



June 21, 2022

Michael Wieszchowski, PE, PTOE, GPI

Ryan Trunko, PE, GPI

Via email: mwieszchowski@gpinet.com and rtrunko@gpinet.com

RE: Response to Comments, Traffic Review of a Full Access Driveway on Rapp Road from US 20 to Crossgates Mall Ring Road, Town of Guilderland, Albany County, NY
JMT Job No. 20-02057-001

Dear Mr. Wieszchowski and Mr. Trunko:

JMT of New York, Inc. (JMT) prepared this response to the comments provided in a letter from GPI dated June 15, 2022. Enclosed with this letter is the preferred concept plan for Build Year 2022 Alt 2 of Rapp Road between US 20 and Crossgates Mall Ring Road for review. JMT's responses to GPI's review comments are as follows:

1. Comment: The microsimulation models for the project were reviewed. The models simulated peak hour traffic volumes over a 2-hour period, with no adjustment for peak 15-minute variations. Typically, GPI would run a model for the peak one hour broken down into 15-minute intervals with traffic adjusted up by the Peak Hour Factor (PHF) for one interval and down by the PHF for another interval to simulate the impact of peak 15-minute traffic. Although the modeling for this project wasn't performed exactly as GPI would do it, a sensitivity analysis was run using our standard methodology and it was found that because PHF's are high (indicating little variation in the traffic throughout the hour) the delays and queues did not vary significantly from what was reported, so we find the traffic simulation models provided to be acceptable.

Response: Acknowledged.

2. Comment: The traffic analysis shows a minimal increase in delays when comparing Alternative 1 (right-in/right-out only) to Alternative 2 (full access driveway). Generally, the change in delay between the two alternatives is not significant.

Response: Acknowledged.

3. Comment: The simulation models show southbound queues along Rapp Rd from the US Route 20 signal backing up near, and occasionally past, the proposed Costco full-access driveway in the Build condition with road diet in place. These queues are slightly higher than Alternative 1 queues and a full access driveway could impact site driveway operations, where site vehicles may not be able to exit the site during times that the lengthy queues are present. These queues dissipate each signal cycle, so the blockage times should not be significant, but they will likely impact safety.

Response: The SimTraffic results for the 95th percentile queue during the Build Year 2022 Alt 2 weekday PM peak hour are shown in the attached graphic "Concept Plan: Queue Lengths". The queues from the SB approach to US 20 and NB approach to Crossgates Mall Ring Road do not back up to the full access driveway.

4. Comment: With sight distance to the north being less than desirable and the potential for southbound queues to block the site driveway, a review of the driveway access concept needs to be completed before final determination on the site access configuration can be determined. Items to consider in this concept include:
 - a. The original concept of having a separated receiver lane for driveway traffic that merges with Rapp Rd through traffic farther south is unacceptable. The queuing from the US Route 20 signal will



- extend too far back to allow for proper weaving and maneuvering to get into the correct lane at the signal.
- b. The proposed concept must include some type of refuge area for left turn vehicles exiting the site, so they can perform a 2-stage left turn maneuver and not cross directly into the Rapp Rd through traffic travel lanes.
 - c. The access concept needs to maximize available southbound queuing accommodations at the US Route 20 signal to reduce to likelihood of queue back-ups to the full access driveway.

Response: The attached "Concept Plan" details the proposed full access driveway and road diet of Rapp Road between US 20 and Crossgates Mall Ring Road. This concept plan is the preferred alternative for the Build Year 2022 Alt 2 scenario. (a) The corridor is striped throughout and no raised barriers are provided. (b) A transition area is provided on the south side of the Rapp Road/Northerly Driveway intersection for exiting vehicles to wait before entering the southbound traffic. This configuration discourages southbound thru traffic from crossing into the inner travel lane until 120 feet south of the intersection. (c) As indicated in the attached "Concept Plan: Queue Lengths" graphic, the queues from US 20 southbound will not back up to the Rapp Road/Northerly Driveway intersection.

5. Comment: It is clear that the reduced sight distance to the north and the queue back-ups southbound result in the full access concept having more impacts on Rapp Rd traffic operations and safety than Alternative 1 (right-in/right-out). Perhaps with the proper driveway access design, this can be mitigated to the point where the full access benefit outweighs the impact, but that is yet to be seen. We can make a better determination concerning this once a new access concept is presented.

Response: JMT reviewed multiple concepts to create a road diet on Rapp Road using pavement markings. This alternative provides adequate protection for vehicles entering and exiting Rapp Road while maintain acceptable operations on Rapp Road.

We believe this plan is the best design for the full-access intersection under the Build Year 2022 Alt 2 condition. If you have any questions or need further information, please do not hesitate to contact me at 518-218-5949 or cminkler@jmt.com.

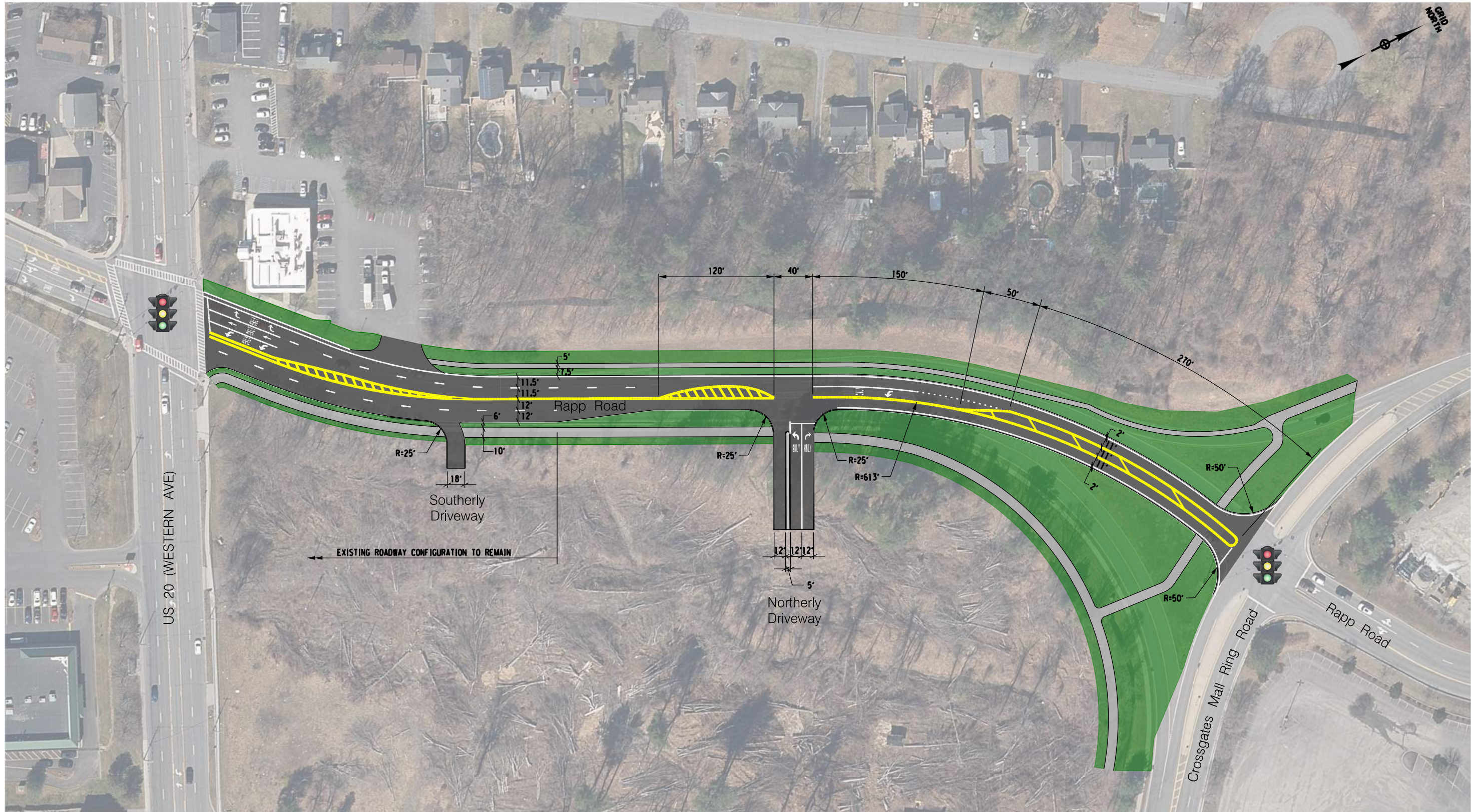
Very truly yours,

JMT of New York, Inc.

Christina Minkler, PE
Vice President

CM/sc

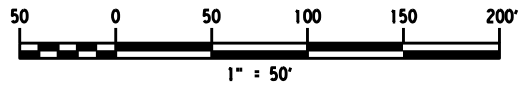
Attachments: Concept Plan
Concept Plan Queue Lengths



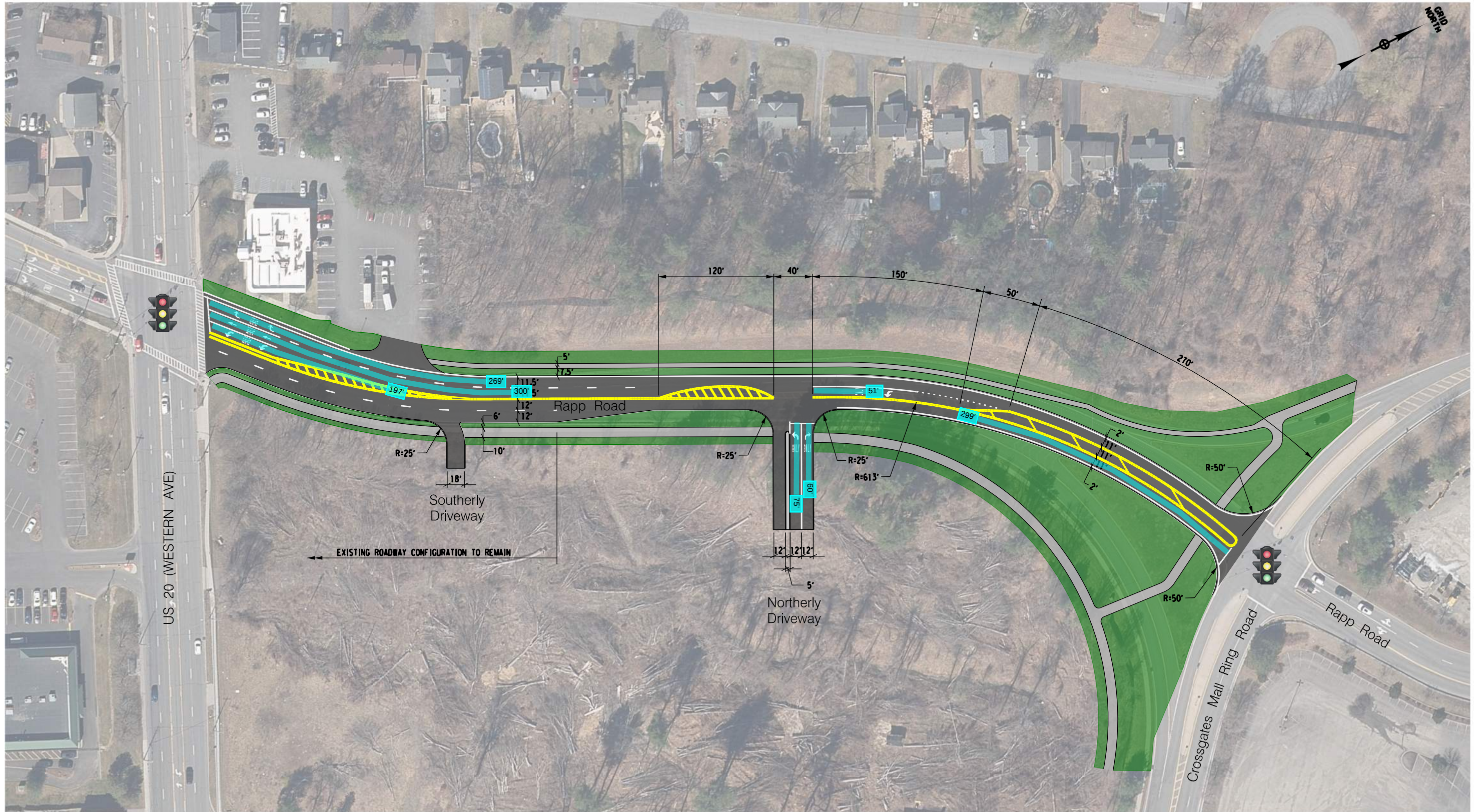
- NOTES:
1. THIS IS A CONCEPTUAL PLAN ONLY AND IS NOT MEANT FOR PERMITTING OR CONSTRUCTION.
 2. THE SITE DRIVEWAYS ARE LOCATED BASED ON THE CONCEPT PLAN TITLED "21-1028 COSTCO ALBANY SK7 REV 1" PREPARED BY COLLIER ENGINEERING & DESIGN DATED 11/11/2020.
 3. THIS IS A GRAPHICAL REPRESENTATION OF ROADWAY GEOMETRY AND PAVEMENT MARKINGS RELATED TO A ROAD DIET OF RAPP ROAD.

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

PROPOSED ROAD DIET	PIN	BRIDGES	CULVERTS
RAPP ROAD FROM US 20 TO CROSSGATES MALL RING ROAD			
COUNTY: ALBANY	REGION: 1		



ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER
CONCEPT PLAN	DRAWING NO. RWY-1 SHEET NO. 1



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PIN

BRIDGES

CULVERTS

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED

CONCEPT PLAN
QUEUE LENGTHS

CONTRACT NUMBER

DRAWING NO. RWY-1
SHEET NO. 1



XX' SimTraffic 95th Percentile
Queues for Weekday PM Peak

