffic control signals are justified, the multiway stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.

Question 1: Is a traffic signal being considered at this intersection?
Proceed to Section B

Question 2: Is the traffic signal warranted at this intersection?
Proceed to Part B

Question 3: Will a multiway stop control improve the safety and/or capacity of the intersection

Multiway Stop Control is not warranted, proceed to Section B

B. A crash problem, as indicated by 5 or more reported crashes in a 12-month period that are susceptible to correction by a multiway stop installation. Such crashes include right- and left-turn collisions as well as right angle collisions.

Number of collisions that have occurred within a 12-month period that are susceptible to correction by a multiway stop control. 1

Multiway Stop Control is not warranted, proceed to Section C

C. Minimum Volumes:

1. The vehicular volume entering the intersction from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day, and
2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approach (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour, but
3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the above values.

Major Street: S Walnut Street
 Minor Street: Clarke Avenue

Orientation:
 Orientation: East/West

ENTER TRAFFIC VOLUMES IN THE TABLE BELOW

Time	S Walnut Street			Clarke Avenue			
	North	South	Total	East	West	Pedestrians/Bicycles	Total
6 - 7 AM	173	120	293	35	25	0	60
7 - 8 AM	173	120	293	35	25	0	60
8 - 9 AM	157	135	292	28	14	0	42
9 - 10 AM	146	142	288	28	17	0	45
10 - 11 AM	146	142	288	28	17	0	45
11 AM - 12 PM	134	149	283	28	20	0	48
12 - 1 PM	135	161	296	50	15	0	65
1 - 2 PM	141	164	305	40	32	0	72
2 - 3 PM	156	188	343	42	37	0	78
3 - 4 PM	170	211	381	43	41	1	85
4 -5 PM	171	203	374	35	42	0	77
5 - 6 PM	171	203	374	35	42	0	77

Condition C.1 and C.2

A minimum of	300	vehicles per hour required on the major street and
A minimum of	200	units per hour required on the minor street
A total of	0	hours meet conditions C.1 and C.2

Multiway Stop Control is not warranted based on conditions C.1 and C.2

Condition C.3

Does the 85th-percentile approach speed of major-street traffic exceed 40 mph?

No

Proceed to Section D

A minimum of	210	vehicles per hour required on the major street and
A minimum of	140	units per hour required on the minor street
A total of	N/A	hours meets condition C.3

Multiway Stop Control is not warranted based on Condition C.3

D. Where no single criterion is satisfied, but where Criteria B, C.1 and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

Is a multiway stop control warranted from the criteria set forth in either sections A, B or C?

No

Proceed to next criteria

Step 1 Number of collisions that have occurred within a 12-month period that are susceptible to correction by a multiway stop control

1

Multiway Stop Control is not warranted, proceed to Part 2

Step 2 A minimum of 240 vehicles per hour required on the major street and
 A minimum of 160 units per hour required on the minor street
 A total of N/A hours meets condition D.2

Multiway Stop Control is not warranted based on Section D

Multiway Stop Control is not warranted based on Sections A - D, proceed to Part 2

PART 2.

Other criteria that may be considered in an engineering study include:

- A. The need to control left-turn conflicts;
- B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
- C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to reasonably safely negotiate the intersection unless conflicting cross traffic is also required to stop; and
- D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multiway stop control would improve traffic operational characteristics of the intersection.

Question A: Is there a need to control left-turn conflicts? No

Question B: Is this intersection near an area that generates high pedestrian volumes (i.e., church, school, etc.) No

Question C.1: Is sight distance restricted for vehicles on the minor-street approach? No

Proceed to Question D.1

Question C.2: Have adequate improvements been implemented to improve sight distance?

Question C.3: Have these improvements worked?

Question D.1: Is this the intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics? No

Proceed to end of worksheet

Question D.2: Will a multiway stop control improve traffic operational characteristics of the intersection (NOTE: Capacity analyses must be performed in order to answer this question)? No

Existing Two-Way Stop Control Level of Service (minor street approaches)

East	LOS	_____	Delay	_____	sec/veh
West	LOS	_____	Delay	_____	sec/veh

Proposed Multi-way Stop Control Level of Service (entire intersection)

LOS	_____	Delay	_____	sec/veh
-----	-------	-------	-------	---------

Multiway Stop Control should not be considered at this intersection



Traffic Engineering and Management Supplemental Multiway Stop Control Evaluation Form

Location:

Date: March 30, 2023

County:

Analyst: Century/KLF

*The decision to install multiway stop control should be based on an engineering study.
The following criteria should be considered in the engineering study for a multiway STOP sign installation.*

PART 1.

A. Where traffic control signals are justified, the multiway stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.

- Question 1: Is a traffic signal being considered at this intersection?
Proceed to Section B
- Question 2: Is the traffic signal warranted at this intersection?
Proceed to Part B
- Question 3: Will a multiway stop control improve the safety and/or capacity of the intersection?

Multiway Stop Control is not warranted, proceed to Section B

B. A crash problem, as indicated by 5 or more reported crashes in a 12-month period that are susceptible to correction by a multiway stop installation. Such crashes include right- and left-turn collisions as well as right angle collisions.

Number of collisions that have occurred within a 12-month period that are susceptible to correction by a multiway stop control. 1

Multiway Stop Control is not warranted, proceed to Section C

C. Minimum Volumes:

1. The vehicular volume entering the intersction from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day, and
2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approach (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour, but
3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the above values.

Major Street: S Walnut Street
 Minor Street: Kings Highway

Orientation:
 Orientation: East/West

ENTER TRAFFIC VOLUMES IN THE TABLE BELOW

Time	S Walnut Street			Kings Highway			
	North	South	Total	East	West	Pedestrians/Bicycles	Total
6 - 7 AM	136	180	316	63	0	0	63
7 - 8 AM	136	180	316	63	0	1	64
8 - 9 AM	135	155	290	46	0	3	49
9 - 10 AM	130	138	268	50	0	0	50
10 - 11 AM	130	138	268	50	0	0	50
11 AM - 12 PM	124	121	245	54	0	0	54
12 - 1 PM	144	141	285	43	0	0	43
1 - 2 PM	131	127	258	59	0	0	59
2 - 3 PM	156	144	300	64	0	0	64
3 - 4 PM	180	161	341	69	0	0	69
4 -5 PM	181	168	349	68	0	0	68
5 - 6 PM	173	176	349	61	0	0	61

Condition C.1 and C.2

A minimum of	300	vehicles per hour required on the major street and
A minimum of	200	units per hour required on the minor street
A total of	0	hours meet conditions C.1 and C.2

Multiway Stop Control is not warranted based on conditions C.1 and C.2

Condition C.3

Does the 85th-percentile approach speed of major-street traffic exceed 40 mph?

No

Proceed to Section D

A minimum of	210	vehicles per hour required on the major street and
A minimum of	140	units per hour required on the minor street
A total of	N/A	hours meets condition C.3

Multiway Stop Control is not warranted based on Condition C.3

D. Where no single criterion is satisfied, but where Criteria B, C.1 and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

Is a multiway stop control warranted from the criteria set forth in either sections A, B or C?

No

Proceed to next criteria

Step 1 Number of collisions that have occurred within a 12-month period that are susceptible to correction by a multiway stop control

0

Multiway Stop Control is not warranted, proceed to Part 2

Step 2 A minimum of 240 vehicles per hour required on the major street and
 A minimum of 160 units per hour required on the minor street
 A total of N/A hours meets condition D.2

Multiway Stop Control is not warranted based on Section D

Multiway Stop Control is not warranted based on Sections A - D, proceed to Part 2

PART 2.

Other criteria that may be considered in an engineering study include:

- A. The need to control left-turn conflicts;
- B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
- C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to reasonably safely negotiate the intersection unless conflicting cross traffic is also required to stop; and
- D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multiway stop control would improve traffic operational characteristics of the intersection.

Question A: Is there a need to control left-turn conflicts? No

Question B: Is this intersection near an area that generates high pedestrian volumes (i.e., church, school, etc.) No

Question C.1 Is sight distance restricted for vehicles on the minor-street approach? No

Proceed to Question D.1

Question C.2 Have adequate improvements been implemented to improve sight distance?

Question C.3 Have these improvements worked?

Question D.1 Is this the intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics? No

Proceed to end of worksheet

Question D.2 Will a multiway stop control improve traffic operational characteristics of the intersection (NOTE: Capacity analyses must be performed in order to answer this question)? No

Existing Two-Way Stop Control Level of Service (minor street approaches)

East	LOS	_____	Delay	_____	sec/veh
West	LOS	_____	Delay	_____	sec/veh

Proposed Multi-way Stop Control Level of Service (entire intersection)

LOS	_____	Delay	_____	sec/veh
-----	-------	-------	-------	---------

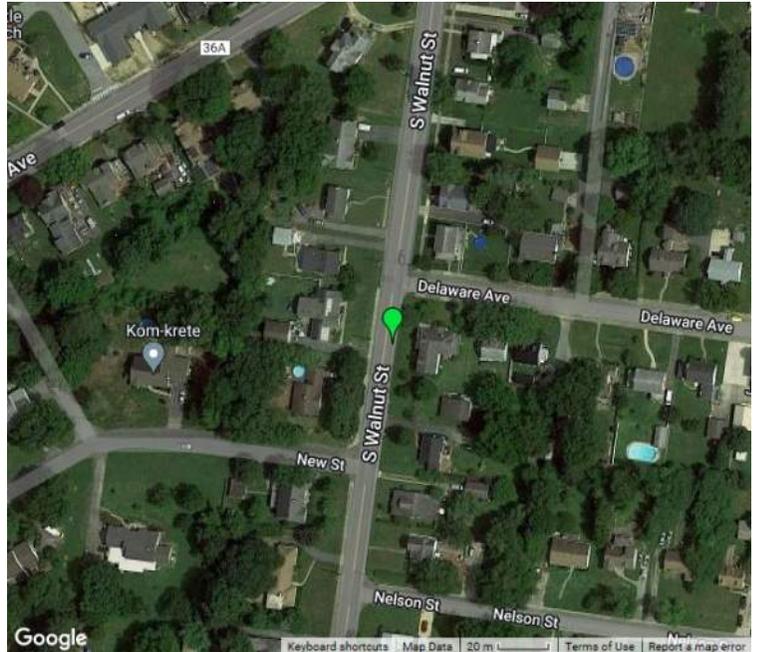
Multiway Stop Control should not be considered at this intersection

SPEED DATA ANALYSIS

Location



Latitude: 38.902733
Longitude: -75.429865



Analysis Time Period



Start	End
9/10/2022 12:16 PM	9/20/2022 8:27 AM

Vehicles Analyzed



34,587

Speed Limit



35

Total Enforceable Violations



1,135

Fastest Speed



125

10 MPH Pace Speed



22-31

Average Speed



27

85th Percentile Speed



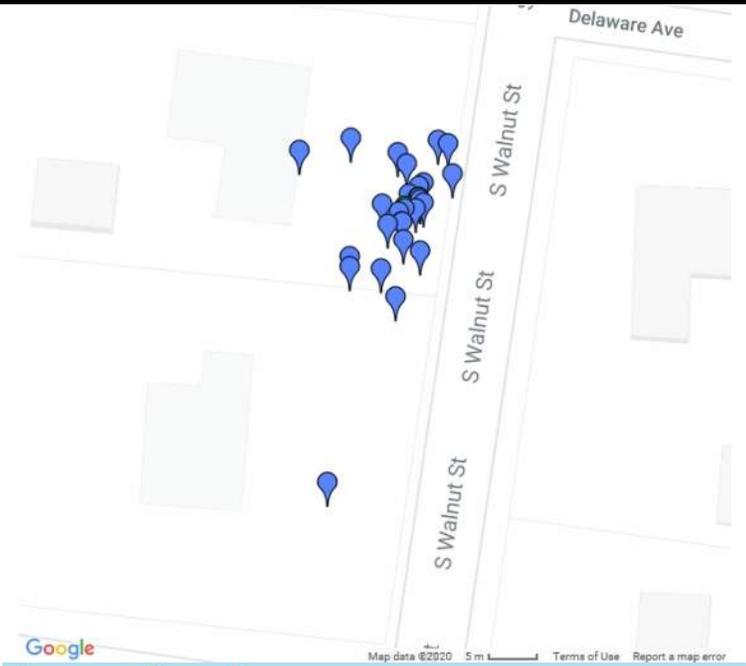
31

SPEED DATA ANALYSIS

Location



Latitude: 38.902745
Longitude: -75.430001



Analysis Time Period



Start	End
1/15/2020	1/22/2020
1:20 PM	7:31 AM

Vehicles Analyzed



18,363

Average Speed



27

85th Percentile Speed



31

10 MPH Pace Speed



23-32

Site Code: 000000002165
Station ID:
Location 1:
Location 2:
Location 3:
Location 4:

Comment 1:
Comment 2:
Comment 3:
Comment 4:
Latitude: 38.902733
Longitude: -75.429865

Combined Lanes 9/10/2022 to 9/20/2022

Pace Speed - MPH

Classes Excluded From Pace: None

Speed	Number	Percent
22 - 31	27,987	80.91769%

Percentile Speeds

Percentile	50th	85th
Speed - MPH	26.4	30.6

Vehicles Traveling Greater Than 50.0 MPH

Total Volume	34,587
Total Greater Than 50.0	44
Percent Greater Than 50.0	0.1%

Mean, Median, and Mode Averages

Mean:	26.8
Median (50th %):	26.4
Mode:	24.7

Classification Statistics

Unclassified	Motorcycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi
119	207	27342	4871	269	1465	93	3	163	53	2	0	0	0
0.3%	0.6%	79.1%	14.1%	0.8%	4.2%	0.3%	0.0%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%

Site Code: 000000002165
Station ID:
Location 1:
Location 2:
Location 3:
Location 4:

Comment 1:
Comment 2:
Comment 3:
Comment 4:
Latitude: 38.902733
Longitude: -75.429865

North, Lane 1 9/10/2022 to 9/20/2022

Pace Speed - MPH

Classes Excluded From Pace: None

Speed	Number	Percent
23 - 32	13,341	79.80499%

Percentile Speeds

Percentile	50th	85th
Speed - MPH	26.9	31.1

Vehicles Traveling Greater Than 50.0 MPH

Total Volume	16,717
Total Greater Than 50.0	35
Percent Greater Than 50.0	0.2%

Mean, Median, and Mode Averages

Mean:	27.2
Median (50th %):	26.9
Mode:	26.0

Classification Statistics

Unclassified	Motorcycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi
67	94	13149	2369	140	734	44	0	88	30	2	0	0	0
0.4%	0.6%	78.7%	14.2%	0.8%	4.4%	0.3%	0.0%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%

Site Code: 000000002165
 Station ID:
 Location 1:
 Location 2:
 Location 3:
 Location 4:

Comment 1:
 Comment 2:
 Comment 3:
 Comment 4:
 Latitude: 38.902733
 Longitude: -75.429865

South, Lane 2 9/10/2022 to 9/20/2022

Pace Speed - MPH

Classes Excluded From Pace: None

Speed	Number	Percent
22 - 31	14,662	82.04813%

Percentile Speeds

Percentile	50th	85th
Speed - MPH	26	30.1

Vehicles Traveling Greater Than 50.0 MPH

Total Volume	17,870
Total Greater Than 50.0	9
Percent Greater Than 50.0	0.1%

Mean, Median, and Mode Averages

Mean:	26.3
Median (50th %):	26.0
Mode:	24.7

Classification Statistics

Unclassified	Motorcycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi
52	113	14193	2502	129	731	49	3	75	23	0	0	0	0
0.3%	0.6%	79.4%	14.0%	0.7%	4.1%	0.3%	0.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%

Century Engineering, Inc.
 550 Bay Road
 Dover, DE 19904

Site Code: 000000002165
 Latitude: 38.902745
 Longitude: -75.430001

Combined Lanes 1/15/2020 to 1/22/2020

Pace Speed - MPH

Classes Excluded From Pace: None

Speed	Number	Percent
23 - 32	15,006	82%

Percentile Speeds

Percentile	50th	85th
Speed - MPH	27.1	31.3

Mean, Median, and Mode Averages

Mean:	27.5
Median (50th %):	27.1
Mode:	27.1

Classification Statistics

Motorcycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Unclassified
36	13636	3322	220	888	42	3	64	36	0	0	0	0	121
0.2%	74.2%	18.1%	1.2%	4.8%	0.2%	0.0%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.7%

Century Engineering, Inc.
 550 Bay Road
 Dover, DE 19904

Site Code: 000000002165
 Latitude: 38.902745
 Longitude: -75.430001

South, Lane 1 1/15/2020 to 1/22/2020

Pace Speed - MPH

Classes Excluded From Pace: None

Speed	Number	Percent
24 - 33	7,379	81%

Percentile Speeds

Percentile	50th	85th
Speed - MPH	28	32.2

Mean, Median, and Mode Averages

Mean:	28.3
Median (50th %):	28.0
Mode:	26.4

Classification Statistics

Motorcycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Unclassified
18	6660	1757	125	457	19	0	37	16	0	0	0	0	53
0.2%	72.9%	19.2%	1.4%	5.0%	0.2%	0.0%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.6%

Century Engineering, Inc.
 550 Bay Road
 Dover, DE 19904

Site Code: 000000002165
 Latitude: 38.902745
 Longitude: -75.430001

North, Lane 2 1/15/2020 to 1/22/2020

Pace Speed - MPH

Classes Excluded From Pace: None

Speed	Number	Percent
22 - 31	7,736	84%

Percentile Speeds

Percentile	50th	85th
Speed - MPH	26.4	30.2

Mean, Median, and Mode Averages

Mean:	26.7
Median (50th %):	26.4
Mode:	26.0

Classification Statistics

Motorcycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Unclassified
18	6976	1565	95	431	23	3	27	20	0	0	0	0	68
0.2%	75.6%	17.0%	1.0%	4.7%	0.2%	0.0%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.7%

Milford: South Walnut Street Traffic Calming and Bike/Pedestrian Improvement Project

Appendix B: Public Workshop Summaries

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project



A community workshop was organized for the South Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project on December 15, 2022. The workshop was held at Milford's City Hall from 6:00-8:00 pm. Area residents were invited to attend. The workshop was advertised through the City of Milford and the Dover/Kent MPO. Twenty-six community members attended the meeting and numerous others reviewed the information online that was posted shortly after the workshop.

Century Engineering presented numerous boards with information including study area, Project Goals, Traffic Calming Study Results, crash data, speed study evaluation, comparison of both options and two concept plan options to alleviate speeding. Feedback was gathered from attendees through conversations with Century Engineering personnel, questionnaires, and a comment box.

Workshop boards can be found at the end of this workshop summary report. After the workshop the workshop boards were posted on the City of Milford's website so that community members who did not attend the meeting could review the materials and offer feedback. This option was successful in providing additional community feedback for the project.

Comments

Over 25 comments were received regarding the information presented.

Community members overall expressed an interest in the project and were in favor of the changes for different reasons. Different elements of the project goals were appealing to them and they were engaged to learn more about the project.

Community members were asked for feedback on which option they preferred and which elements of any of the options they liked best. Option 2 received 12 votes for preferred option. There were no votes for Option 1 and some community members did not like either option.

Positive feedback for favored items out of either option included Option 2 maintained some parking and the bump outs could be landscaped and treated as chicanes. Community members liked the added crosswalks as well as the updated intersection configurations at Seabury Avenue/W. Clarke Avenue and at the Railroad Crossing. Numerous community members commented on the preference for the grass buffer so that walking and cycling on the new shared use path would feel safer and provided some distance to the traffic.

The community expressed mixed feelings about the narrowing of the road as many residents have been victim to sideswipe accidents. There is already concern about parking on the street with the existing wider widths.

Numerous community members expressed additional requests to be added to the existing options and/or in place of the existing options. The comment provided by most was to add stop signs along this corridor. The most requested locations were at S. Walnut and McCoy as well as at Seabury and Kings Highway. Many requested these stop signs with Option 2 to complete the enhancements, while others requested that only the stop signs be added without any of the enhancements of either Option. According to the comments received, this stretch of the corridor is along a 2.9-mile corridor with no stops signs or traffic

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project



signals. Other suggestions included landscaping the parking chicanes for beautification, enhancing our suggestion for crosswalks with raised crosswalks and raised intersections to further reduce speeds, preparing the enhancements to save trees, include improvements to reduce or remove truck traffic from the corridor, and providing historically sensitive alternatives through the historic district. Comments suggested that raised crosswalks or intersections would be welcomed at Seabury Avenue and S. Maple Streets. Suggestions also included greater police presence, speed limit signage and speed cameras to further enforce the speed limit.

Overall, the community was in favor of moving the utility poles to assist in providing room for the enhancements but requested that the project go a step further and underground the utility poles rather than moving them.

Mixed reviews were also received from the community members in reference to the shared use path. Avid bicyclists who attended the meeting mentioned that they will not use the shared use path. They will continue to use the roadway, which if narrowed makes the cycling conditions worse not better for them. Other comments praised the shared use path because it would provide a walking and cycling path for all users, especially families with young children. One comment explained that with a new middle school opening there will be a need for safer walking and cycling routes to the school.

At least three residents along the corridor expressed concerns about a new shared use path fronting their property. They do not want to encourage pedestrian or bicycle traffic in front of their property, and they do not want to lose the grass lawn between their house and the roadway. Tree removal was also a concern, but it was explained that the shared use path can be designed to avoid many if not most trees. There was also a request to reduce or completely remove any grass buffer between the path and the street so that the pedestrians would be as far from the houses as possible.

Numerous comments also requested a review of existing truck traffic, truck speeds, and an overall suspected increase in truck volumes. According to the comments, which was attributed to recent development, truck signs were removed from Wilbur Street resulting in trucks traveling from Wilbur Street across S. Walnut Street to McCoy Road. Trucks also turn right from Seabury Avenue to S. Walnut Street and have issues negotiating the corner radius. Suggestions for truck traffic included:

1. *For trucks coming from the south on #113, to turn at the Lincoln light and take Marshall ext. to McCoy and enter the South industrial area from there or continue to Wilkins to connect to Route #1.*
2. *For trucks coming from north #113, take Business Route 1 to Wilkins Rd and then turn onto Elks Rd to enter the south industrial area (Lumber 84). Or, those accessing the industrial area off Airport Rd., to use #113 only to access that road.*
3. *For trucks coming in from North or South on Route 1, turn off at the Bayhealth overpass and enter south Milford from Wilkins and Elks Road. Or, to get to #113, use Business Route 1 and cross over to #113 at 10th street, therefore, keeping trucks from our tiny downtown area.*
4. *For trucks coming from Route 36, turn onto Fitzgeralds Road and go through Lincoln and drive north on Marshall Ext. or continue to Wilkins to access Route #1.*

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project



5. *Trucks servicing the local restaurants, while somewhat inconvenient, enter from the nearest highway and leave the same way.*

Questionnaire Responses

Comment forms were prepared to ask specific questions about each option while also requesting feedback from the community on the overall presentation. The results are below:

1. Are there specific elements of either option that you like?

- Option 2: Looks nicer and keeps not only some parking but has a barrier between cars! Safety is higher
- Bike path with grass strip between roadway and bike path
- Crosswalks & fixes at Clark/Seabury/Walnut look great
- Chicanes
- Make bump outs in option 2 chicanes
- Green grassy area barrier between the street and the pedestrian bike area
- Narrowing the roadway will slow traffic
- Traffic Calming for S. Walnut
- Alignment at Jefferson
- Addition of bike path
- Chicanes

2. Are there specific elements of either option that concern you?

- Option 2: Cost of moving existing electrical poles
- Option 2: Demographics of the community don't match those using multi use paths on city streets
- Option 2: Lack of stop signs
- There is only a curb between proposed pedestrian/bike lane & vehicle lanes
- No serious traffic calming measures
- Only a curb between proposed pedestrian/bike lane & vehicle lanes; there should be railing or fencing
- No stop signs at pedestrian crosswalks
- Narrowing roads will cause more traffic accidents
- How will fire vehicles get through the streets?
- Consider underground power instead of electric poles
- Don't cut down trees! Replace what you cut
- Option 2: Move poles or bury lines
- Seabury and Clark intersection- too many possibilities for accidents; one of the roads should be dead end
- Loss of existing trees

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project



- Narrowing roadway might cause more side swipe and property damage
- Don't want a sidewalk right outside my front door
- Don't remove trees
- Bury electric lines instead of moving poles
- Both options do little to improve safety; they're a very expensive fix to a simple problem; just reduce speed
- Shared use path totally out of character within historic district

3. Are there any other elements, such as lighting or additional traffic calming measures, you would like considered?

- Add stop signs; they worked on Seabury
- Speed cameras, stop signs, raised crosswalks
- Stop signs and speed bumps
- Lighting could be improved
- Making pedestrian crossings raised bumps in addition to paint
- Lighting for pedestrians at night
- Chicanes for sure
- Brighter lighting
- More stop signs
- Speed camera
- Use stop signs like on Seabury
- Bury lines instead of moving electric poles
- Stop signs at McCoy and on S. Walnut & King's Highway
- Stop signs or speed cameras
- Speed limit signage, stop signs
- The intersection of Walnut/Clarke/Seabury needs to be an all way stop

4. Please let us know which option you prefer and why.

- Option 2 seemed to be the more popular choice
- Option 2: Looks nicer and keeps not only some parking but has a barrier between cars! Safety is higher
- Option 2: Optically pleasing, safer
- Option 2: Would require utility lines to be buried which is good
- Option 2: For beautification of the city
- Option 2: For beautification of the city; with option to put shrubbery inside chicanes
- Option 2: The narrow road will make drivers have to navigate it at slower speed
- Option 2: The barrier between shared space and traffic
- Option 2: The curves
- Neither! Option 3: 3 stop signs: 1. McCoy, 2. Seabury, 3. King's Highway

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project



- Option 2: More pleasing
- Neither if my front yard will be eliminated with a sidewalk
- Option 2
- None: The options will take 1/3 of my front lawn and do little to reduce speed, instead, use signage and police presence
- Option 2: segregate bike path and protected parking
- Option 2: More aesthetic and beautiful
- Option 2: Keeps some parking; looks nice
- Option 2: Better for bike riding

Workshop Boards

Welcome to the

S. Walnut Street Traffic Calming &
Bike/Pedestrian Improvement Project

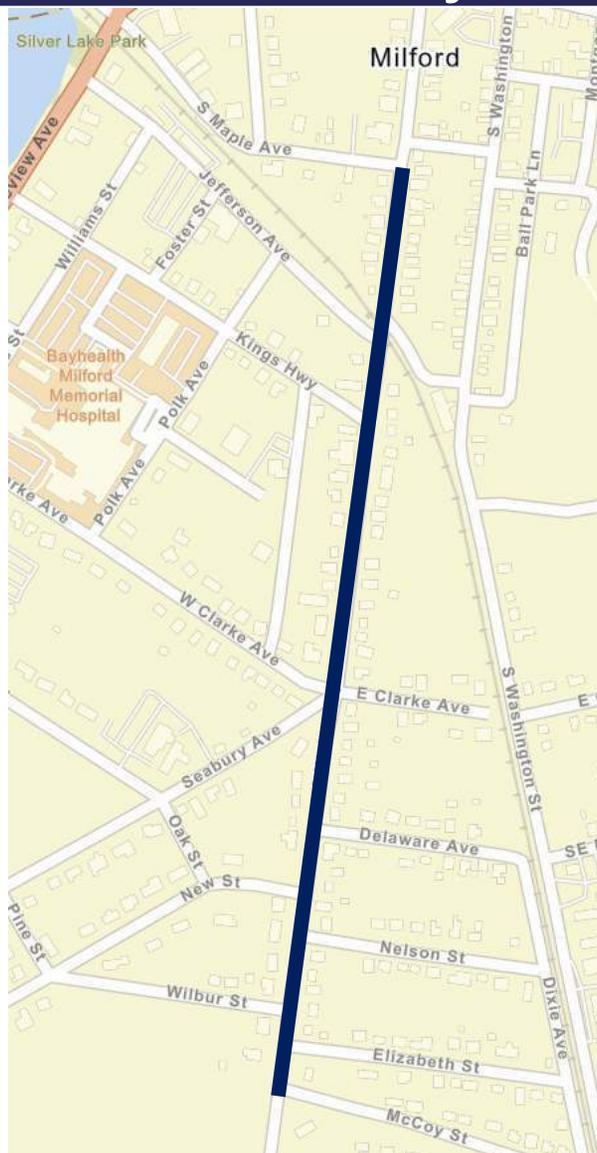
Public Workshop

December 15, 2022

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project

Study Area

S. Walnut Street
between McCoy Street
and S. Maple Avenue



S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project

Project Goals

- Improve bicycle and pedestrian connectivity along S. Walnut St
 - New shared use path
 - Complete gaps in existing sidewalks
- Reduce traffic speeds and provide traffic calming
- Improve pedestrian crossing at Seabury Avenue and W. Clarke Ave
- Improve S. Walnut Street intersection configuration with Railroad

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project

Traffic Calming Study

- Current posted speed: 25 mph
- Analyzed speed data from September 11, 2022 through September 19, 2022
 - Average speed: 27 mph
 - 85th percentile speed: 31 mph
- 62.6% of all recorded vehicles were traveling at speeds greater than the posted speed limit
- Half of all crashes occurred at two main intersections:
 - S. Walnut Street and McCoy Street
 - S. Walnut Street and Seabury Avenue/Clarke Avenue

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project

Crash Data



S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project

Speed Study Evaluation

Milford S. Walnut Street Speed and Safety Evaluation							
	Type	Name	Potential Effectiveness for Speed Reduction (FHWA PSCI)	Potential for Crash Reduction (-) /Increase (+) (FHWA PSCI)	Potential Crash Reduction (-) /Increase (+) (HSM)	Considered? Why/why not?	Rank
Road Segment Treatment							
1	Vertical	Speed Humps	-6 mph	-40% to -48% (All Severities, All Crashes)	1. Treated Road = -40% (Injury Crashes, All Crash Types) 2. Adjacent Roads = -5% (Injury Crashes, All Crash Types)	No, speed humps are not preferred due to issues with emergency vehicles etc.	1
2	Vertical	Speed Table	-4 mph	-36% to -64% (All Severities, All Crashes)		No, speeds tables are not preferred due to issues with emergency vehicles etc.	2
Intersections Treatment							
3	Horizontal	Modern Roundabouts	-4 mph to -8 mph		-78% (All Severities, All Crash Types)	No, due to right of way constraints	1
4	Horizontal	Realigned Intersections				Yes, intersection improvements at S. Walnut/Seabury and S. Walnut and the R/R were recommended to assist in improving driver clarity	2
Road Segment Treatment							
5	Horizontal	Chicanes	-9 mph			No, roadway width that could be utilized for chicanes was utilized to add the shared use path	1
6	Horizontal	Lateral Shifts	Less than Chicanes			Yes, S. Walnut Street is recommended for a lateral shift between Delaware Ave and Clarke Ave	2
Road Segment Treatment: Road Width Reduction							
7	Width Reduction	Median Islands (Raised)	-3 mph	-39% (All Crashes) -44% (Fatal and Injury Crashes)	-39% (Injury Crashes, All Crash Types)	No, roadway width was narrowed to fit a new shared use path leaving no additional space for a median island	1
8	Width Reduction	Striping/Lane Markings	Reduction possible	Potential for less severe crash types	Potential for less severe crash types	Yes, lane widths were narrowed to 11' and shoulders/parking areas were reduced or eliminated	
Road Segment Treatment: Dynamic Signing							
9	Dynamic Signing	Radar Speed Signs	-2 mph to -5 mph		-46% (All Severities, All Crashes)	Potentially, coordinating with City of Milford	1

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project

Comparison of Option 1 and Option 2

Bicycle Infrastructure Improvements	Adds a shared use path on southbound side of S. Walnut Street	Adds a shared use path on southbound side of S. Walnut Street
Pedestrian Infrastructure Improvements	In addition to a shared use path on southbound side of S. Walnut Street; this project completes missing sidewalk gaps on the northbound side of S. Walnut Street	In addition to a shared use path on southbound side of S. Walnut Street; this project completes missing sidewalk gaps on the northbound side of S. Walnut Street
Right of Way Impacts	Minimal to none	May require temporary construction easements and permanent easements
Parking Impacts	Removes all existing parking along S. Walnut Street	Reduces overall number of parking spaces along S. Walnut Street
Utility Impacts	No	Yes
Added Green Space	Areas where existing sidewalk is replaced with the shared use path will have some additional green space	A 3' grass buffer has been added through the project limits
Grass Buffer	No	Yes
Traffic Calming Measures	Yes: Realigned / Reconfigured Intersections, Lateral Shift of S. Walnut Street, Lane Width Reduction, and Striping / Lane Markings	Yes: Realigned / Reconfigured Intersections, Lateral Shift of S. Walnut Street, Lane Width Reduction, and Striping / Lane Markings

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project

Thank you for attending our workshop.
For future information please contact:

Rob Pierce, Planning Director

City of Milford

rpierce@milford-de.gov

<http://cityofmilford.com>

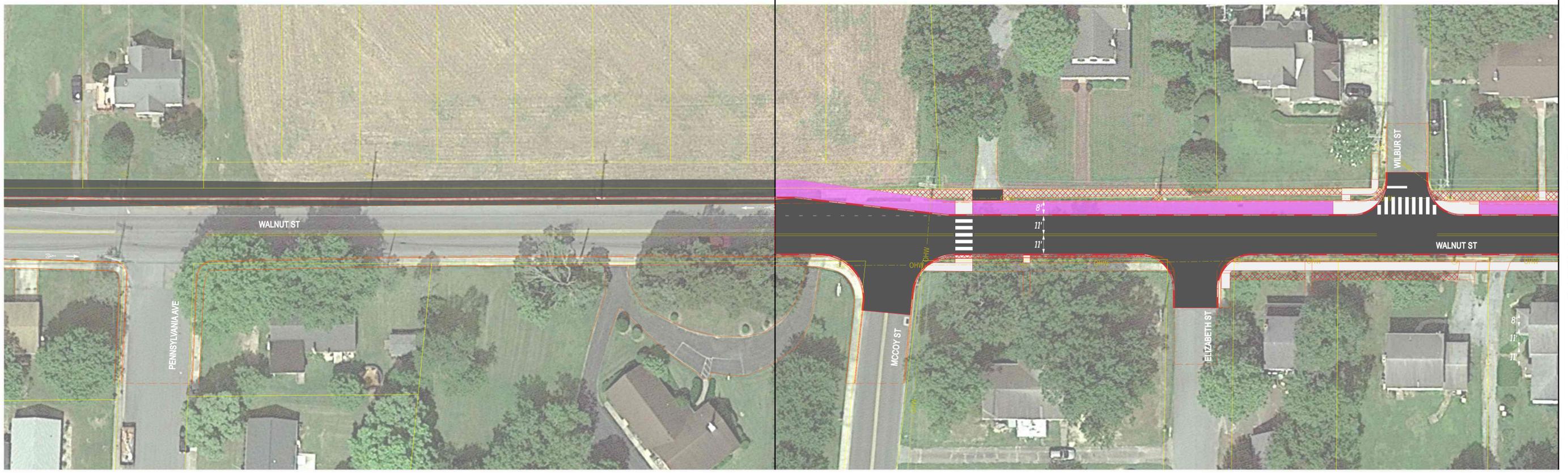
Sonia Marichic-Goudy

Century Engineering

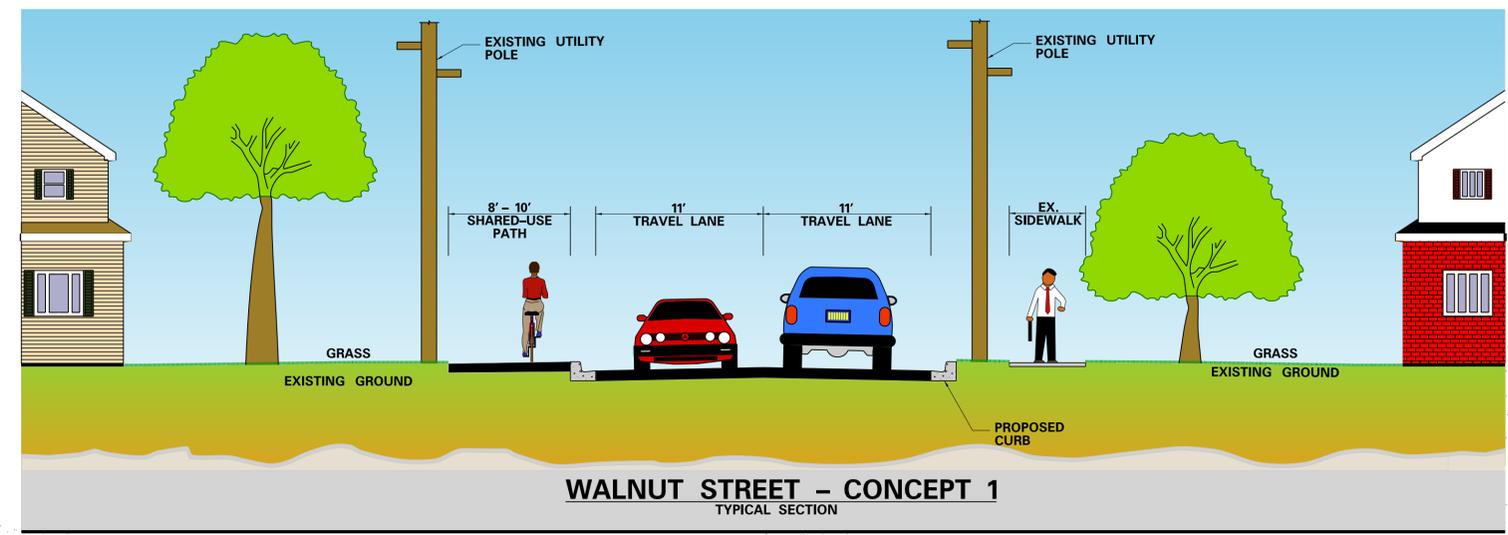
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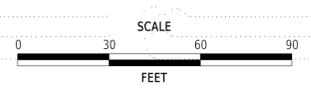
← SIMPSONS CROSSING CONCEPT 1 →



MATCHLINE SHEET 2

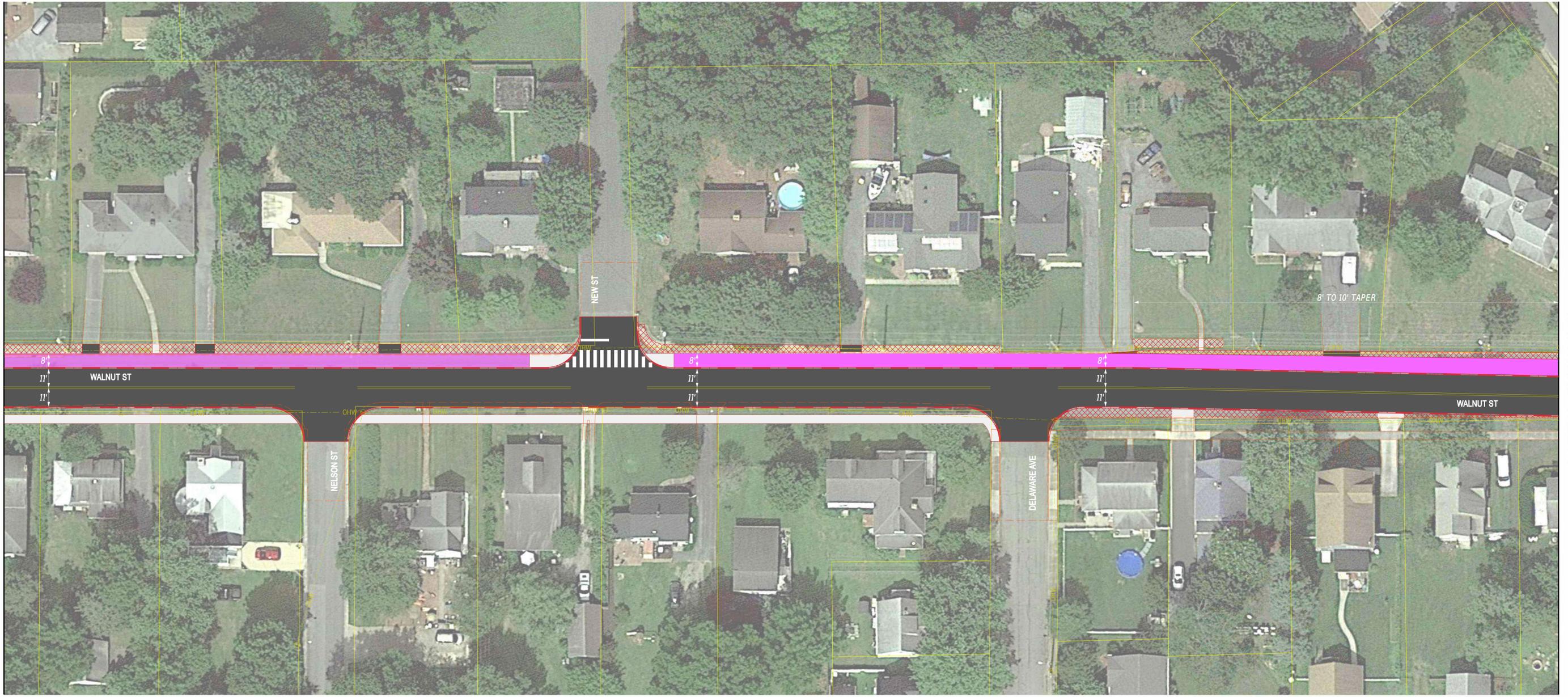


LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULT-USE PATH
	PROPOSED MULT-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS



WALNUT STREET
MILFORD, DE
CONCEPT PLAN

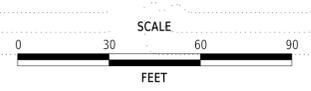
Option 1



MATCHLINE SHEET 1

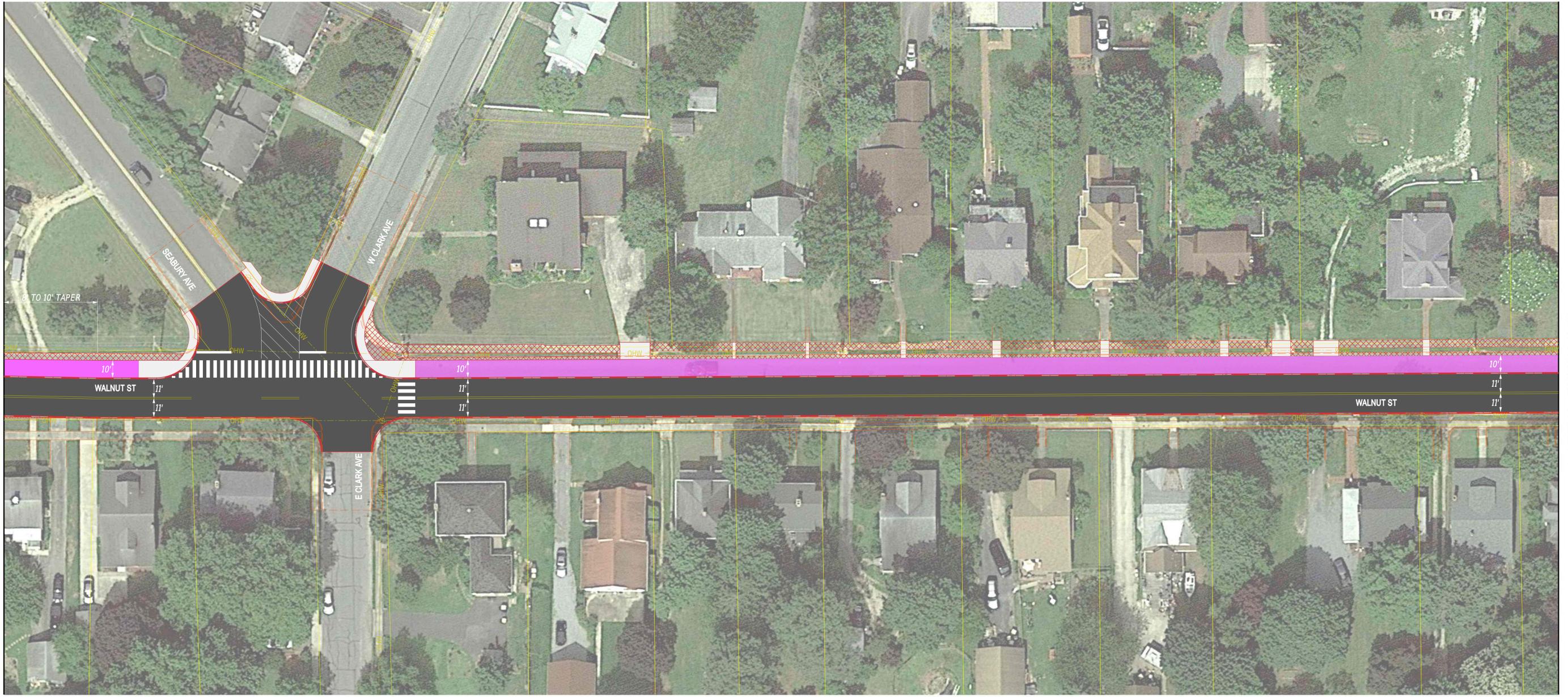
MATCHLINE SHEET 3

LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULT-USE PATH
	PROPOSED MULT-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS



WALNUT STREET
MILFORD, DE
CONCEPT PLAN

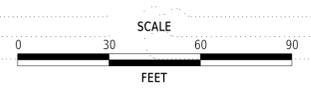
Option 1



MATCHLINE SHEET 2

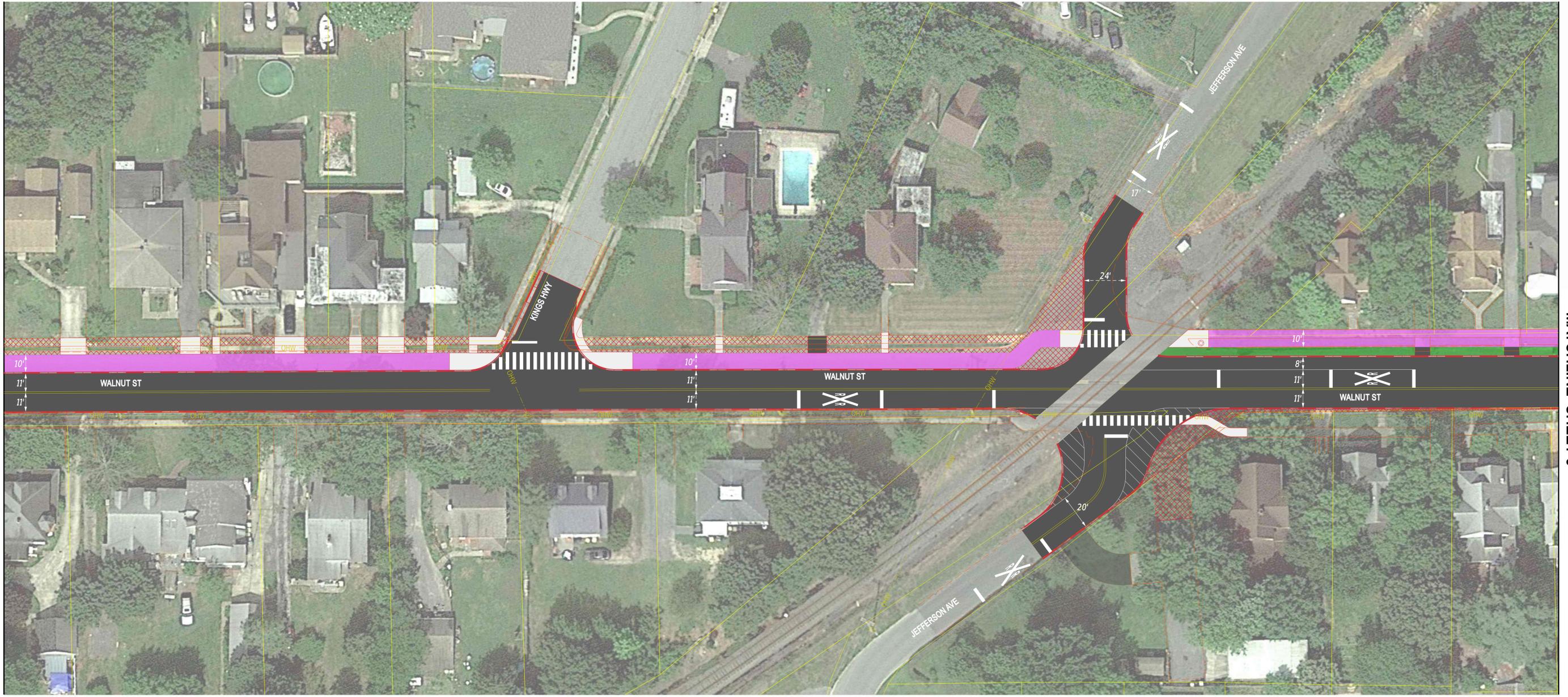
MATCHLINE SHEET 4

LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULTI-USE PATH
	PROPOSED MULTI-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS



WALNUT STREET
MILFORD, DE
CONCEPT PLAN

Option 1

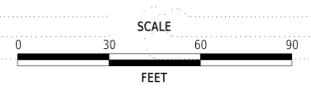


MATCHLINE SHEET 3

MATCHLINE SHEET 5

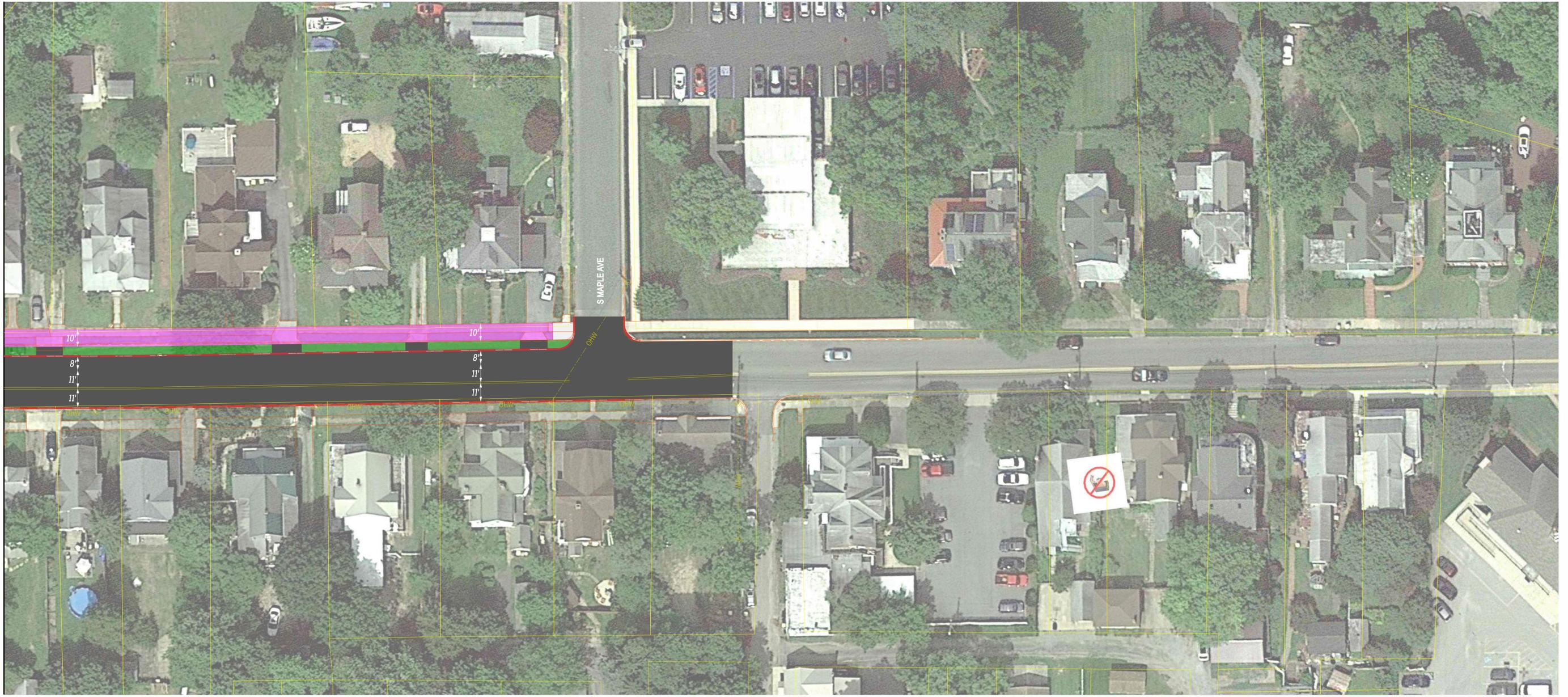


LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULT-USE PATH
	PROPOSED MULT-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS



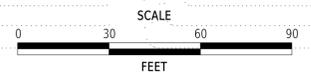
WALNUT STREET
MILFORD, DE
CONCEPT PLAN

Option 1



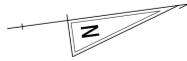
MATCHLINE SHEET 4

LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULTI-USE PATH
	PROPOSED MULTI-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS



WALNUT STREET
MILFORD, DE
CONCEPT PLAN

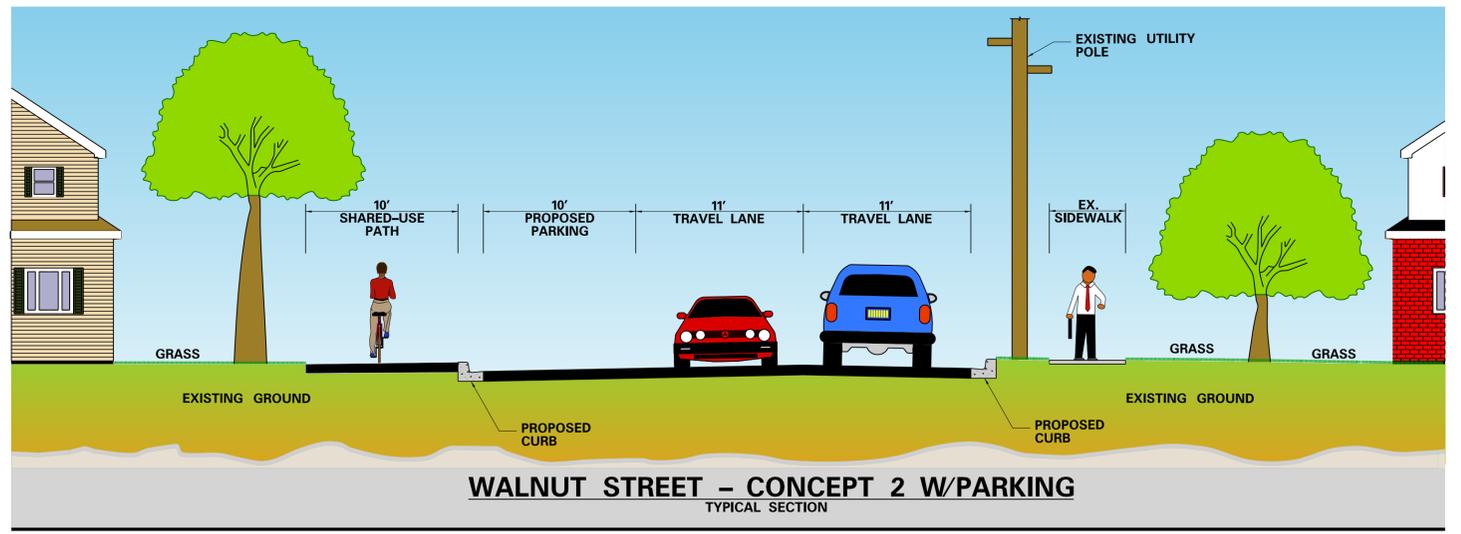
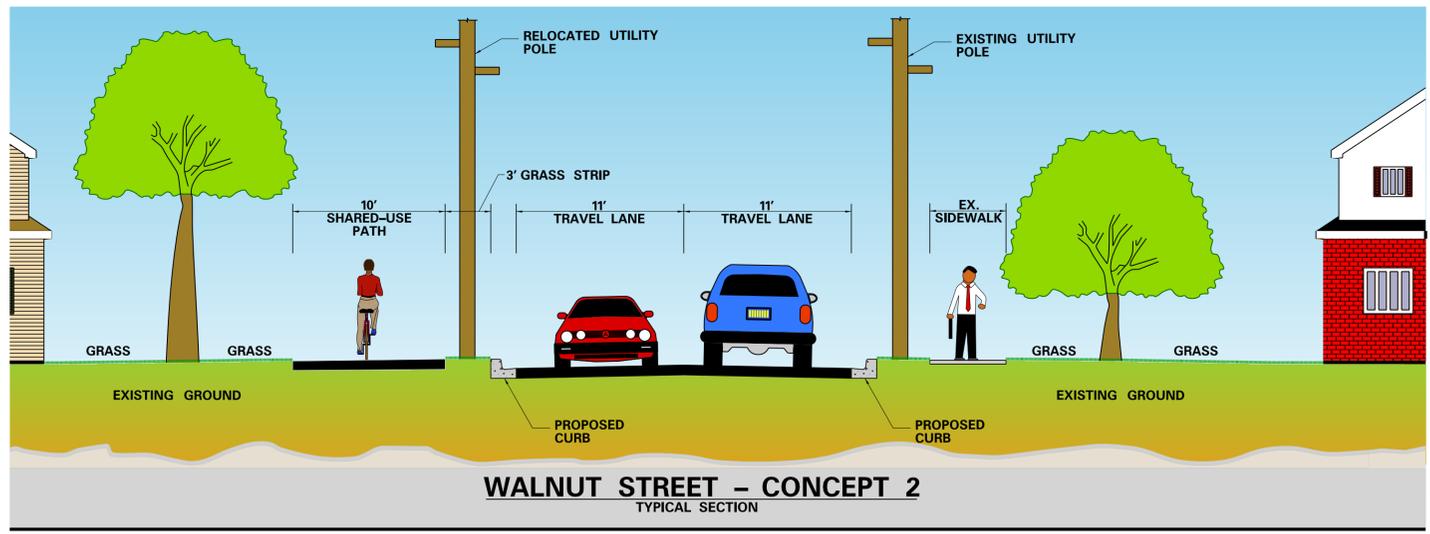
Option 1



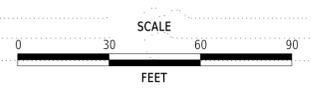
← SIMPSONS CROSSING CONCEPT 2 →



MATCHLINE SHEET 2

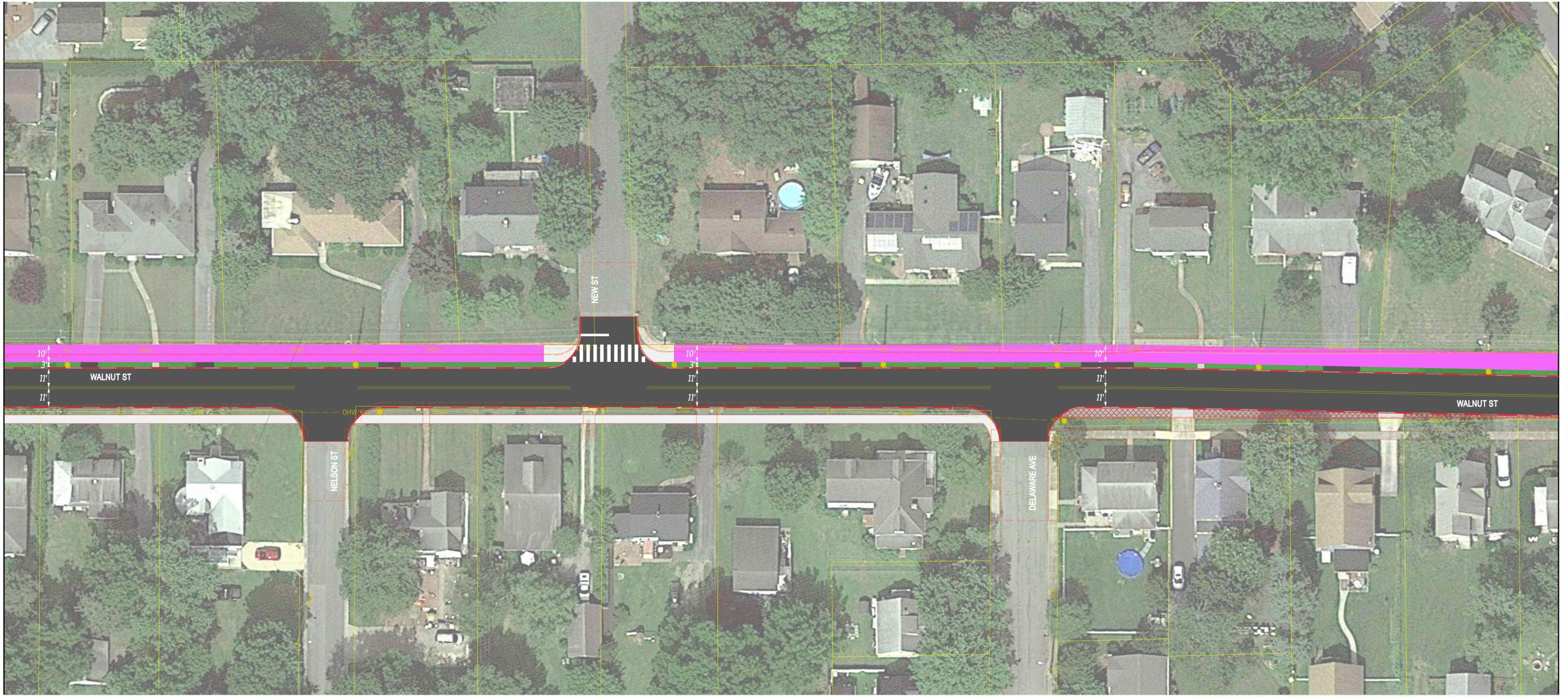


LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULT-USE PATH
	PROPOSED MULT-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS



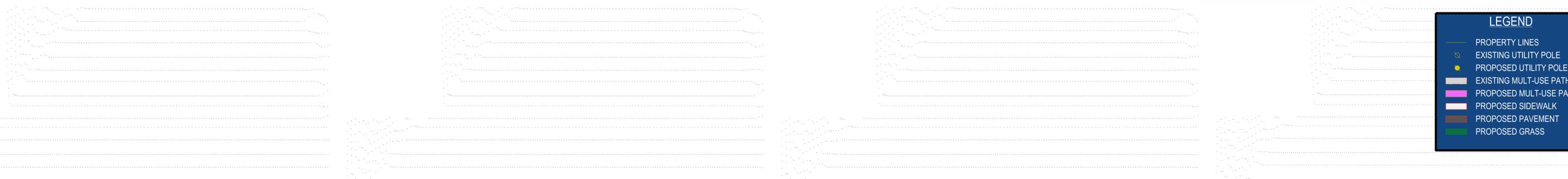
WALNUT STREET
MILFORD, DE
CONCEPT PLAN

Option 2

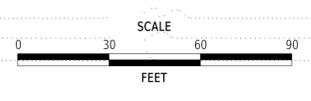


MATCHLINE SHEET 1

MATCHLINE SHEET 3

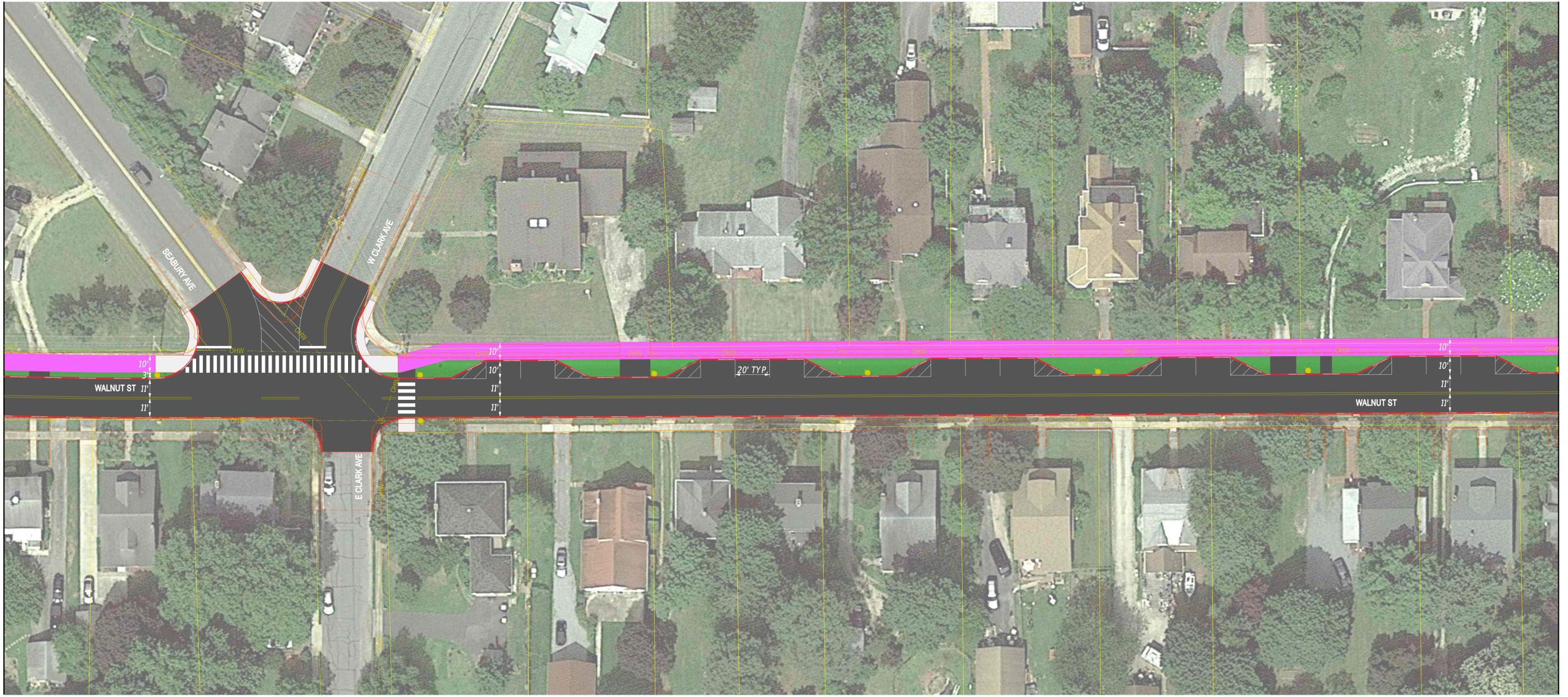


LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULT-USE PATH
	PROPOSED MULT-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS



WALNUT STREET
MILFORD, DE
CONCEPT PLAN

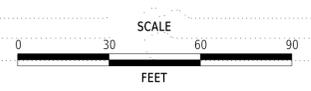
Option 2



MATCHLINE SHEET 2

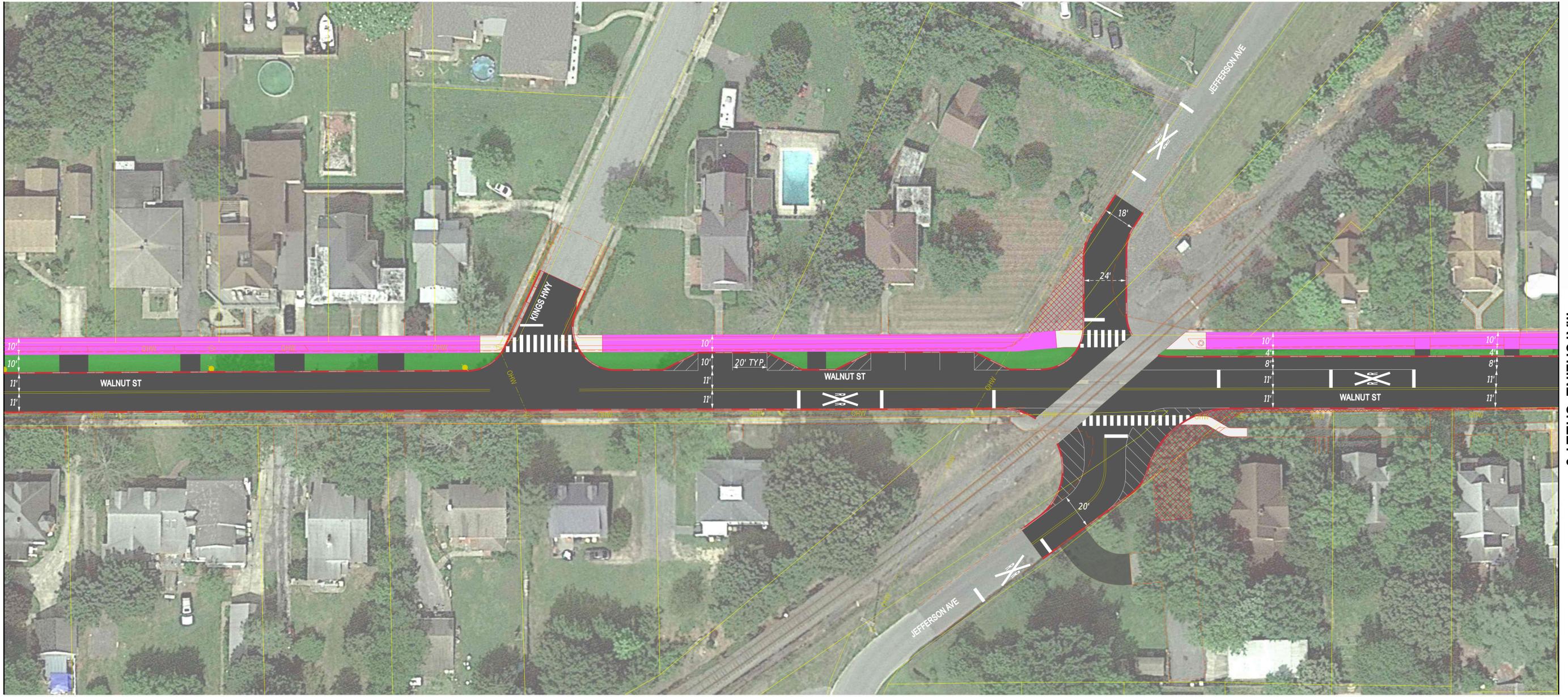
MATCHLINE SHEET 4

LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULT-USE PATH
	PROPOSED MULT-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS



WALNUT STREET
MILFORD, DE
CONCEPT PLAN

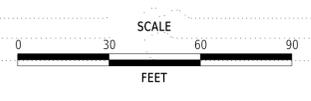
Option 2



MATCHLINE SHEET 3

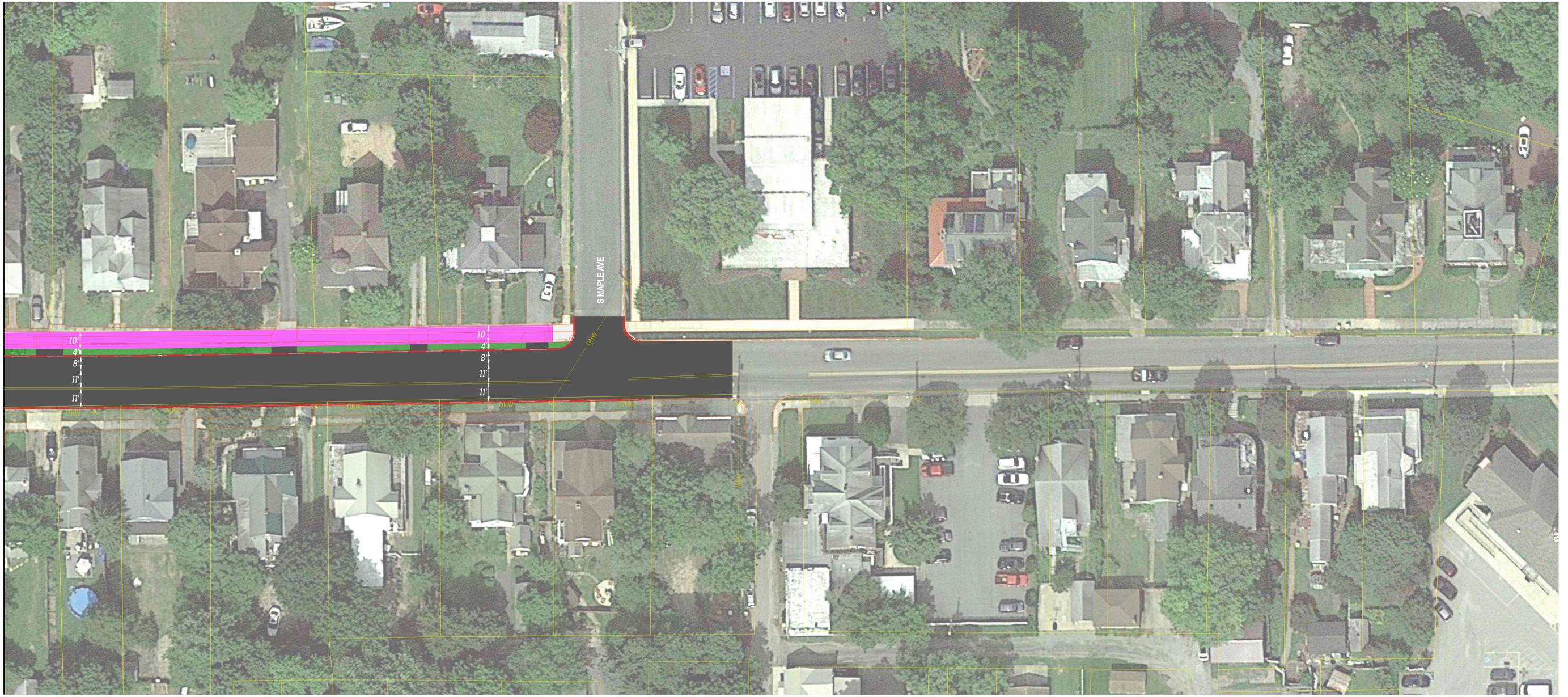
MATCHLINE SHEET 5

LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULT-USE PATH
	PROPOSED MULT-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS



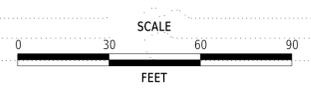
WALNUT STREET
MILFORD, DE
CONCEPT PLAN

Option 2



MATCHLINE SHEET 4

LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULTI-USE PATH
	PROPOSED MULTI-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS



WALNUT STREET
MILFORD, DE
CONCEPT PLAN

Option 2



Scale: 1" = 120'
(40"x30")

December 2022

LEGEND

- PROPERTY LINES
- EXISTING MULTI-USE PATH / PAVEMENT
- PROPOSED SIDEWALK
- PROPOSED MULTI-USE PATH / PAVEMENT
- PROPOSED GRASS
- CONCEPT MULTI-USE PATH
- CONCEPT SIDEWALK
- CONCEPT PAVEMENT



Sign in Sheets

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
Community Workshop
December 15, 2022



1	Name Christine Reed	Address 607 S. Walnut St.	Phone 302-542-2205
	Organization Resident of S. Walnut	Email Address chriswilis@aol.com	
2	Name Michael Hahn	Address 800 Bay Rd. PO Box 778	Phone 302-760-2131
	Organization DelDOT	Email Address michael.g.hahn@delaware.gov	
3	Name Maurice David	Address 8 So. Walnut St.	Phone 302-388-0246
	Organization Residents	Email Address	
4	Name Ann Dragon-Francis	Address 305 S. Walnut St	Phone 201-317-0756
	Organization Resident	Email Address	
5	Name Nadia Zychal	Address 303 S. Walnut St.	Phone (609) 314-7274
	Organization resident	Email Address nadiazychal@aol.com	
6	Name KEVIN MULLERY	Address 401 S. WALNUT ST	Phone 904-434-1493
	Organization RESIDENT	Email Address	
7	Name Sonya LaGrand	Address DelDOT	Phone 302-655-4097
	Organization	Email Address	

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
Community Workshop
December 15, 2022



8	Name Scott Nagy	Address 2 W Clarke Ave Milford	Phone 561 445-9880
	Organization resident	Email Address Snagy32@comcast.net	
9	Name Jan Broulik	Address 2 CAUSEY AVE MILFORD	Phone 301-996-8910
	Organization resident	Email Address janb@causeymansion.com	
10	Name Kerri & Holly Fry	Address 501 S. Walnut St. Milford DE	Phone 302-245-4437
	Organization resident	Email Address	
11	Name Todd Clobetter	Address 201 S WALNUT ST	Phone 703-593-2623
	Organization Council	Email Address	
12	Name Jon Orman	Address 607 S. WALNUT ST.	Phone 302 430-4468
	Organization RESIDENT	Email Address ormanjon@zol.com	
13	Name Jon Olszyk	Address 429 S Walnut	Phone 757 642 1387
	Organization Resident	Email Address jon.olszyk@gmail	
14	Name Jared Klemsmith	Address 17137 Windward Blvd Unit 302 Milford DE	Phone 610 295 3548
	Organization Resident	Email Address	

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
Community Workshop
December 15, 2022



22	Name <i>Toshi Reynolds</i>	Address <i>118 N.E. 2nd St, Milford, DE 19963</i>	Phone <i>(302)423-4972</i>
	Organization <i>Resident</i>	Email Address	
23	Name <i>Marilyn J. Smith</i>	Address	Phone
	Organization <i>Dover Kent MPO</i>	Email Address	
24	Name	Address	Phone
	Organization	Email Address	
25	Name	Address	Phone
	Organization	Email Address	
26	Name	Address	Phone
	Organization	Email Address	
27	Name	Address	Phone
	Organization	Email Address	
28	Name	Address	Phone
	Organization	Email Address	

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
Community Workshop
December 15, 2022



15	Name F.B. Clendaniel	Address 302 S. Walnut St.	Phone 302-270-4611
	Organization resident	Email Address brooke@clendaniel.com	
16	Name Dave Mdy	Address 300 S. Walnut	Phone 302-414-7674
	Organization resident	Email Address	
17	Name Nina Fletcher	Address 428 S Walnut St.	Phone 302 3576129
	Organization resident	Email Address ninafletcher@qmail.com	
18	Name Sue Linde	Address 5582 Williamsville Rd	Phone 302-242-0407
	Organization resident	Email Address	
19	Name Tim Linde	Address " "	Phone " "
	Organization resident	Email Address	
20	Name Steve Venett	Address 509 S Walnut St.	Phone 302 740 2556
	Organization resident	Email Address	
21	Name Pamela James + Jason	Address 1 James Drive - Milford DE	Phone 302-222-3078
	Organization Resident	Email Address	

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project

Community Workshop

December 15, 2022



64	Name <i>Christine Reed</i>	Address <i>607 S. WALNUT ST</i>	Phone <i>302-542-2205</i>
	Organization <i>RESIDENT OF WALNUT</i>	Email Address <i>chriswilis@aol.com</i>	
65	Name <i>Michael Hahn</i>	Address <i>800 BAY ROAD P.O. BOX 778</i>	Phone <i>302 760-2131</i>
	Organization <i>DeIDOT</i>	Email Address <i>Michael.C.Hahn@delaware.gov</i>	
66	Name	Address	Phone
	Organization	Email Address	
67	Name	Address	Phone
	Organization	Email Address	
68	Name	Address	Phone
	Organization	Email Address	
69	Name	Address	Phone
	Organization	Email Address	
70	Name	Address	Phone
	Organization	Email Address	

Community Feedback

Community Workshop for:
S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
December 15, 2022



Comments:

1. Are there specific elements of either option that you like?

- ~~The streets (age) don't meet demographics of those using bike lanes~~ ^{multi}
- Like Option 2 - keeps some parking, looks nice
- crosswalks & fixes at Clark/Seabury/Walnut look great

2. Are there specific elements of either option that concern you?

- Option 2 - cost when moving existing electrical poles
- The demographics of the community don't match those using ^{multi} use paths on ^{city} streets
- Lack of stop signs

3. Are there any other elements, such as lighting or additional traffic calming measures, you would like considered?

Stop signs! They worked on Seabury.

4. Please let us know overall which Option you prefer and why.

Option 2 - Looks nicer and keeps not only some parking but has a barrier between cars!! safety factor is higher

Optional: Please provide your information to stay informed about this project and upcoming information:

Name: Jon Olszyk

Organization: Resident

Address: 429 S Walnut

Email Address: jon.olszyk@gmail.com

- Please add my/our name(s) to the Project Mailing List.
- Please delete my/our name(s) from the Project Mailing List.

Your comments and opinions are very important. All information provided on this form will be carefully reviewed by the Project Team. Under state law, this form is public domain, and if requested, a copy of it must be provided to the media or public. Thank you for your participation and contributions to this important transportation project.

Please hand your comment sheets in at the workshop or mail/email prior to January 15, 2023 to:
 **Rob Pierce** | Planning Director
pierce@milford-de.gov | O: 302.424.8395 | F: 302.424.3559
 180 Vickers Dr. | Milford, DE 19963 | www.cityofmilford.com

Community Workshop for:
S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
December 15, 2022



Comments:

1. Are there specific elements of either option that you like?

Option 2 between W Clarke and the RR-Xing is my preferred choice, I like the segregated bike path and the protected parking

2. Are there specific elements of either option that concern you?

3. Are there any other elements, such as lighting or additional traffic calming measures, you would like considered?

The intersection of WALNUT/Clarke/Seabury need to be an all way stop

4. Please let us know overall which Option you prefer and why.

Option 2. It is more consistent for the length of S. Walnut I feel this would be the more aesthetic option of the two and would add to the beauty of S. Walnut

Optional: Please provide your information to stay informed about this project and upcoming information:

Name: Scott M. Nagy

Organization: _____

Address: 2 W Clarke Ave Milford DE 19963

Email Address: Snagy32@Comcast.net

Please add my/our name(s) to the Project Mailing List.

Please delete my/our name(s) from the Project Mailing List.

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Community Workshop for:
S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
December 15, 2022



Comments:

1. Are there specific elements of either option that you like?

Traffic calming in general for S. Walnut

2. Are there specific elements of either option that concern you?

DO NOT WANT A SIDEWALK RIGHT OUTSIDE MY FRONT DOOR!

3. Are there any other elements, such as lighting or additional traffic calming measures, you would like considered?

STOP SIGNS AT MCCOY ON S. WALNUT & KINGS HWY.

4. Please let us know overall which Option you prefer and why.

Neither if my front yard will be eliminated with a sidewalk.

Optional: Please provide your information to stay informed about this project and upcoming information:

Name: Christine Reed

Organization: Resident

Address: 607 S WALNUT ST

Email Address: chriswilis@aol.com

Please add my/our name(s) to the Project Mailing List.

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December 15, 2022



Comments:

1. Are there specific elements of either option that you like?

I like the alignment at Jefferson
I like addition of Bike path
I like idea of chicanes

2. Are there specific elements of either option that concern you?

Don't lose trees
Movement of Electric Poles. why not bury

3. Are there any other elements, such as lighting or additional traffic calming measures, you would like considered?

How about Stops Signs ^{or} speed cameras

4. Please let us know overall which Option you prefer and why.

Option 2

Optional: Please provide your information to stay informed about this project and upcoming information:

Name: Ann Dragon & Francis Malinowski

Organization:

Address: 305 S. Walnut St.

Email Address: dragon.ann.m@gmail.com

- Please add my/our name(s) to the Project Mailing List.
- Please delete my/our name(s) from the Project Mailing List.

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December 15, 2022



Comments:

1. Are there specific elements of either option that you like?

2. Are there specific elements of either option that concern you?

*BOTH OPTIONS DO LITTLE TO IMPROVE SAFETY
VERY EXPENSIVE FIX TO A SIMPLE PROBLEM.
REDUCE SPEED!!!!*

3. Are there any other elements, such as lighting or additional traffic calming measures, you would like considered?

SPEED LIMIT SIGNAGE, STOP SIGNS

4. Please let us know overall which Option you prefer and why.

*NONE - YOU ARE GOING TO TAKE 1/3 OF MY FRONT LAWN
SO THAT PEOPLE CAN CONTINUE TO SPEED BY MY HOME
DOING SIXTY IN A 25 MPH ZONE. PLACE SIGNAGE AND
POLICE PRESENCE SO PEOPLE WALKING & BICYCLING*

Optional: Please provide your information to stay informed about this project and upcoming information:

Name: *DON'T HAVE TO FALL VICTIM TO SPEEDERS IN THE FIRST PLACE.*

Organization: _____

Address: _____

Email Address: _____

- Please add my/our name(s) to the Project Mailing List.
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Community Workshop for:
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December 15, 2022



Comments:

1. Are there specific elements of either option that you like?

narrowing the roadway will go a long way toward slowing traffic -

2. Are there specific elements of either option that concern you?

- however - vehicles are already side swiped on a regular basis - will narrowing cause more opportunities for side swipe/property damage?

3. Are there any other elements, such as lighting or additional traffic calming measures, you would like considered?

stop signs were very effective in Seabury consider their use here on S. Walnut

4. Please let us know overall which Option you prefer and why.

both have merits - but would be improved with stop signs and by eliminating utility poles entirely. aesthetically option 2 is more pleasing

also - if moving utility poles consider eliminating them and burying the lines

Optional: Please provide your information to stay informed about this project and upcoming information:

Name: Nadia Zychal
Organization: home owner
Address: 303 S. Walnut St. Milford
Email Address: nadia.zychal@aol.com

- Please add my/our name(s) to the Project Mailing List.
- Please delete my/our name(s) from the Project Mailing List.

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Community Workshop for:
S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
December 15, 2022



Comments:

1. Are there specific elements of either option that you like?

NO

2. Are there specific elements of either option that concern you?

POSSIBLE LOSS OF EXISTING TREES

3. Are there any other elements, such as lighting or additional traffic calming measures, you would like considered?

SEE OPTIONAL SPEED CAMERA

4. Please let us know overall which Option you prefer and why.

NEITHER!

OPTION 3 - 3 STOP SIGNS

(1) McCoy (2) Seabury (3) King's Hwy

Optional: Please provide your information to stay informed about this project and upcoming information:

Name: JAN BROULIK

Organization: CAUSEY MANSION B O B (AT ONE TIME 200 S. WALNUT)

Address: 2 CAUSEY AVE

Email Address: INFO@CAUSEYMANSION.COM

- Please add my/our name(s) to the Project Mailing List.
- Please delete my/our name(s) from the Project Mailing List.

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Community Workshop for:
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December 15, 2022



Comments:

1. Are there specific elements of either option that you like?

I like the curves of Option 2

2. Are there specific elements of either option that concern you?

I still don't like the Seabury and Clark intersection
I feel there is too many possibilities for accidents
though I personally feel that one of those roads should be deadended

3. Are there any other elements, such as lighting or additional traffic calming measures, you would like considered?

4. Please let us know overall which Option you prefer and why.

I like both, but will choose 2 overall

Optional: Please provide your information to stay informed about this project and upcoming information:

Name: Jared Kleinsmith

Organization: _____

Address: _____

Email Address: _____

- Please add my/our name(s) to the Project Mailing List.
- Please delete my/our name(s) from the Project Mailing List.

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Community Workshop for:
S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
December 15, 2022



Comments:

1. Are there specific elements of either option that you like?

option 2 - barrier between shared space and traffic. Also - if poles have to be moved, we can bury the lines

2. Are there specific elements of either option that concern you?

option 1 - no protection of shared space

3. Are there any other elements, such as lighting or additional traffic calming measures, you would like considered?

no parking in option 2

4. Please let us know overall which Option you prefer and why.

option 2 - like the protective curb for the shared space

Optional: Please provide your information to stay informed about this project and upcoming information:

Name: Nina

Organization: _____

Address: 428 S Walnut St

Email Address: wnapletcher@gmail.com

- Please add my/our name(s) to the Project Mailing List.
- Please delete my/our name(s) from the Project Mailing List.

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Community Workshop for:
S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
December 15, 2022



Comments:

1. Are there specific elements of either option that you like?

I like the green grassy area barrier between the street and pedestrian/Bike area

2. Are there specific elements of either option that concern you?

If you move or remove electric poles maybe consider underground power. Do NOT CUT DOWN TREES! (replace what you cut)

3. Are there any other elements, such as lighting or additional traffic calming measures, you would like considered?

Keep up the Brighter lighting! The more the better

4. Please let us know overall which Option you prefer and why.

Option 2 - Five stars MORE STOP Signs

I like the narrow road - it makes drivers appear they have to navigate this at a slower speed

Optional: Please provide your information to stay informed about this project and upcoming information:

Name: M. Reed
Organization: Gallery 37
Address: 8 So. Walnut St.
Email Address: mreed@art@hol.com

- Please add my/our name(s) to the Project Mailing List.
- Please delete my/our name(s) from the Project Mailing List.

Your comments and opinions are very important. All information provided on this form will be carefully reviewed by the Project Team. Under state law, this form is public domain, and if requested, a copy of it must be provided to the media or public. Thank you for your participation and contributions to this important transportation project.

Please hand your comment sheets in at the workshop or mail/email prior to January 15, 2023 to:
Rob Pierce | Planning Director
pierce@milford-de.gov | O: 302.424.8395 | F: 302.424.3559
180 Vickers Dr. | Milford, DE 19963 | www.cityofmilford.com

Community Workshop for:
S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
December 15, 2022



Comments:

1. Are there specific elements of either option that you like?

Make the bump outs in option 2 as chicanes

2. Are there specific elements of either option that concern you?

Narrowing of the roads will cause more traffic accidents
How will fire vehicles get through the streets

3. Are there any other elements, such as lighting or additional traffic calming measures, you would like considered?

Chicanes for sure

4. Please let us know overall which Option you prefer and why.

Option 2 - for the beautification of the city
with the option to put shrubbery inside the chicanes

Optional: Please provide your information to stay informed about this project and upcoming information:

Name: Pamela James

Organization: Resident

Address: 1 James Drive Milford DE 19963

Email Address: p.james100@comcast.net

- Please add my/our name(s) to the Project Mailing List.
- Please delete my/our name(s) from the Project Mailing List.

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Community Workshop for:
S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
December 15, 2022



Comments:

1. Are there specific elements of either option that you like?

make the bump outs in option 2 as chicanes

2. Are there specific elements of either option that concern you?

3. Are there any other elements, such as lighting or additional traffic calming measures, you would like considered?

You will definitely need lighting for those who are biking and walking at night.

4. Please let us know overall which Option you prefer and why.

Option 2 - for the beautification for the city.

Optional: Please provide your information to stay informed about this project and upcoming information:

Name: Toshi Reynolds

Organization: Resident

Address: 118 N.E. 2ND St., Milford, DE 19963

Email Address: tr91781@aim.com

- Please add my/our name(s) to the Project Mailing List.
- Please delete my/our name(s) from the Project Mailing List.

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Community Workshop for:
S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
December 15, 2022



Comments:

1. Are there specific elements of either option that you like?

Option 2 would require pole utility lines to be buried which would be good.
However No I don't see any serious traffic calming measures. Why is only McCay to Maple being studied. What about at least Maple to Causey?

2. Are there specific elements of either option that concern you?

Yes, there is only a curb between proposed pedestrian/bike lane & vehicle lanes. There should be bollards, railing or fencing

3. Are there any other elements, such as lighting or additional traffic calming measures, you would like considered?

Why aren't any stop signs or speed bumps proposed? Have you considered making the pedestrian crossings raised bumps in addition to paint? I didn't see any stop signs at these points?
Also, lighting could be improved along some portions.

4. Please let us know overall which Option you prefer and why.

Also, the Concept Presentations should be accessible via an easy link on the City web site.

Optional: Please provide your information to stay informed about this project and upcoming information:

Name: Dave Mills

Organization: _____

Address: _____

Email Address: davidmills99@1@gmail.com

- Please add my/our name(s) to the Project Mailing List.
- Please delete my/our name(s) from the Project Mailing List.

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Community Workshop for:
S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
December 15, 2022



Comments:

1. Are there specific elements of either option that you like?

① CHICAWES ② BIKE PATH WITH GRASS STRIP
BETWEEN ROADWAY & BIKE PATH

2. Are there specific elements of either option that concern you?

3. Are there any other elements, such as lighting or additional traffic calming measures, you would like considered?

SPEED CAMERAS STOP SIGNS, RAISED CROSSWALKS

4. Please let us know overall which Option you prefer and why.

OPTION 2, OPTICALLY PLEASING, SAFER

Optional: Please provide your information to stay informed about this project and upcoming information:

Name: DAVID PICKRELL
Organization: GALLERY 37, NORTH POLE CREAMERY
Address: 8 S WALNUT ST
Email Address: DPICKRELLMD37@GMAIL.COM

- Please add my/our name(s) to the Project Mailing List.
- Please delete my/our name(s) from the Project Mailing List.

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Rob Pierce | Planning Director
rpierce@milford-de.gov | O: 302.424.8395 | F: 302.424.3559
180 Vickers Dr. | Milford, DE 19963 | www.cityofmilford.com



CITY OF MILFORD
S. WALNUT STREET – CONCEPT PLAN
COMMENT CARD

We would like to hear your thoughts, comments or concerns:

NAME	Holly Fry
ADDRESS	561 S. Walnut St. Milford, De.
PHONE #	302-535-4687
EMAIL	fryitup@comcast.net
COMMENTS:	Would be helpful to have more police presence in early mornings + later in evenings.

Thank you for your feedback! Additional comments can be emailed to Rob Pierce at rpierce@milford-de.gov.



CITY OF MILFORD
S. WALNUT STREET – CONCEPT PLAN
COMMENT CARD

We would like to hear your thoughts, comments or concerns:

NAME	Ann Dragon
ADDRESS	305 S. Walnut St.
PHONE #	201-317-0756
EMAIL	dragon.ann.m@gmail.com
COMMENTS:	Raised cross walks at S. Maple & Walnut & Clarke / Seabury / Walnut

Thank you for your feedback! Additional comments can be emailed to Rob Pierce at rpierce@milford-de.gov.



CITY OF MILFORD
S. WALNUT STREET – CONCEPT PLAN
COMMENT CARD

We would like to hear your thoughts, comments or concerns:

NAME	Christine M Reed
ADDRESS	607 S. WALNUT ST
PHONE #	302 542 2205
EMAIL	chriswilis@aol.com
COMMENTS:	S. WALNUT STREET HAS <u>NO</u> STOP SIGNS OR RED LIGHTS FROM JOHNSON ST IN LINCOLN TO THE RED LIGHT AT THE MUSEUM/CITY HALL ITS A STRETCH OF 2.9 MILES, BUT WILL BE LONGER WHEN THESE ARE REMOVED. SEABURY IS .8 MILES LONG AND RECENTLY GOT 2 4WAY STOPS

Thank you for your feedback! Additional comments can be emailed to Rob Pierce at rpierce@milford-de.gov.

2 STOP SIGNS ON WALNUT AT MCCOY WOULD SOLVE THIS PROBL!



CITY OF MILFORD
S. WALNUT STREET – CONCEPT PLAN
COMMENT CARD

We would like to hear your thoughts, comments or concerns:

NAME	Scott M. Nagy
ADDRESS	2 W Clarke Ave Milford, DE 19963
PHONE #	561-445-9880
EMAIL	Snagy32@Comcast.net
COMMENTS:	W/E Clarke/Seabury/S Walnut need to be an all-way Stop. A Stop sign needs to be added at the corner of Seabury + School pl. in front of St. Johns Church. Truck traffic needs to be restricted on Seabury. Large tractor-trailer trucks and other trucks cannot navigate the turn onto S Walnut without

Thank you for your feedback! Additional comments can be emailed to Rob Pierce at rpierce@milford-de.gov.

running over the sidewalk and grass



CITY OF MILFORD
S. WALNUT STREET – CONCEPT PLAN
COMMENT CARD

We would like to hear your thoughts, comments or concerns:

NAME	JAN BROULIK & JOSEPH PHILLIPS	
ADDRESS	2 CAUSEY AVE	
PHONE #	301-996-8910	
EMAIL	INFO@CAUSEYMANSSION.COM	
COMMENTS:	<p>3 PUT 'N STOP SIGNS</p> <hr/> <p>① MCCOY ② SEASURRY ③ KING'S HWY</p> <p>CHEAPEAST OPTION</p>	

Thank you for your feedback! Additional comments can be emailed to Rob Pierce at rpierce@milford-de.gov.

CTF Project
NE 10th and Walnut
Rep Postles
Was prudent →
current status

~~John~~ Jon Labiondo

~~Sonia's
Comments~~

S. Walnut St

1. Keep sidewalks farther from houses that are close to st already
2. Can we put in an allway stop at McCoy + Kings
3. This is part of Victorian Historic District + is forgotten
4. No truck signs on Wilbur toward S. Walnut are gone and now trucks are traveling from Wilbur crossing N. Walnut to McCoy
5. Exist. brick walkway parallel with road b) + R/K + maple
- Resident says absolutely no DC historic area
6. This option makes the road bicyclists not able to use road w/ less width
7. TRUCKS turn Right from Seabury onto S. Walnut

Sonia Marichic-Goudy

From: Pierce, Rob <rpierce@milford-de.gov>
Sent: Monday, December 12, 2022 5:04 PM
To: Sonia Marichic-Goudy
Subject: FW: Comment for Dec. 15 meeting
Attachments: IMG_5613 (2).jpg; 121022_letter to city.docx

External Email

Sonia,

See attached and below for comments for our upcoming S. Walnut Street meeting.

Rob

From: Sara M. Bluhm <sbluhm@milford-de.gov>
Sent: Saturday, December 10, 2022 3:19 PM
To: Pierce, Rob <rpierce@milford-de.gov>
Subject: Fwd: Comment for Dec. 15 meeting

Sent from my iPhone

Begin forwarded message:

From: Gwen <tell2gwen@aol.com>
Date: December 10, 2022 at 2:24:41 PM EST
To: "Hudson, Terri" <thudson@milford-de.gov>, "Culotta, Todd" <tculotta@milford-de.gov>, "Sara M. Bluhm" <sbluhm@milford-de.gov>, "Campbell, Archie" <acampbell@milford-de.gov>
Subject: Comment for Dec. 15 meeting
Reply-To: Gwen <tell2gwen@aol.com>

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Rob, Terri, Todd, Sarah, and Mayor Campbell,

Please enter my letter and photo as public comment at the Dec. 15 meeting. I am unable to attend due to a work-related meeting at the same time/ date.

If you have any questions, please email or call.

Thanks for your time, and have a happy, healthy holiday season.

Sincerely,

Gwen Guerke
302-236-1084

Dec. 22, 2022

Comment for Dec. 15, 2022 meeting re South Walnut Street traffic calming

My name is Gwen Guerke, and I have lived at 709 S. Walnut St., Milford for 43 years. Prior to that, my home was my grandparents' home, so I'm very familiar with the neighborhood and traffic issues.

Most recently, around 7 p.m. on July 11, 2022 while driving home, I stopped at the corner of Elizabeth and South Walnut streets waiting to turn left and then into my driveway. My car was side-swiped by a speeding, unlicensed teen driver who was fleeing another crash on Causey Avenue. (Photo of my car is attached. Police report available; other driver charged.)

I am very fortunate I was not seriously injured, but this incident and photo illustrate the hazards created by speeders and inattentive drivers. I have a city-issued sign in my front yard urging drivers to heed the speed limit. My anecdotal observations are that the sign is ineffective; people speed by all day, every day.

I walk at least three miles nearly every day – and have for years – so I can comment on hazards to pedestrians as well. I used to enjoy riding my bicycle in Milford; I no longer feel safe doing that. As an aside, I don't see many cyclists around town – except for bored youngsters taunting traffic.

I'm not a traffic engineer, so I don't have a solution for this problem, but here's what I see every day: speeding cars, trucks, school buses in both directions, vehicles ignoring stop signs at both McCoy and Wilbur streets, and when I'm walking I notice distracted drivers.

I will say that while vacationing in Oregon this past summer, I saw little traffic circles in residential neighborhoods. They definitely slow traffic!

My guess is that the increase in traffic volume can be attributed to residential growth in southeast Milford and the location of Bayhealth's Sussex Campus. McCoy and Wilbur streets are definitely shortcuts across town, providing more direct access to US 113.

I hope that this meeting moves beyond discussion and that an action plan is developed and implemented before someone is seriously – or fatally – injured.



Blank sign

POLICE

302-422-6026

L

R

Sonia Marichic-Goudy

From: Pierce, Rob <rpierce@milford-de.gov>
Sent: Tuesday, December 27, 2022 2:14 PM
To: Sonia Marichic-Goudy; Ted Foglietta; Drew Boyce
Cc: Sara M. Bluhm; Whitfield, Mark; James Puddicombe; Mike Svaby
Subject: S. Walnut Street Traffic Calming & Bike/Ped Open House - Public Comments
Attachments: 121022_letter to city.docx; IMG_5613 (2).jpg; Happy Holidays to you; Re: S WALNUT ST "IMPROVEMENT" PROJECT; Re: STOP SIGNS ; S WALNUT ST "IMPROVEMENT" PROJECT; S. Walnut St traffic calming; Scott Nagy.msg

External Email

Good afternoon,

See below for a summary of conversations had at the S. Walnut Street Open House. I am also attaching several emails that we received related to the study.

- Resident who lives along S. Walnut Street believes the installation of a stop sign at McCoy Street to create a three-way stop would accomplish speed reduction goal. Doesn't want sidewalk installed in front of her property due to privacy concerns and the potential loss of a tree in the front yard. Feels something needs to be done in the near now as opposed to the larger project being considered. Resident had no objection to the road narrowing.
- Resident who lives along S. Walnut Street doesn't think we need additional stop signs on Walnut, which would create an inconvenience having to stop multiple times. Resident now avoids Seabury to avoid having to deal with stop signs. Same resident doesn't think there is an issue removing the on-street parking because most people don't use S. Walnut Street due to cars being sideswiped in the past. Likes the idea of having connected sidewalks and bike paths.
- Folks generally liked the proposed solution for the Jefferson Street and railroad intersection.
- Concerns regarding the bike path through the historic district in areas where there is existing brick sidewalk.
- Resident liked the location of the proposed crosswalk at Clarke Avenue and McCoy Street.
- If we're going to move the power lines, let's bury them.
- A multi-modal path is not relevant for the age demographic, but perhaps if we build it, they will come.
- Option 2 seemed to be the more popular choice.

Can you forward me copies of the submitted written comments that attendees filled out the night of the meeting for our records?

Rob

Dec. 22, 2022

Comment for Dec. 15, 2022 meeting re South Walnut Street traffic calming

My name is Gwen Guerke, and I have lived at 709 S. Walnut St., Milford for 43 years. Prior to that, my home was my grandparents' home, so I'm very familiar with the neighborhood and traffic issues.

Most recently, around 7 p.m. on July 11, 2022 while driving home, I stopped at the corner of Elizabeth and South Walnut streets waiting to turn left and then into my driveway. My car was side-swiped by a speeding, unlicensed teen driver who was fleeing another crash on Causey Avenue. (Photo of my car is attached. Police report available; other driver charged.)

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I will say that while vacationing in Oregon this past summer, I saw little traffic circles in residential neighborhoods. They definitely slow traffic!

My guess is that the increase in traffic volume can be attributed to residential growth in southeast Milford and the location of Bayhealth's Sussex Campus. McCoy and Wilbur streets are definitely shortcuts across town, providing more direct access to US 113.

I hope that this meeting moves beyond discussion and that an action plan is developed and implemented before someone is seriously – or fatally – injured.

Sonia Marichic-Goudy

From: jack_carolyn_price@comcast.net
Sent: Thursday, December 22, 2022 10:18 AM
To: Pierce, Rob
Cc: Scott on Clarke; Sara M. Bluhm; Huey, Edward
Subject: Happy Holidays to you

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Rob,

We were unable to attend the Open House on Thursday evening to review the South Walnut traffic pattern options. However, we were able to see online the options available.

We liked Option #2 the best. It would be wonderful to be able to ride our bikes on one road safely.

We are not sure what the City plans are for reducing the speed of trucks and cars. The police show themselves occasionally, however, it doesn't seem to be consistent enough to slow traffic down. I understand that they may be understaffed and with the increase in population and traffic, have a huge workload and I totally admire and respect all that they do. The two stop signs have reduced some speeders on Seabury, however, as soon as they are beyond them, they accelerate. And most recently, a car was speeding so fast between the stop signs that it hit a telephone pole requiring the pole to be replaced. Those leaving South Walnut onto Seabury, are often on two wheels and speed all the way to the first stop sign where they have to slam on their brakes or just go through it. We know how hard you have worked and the \$ spent on trying to make this town bicycle and walking friendly, however, more needs to be done for safety. This will be especially important when the new Middle School is open. We see a lot of children moving into the developments south of Milford and those kiddos will be attending that

school. And wouldn't it be wonderful to see full bike racks at the new school?

Crosswalks are wonderful only when folks abide by them. We have actually stood in a marked crosswalk with our dogs and a driver gave us the finger as he sped right by. It's pretty simple, Rob, people speed because they can. Do you know anyone who speeds through Magnolia or Greenwood?

Another issue that needs to be addressed is the massive truck traffic. Imagine spending \$350K+ for a house on Wilbur only to be inundated with loaded construction and lumber trucks driving by their front door all day long? While turning onto Pine Street relieves us, many trucks don't want to navigate the awkward corner on Seabury and South Walnut and when they do, they take up two lanes to turn and often encroach the curbs and grass boulevards across the street to make that corner. Yesterday, a fully loaded gasoline tanker cut through residential streets which was not only annoying, but very scary. You have to admit that a loaded semi-truck driving through our downtown, while children are in line to visit Santa is a bit dangerous, as well as loaded flatbeds cruising in front the Post Office on Causey Avenue as people exit their cars. We witness these trucks speeding up side streets and residential developments like Lakelawn Estates as we walk our dogs every morning. Not only are trucks dangerous, but also traveling at higher speeds on streets that are not State, therefore, tearing up streets the tax payers of Milford need to repair and replace. This doesn't even account for the decibel levels these trucks cause within these residential streets. In Minneapolis and surrounding suburbs, they have noise ordinances in place. In Alexandria VA there are stop signs at every corner and 2 and 3 speed bumps in between.

I do have some ideas for a solution.

1. For trucks coming from the south on #113, to turn at the Lincoln light and take Marshall ext. to McCoy and enter the South industrial area from there or continue to Wilkins to connect to Route #1.
2. For trucks coming from north #113, take Business Route 1 to Wilkins Rd and then turn onto Elks Rd to enter the south industrial area (Lumber 84). Or, those accessing the industrial area off Airport Rd., to use #113 only to access that road.
3. For trucks coming in from North or South on Route 1, turn off at the Bayhealth overpass and enter south Milford from Wilkins and Elks Road. Or, to get to #113, use Business Route 1 and cross over to #113 at 10th street, therefore, keeping trucks from our tiny downtown area.
4. For trucks coming from Route 36, turn onto Fitzgeralds Road and go through Lincoln and drive north on Marshall Ext. or continue to Wilkins to access Route #1.
5. Trucks servicing the local restaurants, while somewhat inconvenient, enter from the nearest highway and leave the same way.

Somehow, Bridgeville and other communities have managed to provide a truck route(s) circumventing their town. While GPS has caused much of the problem, signage that does **not** give way to 'local traffic,' (which all trucks would claim to be), would be the only other alternative.

Yes, I know you are aware of all of this, however, it's only going to increase and if Milford doesn't work out this problem soon, we will become truck city which will completely defeat all the work you have done to make this a safe walking and bicycle community. In my opinion, addressing the problems first will help the City of Milford reach its goals.

I thank you for all the work you do for our City. And, wish you a wonderful holiday season!

Carolyn Price
611 Seabury Avenue
Milford, DE 19963

Sonia Marichic-Goudy

From: Brooke Clendaniel <brooke@clendaniel.com>
Sent: Friday, December 16, 2022 2:58 PM
To: Pierce, Rob
Subject: Re: S WALNUT ST "IMPROVEMENT" PROJECT

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Rob,

I find the shared use path totally out of character within the historic district.

And if it is to be a blacktopped mini-road, it is definitely out of place.

Are the drawings available online for further study? My wife was unable to attend and would like to see them.

Thanks,

Brooke

FRANK BROOKE CLENDANIEL

Home:

[302 South Walnut Street](#)
[Milford, Delaware 19963-1960](#)

Office:

CLENDANIEL & CO., LTD.
[18854 Butler Avenue](#)
[Lincoln, Delaware 19960-3152](#)

PO Box 34

Lincoln DE 19960-0034

302.270.4611

brooke@clendaniel.com

Sonia Marichic-Goudy

From: Michael Schonewolf <mjswolf@icloud.com>
Sent: Monday, December 19, 2022 9:20 AM
To: Pierce, Rob
Subject: Re: STOP SIGNS

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

18600 Eleanor Lane
Milford De 19963

Sent from my iPhone

On Dec 19, 2022, at 8:59 AM, Pierce, Rob <rpierce@milford-de.gov> wrote:

Michael,

Thank you for your comments. Can you provide your address for our records?

Also, we are working on getting the materials from last Thursday posted on the City website. The study area included all of S. Walnut Street between McCoy Street and Maple Avenue and included recommendations for traffic calming, adding sidewalks where they are not currently present and replacing the sidewalk on the west side with a shared use path. We were not proposing bike lanes within the paved section of the roadway, but a separate side path similar to what you see down around the new hospital or out at Milford Plaza Shopping Center.

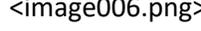
 **Rob Pierce** | Planning Director
rpierce@milford-de.gov | O: 302.424.8395 | F: 302.424.3559





 180 Vickers Dr. | Milford, DE 19963 | www.cityofmilford.com





-----Original Message-----

From: Michael Schonewolf <mjswolf@icloud.com>
Sent: Monday, December 19, 2022 7:24 AM

To: Pierce, Rob <rpierce@milford-de.gov>

Subject: STOP SIGNS

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

This what is needed not bike lanes!!!!!!

Sent from my iPhone

Sonia Marichic-Goudy

From: Brooke Clendaniel <brooke@clendaniel.com>
Sent: Friday, December 16, 2022 11:26 AM
To: Pierce, Rob
Subject: S WALNUT ST "IMPROVEMENT" PROJECT
Attachments: NATIONAL REGISTER.pdf

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Mr. Pierce:

Attached please find the Multiple Resource Nomination for the three National Register Historic Districts in Milford.

The Victorian South Milford Historic District with the 300 block of South Walnut Street was listed on the National Register of Historic Places by the United States Department of the Interior on January 7, 1983.

The engineers last evening did not even know about the historic district. Your plans will need further review and approval due to the listing of the district on the National Register.

If you have any questions or wish to discuss the situation, please call me. I have expressed my opinion to my councilman -- I am Todd Culotta's uncle!

Brooke

FRANK BROOKE CLENDANIEL

Home:
302 South Walnut Street
Milford, Delaware 19963-1960

Office:
CLENDANIEL & CO., LTD.
18854 Butler Avenue
Lincoln, Delaware 19960-3152

PO Box 34
Lincoln DE 19960-0034

302.270.4611

brooke@clendaniel.com

Sonia Marichic-Goudy

From: kathy.stetson@gmail.com
Sent: Tuesday, December 20, 2022 9:21 AM
To: Culotta, Todd; Fulton, Andrew P.; Pierce, Rob
Subject: S. Walnut St traffic calming

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

My address is 311 S. Walnut St. I moved here about a year ago. I was unable to attend the recent informational meeting regarding the problem of speeding on S. Walnut St. due to illness, however, I wanted to submit these comments:

1. The speeding on Walnut is a definite problem. This is a main route through to the downtown area and is used by many people to access the downtown area, City Hall and city services, both highways and the hospital and schools.
2. The street is uninterrupted by stop signs or traffic signals from Lincoln until SE 2nd Street near City Hall. This provides a miles of opportunity to build up speed by inattentive drivers.
3. The same problem was noted along Seabury and was addressed by the addition of two all-way stop signs. Since that time it seems that traffic speed has been somewhat reduced. At the least, drivers are made aware of the need to slow down.

I request that the City begin to address the speeding issue on Walnut by using the same method. Installation of all-way stops at three or four intersections: McCoy, Seabury/Clarke, Kings, and Church St. This would be a very cost-effective beginning. Monitoring these measures over time could prove to be enough traffic-calming and give the residents some relief.

The addition of bike lanes (someone mentioned this as a proposal) should ONLY be undertaken AFTER traffic has been slowed down, in my opinion. Expecting traffic to slow down BECAUSE of bike lanes seems to be a recipe for tragedy.

Thank you for your consideration.

Kathryn Stetson
311 S. Walnut St
206/851-4336 (talk or text)

Sonia Marichic-Goudy

From: Scott M Nagy <snagy32@comcast.net>
Sent: Tuesday, December 27, 2022 11:49 AM
To: Pierce, Rob
Cc: jack_carolyn_price@comcast.net; Sara M. Bluhm; Huey, Edward
Subject: Re: Happy Holidays to you

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Rob,

I am included on this thread and I have a few comments myself.

I live on the corner of W Clarke and Seabury. (Yellow house/white fence) I witness southbound S Walnut street turn onto seabury and accelerate hard to way beyond the speed limit. Add to that the obnoxious exhaust systems some of these vehicles have adds to the problem, but that's a different conversation. I attended the meeting on the 15th and nobody from Century could tell me why an all way stop was not part of the speed reduction proposal for the corner in front of my house. I watch cars speed by and pass on the double yellow line in front of my house all the time. In my opinion, it is needed not just for speed control, but for safety of turning vehicles and pedestrians crossing the street.

Century stated there were four accidents on my corner, but I can attest to at least double that. Four may have been reported, but many are just minor scrapes where police services are not called and go unreported. The reason for these accidents is again, cars turning from a walnut onto seabury. Drivers on W Clarke start to pull out and clip the car making the turn. I also witness tractor trailers (and other trucks) making the hard right turn from seabury onto S Walnut and almost always running over my neighbors sidewalk and even up onto their grass. They have five children. What if a younger one got curious and ran to the corner of their property to watch the truck and got run over because he thought he was safe on his property?

I also cannot fathom why the busiest area of Seabury (St John's church) where people are crossing the street with obscured vision due to parked cars of parishioners attending services did not get a stop sign. If your intel tells you that cars are not reaching excessive speeds from my corner to the church, then your intel is wrong. I witness vehicles when I am out walking my dog pass the church in excess of 40 mph, with cars parked on both sides of the street on a daily basis. This is not hyperbole, I spent 33 years of my life as an air traffic controller and I am very good at assessing speeds. An all way stop is desperately needed at that intersection and we don't need to spend thousands of dollars on a study to confirm it. It's common sense because it's only a matter of time before someone gets hit by a car in front of the church. I witness vehicles not even attempting to stop at the new stop signs on Seabury regularly. I believe this is people annoyed at the changes to the community because new residents are moving into the area and if it wasn't for all these "out of staters" moving in, we wouldn't need any change. I read these kind of comments on social media all the time. I support option 2 along with the additional stop signs that I have stated above. Our police cannot be at all places at all times and traffic control measures need to be instituted on some of these roads that are exposed to a lot more traffic than they were just a few years ago.

Respectfully,

Scott Nagy
Milford, DE

Sent from my wireless device

On Dec 27, 2022, at 10:10 AM, Pierce, Rob <rpierce@milford-de.gov> wrote:

Thanks Carolyn. We will includes these comments in our summary of the open house.

Rob

From: jack_carolyn_price@comcast.net <jack_carolyn_price@comcast.net>

Sent: Thursday, December 22, 2022 10:18 AM

To: Pierce, Rob <rpierce@milford-de.gov>

Cc: Scott on Clarke <snagy32@comcast.net>; Sara M. Bluhm <sbbluhm@milford-de.gov>; Huey, Edward <edward.huey@cj.state.de.us>

Subject: Happy Holidays to you

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Hello Rob,

We were unable to attend the Open House on Thursday evening to review the South Walnut traffic pattern options. However, we were able to see online the options available.

We liked Option #2 the best. It would be wonderful to be able to ride our bikes on one road safely.

We are not sure what the City plans are for reducing the speed of trucks and cars. The police show themselves occasionally, however, it doesn't seem to be consistent enough to slow traffic down. I understand that they may be understaffed and with the increase in population and traffic, have a huge workload and I totally admire and respect all that they do. The two stop signs have reduced some speeders on Seabury, however, as soon as they are beyond them, they accelerate. And most recently, a car was speeding so fast between the stop signs that it hit a telephone pole requiring the pole to be replaced. Those leaving South Walnut onto Seabury, are often on two wheels and speed all the way to the first stop sign where they have to slam on their brakes or just go through it. We know how hard you have worked and the \$

spent on trying to make this town bicycle and walking friendly, however, more needs to be done for safety. This will be especially important when the new Middle School is open. We see a lot of children moving into the developments south of Milford and those kiddos will be attending that school. And wouldn't it be wonderful to see full bike racks at the new school?

Crosswalks are wonderful only when folks abide by them. We have actually stood in a marked crosswalk with our dogs and a driver gave us the finger as he sped right by. It's pretty simple, Rob, people speed because they can. Do you know anyone who speeds through Magnolia or Greenwood?

Another issue that needs to be addressed is the massive truck traffic. Imagine spending \$350K+ for a house on Wilbur only to be inundated with loaded construction and lumber trucks driving by their front door all day long? While turning onto Pine Street relieves us, many trucks don't want to navigate the awkward corner on Seabury and South Walnut and when they do, they take up two lanes to turn and often encroach the curbs and grass boulevards across the street to make that corner. Yesterday, a fully loaded gasoline tanker cut through residential streets which was not only annoying, but very scary. You have to admit that a loaded semi-truck driving through our downtown, while children are in line to visit Santa is a bit dangerous, as well as loaded flatbeds cruising in front the Post Office on Causey Avenue as people exit their cars. We witness these trucks speeding up side streets and residential developments like Lakelawn Estates as we walk our dogs every morning. Not only are trucks dangerous, but also traveling at higher speeds on streets that are not State, therefore, tearing

up streets the tax payers of Milford need to repair and replace. This doesn't even account for the decibel levels these trucks cause within these residential streets. In Minneapolis and surrounding suburbs, they have noise ordinances in place. In Alexandria VA there are stop signs at every corner and 2 and 3 speed bumps in between.

I do have some ideas for a solution.

1. For trucks coming from the south on #113, to turn at the Lincoln light and take Marshall ext. to McCoy and enter the South industrial area from there or continue to Wilkins to connect to Route #1.
2. For trucks coming from north #113, take Business Route 1 to Wilkins Rd and then turn onto Elks Rd to enter the south industrial area (Lumber 84). Or, those accessing the industrial area off Airport Rd., to use #113 only to access that road.
3. For trucks coming in from North or South on Route 1, turn off at the Bayhealth overpass and enter south Milford from Wilkins and Elks Road. Or, to get to #113, use Business Route 1 and cross over to #113 at 10th street, therefore, keeping trucks from our tiny downtown area.
4. For trucks coming from Route 36, turn onto Fitzgeralds Road and go through Lincoln and drive north on Marshall Ext. or continue to Wilkins to access Route #1.
5. Trucks servicing the local restaurants, while somewhat inconvenient, enter from the nearest highway and leave the same way.

Somehow, Bridgeville and other communities have managed to provide a truck route(s) circumventing their town. While GPS has caused much of the problem, signage that does **not** give

way to 'local traffic,' (which all trucks would claim to be), would be the only other alternative.

Yes, I know you are aware of all of this, however, it's only going to increase and if Milford doesn't work out this problem soon, we will become truck city which will completely defeat all the work you have done to make this a safe walking and bicycle community. In my opinion, addressing the problems first will help the City of Milford reach its goals.

I thank you for all the work you do for our City. And, wish you a wonderful holiday season!

Carolyn Price
611 Seabury Avenue
Milford, DE 19963

Sonia Marichic-Goudy

From: Chris Reed <chriswilis@aol.com>
Sent: Sunday, January 15, 2023 1:01 PM
To: Pierce, Rob
Subject: South Walnut Street modifications

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Mr. Pierce,

I'm writing to you so you may present this to the council and other decision makers for the installation of sidewalks/bike lanes and take my situation into consideration when making modifications to add sidewalks to properties on the South Walnut Street.

If not the closest, my home is possibly one of the closest homes to the street on South Walnut Street with a useable front porch. When I look at the plans for sidewalk installation in front of my home I see that it will require removal of a fairly large tree, my flagpole and I will have to move my mailbox. The result of the installation will be that I'll have sidewalks very close to my front porch. I spend a lot of time relaxing on my porch and currently feel it is somewhat private.

With the new sidewalks so close to the steps and porch and removal of my tree I'll lose any privacy that I currently have. I grew up in a home with a large front porch and spent a lot of time playing, socializing, talking with neighbors and even "sleeping out" on the front porch at my family home and cherish those special memories. I remember when I saw this house at 607 South Walnut I fell in love with it because it had a nice front porch that my friends, family, neighbors and I could use to spend time together.

I'm submitting this as a request for the city to consider a much smaller area between the curb and sidewalk or possibly placing the sidewalk next to the curb in front of my home. If the city would honor my request I could continue to enjoy my home and it's front porch.

Thank you for your time,
Christine M. Reed
607 S Walnut Street
Milford, DE 19963
302-542-2205

January 15, 2023

Make a loan, change a life. [Kiva.org](https://www.kiva.org)

Sonia Marichic-Goudy

From: Pierce, Rob <rpierce@milford-de.gov>
Sent: Thursday, January 19, 2023 12:34 PM
To: Sonia Marichic-Goudy
Cc: Drew Boyce; Ted Foglietta
Subject: FW: Kevin Mullican - Traffic Calming Presentation

External Email

More comments.

Rob

From: KEVIN E MULLICAN <kemdesigner@att.net>
Sent: Thursday, January 19, 2023 9:22 AM
To: Pierce, Rob <rpierce@milford-de.gov>
Cc: JAY JOHNSON <jjohnson32277@bellsouth.net>; 'info causeymansion.com' <info@causeymansion.com>; 'Nadia Zychal' <nadiazychal@aol.com>; b davidwalp@gmail.com; Brad@athomecabinetry.com; bdonovan31@yahoo.com; Prisgraven@comcast.net; 'Chris Reed' <chriswilis@aol.com>; 'Dave Mills' <davidmills9901@gmail.com>; 'David Pickrell' <dpickrellmd37@gmail.com>; 'Marcia Reed' <mreedinart@aol.com>; 'Todd Culotta' <todd@bayprorestore.com>; dragon.ann.m@gmail.com
Subject: Kevin Mullican - Traffic Calming Presentation

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Morning Rob,

Here are a few of my thoughts in regards to the traffic calming study for South Walnut Street presented by the State.

In option #1 the bike path moves to the east into the existing road area. The existing sidewalk (which could remain) is removed. So pedestrians and cyclists are expected to share this new path. I've personally never liked these type of paths. There seems to always be conflict between the two uses. Also, it seems a waste to remove all the sidewalks on the west side of the road if the bike path is going to be separate. Some of these sidewalks were just replaced last year. It seems it would be better to keep cyclists and pedestrians on separate paths. There would be less cost keeping the sidewalks as they would not need to be demolished and removed and replaced with new soil.

In option #2 the bike path replaces the existing sidewalk and grass shoulder on the west side of the road. This allows for a 10' wide grass shoulder on the west side of the road between Jefferson and West Clark. There is also on street parking shown within this grass area. I don't really think the on street parking is needed as people rarely park on the street in this area. Most of these homes have very large lots and driveways. Most also have rear alley access with additional garages / parking. It would be nice aesthetically if this was a continuous green area planted with street trees.

These solutions are more focused on cyclists than pedestrians. There are no pedestrian crosswalks shown at many of the side street. Also, very few are shown crossing over South Walnut. It would be nice to see pedestrian crosswalks at every intersection, such as Savannah Road in Lewes.

According to the State, the only traffic calming feature of these designs will be narrowing of the traffic lanes. In my opinion these drawings look nice, but don't really address the constant speeding issues. The traffic lanes by City hall and downtown are already narrow. There is parking on each side of the street downtown which narrows the lanes further. You can stand downtown and watch many cars speeding through.

Also, how many years will the design, funding and construction take for either of these options? The current NE Front Street reconstruction has taken many years. Also, either of these options will cost millions of dollars to implement. Both of these options are expensive and time consuming.

Jay and I would like to see an option that could be implemented in the near future for minimal cost. We are in favor of all way stops on South Walnut at Maple, Kings Hwy and West Clark / Seabury. Painted pedestrian crossings could be added at each intersection. This solution could be implemented immediately for minimal cost. The two new all way stops on Seabury have made an incredible difference in the volume and speed of traffic. These new all way stops were installed quickly and at minimal cost.

Speed cameras could also be a low cost option.

Enforcement of the existing speed limit by the Milford Police Department would also make a difference.

Please review and let me know of any questions or comments.

Thanks,

Kevin Mullican

Sonia Marichic-Goudy

From: Pierce, Rob <rpierce@milford-de.gov>
Sent: Thursday, January 19, 2023 12:35 PM
To: Sonia Marichic-Goudy
Cc: Ted Foglietta; Drew Boyce
Subject: FW: Kevin Mullican - Traffic Calming Presentation

External Email

More comments.

Rob

From: Ann dragon <dragon.ann.m@gmail.com>
Sent: Thursday, January 19, 2023 12:00 PM
To: KEVIN E MULLICAN <kemdesigner@att.net>
Cc: Pierce, Rob <rpierce@milford-de.gov>; JAY JOHNSON <jjohnson32277@bellsouth.net>; info causeymansion.com <info@causeymansion.com>; Nadia Zychal <nadiazychal@aol.com>; David Walp <bdavidwalp@gmail.com>; AT HOME Cabinetry <Brad@athomecabinetry.com>; bdonovan31@yahoo.com; Prisgraven@comcast.net; Chris Reed <chriswilis@aol.com>; Dave Mills <davidmills9901@gmail.com>; David Pickrell <dpickrellmd37@gmail.com>; Marcia Reed <mreedinart@aol.com>; Todd Culotta <todd@bayprorestore.com>
Subject: Re: Kevin Mullican - Traffic Calming Presentation

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Thanks Kevin. Well said.

Rob,

My husband and I frequently revisit the thoughts we have after the traffic calming meeting. We wholeheartedly agree that the proposals presented were focused on the bike path and not specifically to traffic calming. We would like to see all way stop signs and cross walks for the safety of pedestrian traffic along South Walnut Street.

If we lose the battle for keeping sidewalks separate from the bike path, then it is critical that said path be aesthetically pleasing to the surroundings such as a colored concrete path with brick stamping and definitely NOT blacktop.

The bike path is not likely to be used by novice cyclists but more experienced cyclists looking to put in the miles to get from Milford to Georgetown and then over to Lewes. Those cyclists move at high speeds and would be a danger to pedestrians sharing a path.

Please consider these facts and ideas before any final decisions are made

Thanks

Ann Dragon

On Thu, Jan 19, 2023, 9:22 AM KEVIN E MULLICAN <kemdesigner@att.net> wrote:

Good Morning Rob,

Here are a few of my thoughts in regards to the traffic calming study for South Walnut Street presented by the State.

In option #1 the bike path moves to the east into the existing road area. The existing sidewalk (which could remain) is removed. So pedestrians and cyclists are expected to share this new path. I've personally never liked these type of paths. There seems to always be conflict between the two uses. Also, it seems a waste to remove all the sidewalks on the west side of the road if the bike path is going to be separate. Some of these sidewalks were just replaced last year. It seems it would be better to keep cyclists and pedestrians on separate paths. There would be less cost keeping the sidewalks as they would not need to be demolished and removed and replaced with new soil.

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Speed cameras could also be a low cost option.

Enforcement of the existing speed limit by the Milford Police Department would also make a difference.

Please review and let me know of any questions or comments.

Thanks,

Kevin Mullican

January 8, 2023

Councilman Andrew P. Fulton, Ward 2
The City of Milford
115 E. Clark
Milford, DE 19963

Ref: The City of Milford, Council Meeting February 13, 2023

Dear Councilman Fulton:

This letter is regarding pedestrian safety and automobile speeding problem on S. Walnut Street due to increased pedestrian traffic in this residential area. The City recently added two 3-way Stop signs on Seabury Avenue at the intersecting streets of Elm and Pine. Considering that Seabury from its starting point on S. Walnut to Dupont Hwy, Rte 113, is a distance of 0.6 Miles, and having traveled Seabury many times on my way to and from Redners, I have noticed cars are now driving the speed limit of 25 mph since the 3-way stop signs installed. So Thank You.

Please note the distance from the Stop sign at Johnson and Old State Roads in Lincoln to the Stop Light at the Milford City Hall Building is approximately 4 miles. Speeds along Old State Road to McCoy range between 45 to 35 mph. Cars entering South Walnut from Old State Road are accustomed to traveling at higher speeds and many do Not reduce their speeds until coming to the Traffic light at 2nd & S.Walnut Streets —3.8 miles.

The foot traffic along this stretch of S. Walnut has significantly increased these past 2 years due to more residents walking for a healthy lifestyle, foot traffic from residents of Mispillion Apartments, new Simpson's Crossing development, the Church on McCoy and there is additional potential traffic from Milford Ponds. In summer months there is an increased presence of both adults and children on bicycles along S. Walnut Street.

If a 3-way Stop sign were to be added where Old State Road ends at McCoy and S. Walnut Streets and a second 3-way Stop sign at S. Walnut and Maple Streets (which is a distance of 0.6 Miles), there is a real potential that drivers would begin to drive at a slower rate of speed, as that is the exact same distance (0.6 Miles) where the two 3-way stop signs were placed on Seabury Avenue. In addition, if Cross Walks were added to those 3-way stop signs, pedestrians could safely cross while taking their walks. We know the addition of 3-way stop signs can increase safety. Part of living in a city drivers expect and/or anticipate frequent stops and therefore the mind set is to maintain lower speeds.

As referenced in DeIDOT Traffic Calming Design Manual, "

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"

My husband and I often drive S. Walnut into "downtown" Milford for various errands, visits to the Library, restaurants, etc. There are neighborhood farm stands around Milford which is part of Milford's charm that we dearly embrace. This past summer my husband and I stopped at family produce stand on S. Walnut and made our fresh produce purchase. While we were attempting to cross S. Walnut Street we were nearly run over by a truck going about 45 mph. My husband was using a cane (post hip surgery) and was not able to turn and dart out of the truck's path. I had to jump up and down and frantically wave my arms so the truck would notice us and stop. This was quite frightening for both of us (and probably the truck driver as well).

Milford City Council Members, please consider a cost-effective plan of adding two 3-way Stop Signs on S. Walnut to mitigate a potentially dangerous event or worst case – loss of life. Having our City Police present to enforce speed limits as the City knows is not cost-effective as their presence are much better utilized elsewhere for crime prevention.

Thank you for your consideration.

Sincerely,

Elaine Wilson

cc: Mark Whitfield, City Manager

Letter of complaint about Milford town plans.

Basic goals that can be achieved for Milford's continued success:
Improve traffic flow in and around the town to improve driving quality.
Increase parking, business growth, and overall town quality.

The current plans only include business park development and many new home developments, which are not connected to current traffic flow. There have been no new roads, no new parking spaces in the town, which has increased driver frustration. There is no flow of traffic thru city, most drivers get lost as was experienced a few years ago, when work on 113 had traffic detoured thru town.

We have a beautiful river running through our town, the road organization follows the river, but does not take advantage of it. There are no north-south, east-west roads built for high volume traffic, except for 113 and 1 for bypassing traffic. There are road name changes, which causes confusion. Ever try to give directions to someone?

Our town needs to flow, it doesn't right now. The main reason for speeding, is the amount of traffic that has increased, which increases the amount of driver frustration. Milford used to have the traffic lights on 113 untimed, so that the traffic would have to stop, going through town. Now everyone thinks it is a highway and should be able to do 50-60 mph, when it is 40 mph. This carries over when they get off of 113.

The town has plans for a huge amount of development, but lacks a comprehensive concept about how these different areas are to work together. Housing developments and business parks being constructed with little to no access, no connection to each other. This causes blind spots in flow of traffic and everyone has to drive around, rather than the straightest path.

The town has not been forthcoming about proposed plans. The City is pitting developments versus the city interior. They should be treated equally. The rules need to be the same for all types of development. The town spends months of hard work on plans yet, gives the public little input.

There is a public comment portion of every council meeting that is limited to 15 minutes with each person allotted three minutes to speak. All public comment at council meetings is also limited to agenda items only. At this time, there is no date for the proposed changes to South Walnut Street to be presented to council at a regular meeting.

Regarding the South Walnut Plans:
There are several concerning issues, drawn from above.

Town crash study states most accidents are from the flow of traffic at McCoy and Seabury. The traffic is trying to travel west thru town, but has several turns in order to complete. This is what needs to be addressed, shrinking the space, removing parking and creating bicycle lanes does not do this. It only creates less traffic flow, decrease business due to lack of parking. A great example is Berlin. At first they had no parking, and have worked hard to develop more parking for business.

Changes that have occurred: South Walnut is an emergency evacuation route. Downtown has flooded in the past. Wouldn't it be better to build the route so that it is safer for everyone, during an emergency? Adding a bike lane would not add to the overall safety.

South Walnut used to have laws about heavy truck traffic, what happened to those traffic signs. South Walnut used to be quiet, due to the heavy truck traffic having to travel a different route.

The proposed plan will only increase drivers stress, due to lack of flow. They will be stepping on gas to make up for it – speeding, not caring about slower traffic, crossing yellow lines and generally being a disrespectful driver. Also, Police traffic speeding down south walnut. Do not have any other way to go??

Side issues:

Are property owners going to be reimbursed for the money they were forced to pay for new sidewalks, just last year? How is the sidewalk development going, is entire city in compliance?

There are no sidewalks in new developments, only intown, is there really such a great demand for bike paths over other difficulties the town is facing. The plan clarifies that a bike path is more important then traffic accidents, speeding, parking and ease of use for our citizens.

It is my hope that new plans be drawn up which incorporate traffic flow between all of the new developments with considerations given to current traffic flow. Basically connect streets so that traffic can flow around the town. If you achieve that, the whole town will benefit. Creating a bike lane in the hopes that traffic slows down is a narrow perspective.

Sonia Marichic-Goudy

From: Pierce, Rob <rpierce@milford-de.gov>
Sent: Thursday, January 26, 2023 3:02 PM
To: Sonia Marichic-Goudy
Cc: Ted Foglietta; Drew Boyce; Whitfield, Mark
Subject: FW: Kevin Mullican - Milton Delaware - Streets Committee recommendations

External Email

See below resident comment referencing a study performed for Milton.

Rob

From: Kristy Rogers <KRogers@ci.milton.de.us>
Sent: Wednesday, January 25, 2023 11:57 AM
To: Whitfield, Mark <mwhitfield@milford-de.gov>
Cc: Pierce, Rob <rpierce@milford-de.gov>
Subject: RE: Kevin Mullican - Milton Delaware - Streets Committee recommendations

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Mark,

Milton is just going through the design and plan submission now. If/When DeIDOT approves and releases a permit for the all-way stops, Milton will perform the intersection improvements and install the signs.

Kristy

Kristy L. Rogers, MPA, ICMA-CM
Town Manager



Town of Milton
115 Federal Street
Milton, DE 19968
P: 302-684-4110
F: 302-684-8999

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From: Whitfield, Mark [<mailto:mwhitfield@milford-de.gov>]
Sent: Wednesday, January 25, 2023 11:52 AM

To: Kristy Rogers <KRogers@ci.milton.de.us>
Cc: Pierce, Rob <rpierce@milford-de.gov>
Subject: FW: Kevin Mullican - Milton Delaware - Streets Committee recommendations

Kristy,

See the email below. Did DELDOT and/or Milton install the 4 Way Stops recommended by the Streets Committee?

Thanks.

Mark



Mark Whitfield | City Manager
mwhitfield@milford-de.gov | O: 302.424.8394 | F: 302.424.3558
201 S. Walnut St. | Milford, DE 19963 | www.cityofmilford.com

From: Pierce, Rob <rpierce@milford-de.gov>
Sent: Wednesday, January 25, 2023 11:47 AM
To: Whitfield, Mark <mwhitfield@milford-de.gov>
Subject: FW: Kevin Mullican - Milton Delaware - Streets Committee recommendations

Mark,

FYI - See below email from Kevin and my response.

Rob

From: Pierce, Rob
Sent: Wednesday, January 25, 2023 11:35 AM
To: KEVIN E MULLICAN <kemdesigner@att.net>
Subject: RE: Kevin Mullican - Milton Delaware - Streets Committee recommendations

Thanks Kevin,

Our study should be wrapped up in a couple of months and similar to the Milton article, we will share our recommendations with DelDOT for review. I haven't been down to Milton in a while but it doesn't look like the all way stops have been installed per the committee's recommendation from last year on google street view or recent aerials. Do you know if they have?

Rob

From: KEVIN E MULLICAN <kemdesigner@att.net>
Sent: Wednesday, January 25, 2023 11:00 AM
To: Pierce, Rob <rpierce@milford-de.gov>
Cc: JAY JOHNSON <jjohnson32277@bellsouth.net>; dragon.ann.m@gmail.com; 'David Pickrell' <dpickrellmd37@gmail.com>; 'Dave Mills' <davidmills9901@gmail.com>; 'Chris Reed' <chriswilis@aol.com>; bdavidwalp@gmail.com; Brad@athomecabinetry.com; bdonovan31@yahoo.com; 'Nadia Zychal' <nadiazychal@aol.com>; 'Marcia Reed' <mreedinart@aol.com>; Prisgraven@comcast.net; 'Todd Culotta'

<todd@bayprorestore.com>

Subject: Kevin Mullican - Milton Delaware - Streets Committee recommendations

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Morning Rob,

Please find attached an article from April of last year that was published in the Cape Gazette. This article is in reference to Milton's "Streets Committee". According to the article the streets committee main priority is curtailing speeding. It appears from this article and others that Milton is also having a problem with drivers speeding through town. I have included a link to this article below:

<https://www.capegazette.com/article/milton-committee-submits-traffic-priorities/237953>

After a several year study, their streets committee has reached several conclusions.

Their recommendations for reducing speeding are as follows:

The third priority is in-street pedestrian signs. There used to be one on South Walnut at Park Avenue and one on South Washington near the Library. But they both have been removed. These type of signs do seem to make a difference. It would be nice to see more of these signs at additional points in town.

The second priority is reducing the speed limit within the town of Milton from 25 mph to 20 mph for cars and 15 mph for trucks. I'm always amazed at how fast 18 wheel semi-trucks speed through town. Reducing and enforcing the speed limits would also make a difference within our town. Or maybe limit the size of trucks within downtown like other towns around us. I'm always amazed that our City allows 18 wheel trucks on basically every street downtown. During the traffic calming presentation, I overheard one of the State presenters mention that one of the reasons that the intersection at South Walnut and Jefferson was being realigned was to make it easier and quicker for large trucks to get through the intersection. Does this make it easier and safer for pedestrians at this intersection?

The first priority is multi-way stops at multiple intersections within the downtown. This should also be Milford's first priority to reduce speeding. Multiple all way stops on South Walnut Street would be an inexpensive solution that could be implemented immediately.

It seems we are trying to reinvent the wheel when this extensive study of a neighboring town with similar issues has already been completed. Maybe to save time and money, we could take their conclusions and apply them to Milford with some adjustments.

Maybe it's time for the City to start focusing on the needs of pedestrians (residents) and truly make Milford a walkable city.

Regards,

Kevin Mullican

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project



A second community workshop was organized for the South Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project on April 4, 2023. The workshop was held at Milford's City Hall from 6:00-8:00 pm. Area residents were invited to attend. The workshop was advertised through the City of Milford and the Dover/Kent MPO. Twenty-seven community members attended the meeting and numerous others reviewed the workshop materials that was posted online shortly after the workshop.

Century Engineering presented numerous boards with information including study area, project goals, Traffic Calming Study Results, crash data, speed study evaluation, option 2 (option with parking) revised with comments from the first public workshop, and stop sign analysis results. Feedback was gathered from attendees through conversations with Century Engineering personnel, questionnaires, and a comment box.

Workshop boards can be found at the end of this workshop summary report. After the workshop the workshop boards were posted on the City of Milford's website so that community members could review the materials and offer feedback. This option was successful in providing additional community feedback for the project.

Based on the comments and feedback received through the first community workshop, recommendations and feedback for this workshop centered around minor improvements to the preferred option which included minor revisions to the sidewalk alignment, Seabury Avenue/W. Clark Avenue intersection, adding crosswalks on the minor roads, adding the historic area boundary, and replacing proposed concrete sidewalk with proposed brick within the historic area which is north of the Railroad Tracks. In addition, the primary request from the first public workshop was for the addition of stop signs along Walnut Street at the McCoy Street, Seabury Avenue, and Kings Highway intersections. At the request of the community and the City, a stop sign analysis for the three intersections was completed. The analysis consisted of additional traffic counts to determine traffic volumes and a stop sign warrant analysis. The warrant analysis studied crashes, volumes on both the major and minor approaches, as well as, other criteria such as left-turn conflicts, high pedestrian volumes generated by a church or school, site distance, and operational criteria. The result of the study for all three intersections concluded that stop signs are not warranted. A sensitivity analysis was completed to determine when, if ever, stop signs would be warranted. It was determined that stop signs will not be warranted through the duration of our design year 2050.

Comments

Five comments were received regarding the information presented. Community members continued to express an interest in the project and were in favor of the modifications made to the project. Those in attendance had a better understanding as to why stop signs cannot be placed on Walnut Street based on the results of the stop sign warrant analysis.

Comments received after the workshop included wondering why there is parking on the street along South Walnut between Jefferson Avenue and W. Clarke Avenue. The community member has seen minimal cars parked on the street because most properties have a rear alley with additional parking. Response: The parking on that side of the street remained because the space was already there so there

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project



was no reason to restrict parking. The general consensus of the community members who attended the meeting were positive toward keeping the parking.

An additional request from the community was to determine whether parking could alternate which side of the street parking is located to further help slow traffic. This could be studied as part of the design process when this project moves forward with funding for design.

Additional comments include potentially updating the curb line at the intersection of Maple Avenue and Walnut Street. Trucks drive over the curb line frequently.

An additional comment is that the property shown omitted from the historic district is in the historic district but is non-conforming.

A few comments were provided regarding bicycles and pedestrians along the corridor including:

- Bicycle friendly inlet grates should be utilized when the project is in design and construction
- Add warning beacons at cross streets
- Add signage for bicycles on roads especially at Seabury Ave/W. Clark Ave.
- Add green striping to pedestrian crosswalks indicating bicycles may be present not just pedestrians
- Add a shared use path on both sides of the road so that all users can operate a bicycle on both sides of the roadway; this can be accomplished by removing all street parking with plastic bollards used to delineate the path
- Add a crosswalk across Walnut Street at Kings Highway since there is a bus stop on both sides of the roadway

Questionnaire Responses

Comment forms were prepared to ask specific questions while also requesting feedback from the community on the overall presentation. The results are below:

1. Please let us know your overall thoughts on the alternative presented.

- Agree that stop signs are not warranted
- Need more police presence
- Any improvement is welcome
- Woohoo – no stop signs
- Totally agree with narrowing the street
- Like the changes! Thank you!!

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project



2. Any additional thoughts on comments you would like to share?

- Stop creating more traffic – too much development on too narrow streets
- Are there any plans for dealing with traffic that will be associated with the new school
- More policing and speed cameras coupled with real fines. That'll do it!!

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project



Sign in Sheets

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
Community Workshop #2
April 4, 2023



1	Name Guern Guerke	Address 709 S. Walnut St	City Blifford	Phone 302-836-1084
	Organization	Email Address telguern@aol.com		
2	Name Bruce Long	Address 3068 S Walnut St		Phone 302422 6814
	Organization	Email Address BLOAN273@AOL.COM		
3	Name Nina Pletchen	Address 438 S Walnut St		Phone 302 8576129
	Organization	Email Address nina.pletchen@agmatic.com		
4	Name Ann Dragon	Address 305 S. Walnut St		Phone 201-317-0756
	Organization	Email Address dragon.ann.m@gmail.com		
5	Name Francis Malinowski	Address 305 S. Walnut St		Phone
	Organization	Email Address		
6	Name Jim Coulson	Address 712 New St.		Phone 802-535-7678
	Organization	Email Address j.coulson1105@gmail.com		
7	Name D'Cheraniel	Address 302 S Walnut St.		Phone 302 270-6450
	Organization	Email Address		

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
Community Workshop #2
April 4, 2023



8	Name Ted Boutin	Address 308 S. Walnut St	Phone 302 422 9704
	Organization Retired Virginia	Email Address tedboustin@gmail.com	" "
9	Name Holly Heverly	Address 712 New St	Phone 802-535-7679
	Organization	Email Address hheverly@gmail.com	
10	Name Mitchell Breeze	Address 100 wellness way	Phone 302 430 5030
	Organization beyken14	Email Address	
11	Name Thomas Johnson	Address 205 Lakelawn Dr Milford, DE	Phone 302-841-9798
	Organization	Email Address tm@kyoshindojo.org	
12	Name Frank Orendaniel	Address 302 S. Walnut St Milford DE	Phone
	Organization	Email Address	
13	Name Jen Cimar	Address 607 S. Walnut St	Phone 302 430-4468
	Organization	Email Address cimarjen@aol.com	
14	Name Michael Clark	Address 107 Kent Campy NFD	Phone
	Organization	Email Address	

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
Community Workshop #2
April 4, 2023



15	Name JAN BROULICE	Address 2 CAUSEY AVE MILFORD	Phone 301-996-8910
	Organization CAUSEY MANSION B&B	Email Address INFO@CAUSEYMANSION.COM	
16	Name Kari Sinclair	Address 429 S. Walnut St.	Phone 767-642-1387
	Organization	Email Address 200.015zyk@gmail.com	
17	Name Sue Lincke	Address	Phone 902-477-3973
	Organization MILFORD B.I.A. Group	Email Address	
18	Name Troylyn Keller	Address Linda DE	Phone
	Organization Milford Bike Group	Email Address	
19	Name Dane Wipe + Brad Schickelback	Address 219 S WALNUT ST	Phone 302-853-5305
	Organization	Email Address Brad@athomecabinetry.com	
20	Name Patrick Smith	Address	Phone 302-632-6998
	Organization Citizen	Email Address Patrick.Smith1919@gmail.com	
21	Name Paul Huntzinger	Address 36 JOHN ASKEURS DR HERRINGTON DE	Phone (571) 296-0433
	Organization CITIZEN - WALKER DOWNSTOWN	Email Address JH66@comcast.net	

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
Community Workshop #2
April 4, 2023



22	Name	Charles Greig	Address	16 Nelson St.	Phone	302-604-5446
	Organization		Email Address	cmgreig812@aol.com		
23	Name	Sandy Cudotta	Address	6 E Clarke Ave	Phone	302-256-5787
	Organization		Email Address	scudotta@aol.com		
24	Name	Joseph Phillips	Address	2 Causeway	Phone	301 994 8910
	Organization		Email Address	inf@causewaymarv.com		
25	Name	Steve Ashley Venet	Address	509 S Walnut	Phone	
	Organization		Email Address	hello@steve-and-ashley.com		
26	Name	Josh Collins	Address	609 S Walnut St	Phone	443 493 0741
	Organization		Email Address	joshcollins@gmail.com		
27	Name	Bryan Steyer	Address	30048 Steyer Loop	Phone	
	Organization		Email Address			
28	Name	Steve Kop	Address		Phone	
	Organization		Email Address			

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project



Comment Forms

Community Workshop for:
S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
April 4, 2023



Comments:

1. Please let us know your overall thoughts on the alternative presented.

Agree that stop signs not warranted.
Improve police presence.
Any improvement is welcome.

2. Any additional thoughts on comments you would like to share?

Stop creating more traffic - too much development on too narrow streets -
Are there any plans for dealing with traffic that will be associated with new school.

Optional: Please provide your information to stay informed about this project and upcoming information.

Name: Gwen Guerke

Organization: Resident

Address: 709 S. Walnut St, Milford DE 19963

Email Address: tellaqwen@aol.com

- Please add my/our name(s) to the Project Mailing List.
- Please delete my/our name(s) from the Project Mailing List.

Your comments and opinions are very important. All information provided on this form will be carefully reviewed by the Project Team. Under state law, this form is public domain, and if requested, a copy of it must be provided to the media or public. Thank you for your participation and contributions to this important transportation project.

Please hand your comment sheets in at the workshop or mail/email prior to May 5, 2023 to:
Rob Pierce | Planning Director
rpierce@milford-de.gov | O: 302.424.8395 | F: 302.424.3559
180 Vickers Dr. | Milford, DE 19963 | www.cityofmilford.com

Community Workshop for:
S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
April 4, 2023



Comments:

1. Please let us know your overall thoughts on the alternative presented.

woohos - no stop signs

Totally agree c narrowing the street

2. Any additional thoughts on comments you would like to share?

more policing and speed cameras coupled to
real fines. That'll do it!!!

Optional: Please provide your information to stay informed about this project and upcoming information:

Name: Vina Fletcher

Organization: _____

Address: 428 S Walnut St

Email Address: vina.fletcher@gmail.com

- Please add my/our name(s) to the Project Mailing List.
- Please delete my/our name(s) from the Project Mailing List.

Your comments and opinions are very important. All information provided on this form will be carefully reviewed by the Project Team. Under state law, this form is public domain, and if requested, a copy of it must be provided to the media or public. Thank you for your participation and contributions to this important transportation project.

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Rob Pierce | Planning Director
rpierce@milford-de.gov | O: 302.424.8395 | F: 302.424.3559
180 Vickers Dr. | Milford, DE 19963 | www.cityofmilford.com

Community Workshop for:
S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project
April 4, 2023



Comments:

1. Please let us know your overall thoughts on the alternative presented.

Sonia & Ted are awesome! Like the changes! Thank you!



2. Any additional thoughts on comments you would like to share?

Optional: Please provide your information to stay informed about this project and upcoming information:

Name: _____

Organization: _____

Address: _____

Email Address: _____

- Please add my/our name(s) to the Project Mailing List.
- Please delete my/our name(s) from the Project Mailing List.

Your comments and opinions are very important. All information provided on this form will be carefully reviewed by the Project Team. Under state law, this form is public domain, and if requested, a copy of it must be provided to the media or public. Thank you for your participation and contributions to this important transportation project.

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180 Vickers Dr. | Milford, DE 19963 | www.cityofmilford.com



Sonia Marichic-Goudy

From: Pierce, Rob <rpierce@milford-de.gov>
Sent: Monday, April 17, 2023 10:41 AM
To: Sonia Marichic-Goudy
Cc: Drew Boyce; Ted Foglietta; Whitfield, Mark; James Puddicombe; Mike Svaby
Subject: RE: Kevin Mullican - bike path
Attachments: PW Copier_20230417_103105.pdf

External Email

Sonia,

I think one of the comments from the public was to put a jog in the alignment similar to what is shown on the attached drawing. We could carry the jog for a further distance and flip some of the on-street parking. I'm not opposed to this but wasn't sure what Mark, Mike and James' thoughts are. This would further deter traffic speed but we could only fit this between Clark Ave and Jefferson Street.

Rob

From: Sonia Marichic-Goudy <smarichicgoudy@kleinfelder.com>
Sent: Wednesday, April 12, 2023 9:58 PM
To: Pierce, Rob <rpierce@milford-de.gov>
Cc: Drew Boyce <dboyce@kleinfelder.com>; Ted Foglietta <tfoglietta@kleinfelder.com>
Subject: RE: Kevin Mullican - bike path

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Rob. Since parking was allowed in that section in the existing scenario, we tried to maintain it. Most of the comments we received from those residents who attended the workshop were positive toward keeping it.

We did get the request to see if we could alternate parking on one side of the road and then to the other so act as a further traffic calming scenario. I have not looked into this being viable yet. What are your thoughts on this?

Thanks,
Sonia

Sonia S. Marichic-Goudy, PE
Associate Vice President

Plaza 273, 56 West Main Street, Suite 100-A
Newark, DE 19702
O| 302-525-6022
M| 302-388-0177



From: Pierce, Rob <rpierce@milford-de.gov>
Sent: Tuesday, April 11, 2023 2:15 PM
To: Sonia Marichic-Goudy <smarichicgoudy@kleinfelder.com>
Subject: FW: Kevin Mullican - bike path

External Email

Sonia,

See below question from a resident along S. Walnut Street. I believe we kept the on-street parking on that side because we had the room. I'm not sure if I recall someone requesting to keep parking on that side along that stretch of road.

Rob

From: KEVIN E MULLICAN <kemdesigner@att.net>
Sent: Tuesday, April 11, 2023 8:30 AM
To: Pierce, Rob <rpierce@milford-de.gov>
Subject: RE: Kevin Mullican - bike path

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hey Rob,

Thanks for the info.

I'm curious as to why the state wants on street parking on South Walnut between Jefferson and West Clark? In the four years that I've lived here I've seen minimal cars parked on the street. All of the homes in this stretch of South Walnut have large properties with ample off street parking. Most also have rear a rear alley with additional parking. What information are they using to justify this design choice?

Thanks,

Kevin

From: Pierce, Rob [<mailto:rpierce@milford-de.gov>]
Sent: Thursday, April 06, 2023 4:17 PM
To: KEVIN E MULLICAN <kemdesigner@att.net>
Subject: RE: Kevin Mullican - bike path

Kevin,

The poster boards have been uploaded to the website.
<https://www.cityofmilford.com/563/Current-StudiesProjects>

Please submit any comments within the next week or so for us to include in the final report.

Rob

From: KEVIN E MULLICAN <kemdesigner@att.net>
Sent: Wednesday, April 5, 2023 8:01 AM

To: Pierce, Rob <rpierce@milford-de.gov>

Subject: Kevin Mullican - bike path

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hey Rob,

It was great seeing you last night.

I have a quick question. Are all the presentation boards from last night online for viewing?

Thanks!

Kevin

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project



Workshop Boards

Welcome to the

S. Walnut Street Traffic Calming &
Bike/Pedestrian Improvement Project

Public Workshop #2

April 4, 2023

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project

Project Goals

- Improve bicycle and pedestrian connectivity along S. Walnut St
 - New shared use path
 - Complete gaps in existing sidewalks
- Reduce traffic speeds and provide traffic calming
- Improve pedestrian crossing at Seabury Avenue and W. Clarke Ave
- Improve S. Walnut Street intersection configuration with Railroad

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project

Traffic Calming Study

- Current posted speed: 25 mph
- Analyzed speed data from September 11, 2022 through September 19, 2022
 - Average speed: 27 mph
 - 85th percentile speed: 31 mph
- 62.6% of all recorded vehicles were traveling at speeds greater than the posted speed limit
- Half of all crashes occurred at two main intersections:
 - S. Walnut Street and McCoy Street
 - S. Walnut Street and Seabury Avenue/Clarke Avenue

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project

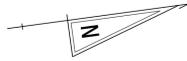
Crash Data



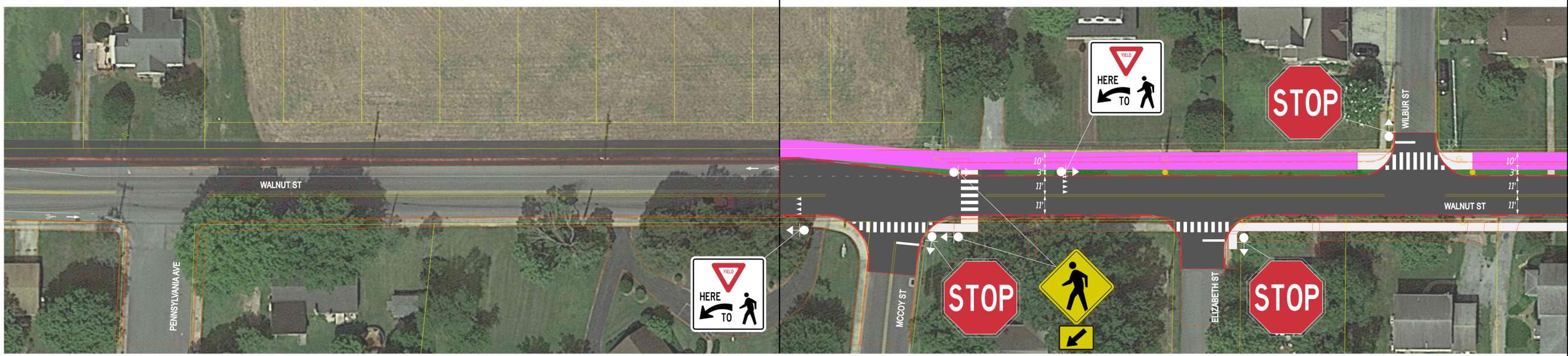
S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project

Speed Study Evaluation

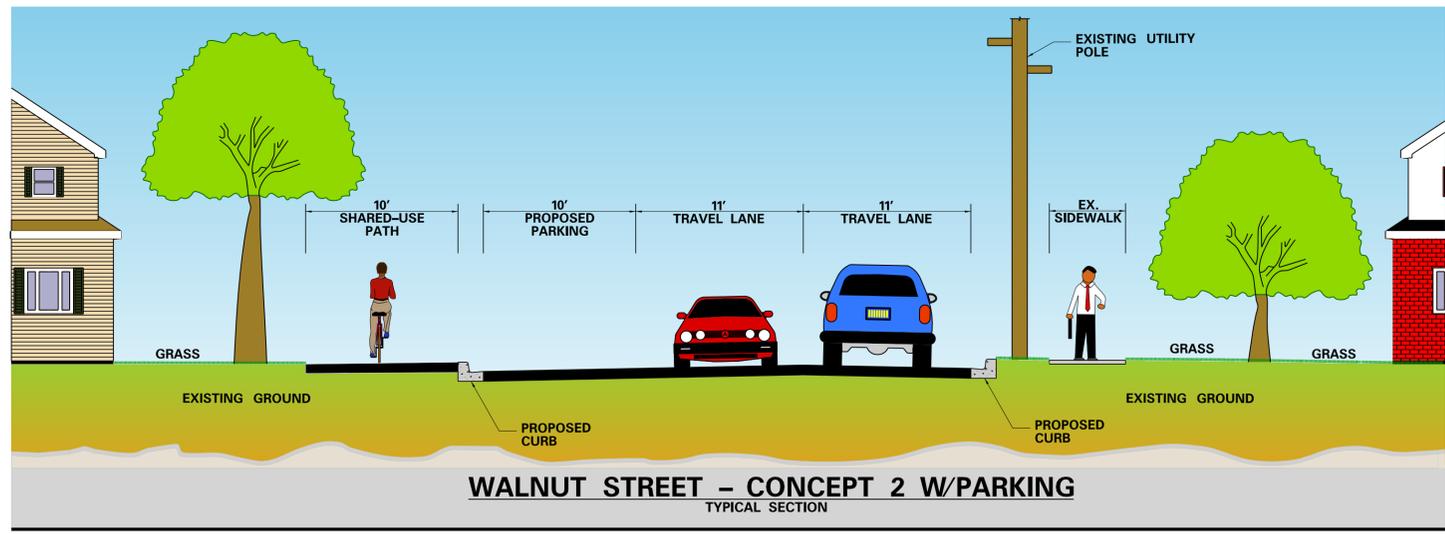
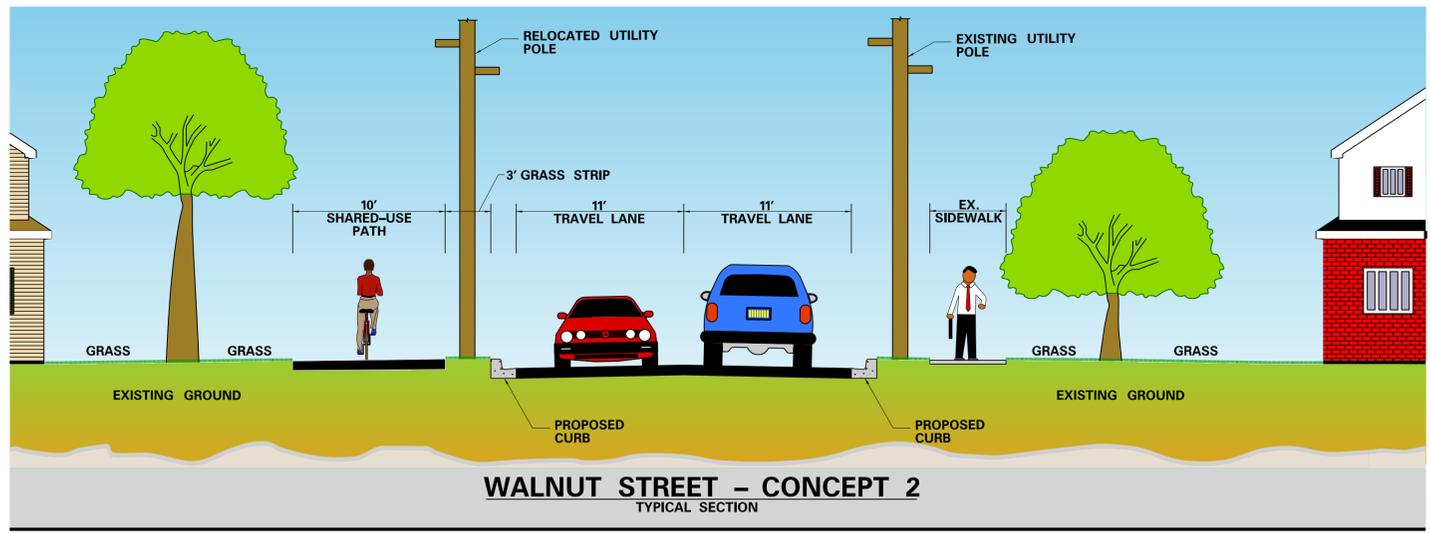
Milford S. Walnut Street Speed and Safety Evaluation							
	Type	Name	Potential Effectiveness for Speed Reduction (FHWA PSCI)	Potential for Crash Reduction (-) /Increase (+) (FHWA PSCI)	Potential Crash Reduction (-) /Increase (+) (HSM)	Considered? Why/why not?	Rank
Road Segment Treatment							
1	Vertical	Speed Humps	-6 mph	-40% to -48% (All Severities, All Crashes)	1. Treated Road = -40% (Injury Crashes, All Crash Types) 2. Adjacent Roads = -5% (Injury Crashes, All Crash Types)	No, speed humps are not preferred due to issues with emergency vehicles etc.	1
2	Vertical	Speed Table	-4 mph	-36% to -64% (All Severities, All Crashes)		No, speeds tables are not preferred due to issues with emergency vehicles etc.	2
Intersections Treatment							
3	Horizontal	Modern Roundabouts	-4 mph to -8 mph		-78% (All Severities, All Crash Types)	No, due to right of way constraints	1
4	Horizontal	Realigned Intersections				Yes, intersection improvements at S. Walnut/Seabury and S. Walnut and the R/R were recommended to assist in improving driver clarity	2
Road Segment Treatment							
5	Horizontal	Chicanes	-9 mph			No, roadway width that could be utilized for chicanes was utilized to add the shared use path	1
6	Horizontal	Lateral Shifts	Less than Chicanes			Yes, S. Walnut Street is recommended for a lateral shift between Delaware Ave and Clarke Ave	2
Road Segment Treatment: Road Width Reduction							
7	Width Reduction	Median Islands (Raised)	-3 mph	-39% (All Crashes) -44% (Fatal and Injury Crashes)	-39% (Injury Crashes, All Crash Types)	No, roadway width was narrowed to fit a new shared use path leaving no additional space for a median island	1
8	Width Reduction	Striping/Lane Markings	Reduction possible	Potential for less severe crash types	Potential for less severe crash types	Yes, lane widths were narrowed to 11' and shoulders/parking areas were reduced or eliminated	
Road Segment Treatment: Dynamic Signing							
9	Dynamic Signing	Radar Speed Signs	-2 mph to -5 mph		-46% (All Severities, All Crashes)	Potentially, coordinating with City of Milford	1



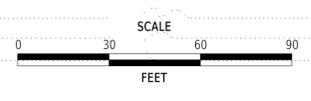
← SIMPSONS CROSSING CONCEPT 2 →



MATCHLINE SHEET 2



LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULT-USE PATH
	PROPOSED MULT-USE PATH
	PROPOSED BRICK MULT-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS
	HISTORIC DISTRICT

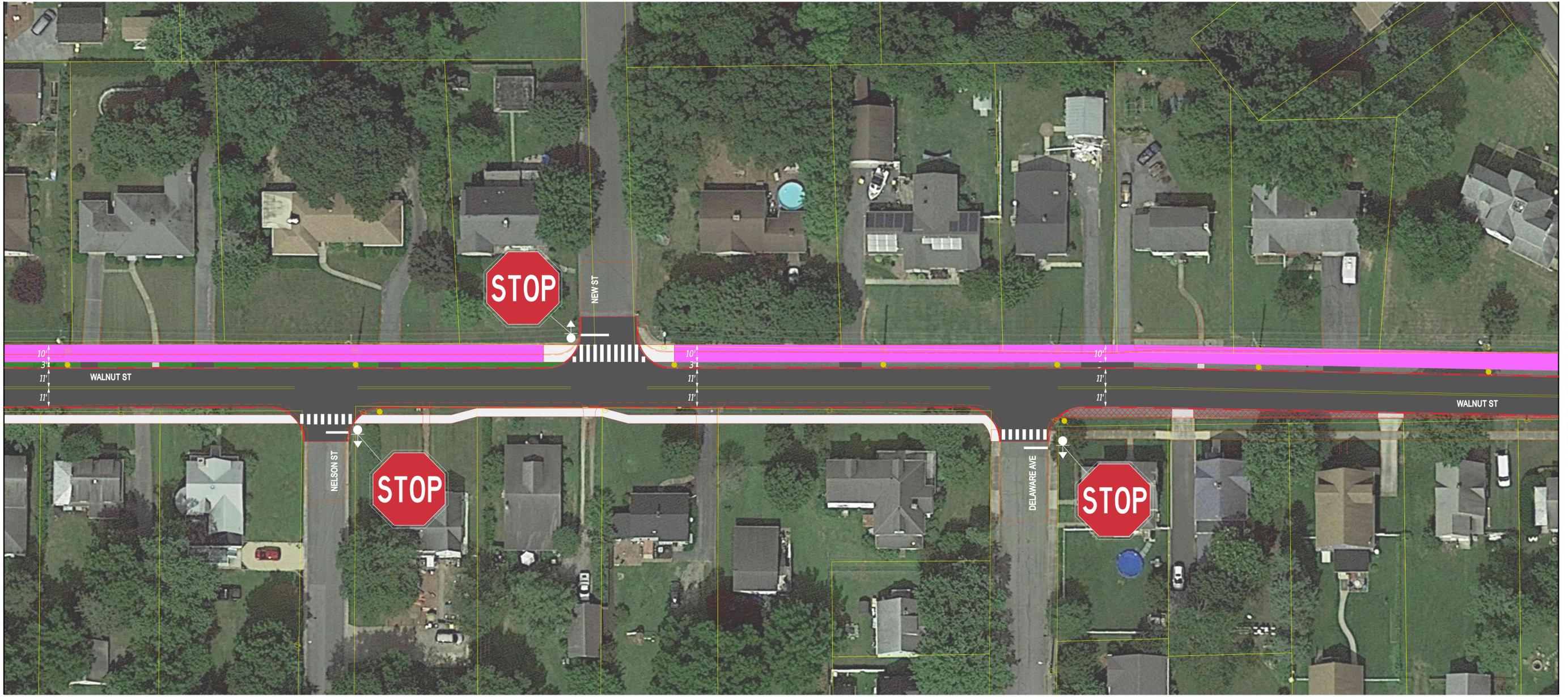


**WALNUT STREET
MILFORD, DE
CONCEPT PLAN**

CONTRACT TXXXXXXX	BRIDGE NO. X
COUNTY KENT	DESIGNED BY: M. PENNINGTON
	CHECKED BY: S. MARICIC-GOUDY

CONCEPT 2	SECTION CEN
	SHEET NO. 1

STATES
TIMES
FILES

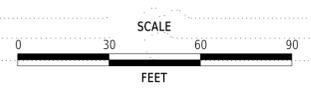


MATCHLINE SHEET 1

MATCHLINE SHEET 3



LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULT-USE PATH
	PROPOSED MULT-USE PATH
	PROPOSED BRICK MULTI-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS
	HISTORIC DISTRICT

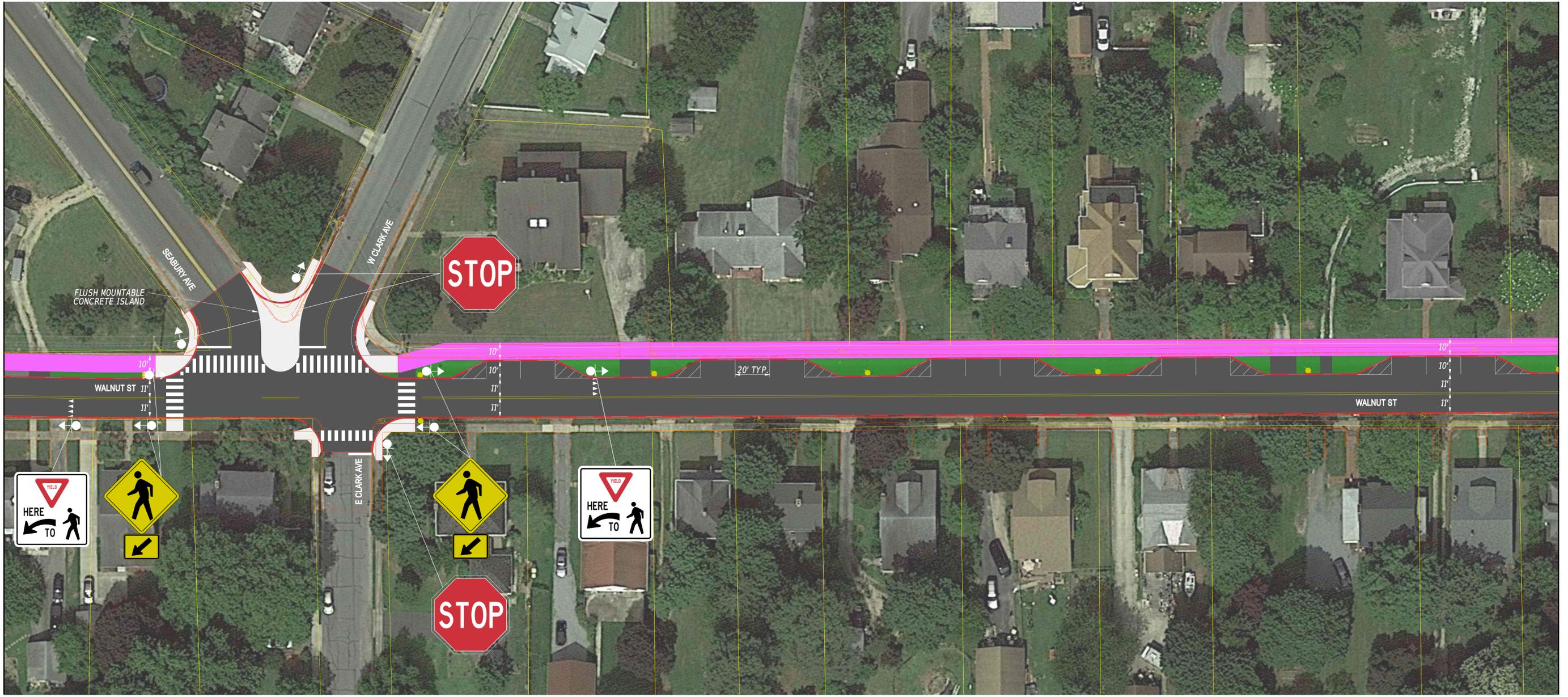


**WALNUT STREET
MILFORD, DE
CONCEPT PLAN**

CONTRACT	BRIDGE NO.	X
TXXXXXXX	DESIGNED BY:	M. PENNINGTON
COUNTY	CHECKED BY:	S. MARICIC-GOUDY
KENT		

CONCEPT 2	SECTION	CEN
	SHEET NO.	2

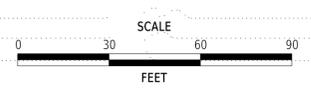
STATES
TIMES
\$FILES



MATCHLINE SHEET 2

MATCHLINE SHEET 4

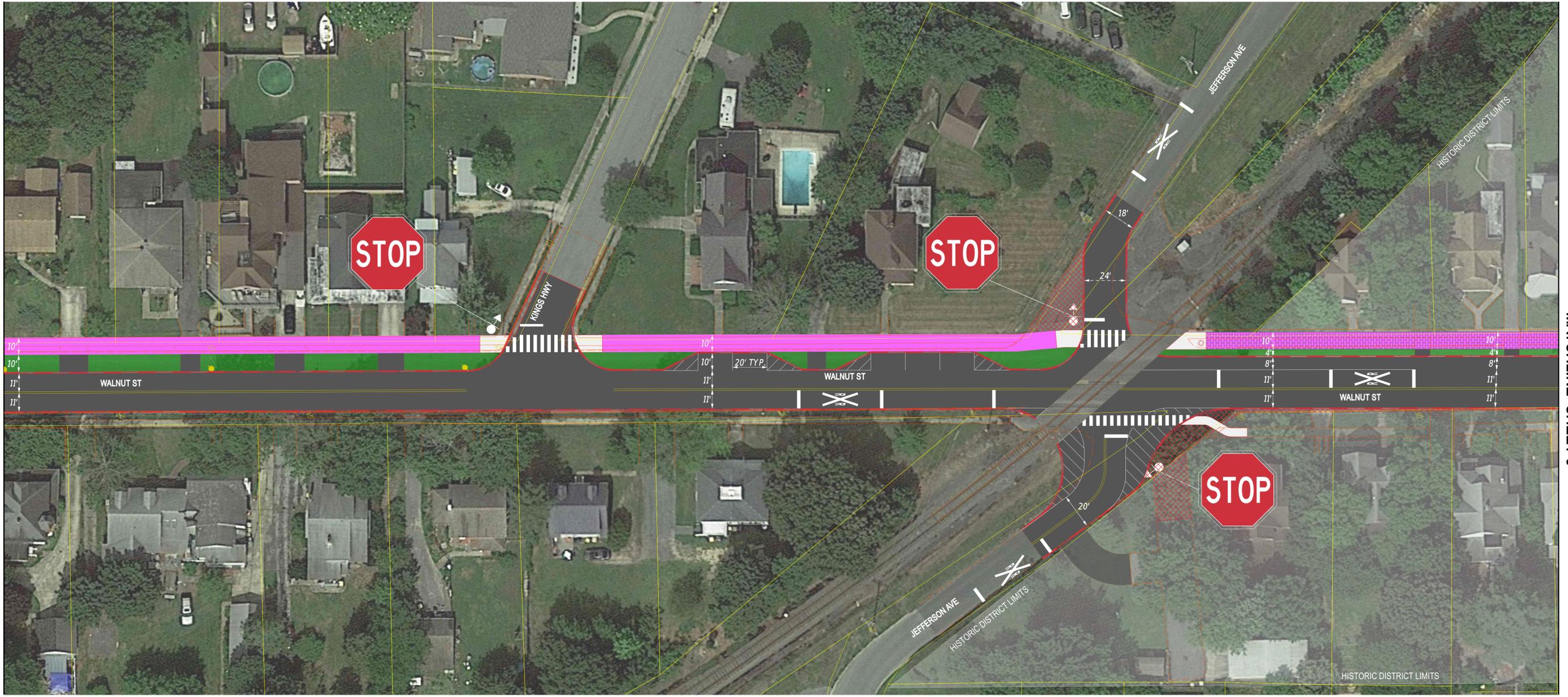
LEGEND	
	PROPERTY LINES
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	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS
	HISTORIC DISTRICT



**WALNUT STREET
MILFORD, DE
CONCEPT PLAN**

CONTRACT	BRIDGE NO.	X
TXXXXXXX	DESIGNED BY:	M. PENNINGTON
COUNTY	CHECKED BY:	S. MARICIC-GOUDY
KENT		

CONCEPT 2	SECTION	CEN
	SHEET NO.	3

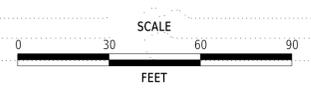


MATCHLINE SHEET 3

MATCHLINE SHEET 5

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">STATES</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">TIMES</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">FILES</p>			
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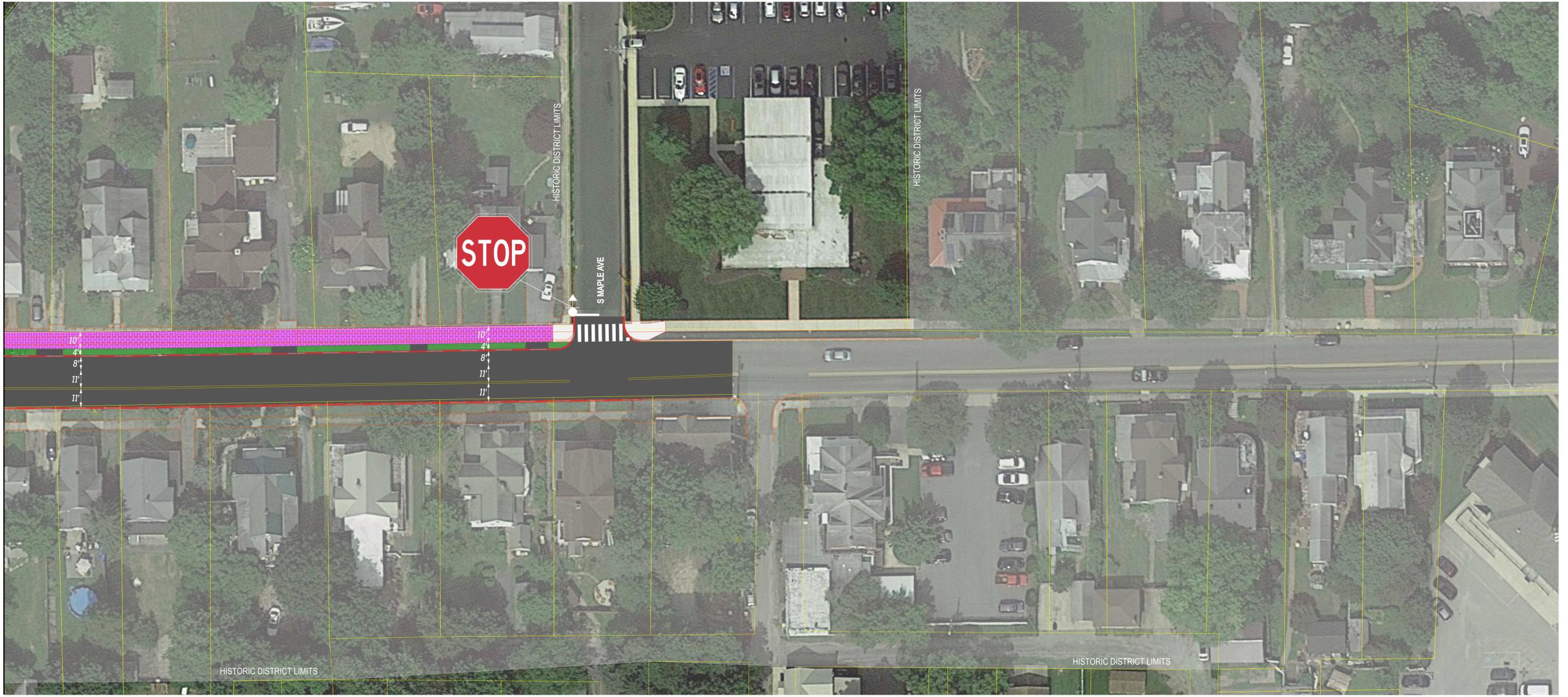
LEGEND	
	PROPERTY LINES
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	EXISTING MULT-USE PATH
	PROPOSED MULT-USE PATH
	PROPOSED BRICK MULT-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS
	HISTORIC DISTRICT



**WALNUT STREET
MILFORD, DE
CONCEPT PLAN**

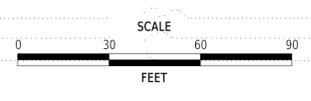
CONTRACT	BRIDGE NO.	X
TXXXXXXXXX	DESIGNED BY:	M. PENNINGTON
COUNTY	CHECKED BY:	S. MARICIC-GOUDY
KENT		

CONCEPT 2	SECTION	CEN
	SHEET NO.	4



MATCHLINE SHEET 4

LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULT-USE PATH
	PROPOSED MULT-USE PATH
	PROPOSED BRICK MULTI-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS
	HISTORIC DISTRICT



**WALNUT STREET
MILFORD, DE
CONCEPT PLAN**

CONTRACT TXXXXXXX	BRIDGE NO. X
COUNTY KENT	DESIGNED BY: M. PENNINGTON
	CHECKED BY: S. MARICIC-GOUDY

CONCEPT 2	SECTION CEN
	SHEET NO. 5

STATES
TIMES
FILES

Stop Sign Warrant Analysis

- ✓ Engineering analysis performed for a multiway Stop Sign installation
- ✓ Considered the following criteria
 1. Crash Analysis
 - a) Were there 5 or more crashes in a 12-month period that are susceptible to correction by a multiway stop installation (right and left turn collisions as well as right angle collisions)?
 2. Volume Analysis:
 - a) Major Street approach: at least 300 vehicles per hour, total for both approaches, for any 8 hours of an average day
 - b) Minor Street approach: Combined vehicular, pedestrian, and bicycle volumes, total for both approaches, averages at least 200 units per hour for the same 8 hours with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour
 3. Other Criteria
 - a) Is there a need to control left-turn conflicts?
 - b) Is this intersection near an area that generates high pedestrian volumes (i.e., church, school, etc.)?
 - c) Is this intersection a location where a road user, after stopping, cannot see conflicting traffic and is not able to reasonably safely negotiate the intersection unless conflicting cross traffic is also required to stop?
 - d) Is this intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multiway stop control would improve traffic operational characteristics of the intersection?

Stop Sign Warrant Analysis

1. Crash Analysis: Crashes in a 12-month period that are susceptible to correction by a multiway stop installation (right and left turn collisions as well as right angle collisions)

S. Walnut Street and McCoy Road	S. Walnut Street and W. Clarke Avenue	S. Walnut Street and Kings Highway
0	1	1
Stop Sign Not Warranted	Stop Sign Not Warranted	Stop Sign Not Warranted

2. Volume Analysis: Major and Minor Road Approaches

S. Walnut Street and McCoy Road	S. Walnut Street and W. Clarke Avenue	S. Walnut Street and Kings Highway
---------------------------------	---------------------------------------	------------------------------------

Major Street: S Walnut Street
Minor Street: McCoy Street
Orientation: North/South
East/West

ENTER TRAFFIC VOLUMES IN THE TABLE BELOW

Time	S Walnut Street			McCoy Street			Total
	North	South	Total	East	West	Pedestrians	
6 - 7 AM	52	151	203	0	109	0	312
7 - 8 AM	82	181	263	0	109	0	372
8 - 9 AM	41	112	153	0	80	0	233
9 - 10 AM	50	143	193	0	104	0	297
10 - 11 AM	50	143	193	0	104	0	297
11 AM - 12 PM	59	174	233	0	128	0	361
12 - 1 PM	64	152	216	0	114	0	330
1 - 2 PM	56	185	241	0	98	0	339
2 - 3 PM	66	218	284	0	116	0	400
3 - 4 PM	76	248	324	0	133	0	457
4 - 5 PM	68	250	318	0	165	0	483
5 - 6 PM	14	181	195	0	133	0	328

Condition C.1 and C.2
A minimum of 300 vehicles per hour required on the major street and
A minimum of 200 units per hour required on the minor street
A total of 0 hours meet conditions C.1 and C.2

Major Street: S Walnut Street
Minor Street: Clarke Avenue
Orientation: North/South
East/West

ENTER TRAFFIC VOLUMES IN THE TABLE BELOW

Time	S Walnut Street			Clarke Avenue			Total
	North	South	Total	East	West	Pedestrians	
6 - 7 AM	172	120	292	35	25	0	352
7 - 8 AM	173	120	293	35	25	0	353
8 - 9 AM	157	106	263	28	14	0	305
9 - 10 AM	145	142	287	28	17	0	332
10 - 11 AM	146	142	288	28	17	0	333
11 AM - 12 PM	134	140	274	28	20	0	322
12 - 1 PM	135	161	296	50	15	0	401
1 - 2 PM	141	164	305	40	32	0	417
2 - 3 PM	156	188	344	42	37	0	463
3 - 4 PM	170	211	381	43	41	0	505
4 - 5 PM	171	203	374	35	42	0	492
5 - 6 PM	177	202	379	35	42	0	493

Condition C.1 and C.2
A minimum of 300 vehicles per hour required on the major street and
A minimum of 200 units per hour required on the minor street
A total of 0 hours meet conditions C.1 and C.2

Major Street: S Walnut Street
Minor Street: Kings Highway
Orientation: North/South
East/West

ENTER TRAFFIC VOLUMES IN THE TABLE BELOW

Time	S Walnut Street			Kings Highway			Total
	North	South	Total	East	West	Pedestrians	
6 - 7 AM	736	180	916	83	0	0	999
7 - 8 AM	136	180	316	83	0	0	399
8 - 9 AM	135	155	290	46	0	0	336
9 - 10 AM	739	138	877	50	0	0	927
10 - 11 AM	739	138	877	50	0	0	927
11 AM - 12 PM	124	121	245	54	0	0	299
12 - 1 PM	144	141	285	43	0	0	328
1 - 2 PM	131	127	258	59	0	0	317
2 - 3 PM	156	144	300	64	0	0	364
3 - 4 PM	180	161	341	69	0	0	410
4 - 5 PM	181	188	369	88	0	0	457
5 - 6 PM	173	176	349	61	0	0	410

Condition C.1 and C.2
A minimum of 300 vehicles per hour required on the major street and
A minimum of 200 units per hour required on the minor street
A total of 0 hours meet conditions C.1 and C.2

S. Walnut Street and McCoy Road	S. Walnut Street and W. Clarke Avenue	S. Walnut Street and Kings Highway
Stop Sign Not Warranted	Stop Sign Not Warranted	Stop Sign Not Warranted

Other Criteria

S. Walnut Street and McCoy Road	S. Walnut Street and W. Clarke Avenue	S. Walnut Street and Kings Highway
---------------------------------	---------------------------------------	------------------------------------

Other criteria that may be considered in an engineering study include:
 A. The need to control left-turn conflicts;
 B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
 C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to reasonably safely negotiate the intersection unless conflicting cross traffic is also required to stop; and
 D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multiway stop control would improve traffic operational characteristics of the intersection.

No to all; Stop Sign Not Warranted

Other criteria that may be considered in an engineering study include:
 A. The need to control left-turn conflicts;
 B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
 C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to reasonably safely negotiate the intersection unless conflicting cross traffic is also required to stop; and
 D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multiway stop control would improve traffic operational characteristics of the intersection.

No to all; Stop Sign Not Warranted

Other criteria that may be considered in an engineering study include:
 A. The need to control left-turn conflicts;
 B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
 C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to reasonably safely negotiate the intersection unless conflicting cross traffic is also required to stop; and
 D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multiway stop control would improve traffic operational characteristics of the intersection.

No to all; Stop Sign Not Warranted



Stop Sign Warrant Analysis

What happens if a Stop Sign is installed when not warranted?

- ✓ Results in poor compliance by motorists who do not deem the stop sign necessary
- ✓ Frequent unnecessary stops result in more aggressive/abrupt motorist behaviors to recover the “lost” time from stopping
- ✓ Queues backing up at the Kings Highway approach of N. Walnut Street could extend back to railroad tracks

What can be implemented to slow traffic if a Stop Sign is not installed?

- ✓ Traffic calming measures such as narrowing lanes and introducing roadway curves
- ✓ Speed enforcement by police officers

S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project

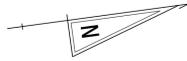
Thank you for attending our workshop.
For future information please contact:

Rob Pierce, Planning Director
City of Milford
rpierce@milford-de.gov
<http://cityofmilford.com>

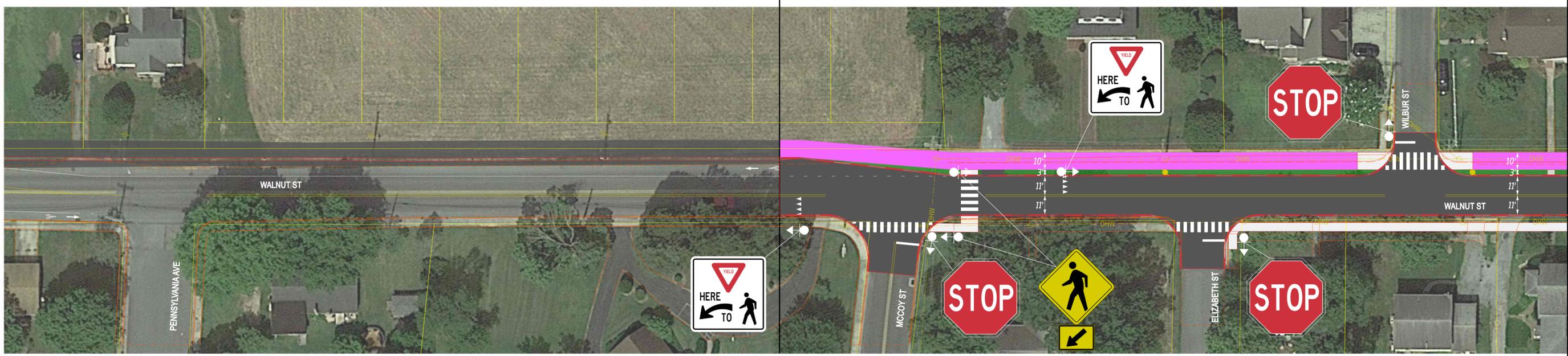
Sonia Marichic-Goudy
Century Engineering
smarichicgoudy@kleinfelder.com

Milford: South Walnut Street Traffic Calming and Bike/Pedestrian Improvement Project

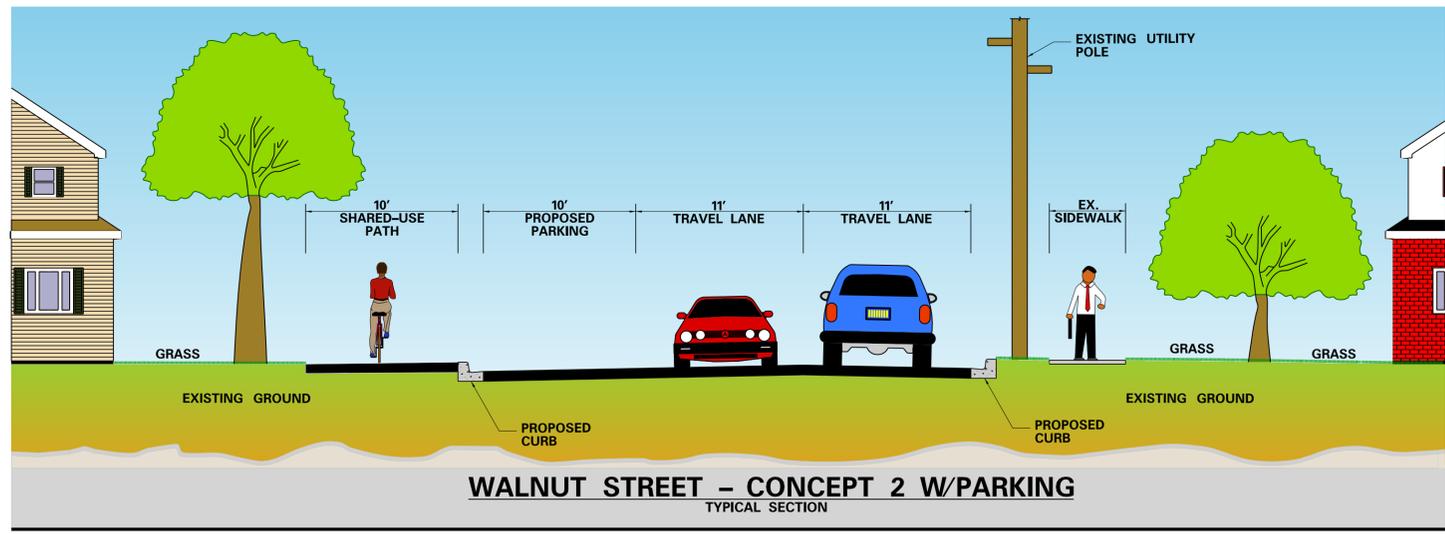
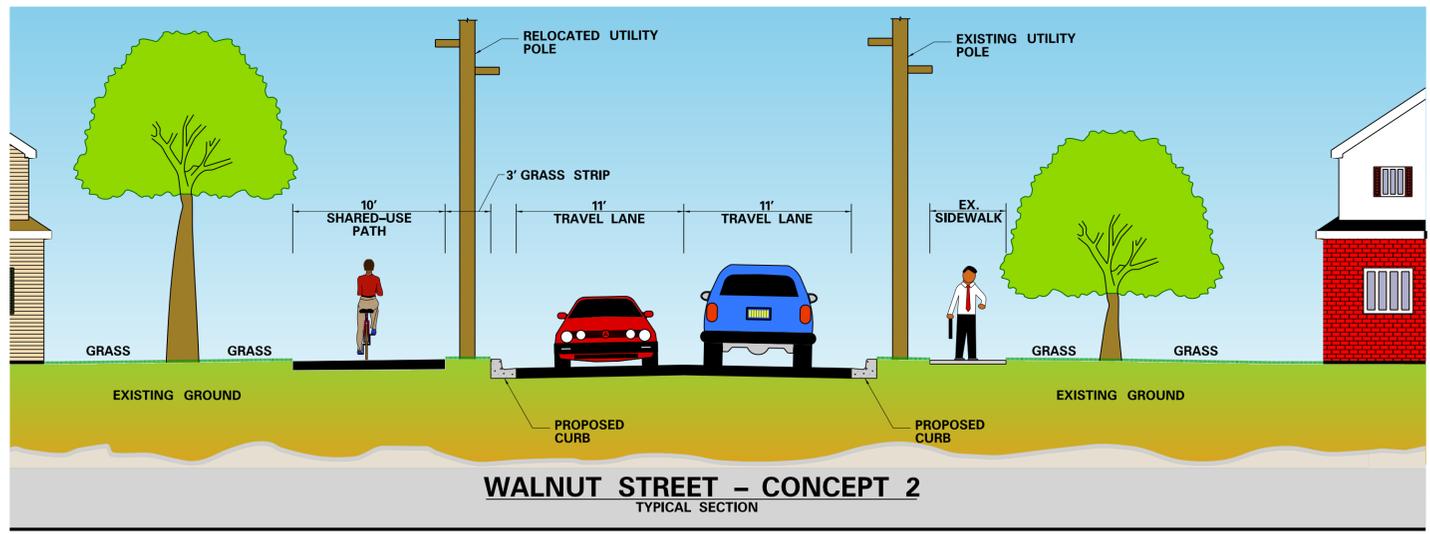
Appendix C: Preferred Alternative



← SIMPSONS CROSSING CONCEPT 2 →

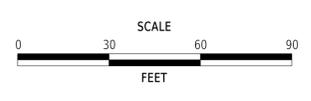


MATCHLINE SHEET 2



LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULT-USE PATH
	PROPOSED MULT-USE PATH
	PROPOSED BRICK MULT-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS
	HISTORIC DISTRICT

STATES
TIMES
\$FILES

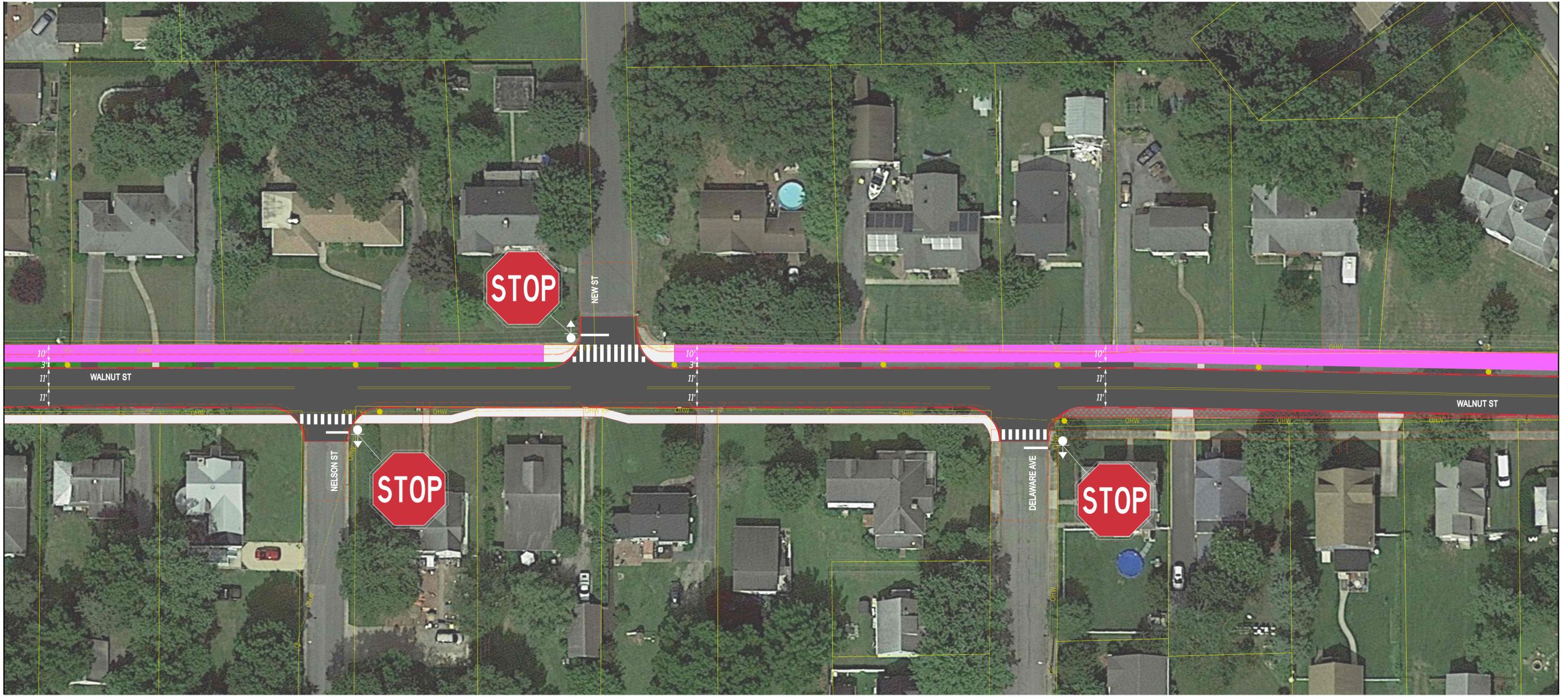


**WALNUT STREET
MILFORD, DE
CONCEPT PLAN**

CONTRACT	BRIDGE NO.	X
TXXXXXXXXX	DESIGNED BY:	M. PENNINGTON
COUNTY	CHECKED BY:	S. MARICIC-GOUDY
KENT		

CONCEPT 2

SECTION
CEN
SHEET NO.
1

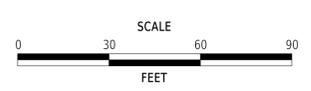


MATCHLINE SHEET 1

MATCHLINE SHEET 3

LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULT-USE PATH
	PROPOSED MULT-USE PATH
	PROPOSED BRICK MULT-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS
	HISTORIC DISTRICT

STATES
TIMES
\$FILES

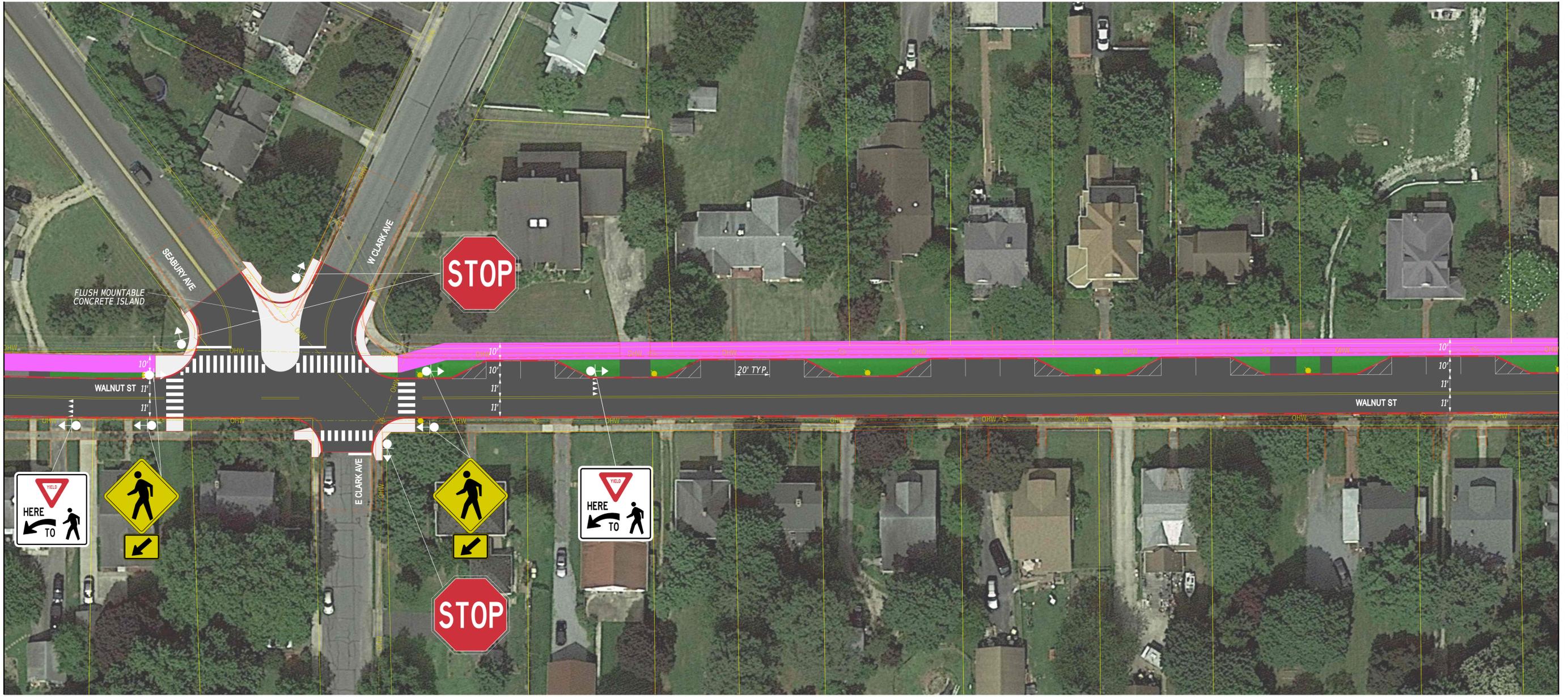


**WALNUT STREET
MILFORD, DE
CONCEPT PLAN**

CONTRACT	BRIDGE NO.	X
TXXXXXXXX	DESIGNED BY:	M. PENNINGTON
COUNTY	CHECKED BY:	S. MARICIC-GOUDY
KENT		

CONCEPT 2

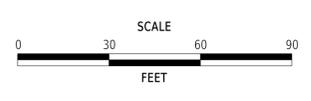
SECTION
CEN
SHEET NO.
2



MATCHLINE SHEET 2

MATCHLINE SHEET 4

LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULTI-USE PATH
	PROPOSED MULTI-USE PATH
	PROPOSED BRICK MULTI-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS
	HISTORIC DISTRICT

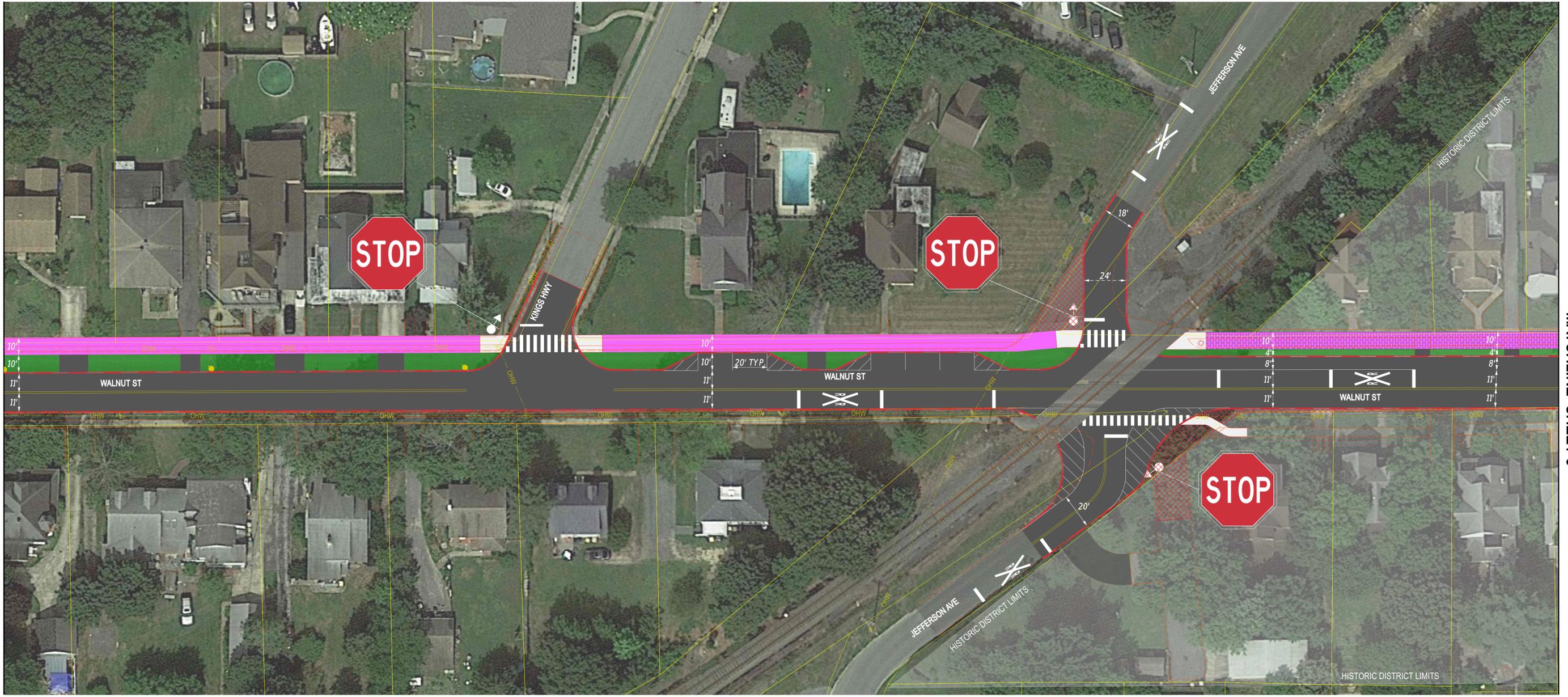


**WALNUT STREET
MILFORD, DE
CONCEPT PLAN**

CONTRACT	BRIDGE NO.	X
TXXXXXXXXX	DESIGNED BY:	M. PENNINGTON
COUNTY	CHECKED BY:	S. MARICIC-GOUDY
KENT		

CONCEPT 2

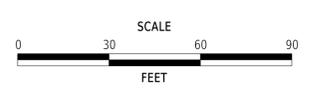
SECTION
CEN
SHEET NO.
3



MATCHLINE SHEET 3

MATCHLINE SHEET 5

LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULT-USE PATH
	PROPOSED MULT-USE PATH
	PROPOSED BRICK MULT-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS
	HISTORIC DISTRICT

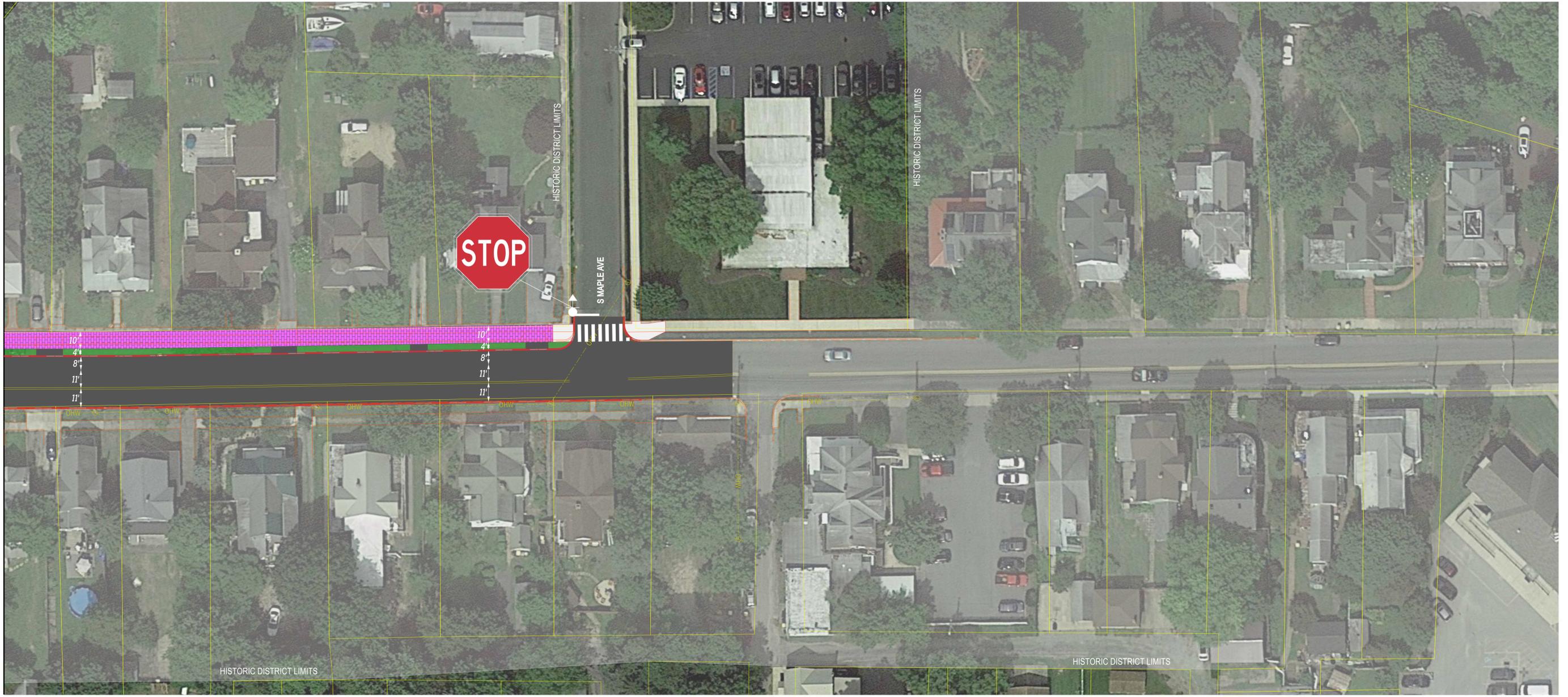


**WALNUT STREET
MILFORD, DE
CONCEPT PLAN**

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TXXXXXXXXX	DESIGNED BY:	M. PENNINGTON
COUNTY	CHECKED BY:	S. MARICIC-GOUDY
KENT		

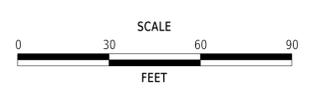
CONCEPT 2

SECTION
CEN
SHEET NO.
4



MATCHLINE SHEET 4

LEGEND	
	PROPERTY LINES
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING MULT-USE PATH
	PROPOSED MULT-USE PATH
	PROPOSED BRICK MULT-USE PATH
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	PROPOSED GRASS
	HISTORIC DISTRICT



**WALNUT STREET
MILFORD, DE
CONCEPT PLAN**

CONTRACT	BRIDGE NO.	X
TXXXXXXXXX	DESIGNED BY:	M. PENNINGTON
COUNTY	CHECKED BY:	S. MARICIC-GOUDY
KENT		

CONCEPT 2	SECTION	CEN
	SHEET NO.	5

STATES
TIMES
\$FILES

Milford: South Walnut Street Traffic Calming and Bike/Pedestrian Improvement Project

Appendix D: Cost Estimates

Milford: South Walnut Street Traffic Calming and Bike/Pedestrian Improvement Project

Cost Estimates

Conceptual cost estimates were developed for Preferred Option 2. The following provides a summary of the conceptual cost estimates:

Preferred Option 2

Preliminary Engineering	\$554,885.78
Right-of-Way	\$75,000
Construction Engineering	\$416,164.33
<u>Construction</u>	<u>\$2,774,428.89</u>
Total Cost	\$3,820,479.00 **Round to \$4,000,000

Conceptual cost estimate is provided in *Appendix D* of this report.

Walnut St, Milford

Concept

Preliminary 4/24/2020

ITEM #	TITLE	UNIT	ESTIMATE COST	UNIT QUANTITY	TOTAL
201000	CLEARING AND GRUBBING	LS	\$25,000.00	1.00	\$25,000.00
202000	EXCAVATION AND EMBANKMENT	CY	\$15.00	4277.00	\$64,155.00
202003	UNDERCUT EXCAVATION	CY	\$23.00	856.00	\$19,688.00
207000	STRUCTURAL EXCAVATION	CY	\$15.00	859.00	\$12,885.00
209001	BORROW, TYPE A	CY	\$20.00	500.00	\$10,000.00
209005	FURNISHING BORROW, TYPE C FOR PIPE AND UTILITY TRENCH BACKFILL	CY	\$24.00	702.00	\$16,848.00
209006	BORROW, TYPE F	CY	\$12.00	500.00	\$6,000.00
211000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	\$10,000.00	1.00	\$10,000.00
211001	REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT, CURB AND SIDEWALK	SY	\$28.00	3494.00	\$97,832.00
301001	GRADED AGGREGATE BASE COURSE, TYPE B	CY	\$55.00	1281.00	\$70,455.00
301002	GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING	CY	\$95.00	485.00	\$46,075.00
401014	SUPERPAVE TYPE B, PG 64-22	TON	\$100.00	0.00	\$0.00
401030	SUPERPAVE TYPE B, PG 64-22, PATCHING	TON	\$140.00	44.00	\$6,160.00
401036	SUPERPAVE TYPE C, PG 64-22, WEDGE	TON	\$150.00	99.00	\$14,850.00
401044	SUPERPAVE TYPE C, PG 64-22 (NON-CARBONATE STONE)	TON	\$110.00	1852.00	\$203,720.00
601033	REINFORCED CONCRETE PIPE, 18", CLASS IV	LF	\$95.00	1470.00	\$139,650.00
602004	DRAINAGE INLET, 48" X 30"	EACH	\$4,200.00	7.00	\$29,400.00
602130	ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET	EACH	\$1,800.00	9.00	\$16,200.00
602132	ADJUSTING AND REPAIRING EXISTING MANHOLE	EACH	\$1,800.00	18.00	\$32,400.00
701013	PORTLAND CEMENT CONCRETE CURB, TYPE 1-8	LF	\$30.00	8140.00	\$244,200.00
701014	PORTLAND CEMENT CONCRETE CURB, TYPE 2	LF	\$25.00	0.00	\$0.00
701023	INTEGRAL PORTLAND CEMENT CONCRETE CURB AND GUTTER, TYPE 3-8	LF	\$35.00	44.00	\$1,540.00
705001	PORTLAND CEMENT CONCRETE SIDEWALK, 4"	SF	\$12.00	4901.00	\$58,812.00
705002	PORTLAND CEMENT CONCRETE SIDEWALK, 6"	SF	\$14.00	6312.00	\$88,368.00
705005	PORTLAND CEMENT CONCRETE SIDEWALK, 8"	SF	\$16.00	10299.00	\$164,464.00
705007	SIDEWALK SURFACE DETECTABLE WARNING SYSTEM	SF	\$38.00	506.00	\$19,228.00
705008	PEDESTRIAN CONNECTION, TYPE 1	SF	\$15.50	2945.00	\$45,647.50
710002	ADJUST WATER VALVE BOXES	EACH	\$450.00	20.00	\$9,000.00
710041	RELOCATING FIRE HYDRANT	EACH	\$7,500.00	0.00	\$0.00
760010	PAVEMENT MILLING, BITUMINOUS CONCRETE/PAVEMENT	SYIN	\$2.50	26500.00	\$66,250.00
762000	SAW CUTTING, BITUMINOUS CONCRETE	LF	\$3.00	9482.00	\$28,446.00
762001	SAW CUTTING, CONCRETE, FULL DEPTH	LF	\$15.00	197.00	\$2,955.00
801000	MAINTENANCE OF TRAFFIC	LS	\$200,000.00	1.00	\$200,000.00
817002	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND, ALKYD- THERMOPLASTIC	SF	\$6.00	3030.00	\$18,180.00
817003	TEMPORARY MARKINGS, PAINT, 4"	LF	\$0.55	0.00	\$0.00
817004	TEMPORARY MARKINGS, PAINT, SYMBOL/LEGEND	SF	\$4.00	0.00	\$0.00
817005	PERMANENT PAVEMENT STRIPING, ALKYD-THERMOPLASTIC, 5"	LF	\$5.00	0.00	\$0.00
817015	PREFORMED RETROREFLECTIVE THERMOPLASTIC MARKINGS, BIKE SYMBOL	EACH	\$400.00	0.00	\$0.00
817042	PERMANENT PAVEMENT STRIPING, ALKYD-THERMOPLASTIC, 6"	LF	\$1.50	7692.00	\$11,538.00
817043	PERMANENT PAVEMENT STRIPING, ALKYD-THERMOPLASTIC, 12"	LF	\$3.00	495.00	\$1,485.00
818001	SUPPLY OF FLAT SHEET ALUMINUM SIGN PANEL, TYPE IV, RETROREFLECTIVE SHEETING		\$30.00	36.00	\$1,080.00
818003	SUPPLY OF FLAT SHEET ALUMINUM SIGN PANEL, TYPE XI, RETROREFLECTIVE SHEETING		\$30.00	163.00	\$4,890.00
819011	GALVANIZED TELESCOPING STEEL SIGN POSTS, 12' X 2", COMPLETE W/ BASEPOSTS AND HARDWARE		\$175.00	23.00	\$4,025.00
819018	INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE SIGN POST	EACH	\$110.00	23.00	\$2,530.00
819019	INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON MULTIPLE SIGN POSTS	SF	\$22.00	0.00	\$0.00
905001	SILT FENCE	LF	\$4.00	10000.00	\$40,000.00
905004	INLET SEDIMENT CONTROL, DRAINAGE INLET	EACH	\$200.00	0.00	\$0.00
905005	INLET SEDIMENT CONTROL, CURB INLET	EACH	\$200.00	16.00	\$3,200.00
907017	COMPOST FILTER LOGS	LF	\$24.00	0.00	\$0.00
908004	TOPSOIL, 6" DEPTH	SY	\$4.50	7841.00	\$35,284.50
908017	TEMPORARY GRASS SEEDING	SY	\$0.75	0.00	\$0.00
908020	EROSION CONTROL BLANKET MULCH	SY	\$4.00	7841.00	\$31,364.00
908023	STABILIZED CONSTRUCTION ENTRANCE	SY	\$75.00	0.00	\$0.00
	Subtotal				\$1,756,805.00
763000	Initial Expense (5%)	L.S.	\$87,790.25	1	\$87,790.25
763501	Construction Engineering (5%)	L.S.	\$87,790.25	1	\$87,790.25
	TOTAL BASE FOR PROJECT				\$1,931,385.50
	CONSTRUCTION CONTINGENCY	20%	\$386,277.10	1	\$386,277.10
	TRAFFIC (FROM TRAFFIC STATEMENT)	L.S.	\$0.00	1	\$0.00
	UTILITY	L.S.	\$377,559.84	1	\$377,559.84
	QA/QC for HMA	L.S.	\$698.25	1	\$698.25
	E&S INSPECTION	L.S.	\$63,000.00	1	\$63,000.00
	Asphalt Cost Adj	L.S.	\$15,508.20	1	\$15,508.20
	TOTAL CONSTRUCTION COST				\$2,774,428.89
	CONSTRUCTION ENGINEERING - (INSPECTION, CE, ETC)	L.S.	\$416,164.33	1	\$416,164.33
	RIGHT OF WAY	L.S.	\$75,000.00	1	\$75,000.00
	PE	L.S.	\$554,885.78	1	\$554,885.78
	TOTAL BASE CONSTRUCTION COST				\$3,820,479.00

- Notes:
1. All MOT items included in Item 801000 for this estimate. Breakouts of individual items will be included in the semi-final cost estimate.
 2. Assumes 180 Calendar Days.