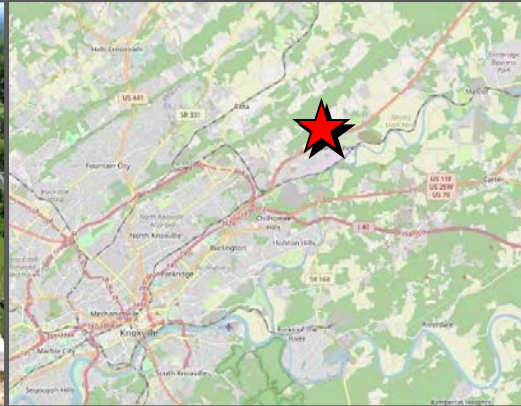




# Transportation Impact Letter

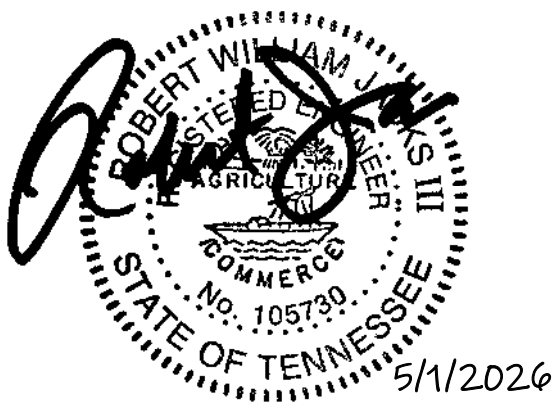
## 7324 Millertown

### Knox County, Tennessee



May 2026

Prepared for:  
Mesana Investments, LLC  
P.O. Box 11315  
Knoxville, TN 37939



6-SB-26-C / 6-E-26-DP  
TIL Version 1  
5/1/2026

▪ **EXECUTIVE SUMMARY**

**Preface:**

Mesana Investments, LLC proposes a residential development at 7324 Millertown Pike in Northeast Knox County, TN. The proposed development will include the construction of 46 single-family detached houses on 10.53 +/- acres. The development is referred to in this report as “7324 Millertown” because a formal name has not yet been chosen. The development proposes a single entrance and internal road to Millertown Pike. The residential development is anticipated to be fully built and occupied by 2028.

This Transportation Impact Letter (TIL), as requested by Knoxville/Knox County Planning, includes an analysis of the Proposed Entrance at Millertown Pike that will be approximately 270 feet to the southwest of a newly constructed entrance to The Reserve at Three Ridges. The Reserve at Three Ridges (previously known as the Mayer Property Subdivision) is also a residential development. It is currently under construction, comprising 130 single-family attached townhouses and 3 single-family detached houses.

**Report Results:**

The significant findings of this report include the following:

- The proposed 7324 Millertown development, with 46 single-family detached houses, is estimated to generate 637 vehicle trips at full build-out and occupancy on an average weekday. Of these daily trips, 36 are estimated to occur during the AM peak hour and 47 in the PM peak hour in 2028.
- The Proposed Entrance intersection at Millertown Pike is calculated to operate with short vehicle delays and queues in the projected 2028 peak hour conditions.
- The volume thresholds for recommending or requiring a separate left-or right-turn lane on Millertown Pike at the Proposed Entrance were not met based on the calculated projected volumes during the 2028 AM and PM peak hours.
- The proposed entrance for 7324 Millertown development and the entrance to The Reserve at Three Ridges Subdivision will be approximately 270 feet apart. The projected vehicle queues at the two entrances on Millertown Pike are expected to be minimal and will not interfere with each other's traffic operations or cause vehicle blockages.

**Recommendations:**

The following recommendations are offered based on the analyses to minimize the impacts of the proposed development on the adjacent transportation system while attempting to achieve an acceptable traffic flow and improved safety.

**Millertown Pike at Proposed Entrance:**

- The intersection sight distances from the Proposed Entrance at Millertown Pike must not be impacted by future landscaping, signage, grading, or existing vegetation.
- It is recommended that a Stop Sign (R1-1) be installed and a 24" white stop bar be applied at the Proposed Entrance approach at Millertown Pike. The stop bar should be installed at least 4 feet from the edge of the nearest travel lane on Millertown Pike, at the desired stopping point that maximizes sight distance.
- The curb radius for eastbound right turns into the development at the Proposed Entrance on Millertown Pike should be a minimum of 40 feet to facilitate turns and increase the speed at which vehicles can be removed from the thru movements on Millertown Pike. A smaller 35-foot radius is recommended for exiting vehicles to enter the Millertown Pike eastbound traffic stream from the Proposed Entrance road.
- The existing centerline pavement marking on Millertown Pike should be removed within the approach of the new Proposed Entrance roadway for the 7324 Millertown development.
- It is recommended that the existing 500-foot-long westbound passing zone on Millertown Pike adjacent to the proposed development property be removed and replaced with a double yellow centerline, except within the Proposed Entrance roadway's approach, as described above.
- The civil site designer will need to request a variance to allow the proposed intersection spacing on Millertown Pike to be less than the minimum required between the Proposed Entrance and the newly constructed entrance road, Legg Creek Lane, for The Reserve at Three Ridges. This variance should be requested because the development property at 7324 Millertown has limited access opportunities along Millertown Pike due to the parcel's narrow width and limited road frontage.

**7324 Millertown Development Internal Road:**

- A 25-mph Speed Limit Sign (R2-1) with additional plaque signage, as shown adjacent, is recommended to be posted near the beginning of the Proposed Entrance road off Millertown Pike. It is also recommended that a “Dead End” Sign (W14-1a) be posted at the front of the subdivision. This sign can be posted above or below the street name sign.
- The civil site engineer should provide a centralized mail delivery center location within the development for the residents.
- All drainage grates and covers for the residential development must be pedestrian and bicycle-safe.
- With a long, straight north-to-south internal roadway in the development site, it is recommended that speed humps or tables be considered to reduce internal traffic speeds in the development. The particulars of this should be coordinated and discussed with Knox County in the detailed design phase.
- All road and intersection elements should be designed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) and the Manual on Uniform Traffic Control Devices (MUTCD), as well as Knox County's specifications and guidelines, to ensure proper roadway operations.



▪ **INTRODUCTION AND ACCESS ROADWAY DESCRIPTIONS**

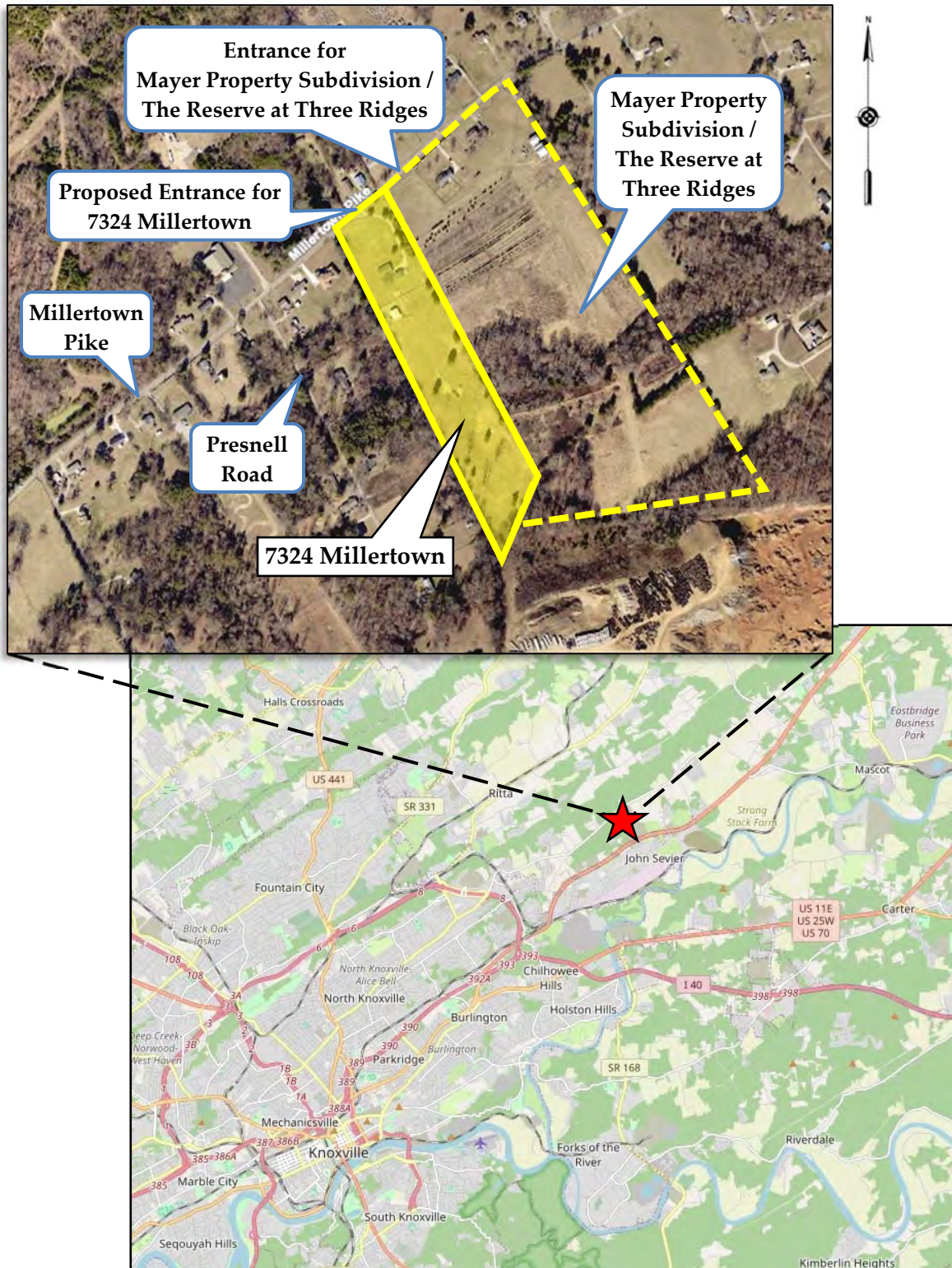
The location of the proposed new residential development, 7324 Millertown, is shown in Figure 1. This proposed development will be located on the south side of Millertown Pike, 590 feet northeast of Presnell Road in Northeast Knox County, TN. The development property is also southwest of and adjacent to The Reserve at Three Ridges residential development, which is currently under construction, but nearing completion.

The Proposed Entrance to 7324 Millertown will also be located approximately 270 feet to the southwest of the entrance that has been recently constructed for The Reserve at Three Ridges residential subdivision. This other entrance roadway, Legg Creek Lane, intersects Millertown Pike from the south and forms a T-intersection, with Legg Creek Lane operating under stop conditions.

Millertown Pike at the proposed development site runs generally southwest-northeast and is depicted as west-east in this report. Millertown Pike is classified as a Minor Arterial and has a posted speed limit of 40 mph at the project site. The pavement surface provides two lanes, one for each direction, and is nearly 22 feet wide. A faded yellow centerline and white edge lines delineate Millertown Pike. Near the shared property line between The Reserve at Three Ridges and the proposed 7324 Millertown development property, the centerline of Millertown Pike is marked with a single yellow centerline and a broken yellow line that delineates a passing zone for westbound traffic. This passing zone is adjacent to and extends to the west of the development site, and is 500 feet long before it transitions to an eastbound passing zone on Millertown Pike.



The pavement width outside the white edge line varies, ranging from 6 inches to 1 foot. Along Millertown Pike, there is no curbing or sidewalks. Utility roadway lights are not provided on Millertown Pike within the adjacent study area; however, a few are located off the roadway on nearby private properties.



**Figure 1**  
**Location Map**

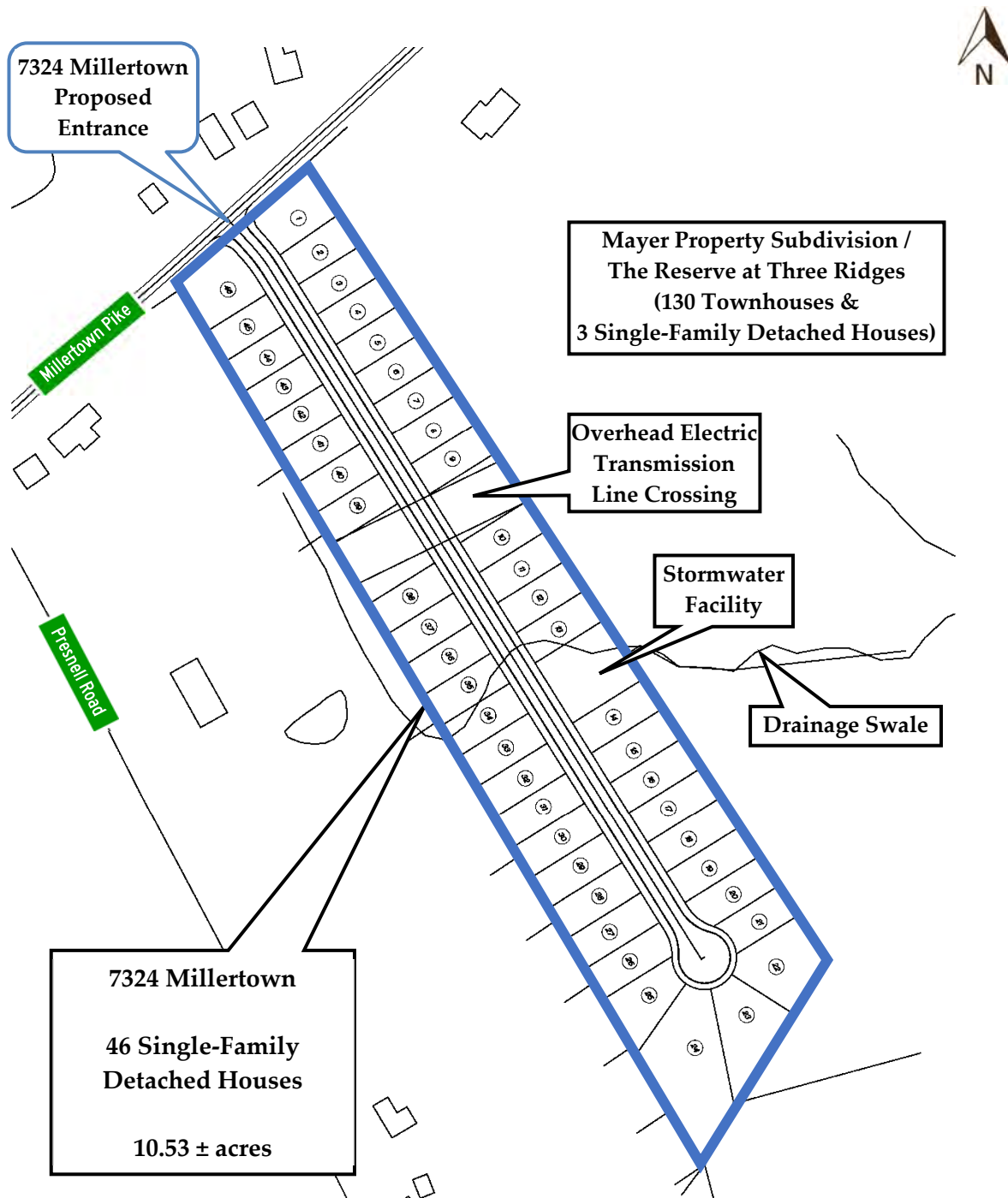
▪ **PROJECT DESCRIPTION:**

The 7324 Millertown development will include a single entrance to Millertown Pike, approximately 270 feet southwest of Legg Creek Lane, the single entrance to The Reserve at Three Ridges. The Reserve at Three Ridges is constructing 130 attached townhouses and three single-family detached house lots on 37.14 acres.

7324 Millertown is projected to be fully built and occupied by residents by 2028. The residential development will include 46 single-family detached houses on a narrow 10.53-acre parcel that is roughly 290 feet wide by 1,500 feet deep. The development parcel is currently mostly cleared and maintained as a private farm and residence. Trees line the property boundary, and a single-family detached house with an unattached garage and barn exists towards the front of the property to the north. These buildings will be removed during the construction of the development. A drainage swale bisects the development property, flowing west to east, as does an overhead electric transmission line.

Access to the house lots will be provided by a single internal road with a straight horizontal alignment centered on the narrow parcel. The internal road will end at a cul-de-sac and will be a dedicated public street, 26 feet wide, 1,370 feet long, within a 50-foot right-of-way. Two areas along the existing overhead electric transmission line that bisects the parcel will be left undeveloped, and another lot-sized area will be reserved for stormwater control. The development will not have sidewalks, and no specific amenities will be provided for the future residents, such as a clubhouse or swimming pool. Each house in the development will have a garage and a driveway for off-street vehicle parking.

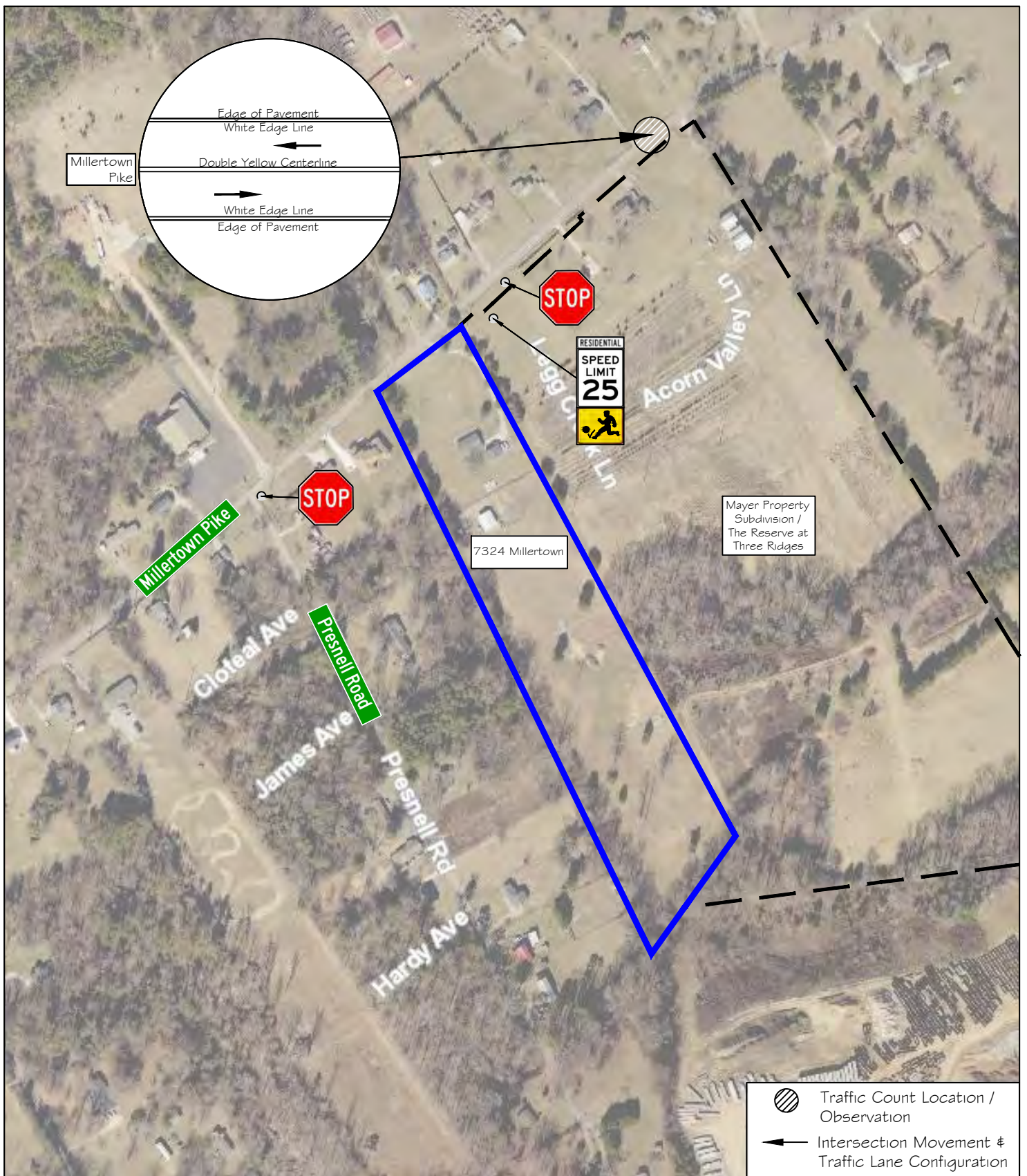
The proposed preliminary site layout from Urban Engineering, Inc. is shown in Figure 2, illustrating the single internal road, house lots, and the proposed access to Millertown Pike. Figure 3 shows the location of the development property at Millertown Pike, the adjacent The Reserve at Three Ridges, and the current traffic signage along Millertown Pike near the development site. The figure also shows the location of the traffic count conducted as part of the Transportation Impact Study (TIS) for The Reserve at Three Ridges Subdivision, then known as the Mayer Property Subdivision. This traffic count was conducted in August 2023, and its tabulation is used for this TIL, as recommended by Knoxville/Knox County Planning.



**Figure 2**  
**Proposed Plan Layout**  
**7324 Millertown**

Not to Scale –  
Annotated by Ajax  
Engineering for  
Display Purposes





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FIGURE 3

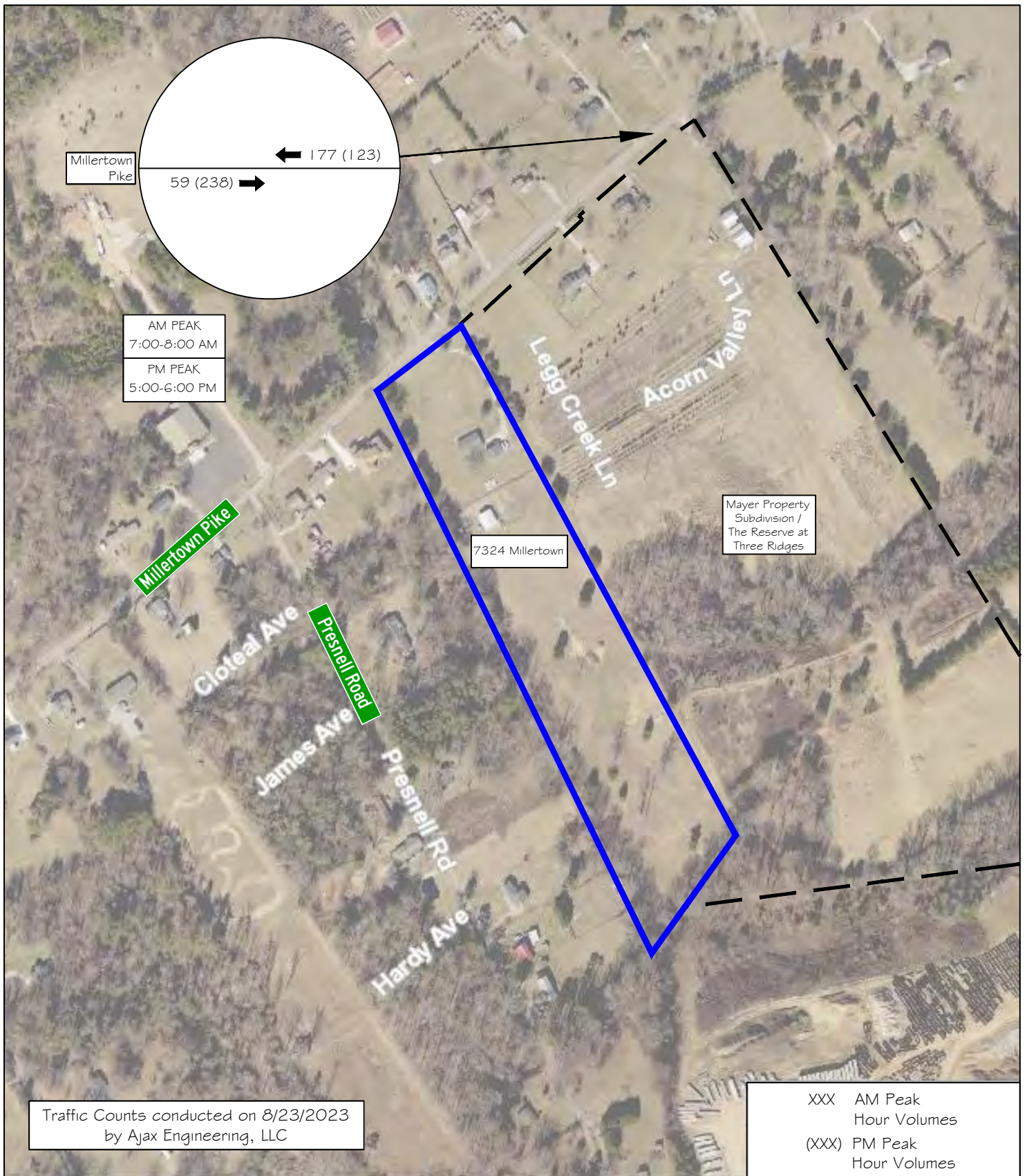
7324 Millertown

Traffic Count Location, Traffic Signage & Existing Lane Configurations

▪ **EXISTING TRAFFIC CONDITIONS**

For this report, the 6-hour traffic count that was conducted for the Mayer Property Subdivision TIS (The Reserve at Three Ridges) on Millertown Pike was used. This traffic count was conducted on Wednesday, August 23<sup>rd</sup>, 2023. Local public schools were in session when the traffic count was conducted. Based on the collected traffic volumes, the AM and PM peak hours were observed to be 7:00 – 8:00 am and 5:00 – 6:00 pm. The manual tabulated peak AM and PM traffic counts for the roadway from 2023 are shown in Figure 4, and the Appendix contains the full traffic count results.

Overall, the thru movements on Millertown Pike during the traffic count showed predominant westbound flows in the AM peak hour and eastbound flows in the PM peak hour, suggesting a typical commuting pattern towards Knoxville in the morning and away from Knoxville in the afternoon.



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FIGURE 4

7324 Millertown

2023 Peak Hour Traffic Volumes

▪ **PROJECTED TRAFFIC CONDITIONS WITHOUT THE PROJECT**

Horizon-year traffic conditions represent the projected traffic volumes in the study area, assuming the proposed project is not developed (no-build option). This proposed residential development's build-out and full occupancy are assumed to occur by 2028. The adjacent development, The Reserve at Three Ridges, is expected to be fully built out before the 7324 Millertown development, likely within the next few months.

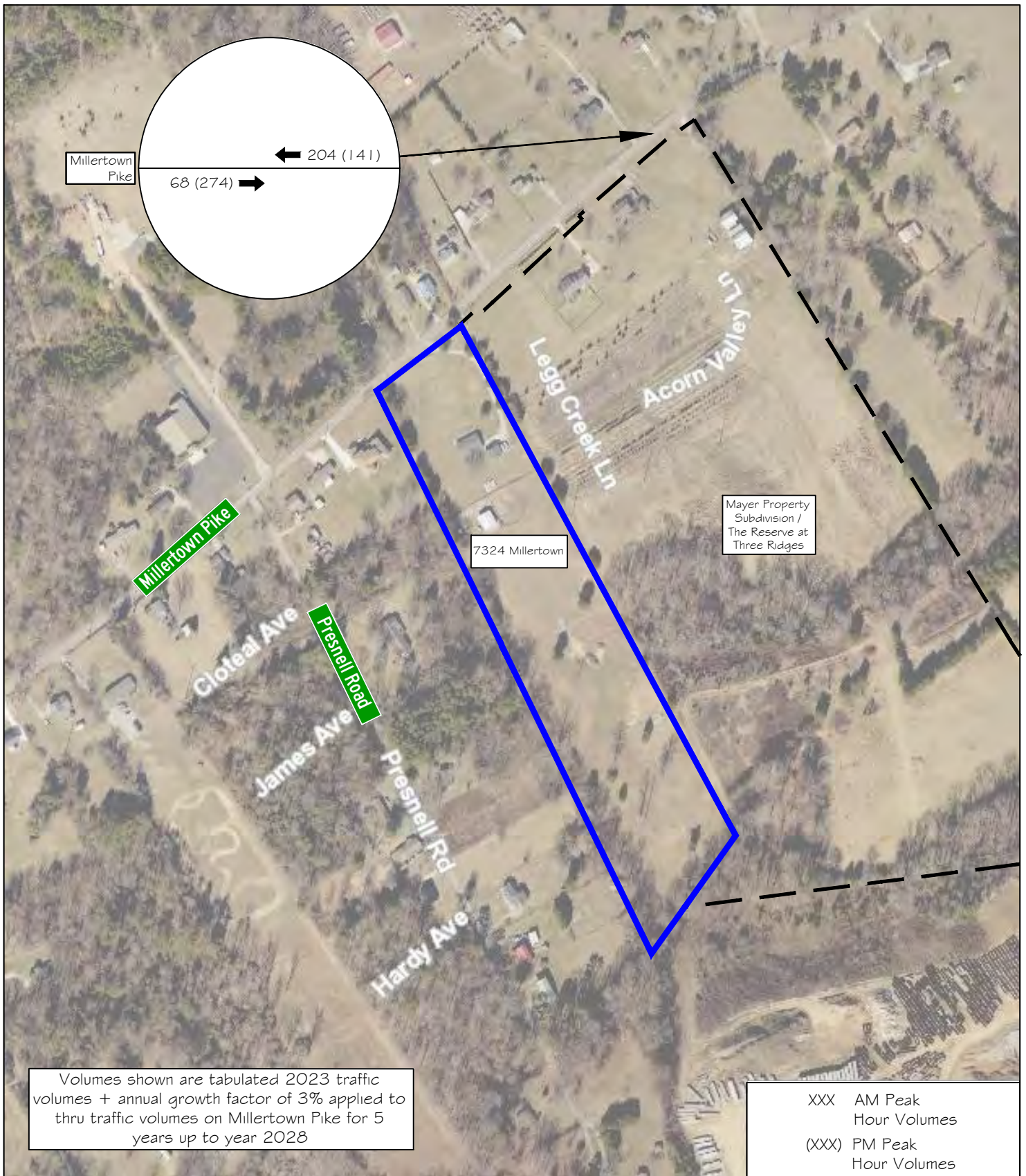
There is only one annual vehicular traffic count location in the near vicinity, and the Tennessee Department of Transportation (TDOT) conducts it. The count location data is the following and can be viewed with further details in the Appendix:

- Existing vehicular roadway traffic:

TDOT reported the following Average Annual Daily Traffic (AADT):

- Millertown Pike, east of Robin Ben Lane and the development site, recorded 3,284 vehicles per day in 2025. Between 2015 and 2025, this count station has reported an average annual growth rate of 2.9%.

Thus, for this report, an annual growth rate of 3% was assumed to ensure a conservative result. This growth factor was applied to the thru volumes tabulated on Millertown Pike in 2023 to estimate future volumes for the 2028 horizon year, excluding proposed development traffic and accounting for potential traffic growth in the study area. The future trips generated by the residents in The Reserve at Three Ridges are included and accounted for later in the analysis. Figure 5 shows the projected traffic volumes for the 2028 horizon year during the AM and PM peak hours on Millertown Pike.



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FIGURE 5

7324 Millertown

2028 Peak Hour Traffic Volumes -  
Projected Traffic Conditions  
Without the Project

▪ **TRIP GENERATION**

A generated trip is a single, one-direction vehicle movement that enters or exits the study site. The estimated traffic generated by the proposed 46 houses in the 7324 Millertown development was calculated using rates and equations from the Trip Generation Manual, 12th Edition, an Institute of Transportation Engineers (ITE) publication.

The data and calculations for the proposed land use are shown in the Appendix. A summary of this information is presented in Table 1a:

**TABLE 1a**  
**TRIP GENERATION FOR 7324 MILLERTOWN**  
46 Single-Family Detached Houses

ITE LAND USE CODE	LAND USE DESCRIPTION	# OF UNITS	GENERATED DAILY TRAFFIC	GENERATED TRAFFIC AM PEAK HOUR			GENERATED TRAFFIC PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
#210	Single-Family Detached Housing	46	637	27%	73%		62%	38%	
				10	26	36	29	18	47
<b>Total New Volume Site Trips</b>			<b>637</b>	<b>10</b>	<b>26</b>	<b>36</b>	<b>29</b>	<b>18</b>	<b>47</b>

ITE Trip Generation Manual, 12<sup>th</sup> Edition  
Trips calculated by using Fitted Curve Equations

For the proposed 7324 Millertown development at full buildout, it is estimated that 10 vehicles will enter and 26 will exit, for a total of 36 trips generated during the AM peak hour in 2028. Similarly, it is estimated that 29 vehicles will enter and 18 will exit, for a total of 47 trips generated during the PM peak hour in 2028. The calculated trips for an average weekday are estimated at 637 vehicles for the proposed development. No vehicle trip reductions were included in the calculations or analysis.

To account for the full potential of new vehicle trips on Millertown Pike in 2028, trips generated by The Reserve at Three Ridges must be included.

Ajax Engineering, LLC, completed the TIS for the Mayer Property Subdivision (now known as The Reserve at Three Ridges) in August 2023. At the time of the previous study, Knoxville/Knox County Planning required calculating trip generation for apartments and townhouses using local trip-rate equations. These equations were developed from a local study to estimate trip

generation for apartments and townhouses in the surrounding area and were published in December 1999. At the time of the 2023 TIS, these local rates were the trip generation rates for apartments and townhouses in Knox County and were used in the Mayer Property Subdivision analysis. However, in early 2026, after a long-awaited follow-up and updated study, Planning determined that the previously used local trip rates appeared to overestimate the actual number of trips generated by these residential uses. As such, Planning recommended that future studies utilize the corresponding trip rates published by ITE in the Trip Generation Manual. To account for this change and avoid overestimating the trips calculated in the previous TIS for the Mayer Property Subdivision (The Reserve at Three Ridges), revised trip generation calculations were completed in this TIL. The Mayer Property Subdivision proposed 130 attached townhouses and 3 single-family detached lots. A summary of this updated trip generation information is presented in Table 1b, utilizing ITE's Trip Generation Manual:

**TABLE 1b**  
**TRIP GENERATION FOR MAYER PROPERTY SUBDIVISION**  
**130 Attached Townhouses and 3 Single-Family Detached Houses**

ITE LAND USE CODE	LAND USE DESCRIPTION	# OF UNITS	GENERATED DAILY TRAFFIC	GENERATED TRAFFIC AM PEAK HOUR			GENERATED TRAFFIC PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
#215	Single-Family Attached Housing	130	852	25%	75%		57%	43%	
				15	46	61	38	28	66
#210	Single-Family Detached Housing	3	27	27%	73%		62%	38%	
				1	1	2	2	1	3
<b>Total New Volume Site Trips</b>			<b>879</b>	<b>16</b>	<b>47</b>	<b>63</b>	<b>40</b>	<b>29</b>	<b>69</b>

ITE Trip Generation Manual, 12th Edition

Fitted Curve Equations used for Land Use #215 / Average Rates used for Land Use #210

The calculated trips shown in Table 1b represent a reduction from the original TIS produced for the Mayer Property Subdivision/The Reserve at Three Ridges, due to the change from local trip equations to published ITE trip generation equations, which have overall lower rates for townhouse developments.

▪ **TRIP DISTRIBUTION AND ASSIGNMENT:**

The assumed trip distribution for the 7324 Millertown development was based on the distribution determined and assumed for the Mayer Property Subdivision TIS produced in 2023. These projected distributed trips for the adjacent development were estimated in the previous TIS using collected traffic counts, US Census Bureau data, and zoned public school locations. The assumed trip distribution figure in the TIS for the Mayer Property Subdivision is shown and included in the Appendix. Overall, the trip distribution on Millertown Pike was assumed to be 75%/25% for trips to and from the west and east, respectively.

Figure 6 shows the projected distribution of traffic entering and exiting the proposed 7324 Millertown development at the Proposed Entrance and mirrors the assumptions from the Mayer Property Subdivision TIS.

Figure 7a shows the traffic assignment for the computed trips generated by the 7324 Millertown development, based on the assumed distribution of trips shown in Figure 6. Figure 7b shows the traffic assignment for the computed trips generated by the Mayer Property Subdivision/The Reserve at Three Ridges, based on the assumed distribution of trips shown in Figure 6, and takes into account the change from the usage of local trip rates to published ITE trip generation rates. Finally, Figure 7c shows the addition of trips generated by both developments at their entrances on Millertown Pike.



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FIGURE 6

7324 Millertown

Directional Distribution of Generated Traffic during AM and PM Peak Hour for 7324 Millertown

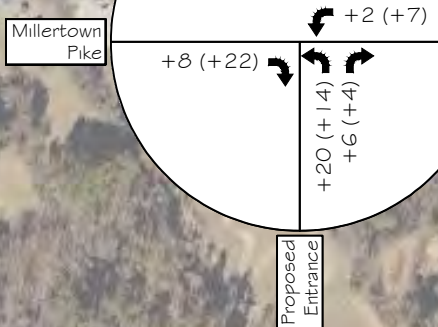


Millertown Pike

Millertown Pike

7324 Millertown

Mayer Property Subdivision / The Reserve at Three Ridges



TRIP GENERATION FOR  
7324 MILLERTOWN  
46 Single-Family Detached Houses

	AM PEAK	PM PEAK
ENTER	10	29
EXIT	26	18

XXX AM Peak Hour Volumes  
(XXX) PM Peak Hour Volumes



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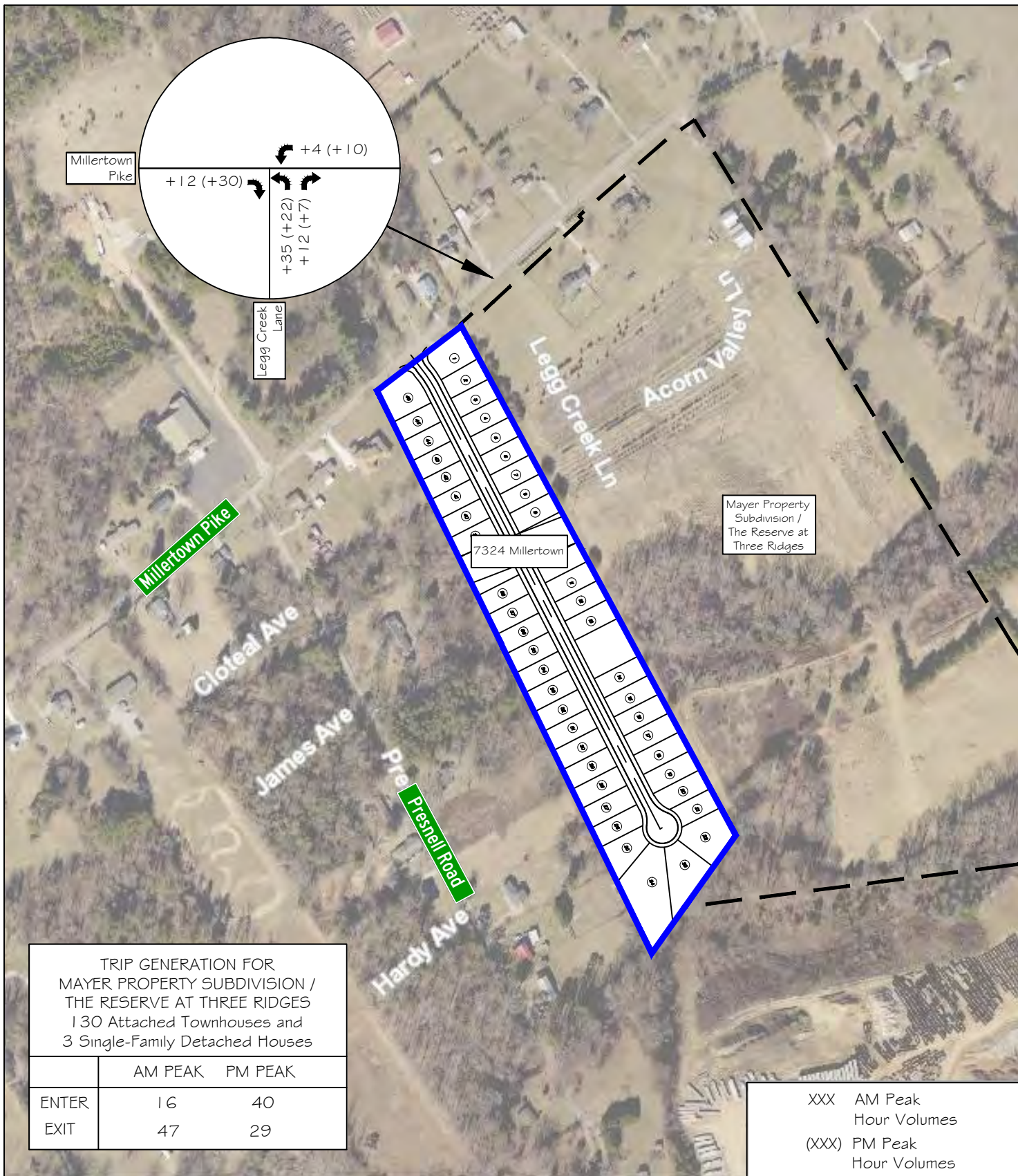
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FIGURE 7a

7324 Millertown

Traffic Assignment of Generated Traffic during AM and PM Peak Hour for 7324 Millertown



TRIP GENERATION FOR  
MAYER PROPERTY SUBDIVISION /  
THE RESERVE AT THREE RIDGES  
130 Attached Townhouses and  
3 Single-Family Detached Houses

	AM PEAK	PM PEAK
ENTER	16	40
EXIT	47	29

XXX AM Peak  
Hour Volumes  
(XXX) PM Peak  
Hour Volumes



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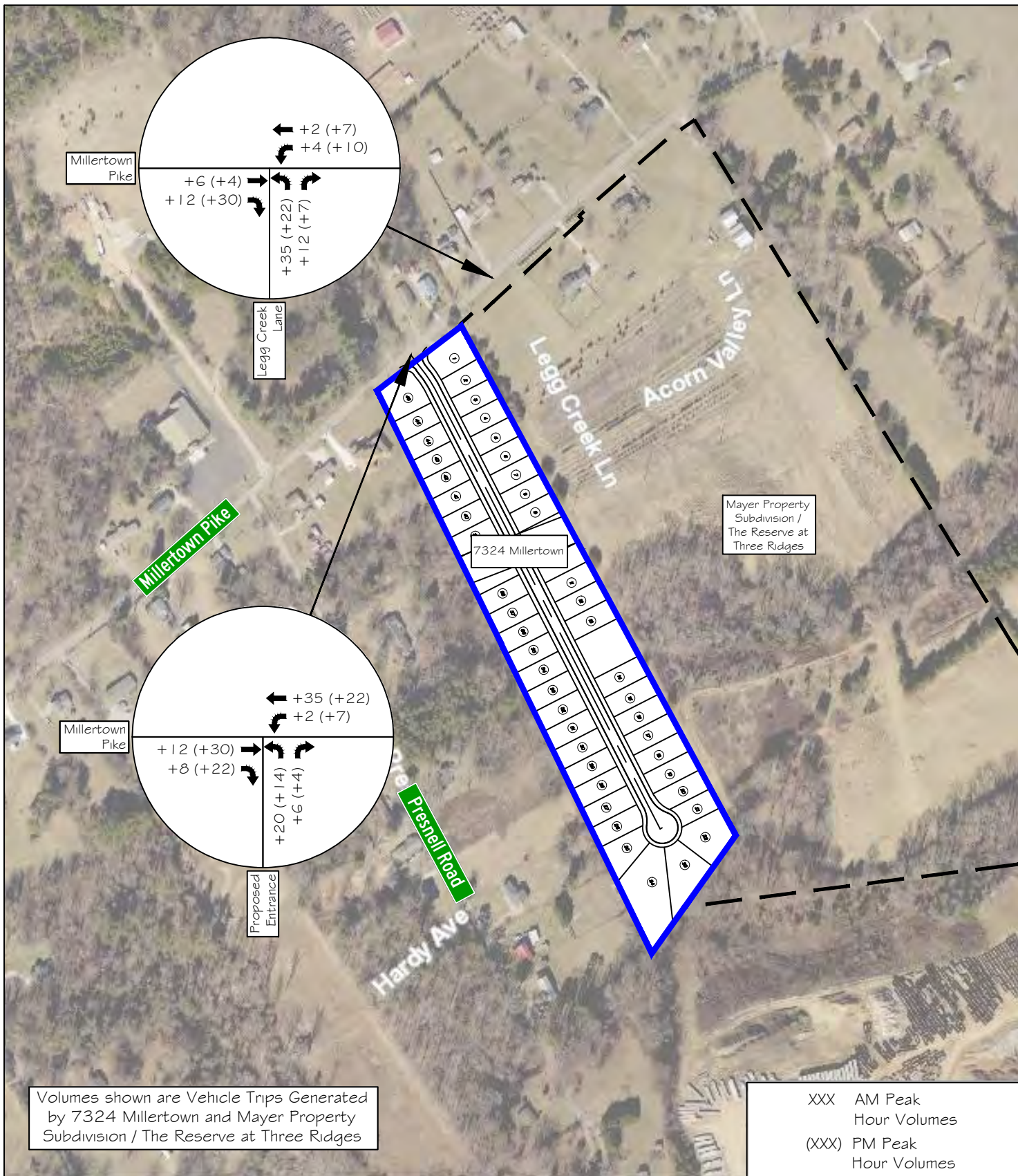
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FIGURE 7b

7324 Millertown

Traffic Assignment of Generated Traffic during  
AM and PM Peak Hour for Mayer Property  
Subdivision / The Reserve at Three Ridges



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FIGURE 7c

7324 Millertown



Traffic Assignment of Generated Traffic during AM and PM Peak Hour for 7324 Millertown & Mayer Property / The Reserve at Three Ridges

▪ **PROJECTED TRAFFIC CONDITIONS WITH THE PROJECT:**

The calculated peak hour traffic generated by the 7324 Millertown development and the Mayer Property Subdivision/The Reserve at Three Ridges was added to the 2028 horizon year traffic using the predicted trip distributions and assignments. This procedure was completed to obtain the total projected traffic volumes at the Proposed Entrance for the 7324 Millertown development and at the entrance for Mayer Property Subdivision/The Reserve at Three Ridges upon full build-out and occupancy in 2028. Figure 8 shows the projected 2028 AM and PM peak hour traffic volumes, including trips generated by both developments.

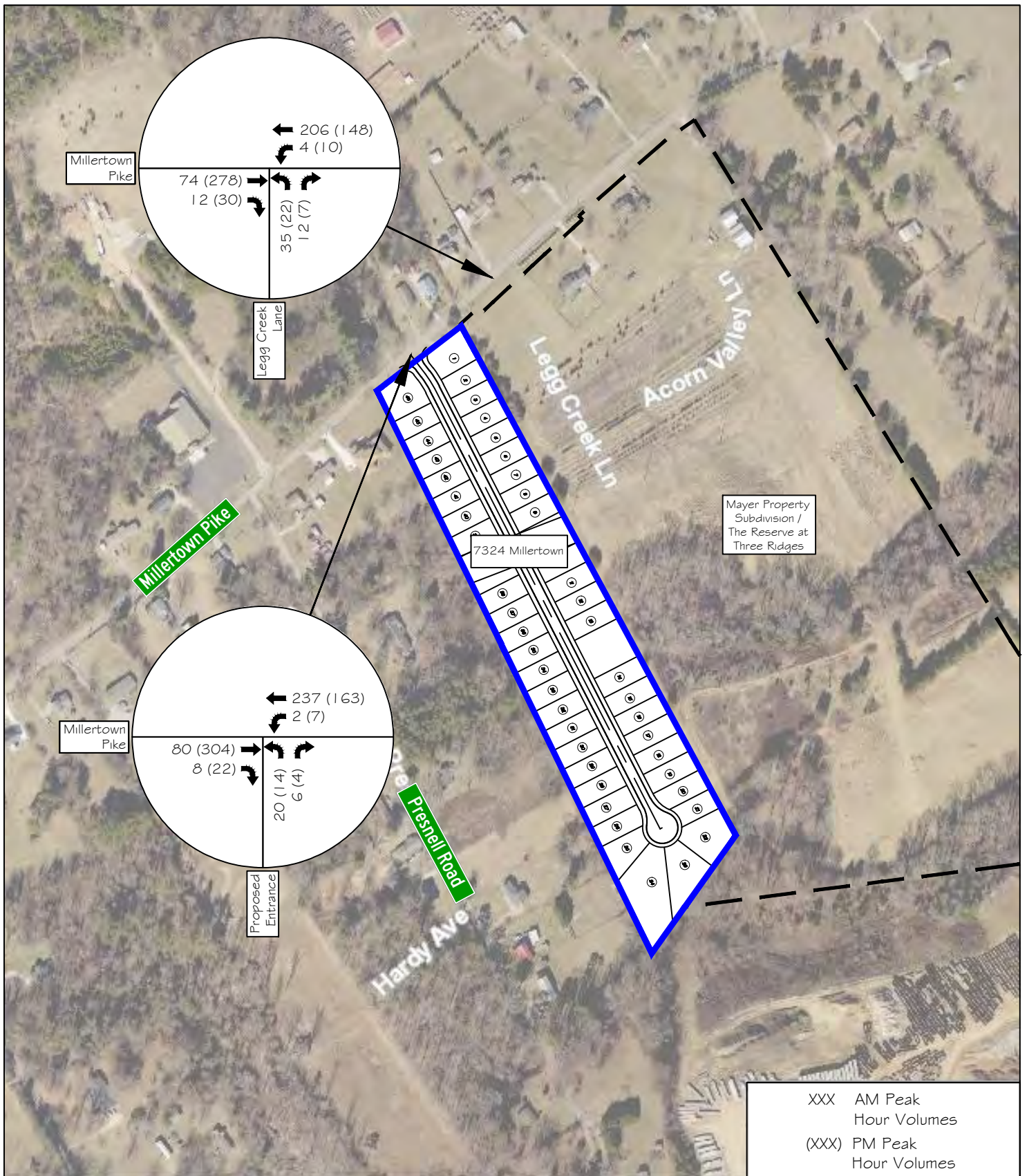
Capacity analyses were conducted to determine the projected Level of Service (LOS) at the Proposed Entrance and Legg Creek Lane intersections with the development traffic in 2028, as shown in Figure 8. The intersection capacity results for the projected 2028 peak hour traffic are shown in Table 2, with the traffic software worksheet results in the Appendix. As shown in Table 2, the intersections are projected to experience minimal vehicle delays during the 2028 AM and PM peak hours.

**TABLE 2  
INTERSECTION CAPACITY ANALYSIS RESULTS -  
2028 PEAK HOUR PROJECTED TRAFFIC CONDITIONS WITH THE PROJECT**

INTERSECTION	TRAFFIC CONTROL	APPROACH/ MOVEMENT	AM PEAK			PM PEAK		
			LOS <sup>a</sup>	DELAY <sup>b</sup> (seconds)	v/c <sup>c</sup>	LOS <sup>a</sup>	DELAY <sup>b</sup> (seconds)	v/c <sup>c</sup>
Millertown Pike (WB & EB) at Proposed Entrance (NB) (7324 Millertown)	 Unsignalized	Northbound Left/Right	B	10.7	0.044	B	12.3	0.061
		Westbound Left	A	7.4	0.001	A	8.0	0.009
Millertown Pike (WB & EB) at Legg Creek Lane (NB) (The Reserve at Three Ridges)	 Unsignalized	Northbound Left/Right	B	10.6	0.075	B	12.5	0.040
		Westbound Left	A	7.4	0.003	A	8.1	0.007

Note: All analyses were calculated in Synchro 12 software and reported using HCM 7<sup>th</sup> Edition intersection methodology

<sup>a</sup> Level of Service, <sup>b</sup> Average Delay (sec/vehicle), <sup>c</sup> Volume-to-Capacity Ratio



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FIGURE 8

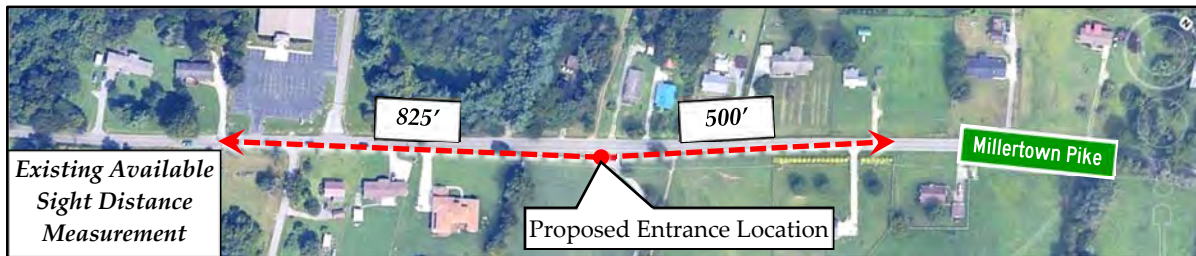
7324 Millertown

2028 Peak Hour Traffic Volumes -  
Projected Traffic Conditions  
With the Project

▪ **EVALUATION OF SIGHT DISTANCE**

At the Proposed Entrance location for 7324 Millertown, where the posted speed limit is 40 mph, the ISD required for left- and right-turn exits is 400 feet, calculated based on Knox County's requirement of providing 10 feet of sight distance per 1 mph of vehicle speed. This distance is required for a motorist to exit safely to the left or right at Millertown Pike from the Proposed Entrance for the 7324 Millertown development.

As a safety check, visual observations of the existing sight distances at the Proposed Entrance location on Millertown Pike were measured using a Nikon Laser Rangefinder. The available intersection sight distance was visually estimated to be at least 825 feet to the west on Millertown Pike and 500 feet to the east. Based on visual observation, the intersection sight distances from the Proposed Entrance will be adequate. Images of the existing sight distances at the Proposed Entrance location are labeled in the following image with the required ISD and the rangefinder-measured sight distances.



**View of Sight Distance on Millertown Pike at the Proposed Entrance Location (Looking West)**



**View of Sight Distance on Millertown Pike at the Proposed Entrance Location (Looking East)**

▪ **EVALUATION OF TURN LANE THRESHOLDS**

The need for a separate left- or right-turn lane on Millertown Pike at the Proposed Entrance for 7324 Millertown was evaluated using the projected 2028 volumes.

The criteria used for these turn lane evaluations were based on Knox County's "Access Control and Driveway Design Policy". This design policy relates vehicle volume thresholds based on prevailing speeds for two-lane and four-lane roadways. The location of the Proposed Entrance on Millertown Pike is within a 40-mph speed zone; thus, it was evaluated at that speed.

According to Knox County's guidelines, with a posted speed limit of 40-mph, separate left and right-turn lanes on Millertown Pike at the Proposed Entrance are not warranted based on the projected peak hour 2028 traffic volumes. The worksheets for these evaluations are provided in the Appendix.



▪ **PROJECTED VEHICLE QUEUES**

An additional software program calculated the projected vehicle queues for the 2028 AM and PM peak hours at the studied intersections. The previously mentioned Synchro Traffic Software includes SimTraffic.

The calculated vehicle queue results were based on the average of outcomes from 10 traffic simulations in the software. The 95<sup>th</sup> percentile vehicle queue lengths at the studied intersections are shown in Table 3 under the projected 2028 conditions. The vehicle queue worksheet results from the SimTraffic Software (Version 12) are in the Appendix.

Table 3 reports the results and shows short vehicle queues for entering and exiting movements at the Proposed Entrance for 7324 Millertown and at the entrance intersection for The Reserve at Three Ridges at Legg Creek Lane. For comparison, one passenger-vehicle length is considered 25 feet when vehicle spacing is included. Thus, the longest calculated vehicle queues are expected in the northbound shared left/right-turn exiting lanes at the entrances, at roughly just under 2 passenger vehicles in length during AM and PM peak hours. Westbound left-turns on Millertown Pike are expected to be less than one passenger-vehicle length during both peak hours at either entrance.

**TABLE 3  
VEHICLE QUEUE SUMMARY -  
2028 PEAK HOUR PROJECTED TRAFFIC CONDITIONS WITH THE PROJECT**

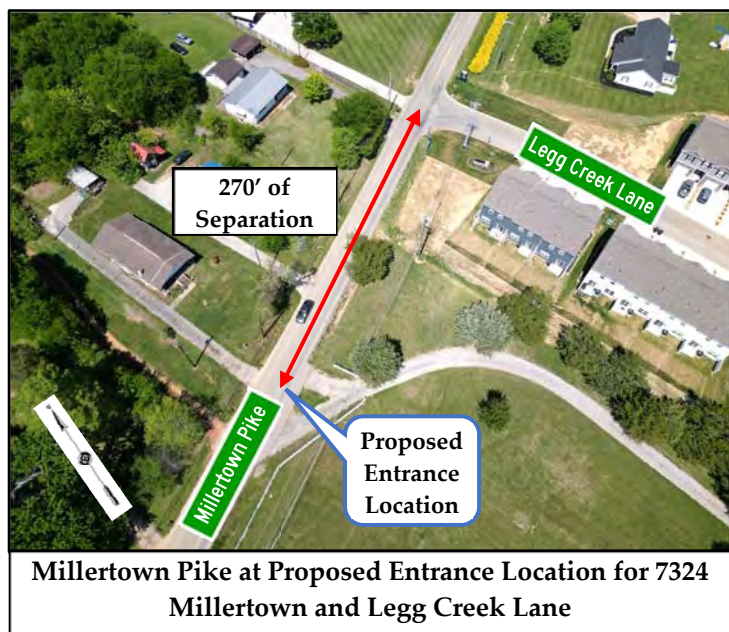
INTERSECTION	TRAFFIC CONTROL	APPROACH/ MOVEMENT	95 <sup>th</sup> PERCENTILE VEHICLE QUEUE LENGTH (ft)	
			AM PEAK HOUR	PM PEAK HOUR
Millertown Pike (WB & EB) at Proposed Entrance (NB) (7324 Millertown)	 Unsignalized	Northbound Left/Right	37	34
		Westbound Left/Thru	4	14
Millertown Pike (WB & EB) at Legg Creek Lane (NB) (The Reserve at Three Ridges)	 Unsignalized	Northbound Left/Right	44	40
		Westbound Left/Thru	4	21

Note: All analyses were calculated in SimTraffic 12 software

▪ **INTERSECTION SPACING**

Knox County requires a minimum intersection spacing of 400 feet on Arterial roads. The intersection of Millertown Pike, a Minor Arterial road, at the Proposed Entrance will be 270 feet away to the southwest from the recently constructed Legg Creek Lane for The Reserve at Three Ridges entrance (centerline to centerline).

The civil site designer will need to request a variance to allow the proposed intersection spacing to be less than the minimum required. This



variance should be requested because the development property at 7324 Millertown has limited access opportunities along Millertown Pike due to the parcel’s narrow width and limited road frontage.

As calculated, the westbound direction on Millertown Pike is expected to have minimal vehicle queues at the two intersections due to left turns. Westbound left-turning movements from Millertown Pike into the 7324 Millertown development have calculated 95<sup>th</sup> percentile queues of

4 and 14 feet in the 2028 AM and PM peak hours, respectively, which are substantially shorter than the proposed 270-foot intersection spacing, and, as such, these queues will not back up to impact operations at Legg Creek Lane.

Furthermore, eastbound vehicle queues on Millertown Pike are not expected, as the entering turning movements will be free-flowing right turns into the residential developments and will not cause interference or blocking between the two intersections.

## **APPENDICES**

**TRAFFIC COUNT DATA**

Major Street: Millertown Pike (WB-EB)  
 Minor Street: n/a  
 Traffic Control: n/a

8/23/2023 (Wednesday)  
 Sunny, Hot  
 Conducted by: Ajax Engineering

TIME BEGIN	Millertown Pike	Millertown Pike	VEHICLE TOTAL	PEAK HOUR
	WESTBOUND THRU	EASTBOUND THRU		
7:00 AM	36	12	48	<b>7:00 AM - 8:00 AM</b>
7:15 AM	56	18	74	
7:30 AM	45	15	60	
7:45 AM	40	14	54	
8:00 AM	25	8	33	
8:15 AM	32	12	44	
8:30 AM	23	19	42	
8:45 AM	32	16	48	
<b>TOTAL</b>	<b>289</b>	<b>114</b>	<b>403</b>	
2:00 PM	22	52	74	
2:15 PM	15	41	56	
2:30 PM	23	42	65	
2:45 PM	16	38	54	
3:00 PM	16	32	48	
3:15 PM	23	41	64	
3:30 PM	17	42	59	
3:45 PM	26	48	74	
4:00 PM	23	52	75	
4:15 PM	28	65	93	
4:30 PM	29	52	81	
4:45 PM	24	54	78	
5:00 PM	22	57	79	<b>5:00 PM - 6:00 PM</b>
5:15 PM	33	54	87	
5:30 PM	29	71	100	
5:45 PM	39	56	95	
<b>TOTAL</b>	<b>385</b>	<b>797</b>	<b>1182</b>	

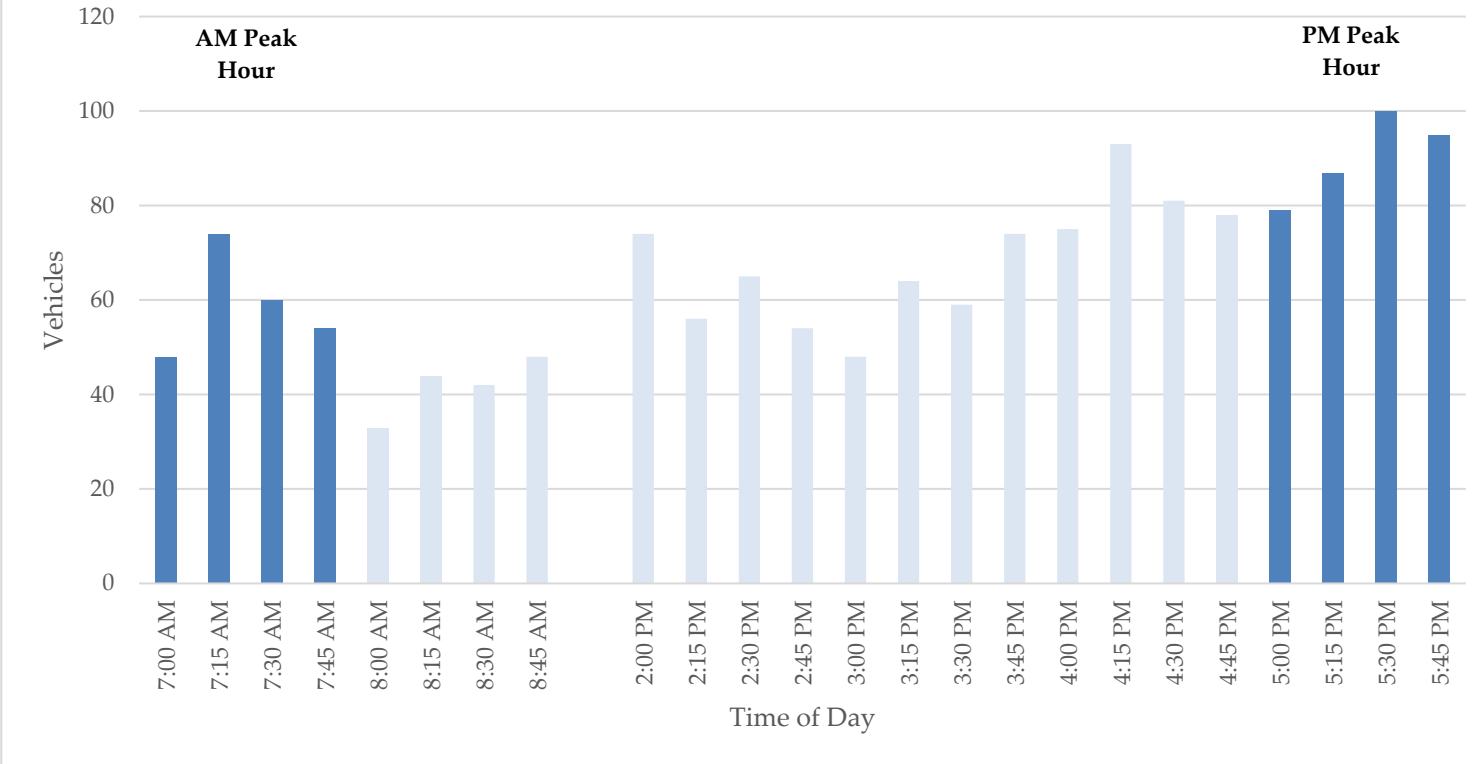
**2023 AM Peak Hour** **7:00 AM - 8:00 AM**

TIME BEGIN	Millertown Pike	Millertown Pike
	WESTBOUND THRU	EASTBOUND THRU
7:00 AM	36	12
7:15 AM	56	18
7:30 AM	45	15
7:45 AM	40	14
<b>TOTAL</b>	<b>177</b>	<b>59</b>
<b>PHF</b>	<b>0.79</b>	<b>0.82</b>
<b>Truck %</b>	<b>1.1%</b>	<b>1.7%</b>

**2023 PM Peak Hour** **5:00 PM - 6:00 PM**

TIME BEGIN	Millertown Pike	Millertown Pike
	WESTBOUND THRU	EASTBOUND THRU
5:00 PM	22	57
5:15 PM	33	54
5:30 PM	29	71
5:45 PM	39	56
<b>TOTAL</b>	<b>123</b>	<b>238</b>
<b>PHF</b>	<b>0.79</b>	<b>0.84</b>
<b>Truck %</b>	<b>0.0%</b>	<b>0.4%</b>

**Millertown Pike (west of Robin Ben Lane)  
Traffic Count Totals  
8/23/2023**



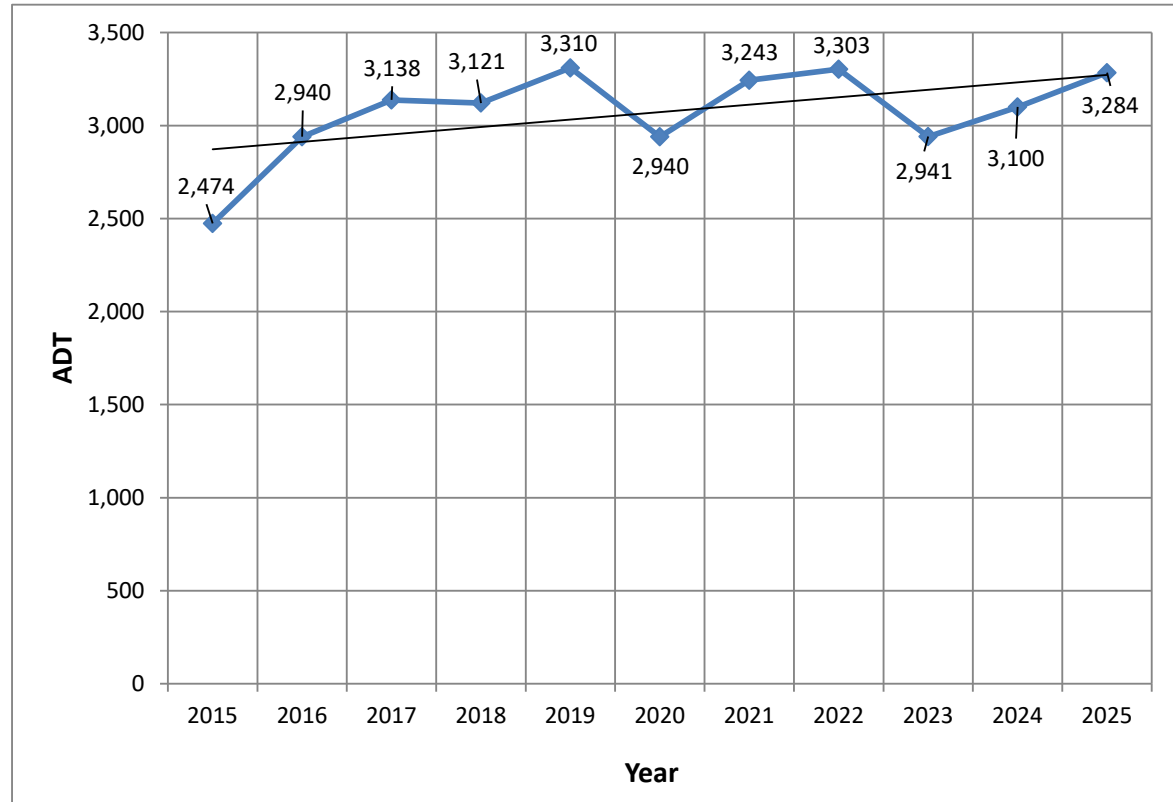
## Historical Traffic Counts

Organization: TDOT

Station ID #: 47000340

Location: Millertown Pike, east of Robin Ben Lane

YEAR	AADT	
2015	2,474	Trendline ↓
2016	2,940	
2017	3,138	
2018	3,121	
2019	3,310	
2020	2,940	
2021	3,243	
2022	3,303	
2023	2,941	
2024	3,100	
2025	3,284	



2015 - 2025 Growth Rate = 32.7%

Average Annual Growth Rate = 2.9%

Home Locate Locate All Email This Auto-Locate:

Disclaimer: Please note that the AADT displayed for the current year is only a preliminary estimate, updated adjustment factors have not yet been applied to the traffic count information to produce a final AADT.

List View

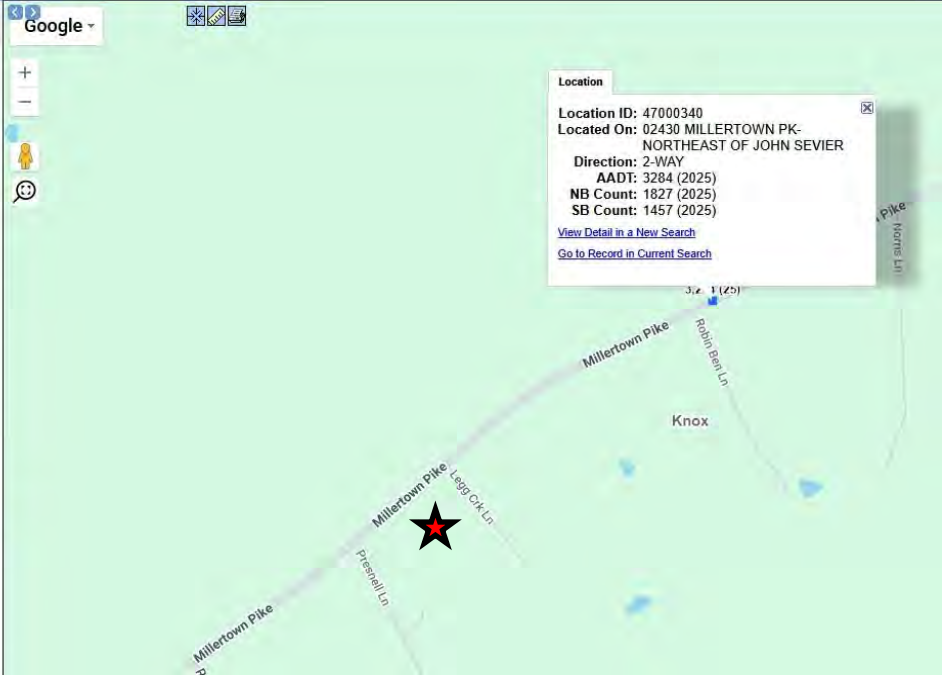
Record 7819 of 16433 Goto Record  go

Location ID	47000340	MPO ID	
Type	SPOT	HPMS ID	
On NHS		On HPMS	Yes
LRS ID	47L243001P00000	LRS Loc PL	1.672
SF Group	Urban Minor Arterial (2026)	Route Type	
AF Group	Region 1 Urban Minor Arterial (2026)	Route	
GF Group	Knox (2026)	Active	Yes
Class Dist Grp	Region 1 Urban Minor Arterial (2026)	Category	CC
Seas Class Grp			
WIM Group			
QC Group	Default		
Funct'l Class	Minor Arterial	Milepost	
Located On	02430		
Loc On Alias	MILLERTOWN PK		
	MILLERTOWN PK-NORTHEAST OF JOHN SEVIER		

**STATION DATA**

Directions: 2-WAY NB SB

Year	AADT	DHV-30	K %	D %	PA	BC	Src
2025	3,284	334	10	69	3,225 (98%)	59 (2%)	
2024	3,100 <sup>3</sup>		10	67	3,000 (97%)	100 (3%)	Grown from 2023
2023	2,941	301	10	67	2,662 (91%)	279 (9%)	
2022	3,303	308	9	67	3,211 (97%)	92 (3%)	
2021	3,243	335	10	67	3,139 (97%)	104 (3%)	



HCM 7th TWSC  
 4: Legg Creek Lane & Millertown Pike

**Intersection**

Int Delay, s/veh 1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			1	2	
Traffic Vol, veh/h	74	12	4	206	35	12
Future Vol, veh/h	74	12	4	206	35	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	1	-	-	1	0	-
Peak Hour Factor	82	90	90	79	90	90
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	90	13	4	261	39	13

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	104	0	367
Stage 1	-	-	-	-	97
Stage 2	-	-	-	-	270
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1501	-	637
Stage 1	-	-	-	-	932
Stage 2	-	-	-	-	780
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1501	-	635
Mov Cap-2 Maneuver	-	-	-	-	635
Stage 1	-	-	-	-	929
Stage 2	-	-	-	-	780

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.12	10.59
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	696	-	-	30	-
HCM Lane V/C Ratio	0.075	-	-	0.003	-
HCM Ctrl Dly (s/v)	10.6	-	-	7.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

HCM 7th TWSC

6: Proposed Entrance & Millertown Pike

Intersection

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	80	8	2	237	20	6
Future Vol, veh/h	80	8	2	237	20	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	1	-	-	-1	0	-
Peak Hour Factor	82	90	90	79	90	90
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	98	9	2	300	22	7

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	106
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1497
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1497
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.05	10.71
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	660	-	-	13	-
HCM Lane V/C Ratio	0.044	-	-	0.001	-
HCM Ctrl Dly (s/v)	10.7	-	-	7.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 7th TWSC  
 4: Legg Creek Lane & Millertown Pike

**Intersection**

Int Delay, s/veh 0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			1	2	
Traffic Vol, veh/h	278	30	10	148	22	7
Future Vol, veh/h	278	30	10	148	22	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	1	-	-	1	0	-
Peak Hour Factor	84	90	90	79	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	331	33	11	187	24	8

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	364	0	557
Stage 1	-	-	-	-	348
Stage 2	-	-	-	-	210
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1205	-	495
Stage 1	-	-	-	-	720
Stage 2	-	-	-	-	830
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1205	-	490
Mov Cap-2 Maneuver	-	-	-	-	490
Stage 1	-	-	-	-	712
Stage 2	-	-	-	-	830

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.45	12.26
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	528	-	-	101	-
HCM Lane V/C Ratio	0.061	-	-	0.009	-
HCM Ctrl Dly (s/v)	12.3	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

HCM 7th TWSC

6: Proposed Entrance & Millertown Pike

**Intersection**

Int Delay, s/veh 0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			1	1	
Traffic Vol, veh/h	304	22	7	163	14	4
Future Vol, veh/h	304	22	7	163	14	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	1	-	-	-1	0	-
Peak Hour Factor	84	90	90	79	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	362	24	8	206	16	4

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	386
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1183
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1183
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.29	12.49
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	501	-	-	65	-
HCM Lane V/C Ratio	0.04	-	-	0.007	-
HCM Ctrl Dly (s/v)	12.5	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

# Land Use: 210

## Single-Family Detached Housing

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### Description

A single-family detached housing site includes any single-family detached home on an individual lot. A typical site surveyed is a suburban subdivision.

### Specialized Land Use

Data have been submitted for several single-family detached housing developments with homes that are commonly referred to as patio homes. A patio home is a detached housing unit that is located on a small lot with little (or no) front or back yard. In some subdivisions, communal maintenance of outside grounds is provided for the patio homes. The three patio home sites total 299 dwelling units with overall weighted average trip generation rates of 5.35 vehicle trips per dwelling unit for weekday, 0.26 for the AM adjacent street peak hour, and 0.47 for the PM adjacent street peak hour. These patio home rates, based on a small sample of sites, are lower than those for single-family detached housing (Land Use 210), lower than those for single-family attached housing (Land Use 215), and higher than those for senior adult housing—single-family (Land Use 251). (Source 1008)

### Additional Data

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Alabama, Arizona, British Columbia (CAN), California, Delaware, Illinois, Kentucky, Massachusetts, Minnesota, Montana, New Jersey, New York, North Carolina, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Vermont, and West Virginia.

### Source Numbers

356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 869, 903, 925, 936, 1005, 1007, 1008, 1010, 1033, 1066, 1077, 1078, 1079, 1204, 1221, 1225, 1236, 1251, 1265, 1267

# Land Use: 215

## Single-Family Attached Housing

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### Description

Single-family attached housing includes any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space. This land use includes duplexes (defined as a single structure with two distinct dwelling units, typically joined side-by-side and each with at least one outside entrance) and townhouses/rowhouses (defined as a single structure with three or more distinct dwelling units, joined side-by-side in a row and each with an outside entrance).

### Additional Data

The sites were surveyed in the 1990s, the 2000s, and the 2010s in British Columbia (CAN), California, Georgia, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Dakota, Utah, and Wisconsin.

### Source Numbers

357, 390, 418, 525, 571, 583, 638, 868, 869, 870, 896, 912, 959, 1009, 1046, 1056, 1058, 1077

**TRIP GENERATION FOR 7324 MILLERTOWN**

**46 Single-Family Detached Houses**

ITE LAND USE CODE	LAND USE DESCRIPTION	# OF UNITS	GENERATED DAILY TRAFFIC	GENERATED TRAFFIC AM PEAK HOUR			GENERATED TRAFFIC PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
#210	Single-Family Detached Housing	46	637	27%	73%		62%	38%	
				10	26	36	29	18	47
<b>Total New Volume Site Trips</b>			<b>637</b>	<b>10</b>	<b>26</b>	<b>36</b>	<b>29</b>	<b>18</b>	<b>47</b>

ITE Trip Generation Manual, 12<sup>th</sup> Edition

Trips calculated by using Fitted Curve Equations

**TRIP GENERATION FOR 7324 MILLERTOWN**  
**46 Single-Family Detached Houses**

**46 Residential Houses = X**

---

**Weekday:**

Fitted Curve Equation:  $T = 8.07(X) + 265.45$

$$T = 371.22 + 265.45$$

$$T = 636.67$$

$$\underline{\underline{T = 637 \text{ trips}}}$$

---

**Peak Hour of Adjacent Traffic between 7 and 9 am:**

Fitted Curve Equation:  $T = 0.67(X) + 5.59$

$$T = 30.82 + 5.59$$

$$T = 36.41$$

$$\underline{\underline{T = 36 \text{ trips}}}$$

---

**Peak Hour of Adjacent Traffic between 4 and 6 pm:**

Fitted Curve Equation:  $\ln(T) = 0.92 \ln(X) + 0.33$

$$\ln(T) = 0.92 * 3.83 + 0.33$$

$$\ln(T) = 3.85$$

$$\underline{\underline{T = 47 \text{ trips}}}$$

**TRIP GENERATION FOR MAYER PROPERTY SUBDIVISION**

**130 Attached Townhouses and 3 Single-Family Detached Houses**

ITE LAND USE CODE	LAND USE DESCRIPTION	# OF UNITS	GENERATED DAILY TRAFFIC	GENERATED TRAFFIC AM PEAK HOUR			GENERATED TRAFFIC PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
#215	Single-Family Attached Housing	130	852	25%	75%		57%	43%	
				15	46	61	38	28	66
#210	Single-Family Detached Housing	3	27	27%	73%		62%	38%	
				1	1	2	2	1	3
<b>Total New Volume Site Trips</b>			<b>879</b>	<b>16</b>	<b>47</b>	<b>63</b>	<b>40</b>	<b>29</b>	<b>69</b>

ITE Trip Generation Manual, 12th Edition

Fitted Curve Equations used for Land Use #215 / Average Rates used for Land Use #210

**TRIP GENERATION FOR MAYER PROPERTY SUBDIVISION**  
**130 Attached Townhouses**

$$130 \text{ Units} = X$$

---

**Weekday:**

Fitted Curve Equation:  $T = 6.53(X) + 3.25$

$$T = 6.530 * 130 + 3.25$$

$$\underline{\underline{T = 852 \text{ trips}}}$$

---

**Peak Hour of Adjacent Traffic between 7 and 9 am:**

Fitted Curve Equation:  $T = 0.59(X) - 15.25$

$$T = 0.590 * 130 - 15.25$$

$$\underline{\underline{T = 61 \text{ trips}}}$$

---

**Peak Hour of Adjacent Traffic between 4 and 6 pm:**

Fitted Curve Equation:  $T = 0.57(X) - 7.84$

$$T = 0.570 * 130 - 7.84$$

$$\underline{\underline{T = 66 \text{ trips}}}$$

**TRIP GENERATION FOR MAYER PROPERTY SUBDIVISION**  
**3 Single-Family Detached Houses**

$$3 \text{ Unit} = X$$

---

**Weekday:**

Average Rate:  $T = 9.09(X)$

$$T = 27.27$$

$$\underline{\underline{T = 27 \text{ trips}}}$$

---

**Peak Hour of Adjacent Traffic between 7 and 9 am:**

Average Rate:  $T = 0.7(X)$

$$T = 2.10$$

$$\underline{\underline{T = 2 \text{ trips}}}$$

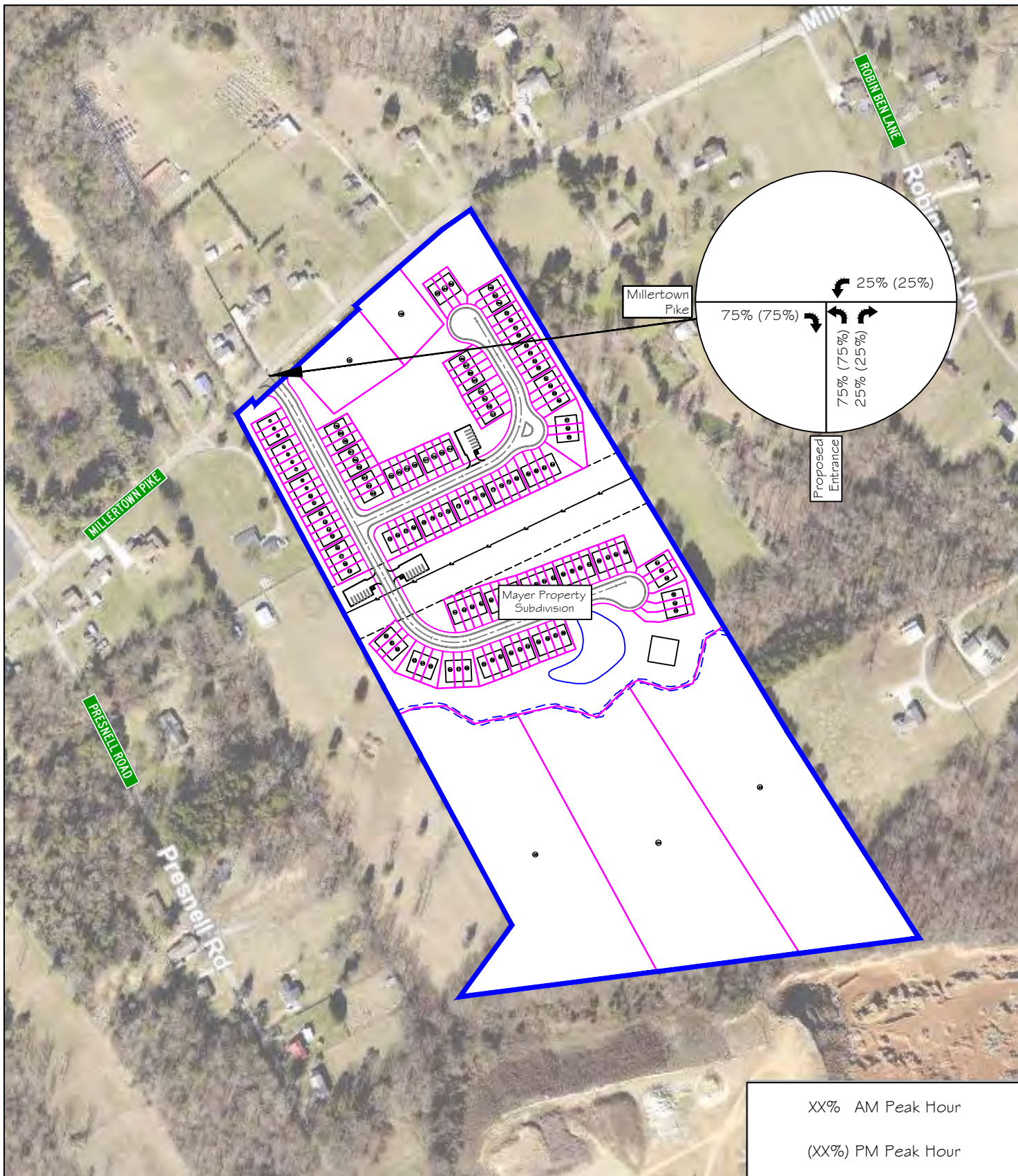
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**Peak Hour of Adjacent Traffic between 4 and 6 pm:**

Average Rate:  $T = 0.93(X)$

$$T = 2.79$$

$$\underline{\underline{T = 3 \text{ trips}}}$$



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 Knoxville, TN 37932  
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NOT TO SCALE



FIGURE 6

Mayer Property Subdivision

Directional Distribution of Generated Traffic during AM and PM Peak Hour

TABLE 5A

LEFT-TURN LANE VOLUME THRESHOLDS  
FOR TWO-LANE ROADWAYS WITH A PREVAILING SPEED OF 36 TO 45 MPH

(If the left-turn volume exceeds the table value a left -turn lane is needed)

80 + 8 = 88

237

OPPOSING VOLUME	THROUGH VOLUME PLUS RIGHT-TURN VOLUME *					
	100 - 149	150 - 199	200 - 249	250 - 299	300 - 349	350 - 399
100 - 149	250	180	140	110	80	70
150 - 199	200	140	105	90	70	60
200 - 249	160	115	85	75	65	55
250 - 299	130	95	75	65	60	50
300 - 349	110	80	70	60	55	45
350 - 399	100	70	65	55	50	40
400 - 449	90	60	50	50	45	35
450 - 499	80	50	45	45	40	30
500 - 549	70	45	45	35	35	25
550 - 599	65	40	40	35	30	25
600 - 649	60	45	35	30	25	25
650 - 699	55	35	35	30	25	20
700 - 749	50	35	30	25	20	20
750 or More	45	35	25	25	20	20

Millertown Pike at Proposed Entrance  
2028 Projected AM WB Left Turns = 2  
Left Turn Lane NOT Warranted

OPPOSING VOLUME	THROUGH VOLUME PLUS RIGHT-TURN VOLUME *					
	350 - 399	400 - 449	450 - 499	500 - 549	550 - 599	= / > 600
100 - 149	70	60	50	45	40	35
150 - 199	60	55	45	40	35	30
200 - 249	55	50	40	35	30	30
250 - 299	50	45	35	30	30	30
300 - 349	45	40	35	30	25	25
350 - 399	40	35	30	25	25	20
400 - 449	35	30	30	25	20	20
450 - 499	30	25	25	20	20	20
500 - 549	25	25	20	20	20	15
550 - 599	25	20	20	20	20	15
600 - 649	25	20	20	20	20	15
650 - 699	20	20	20	20	20	15
700 - 749	20	20	20	15	15	15
750 or More	20	20	20	15	15	15

\* Or through volume only if a right-turn lane exists

TABLE 5B

RIGHT-TURN LANE VOLUME THRESHOLDS  
FOR TWO-LANE ROADWAYS WITH A PREVAILING SPEED OF 36 TO 45 MPH

RIGHT-TURN VOLUME	THROUGH VOLUME PLUS LEFT-TURN VOLUME *					
	<100	100 - 199	200 - 249	250 - 299	300 - 349	350 - 399
8 Fewer Than 25 25 - 49 50 - 99						
100 - 149 150 - 199						
200 - 249 250 - 299					Yes	Yes
300 - 349 350 - 399			Yes	Yes	Yes	Yes
400 - 449 450 - 499		Yes	Yes	Yes	Yes	Yes
500 - 549 550 - 599	Yes	Yes	Yes	Yes	Yes	Yes
600 or More	Yes	Yes	Yes	Yes	Yes	Yes

80

Millertown Pike at Proposed Entrance

2028 Projected AM EB Right Turns = 8

Right Turn Lane NOT Warranted

RIGHT-TURN VOLUME	THROUGH VOLUME PLUS LEFT-TURN VOLUME *					
	350 - 399	400 - 449	450 - 499	500 - 549	550 - 600	+ / > 600
Fewer Than 25 25 - 49 50 - 99				Yes	Yes	Yes
100 - 149 150 - 199		Yes	Yes	Yes	Yes	Yes
200 - 249 250 - 299	Yes	Yes	Yes	Yes	Yes	Yes
300 - 349 350 - 399	Yes	Yes	Yes	Yes	Yes	Yes
400 - 449 450 - 499	Yes	Yes	Yes	Yes	Yes	Yes
500 - 549 550 - 599	Yes	Yes	Yes	Yes	Yes	Yes
600 or More	Yes	Yes	Yes	Yes	Yes	Yes

\* Or through volume only if a left-turn lane exists.

TABLE 5A

LEFT-TURN LANE VOLUME THRESHOLDS  
FOR TWO-LANE ROADWAYS WITH A PREVAILING SPEED OF 36 TO 45 MPH

(If the left-turn volume exceeds the table value a left -turn lane is needed)

163

304 + 22  
= 326

OPPOSING VOLUME	THROUGH VOLUME PLUS RIGHT-TURN VOLUME *					
	100 - 149	150 - 199	200 - 249	250 - 299	300 - 349	350 - 399
100 - 149	250	180	140	110	80	70
150 - 199	200	140	105	90	70	60
200 - 249	160	115	85	75	65	55
250 - 299	130	100	75	65	60	50
300 - 349	110	90	70	60	55	45
350 - 399	100	80	65	55	50	40
400 - 449	90	70			45	35
450 - 499	80	65			40	30
500 - 549	70	60			35	25
550 - 599	65	55			30	25
600 - 649	60	45			25	25
650 - 699	55	35			25	20
700 - 749	50	35			20	20
750 or More	45	35			20	20

Millertown Pike at  
Proposed Entrance  
  
2028 Projected PM  
WB Left Turns = 7  
  
Left Turn Lane NOT  
Warranted

OPPOSING VOLUME	THROUGH VOLUME PLUS RIGHT-TURN VOLUME *					
	350 - 399	400 - 449	450 - 499	500 - 549	550 - 599	= / > 600
100 - 149	70	60	50	45	40	35
150 - 199	60	55	45	40	35	30
200 - 249	55	50	40	35	30	30
250 - 299	50	45	35	30	30	30
300 - 349	45	40	35	30	25	25
350 - 399	40	35	30	25	25	20
400 - 449	35	30	30	25	20	20
450 - 499	30	25	25	20	20	20
500 - 549	25	25	20	20	20	15
550 - 599	25	20	20	20	20	15
600 - 649	25	20	20	20	20	15
650 - 699	20	20	20	20	20	15
700 - 749	20	20	20	15	15	15
750 or More	20	20	20	15	15	15

\* Or through volume only if a right-turn lane exists

TABLE 5B

RIGHT-TURN LANE VOLUME THRESHOLDS  
FOR TWO-LANE ROADWAYS WITH A PREVAILING SPEED OF 36 TO 45 MPH

RIGHT-TURN VOLUME	THROUGH VOLUME PLUS LEFT-TURN VOLUME *					
	<100	100 - 199	200 - 249	250 - 299	300 - 349	350 - 399
22 Fewer Than 25 25 - 49 50 - 99						
100 - 149 150 - 199						
200 - 249 250 - 299					Yes	Yes
300 - 349 350 - 399				Yes Yes	Yes Yes	Yes Yes
400 - 449 450 - 499		Yes		Yes Yes	Yes Yes	Yes Yes
500 - 549 550 - 599	Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
600 or More	Yes	Yes	Yes	Yes	Yes	Yes

304

22

Fewer Than 25

Millertown Pike at  
Proposed Entrance  
  
2028 Projected PM  
EB Right Turns = 22  
  
Right Turn Lane NOT  
Warranted

RIGHT-TURN VOLUME	THROUGH VOLUME PLUS LEFT-TURN VOLUME *					
	350 - 399	400 - 449	450 - 499	500 - 549	550 - 600	+ / > 600
Fewer Than 25 25 - 49 50 - 99				Yes	Yes Yes	Yes Yes
100 - 149 150 - 199		Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
200 - 249 250 - 299	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
300 - 349 350 - 399	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
400 - 449 450 - 499	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
500 - 549 550 - 599	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
600 or More	Yes	Yes	Yes	Yes	Yes	Yes

\* Or through volume only if a left-turn lane exists.

## Queuing and Blocking Report

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### Intersection: 4: Legg Creek Lane & Millertown Pike

---

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	6	49
Average Queue (ft)	0	24
95th Queue (ft)	4	44
Link Distance (ft)	418	237
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

---

### Intersection: 6: Proposed Entrance & Millertown Pike

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Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	6	32
Average Queue (ft)	0	15
95th Queue (ft)	4	37
Link Distance (ft)	202	224
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

---

### Network Summary

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Network wide Queuing Penalty: 0

---

## Queuing and Blocking Report

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### Intersection: 4: Legg Creek Lane & Millertown Pike

---

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	38	39
Average Queue (ft)	4	17
95th Queue (ft)	21	40
Link Distance (ft)	418	237
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

---

### Intersection: 6: Proposed Entrance & Millertown Pike

---

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	28	32
Average Queue (ft)	2	12
95th Queue (ft)	14	34
Link Distance (ft)	202	224
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

---

### Network Summary

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Network wide Queuing Penalty: 0

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