

August 17, 2020

Marathon Engineering  
840 Hanshaw Road, Suite 12  
Ithaca, NY 14850  
Attn: Mr. Adam Fishel, PE, CPESC

RE: Proposed Maifly Residential Development Freese Road, Town of Dryden, NY  
Trip Generation/Crash Analysis Assessment/Future Operations

Dear Mr. Fishel:

The purpose of this Technical Letter is to provide a Trip Generation, Crash Analysis, and Operations (Level of Service) Assessment for the referenced project; and based upon this information, a statement of probable traffic impact resulting from the project. The following outlines the results of the assessment.

### EXISTING HIGHWAY SYSTEM

The following information outlined in Table I provides a description of the existing roadway network adjacent to the project study area.

**Table I: Existing Highway System**

ROADWAY	ROUTE <sup>1</sup>	FUNC. CLASS <sup>2</sup>	JURIS. <sup>3</sup>	SPEED LIMIT <sup>4</sup>	# OF TRAVEL LANES <sup>5</sup>	TRAVEL PATTERN/DIRECTION	EST. AADT <sup>6</sup>	AADT SOURCE <sup>7</sup>
Dryden Road	NY-366	Minor Arterial	NYSDOT	30	2	Two-way/ East-West	6,952	NYSDOT (2019)
Freese Road	N/A	Local	TOWN	30	2	Two-way/ North-South	2,015	NYSDOT (2016)

Notes:

1. "NY" = New York State.
2. State Functional Classification of Roadway: Urban.
3. Jurisdiction: "NYSDOT" = New York State Department of Transportation.
4. Posted or Statewide Limit in Miles per Hour (MPH).
5. Excludes turning/auxiliary lanes developed at intersections.
6. Estimated Annual Average Daily Traffic (AADT) in Vehicles per Day (vpd).
7. Source (Year).

### ACCIDENT SUMMARY- FREESE ROAD/DRYDEN ROAD INTERSECTION

Three-year motor vehicle accident crash data (September 1, 2016 to August 31, 2019) was requested and obtained from NYSDOT and Tompkins County Sheriff Department. Table II shows the type of motor vehicle crashes that occurred based upon that data, and the likelihood of correction by a traffic signal.

**Table II: Intersection Crashes**

YEAR	CRASH	SUSCEPTIBLE TO CORRECTION BY SIGNAL
2017	Left Turn	Yes
2017	Left Turn	Yes
2017	Head On	No
2017	Head On	No
2017	Right Angle	Yes
2017	Right Angle	Yes
2018	Right Angle	Yes

While the crash data does not warrant traffic signalization, the higher crash rate does justify further monitoring by NYSDOT and consideration of an over-head flashing beacon.

**PROPOSED DEVELOPMENT**

The proposed project consists of 32 units of multi-family housing located within four separate building with access via one proposed driveway onto lower Freese Road. Also included in this assessment are fifteen (15) new single-family homes situated adjacent to the 32-unit development. Access for the single-family homes is via a single driveway onto Dryden Road.

It is important to note that the lower Freese Road driveway not only provides access to the 32 new multi-family units but also shared access for parking for the 15-unit single family units (SFU) located adjacent to this development. This shared use condition was considered in this assessment.

**TRIP GENERATION**

Data contained in Trip Generation 10<sup>th</sup> Edition (2017), published by the Institute of Transportation Engineers (ITE), was used to project the volume of traffic generated by the proposed project. Data published by the ITE is the nationally accepted standard for generating trips for new uses. Table III summarizes the volume of projected site trips during the weekday AM and PM peak hours.

**Table III: Site-Generated Trips**

DESCRIPTION	ITE LUC <sup>1</sup>	SIZE/ UNITS	AM PEAK HOUR		PM PEAK HOUR	
			ENTER	EXIT	ENTER	EXIT
Single Family Detached Housing	210	15 SFU <sup>2</sup>	4	12	10	6
Multi-Family Low-Rise Housing	220	32 units	4	12	13	8
<b>Total Site Trips</b>			<b>8</b>	<b>24</b>	<b>23</b>	<b>14</b>

Notes:

1. "ITE LUC" = ITE Land Use Code.
2. "SFU" = single family units

It is expected that both of the proposed projects will generate approximately 8 entering/24 exiting vehicle trips during the AM peak hour and 23 entering/14 exiting vehicle trips during the PM peak hour.

**TRAFFIC SIGNAL WARRANT ANALYSIS**

A traffic signal warrant analysis was previously conducted at the NY Route 366/Freese-Mt Pleasant intersection in conjunction with the TIS prepared for the Townhomes at Dryden. Signal warrants were not met at that time and the additional traffic generated by the combined 32-unit multi-family development, and 15-unit single family development will not change the result of that analysis. Signal warrants are not met at this intersection as a result of these developments.

**FUTURE TRAFFIC OPERATIONS ANALYSIS RESULTS**

The future weekday AM and PM peak hour operating conditions for the NY Route 366/Freese-Mt. Pleasant intersection were also evaluated as part of this assessment. 2018 Base Volume conditions were used and adjusted to Background Conditions that included ambient growth and near-by approved developments namely, 802 Dryden Road Townhomes and 1061 Dryden Road Townhomes. The future Full Build Conditions with the Maify residential development site-generated traffic was then derived and analyzed. The intersection Level of Service results are shown in Table IV below:

**Table IV – Level of Service Results**

INTERSECTION	2018 EXISTING CONDITIONS				2020 BACKGROUND CONDITIONS				2020 FULL BUILD CONDITIONS			
	AM	v/c	PM	v/c	AM	v/c	PM	v/c	AM	v/c	PM	v/c
<i>NYS Route 366/Freese Rd/Mt Pleasant Rd</i>												
EB - NYS Route 366	A 9.3	0.060	A 7.8	0.045	A 9.4	0.062	A 7.8	0.046	A 9.5	0.066	A 7.8	0.052
WB - NYS Route 366	A 7.5	0.002	A 8.7	0.003	A 7.5	0.002	A 8.7	0.003	A 7.5	0.002	A 8.8	0.003
NB - Mt Pleasant Rd	F 80.9	0.869	E 35.4	0.423	F 96.0	0.924	E 39.0	0.452	F 111.6	0.974	E 43.3	0.488
SB - Freese Rd	C 18.7	0.287	D 31.9	0.584	C 20.1	0.312	E 37.4	0.644	C 23.5	0.386	E 45.0	0.713

With the proposed project developed and operational, the results indicate a moderate increase in the peak hour approach delays, with no significant change in Level of Service projected between Background and Full Build Conditions.

**THRESHOLDS FOR THE REQUIREMENT OF A TRAFFIC IMPACT STUDY**

Many reviewing agencies (e.g. NYSDOT and Tompkins County (TCDOT)) use guideline in determining whether a project warrants the preparation of a traffic assessment report. The applicable guideline is that if a proposed project is projected to add 100 vehicles per hour (vph) or more to an intersection, then that intersection should be studied for potential traffic impacts. Based upon the ITE projections, the proposed residential developments will generate less than 100 vph at an approach for any of the nearby intersections and does not warrant a traffic impact study.

In addition, signal warrants at the intersection of NY Route 366/Freese-Mt Pleasant are not met with the additional traffic generated by the proposed residential developments.

**CONCLUSIONS & RECOMMENDATIONS**

Given the total volume of projected site generated traffic of 32 vph during the AM peak, and 37 vph during the PM peak hour, it is our firms professional opinion that the proposed residential projects will not have a significant adverse impact on traffic operations within the study area.

Re: *Maifly Residential Development, Town of Dryden*  
*Trip Generation/Crash Analysis Assessment/Future Operations*


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And, while the crash history at the NY Route 366/Freese-Mt Pleasant Road intersection does not warrant traffic signalization, the higher crash rate does justify further monitoring by NYSDOT, and consideration of an over-head flashing beacon.

Given these findings, no further study is warranted or recommended at this time.

If you have any questions or require additional information, please do not hesitate to contact our office.

Very truly yours,  
SRF Associates, D.P.C.



Stephen R. Ferranti, P.E., PTOE  
Principal Transportation Engineer/Planner

Attachments: Overall Site Plan  
Trip Generation Estimates