Memorandum

To: Pascal Rettig
Planning Board Chair
City of Amesbury
62 Friend Street
Amesbury, MA 02913

Date: April 6, 2026

Project #: 201612.000

From: Patrick Dunford, P.E.
Senior Project Manager

Re: Proposed Mixed-use Development
1-9 Oakland Street, Amesbury, Massachusetts
Transportation Engineering 2nd Peer Review

As requested by the City of Amesbury, VHB has completed a second review of transportation-related material submitted in support of the proposed residential development (the "Project") for 1-9 Oakland Street in Amesbury, Massachusetts (the "Site"). Since the time of VHB's initial review, 9 Oakland Street Amesbury LLC (the "Applicant") has submitted responses to VHB's February 11, 2026 comment memorandum through its Project team and has provided updated plans and material. Specifically, VHB reviewed the following transportation-related items for this second review:

- "Response to VHB Transportation Letter Review Comments – February 11, 2026 – Proposed Mixed-Use Development" prepared by Greenman-Pedesrson, Inc. (GPI) dated February 25, 2026;
- "Proposed Site Plan Plans – Carriage Hill Lofts at Oakland Street" prepared by Millennium Engineering, Inc. dated September 23, 2025 (revised through March 30, 2026); and
- "Carriage Hill Lofts – Renovation and Addition" prepared by SV Design LLC dated March 9, 2026.

GPI Transportation Letter Review

VHB has reviewed the transportation-related aspects of the material noted above. The following comments are being provided following the same general format of the prior VHB review memorandum. For ease of review, comments from the prior review memorandum are shown in plain text, followed by responses from GPI provided in underlined and italicized text, with any additional comments from VHB provided in **bold text**.

The findings of our review are presented in the following sections.

Existing Conditions

1. **Geometry** – The descriptions of Oakland Street and Chestnut Street near the Site are accurate. A description of the Chestnut Street/Oakland Street intersection is not provided. The Oakland Street approach to Chestnut Street currently functions under Stop sign control with a Stop line also provided on Oakland Street. However, the Stop sign is mounted on a utility pole on the west side of Chestnut Street. This sign should be removed and a new sign should be posted at the northeast corner of the intersection following standards outlined in the Manual on Uniform Traffic Control Devices (MUTCD)[1].

   Response: *Comment acknowledged. Below is a photo of the referenced Stop sign from May 2025. The Applicant is amenable to removing the existing Stop sign and replacing it with a new sign on the northeast corner*

[1] Manual on Uniform Traffic Control Devices, 11th Edition; U.S. Department of Transportation Federal Highway Administration, Washington DC, December 2023.

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of the intersection following MUTCD standards. The exact location will be determined by City Staff and/or their peer review engineer, VHB.

VHB Response: The sign shown above has since been removed after the photo was taken, but VHB understands that the Applicant will replace this as requested. No further comments regarding this item.

2. **Collisions** – The low crash experience noted is consistent with the low-volume, low-speed nature of the surrounding roads. Due to there only being one single crash reported in the five years studied, it is not possible to identify any correctable crash trends.

   Response: *Comment acknowledged.*

Design Conditions

3. **Sight Distance** – The sight distance evaluation was conducted using speed measurements conducted by GPI on both Oakland Street and Chestnut Street. These observations were conducted for eleven of fewer vehicles per direction, possibly due to the low number of vehicles traveling along both roadways. Speeds for one hundred or more vehicles in each direction typically are checked for speed zoning purposes. However, the 25 miles per hour (mph) to 31 mph reported "85th percentile" speeds are consistent with that observed by VHB during off-peak field visits. These design speeds also are higher than the 25 mph regulatory speeds for both roadways. Accordingly, the speed measurements provided reasonably can be used for this analysis. For consistency, the desirable intersection sight distance levels should be based on these same observed speeds, and not the values based on the 25-mph regulatory speed shown in Table 1. The analysis also appropriately considered adjustments accounting for the grades of both roadways.

   GPI acknowledges the 188 feet of available intersection sight distance looking to the north falls below the required 215-foot distance. GPI should confirm that this measurement was taken 14.5 feet from the edge of the Chestnut Street traveled way following American Association of State Highway and Transportation Officials (AASHTO)[2] standards. VHB agrees that exiting motorists may pull closer to the road to help improve the sight line, and a 10-foot setback is frequently used to reflect that condition. GPI should conduct this measurement using this 10-foot setback to document the resulting sight line looking to the north. Some

2 A Policy on the Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials, 2018.

Memorandum

motorists may also use an even shorter setback with the front of their vehicle positioned at the edge of the road, though that is not a desirable condition. If the required intersection sight distance cannot be met, corrective measures will be required.

Response: *GPI has updated the desirable ISD calculations based on the design speeds (as opposed to the regulatory speeds). The updated calculations and the marked-up Sight Distance Summary Table (Table 1) from the Trip Generation and Site Access Letter are attached for reference.*

The 188 feet of available ISD was taken 14.5 feet from the edge of the Chestnut Street traveled way, measured in the field. As suggested, the available ISD looking north has been re-evaluated from 10 feet back (as opposed to 14.5 feet back). Based on a 10-foot setback, the corner of the building marginally inhibits sight lines. However, the 215-foot minimum required ISD can be achieved from 9'-8" from edge of traveled way. Based on AASHTO,1 "The vertex (decision point) of the departure sight triangle on the minor road should be 14.5 ft [4.4 m] from the edge of the major-road traveled way. This represents the typical position of the minor-road driver's eye when a vehicle is stopped relatively close to the major road. Field observations of vehicle stopping positions found that, where needed, drivers will stop with the front of their vehicle 6.5 ft [2.0 m] or less from the edge of the major-road traveled way. Measurements of passenger cars indicate that the distance from the front of the vehicle to the driver's eye for the current U.S. passenger car population is nearly always 8 ft [2.4 m] or less (21)." Accordingly, it is anticipated that the 9'-8" setback is sufficient based on the vehicles expected to be parking in the garage as well as the low volume of traffic on Chestnut Street. A two-dimensional Sight Distance Plan is attached for reference.

VHB Response: VHB acknowledges that motorists generally will pull closer to the edge of the traveled way in circumstances such as those found at this Site, so adjustments to the AASHTO-specified 14.5-foot setback can appropriately be made. While the 9'8" setback used for the analysis above is higher than the 8-foot distance suggested by AASHTO, it is lower than the 10-foot setback typically used for instances like this. The Applicant should explore where a minor chamfer cut to the lower level of the building to the north of this driveway is feasible to help improve sight lines. Another option is to explore traffic calming measures or sign installation on the Chestnut Street southbound approach to this location to help reduce travel speeds closer to the 25-mph regulatory speed limit. Under that condition, the 188 feet of measured intersection sight distance would exceed the AASHTO-specified desirable intersection sight distance for a 25-mph speed.

4. **Trip Generation** – Project trip generation was calculated based on the 11th edition of the "Trip Generation Manual[3]" published by the Institute of Transportation Engineers (ITE). This database includes studies of several comparable residential developments and commercial uses. Estimating trip generation using the ITE data is the accepted industry standard. However, ITE recently published an updated 12th edition of this manual in August 2025. However, the resulting trip generation estimates based on the newer data do not differ significantly compared to those based on the 11th edition. This should be documented by GPI. The trip generation estimates are conservative in that they do not account for internal trip sharing between the residential and retail uses. This likely would result in fewer net new trips than are reflected by the estimates in Table 2.

3 Trip Generation Manual (12th Edition), Institute of Transportation Engineers (Washington, DC), 2025.

Response: *The trip generation has been prepared based on the 12th edition. The calculations and trip generation comparison are attached for reference. It can be confirmed that the 12th edition data does not differ significantly from the 11th edition data.*

VHB Response: Comment resolved.

5. **Trip Distribution** – Trip distribution was estimated was based on U.S. census data, which is an accepted and appropriate methodology. No further analysis is required.

   Response: *Comment acknowledged.*

6. **Traffic Increases** – VHB agrees with the trip assignment shown in Figure 1. These resulting additional volumes on the surrounding roadways generally would not be considered significant, While no traffic data collection was conducted as part of the study, the nearby existing roadways themselves currently appear to carry low volumes.

   Response: *Comment acknowledged.*

7. **Parking Generation** – The Project narrative indicates that a 1.24 space per unit parking ratio will be provided for the residential uses, while the retail shops will rely on nearby public parking. As this falls below the 1.5 space/unit Zoning Bylaw requirements, the applicant has indicated that a waiver request would be provided if necessary. Analysis should be provided documenting the anticipated demand for the residential and retail uses compared to the available parking supply. This can be based on data from ITE, the Metropolitan Area Planning Council (MAPC), or other sources. The applicant also should provide discussion regarding how parking will be managed (i.e., bundled with leases, if residents will need to pay for parking, etc.).

   Response: *Based on the ITE Parking Generation Manual, 6th edition, the cumulative average peak parking demand is 164 parking spaces on a typical weekday and 140 parking spaces on a Saturday. This cumulative parking demand assumes the peak demands for each use (residential and retail) will occur at the same time of day; however, in reality, the peak demand for the retail use occurs during the middle of the day when demand for the residential uses is lowest.* ***The maximum demand is anticipated to occur between midnight and 4:00 AM and is expected to be 153 parking spaces on a weekday and 129 parking spaces on a Saturday. The site will provide 153 total spaces (130 garage spaces and 23 surface spaces), accordingly, based on time-of-day maximum demand, sufficient parking is provided.*** *The parking calculations are attached for reference.*

   Specific elements of the overall site parking management program (lease agreements, payment for parking, etc.) will be addressed by the Applicant's project team under separate cover.

   VHB Response: The estimated parking demand estimates noted above are based on standard ITE data for average conditions. The typical industry practice in estimating the "maximum" anticipated parking demand is to use ITE rates for an 85th percentile condition (which only would be exceeded 15 percent of the time) as opposed to the average results presented. The estimated 85th percentile parking demand for a weekday would be 180 vehicles for the residential component and 18 vehicles for the retail component. The resulting combined 198-space demand would exceed the proposed 153-space parking supply. VHB acknowledges the different peak times for residential and retail, so the actual 85th percentile demand should not exceed 180 vehicles (the overnight residential demand). It also is anticipated that the retail component may draw most of its business from walk-up traffic or residents living on site. Furthermore, VHB believes that the ITE-based parking estimates may be overstated. The Metropolitan Area Planning Council (MAPC) has published data from greater Boston sites, including data for north shore

communities. This information indicated lower parking demands than those shown by the ITE data. The ITE 85th percentile estimates noted above should be compared to relevant data from the MAPC database, or other sources, to confirm the appropriateness of the proposed parking supply.

Project Site Plans

In addition to VHB's review of the GPI transportation analysis, VHB also provided comments regarding the Project Site plans which have not been addressed. These are provided again for reference to be addressed by GPI, Millennium Engineering, Inc., or other Project team members as appropriate.

VHB's peer review also includes a technical review of the transportation aspects of the Project Site plans prepared by Millennium Engineering, Inc. dated September 23, 2025. VHB also is providing the following comments for consideration:

1. Stop lines and Stop signs should be provided facing exiting Site traffic at both driveways.
2. AAB-compliant tactile warning panels should be provided on both sides of the sidewalks intersecting each driveway.
3. The Project's parking management should be discussed in terms of if parking stickers or other means will be provided to control parking. Consideration should be given to unbundling parking from the leasing of units so that any residents choosing not to own a vehicle would not have to lease a space.
4. The Applicant should discuss how move-in/move-out activities are managed at other existing properties controlled by the Applicant. While this activity occurs at any residential site, there is limited room to accommodate delivery trucks, which should be discussed.
5. The Zoning table on Sheet C5.0 "Civil Site Plan" should be modified to include the Project parking.
6. The proposed surfacing parking lot next to Oakland Street shows a total of 24 spaces, while the SV Design LLC plans show 23 spaces. This discrepancy should be resolved. Also, the SV Design LLC plans indicate that the eleven spaces immediately next to Oakland Street are designated for visitor use. This distinction also should be shown on the civil engineering plans (which show twelve spaces in this area).

Memorandum

ATTACHMENTS

› **Full GPI Response to Comments Package**

February 25, 2026

NEX-2300215.00.00

Mr. Pascal Rettig
Planning Board Chair
City of Amesbury
62 Friend Street
Amesbury, MA 02913

SUBJECT: Response to VHB Transportation Letter Review Comments – February 11, 2026
Proposed Mixed-Use Development
1-9 Oakland Street – Amesbury, Massachusetts

Dear Mr. Rettig:

Greenman-Pedersen, Inc. (GPI) has prepared this Response to Comments (RTC) letter to address the transportation-related comments received by the City of Amesbury's transportation engineering peer review consultant, VHB, in a memorandum dated February 11, 2026, regarding the *Trip Generation & Site Access Letter* prepared by GPI for the proposed mixed-use development to be located at 1-9 Oakland Street in Amesbury, Massachusetts. GPI's responses to the Transportation Letter Review comments are summarized below and the review letter is attached for reference. The responses to the Project Site Plans comments will be provided under separate cover.

GPI Transportation Letter Review Comments

Comment 1: ***Geometry*** *– The descriptions of Oakland Street and Chestnut Street near the Site are accurate. A description of the Chestnut Street/Oakland Street intersection is not provided. The Oakland Street approach to Chestnut Street currently functions under Stop sign control with a Stop line also provided on Oakland Street. However, the Stop sign is mounted on a utility pole on the west side of Chestnut Street. This sign should be removed and a new sign should be posted at the northeast corner of the intersection following standards outlined in the Manual on Uniform Traffic Control Devices (MUTCD).*

Response 1: Comment acknowledged. Below is a photo of the referenced Stop sign from May 2025. The Applicant is amenable to removing the existing Stop sign and replacing it with a new sign on the northeast corner of the intersection following MUTCD standards. The exact location will be determined by City Staff and/or their peer review engineer, VHB.

Comment 2: ***Collisions*** *– The low crash experience noted is consistent with the low-volume, low-speed nature of the surrounding roads. Due to there only being one single crash reported in the five years studied, it is not possible to identify any correctable crash trends.*

Response 2: Comment acknowledged.

Comment 3: ***Sight Distance*** *– The sight distance evaluation was conducted using speed measurements conducted by GPI on both Oakland Street and Chestnut Street. These observations were conducted for eleven of fewer vehicles per direction, possibly due to the low number of vehicles traveling along both roadways. Speeds for one hundred or more vehicles in each direction typically are checked for speed zoning purposes. However, the 25 miles per hour (mph) to 31 mph reported "85th percentile" speeds are consistent with that observed by VHB during off-peak field visits. These design speeds also are higher than the 25 mph regulatory speeds for both roadways. Accordingly, the speed measurements provided reasonably can be used for this analysis. For consistency, the desirable intersection sight distance levels should be based on these same observed speeds, and not the values based on the 25-mph regulatory speed shown in Table 1. The analysis also appropriately considered adjustments accounting for the grades of both roadways.*

GPI acknowledges the 188 feet of available intersection sight distance looking to the north falls below the required 215-foot distance. GPI should confirm that this measurement was taken 14.5 feet from the edge of the Chestnut Street traveled way following American Association of State Highway and Transportation Officials (AASHTO) standards. VHB agrees that exiting motorists may pull closer to the road to help improve the sight line, and a 10-foot setback is frequently used to reflect that condition. GPI should conduct this measurement using this 10-foot setback to document the resulting sight line looking to the north. Some motorists may also use an even shorter setback with the front of their vehicle positioned at the edge of the road, though that is not a desirable condition. If the required intersection sight distance cannot be met, corrective measures will be required.

Response 3: GPI has updated the desirable ISD calculations based on the design speeds (as opposed to the regulatory speeds). The updated calculations and the marked-up Sight Distance Summary Table (Table 1) from the *Trip Generation and Site Access Letter* are attached for reference.

The 188 feet of available ISD was taken 14.5 feet from the edge of the Chestnut Street traveled way, measured in the field. As suggested, the available ISD looking north has been re-evaluated from 10 feet back (as opposed to 14.5 feet back). Based on a 10-foot setback, the corner of the building marginally inhibits sight lines. However, the 215-foot minimum required ISD can be achieved from 9'-8" from edge of traveled way. Based on AASHTO,[1] "*The vertex (decision point) of the departure sight triangle on the minor road should be 14.5 ft [4.4 m] from the edge of the major-road traveled way. This represents the typical position of the minor-road driver's eye when a vehicle is stopped relatively close to the major road. Field observations of vehicle stopping positions found that, where needed, drivers will stop with the front of their vehicle 6.5 ft [2.0 m] or less from the edge of the major-road traveled way. Measurements of passenger cars indicate that the distance from the front of the vehicle to the driver's eye for the current U.S. passenger car population is nearly always 8 ft [2.4 m] or less (21).*" Accordingly, it is anticipated that the 9'-8" setback is sufficient based on the

[1] *A Policy on Geometric Design of Highways and Streets*; American Association of State Highway and Transportation Officials (AASHTO); 2018.

vehicles expected to be parking in the garage as well as the low volume of traffic on Chestnut Street. A two-dimensional Sight Distance Plan is attached for reference.

Comment 4: ***Trip Generation*** *– Project trip generation was calculated based on the 11th edition of the "Trip Generation Manual " published by the Institute of Transportation Engineers (ITE). This database includes studies of several comparable residential developments and commercial uses. Estimating trip generation using the ITE data is the accepted industry standard. However, ITE recently published an updated 12th edition of this manual in August 2025. However, the resulting trip generation estimates based on the newer data do not differ significantly compared to those based on the 11th edition. This should be documented by GPI. The trip generation estimates are conservative in that they do not account for internal trip sharing between the residential and retail uses. This likely would result in fewer net new trips than are reflected by the estimates in Table 2.*

Response 4: The trip generation has been prepared based on the 12th edition. The calculations and trip generation comparison are attached for reference. It can be confirmed that the 12th edition data does not differ significantly from the 11th edition data.

Comment 5: ***Trip Distribution*** *– Trip distribution was estimated was based on U.S. census data, which is an accepted and appropriate methodology. No further analysis is required.*

Response 5: Comment acknowledged.

Comment 6: ***Traffic Increases*** *– VHB agrees with the trip assignment shown in Figure 1. These resulting additional volumes on the surrounding roadways generally would not be considered significant, While no traffic data collection was conducted as part of the study, the nearby existing roadways themselves currently appear to carry low volumes.*

Response 6: Comment acknowledged.

Comment 7: ***Parking Generation*** *– The Project narrative indicates that a 1.24 space per unit parking ratio will be provided for the residential uses, while the retail shops will rely on nearby public parking. As this falls below the 1.5 space/unit Zoning Bylaw requirements, the applicant has indicated that a waiver request would be provided if necessary. Analysis should be provided documenting the anticipated demand for the residential and retail uses compared to the available parking supply. This can be based on data from ITE, the Metropolitan Area Planning Council (MAPC), or other sources. The applicant also should provide discussion regarding how parking will be managed (i.e., bundled with leases, if residents will need to pay for parking, etc.).*

Response 7: Based on the ITE *Parking Generation Manual, 6th edition*, the cumulative average peak parking demand is 164 parking spaces on a typical weekday and 140 parking spaces on a Saturday. This cumulative parking demand assumes the peak demands for each use (residential and retail) will occur at the same time of day; however, in reality, the peak demand for the retail use occurs during the middle of the day when demand for the residential uses is lowest. **The maximum demand is anticipated to occur between midnight and 4:00 AM and is expected to be 153 parking spaces on a weekday and 129 parking spaces on a Saturday. The site will provide 153 total spaces (130 garage spaces and 23 surface spaces), accordingly, based on time-of-day maximum demand, sufficient parking is provided.** The parking calculations are attached for reference.

Specific elements of the overall site parking management program (lease agreements, payment for parking, etc.) will be addressed by the Applicant's project team under separate cover.

We hope this letter adequately addresses any outstanding transportation related matters. However, should you have any questions or require additional information throughout the review process, please feel free to contact me directly at (603) 766-5229 or bbollinger@gpinet.com.

Sincerely,

GREENMAN-PEDERSEN, INC.

Robert E. Bollinger
Assistant Vice President / Traffic Engineering Department Head
116 S. River Road, Bldg. B, Suite 1
Bedford, NH 03110

Enclosures:

1. VHB Transportation Engineering Review Letter – February 11, 2026
2. Updated Sight Distance Calculations and Sight Distance Plan
3. Trip Generation Calculations – 12th Edition
4. Parking Calculations

Memorandum

To: Pascal Rettig
Planning Board Chair
City of Amesbury
62 Friend Street
Amesbury, MA 02913

Date: February 11, 2026

Project #: 201612.000

From: Patrick Dunford, P.E.
Senior Project Manager

Re: Proposed Mixed-use Development
1-9 Oakland Street, Amesbury, Massachusetts
Transportation Engineering Peer Review

As requested by the City of Amesbury, VHB conducted an independent peer review of the transportation-related material submitted as part of the Site Plan Review application for 1-9 Oakland Street in Amesbury, Massachusetts (the "Site"). The Site is located within the Central Industrial (IC) and Lower Millyard Overlay District (LMOD). The proposed development will consist of the construction of approximately 124 residential units and 4,045 square feet (sf) of supporting commercial space (the "Project").

This review considers the material provided and how it complies with the requirements of Amesbury's Zoning Bylaws and industry standards for the preparation of transportation assessments.

Proposed Project

The Project involves the construction of approximately 124 multi-family residential units and 4,045 sf of supporting space to be located in multiple separate spaces within the existing building to be renovated. In addition to the building renovations, a new surface parking lot will be constructed along with various Site infrastructure improvements.

Vehicular access is proposed to be provided via a new clearly defined full access curb cut on Oakland Street leading to the proposed 23-space surface parking lot and two separate garage entrances. A new garage entrance and associated curb cut will also be constructed at the southwesterly side of the building on Chestnut Street.

The findings of our review are presented in the following sections.

Scope of Review

The focus of this peer review was on the following material which was provided to VHB for review by the Amesbury Planning Board:

- "Mixed-Use Development, 1-9 Oakland Street – Amesbury, Massachusetts" prepared by Greenman-Pederson Inc. (GPI) dated September 5, 2025;
- "Proposed Site Plan Plans – Carriage Hill Lofts at Oakland Street" prepared by Millennium Engineering, Inc. dated September 23, 2025;
- "Carriage Hill Lofts – Renovation and Addition" prepared by SV Design LLC dated September 29, 2025; and
- "Project Narrative – Carriage Hill Lofts" prepared by SV Design LLC dated September 29, 2025; and
- "Carriage Hill Lofts – Planning Board Presentation" November 25, 2025.

These documents were reviewed for consistency and general compliance with the following:

- Amesbury Zoning Ordinance and Map (adopted April 12, 1971 with revisions through April 30, 2025); and

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› *Transportation Impact Assessment (TIA) Guidelines*, Massachusetts Department of Transportation, March 13, 2014.

GPI Transportation Letter Review

VHB has reviewed the September 8, 2025 letter prepared by GPI which provided a summary of existing conditions near the Site, crash research, a sight distance analysis, trip generation estimates, and the expected increases in traffic on nearby roadways. While not a standard TIA, this information provides an appropriate understanding of the transportation aspects of the Project.

The following comments and requests are being provided using the same general order and format of the letter provided. VHB may provide additional comments related to the site plan and/or TIA following the review of any additional material which may be provided in response to this letter, or other items discussed at subsequent Project meetings.

Existing Conditions

1. **Geometry** – The descriptions of Oakland Street and Chestnut Street near the Site are accurate. A description of the Chestnut Street/Oakland Street intersection is not provided. The Oakland Street approach to Chestnut Street currently functions under Stop sign control with a Stop line also provided on Oakland Street. However, the Stop sign is mounted on a utility pole on the west side of Chestnut Street. This sign should be removed and a new sign should be posted at the northeast corner of the intersection following standards outlined in the Manual on Uniform Traffic Control Devices (MUTCD)[1].

2. **Collisions** – The low crash experience noted is consistent with the low-volume, low-speed nature of the surrounding roads. Due to there only being one single crash reported in the five years studied, it is not possible to identify any correctable crash trends.

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3. **Sight Distance** – The sight distance evaluation was conducted using speed measurements conducted by GPI on both Oakland Street and Chestnut Street. These observations were conducted for eleven of fewer vehicles per direction, possibly due to the low number of vehicles traveling along both roadways. Speeds for one hundred or more vehicles in each direction typically are checked for speed zoning purposes. However, the 25 miles per hour (mph) to 31 mph reported "85th percentile" speeds are consistent with that observed by VHB during off-peak field visits. These design speeds also are higher than the 25 mph regulatory speeds for both roadways. Accordingly, the speed measurements provided reasonably can be used for this analysis. For consistency, the desirable intersection sight distance levels should be based on these same observed speeds, and not the values based on the 25-mph regulatory speed shown in Table 1. The analysis also appropriately considered adjustments accounting for the grades of both roadways.

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Officials (AASHTO)[2] standards. VHB agrees that exiting motorists may pull closer to the road to help improve the sight line, and a 10-foot setback is frequently used to reflect that condition. GPI should conduct this measurement using this 10-foot setback to document the resulting sight line looking to the north. Some motorists may also use an even shorter setback with the front of their vehicle positioned at the edge of the road, though that is not a desirable condition. If the required intersection sight distance cannot be met, corrective measures will be required.

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5. **Trip Distribution** – Trip distribution was estimated was based on U.S. census data, which is an accepted and appropriate methodology. No further analysis is required.
6. **Traffic Increases** – VHB agrees with the trip assignment shown in Figure 1. These resulting additional volumes on the surrounding roadways generally would not be considered significant, While no traffic data collection was conducted as part of the study, the nearby existing roadways themselves currently appear to carry low volumes.
7. **Parking Generation** – The Project narrative indicates that a 1.24 space per unit parking ratio will be provided for the residential uses, while the retail shops will rely on nearby public parking. As this falls below the 1.5 space/unit Zoning Bylaw requirements, the applicant has indicated that a waiver request would be provided if necessary. Analysis should be provided documenting the anticipated demand for the residential and retail uses compared to the available parking supply. This can be based on data from ITE, the Metropolitan Area Planning Council (MAPC), or other sources. The applicant also should provide discussion regarding how parking will be managed (i.e., bundled with leases, if residents will need to pay for parking, etc.).

Project Site Plans

VHB's peer review also includes a technical review of the transportation aspects of the Project Site plans prepared by Millennium Engineering, Inc. dated September 23, 2025. VHB also is providing the following comments for consideration:

1. Stop lines and Stop signs should be provided facing exiting Site traffic at both driveways.
2. AAB-compliant tactile warning panels should be provided on both sides of the sidewalks intersecting each driveway.

2 A Policy on the Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials, 2018.
3 Trip Generation Manual (12th Edition), Institute of Transportation Engineers (Washington, DC), 2025.

Memorandum

3. The Project's parking management should be discussed in terms of if parking stickers or other means will be provided to control parking. Consideration should be given to unbundling parking from the leasing of units so that any residents choosing not to own a vehicle would not have to lease a space.
4. The Applicant should discuss how move-in/move-out activities are managed at other existing properties controlled by the Applicant. While this activity occurs at any residential site, there is limited room to accommodate delivery trucks, which should be discussed.
5. The Zoning table on Sheet C5.0 "Civil Site Plan" should be modified to include the Project parking.
6. The proposed surfacing parking lot next to Oakland Street shows a total of 24 spaces, while the SV Design LLC plans show 23 spaces. This discrepancy should be resolved. Also, the SV Design LLC plans indicate that the eleven spaces immediately next to Oakland Street are designated for visitor use. This distinction also should be shown on the civil engineering plans (which show twelve spaces in this area).

TABLE 1
Sight Distance Summary

Location/Direction	Stopping Sight Distance (feet)		Intersection Sight Distance (feet)		
	Measured	Minimum Required [a]	Measured	Minimum Required [b]	Desirable [c]
Oakland Street at Site Driveway:					
West of driveway (EB)	98 [d]	180	98 [d]	180	~~240~~ 270
East of driveway (WB)	440	205	325	205	~~280~~ 345
Chestnut Street at Site Driveway:					
South of driveway (NB)	400 [e]	145	400 [e]	145	~~240~~ 240
North of driveway (SB)	305	215	188 215 [f]	215	~~280~~ 320

[a] Values based on AASHTO requirements for minimum SSD based on 85th percentile speeds on Oakland St of 28 mph (EB) and 31 mph (WB) and on Chestnut St of 25 mph (NB) and 29 mph (SB).

[b] Values based on AASHTO requirements for SSD.

[c] Values based on AASHTO requirements for ISD based on 85th percentile speeds in footnote a. ~~for the enforced speed limit of 25 mph on Oakland Street and Chestnut Street.~~

[d] Measurement from the driveway to the end of Oakland Street at its intersection with Chestnut Street.

[e] Measurement from the driveway to the end of Chestnut Street at its intersection with Water Street.

[f] Measurement using a 9'-8" setback to reflect a motorist pulling forward to improve line of sight.

Available sight distances to the east of the site driveway on Oakland Street exceed the minimum and desirable SSD and ISD for safe operation, and available sight distances to the west extend to the end of Oakland Street at its intersection with Chestnut Street (approximately 98 feet). Based on AASHTO requirements, 98 feet is safe for speeds up to 17 mph. Due to the proximity of the intersection, all vehicles approaching the site driveway from the west will be coming from a slowed condition closer to 10 – 15 mph while turning onto Oakland Street from Chestnut Street. Therefore, the ISD to the west is anticipated to be adequate for actual travel speeds exiting the adjacent intersection.

Available sight distances at the Chestnut Street site driveway exceed the minimum requirements south of the driveway, however, the southwest corner of the existing building inhibits ISD north of the driveway. Although the existing building limits the ISD to 188 feet, it is anticipated that vehicles will inch closer to the edge of travel way to gain greater sight distances and safely maneuver to/from the driveway due to the low volume of traffic on Chestnut Street.

In order to maintain the sight distances at the driveways after development of the site, it is recommended that any proposed plantings, vegetation, landscaping, and signing along the site frontage be kept low to the ground (no more than 3.0 feet above street level) or set back sufficiently from Oakland Street and Chestnut Street so as not to inhibit the available sight lines.

AASHTO Recommended Sight Distance Summary
(Passenger Vehicles)

LOCATION: Oakland Street at Site Driveway

Side Street Direction:	NB
Number of Lanes on Mainline =	2
Median Width (Feet) =	0

STOPPING SIGHT DISTANCE

Mainline Direction:	EB	
85th Percentile Speed (V) =	28	MPH
Grade (G) =	-1.8%	
Apply Grade Adjustment	No	
Brake Reaction Time (T) =	2.5	seconds
Deceleration Rate (A) =	11.2	ft/s^2
SSD = 1.47 V * T +1.075 V^2/A =	179	FT
SSD =	**180**	**FT**

Mainline Direction:	WB	
85th Percentile Speed (V) =	31	MPH
Grade (G) =	1.8%	
Apply Grade Adjustment	No	
Brake Reaction Time (T) =	2.5	seconds
Deceleration Rate (A) =	11.2	ft/s^2
SSD = 1.47 V * T +1.075 V^2/A =	202	FT
SSD =	**205**	**FT**

INTERSECTION SIGHT DISTANCE

RIGHT TURN FROM STOP:	West	of Driveway
Posted Speed (V) =	28	MPH
Minor Street Approach Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Time Gap (t_g) =	6.5	seconds
ISD (Right Turn from Stop) = 1.47 * t_g * V =	268	FT
ISD (Right Turn from Stop) =	**270**	**FT**

LEFT TURN FROM STOP:	East	of Driveway
Posted Speed (V) =	31	MPH
Minor Street Approach Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Time Gap (t_g) =	7.5	seconds
ISD (Left Turn from Stop) = 1.47 * t_g * V =	342	FT
ISD (Left Turn from Stop) =	**345**	**FT**

AASHTO Recommended Sight Distance Summary
(Passenger Vehicles)

LOCATION: Chestnut Street at Site Driveway

Side Street Direction:	WB
Number of Lanes on Mainline =	2
Median Width (Feet) =	0

STOPPING SIGHT DISTANCE

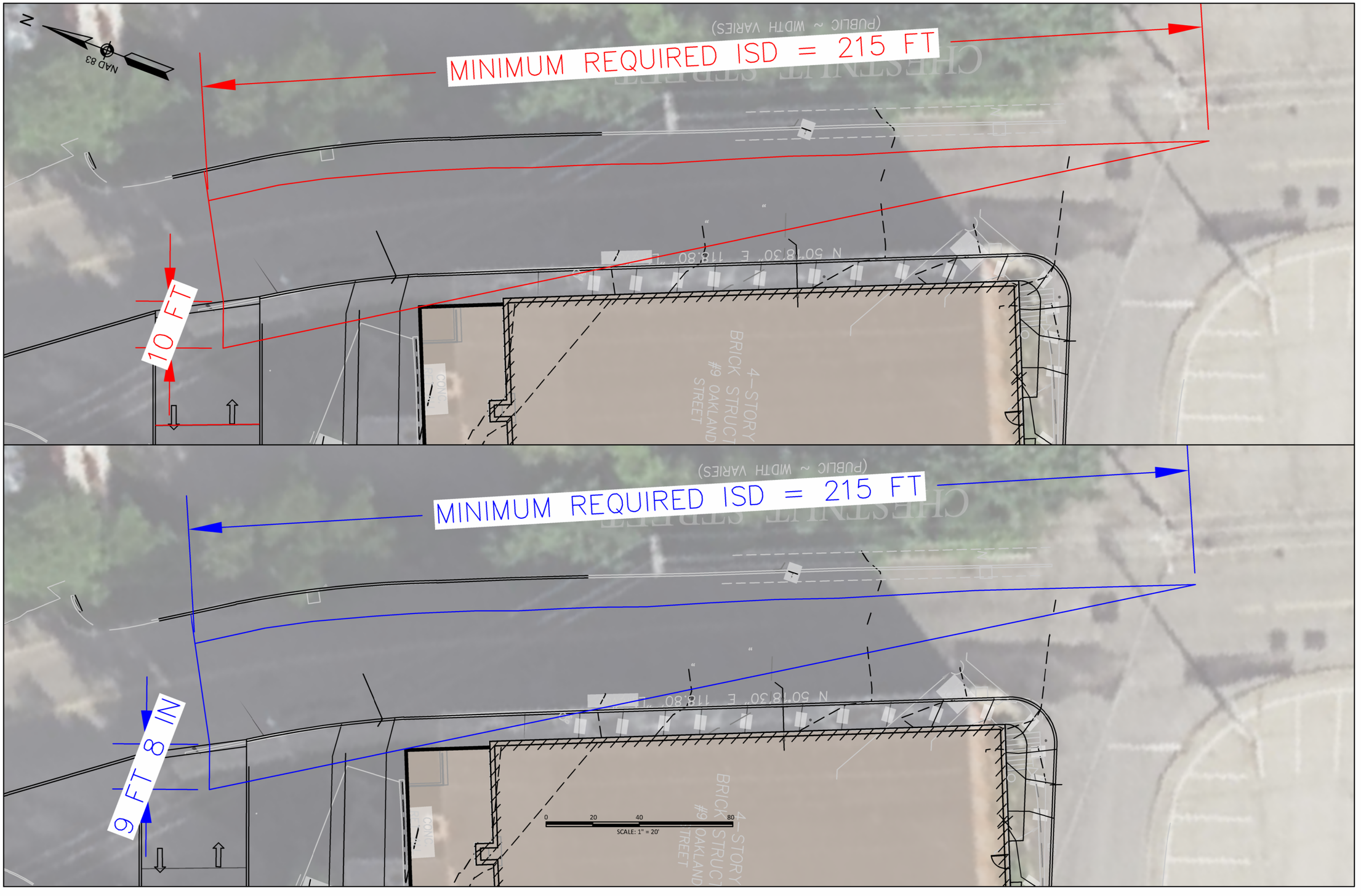
Mainline Direction:	NB	
85th Percentile Speed (V) =	25	MPH
Grade (G) =	8.0%	
Apply Grade Adjustment	Yes	
Brake Reaction Time (T) =	2.5	seconds
Deceleration Rate (A) =	11.2	ft/s^2
SSD = 1.47 V * T +1.075 V^2/A =	141	FT
SSD =	**145**	**FT**

Mainline Direction:	SB	
85th Percentile Speed (V) =	29	MPH
Grade (G) =	-8.0%	
Apply Grade Adjustment	Yes	
Brake Reaction Time (T) =	2.5	seconds
Deceleration Rate (A) =	11.2	ft/s^2
SSD = 1.47 V * T +1.075 V^2/A =	212	FT
SSD =	**215**	**FT**

INTERSECTION SIGHT DISTANCE

RIGHT TURN FROM STOP:	South	of Driveway
Posted Speed (V) =	25	MPH
Minor Street Approach Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Time Gap (t_g) =	6.5	seconds
ISD (Right Turn from Stop) = 1.47 * t_g * V =	239	FT
ISD (Right Turn from Stop) =	**240**	**FT**

LEFT TURN FROM STOP:	North	of Driveway
Posted Speed (V) =	29	MPH
Minor Street Approach Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Time Gap (t_g) =	7.5	seconds
ISD (Left Turn from Stop) = 1.47 * t_g * V =	320	FT
ISD (Left Turn from Stop) =	**320**	**FT**



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PREPARED FOR
Sweet Management, Inc.
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SIGHT LINE PLAN
MIXED-USE DEVELOPMENT
AMESBURY, MASSACHUSETTS

REVISIONS

NO.	REVISION	DATE

FEBRUARY 20, 2026

DRAWN/DESIGN BY	CHECKED BY
CJD	REB

SIGHT DISTANCE PLAN

SCALE: 1"=20'

NEX-2300215.00

1 OF 1

Trip Generation

The site currently occupies a vacant building that formally housed Durasol Drug and Chemical Company. The project consists of a full site and building renovation and the construction of 124 residential units, along with 4,045 square feet (sf) of commercial space. Traffic to be generated by the proposed development was forecasted using trip rates contained in the ITE *Trip Generation Manual, 11th Edition*[2] for Land Use Code (LUC) 221 (Multifamily Housing [Mid-Rise]) and LUC 822 (Strip Retail Plaza [<40k]). Results are summarized in Table 2 below and indicate that the proposed development is expected to generate 53 vehicles trips (16 entering and 37 exiting) during the weekday AM peak hour, 90 vehicles trips (51 entering and 39 exiting) during the weekday PM peak hour, and 77 vehicles trips (40 entering and 37 exiting) during the Saturday midday peak hour. All trip-generation calculations are attached to this letter.

TABLE 2
Trip-Generation Summary

Peak Hour/Direction	(1) Commercial Trips [a]		(2) Residential Trips [b]		Total Proposed Trips [c]	
Weekday Daily:	400	400	546	546	946	946
Weekday AM Peak Hour:						
Enter	6	9	10	10	16	19
Exit	4	7	33	34	37	41
Total	10	16	43	44	53	60
Weekday PM Peak Hour:						
Enter	21	21	30	31	51	52
Exit	20	20	19	17	39	37
Total	41	41	49	48	90	89
Saturday Daily:	346	324	584	534	930	858
Saturday Midday Peak Hour:						
Enter	14	14	26	23	40	37
Exit	13	13	24	22	37	35
Total	27	27	50	45	77	72

[a] Based on ITE LUC 822 (Strip Retail Plaza [<40k]) for 4.045 ksf.
[b] Based on ITE LUC 221 (Multi-Family Housing [Mid-Rise]) for 124 units.
[c] Total of Commercial Trips (column 1) and Residential Trips (column 2).

12th edition - same land use codes

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

Institute of Transportation Engineers (ITE) - 12th Edition

Land Use Code (LUC) 822 - Strip Retail Plaza (<40k)

General Urban/Suburban

Average Vehicle Trips Ends vs: 1000 Sq. Ft. Gross Floor Area
Independent Variable (X): 4.045

AVERAGE WEEKDAY DAILY

T = 42.20 * (X) + 229.68
T = 42.20 * (4.045) + 229.68
T = 400.38
T = 400 vehicle trips
with 50% (200 vph) entering and 50% (200 vph) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 3.93 * (X)
T = 3.93 * 4.045
T = 15.90
T = 16 vehicle trips
with 55% (9 vph) entering and 45% (7 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

Ln T = 0.68 Ln (X) + 2.77
Ln T = 0.68 Ln(4.045) + 2.77
Ln T = 3.72
T = 41.28
T = 41 vehicle trips
with 50% (21 vph) entering and 50% (20 vph) exiting.

SATURDAY DAILY

$$\frac{\text{ITE LUC 821 Saturday Daily Trip Rate}}{\text{ITE LUC 821 Saturday Peak Hour Trip Rate}} = \frac{\text{ITE LUC 822 Saturday Daily Trip Rate}}{\text{ITE LUC 822 Saturday Peak Hour Trip Rate}}$$

$$\frac{92.93}{7.67} = \frac{(Y)}{6.63} \qquad Y = 80.33$$

T = Y * 4.045
T = 324.93
T = 324 vehicle trips
with 50% (162 vpd) entering and 50% (162 vpd) exiting.

(same distribution split as ITE LUC 821 during the Saturday Daily)

SATURDAY PEAK HOUR OF GENERATOR

T = 6.63 * (X)
T = 6.63 * 4.045
T = 26.82
T = 27 vehicle trips
with 51% (14 vph) entering and 49% (13 vph) exiting.

Institute of Transportation Engineers (ITE) - 12th Edition

Land Use Code (LUC) 221 - Multifamily Housing (Mid-Rise)

General Urban/Suburban

Average Vehicle Trips Ends vs: Dwelling Units
Independent Variable (X): 124

AVERAGE WEEKDAY DAILY

T = 4.55 * (X) - 17.52
T = 4.55 * 124 - 17.52
T = 546.68
T = 546 vehicle trips
with 50% (273 vpd) entering and 50% (273 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.42 * (X) - 7.77
T = 0.42 * 124 - 7.77
T = 44.31
T = 44 vehicle trips
with 23% (10 vph) entering and 77% (34 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.36 * (X) + 3.07
T = 0.36 * 124 + 3.07
T = 47.71
T = 48 vehicle trips
with 64% (31 vph) entering and 36% (17 vph) exiting.

SATURDAY DAILY

T = 4.30 * (X)
T = 4.30 * 124
T = 533.20
T = 534 vehicle trips
with 50% (267 vpd) entering and 50% (267 vpd) exiting.

SATURDAY PEAK HOUR OF GENERATOR

T = 0.36 * (X)
T = 0.36 * 124
T = 44.64
T = 45 vehicle trips
with 51% (23 vph) entering and 49% (22 vph) exiting.

Total Average Peak Parking Demand

Hours Beginning	Weekday			Saturday		
	Number of Parked Vehicles			Number of Parked Vehicles		
	Residential	Retail	Total	Residential	Retail	Total
12:00 - 4:00 AM	153	0	153	129	0	129
5:00 AM	147	0	147	124	0	124
6:00 AM	132	0	132	111	0	111
7:00 AM	118	0	118	99	0	99
8:00 AM	101	2	103	85	0	85
9:00 AM	92	4	96	77	4	81
10:00 AM	87	5	92	74	6	80
11:00 AM	84	6	90	71	7	78
12:00 PM	80	10	90	67	9	76
1:00 PM	77	11	88	65	11	76
2:00 PM	80	8	88	67	11	78
3:00 PM	78	8	86	66	9	75
4:00 PM	87	7	94	74	7	81
5:00 PM	95	8	103	80	7	87
6:00 PM	99	8	107	84	7	91
7:00 PM	104	8	112	88	8	96
8:00 PM	115	6	121	97	8	105
9:00 PM	125	5	130	106	6	112
10:00 PM	133	0	133	112	0	112
11:00 PM	139	0	139	117	0	117

Institute of Transportation Engineers (ITE)
6th Edition Parking Generation
Land Use Code (LUC) 221 - Multifamily Housing 2+ BR (Mid-Rise)
General Urban/Suburban (No nearby rail transit)

Independent Variable (X):		124	Dwelling Units
Weekday Demand			
Average Peak Demand		1.23	Dwelling Units
	=	153	vehicles
85th Percentile Peak Demand		1.45	Dwelling Units
	=	180	vehicles
Saturday Demand			
Average Peak Demand		1.04	Dwelling Units
	=	129	vehicles
85th Percentile Peak Demand		N/A	Dwelling Units
	=		vehicles

Hours Beginning	Weekday		Saturday	
	Percent of Peak Period	Number of Vehicles	Percent of Peak Period	Number of Vehicles
12:00 - 4:00 AM	100%	153	100%	129
5:00 AM	96%	147	96%	124
6:00 AM	86%	132	86%	111
7:00 AM	77%	118	77%	99
8:00 AM	66%	101	66%	85
9:00 AM	60%	92	60%	77
10:00 AM	57%	87	57%	74
11:00 AM	55%	84	55%	71
12:00 PM	52%	80	52%	67
1:00 PM	50%	77	50%	65
2:00 PM	52%	80	52%	67
3:00 PM	51%	78	51%	66
4:00 PM	57%	87	57%	74
5:00 PM	62%	95	62%	80
6:00 PM	65%	99	65%	84
7:00 PM	68%	104	68%	88
8:00 PM	75%	115	75%	97
9:00 PM	82%	125	82%	106
10:00 PM	87%	133	87%	112
11:00 PM	91%	139	91%	117

Institute of Transportation Engineers (ITE)
6th Edition Parking Generation
Land Use Code (LUC) 822 - Strip Retail Plaza (<40k)
General Urban/Suburban

Independent Variable (X):		4.045	/ 1000 Sq. Feet Gross Floor Area (GFA)
Weekday Demand (Mon-Thurs)			
Average Peak Demand		2.79	vehicles per 1,000 Sq. Feet GFA
	=	11	vehicles
85th Percentile Peak Demand		4.44	vehicles per 1,000 Sq. Feet GFA
	=	18	vehicles
Saturday Demand			
Average Peak Demand		2.77	vehicles per 1,000 Sq. Feet GFA
	=	11	vehicles
85th Percentile Peak Demand		4.36	vehicles per 1,000 Sq. Feet GFA
	=	18	vehicles

	Weekday		Saturday	
Hours Beginning	Percent of Peak Period	Number of Vehicles	Percent of Peak Period	Number of Vehicles
12:00 - 4:00 AM		0		0
5:00 AM		0		0
6:00 AM		0		0
7:00 AM		0		0
8:00 AM	19%	2		0
9:00 AM	33%	4	38%	4
10:00 AM	47%	5	55%	6
11:00 AM	55%	6	66%	7
12:00 PM	89%	10	85%	9
1:00 PM	100%	11	100%	11
2:00 PM	73%	8	96%	11
3:00 PM	73%	8	79%	9
4:00 PM	66%	7	66%	7
5:00 PM	70%	8	64%	7
6:00 PM	75%	8	67%	7
7:00 PM	70%	8	70%	8
8:00 PM	54%	6	70%	8
9:00 PM	48%	5	51%	6
10:00 PM		0		0
11:00 PM		0		0