

January 29, 2019

Town of New Castle
200 South Greeley Avenue
Chappaqua, NY 10514

Attn: Sabrina D. Charney, Director of Planning

**RE: Transportation Engineering Services
Preliminary Review of Chappaqua Crossings
Review of revised MPT Plans and Schedule**

Dear Ms. Charney,

We have reviewed the most recent material submitted by the applicant on January 25, 2019 and January 28, 2019. I have attached a current list of Chappaqua Crossing Materials from received from 1/24/19 to 1/29/19 (**Attachment A**). SSE offers the following summary and comments of the revised plans as listed below:

The revised MPT plans presents four construction staging schemes:

1. **Phase A** would be in place during work taking place between the hours of 9:00am and 2:30pm on the west side of NY 117, north and south of Roaring Brook Road. Traffic during this phase would be shifted to the northbound lane which would be a flagger controlled one-lane operation. The southbound right turn lane from NY 117 to Roaring Brook Road would be closed.
2. **Phase B** would be in place during work taking place between the hours of 9:00am and 2:30pm on the west side of NY 117, south of Roaring Brook Road. Traffic during this phase would be shifted to the northbound lane which would be a flagger controlled one-lane operation. The southbound right turn lane from NY 117 to Roaring Brook Road would remain open.
3. **Phase BI** would be in place during the installation of the stone retaining wall on the west side of NY 117, south of Roaring Brook Road. Traffic would be maintained in both directions (north/South) on two 10-foot wide lanes during this phase between the hours of 9:00am and 6:00pm. The southbound right turn lane from NY 117 to Roaring Brook Road would remain open.
4. **Phase C** would be in place during work taking place between the hours of 9:00am and 2:30pm on the east side of NY 117, north and south of Roaring Brook Road. Traffic during this phase would be shifted to the southbound lane during this phase which would be a flagger controlled one-lane operation. The southbound right turn lane from NY 117 to Roaring Brook Road would remain open.

The revised construction schedule minimizes the use of the flagger controlled one-lane operation to the extent possible and is **limited to no more than six weeks, non-contiguous**. For all other times, two lanes of traffic (North/South) will be maintained. The width of these lanes would be 10' each.

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In general, the construction work hours are 9:00am to 2:30pm, except for the weeks that school is not in session, then the hours are 9:00am to 6:00pm. With respect to hours of operation, all work hours and days of the week are subject to modification / cancelation from the Police and / or the Traffic Consultant.

The flagger controlled one-lane operation is likely to create significant traffic congestion and queuing. Significant queue lengths and delays would be experienced during Phases A, B and C, however, **SSE understands it would not be possible to complete the construction without this MPT phase.** It should be noted that the queues and delays would occur regardless of the opening of Life Time Fitness, Pet Valu, and Fidelity investments.

Utilizing the Maser estimated new trips going through the NY 117 and Roaring Brook Road intersection (the highest or most conservative) by those three uses would add a total of 67 vehicle trips during the PM School peak hour, the most congested of the four peak periods analyzed. Adding projected Life Time Fitness, Pet Valu, and Fidelity investments volumes would add a little over one vehicle per minute during the PM School peak hour. One extra car in what is likely to be a congested construction area would not generate a significant increase in the queue lengths and delay times.

Given the minor impacts the additional new trips through the NY 117 and Roaring Brook Road intersection, and the limited duration of lanes closure estimates, SSE recommends that Life Time Fitness, Pet Valu, and Fidelity investments be permitted to open and be granted Temporary Certificates of Occupancy.

Analysis of the Life Time Fitness and Maser Trip Generation Estimates

In an effort to demonstrate anticipated trips generated by the Life Time Fitness development, the applicant submitted hourly traffic volumes provided by Life Time Fitness on January 25, 2019. The vehicle trips were collected at a similar sized facility in a similar economic area for an undetermined four-day period, Thursday through Sunday

As cited in Note 1, the Maser estimates were only those trips anticipated to pass through the NY 117 and Roaring Brook Road intersection. Based on the traffic model information previously submitted on December 10, 2018, the Maser Traffic Study was estimating 35% of the trips would pass through the NY 117 and Roaring Brook Road intersection. The numbers reported in **Table 1** below factors the intersection volumes to account for 100% of the volumes generated by the developments.

The AM trip generation numbers provided by Life Time Fitness align well with the estimates provided by Maser and SSE ITE estimates. The PM numbers provided by Life Time Fitness are significantly lower than those estimated by Maser and SSE. The Maser estimates are also higher than the SSE trips estimated. The variance is attributed to the edition of the ITE Trip Generation Manual used to generate the estimates. The 9th Edition used by Maser is providing higher estimates than the 10th Edition used by SSE. **Therefore, the site vehicle trip estimates are acceptable.**



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TABLE 1

Summary of Trips Estimated for Life Time Fitness, Pet Valu and Fidelity Investments

	Total Trips based on Life Time Fitness Estimates				Total Trips Generated Maser Consulting Estimates ^{1, 3}				Total Trips Generated SSE Estimates ³			
	AM		PM		AM		PM		AM		PM	
	School Peak	Highway Peak	School Peak	Highway Peak	School Peak	Highway Peak	School Peak	Highway Peak	School Peak	Highway Peak	School Peak	Highway Peak
	7am - 8am	8am - 9am	2:30pm - 3:30pm	5pm - 6pm	7am - 8am	8am - 9am	2:30pm - 3:30pm	5pm - 6pm	7am - 8am	8am - 9am	2:30pm - 3:30pm	5pm - 6pm
Life Time Fitness	40	51	28	48	52	52	146	146	40	40	104	104
Pet Valu²	NA	NA	NA	NA	3	6	18	20	3	3	8	8
Fidelity Investments²	NA	NA	NA	NA	6	9	29	32	4	4	11	10
TOTAL	40	51	28	48	61	67	193	198	47	47	123	122

Notes:

- 1 - *The estimated new trips provided by the Maser letter dated January 25, 2019 represent the estimated trips and trip distribution (35%) at the Intersection of NY 117 and Roaring Brook Road, not the total number of trips generated by the new developments. Those estimates were increased to account for all new trips generated by the developments.*
- 2 - *Land Use Code of 820: Shopping Center was used to calculate the estimated number of trips by both Maser and SSE.*
- 3 - *A 25% pass-by trip generation credit was utilized.*

Southbound Right Turn Lane Analysis

SSE was asked to assess the impacts of removing the southbound right turn lane from NY 117 to Roaring Brook Road during certain construction periods. In addition to assessing the right turn lane closure, Synchro analysis also updated the signal timings to reflect the new splits that were implemented on January 18, 2019. The analysis includes the additional trips estimated for the opening of Life Time Fitness and Pet Valu. As mentioned previously, traffic volumes along NY 117 remain relatively consistent throughout the non-peak hours so the below conditions can be expected during the permitted lane closure times between 9:00am and 2:30pm. A summary of the results are provided in **Table 2** below:



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TABLE 2
Summary of the Synchro Analysis for NY 117 and Roaring Brook Road

Intersection & Approach	Weekday Midday w/SB RT Lane				Weekday Midday without SB RT Lane			
	Lane Group	Delay (sec)	LOS	Queue Length (ft)	Lane Group	Delay (sec)	LOS	Queue Length (ft)
Rt. 117 & Roaring Brook Road								
Eastbound	L	27.8	C	188.0	L	27.8	C	188.0
	R	4.6	A	34.0	R	4.6	A	34.0
Northbound	LT	21.1	C	207.0	LT	65.3	E	287.0
Southbound	T	23.5	C	176.0	RT	32.9	C	352.0
	R	4.0	A	47.0				
	Intersection	17.1	B		Intersection	37.3	D	

With the southbound right turn lane closed during construction, the northbound approach should experience a LOS E, degraded from a LOS C. Additionally, the southbound approach, now a shared right-through lane, would experience the same LOS but have a queue length of over 350 feet. A queue of this length would potentially spill back to the upstream intersection, the entrance to the Chappaqua Crossing development, impacting traffic operations at this location.

Comments on the Revised MPT Construction Plan

Per Traffic Control Plan for Lane Closure Operations Phases A, B, BI, and C, the applicant is proposing a single lane of traffic for northbound and southbound directions with flaggers coordinating traffic movements during all these phases with the exception of Phase BI. Under the proposed construction MPT, the NY 117 and Roaring Brook Road intersection would be flagger controlled with a significantly reduced intersection capacity as the northbound, southbound and Roaring Brook Road movements must be operated independently from each other. The flagger controlled one-lane operation is likely to create significant traffic congestion and queuing. Significant queue lengths and delays would be experienced during Phases A, B and C, however, **SSE understands it would not be possible to complete the construction without this MPT phase. The applicant should confirm NYSDOT approval of this plan.**

Comments on the Revised MPT Schedule

Based on the most recent schedule and plans provided dated 1/28/19, construction would begin on February 16, 2019 and end May 17, 2019. The construction schedule takes advantage of two one-week periods when school is not in session, extended hours, weekends, and limits the amount of time with the One-Lane Flagger operation. The schedule is aggressive, but acceptable.

Regards,

Lou Luglio, P.E.
Vice President
201-805-8819

lluglio@samschwartz.com

ATTACHMENT A

Chappaqua Crossing Materials Received from 1/24/19 through 1/29/19

- Plan labeled “1 of 2, Traffic Control Plan for Lane Closure Operations,” entitled “Highway Improvements Plans for Chappaqua Crossing NYS Route 117 (S.H. 519) at Roaring Brook Road, Town of New Castle, Westchester County, New York,” prepared by Maser Consulting, P.C., dated January 23, 2019;
- Plan labeled “2 of 2, Traffic Control Plan for Lane Closure Operations,” entitled “Highway Improvements Plans for Chappaqua Crossing NYS Route 117 (S.H. 519) at Roaring Brook Road, Town of New Castle, Westchester County, New York,” prepared by Maser Consulting, P.C., dated January 23, 2019;
- Plan labeled “Figure B - Color, Interim MPT Plan (with Poles Removal Phase 2,” entitled “Interim MPT Plan for Chappaqua Crossing NYS Route 117 (S.H. 519) at Roaring Brook Road, Town of New Castle, Westchester County, New York,” prepared by Maser Consulting, P.C., dated January 23, 2019;
- Memorandum to the Town Board and the Planning Board from Town of New Castle Police Department dated January 25, 2019;
- Letter to the Town Board and Planning Board from DelBello Donnellan Weingarten Wise & Wiederkehr, LLP, dated January 25, 2019 with the following attachments:
 - Chart entitled “Chappaqua Crossing-Chappaqua NY DOT/RT 17 Schedule,” prepared by CMB, dated January 23, 2019;
 - Plan entitled “Highway Improvement Plans for Chappaqua Crossing, Traffic Control Plan for Lane Closure Operations,” prepared by Maser Consulting P.C., dated January, 2019
 - Memorandum to the Director of Planning from Maser Consulting, P.C. dated January 25, 2019;
 - Chart labeled “Table No. 1,” entitled “Typical Weekday, Life Time Athletic, Chappaqua, NY Traffic Projections,” prepared by Maser Consulting, P.C., (undated) received by the Town Board and Planning Board on January 25, 2019;
 - Chart labeled “Table No. 2,” entitled “Typical Saturday, Life Time Athletic, Chappaqua, NY Traffic Projections,” prepared by Maser Consulting, P.C., (undated) received by the Town Board and Planning Board on January 25, 2019;
 - Chart labeled “Table No. 3,” entitled “Typical Sunday, Life Time Athletic, Chappaqua, NY Traffic Projections,” prepared by Maser Consulting, P.C., (undated) received by the Town Board and Planning Board on January 25, 2019;
 - Letter to the Town Board and the Planning Board from Maser Consulting, P.C., dated January 25, 2019;
- Chart entitled “Chappaqua Crossing – Chappaqua NY, DOT/RT 117 Schedule,” prepared by Maser Consulting, P.C., dated January 28, 2019;