

Ref: 9449

November 16, 2022

Mr. Michael B. Silveira
Senior Planner
Town of Hingham
210 Central Street
Hingham, MA 02043

Re: 2nd Traffic Engineering Peer Review
Vineyard Lane Definitive Subdivision – 261 Gardner Street
Hingham, Massachusetts

Dear Michael:

Vanasse & Associates, Inc. (VAI) has completed a review of the supplemental materials submitted on behalf of Joseph Cincotta (the “Applicant”) in support of the proposed Vineyard Lane Definitive Subdivision that has been proposed for the property located at 261 Gardner Street in Hingham, Massachusetts (hereafter referred to as the “Project”). This information was prepared in response to comments received from the Planning Board, Town Departments, and the Planning Board’s independent review consultants, including those that were raised in our October 17, 2022 Traffic Engineering Peer Review letter. The following supplemental materials were submitted and are the subject of this review:

1. *Definitive Subdivision Plan for Vineyard Lane*, 261 Gardner Street, Hingham, MA 02043; Civil Design Group, LLC; July 22, 2022, last revised November 14, 2022;
2. VAI Response to Comments, Proposed Residential Definitive Subdivision, 261 Gardner Street, Hingham, MA; Civil Design Group, LLC; November 14, 2022; and
3. Sight Distance Investigation, Vineyard Lane Subdivision, 261 Gardner Street, Hingham, MA; Chappell Engineering Associates, LLC; November 7, 2022.

Based on our review of this information, we are satisfied that the Applicant’s team has been responsive to our comments; however, the sight distance analysis that was provided for the Gardner Street/Vineyard Lane intersection needs to be revised to include an evaluation of both stopping sight distance and intersection sight distance Pursuant to Section 4.B(3)(b) of the Hingham Subdivision Rules and Regulations, and to use the statutory speed limit for eastbound motorists, which is higher than the prevailing travel speed that was observed for motorists traveling in this direction.

For reference, listed below are the comments that were raised in our October 17, 2022 Traffic Engineering Peer Review letter, followed by a summary of the information submitted on behalf of the Applicant, with additional comments indicated in **bolded** text for identification.

COMMENTS

Comment 1: *Using trip-generation statistics published by the Institute of Transportation Engineers (ITE)¹ for single-family homes, the Project (three (3) new single-family homes) is expected to produce 40 new vehicle trips on an average weekday (20 vehicles entering and 20 exiting), with 3 to 4 new vehicle trips expected during the peak commuter hours. These increases would not result in a material increase in motorist delays or vehicle queuing over existing conditions.*

Response: No response required.

Comment 2: *Sheet 9, "Fire Apparatus Plan" illustrates that the fire truck design vehicle is able to access and maneuver within the traveled-way; however, portions of the vehicle (front bumper and aerial extension) off-track beyond the edge of pavement on the north (east) side of Gardner Street. In order to accommodate fire truck access, on-street parking should be prohibited along Vineyard Lane and the area along the north side of Gardner Street opposite Vineyard Lane will need to be maintained such that no objects, including snow accumulations (windrows), are located within this area that would inhibit fire truck maneuvering. These accommodations should be added to the Definitive Subdivision Plan.*

Response: This comment was noted; however, a response was not provided.

A review of the *Fire Apparatus Access Plan* indicates that the fire truck design vehicle is able to access and maneuver within the traveled-way along Vineyard Lane to the extent that on-street parking is limited to occasional, intermittent parking, which is not uncommon for residential developments with adequate off-street parking. Given the small number of homes that are proposed, the installation of "No Parking" signs along Vineyard Lane does not appear to be necessary or justified.

The off-tracking that was identified to occur beyond the edge of the pavement on the north (east) side of Gardner Street likely overstates the extent to which the off-tracking will occur as the analysis assumes that the exiting fire truck cannot use the full width of Vineyard Lane. For low volume residential streets, it is customary to assume that the fire truck will use the full width of the roadway. Assuming use of the full width of Vineyard Lane by an exiting fire truck, the off-tracking will be limited or eliminated.

Comment closed.

Comment 3: *The driveway to Lot 1 should be relocated to Vineyard Lane pursuant to Section 4.B(2)(a) of the Hingham Subdivision Rules and Regulations.*

Response: Lot 1 includes an existing house and two (2) driveways that intersect Gardner Street. The Applicant intends to retain both the house and the driveways, and has requested a waiver from Section 4.B(2)(a) of the Hingham Subdivision Rules and Regulations that requires that the access to the existing home be relocated to Vineyard Lane.

¹*Trip Generation*, 11th Edition; Institute of Transportation Engineers; Washington, DC; 2021.



To the extent that the Planning Board is inclined to grant the waiver, we would recommend that the waiver stipulate the following: i) the access be limited to one (1) driveway and that the driveway to the garage be removed and consolidated with the driveway adjacent to the single-family home; ii) the use of the consolidated driveway be limited to the existing single-family home; and iii) clear line of sight is provided and maintained between the consolidated driveway and Vineyard Lane. We note that sight lines to and from the driveway adjacent to the single-family home appear to meet or exceed the recommended minimum distance for safe operation based on a 30 mile per hour (mph) approach speed (200 feet is recommended).

Comment 4: *A sidewalk should be added along at least one side of Vineyard Lane and should extend to Gardner Street.*

Response: Sidewalks are not required for a Limited Residential roadway and there are no sidewalks on Gardner Street along the site frontage. As such, sidewalks are not proposed.

We continue to recommend that consideration be given to providing a sidewalk along at least one side of Vineyard Lane.

Comment 5: *Americans with Disability Act (ADA) compliant wheelchair ramps should be provided where pedestrian crossings are proposed.*

Response: Comment was acknowledged.

Comment 6: *Pursuant to Section 4.B(3)(b) of the Hingham Subdivision Rules and Regulations, a sight distance analysis (intersection and stopping sight distance) should be completed for the intersection of Vineyard Lane with Gardner Street following American Association of State Highway and Transportation Officials (AASHTO)² standards and using the higher of the measured 85th percentile vehicle travel speed along Gardner Street or the posted speed limit.*

Response: Chappell Engineering Associates, LLC prepared an assessment of sight distances at the intersection of Vineyard Lane with Gardner Street. Speed measurements were collected on November 2, 2022 along Gardner Street. These measurements documented an 85th percentile travel speed of 20 mph eastbound and 34 mph westbound; the posted speed limit was identified to be 25 mph. The sight distances for the intersection were assessed using the higher of the observed 85th percentile vehicle travel speed or the posted speed limit, or 25 mph eastbound (assumed posted speed limit) and 34 mph westbound. Based on this approach, the minimum recommended sight distance was identified to be 155 feet for eastbound traffic and a distance of 235 feet was identified for westbound traffic. Measured sight lines were identified to be 170 feet looking to the west from Vineyard Lane along Gardner Street and 500+ feet looking to the east, both of which exceed the recommended minimum sight distances. It was recommended that vegetation located within the sight triangle areas of the new intersection be trimmed and/or removed, and that no obstructions be placed within the sight triangle areas that would impede sight lines.

²A Policy on Geometric Design of Highway and Streets, 6th Edition; American Association of State Highway and Transportation Officials (AASHTO); Washington D.C.; 2011.



Section 4.B(3)(b) of the Hingham Subdivision Rules and Regulations requires that an assessment of both intersection and stopping sight distances be performed. The sight distance analysis that was provided was for the intersection sight distance (the sight distance for a motorist exiting from Vineyard Lane) and not for the stopping sight distance (the sight distance for a motorist traveling along Gardner Street approaching Vineyard Lane). Also, the statutory speed limit along Gardner Street in the absence of a regulatory or posted speed limit is 30 mph; the 25 mph signs that have been installed are advisory speeds (black lettering on a yellow background). As such, both the stopping sight distance and intersection sight distance for the intersection should be assessed based on a 30 mph speed for vehicles approaching from the west (eastbound) and 34 mph (suggest using 35 mph) for vehicles approaching from the east (westbound).

A review of the Definitive Subdivision Plan indicates that the sight lines approaching Vineyard Lane from the west along Gardner Street (stopping sight distance) and for a motorist exiting Vineyard Lane and looking to the west (intersection sight distance) will cross over the inside of the horizontal curve to the west of the intersection. As such, a sight distance plan should be prepared that illustrates the recommended minimum sight distance (200 feet for a 30 mph approach speed) in both plan and profile views. The plan should include property lines for the properties located along the north side of Gardner Street and the surface elevation of the roadways (Gardner Street and Vineyard Lane) and adjacent land over which the sight lines cross, including walls and other features. Trees, utility poles or other objects located within the sight line areas should also be identified.

Comment 7: *The sight triangle areas for the Vineyard Lane should be added to the Definitive Subdivision Plan along with a note to indicate: "Signs, landscaping and other features located within sight triangle areas shall be designed, installed and maintained so as not to exceed 2.5-feet in height. Snow accumulation (windrows) located within sight triangle areas that exceed 3.5-feet in height or that would otherwise inhibit sight lines shall be promptly removed."*

Response: The sight triangle areas and requested note have been added to the revised *Definitive Subdivision Plan* (Note 12 under "Site Layout Notes" on Sheet 2 sight triangles on Sheet 5).

Comment closed.

Comment 8: *A note should be added stating: "All Signs and pavement markings to be installed within the Project site shall conform to the applicable specifications of the Manual on Uniform Traffic Control Devices (MUTCD).³"*

Response: The requested note has been added to the revised *Definitive Subdivision Plan* (see "Site Layout Notes" on Sheet 2).

Comment closed.

³*Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, DC; 2009.

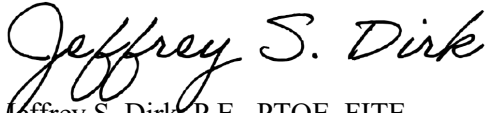


Mr. Michael B. Silveira
November 17, 2022
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This concludes our review of the materials that have been submitted to date in support of the Project. If you should have any questions regarding our review, please feel free to contact me.

Sincerely,

VANASSE & ASSOCIATES, INC.



Jeffrey S. Dirk, P.E., PTOE, FITE
Managing Partner

Professional Engineer in CT, MA, ME, NH, RI and VA

JSD/jsd

