

Ref: 9500

November 2, 2022

Ms. Darlene Wynne, AICP
City of Beverly
Director of Planning & Community Development
191 Cabot Street
Beverly, MA 01915

Re: Traffic Engineering Peer Review
Proposed Mixed-Use Development – 26, 28 & 28R Cabot Street and 4-6, 8 & 10 Rantoul Street
Beverly, Massachusetts

Dear Ms. Wynne:

Vanasse & Associates, Inc. (VAI) has completed a review of the materials that have been submitted on behalf of Southwest Rantoul Gateway, LLC (the “Applicant”) in support of the proposed redevelopment of the existing properties located at 26, 28 and 28R Cabot Street and 4-6, 8 and 10 Rantoul Street (Route 1A) in Beverly, Massachusetts, to accommodate a new mixed-use building with accompanying parking (hereafter referred to as the “Project”). Our review focused on the following specific areas as they relate to the Project: i) vehicle and pedestrian access and circulation; ii) Massachusetts Department of Transportation (MassDOT) design standards; iii) City Zoning requirements as they relate to access, parking and circulation; and iv) accepted Traffic Engineering and Transportation Planning practices. The Applicant has submitted the following supporting materials which are the subject of this review:

1. *City of Beverly Site Plan Review Application* 26, 28 & 28R Cabot Street; 4-6 & 8 Rantoul Street, and a portion of 10 Rantoul Street; Glovsky Counselors-at-Law; August 20, 2022, with accompanying narrative and supporting attachments;
2. *Draft ANR Plan*, Southwest Rantoul Gateway, LLC; The Morin-Cameron Group, Inc.; August 8, 2022, no revisions;
3. *New Construction, Southwest Rantoul Gateway, LLC*, Rantoul Street and Cabot Street; The Morin-Cameron Group, Inc., et al; August 8, 2022, no revisions (the “Site Plans”);
4. *Traffic Impact and Access Study*, Southwest Rantoul Gateway, Rantoul Street and Cabot Street – Beverly, Massachusetts; Greenman-Pedersen, Inc. (GPI); September 6, 2022 (the “September 2022 TIAS”); and
5. *Staff Report*, New Development: Southwest Rantoul Gateway; September 13, 2022.

In addition, VAI reviewed the site locus in order to validate the existing conditions context of the Project and to observe factors related to the design and location of the access to the Project site, internal circulation and potential off-site improvements.

Based on our review, we have determined that the materials that were submitted were prepared in a professional manner and following the applicable standards of care. That being said, the Applicant should address the following comments that were identified as a part of our review, a detailed summary of which is attached.

September 2022 TIAS

- T1. Vehicle queues on the Rantoul Street approach to Cabot Street will extend beyond the Project site driveway on a regular basis, inhibiting left-turn movements entering the Project Site, impeding northbound traffic and potentially impacting operating conditions at the Rantoul Street/Cabot Street intersection. This should be reviewed and an evaluation of limiting the ingress to right-turn only operation should be considered.
- T2. A sight triangle plan should be prepared for a motorist exiting the Goat Hill Lane Project site driveway that illustrates the sight distance for an exiting driver to a pedestrian within the sidewalk area with consideration of the building wall location.
- T3. The elements of the TDM program should be expanded to include the following measures:
- The building owner shall become a member of the North Shore Transportation Management Association (TMA).
 - A transportation coordinator should be designated to coordinate and manage the TDM program.
 - A bicycle storage room with a bicycle repair station should be provided within the proposed parking garage. It is suggested that consideration be given to providing a minimum of one (1) bicycle parking space per residential unit, or accommodations for 60 bicycles.
- T4. On-street parking should be prohibited along the Project site frontage on Goat Hill Lane and “No Stopping Any Time” signs should be installed subject to City approval.

Site Plans

- S1: A vehicle turning analysis should be provided for the following design vehicles using the AutoTurn® software: trash/recycling vehicle (SU-30 or SU-40), a moving truck (SU-30) and a fire truck design vehicle as defined by the Beverly Fire Department (to the extent that the Fire Department requires vehicle access around the proposed building). The turning analysis should demonstrate that the subject vehicles are able to access the Project site and circulate in an unimpeded manner.
- S2: The drive aisle width behind the handicapped spaces along the entrance drive is 18-feet, which is not sufficient for vehicle maneuvering for a perpendicular parking space. The drive aisle should be increased to 24-feet or the parking spaces should be changed to angled parking if allowed per Americans with Disabilities Act (ADA) standards.
- S3: The four (4) parking spaces opposite the proposed loading area should be reviewed and either reconfigured or removed. Curb-stops are necessary for these spaces given that parking is proposed at the front of the spaces and the spaces are not functional when the loading area is in use. Further, the presence of vehicles in these spaces when loading activities are occurring will reduce the usable width of the traveled-way to less than 10-feet.



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- S4: The slope of the exit drive approaching Goat Hill Lane exceeds 5 percent without a leveling area. We recommend that a leveling area that does not exceed 2 percent within a distance of 25-feet (ideally 50-feet) of Goat Hill Lane be provided in order to allow for vehicles to stop on a level area prior to entering the traveled-way.
- S5: A snow management plan should be provided as the width of the proposed drives and the parking layout will require that snow be removed from the property in order to provide safe and efficient circulation.
- S6: The sight triangle areas for the Goat Hill Lane Project site driveway should be shown on the Site Plans 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."
- S7: 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)."
- S8: A narrative should be provided that describes how tenant moves, loading and delivery activities, and trash and recycling will be managed. The narrative should include the locations where these activities will take place and should inform the vehicle turning analysis (Comment S1).
- S9: The parking spaces at the end of each row of parking within the parking garage are only accessible by backing into the spaces or completing a multi-point turning maneuver. A vehicle turning analysis should be performed for each end parking space to demonstrate that sufficient maneuvering area is available. This analysis should be performed using the AutoTurn® software for a passenger car design vehicle (P design vehicle, 19-feet in length).
- S10: To the extent that the on-wall bicycle parking is retained, a cut-sheet or illustration should be provided to demonstrate that the effective parking space width within the garage is maintained at 18-feet.

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

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

Managing Partner

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

JSD/jsd

Attachment



**TRAFFIC ENGINEERING PEER REVIEW
PROPOSED MIXED-USE DEVELOPMENT
26, 28 & 28R CABOT STREET AND 4-6, 8 & 10 RANTOUL STREET
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The following details Vanasse & Associates, Inc.'s (VAI's) review of the September 6, 2022 *Traffic Impact and Access Study* (the "September 2022 TIAS") prepared by Greenman-Pedersen, Inc. (GPI), and the August 8, 2022 *Permit Site Plan* prepared by The Morin-Cameron Group, Inc., et al (the "Site Plans"), in support of the proposed redevelopment of the existing properties located at 26, 28 and 28R Cabot Street and 4-6, 8 and 10 Rantoul Street (Route 1A) in Beverly, Massachusetts, to accommodate a new mixed-use building with accompanying parking (hereafter referred to as the "Project"). Our comments are indicated in *italicized* text, with those requiring responses or additional information **bolded**.

PROJECT DESCRIPTION

The Project will entail the redevelopment of the properties located at 26, 28 and 28R Cabot Street and 4-6, 8 and 10 Rantoul Street (Route 1A) in Beverly, Massachusetts, to accommodate a new mixed-use building with accompanying parking. The Project site is comprised of two lots: Lot A and Lot B; that contain five (5) buildings located across 26, 28 and 28R Cabot Street and 4-6 and 8 Rantoul Street, with associated appurtenances that will be removed to accommodate the Project. The Project will also incorporate a small strip of land along the southern boundary of 10 Rantoul Street. Lot A, the southern lot that is bounded by Lot B to the north, Goat Hill Lane to the south, Cabot Street to the east and Cox Coute to the west, will be redeveloped to accommodate a five-story building that will contain 60 multifamily residential units, 250 square feet (sf) of ground-floor office space and 43 at-grade parking spaces to be situated beneath the proposed building. Lot B, the northern lot that is bounded by Lot A to the south, 20 Rantoul Street and 23 Cox Court to the north, Rantoul Street to the east and Cox Court to the west, will continue to provide surface parking that will support the new mixed-use building and parking for the existing residential buildings located at 7 and 10 Rantoul Street.

Access to the Project site will be provided by way of a one-way entrance driveway that will intersect the west side of Rantoul Street at the location of the existing driveway to the south of 10 Rantoul Street and a new one-way exit driveway that will intersect the north side of Goat Hill Lane approximately 70 feet west of Cabot Street. With the exception of the existing driveway to the south of 10 Rantoul Street, all other driveways that serve the existing uses within the Project site will be closed, thereby reducing the number of existing driveways and potential conflict points for vehicles, pedestrians and bicyclists.

On-site parking will be provided for 90 vehicles to support the proposed mixed-use building and parking for the existing residential buildings at 7 and 10 Rantoul Street. The proposed parking includes four (4) handicapped accessible parking spaces, 28 tandem parking spaces and 22 compact parking spaces, 14 of which are tandem parking spaces.

SEPTEMBER 2022 TIAS

General

Comment: ***The September 2022 TIAS was prepared in a professional manner and following the applicable standards of care, and was prepared under the responsible charge of Rebecca L. Brown, P.E., PTOE (MA P.E. No. 49112, Civil).***



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Existing Conditions

Study Area

The study area that was assessed in the September 2022 TIAS was developed in consultation with the City and consisted of Rantoul Street (Route 1A) and the following specific intersections:

- School Street/River Street
- School Street/Cox Court
- Rantoul Street (Route 1A)/School Street
- Cabot Street (Route 22)/School Street/Davis Street/Stone Street
- Rantoul Street (Route 1A)/Cabot Street/Site Driveway
- Cabot Street (Route 1A)/Water Street/Front Street/Goat Hill Lane
- Essex Bridge (Route 1A)/Cox Court
- Essex Bridge (Route 1A)/Congress Street
- Cox Court/Summit Avenue
- Cox Court/Goat Hill Lane
- Goat Hill Lane/Summit Avenue

Comment: This study area includes all intersections where the Project is predicted to result in an increase in peak hour traffic volumes by: a) five (5) percent or more, or b) by more than 100 vehicles per hour. Project-related impacts outside of this area, while measurable, would not be considered significant when compared to baseline (No-Build) conditions.

Traffic Volumes and Data Collection

Traffic volume data was collected by means of turning movement counts (TMCs) and vehicle classification counts conducted at the study intersections. The TMCs were conducted during the weekday morning (7:00 to 9:00 AM) and weekday evening (4:00 to 6:00 PM) peak periods on Tuesday, June 28, 2022, and during the Saturday midday peak period (11:00 AM to 1:00 PM) on June 25, 2022 and on July 16, 2022 (recount at the Cabot Street/Rantoul Street/Site Driveway intersection due to camera malfunction). These time periods were selected as they are representative of the peak traffic volume periods for both the Project and the adjacent roadway network. A review of seasonal adjustment data available from MassDOT indicated that traffic volumes within the study area during the months of June and July are representative of conditions that are higher than those under average-month conditions.

A review of historic traffic count data collected by MassDOT along Route 128, north of Brimbal Avenue, was undertaken in order to determine if an adjustment was required in order to account for the impacts on traffic volumes and trip patterns resulting from the COVID-19 pandemic. Based on this review, the following conditions were noted:

- *June 2022:* Average daily traffic volumes are 5.1 percent lower than 2019 traffic volumes, with Saturday traffic volumes 21.8 percent higher;
- *July 2022:* Saturday traffic volumes are 6.8 percent lower than 2019 traffic volumes.



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In addition, a review of traffic count data conducted at several of the study area intersections in May and June 2019 as a part of a prior study was completed and indicated that the 2019 traffic volumes were between 4.5 percent and 12.4 percent higher than the 2022 traffic volumes during the weekday evening peak-hour and between 8.3 percent and 15.4 percent higher during the Saturday midday peak-hour.

Based on this comparative analysis, the June 2022 traffic volumes were increased by 6.6 percent on a weekday and by 3.8 percent on a Saturday, and the July traffic volumes were increased by 6.8 percent in order to reflect the impact on traffic volumes and trip patterns resulting from the pandemic.

Comment: The data collection effort and COVID-19 impact review and adjustment were completed following MassDOT standards and the guidance for Transportation Impact Assessments (TIAs) conducted during the COVID-19 pandemic,¹ and we are in general agreement with the resulting traffic volumes.

Pedestrian and Bicycle Facilities

A description of pedestrian and bicycle facilities within the study area was included as a part of the September 2022 TIAs. As described therein, sidewalks are generally provided along both sides of the study area roadways with marked crosswalks and wheelchair ramps provided for crossing one or more legs of the study area intersections, with the exception of the Cox Court/Summit Avenue, Cox Court/Goat Hill Lane and Goat Hill Lane/Summit Avenue intersections. In addition, it was noted that the wheelchair ramps at the Cabot Street/School Street/Davis Street/Stone Street intersection are not compliant with Americans with Disabilities Act (ADA) standards. Bicycle accommodations are provided along Rantoul Street, Cabot Street and Essex Bridge.

Public Transportation

Regularly scheduled public transportation services are provided within the study area by the Massachusetts Bay Transportation Authority (MBTA) and the Cape Ann Transportation Authority (CATA). The MBTA provides fixed-route bus service along Cabot Street by way of the Route 451 bus (*North Beverly Station - Salem Depot*), which provides service from the Commodore Plaza in North Beverly to Salem Station on the Newburyport/Rockport Line of the MBTA Commuter Rail system. The closest regular stop to the Project site for the Route 451 bus is located approximately 450 feet east of the Project site along Cabot Street, south of the School Street/Stone Street intersection. Beverly Station on the Newburyport/Rockport Line of the MBTA Commuter Rail system is located approximately 0.4 miles to the north of the Project site, or an approximate 8 minute walking distance. The CATA operates the Beverly Shuttle, which provides fixed-route bus service within Beverly and Danvers, and includes service to Beverly Station. The Beverly Shuttle travels along Cabot Street and past the Project site, with the closest regular stop located at the Cabot Street/Rantoul Street intersection, immediately adjacent to the Project site.

Comment: The Project is well situated to take advantage of available public transportation services in order to reduce traffic volumes and parking demands.

¹Guidance on Traffic Count Data; MassDOT; revised April 2020.



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Motor Vehicle Crash Summary

Motor vehicle crash information for the study area intersections was obtained from MassDOT for the most recent 5-year period (2015 through 2019) and a summary table was provided in the September 2022 TIAS. Based on a review of the crash data, the study intersections experienced an average of 7.0 or fewer reported motor vehicle crashes per year over the 5-year review period, with the largest number of crashes reported at the Cabot Street/Water Street/Front Street/Goat Hill Lane (35 crashes total). The majority of the crashes involved angle-type crashes that resulted in property damage only, with no (0) crashes resulting in a fatality. One (1) crash involving a pedestrian was reported at the Cabot Street/Water Street/Front Street/Goat Hill Lane intersection. Improvements have been completed, are underway, or are planned at a number of the study intersections that include measures to enhance safety.

The motor vehicle crash rate (i.e., number of motor vehicle crashes per million entering vehicles (MEV)) was calculated for the study intersections and compared to MassDOT crash rates for similar intersections. Based on this comparative assessment, the intersection of Goat Hill Lane at Cox Court was identified to have a motor vehicle crash rate that is above the MassDOT average crash rate for an unsignalized intersection. A total of six (6) crashes were reported at the Goat Hill Lane/Cox Court intersection over the 5-year review period, the majority of which reported as angle-type crashes that resulted in property damage only.

Comment: The motor vehicle crash analysis was completed following accepted standards and we are in agreement with the results.

A review of the MassDOT High Crash Location (HSIP) database indicates that there are no designated high crash locations within the study area.

Future Conditions

No-Build Conditions

Traffic volumes within the study area were projected to 2029, which represents a 7-year planning horizon from the existing conditions base year (2022) consistent with MassDOT's *Transportation Impact Assessment (TIA) Guidelines*. The future condition traffic volume projections were developed by: i) applying a background traffic growth rate to the 2022 Existing traffic volumes; and ii) adding traffic associated with specific development projects by others that may increase traffic volumes within the study area beyond that accounted for by the background traffic growth rate.

A 1.0 percent per year compounded annual background traffic growth rate was identified for use to reflect anticipated future traffic growth independent of specific development projects based on a review of historic traffic growth information available from MassDOT. The Applicant's engineer consulted with the Beverly Planning & Community Development in order to ascertain if there were any specific development projects by others that would result in an increase in traffic volumes within the study area that would exceed the background traffic growth rate. Based on this consultation, the following projects were identified for inclusion in the future condition traffic volume projections:

- *Mission Boathouse, Cabot Street/Essex Bridge/Water Street (6,800± sf quality restaurant)*



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- *Depot Square II, 132 Rantoul Street* (106 multifamily units and 79,000± sf of retail/restaurant space)
- *Briscoe Village for Living & The Arts, 7 Sohier Road* (85 affordable senior units, 6 live/work studios and a 500± seat theater/auditorium)
- *218-224 Cabot Street* (Redevelopment of 218-124 Cabot Street to accommodate 1,900± sf of retail space, 4,300± sf of restaurant space and 113 multifamily units).

In addition, research of current or planned future roadway improvement projects that may be undertaken within the study area was also undertaken. MassDOT announced the closure of the Hall-Whitaker Drawbridge on June 15, 2022 due to deterioration of the bridge structure. The bridge is expected to remain open to pedestrians and bicyclists. As a result of the closure, MassDOT is advancing the design of a replacement bridge, with construction expected to commence in the spring of 2027.

The City of Beverly has secured Complete Streets funding for improvements along Cabot Street, between Thorndike Street and School Street, that will include sidewalk reconstruction and mobility improvements. Construction is expected to commence in the spring of 2023.

Further, the on-going MassDOT improvement project that includes the reconstruction of the Rantoul Street/Cabot Street and Cabot Street/Essex Bridge/Front Street/Water Street/Goat Hill Lane intersection that is anticipated to be substantially complete in this fall (2022) was also identified.

Comment: We are in agreement with the methodology that was used to develop the future No-Build condition traffic volume projections, including the background traffic growth rate (1.0 percent) and inclusion of the identified specific development projects by others. We note that the closure of the Hall-Whitaker Drawbridge (June 15, 2022) was identified to have occurred after the date of the traffic counts that form the basis of the September 2022 TIAS (counts were performed on June 25th, June 28th and July 16th, 2022).

Build Conditions

The traffic characteristics of the Project were developed by the Applicant's engineer using trip-generation statistics published by the Institute of Transportation Engineers (ITE)² for similar land uses as those that will be located within the Project site. ITE Land Use Codes (LUCs) 221, *Multifamily Housing (Mid-Rise)*, and 710, *General Office Building*, were used to develop the base trip characteristics for the Project. Trips associated with the existing uses that occupy the Project site (a single-family home, two apartment buildings, a hair salon and an automobile repair service) were also developed using the ITE trip-generation data for the appropriate land uses. Adjustments to the base ITE trip calculations were not applied to account for internal trips.

In order to account for the use of alternative modes of transportation to single-occupancy vehicles (SOVs), the ITE trip data for uses located in a dense multi-use urban environment located within a ½ mile of a rail transit station were used.

²*Trip Generation*, 11th Edition; Institute of Transportation Engineers; Washington, DC; 2021.



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The table below summarizes and compares the trip characteristics of the Project and those of the existing uses that occupy the Project site and that will be removed to accommodate the Project.

TRIP GENERATION SUMMARY AND COMPARISON

Time Period	(A) Proposed Mixed-Use Redevelopment ^a	(B) Existing Uses ^b	(A – B) Difference
<i>Average Weekday Daily:</i>			
Entering	63	55	
<u>Exiting</u>	<u>63</u>	<u>55</u>	
Total	126	110	+16
<i>Weekday AM Peak-Hour:</i>			
Entering	3	6	
<u>Exiting</u>	<u>13</u>	<u>6</u>	
Total	16	12	+4
<i>Weekday PM Peak-Hour:</i>			
Entering	11	6	
<u>Exiting</u>	<u>5</u>	<u>6</u>	
Total	16	12	+4
<i>Saturday:</i>			
Entering	56	47	
<u>Exiting</u>	<u>56</u>	<u>47</u>	
Total	112	94	+18
<i>Saturday Midday Peak-Hour:</i>			
Entering	8	9	
<u>Exiting</u>	<u>8</u>	<u>8</u>	
Total	16	17	-1

^aBased on 60 multifamily residential units and 250 sf of office space.

^bBased on (1) single-family home, 12 multifamily (low-rise) residential units, a 953 sf hair salon and a 2,736 sf automobile repair/service facility.

Traffic volumes associated with the Project were assigned to the roadway network based on a review of Journey-to-Work data obtained from the U.S. Census for residents of the City for the residential component of the Project and existing traffic patterns for the office component. Using this methodology, the traffic volumes associated with the Project were assigned as follows:



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TRIP DISTRIBUTION

Roadway/Direction	Percent To/From
Stone Street to/from East	5
River Street to/from North	25
Rantoul Street to/from North	20
Cabot Street to/from North	25
Essex Bridge to/from South	25
TOTAL	100

Comment: We are in general agreement with the methodology and approach that was used to develop the traffic characteristics of the Project and to establish the trip distribution pattern. On balance, the Project will result in comparable traffic volumes to those of the existing uses that occupy the Project site and that will be removed to accommodate the Project.

Traffic Operations Analysis

In order to assess the potential impact of the Project on the transportation infrastructure, a detailed traffic operations analysis was performed for the study intersections under 2022 Existing, 2029 No-Build (without the Project) and 2029 Build conditions (with the Project). In brief, traffic operations are described by six “levels of service” which are defined by letter grades from “A” through “F”, with a level-of-service (LOS) “A” representing the best operating conditions (average motorist delays of less than 10 seconds and little or no apparent vehicle queuing) and a LOS “F” representing constrained operating conditions (average motorist delays of 50 to 80 seconds or more and often with apparent vehicle queuing). A LOS of “E” is representative of an intersection or traffic movement that is operating at its design capacity, with a LOS of “D” typically representing the limit of acceptable traffic operations.

Given relatively minor increase in trips that is expected as a result of the Project (up to 4 additional vehicle trips during the peak hours), the addition of Project-related traffic to the study area intersections was not shown to result in a change in level of service or a significant increase in motorist delays or vehicle queuing over No-Build conditions. With the exception of left-turn and through movements from the Water Street approach to the Essex Bridge (Route 1A)/Rantoul Street/Goat Hill Lane/Water Street intersection, all movements at the study intersections were shown to continue to operate at LOS D or better during the peak hours under all analysis conditions. Project-related impacts were defined as an increase in average motorist delay of up to 2.0 seconds and in vehicle queuing of up to one (1) vehicle.

Comment: We are in agreement with the methodology that was used to complete the traffic operations analysis and the overall conclusion that the Project will not result in a significant impact (increase) on motorist delays or vehicle queuing over No-Build conditions.

An assessment of traffic operations at the Project site driveway intersections with Rantoul Street (entrance only) and Goat Hill Lane (exit only) was not provided. Operating conditions at the driveways is expected to be directly related to vehicle queuing on the southbound approach to the Rantoul Street/Cabot Street intersection and on the Goat Hill



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Lane approach to the Essex Bridge (Route 1A)/Rantoul Street/Goat Hill Lane/Water Street intersection.

Comment T1: Vehicle queues on the Rantoul Street approach to Cabot Street will extend beyond the Project site driveway on a regular basis, inhibiting left-turn movements entering the Project Site, impeding northbound traffic and potentially impacting operating conditions at the Rantoul Street/Cabot Street intersection. This should be reviewed and an evaluation of limiting the ingress to right-turn only operation should be considered.

Sight Distance

An evaluation of sight lines at the Project site driveway intersections with Rantoul Street and Goat Hill Lane was completed following American Association of State Highway and Transportation Officials (AASHTO)³ standards and using a 25 mph approach speed, which is consistent with the statutory speed limit adopted by the City pursuant to MGL Chapter 90, Section 17C.⁴ Based on this evaluation, it was concluded that the available sight lines along Rantoul Street approaching the entrance only Project site driveway and to and from Goat Hill Lane at the exit only Project site driveway exceeded the recommended minimum sight lines for safe operation (155 feet is required based on an approach speed of 25 mph) with consideration of a three-stage exit maneuver, which is common in an urban environment.

Comment T2: A sight triangle plan should be prepared for a motorist exiting the Goat Hill Lane Project site driveway that illustrates the sight distance for an exiting driver to a pedestrian within the sidewalk area with consideration of the building wall location.

Recommendations

The following recommendations were provided as a part of the September 2022 TIAS:

Transportation Demand Management:

- *Sidewalk Infrastructure.* The Applicant will reconstruct the sidewalk along the Project site frontage on Cabot Street and will construct a new sidewalk along the Project site frontage on Goat Hill Lane.
- *Public Transportation.* The Applicant will encourage use of public transportation and provide all new residents with information public transportation services, car-sharing and other public transportation services upon move-in. Transit maps and schedules will be posted in a common area in the building.
- *Parking.* The Applicant will provide a reduced parking supply of one (1) space per bedroom and will provide three (3) electric vehicle charging stations within the parking garage.
- *Bicycle Storage.* Bicycle storage will be provided in the garage on wall mounts for use by residents.

³Ibid 1.

⁴On March 3, 2017, the City of Beverly notified MassDOT of the adoption of a citywide speed limit of 25 mph in a thickly settled or business district where a special speed regulation (posted speed limit) has not been established.



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Comment T3: *The elements of the TDM program should be expanded to include the following measures:*

- *The building owner shall become a member of the North Shore Transportation Management Association (TMA).*
- *A transportation coordinator should be designated to coordinate and manage the TDM program.*
- *A bicycle storage room with a bicycle repair station should be provided within the proposed parking garage. It is suggested that consideration be given to providing a minimum of one (1) bicycle parking space per residential unit, or accommodations for 60 bicycles.*

Comment T4: *On-street parking should be prohibited along the Project site frontage on Goat Hill Lane and “No Stopping Any Time” signs should be installed subject to City approval.*

SITE PLANS

The following comments are offered with regard to our review of the June 10, 2022 Site Plans prepared by Hancock Associates, et al:

Comment S1: *A vehicle turning analysis should be provided for the following design vehicles using the AutoTurn® software: trash/recycling vehicle (SU-30 or SU-40), a moving truck (SU-30) and a fire truck design vehicle as defined by the Beverly Fire Department (to the extent that the Fire Department requires vehicle access around the proposed building). The turning analysis should demonstrate that the subject vehicles are able to access the Project site and circulate in an unimpeded manner.*

Comment S2: *The drive aisle width behind the handicapped spaces along the entrance drive is 18-feet, which is not sufficient for vehicle maneuvering for a perpendicular parking space. The drive aisle should be increased to 24-feet or the parking spaces should be changed to angled parking if allowed per ADA standards.*

Comment S3: *The four (4) parking spaces opposite the proposed loading area should be reviewed and either reconfigured or removed. Curb-stops are necessary for these spaces given that parking is proposed at the front of the spaces and the spaces are not functional when the loading area is in use. Further, the presence of vehicles in these spaces when loading activities are occurring will reduce the usable width of the traveled-way to less than 10-feet.*

Comment S4: *The slope of the exit drive approaching Goat Hill Lane exceeds 5 percent without a leveling area. We recommend that a leveling area that does not exceed 2 percent within a distance of 25-feet (ideally 50-feet) of Goat Hill Lane be provided in order to allow for vehicles to stop on a level area prior to entering the traveled-way.*



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26, 28 & 28R CABOT STREET AND 4-6, 8 & 10 RANTOUL STREET
BEVERLY, MASSACHUSETTS
NOVEMBER 2, 2022**

- Comment S5:** *A snow management plan should be provided as the width of the proposed drives and the parking layout will require that snow be removed from the property in order to provide safe and efficient circulation.*
- Comment S6:** *The sight triangle areas for the Goat Hill Lane Project site driveway should be shown on the Site Plans 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.”*
- Comment S7:** *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).”*
- Comment S8:** *A narrative should be provided that describes how tenant moves, loading and delivery activities, and trash and recycling will be managed. The narrative should include the locations where these activities will take place and should inform the vehicle turning analysis (Comment S1).*
- Comment S9:** *The parking spaces at the end of each row of parking within the parking garage are only accessible by backing into the spaces or completing a multi-point turning maneuver. A vehicle turning analysis should be performed for each end parking space to demonstrate that sufficient maneuvering area is available. This analysis should be performed using the AutoTurn® software for a passenger car design vehicle (P design vehicle, 19-feet in length).*
- Comment S10:** *To the extent that the on-wall bicycle parking is retained, a cut-sheet or illustration should be provided to demonstrate that the effective parking space width within the garage is maintained at 18-feet.*

PARKING

On-site parking will be provided for 90 vehicles to support the proposed mixed-use building and parking for the existing residential buildings at 7 and 10 Rantoul Street. The parking that is to be provided includes four (4) handicapped accessible parking spaces, 28 tandem parking spaces and 22 compact parking spaces, 14 of which are tandem parking spaces. Of the 90 parking spaces, 43 parking spaces will be provided within the parking garage beneath the proposed building and 47 parking spaces will be provided in surface parking areas to the north of the building.

Section 300-59, *Off-Street Parking Requirements*, of the Zoning Code requires that 1.0 parking spaces be provided for residential units with one-bedroom and for two-bedroom units located within the Depot Overlay District, and that 2.0 parking spaces be provided for residential units with two-bedrooms that are not located within the Depot Overlay District. The residential component of the Project will provide 25 one



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bedroom/studio units and 35 two-bedroom units, 12 of which will be located outside of the Depot Overlay District. As such, 72 parking spaces are required to support the proposed residential units. For the office use, the Zoning Code requires that 1.0 parking spaces per 250 sf of gross floor area be provided, or one (1) parking space to support the 250 sf of office space that is proposed. In total, 73 parking spaces are required for the proposed building.

Parking for the existing residential buildings at 7 and 10 Rantoul Street will also be provided as a part of the Project. Both buildings are located within the Depot Overlay District, with 14 residential units provided at 7 Rantoul Street and the building at 10 Rantoul Street providing three bedrooms. As such, 14 parking spaces are required for 7 Rantoul Street and 2 parking spaces are required for 10 Rantoul Street, or a total of 16 parking spaces.

In aggregate, a total of 89 parking spaces are required by the Zoning Code for the proposed building (73 parking spaces) and for 7 and 10 Rantoul Street (16 parking spaces). Given that 90 parking spaces are proposed, the proposed parking supply exceeds the number of parking spaces that are required for the Project under the Zoning Code.

The Applicant has stated that 17 parking spaces in the surface parking lot will be reserved for residents of 7 and 10 Rantoul Street, with one parking space reserved for the office space. The remaining 72 parking spaces will be reserved for use by residents of the Project. In addition, it was stated that the tandem parking spaces will be reserved for tenants of the two-bedroom units.

Comment We are in agreement that the proposed parking supply is sufficient to meet the parking demands of the Project with consideration of the accessibility of the Project site to public transportation, pedestrian and bicycle opportunities, and the presence of public parking for use by visitors and guests. That being said, this conclusion is based on satisfactory resolution of the comments pertaining to the Site Plans.

