



August 27, 2024
(revised October 11, 2024)

Mr. Zachary McBride, Chair
Sherborn Zoning Board of Appeals
Town Hall
19 Washington Street

**Re: Brush Hill Homes Residential Development – Comprehensive Permit
Engineering Peer Review – Traffic
34 Brush Hill Road
Sherborn, MA**

Dear Mr. McBride:

Tetra Tech (TT) has performed a review of the specific submittal materials for the above-referenced Project as they relate to transportation to assist the Town of Sherborn Zoning Board of Appeals (Board) in its Comprehensive Permit review of the proposed Brush Hill Homes development (the Project). The Project is located at 34 Brush Hill Road in Sherborn, Massachusetts. The Applicant proposes the construction of eight (8) single-family homes.

TT is in receipt of the following materials:

- A plan set (Plans) titled "Permit Site Plan, for Sherborn Cottage Court, at 34 Brush Hill Road in Sherborn, MA", dated June 4, 2024, prepared by DGT Associates Surveying & Engineering (DGT).
- A Traffic Study titled "Transportation Impact Assessment, Brush Hill Homes, 34 Brush Hill Road, Sherborn, Massachusetts" dated August 5, Prepared by Vanasse & Associates Inc. (VAI)

Tetra Tech has reviewed the August 2024 Traffic Impact Assessment (TIA) for conformance with standard professional practices in the Commonwealth of Massachusetts for the preparation of traffic impact studies for Projects of the size and nature of the proposed development. The Project was also reviewed for good engineering practice and overall site circulation.

The TIA generally conforms to accepted industry practices. However, there are several elements that are either missing, require updates or need further evaluation. Tetra Tech's specific comments on the above-mentioned materials are as follows.

TT 10/11/24 Update

The Applicant has supplied TT with a revised submission addressing comments provided in our previous letter including the following documents:

- A Response to Comments letter (VAI Letter), dated September 11, 2024, prepared by VAI.
- A plan set (Plans) titled "Permit Site Plan, for Sherborn Cottage Court, at 34 Brush Hill Road in Sherborn, MA", dated June 4, 2024 with revisions through September 19, 2024, prepared by DGT Associates Surveying & Engineering (DGT).

The supplemental traffic information and analyses were reviewed against our previous comment letter (August 27, 2024) and comments have been tracked accordingly. Text shown in gray represents information contained in previous correspondence while new information is shown in black text.

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TRAFFIC REVIEW

Public Transportation

1. The TIA states that regularly scheduled public transportation service is not provided within the Town of Sherborn. The TIA states that the Sherborn Council of Aging provides discounted taxi rides through an agreement with JFK Transportation. The trip generation estimates presented in the TIA do not take a credit (reduction) for transit use. Tetra Tech generally concurs with this methodology.
 - o **VAI 9/11/24 Response: No response required.**
 - **TT 10/11/24 Update: In our opinion, this comment is resolved.**

Crash Analysis

2. The TIA includes a crash analysis for the existing study intersections between 2016 and 2020 based on MassDOT crash data. The current MassDOT crash database includes data through 2022 (years 2021 and 2022 are still open and subject to change pending MassDOT's completion of processing all crash reports for these two years). Tetra Tech recommends that the Applicant review the two additional years of data to confirm the findings are consistent with the 2016 through 2020 data. The backup crash data should be provided in the appendix for the Town's review.
 - o **VAI 9/11/24 Response: The MassDOT crash data is attached as requested and includes a review of crash data along Brush Hill Road for a 10-year period between August 2014 and August 2024. There were a total of five (5) motor vehicle crashes that were reported to have occurred along [Brush] Hill Road between August 2014 and August 2024, of which two (2) were reported between 2016 and 2020, all of which were identified as property damage only. Three (3) of the crashes involved a collision with another motor vehicle and two (2) involved a collision with a fixed roadside object or a tree. The contributing factor in four (4) of the crashes was identified as driving too fast for roadway conditions and "improper driving." A specific roadway defect was not identified to be a contributing factor in the crashes.**
 - **TT 10/11/24 Update: The requested crash data has been provided. In our opinion, this comment is resolved.**

Trip Generation

3. Vehicle trip generation estimates for the proposed Project were based on trip generation rates presented in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition for Land Use Code (LUC) 210 (Single-Family Detached Housing) applied to eight (8) units. Tetra Tech generally agrees with this methodology.
 - o **VAI 9/11/24 Response: No response required.**
 - **TT 10/11/24 Update: In our opinion, this comment is resolved.**

Sight Distance

4. Tetra Tech recommends that the Applicant conduct a sight distance analysis of the proposed site access roadway intersection with Brush Hill Road based on AASHTO's A Policy on Geometric Design of Highways and Streets, 7th Edition (2018). It is recommended that the supporting sight distance calculations be provided to the Town for review.
 - o **VAI 9/11/24 Response: A detailed sight distance analysis has been completed for the Project (see response to Comment 5) and the sight distance calculations are attached. We note that the posted speed limit for Brush Hill Road is 25 miles per hour (mph) and that the centerline grade at the location of the driveway ranges from 2.6 percent to 5.7 percent, with an average centerline grade of between 3.7 percent and 3.8 percent. As such, a grade correction factor was applied to the stopping sight distance calculations in accordance with AASHTO standards.**

- **TT 10/11/24 Update:** Tetra Tech has reviewed the sight distance calculations, plans and profiles provided which were based on AASHTO standards. Tetra Tech is in general agreement with this methodology. In our opinion, this comment is resolved.
- 5. Tetra Tech recommends that the sight distance plans and profiles for the site access roadway be added to the site plans to confirm that adequate sight distance will be provided at this location. Any existing vegetation or guardrail required to be removed to provide adequate sight lines should be identified for the Town's review. Additionally, the Applicant should ensure that all proposed landscaping and signage internal to the site (where vehicle conflicts may occur) will not impede sight lines.
 - *VAI 9/11/24 Response: As requested, sight distance plans have been prepared for the Project site driveway intersection with Brush Hill Road that depict the sight lines in both plan and profile views and are attached. The plan view drawings illustrate the areas where the selective trimming/removal of trees and vegetation should occur. The plan view drawings illustrate that the stopping sight distance along Brush Hill Road meets the recommended criteria and indicates the extent to which the existing stone walls on either side of the driveway need to be modified to provide the recommended minimum sight lines for a motorist exiting the driveway and looking to the left and right. The selective trimming/removal of trees and vegetation and the identified stone wall modifications will be completed in conjunction with the Project subject to receipt of all necessary rights, permits and approvals. We note that it is not necessary to clear all vegetation within the sight triangle areas; however, large trees that are proximate to the driveway should be removed.*
 - **TT 10/11/24 Update:** Tetra Tech has reviewed the sight distance plans and profiles provided in VAI's 9/11/24 response letter based on AASHTO standards and is in general agreement with the methodology. Tetra Tech recommends a Condition requiring the Applicant include the sight distance plans and profiles indicating the areas of selective removal of vegetation and stone wall modifications on a final set of Plans to be reviewed by the ZBA.
- 6. The TIA recommends that any snow windrows at the proposed site driveway be promptly removed to sufficiently ensure adequate sight distance. Tetra Tech generally concurs with this recommendation.
 - *VAI 9/11/24 Response: No response required.*
 - **TT 10/11/24 Update:** In our opinion, this comment is resolved.

Site and Emergency Vehicle Access/Circulation

- 7. Tetra Tech recommends that the Applicant conduct a turning analysis of the largest emergency, trash and delivery vehicles anticipated to use the site to confirm that the site access roadway design can accommodate the Project. Tetra Tech recommends that the Applicant review the site access and circulation with the Fire Department to confirm that the Town's largest emergency apparatus can adequately access the site.
 - *VAI 9/11/24 Response: A vehicle turning analysis has been completed for the Sherborn Ladder Truck and is attached. The turning analysis illustrates that the subject vehicle is able to enter and exit the Project site from Brush Hill Road and circulate within the development in an unimpeded manner. The trash/delivery vehicle is smaller in size than the Sherborn Ladder Truck (30 ft vs. 41 ft.) and will maneuver in a comparable manner. As such, a separate turning analysis was not provided for the trash/delivery vehicle.*
 - **TT 10/11/24 Update:** The Applicant has provided the truck turning analyses requested. Tetra Tech continues to recommend that the Applicant review the site access and circulation with the Fire Department and written approval be provided to the ZBA from the Fire Department as confirmation.

8. The TIA states that the paved width of Brush Hill Road varies from 16 to 20 feet. The minimum roadway width guideline reported by AASHTO for low-volume roadways is 18 feet. Tetra Tech recommends that the Applicant work with the Town to identify potential solutions to increasing the roadway width to provide safer and more efficient travel along Brush Hill Road.
 - *VAI 9/11/24 Response: The Applicant will work with the Town to identify potential measures that could be implemented independent of the Project to increase the width of the traveled way along Brush Hill Road. It has been noted by the Applicant that the Town undertook a similar planning effort in the past and widening of the existing roadway was not desired by the majority of the property owners along Brush Hill Road.*
 - **TT 10/11/24 Update: The Applicant commits to working with the Town to identify potential measures that could be implemented independent of the Project to increase the roadway width on Brush Hill Road. However, no potential measures have been identified at this time. Without roadway widening, select sections of Brush Hill Road will continue to fall below AASHTO guidelines for minimum roadway width.**
9. The site plan indicates that the site access roadway will be 20 feet wide. The TIA recommends that on-street parking be prohibited along the site access roadway so that site access and circulation is not impeded. Tetra Tech concurs with this recommendation.
 - *VAI 9/11/24 Response: No response required.*
 - **TT 10/11/24 Update: In our opinion, this comment is resolved.**
10. The TIA recommends that vehicles exiting the Project site be placed under Stop-sign control and that all signs and pavement markings installed within the Project site be consistent with the Manual on Uniform Traffic Control Devices (MUTCD). Tetra Tech concurs with this recommendation.
 - *VAI 9/11/24 Response: A STOP-sign and marked STOP-line will be added to the site plans.*
 - **TT 10/11/24 Update: The STOP-sign and markings are not shown on the revised site plans. Tetra Tech recommends a Condition requiring the Applicant include the MUTCD-compliant STOP-sign and markings on a final set of Plans to be reviewed by the ZBA.**
11. Tetra Tech recommends that the Applicant label the snow storage areas and ensure that adequate snow storage will be available on-site without impeding parking, site access, sight distance and circulation.
 - *VAI 9/11/24 Response: A snow storage plan is attached.*
 - **TT 10/11/24 Update: The Applicant has provided the snow storage plan requested. In our opinion, this comment is resolved.**
12. Tetra Tech recommends that the Applicant coordinate with the Dover-Sherborn Public School department to identify appropriate the pick-up location(s) within the site. Tetra Tech also recommends that the Applicant explore the feasibility of constructing a sidewalk connecting each home to Brush Hill Road.
 - *VAI 9/11/24 Response: The Applicant will discuss the location of the school bus stop for the Project with the Dover-Sherborn School Department and will provide the appropriate accommodations at the stop location.*
 - **TT 10/11/24 Update: Tetra Tech recommends a Condition requiring the Applicant to provide the appropriate bus stop location at the site based on discussions with the Dover-Sherborn School Department as committed to by the Applicant in VAI's 9/11/24 response letter.**
13. There are currently no dedicated pedestrian or bicycle accommodations along Brush Hill Road in the site vicinity. Tetra Tech recommends that the Applicant explore the feasibility of implementing such accommodations in the study area.
 - *VAI 9/11/24 Response: The Applicant will work with the Town to explore the feasibility of establishing pedestrian and bicycle accommodations along Brush Hill Road in the vicinity of the Project site.*
 - **TT 10/11/24 Update: Tetra Tech recommends a Condition requiring the Applicant to coordinate with the Town to explore the feasibility of establishing pedestrian and bicycle**

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accommodations along Brush Hill Road in the vicinity of the Project site as committed to by the Applicant in VAI's 9/11/24 response letter.

These comments are offered as guides for use during the Town's review and additional comments may be generated during the course of review. The Applicant shall be advised that any absence of comment shall not relieve them of the responsibility to comply with all applicable local, state and federal regulations for the Project. If you have any questions or comments, please feel free to contact us at (508) 786-2200.

Very truly yours,



Courtney E. Sudak, P.E.
Project Manager

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