

To: Board of Appeals
Municipal Office Building
127 Elm Street
Millbury, Massachusetts 01527

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Project/File: 179411162

Date: December 4, 2023

Reference: Comprehensive Permit Application (40B) 15-17 Rice Road Residential Development – Traffic Impact Study Update

Stantec Consulting Services, Inc. (“Stantec”) has reviewed the *Traffic Impact Study Update – Multifamily Residential Development – Located at 15-17 Rice Road Millbury, Massachusetts* dated September 2022 prepared for Whitney Street Home Builders and prepared by Ali R. Khorasani Associates (AK Associates). The applicant is proposing approximately 192 units of multifamily residential development on approximately 15.6 acres of accumulated parcels on the north side of Rice Road in Millbury, Massachusetts. This location requires a new access driveway, located across from the existing intersection of Rice Road and Thomas Hill Road, creating a new four-leg intersection, and approximately 300 feet west of the intersection of Rice Road at Aldrich Avenue. This driveway will also be approximately 800 feet west of the intersection of Rice Road and Providence Street (MA Route 122A) and approximately 925 feet east of the intersection of Rice Road and South Main Street.

Stantec reviewed the traffic impact study by following MassDOT's *Transportation Impact Assessment (TIA) Guidelines*, Town of Millbury's *Zoning Bylaws* dated May 2018, Town of Millbury's *Chapter 40B Rules and Regulations* dated January 2023, and generally accepted engineering practice. In addition, Stantec reviewed the plans, dated October 24, 2023, as prepared by Azimuth Land Design, LLC for the applicant, SJV Investments, LLC. Specific to this memorandum is the review of the traffic engineering related elements of the plans and the connection between the traffic impact assessment and the site plans. Civil/site/stormwater elements of the plans and other documents associated with this development will be provided in a separate review by Stantec.

A previous traffic impact study (TIS) for a residential development (*Rice Pond Village*) at this location was submitted in March 2021 prepared for Whitney Street Home Builders and prepared by AK Associates. Stantec conducted the initial submittal peer review of this TIS and submitted a memorandum, dated May 4, 2021, with comments and recommendations for the applicant's engineer. This TIS was followed up with a subsequent submittal and Response to Comments by AK Associates in November 2021, which was followed up with Stantec's review of the responses and TIS updates within a memorandum dated November 19, 2021. Previous submittal review documents were reviewed for any additional outstanding comments resulting from the

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previous 2021 efforts, while refreshing the current TIS update review based on new information, both existing conditions and proposed conditions of the past two years.

Existing Conditions

Traffic Volumes

AK Associates utilized the traffic data collected in March 2021 (from the previous project at this location), which required adjustments due to COVID-related travel impacts including applying growth rates from pre-COVID MassDOT traffic data. AK Associates noted that taking new traffic data in 2021 and 2022 “may undercount the baseline for which future years are based”.

The data collected for the first project was timely for that project but was also in the middle of the COVID pandemic. Since the traffic counts were collected for the previous study, traffic patterns and guidance regarding use of traffic volumes data for projects in Massachusetts has changed. MassDOT released Engineering Directive E-22-003, which supersedes Engineering Directive E-20-005 requiring adjustments to traffic data collected during the COVID pandemic, by restoring typical traffic data collection and adjustment on or after March 1, 2022 for land uses not predominated by office land uses.

Stantec recommends AK Associates collect new traffic data for the study area intersections to establish a more current baseline for the existing conditions related to the project site and the roadways and intersections impacted by this project. The new traffic data collection would also be collected in the most current, existing condition of Rice Road, its intersections, and travel patterns of the roadway users in the study area.

The Town of Millbury’s Rules and Regulations Governing Comprehensive Permit Applications Under General Laws Chapter 40B Section 3.11.3 requires traffic data be collected for the weekend. The Town of Millbury’s Zoning Bylaws Section 12.44 (f)(1) requires all traffic study data shall be no more than twelve (12) months old as of the date of the application.

With the new baseline existing traffic data, Stantec recommends AK Associates review the current growth and seasonal adjustment factors to apply to these baseline traffic volumes. Stantec also recommends AK Associates revise their future no-build and build conditions to be projected five years from the date of the newly collected traffic data, likely for 2028 or 2029.

Stantec recommends AK Associates coordinate with local and regional authorities regarding future developments which may have traffic impacts that overlap with the 15-17 Rice Road Residential Development.

Safety Concerns

Sight Distance

Since the initial traffic study related to this location from 2021, the Town of Millbury has since made improvements to Rice Road, which are not reflected in the imagery and Google Earth profiles provided in the most current version of this report. Stantec recommends AK Associates update the imagery figures provided and confirm the measured stopping and intersection sight distances presented previously are still applicable to the proposed site access driveway.

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Future Conditions

Site-Generated Traffic

AK Associates provided the ITE Trip Generation for 192 units of a Multi-Family Mid-Rise Housing (ITE Land Use Code 221) from the 10th edition of the ITE Trip Generation Manual. The Town of Millbury's *Rules and Regulations Governing Comprehensive Permit Applications Under General Laws Chapter 40B* Section 3.11 references the use of the most current edition of the ITE Trip Generation Manual, which is in its 11th Edition.

In reviewing the differences between the 10th Edition and 11th Edition of the ITE Trip Generation Manual, Stantec has identified that while the daily projected trip estimate is overall lower (1045 in the 10th, 869 in the 11th), the trips associated with the adjacent roadway's morning and afternoon peak hour periods are higher (69/84 in the 10th, 73/75 in the 11th). After this review, Stantec finds AK Associates' use of the 10th Edition of the ITE Trip Generation Manual is expected to only produce a nominal difference in traffic volumes due to the proposed development and accepts the general trip generation findings in this TIS Update.

Following the Town of Millbury's Rules and Regulations Governing Comprehensive Permit Applications Under General Laws Chapter 40B Section 3.11.3, Stantec recommends AK Associates review Saturday Peak trip generation of the proposed development.

Trip Distribution and Assignment

Stantec concurs with the use of existing traffic patterns to apply distribution and assignments of new trips, however, Stantec recommends this distribution be reviewed after new traffic data collection to confirm current traffic patterns in the study area.

Site Access and Circulation

AK Associates calculated the ITE Parking Generation for 192 dwelling units of a Multi-Family Mid-Rise Housing (ITE Land Use Code 221) from the 3rd edition of the ITE Parking Generation Manual. Stantec reviewed the Parking Generation utilizing the 5th Edition¹ of the ITE Parking Generation Manual to compare the expected parking required by the development. The 5th Edition found that 192 dwelling units of Multi-Family Mid-Rise Housing has a weighted average parking demand of 252 vehicles, fitted curve demand of 249 vehicles and 85th percentile demand of 282 vehicles. This demand from the 5th edition falls within the 294 parking spaces provided by the development.

Traffic Operations

Existing Conditions and Future Conditions

Stantec recommends AK Associates provide updated Existing Conditions operations analysis and Future Conditions operations analysis with new traffic data reflecting current traffic patterns.

¹ The 6th Edition of the ITE Parking Generation Manual has been released as of October 2023, but was not available to review for this study.

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The intersection of Rice Road at South Main Street has recently been reconstructed by the Town of Millbury. While the previous Rice Road approach to the intersection had separated left-turn and right-turn lanes, Stantec recommends AK Associates verify that the current existing condition of this approach is now a single lane and his lane use is reflected in the Synchro traffic operations analysis.

Findings

Conclusion & Recommendations

Stantec recommends AK Associates review and update their conclusion and findings after updating the analyses on new traffic data for the study area intersections. Overall, Stantec agrees with the four recommended improvements identified by AK Associates within this TIS Update:

- *“The site frontage on the north side of Rice Road to the west of the intersection of Rice Road and the access driveway should be graded and cleared of tall vegetation to further improve the sight distance to the west (right).”*
- *“Any landscaping along the frontage of the proposed site on Rice Road should be limited to vegetation variety that does not grow higher than 2.5’ to ensure best sight distances are provided.”*
- *“It is recommended that stop signs be installed for both the northbound approach of Thomas Hill Road and the southbound approach of the proposed site driveway at Rice Road.”*
- *“Finally, it is recommended that a stop sign be installed for the eastbound approach of Rice Road at its intersection with Providence Street.”*

Stantec recommends stop bars be installed that supplement the stop signs as per the Manual of Uniform Traffic Control Devices (MUTCD).

Site Plans – Traffic Elements

Site Access Driveway Intersection

AK Associates’ TIS Update recommended the installation of a STOP sign (R1-1) at the site access driveway’s approach to the intersection with Rice Road, as well as for the Thomas Hill Road approach to the intersection with Rice Road and the Rice Road approach to the intersection with Providence Road (MA Route 122A). Stantec concurs with this recommendation. *Stantec also recommends the installation of stop bars to supplement the proposed STOP signs at these three locations.*

The site plans reviewed only portrayed the stop sign as a minor symbol within the Site Layout Plan. Stantec recommends that the applicant’s engineer adjust the linework to allow for this stop sign to stand out within this plan. Stantec recommends the applicant’s engineer provide these at all three locations identified by AK Associates per the most current edition of the MUTCD.

The STOP sign and stop bar locations should also correspond to AK Associates’ desirable intersection sight distances (ISDs) calculated within their Traffic Study Update. In support of the first recommendation provided in AK Associates’ recommendations section, this includes the removal and/or limitation of obstructions, such as housing development signing and relocated utility poles, and potential landscaping that could encroach on

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the ISD sight triangle from the stopped position. *Stantec recommends providing a detail of this sight distance measurement from the stop approach for both directions of each approach receiving a new STOP sign and a corresponding cross-section to verify that these minimum thresholds are met.*

Internal Sidewalks and Pedestrian Crossings

Currently, the site plans do not show crosswalk connections between proposed sidewalks within the property from the site access driveway sidewalk or between the buildings. Stantec recommends the applicant include ADA-accessible pedestrian connections between the buildings and between Building #1 and Building #2 to the site access sidewalk.

Rice Road Catch Basin

There is an existing catch basin within Rice Road at the proposed site access driveway, across from Thomas Hill Road. Stantec recommends the applicant verify that this catch basin would not require relocation with the new construction at the intersection and changes in drainage that may occur with the tie into Rice Road.

Stantec Summary

Stantec recommends the Applicant address comments noted above and submit a revised report with supporting documentation addressing each comment.

Overall, Stantec recommends the applicant, and their engineers update the analysis based on new traffic data to establish a post-COVID baseline incorporating present traffic patterns and operations within the study area.