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June 10, 2025
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Zakia R. Alam
Assistant Engineer,
Traffic & Safety Group
New York State Department of Transportation (Region 8)
4 Burnett Boulevard, Poughkeepsie, NY 12603

SEQRA 22-218 - Sheffield Gardens
NYS Route 17K
Town of Montgomery, Orange County, New York
Colliers Engineering & Design Project No. 22012941A

Dear Ms. Alam,

We are writing on behalf of the Applicant for the proposed Sheffield Gardens development to be located along Route 17K in the Town of Montgomery, Orange County, New York. This submission supplements our previous submission dated April 30, 2025, which analyzed the need for a traffic signal at the site access driveway connection to Route 17K currently proposed to be located approximately 400 ft. east of Bailey Road. Subsequent comments from the Town and the Department regarding that submission have requested a further analysis of the potential of aligning the site access driveway opposite Bailey Road. Based on review of the site with the Applicant and Project Site Engineer (Engineering & Surveying Properties) it has been determined that aligning the site driveway opposite Bailey Road would be feasible.

To assess the need for a traffic signal at the potential Site Access/Bailey Road intersection with Route 17K, an alternate access scenario capacity analysis and a traffic signal warrant analysis was conducted. The alternate access scenario traffic analysis is based on the previous traffic analysis conducted for the Project as part of our Traffic Impact Study (TIS) dated September 5, 2024. Utilizing this prior analysis information, the arrival and departure distributions were modified to reflect the potential modified location of the access driveway aligning opposite Bailey Road. The modified arrival and departure distributions are identified on Figures No. 14A and 15A provided in Attachment 1. The resulting site generated traffic volumes are identified on Figures No. 16A through 24A. The site generated traffic volumes were added to the No-Build traffic volumes previously identified in the TIS to determine the Build Traffic Volumes at the potential Route 17K/Site Access/Bailey Road intersection.

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Utilizing the Build traffic volumes identified above, and other volume data previously identified as part of the TIS, a traffic signal warrant analysis has been prepared for the intersection based on the criteria of the ***Manual on Uniform Traffic Control Devices, 11th Edition*** (MUTCD). The signal warrant analysis, which is summarized in attached Table TSW-1 contained in Attachment 2, assesses the future 2026 Full Build-Out Traffic Volume conditions at the intersection. MUTCD Signal Warrants No. 1, 2 and 3 have been analyzed in accordance with the MUTCD guidelines. Based on the signal warrant analysis, the intersection is anticipated to satisfy Warrants No. 1, 2 and 3 under the future traffic conditions with the Project. Therefore, it is our opinion, that a fully actuated traffic signal is warranted at the potential Site Access/Bailey Road intersection with Route 17K along with the construction of separate eastbound and westbound left turn lanes along Route 17K for vehicles during left into the site and onto Bailey Road.

It should be noted that the other traffic signal warrants identified in the MUTCD were assessed for the intersection but as identified below, these warrants do not apply:

- Warrant 4 – Pedestrian Volume and Warrant 5 – School Crossing do not apply to this intersection since there is no evidence of existing pedestrian volume at this intersection and the Project does not anticipate adding any new pedestrian volume at this location. Note that an internal pedestrian connection to the adjacent Central Valley High School/Middle School property is proposed as part of the Project to allow resident students to walk to the school without traverse along Route 17K.
- It is also our opinion that Warrant 6 – Coordinated Signal System does not specifically apply to this location since the Warrant is typically applied to intersection in the middle of an existing coordinated system, however, the coordination of the potential traffic signal at this location with the existing traffic signals at the Central Valley Middle School/High School driveways is discussed further below.
- Warrant 7 – Crash Experience does not apply since the crash history at this intersection indicates just two crashes over the 6-year period between January 1, 2017 and December 31, 2022 as analyzed in the TIS.
- Warrant 8 – Roadway Network does not apply because the intersection is not the intersection of two major roadways.
- Warrant 9 – Intersection Near Grade Crossing does not apply because there is no rail crossing in the vicinity of the intersection.

Based on the above traffic signal warrant analysis, capacity analysis has been conducted for the intersection with a traffic signal and separate eastbound and westbound left turn lanes. The analysis includes the coordination of the potential traffic signal with the existing traffic signals at the intersections of the Valley Central Schools entry and exit driveways. It is noted that those existing traffic signals are not currently coordinated, but it is our opinion that they should be part of a coordinated system with the potential future signalization of the Route 17K/Site Access/Bailey Road intersection.

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This capacity analysis, which is summarized in Tables No. 2A and 3A, contained in Attachment 3, indicates that the intersection would operate at an overall Level of Service "A" during all peak hours. The associated Synchro analysis files are enclosed for your review. In addition, the school driveway intersections are projected to operate at similar operating conditions to future no-build conditions, however a review of the synchro analyses indicates that improved traffic progression along the corridor should be provided with the coordination of the three traffic signals. Based on this analysis and the Department's prior review of our June 10, 2025 submission, the Project has been revised accordingly to align the Project site access opposite Bailey Road.

Other Corridor Improvements

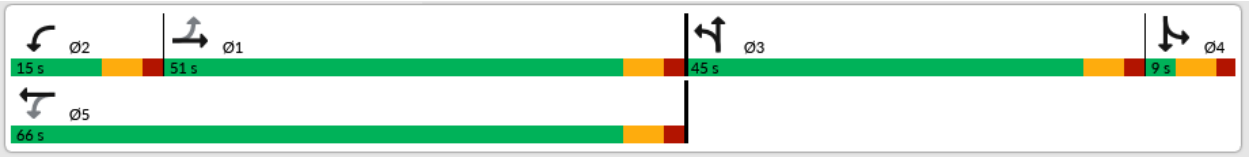
Based on other comments from the Department, the analysis of the intersections of NYS Route 17K at NYS Route 211 and NYS Route 17K at NYS Route 208 have been reassessed to determine potential further improvements that could be implemented to address both background traffic volumes and Project generated traffic.

NYS Route 17K at NYS Route 211

During the PM Peak Hour this intersection is projected to operate over capacity on the westbound approach under the future Build conditions with a volume-to-capacity (v/c) ratio of 1.03. An increase in the cycle length from 105 seconds to 120 seconds along with a rebalancing of the phase timings will result in all approaches operating within capacity, but there will be some increases in delay experienced on the northbound approach. The traffic signal timing modifications are identified in the figures below. In addition, to the timing modifications, the installation of adaptive traffic signal software at this location could be considered to improve traffic signal operations.

Existing Traffic Signal Timings – Weekday PM Peak Hour

Proposed Traffic Signal Timings – Weekday PM Peak Hour



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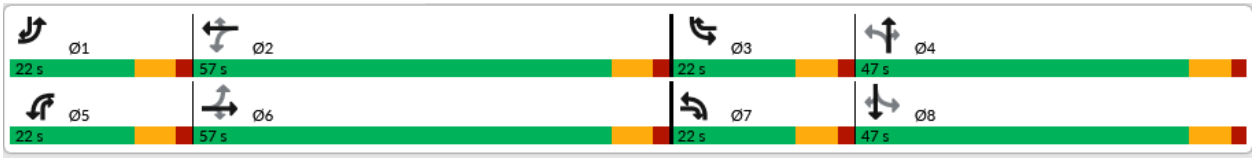
NYS Route 17K at NYS Route 208

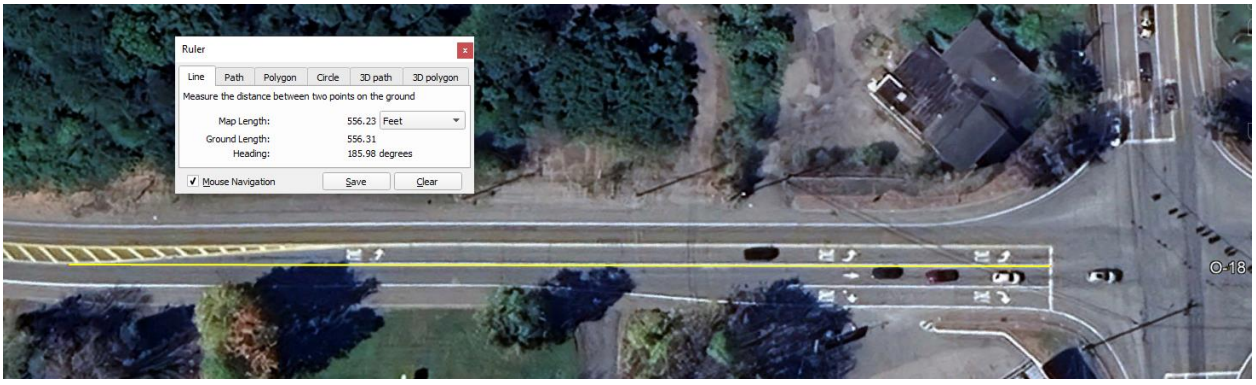
During the PM Peak Hour, the northbound left turn movement is projected to exceed the provided 400-ft. storage length under both the No-Build and Build conditions. Traffic signal timing modifications have been explored to improve the operation of the northbound left turn movement. The traffic signal timing modifications include providing nine (9) seconds of additional green time to the northbound left turn/northbound through movement phases. The traffic signal timing modifications are detailed in the figures below. These modifications will result in an approximately 40 ft. reduction of the northbound left turn queue, but the queue will still exceed the available left turn lane length.

Existing Traffic Signal Timings – Weekday PM Peak Hour



Proposed Traffic Signal Timings – Weekday PM Peak Hour

Furthermore, it is noted that while the lane is striped with 400 ft. of storage, when the left turn lane taper area is included, the total storage is approximately 550 ft. This is detailed in the aerial figure below. Based on this the northbound left turn queue will not impact northbound through traffic.



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In addition to the above, we understand that there remain other outstanding comments from the Department's July 29, 2025, comments that relate to the layout and design of the proposed improvements along Route 17K. These will also be addressed as part of a future submission upon preparation of detailed highway improvement plans for the proposed modifications in the NYSDOT Right-of-Way as part of the Highway Work Permit Application for the Project.

Sincerely,

Colliers Engineering & Design, Architecture, Landscape Architecture, Surveying, CT P.C.

Richard D'Andrea, PE, PTOE
Department Manager

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