



May 20, 2021

Ms. Maribeth Lynch, Chair  
Zoning Board of Appeals  
c/o Mr. Bernard Cahill, Town Planner  
Municipal Building  
100 Maple Avenue  
Shrewsbury, MA 01545

**Re: Transportation Update  
The Pointe at Hills Farm Residential Development  
526 Hartford Turnpike  
Shrewsbury, Massachusetts**

Dear Ms. Lynch and Members of the Board:

Tetra Tech has prepared the following transportation assessment update for the currently proposed building program modification to the previously approved residential development “The Pointe at Hills Farm” (the “project”) in Shrewsbury, Massachusetts. The project was previously approved for the construction of a two-phase residential development with 156 units proposed at 440 Hartford Turnpike (Phase I) and 92 units proposed at 526 Hartford Turnpike (Phase II). As currently proposed, only Phase II (as approved) of the project will be moving forward at this time due to the sale of 440 Hartford Turnpike for the purpose of a By Right commercial development.

As previously approved, access to the Phase I residential development will be provided by a full access, unsignalized site driveway to be located on the south side of Hartford Turnpike (Route 20). A separate emergency access only site driveway will be constructed on Stoney Hill Road with “Do Not Enter” signs posted on Stoney Hill Road. The project had previously received a state highway access permit for the construction of the primary access driveway on Route 20. No changes to the previously approved Phase II building program (92 residential units) or site access is proposed.

As part of this assessment, TT conducted a trip generation comparison of the currently proposed building program to the prior proposed building programs. As expected, the currently proposed building program of 92 units will generate significantly less traffic. The Project Proponent is committed to implementing the Phase II transportation-related improvements identified during the previous state and local review processes for the project and no additional traffic mitigation measures are warranted for the Phase II development as a result of the proposed building program modification. This letter documents our findings.

## **PROJECT BACKGROUND**

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Tetra Tech had prepared a detailed Traffic Impact and Access Study (TIAS) for the originally proposed Pointe at Hills Farm residential development in November 2015 which accounted for background traffic growth in the region. At that time, the project consisted of a total of 280 units, with 180 units to be located at 440 Hartford Turnpike (Phase I) and 100 units to be located at 526 Hartford Turnpike (Phase II). Subsequent to the preparation of the November 2015 TIAS, the proposed building program was reduced during the local review process to a total of 248 units with 156 units to be constructed at 440 Hartford Turnpike under Phase I and 92 units to be constructed at 526 Hartford Turnpike under Phase II. In November 2016, the Town of Shrewsbury Zoning Board of Appeals issued a Decision on Application Comprehensive Permit Application G.L.C. 40B, 8820-23 approving the reduced building program.

Traffic mitigation identified during the local review process for Phase I of the project included site access improvements and construction of sidewalk along the Route 20 site frontage and a crosswalk across Stoney Hill Road (West). Traffic mitigation for Phase II of the project included site access improvements only. The project also obtained separate state highway access permits for the transportation-related improvements associated with each phase of the development.

As currently proposed, only Phase II of the project will be moving forward at this time due to the sale of the property at 440 Hartford Turnpike for the purpose of a By Right commercial development.

## TRIP GENERATION COMPARISON

Vehicle trip generation estimates for the currently proposed Phase II building program were developed based on trip rates presented in the Institute of Transportation Engineers' (ITE) publication *Trip Generation Manual, 10th Edition* for Land Use 220 (Multifamily Housing – Low-Rise) assuming a total of 92 residential units. The trip generation calculations are provided in the Attachments.

A comparison of the vehicle trip generation estimates for the currently proposed project (92 Units), the originally proposed project evaluated in the 2015 TIAS (280 Units) and the previously approved project (248 units) is presented in Table 1.

**Table 1 The Pointe at Hills Farm Trip Generation Summary**

Time Period/ Direction	November 2015 Traffic Study (280 Units) <sup>1</sup>	Approved Site Plan (248 Units) <sup>2</sup>	Currently Proposed (92 Units) <sup>3</sup>	Net New <sup>4</sup>
<b>Weekday Daily</b>				
Enter	972	898	328	-570
Exit	972	898	328	-570
<b>Total</b>	<b>1,944</b>	<b>1,796</b>	<b>656</b>	<b>-1,140</b>
<b>Weekday AM Peak Hour</b>				
Enter	29	27	10	-17
Exit	116	90	34	-56
<b>Total</b>	<b>145</b>	<b>117</b>	<b>44</b>	<b>-73</b>
<b>Weekday PM Peak Hour</b>				
Enter	123	90	35	-55
Exit	67	53	20	-33
<b>Total</b>	<b>190</b>	<b>143</b>	<b>55</b>	<b>-88</b>

1) Based on *Traffic Impact and Access Study, The Pointe at Hills Farm, Shrewsbury, Massachusetts*, prepared by Tetra Tech; dated November 2015.

2) Based on trip rates presented in the Institute of Transportation Engineers' publication *Trip Generation Manual, 10th Edition* for ITE Land Use 220 (Multifamily Housing – Low-Rise) applied to 248 units.

3) Based on trip rates presented in the Institute of Transportation Engineers' publication *Trip Generation Manual, 10th Edition* for ITE Land Use 220 (Multifamily Housing – Low-Rise) applied to 92 units.

4) Net New = previously approved (248 units) trip generation minus currently proposed (92 units) trip generation

As shown in Table 1, the currently proposed 92-unit (Phase II Only) residential project is expected to generate 656 new vehicle trips (328 entering and 328 exiting) on a typical weekday, with approximately 44 new vehicle trips (10 entering trips and 34 exiting trips) during the weekday morning peak hour and 55 new vehicle trips (35 entering trips and 20 exiting trips) during the weekday evening peak hour. The proposed residential development is anticipated to have no material impact on the operations of the adjacent roadway system with the project estimated to generate less than one additional trip every minute during peak hours.

A comparison of the vehicle trip generation estimates for the currently proposed 92-unit residential development with the previously proposed building program of 280 units analyzed in the November 2015 TIAS (180 units at Phase I and 100 units at Phase II) and the previously approved build program of 248 units (156 units at Phase I and 92 units at Phase II) indicates a significant reduction in overall project trips, with approximately 1,140 fewer vehicle trips on a typical weekday, 73 fewer trips during the weekday morning peak hour and 88 fewer trips during the weekday evening peak hour.

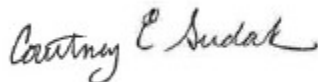
## CONCLUSIONS

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The currently proposed project consisting of the Phase II property with 92 residential units is expected to generate significantly less traffic than the previously approved project (248 units). It is, therefore, anticipated that the Phase II site access improvements identified as part of the previous state and local review of the project will be more than sufficient to accommodate the currently proposed project. It is anticipated that the appropriate site access and potential off-site improvements associated with the 440 Hartford Turnpike property (formerly the site of Phase I of the Pointe at Hills Farm project) will be determined under a separate application should the current owner move forward with the development of that property.

We trust that this information will prove use to the town in its review of the currently proposed project. If you have any questions or require any additional information, please contact our office.

Sincerely,



Courtney E. Sudak, PE  
Senior Project Engineer

**Attachment A**  
**Trip Generation Calculations**

Land Use Code 220 - Multifamily Housing (Low-Rise)				Size:	92	DWELLING UNITS				
Time Period	R <sup>2</sup> Value	Use Equation or Rate?	Equation	Rate	Percent Enter	In	Out	Total	Equation	Rate
Weekday Daily	0.96	Equation	$T=7.56(x)-40.86$	7.32	50%	328	328	656	656.00	674.00
AM Street Peak Hour	0.90	Equation	$\ln(T)=.95\ln(x)-0.51$	0.46	23%	10	34	44	44.00	42.00
PM Street Peak Hour	0.86	Equation	$\ln(T)=0.89\ln(x)-0.02$	0.56	63%	35	20	55	55.00	52.00

Note: If R<sup>2</sup> is greater than or equal to 0.75 the equation is used to calculate trips, otherwise the rate is used.

Source: *Trip Generation, Tenth Edition*, (Institute of Transportation Engineers, 2017).

Land Use Code 220 - Multifamily Housing (Low-Rise)				Size:	156	DWELLING UNITS				
Time Period	R <sup>2</sup> Value	Use Equation or Rate?	Equation	Rate	Percent Enter	In	Out	Total	Equation	Rate
Weekday Daily	0.96	Equation	$T=7.56(x)-40.86$	7.32	50%	570	570	1140	1140.00	1142.00
AM Street Peak Hour	0.90	Equation	$\ln(T)=.95\ln(x)-0.51$	0.46	23%	17	56	73	73.00	72.00
PM Street Peak Hour	0.86	Equation	$\ln(T)=0.89\ln(x)-0.02$	0.56	63%	55	33	88	88.00	87.00

Note: If R<sup>2</sup> is greater than or equal to 0.75 the equation is used to calculate trips, otherwise the rate is used.

Source: *Trip Generation, Tenth Edition*, (Institute of Transportation Engineers, 2017).

Land Use Code 220 - Multifamily Housing (Low-Rise)				Size:	248	DWELLING UNITS				
Time Period	R <sup>2</sup> Value	Use Equation or Rate?	Equation	Rate	Percent Enter	In	Out	Total	Equation	Rate
Weekday Daily						898	898	1796		
AM Street Peak Hour						27	90	117		
PM Street Peak Hour						90	53	143		

Note: If R<sup>2</sup> is greater than or equal to 0.75 the equation is used to calculate trips, otherwise the rate is used.

Source: *Trip Generation, Tenth Edition*, (Institute of Transportation Engineers, 2017).