



November 11, 2022

Michael Wieszchowski, PE, PTOE
GPI / Greenman-Pederson, Inc.
80 Wolf Road #300
Albany, NY 12205
mwieszchowski@gpinet.com

RE: Review of Costco Site Modifications, Town of Guilderland, Albany County, NY
JMT Job No. 20-02057-001

Dear Mr. Wieszchowski,

JMT discussed with GPI on Monday, November 7th their concerns in response to the JMT letter dated October 26, 2022, associated with site modifications. GPI's concerns addressed within this letter are summarized as follows:

1. Additional parking spaces have been added in the northeast corner of the site along Gabriel Terrace. As currently laid out, there is no emergency egress.
2. The queue lengths shown for southbound Rapp Road need to be confirmed as they appear to conflict with SimTraffic analysis and may conflict with the updated location of the full access driveway.
3. Updated site plan shows an additional site access point at Lawton Terrace. This additional access requires further traffic analysis.

It should be noted that the additional access point at Lawton Terrace (Item 3 above) will be removed from the site plan and will not be pursued further.

Responses to Items 1 and 2 above are as follows:

1. PARKING LOT EGRESS AT GABRIEL TERRACE

In order to accommodate vehicular egress for the parking area added in the northeast quadrant of the site, JMT conducted a more detailed review of Gabriel Terrace from Crossgates Mall Road to a point approximately 350 ft. south through the proposed s-curve. This review included a detailed look at effects on horizontal geometry, sight distance, and turning movements of this access point.

Recommendations and assumptions are as follows:

- The original assumed design speed for Gabriel Terrace is 35 mph. JMT is proposing to use a 25-mph design speed for design considerations in this section due to its proximity to the Crossgates Mall Road intersection to the north. Chapter 5 of the NYSDOT's Highway Design Manual (HDM)

acknowledges that strict adherence to design speed is not always needed or appropriate at intersection approaches and may be reduced up to 15 mph.

- In order to provide vehicular egress from this area, JMT proposes a right turn only exit onto Gabriel Terrace to allow vehicles to recirculate to the southern access point on Gabriel Terrace or exit to Western Avenue. This new access point would be located approximately 200 ft. south of the Crossgates Mall Road intersection. Enclosed is a conceptual access point layout.
- From Chapter 2 & 5 of the HDM, the minimum curve radius is 113 ft. and the required horizontal sight distance to execute a right turn onto Gabriel Terrace is 240 ft, assuming a 25-mph design speed.
- Revisions to the conceptual s-curve geometry on Gabriel Terrace will be made to satisfy both the required horizontal sight distance and minimum horizontal curvature.
- Review of turning movements show a passenger vehicle has an unobstructed view of the Crossgates Mall Road intersection to the north and able to safely execute a right turn onto Gabriel Terrace. Review of turning movements using a Westmere Fire Department provided fire truck dimensions allow for a right turn on to Gabriel Terrace, utilizing the width of the roadway.

2. QUEUE ANALYSIS

As described in the JMT letter dated October 26, 2022, the relocated northerly driveway along Rapp Road is proposed to be located 150 ft. south of the prior location and 450 ft. from US Route 20 intersection. To clarify JMT's approach, Synchro traffic modeling software was used, and the queue output results follow NYSDOT's HDM Chapter 5.2.3.6 criteria for using the built-in simulation analysis called SimTraffic and not directly from Synchro for reporting queue results. The queue analysis results table provided in the June 3, 2022, letter (extracted and enclosed) for the southwest Rapp Road approach lanes to the intersection with US Route 20 are Left-197', Thru-300' & Right-269' and are reflective of the referenced procedure. Moving the northerly driveway 150 ft south in Synchro yielded no change in the reporting of queues. The southwest Rapp Road approach through lane 95th percentile queue length is about 150 feet from the southern curb line of the relocated northerly driveway.

In conclusion, the queuing analysis remains unchanged as there is sufficient pavement available to accommodate the queuing projections outlined above well in excess of the previously approved SimTraffic Analysis. 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.

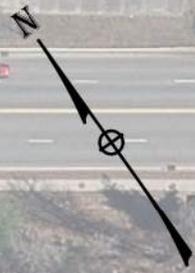
Christina M. Minkler, PE

CM/mc

Enclosures: Gabriel Terrace Conceptual Access Point
Queue Analysis Results

Cc: Ken Kovalchik, Town of Guilderland
James Soos, Pyramid Management Group, LLC
David Aitken, Pyramid Management Group, LLC
Ryan Trunko, PE, GPI / Greenman-Pederson, Inc.
Matthew Collingwood, PE, JMT

Crossgates Mall Road



COSTCO
WHOLESALE

Gabriel Terrace

10' Wide
Multi-Use Trail

FILE NAME : DCM8SYTIME0123456
DATE/TIME :
USER : DCM8USERNAME

PROPOSED ACCESS POINT AT GABRIEL TERRACE



COSTCO OFF SITE IMPROVEMENTS
TOWN OF GUILDERLAND
ALBANY COUNTY, NEW YORK

DATE: 11/10/22

Intersection: 3: Johnston Road/Crossgates Mall Road & Western Ave (U.S. Route 20)

Movement	EB	EB	EB	WB	WB	WB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	TR	L	T	TR	L	TR	R	L	T	R
Maximum Queue (ft)	186	327	333	186	952	959	185	293	205	161	270	268
Average Queue (ft)	167	283	268	106	888	893	111	110	28	117	193	163
95th Queue (ft)	221	357	360	220	1068	1067	182	208	109	197	300	269
Link Distance (ft)		297	297		922	922		597	597		252	252
Upstream Blk Time (%)		16	9		17	19					10	2
Queuing Penalty (veh)		85	49		170	190					36	7
Storage Bay Dist (ft)	100			100			100			75		
Storage Blk Time (%)	31	39		6	51		20	14		29	49	
Queuing Penalty (veh)	147	86		41	67		25	18		59	71	

Intersection: 4: Crossgates Mall Road & Rapp Road

Movement	EB	B24	WB	WB	NB	NB	SB	SB
Directions Served	LTR	T	LT	TR	L	TR	LT	R
Maximum Queue (ft)	379	3	216	176	222	126	94	133
Average Queue (ft)	162	0	110	42	91	48	33	50
95th Queue (ft)	299	2	175	112	157	93	70	93
Link Distance (ft)	392	52	461	461	729	729	838	
Upstream Blk Time (%)	0							
Queuing Penalty (veh)	1							
Storage Bay Dist (ft)							150	
Storage Blk Time (%)							0	
Queuing Penalty (veh)							0	

Zone Summary

Zone wide Queuing Penalty: 1053