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Intelligent Land Use

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May 25, 2022

Chairperson Lorretta Taylor
and Members of the Planning Board
Town of Cortlandt
1 Heady Street
Cortlandt Manor, NY 10567

Re: The Gurdjieff Foundation, Inc.
1065 Quaker Bridge Road East

On behalf of The Gurdjieff Foundation, Inc. (the "Foundation"), contract-vendee of the above-referenced property, we are pleased to submit the enclosed *Traffic Impact Study*, prepared by DTS Provident Design Engineering, LLP, in support of a site plan and special permit for the proposed non-school curriculum program use at 1065 Quaker Bridge Road (the "project"). Based on the site-specific traffic study, our office determined that the project would not have a significant impact on the traffic operations of the adjacent roadways and that sufficient parking would be provided.

Additionally, we offer the following responses to comments dated April 29, 2022 by Martin G. Rogers, P.E. and Holly Haight of the Department of Technical Services Code Enforcement Division.

1. **Comment:** ***The noted uses for Rooms on the Second Floor are not correct. The existing layout includes at least 3 Dwelling or Rooming Units. Identify the existing room uses and note proposed. Bedrooms are not permitted to be used as the only means of egress from another Bedroom or habitable space. PMCNYS 404.4.2.***

   Response: The Applicant will provide a response to the Code Enforcement Division comments regarding the interior layout for review.

2. **Comment:** ***Based on the proposed number of spaces for temporary events compliant Accessible Spaces are not shown. The Town enforces the NYS uniform Fire Prevention and Building Code which includes the 2020 BCNYS. Show compliant spaces on compliant paved surfaces for the total number as per BCNYS Section 1106. 5 Required.***

Response: In addition to the two permanent accessible paved spaces (one at the main building and one at the barn), an additional temporary accessible paved space would be provided on the other side of the striped-out space in the front lot at the main building when up to 75 parked vehicles could be expected. Two additional temporary accessible paved parking spaces within the front lot at the main building would be provided in the rare occasion where there may be 100 parked vehicles. Temporary signage demarcating accessible parking spaces and accessible loading zones would be installed in standard parking spaces as needed.

3. **Comment:** ***Detailed Plans will be required for events as per FCNYS 403.12.2. Where will large scale events be proposed to be held on the property?***

Response: The Applicant is in the process of developing a response to the Code Enforcement Division comment for review.

4. **Comment:** ***Temporary Overflow Parking shall be located in areas that the existing grade can support it. Slope front to back and cross slope? A few spaces appear to narrow and shall be a consistent width.***

Response: All parking spaces on sheet SP-3, *Conceptual Parking Layout Plan* have been shown with a minimum width of nine (9) feet. The temporary overflow parking spaces adjacent to the roadway between the main building and the barn lot have been diagrammatically shown as 25 feet deep to allow foundation members to pull further off the roadway as needed based on existing grades.

As shown on the sample annual calendar included in the Applicant's April 20, 2022 submission, the anticipated attendance ranges from less than 20 members during meetings to 90 members during weeklong workshops. Many of the participants will carpool or utilize the train which will further reduce the need for parking. Accordingly, 37 permanent and 98 temporary overflow parking spaces, for a total of 135 parking spaces, have been shown to accommodate member parking while allowing for adjustments based on the existing grades.

5. **Comment:** ***The Title Sheet in the Site Drawing set is missing the NYS "unauthorized alteration" Note***

Response: The requested note regarding unauthorized alterations of the site plan drawing set will be added to the title sheet.

We look forward to continuing our review of this application with the Planning Board.

Very truly yours,

DTS PROVIDENT, LLP

Matthew N. Steinberg, AICP
Associate

Enclosure(s)

cc: T. Manning, J. Gianolla, J. Glass, K. Hagstrom
File 909

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TRAFFIC IMPACT STUDY

Gurdjieff Foundation
Former Danish Home
1065 Quaker Bridge Road East
Town of Cortlandt, Westchester County, New York

Prepared for
Gurdjieff Foundation, Inc.

Prepared by
DTS Provident Design Engineering, LLP
One North Broadway
White Plains, New York

May 23, 2022

DTSP Project No. 0900

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LIST OF APPENDICES

SECTION 1 – EXECUTIVE SUMMARY

1.0 PROJECT DESCRIPTION/INTRODUCTION

The former Danish Home, a longtime NYS-licensed adult care facility, at 1065 Quaker Bridge Road East in the Town of Cortlandt, Westchester County, New York (see Figure No. 1 in Appendix B) is proposed to be converted into a facility for the Gurdjieff Foundation (The Foundation). Access to the Site will remain through the existing Site Driveway on Quaker Bridge Road East.

The Danish Home was a full-time adult care facility (thus had daily traffic) and provided 24 beds for adult care residents and had a full staff, including food service, custodial, and administration. There were also other structures on the Site. The proposed Project will maintain the same facilities and repurpose them to hold Gurdjieff Foundation meetings and events. Most meetings/events would have approximately 20 people while others would have 40-50 people. There will tend to be two events per year with up to approximately 90 people. It is anticipated that the facility will be capable of sleeping approximately 75 people at the property, exclusive of residents in the caretaker's house. During the larger events, up to 75 people may sleep at the Site, further reducing traffic. Carpooling and the utilization of the nearby train will limit traffic and parking at the Site.

There is the potential to have one event occasionally with up to approximately 300 people but it would only be, if ever, once every couple of years, not annually. However, if this is to occur, it will be coordinated with the Town and a Traffic Management Plan would be prepared. It is noted that the Danish Home held various events with up to 500 people and

did hold one event with 3,000 people. If a major event is to be held involving the public, it would occur off-site.

The Site Driveway and internal roadway are also occasionally utilized by Con Edison to reach their electrical power line transmission towers at the northern end of the Site. The Site Driveway and internal roadway also serve for some deliveries as well as the emergency access for the fire engines to reach Lakewood Estates as some delivery trucks and some of the fire engines are not able enter through the Lakewood Estates gateway.

DTS Provident Design Engineering, LLP (DTS Provident), a licensed Professional Engineering Firm in the State of New York, has been retained by the Applicant to perform a "Site Specific Traffic Study" to determine any potential localized traffic impacts, if any, associated with the proposed Project and to identify roadway improvements, if required, to mitigate any adverse impact.

This Traffic Impact Study uses the standard Traffic Engineering methodology and has been prepared to document the findings and conclusions of the analysis undertaken to measure the potential "Site Specific" traffic impacts associated with the proposed Project. The scope of the Study was determined in consultation with representatives of the Town of Cortlandt and their traffic consultants. In preparation of this Traffic Study, field investigations and traffic counts were performed, parking and traffic capacity analysis were conducted, and sight distance and crash history were reviewed.

1.1 PROJECT OPERATIONS

A full movement driveway currently provides access to the Property, forming an unsignalized three-legged intersection with Quaker Bridge Road East, just west of Quaker Ridge Road. The driveway then extends into the Property for approximately 0.4 miles, with the main building approximately a quarter mile from Quaker Bridge Road East.

Con Edison also utilizes this driveway approximately four-six times a year to access their power line transmission towers to the north of the Site. The driveway also previously provided access for food delivery trucks, fuel trucks, sanitation trucks, as well as tour buses for the Danish Home. These trucks have had no issues accessing or traveling through the Site. Deliveries for the Project would be generally less than those for the Danish Home which required more frequent food deliveries. Loading for the Site would generally be performed on the southern side of the main building, serving the small garage and kitchen areas, similar to what was done with the Danish Home.

There is also an access road connecting the Site with Lakewood Estates. This road was not used for the Danish Home and is not projected to be utilized by the Foundation. This access road is only used for emergency access for the Lakewood Estates. It also provides truck access to Lakewood Estates for trucks that cannot travel under the stone archway entrance/exit for Lakewood Estates along Quaker Ridge Road.

The Danish Home provided 24 beds for the adult care residents and had a full staff of employees, including food service, custodial, caretakers, and administration, etc. In addition, the Danish Home also held various events on-site including some for

approximately 500 people, with an estimated 250 vehicles. There was one special event that had approximately 3,000 people.

The Foundation anticipates holding activities, programs and workshops as well as meetings on the Property, some of which would be one-day and others that will be several days in duration. Based upon information from the Applicant, there would be approximately 58 events during a typical year. Almost 70% of these events would be 2-3 hour weekday meetings. 80% of these meetings would be on a Monday or Tuesday with 12-20 people from 6:00 to 9:00 PM while there will be some on Friday from 7:00 to 9:00 PM with 30-40 people.

There would be two day-long (8:30 AM – 5:00 PM) workshops on a Saturday, one with 30-50 people and the other with 40-70 people, as well as one on a Sunday with 50-85 people. There would be approximately five Weekend Seminars from Friday to Sunday, generally starting from 5:00 or 6:00 PM and ending generally around 2:00 or 4:00 PM. One other Weekend Seminar would begin on 8:30 AM on Saturday and end at 4:00 PM on Sunday. The Weekend Seminars would generally range in attendance from 25 – 70 people. One of the Seminars could have up to 90 people.

There would also possibly be five Weeklong Seminars, some Sunday – Sunday and others Saturday – Saturday with generally 30 – 60 people. One Sunday – Sunday Seminar could have up to 70 people while one Saturday – Saturday Seminar could have up to 90 people. There would also likely be one Long Weekend Conference from 4:00 PM Wednesday to 12:00 PM Sunday with 30-60 people and one National Conference from 4:00 PM Thursday

to 10:00 AM Sunday with up to 80 people.

The numbers above includes people taking care of cooking, housekeeping and other necessities, as there is no staff. At the events with 90 people, it is anticipated that possibly 75 people will sleep at the property, exclusive of residents in the caretaker's house.

Several members will plan the event, decide on a program and determine who will attend. Participants typically arrive in the late afternoon or early evening. Some come earlier to help with preparations for the event, which might include cooking and receiving deliveries from local vendors. Once everyone arrives, they will typically share a meal and a period of meditation before retiring for the night. The last day of the event often ends in the late morning/early afternoon after a meal and clean up.

1.2 FINDINGS

Based on field observations and detailed analysis undertaken in preparation of this Traffic Impact Study, the following findings are presented:

- The site is in close proximity to the Metro North Croton-Harmon Train Station, which is located approximately 3.5 miles away from the proposed Project and train riders will be picked up by other Foundation attendees on their way to an activity.

- There will not be daily activity at the Site. On dates that do have activities, the traffic will not be significant. Many of the attendees will take the train and/or carpool. Also, attendees will arrive and depart the Site at different times during the day. On multi-

day events, the majority of the attendees will stay overnight, further reducing the traffic.

- Sufficient parking for the Project will be provided on Site.
- Table No. 1.1 summarizes the results of the capacity analyses conducted for the two Study Locations for a 90-person event:

TABLE NO. 1.1
OVERALL LEVEL OF SERVICE SUMMARY DURING EVENT (90 Persons)

	FRIDAY PEAK PM HOUR		SUNDAY PEAK HOUR	
	No-Build	Build	No-Build	Build
INTERSECTION	LOS Delay	LOS Delay	LOS Delay	LOS Delay
Quaker Ridge Road & Quaker Bridge Road East	a 8.8	a 8.9	a 8.7	a 8.8
Quaker Bridge Road East & Site Driveway	a 8.8	a 8.7	a 8.8	a 8.8

Notes:
1. Unsignalized intersections are denoted by lowercase letters.
2. Overall delay at unsignalized intersections is based upon the critical minor street approach.
3. Average delay is represented in seconds per vehicle.

As illustrated in the Tables above, both intersections operate at appropriate levels of service and will have nominal changes in average delay during an event. Based on the foregoing, the proposed Project will have no significant "Site Specific" traffic impacts on the adjacent roadway network.

1.3 RECOMMENDATIONS/CONCLUSIONS

It is the considered professional opinion of DTS Provident Design Engineering, LLP that based upon the "Site Specific Traffic Study", no additional roadway improvements are recommended in association with the proposed Project as the Project will not have daily traffic and will not have a significant impact on the traffic operations of the adjacent

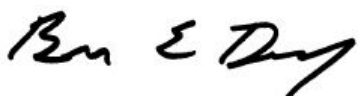
roadways. Sufficient parking will be provided for the purposes of the Site.

It is recommended that some vegetation along the roadways be cleared and controlled to maintain proper sight distances. Clearance of some vegetation will improve some of the sight distances and, if deemed necessary by the Town, additional signage could be added.

Also, unrelated to the Project, it is recommended that the existing "Keep Right" sign on southbound Quaker Ridge Road at the traffic island at the intersection with Quaker Bridge Road East be modified. Unfamiliar drivers travelling southbound on Quaker Ridge Road could see that sign and then turn onto Quaker Bridge Road East to travel around the island instead of staying on Quaker Ridge Road.

Respectfully submitted,

DTS PROVIDENT DESIGN ENGINEERING, LLP



Brian Dempsey, P.E., P.T.O.E., RSP1
Partner

Danny Cuya, EIT
Traffic Engineer

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SECTION 2 – TRAFFIC CONDITIONS AND PROJECTIONS

2.0 DESCRIPTION OF EXISTING ROADWAY NETWORK

The following are brief descriptions of the roadways located in the vicinity of the site:

Quaker Ridge Road – Quaker Ridge Road is generally a one-lane per direction roadway traveling in a northeast/southwest direction and is under the jurisdiction of the Town of Cortlandt.

Quaker Bridge Road East – Quaker Bridge Road East is generally a one-lane per direction roadway traveling in a generally north/south direction and is under the jurisdiction of the Tow of Cortlandt.

2.1 PUBLIC TRANSIT

The proposed project is located approximately 3.5 miles from rail service. The Metro North Hudson Line provides local and commuter rail service from the Croton-Harmon train station to Poughkeepsie to the north and to Grand Central Station in Manhattan to the south.

Since many guests will be arriving from New York City, it is expected that many will be using the Croton-Harmon Metro North Railroad Station. From the train station to the property, it is approximately a 10-minute drive. Train riders will be picked up by other Foundation attendees on their way to an activity.

2.2 2022 EXISTING TRAFFIC VOLUMES

The following study locations were identified for the "Site Specific Traffic Study", based upon the scope of the proposed Project and its orientation to area roadways:

1. Quaker Ridge Road and Quaker Bridge Road East
2. Quaker Bridge Road East and Site Driveway

Representatives of DTS Provident performed manual turning movement traffic counts at the study location above on Friday May 6, 2022, from 2:00 PM to 8:00 PM and on Sunday May 8, 2022, from 9:00 AM to 3:00 PM.

Based on the traffic counts for this study, the following Peak Roadway Hours were determined:

Peak Friday PM Roadway Hour -	2:45 PM to 3:45 PM
Peak Sunday Roadway Hour -	2:00 PM to 3:00 PM

The 2022 Existing Peak AM and Peak PM Hour Traffic Volumes are illustrated on Figure No. 2 in Appendix B.

These Peak Hours represent the time periods when traffic impacts would be at their greatest. The combination of existing background traffic and proposed project-generated traffic would be highest during these time periods. Any potential "Site Specific" traffic

impacts from the proposed Project would be incrementally less throughout the rest of the day.

2.3 ADJACENT DEVELOPMENTS

Projected traffic for the Hudson Wellness project was included in the background traffic. The traffic volumes for this adjacent development were obtained from the respective Traffic Analysis prepared for that project. The Adjacent Development Traffic Volumes are illustrated on Figure No. 3 in Appendix B.

2.4 2025 NO-BUILD TRAFFIC VOLUMES

A 2025 Analysis Year was utilized. In addition to the adjacent development traffic, a 0.5 percent per year compounded growth rate was applied to the Existing Traffic Volumes to form the 2025 Grown Traffic Volumes. This growth rate was based on historical traffic data provided by the NYSDOT and census data. The Adjacent Development Traffic Volumes were then added to 2025 Grown Traffic Volumes to determine the 2025 No-Build Traffic Volumes illustrated on Figure No. 4.

2.5 ARRIVAL/DEPARTURE DISTRIBUTION

The arrival/departure distribution patterns for traffic to be generated by the proposed Project were developed based upon the potential origins of the Foundation members and the existing roadway network. Various members will be coming from the train station. The generally expected route for the from the train station is to take NYS Route 9

southbound and turn left at Old Albany Post Road. Old Albany Post Road then becomes Quaker Ridge Road and vehicles would then turn right onto Quaker Ridge Road. The route would then travel on Quaker Ridge Road for approximately 1.25 miles and then turn left onto Quaker Bridge Road East, where drivers will turn right into the Site driveway. Other guests would mainly come from Rockland or Westchester County and would utilize either NYS Route 9 or the Taconic State Parkway to reach the Site. The resulting arrival and departure distributions associated with the proposed Project are illustrated on Figures No. 5 and 6.

2.6 SITE-GENERATED TRAFFIC VOLUMES

The ability of any roadway network to accommodate anticipated traffic volumes is measured by comparing Peak Hour Traffic Volumes to roadway capacities. Thus, it is essential to determine the hourly traffic volumes to be generated by the Project and add them to the No-Build Traffic Volumes to determine the Build Traffic Volumes.

Traffic to and from activities at the Foundation will be limited and will not be daily as the activities only occur occasionally. The Foundation will take advantage of the proximity to the Croton train station to encourage members to make use of public transit. Participants driving to the property can pick up others at the train station to reduce trips. Based on the Foundation's experience at their New York City property, it is expected that many will carpool from their homes with other members.

Overall, traffic generated by the Foundation would generally be similar to that of the

Danish Home, with less daily traffic. As described above, the traffic generated by the Foundation is expected to be limited to the arriving and departure periods of guests. As the retreat takes place, there will be very minimal traffic in and out of the property. This will be further mitigated by guests using the Croton-Harmon Train Station and by carpooling. Thus, the Foundation traffic is not projected to adversely impact the adjacent roadways.

The Peak Hour Site-Generated Traffic was analyzed for a 90-person event that would start late on a Friday and end early on Sunday. To be conservative, the Peak Roadway Hours were analyzed for the Peak Site Hours. Based upon information from the Applicant, it was estimated that 60% of the attendees would arrive/depart in the peak hour. It was conservatively estimated that there would be two people per car. Thus, for this Study, it was estimated that there would be 27 vehicles arriving during the Peak Hour and 2 vehicles exiting during the Friday Peak Hour and 2 vehicles entering and 27 vehicles exiting during the Sunday Peak Hour. It should be noted that the Peak Friday Hour of 2:45 – 3:45 PM was conservatively utilized although the Site Peak Hour would be later. Similarly, the Peak Roadway Hour on Sunday (2:00 – 3:00 PM) was also utilized.

The Site-Generated Traffic Volumes were assigned to the roadway network with the Arrival and Departure Distributions and are illustrated on Figure No. 7.

2.7 2025 BUILD TRAFFIC VOLUMES

The Site-generated Traffic Volumes were combined with the 2025 No-Build Traffic Volumes to form the 2025 Build Traffic Volumes, which are illustrated on Figure No. 8.

SECTION 3 – TRAFFIC ANALYSIS

3.0 DESCRIPTION OF ANALYSIS

Capacity analyses were conducted at the key intersections to identify the traffic impact associated with the proposed development. The following is a brief description of the procedure utilized in the preparation of this analysis for all the study locations listed:

- Capacity analysis is a method by which traffic volumes are compared to calculated roadway and intersection capacities to evaluate future traffic conditions. The methodology utilized is described in the Highway Capacity Manual published by the Transportation Research Board. In general, the term "Level of Service" is used to provide a qualitative evaluation based on certain quantitative calculations related to empirical values. The definitions of Level of Service as contained in the Highway Capacity Manual appear in Appendix A of this Report.

- In general, Level of Service A represents the best traffic operating condition. Levels of Service for signalized and unsignalized intersections are defined in terms of average delay. Delay is used as a measure of driver discomfort, frustration, efficiency, etc.

Capacity analyses were performed for the key locations with the 2022 Existing, 2025 No-Build and 2025 Build Traffic Volumes utilizing Highway Capacity Software (Synchro) developed for the FHWA. The results of these analyses are shown in the Tables contained in Appendix C, while the capacity analyses worksheets are contained in Appendix D of this Report.

3.1 EXISTING CONDITIONS/ CAPACITY ANALYSIS RESULTS

Quaker Ridge Road and Quaker Bridge Road East

Existing Condition

Quaker Ridge Road forms the northbound and southbound approaches to this unsignalized intersection three-legged intersection and provides one lane per direction separated by a double yellow line. Quaker Bridge Road East forms the westbound approach and also consists of one lane per direction, separated by a planted island at the intersection. There is no Stop sign on Quaker Bridge Road East.

Future Condition

As illustrated in the Level of Service Tables in Appendix C, the proposed Project will not have a significant "Site Specific" traffic impact on the operation of this intersection. Therefore, no additional roadway improvements are recommended at this location in conjunction with this Project.

Unrelated to the Project, it is recommended that the "Keep Right" sign that is on the island facing southbound Quaker Ridge Road traffic can be confusing for some drivers and it should be modified. There also should be some clearance/maintenance of vegetation in the vicinity of the intersection for proper sight distance, as discussed later in this Report.

Quaker Ridge Road East and Site Driveway

Existing Condition

Quaker Bridge Road East forms the eastbound and westbound approaches to this unsignalized intersection three-legged intersection and provides one lane per direction. The Site Driveway forms the southbound approach at the intersection.

Future Condition

As illustrated in the Level of Service Tables in Appendix C, the proposed Project will not have a significant "Site Specific" traffic impact on the operation of this intersection. Therefore, no additional roadway improvements are recommended at this location in conjunction with this Project.

There also should be some clearance/maintenance of vegetation in the vicinity of the intersection for proper sight distance, as discussed later in this Report.

SECTION 4 – PARKING

4.0 PARKING

Parking is currently provided at the Property and consists of approximately 37 paved parking spaces located in the front (19 spaces including one ADA space) and side (7 spaces) of the main building as well as 11 parking spaces (including one ADA space) located outside of the garage. Additional parking can be provided in the interior courtyard which is fully paved but is not currently proposed to be used for parking.

As the Project is expected to generate minimal parking demand since many guests are expected to use public transit or carpool to get to the property, these 37 paved parking spaces are projected to fully support almost all events held at the Site. Additional parking, if necessary, will be provided on the grass areas, off the roadway. Approximately 57 additional spaces could be provided just off of the roadway between the main building and the barn as temporary overflow spaces while another 41 spaces could be provided in the field lot, for a total of 135 parking spaces. These spaces on the grass would not be striped. If there is an event that would occur requiring overflow parking, additional temporary ADA parking will be signed in front of the main building. Additional parking spaces could be provided but are not considered to be necessary.

When the Danish Home held their 500-person events with approximately 250 vehicles, there were no issues accommodating the vehicles parking on the site. This was accomplished by using the on-site grass areas as land banked parking spaces. The roadway was left clear for circulation and emergency access.

SECTION 5 – CRASH DATA/SIGHT DISTANCE

5.0 CRASH DATA

DTS Provident obtained crash data for the last three years, between November 2018 to November 2021. There were no crashes at or in the immediate vicinity of the two Study Locations during this period. There was a total of three accidents that occurred in the area but not near the two Study Locations, two that occurred in 2018 and one in 2020.

The first accident occurred on November 15, 2018, at 4:00 pm and was located on Quaker Ridge Road approximately 60 feet west from Applebee Farm Road. Thus, this crash occurred more than 4,000 feet from Quaker Bridge Road East. This accident involved a single vehicle which lost control and collided with a utility pole. It should be noted that the road conditions were recorded as being icy.

The second accident occurred on December 24, 2018, at 1:37 pm and was located at the intersection of Quaker Ridge Road and Glendale Road. Thus, this occurred more than a mile from the Site. This accident was a right-angle accident between two vehicles and was attributed to the driver failing to yield right-of-way as they turned left from Glendale Road onto Quaker Ridge Road.

The third accident occurred on September 14, 2020, at 1:17 pm and was located on Quaker Bridge Road East approximately 130 feet north of River Lane. This is over 2,000 feet from the Site Driveway. This accident involved one vehicle that was backing up and collided with a tree.

Thus, there are no crash patterns or safety concerns demonstrated by the three accidents. Therefore, the proposed Project is also not projected to have a significant impact on the roadway network or lead to an increase in vehicular accidents.

5.1 SIGHT DISTANCE

DTS Provident performed sight distance measurements at the two Study Locations:

1. Quaker Ridge Road and Quaker Bridge Road East
2. Quaker Bridge Road East and Site Driveway

The following Tables summarize the sight distances at the two intersections:

TABLE No. S1 – SIGHT DISTANCE SUMMARY TABLE [1]
QUAKER RIDGE ROAD AND QUAKER BRIDGE ROAD EAST

Movement	Available Sight Distance	AASHTO Recommended Sight Distance (Not necessarily minimum required)
1. Right Sightline from Quaker Bridge Road East to Quaker Ridge Road *(For a vehicle on Quaker Bridge Road East turning left onto Quaker Ridge Road looking to the right)* [2]	340 feet [2]	335 feet
2. Left Sightline from Quaker Bridge Road East to Quaker Ridge Road *(For a vehicle on* Quaker Bridge Road East *turning right onto Quaker Ridge Road looking to the left)* [2]	270 feet [2]	290 feet
3. Stopping Sight Distance for vehicle on northbound Quaker Ridge Road to see vehicle exiting Quaker Ridge Road	239 feet	200 feet
4. Left Sightline from Quaker Ridge Road northbound approach to the Quaker Ridge Road southbound approach *(For a vehicle on northbound Quaker Ridge Road turning left looking straight to see an approaching vehicle traveling in the southbound direction)*	315 feet	245 feet
5. Stopping Sight Distance for vehicle on southbound Quaker Ridge Road to see vehicle exiting Quaker Ridge Road)	246 feet	200 feet

Notes:

1. Sight Distance per AASHTO standards for a 30 MPH Roadway Speed.
2. To obtain this distance, vegetation must be trimmed back.

TABLE No. S2 – SIGHT DISTANCE SUMMARY TABLE [1]
QUAKER BRIDGE ROAD EAST AND SITE DRIVEWAY

Movement	Available Sight Distance	AASHTO Recommended Sight Distance (Not necessarily minimum required)
1. Right Sightline from the Site Driveway to Quaker Bridge Road East *(For a vehicle on the Site Driveway turning left onto Quaker Bridge Road East looking to the right)*	384 feet	335 feet
2. Left Sightline from the Site Driveway to Quaker Bridge Road East *(For a vehicle on the Site Driveway turning right onto Quaker Bridge Road East looking to the left)* [3]	165 feet [3]	290 feet
3. Stopping Sight Distance for vehicle on eastbound Quaker Bridge Road East to see vehicle exiting left out of the Site Driveway	350 feet [2]	200 feet
4. Left Sightline from Quaker Bridge Road East eastbound approach to the Quaker Bridge Road East westbound approach *(For a vehicle on eastbound Quaker Bridge Road East turning left looking straight to see an approaching vehicle traveling in the westbound direction)* [3]	165 feet [3]	245 feet
5. Stopping Sight Distance for vehicle on westbound Quaker Bridge Road East to see vehicle exiting Quaker Bridge Road East [3]	165 feet [3]	200 feet

Notes:

1. Sight Distance per AASHTO standards for a 30 MPH Roadway Speed.
2. To obtain this distance, vegetation must be trimmed back.
3. This is the distance between the Site Driveway and the intersection of Quaker Bridge Road East and Quaker Ridge Road (Edge of Travelway of Quaker Ridge Road)

Both intersections are longtime existing operating intersections. As illustrated in the Section above, there have been no crashes at either intersection. As illustrated in the Table, some of the existing Sight Distances do not meet the American Association of State Highway and Transportation Officials (AASHTO) "recommended" guidelines due to the existing roadway curvature and vegetation similar to many other intersections in this part of the Town. However, the Stopping Sight Distances, which are the "required" sight distances are met to see vehicles exiting the Site Driveway onto Quaker Bridge Road East as well to see vehicles exiting Quaker Bridge Road East onto Quaker Ridge Road.

For vehicles exiting the Quaker Bridge Road East onto Quaker Ridge Road, the minimum required sight distances are met. It is recommended that some vegetation be cleared along Quaker Ridge Road, as discussed in the Table No. S1 above. Without this clearance, the sight distance would be slightly shorter than indicated. For vehicles exiting Quaker Bridge Road East, pulling up slightly closer to the Quaker Ridge Road travelway also helps increase sight distance.

The sight distances along Quaker Ridge Road East are limited based upon the distance between the Site Driveway and the edge of travelway of Quaker Ridge Road. However, vehicles exiting the driveway can see a vehicle turning from Quaker Ridge Road, and those vehicles will be traveling at a slower speed due to performing the turn. Also, while the sight distance for a vehicle traveling eastbound on Quaker Bridge Road East to see a vehicle exiting the Site Driveway is significantly more than required, the sight distance to

see a vehicle also traveling eastbound and stopped to turn left into the Site is approximately the minimum sight distance, and thus vegetation/brush within the right-of-way should also be cleared to help improve this sight distance.

Based upon our observations, appropriate minimum sight distance is provided. However, it is recommended that vegetation along the roadways be cleared and controlled to maintain proper sight distances and re-checked at that time. Clearance of some vegetation will improve some of the sight distances and, if deemed necessary by the Town, additional signage could be added.

APPENDIX A

LEVEL OF SERVICE STANDARDS

1. LEVEL OF SERVICE

CONCEPT

The Highway Capacity Manual, published by the Transportation Research Board of the U.S. Government, established a system by which highway facilities are examined for their adequacy to handle traffic volumes. The terminology "Level of Service" is used to provide a "qualitative" evaluation based on certain "quantitative" calculations which are related to empirical values.

Intersection Capacity, Delay and resultant Levels of Service are dependent upon a number of factors, including the following:

- Area Type
- Intersection geometrics
- Traffic volumes
- Parking conditions
- Pedestrian activity
- Vehicle Mix
- Bus Stop location and activity
- Peak Hour Factor
- Traffic Signal operation, if applicable

Ramp and weaving area Densities and resultant Levels of Service are dependent upon a number of factors, including the following:

- Number of lanes
- Configuration of weaving area
- Length of acceleration/deceleration lanes
- Vehicle speeds
- Traffic volumes
- Vehicle Mix
- Peak Hour Factor

FACTORS

SIGNALIZED INTERSECTIONS

Level of Service for Signalized Intersections is defined in terms of Delay, which is a measure of driver discomfort, frustration, fuel consumption, and loss of travel time. Specifically, Level of Service criteria are stated in terms of the Average Control Delay per vehicle for the peak 15-minute period within the hour analyzed.

Delay is a complex measure and is dependent upon a number of variables, including:

- Cycle length
- Ratio of Green time to Cycle length (G/C)

- Ratio of Volume to Capacity (V/C) for lane group or approach
- Traffic signal progression

UNSIGNALIZED INTERSECTIONS

Level of Service for Unsignalized Intersections is also defined in terms of Delay. The amount of Delay is based upon the availability of "gaps" in the mainline traffic stream and the acceptance of these gaps by motorists waiting on the side street to enter the main street traffic flow.

RAMP AND RAMP JUNCTIONS

Level of Service for ramp freeway junctions and the ramp proper are defined in terms of Density (passenger cars per mile per lane). Density is related to the traffic flow in the area of influence.

WEAVING AREAS

Level of Service for weaving areas is defined in terms of Density (passenger cars per mile per lane). Density is based on the ratio of weaving vehicles to non-weaving vehicles and on vehicle speeds in the weaving area of influence

CRITERIA

The criteria for the various Level of Service designations are as follows:

	SIGNALIZED	UNSIGNALIZED
LEVEL OF SERVICE	**Average Control Delay per Vehicle (Seconds)**	**Average Control Delay per Vehicle (Seconds)**
A	10.0 or less	10.0 or less
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 35.0
E	55.1 to 80.0	35.1 to 50.0
F	80.1 or greater	50.1 or greater

Level of Service	Ramp-Freeway Junction	Ramp Proper	Weaving Areas	
	Maximum Density pc/mi/ln	Density Range pc/mi/ln	Maximum Density pc/mi/ln	
			Freeway Weaving Area	Multi-lane + C-D Weaving Area
A	≤10	≤11	≤10	≤12
B	>10 - 20	>11 – 18	>10 - 20	>12 - 24
C	>20 - 28	>18 – 26	> 20 - 28	>24 - 32
D	>28 - 35	>26 – 35	>28 - 35	>32 - 36
E	>35	>35 – 45	>35 - 43	>36 - 40
F	Demand exceeds capacity	>45	>43	>40

DESCRIPTION

The following is a brief description of each of the six Level of Service designations as defined by the Highway Capacity Manual:

SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE A

Average Control Delay - 10.0 secs. or less

Describes operations with very low delay. Occurs when progression is extremely favorable and most vehicles arrive during the Green Phase and do not stop at all. Short cycle lengths may also contribute to low delay.

LEVEL OF SERVICE B

Average Control Delay - 10.1 to 20.0 secs.

Generally occurs with good progression and/or short cycle lengths. More vehicles stop than for Level of Service A, causing higher levels of average delay.

LEVEL OF SERVICE C

Average Control Delay - 20.1 to 35.0 secs.

Higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this Level of Service. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.

LEVEL OF SERVICE D

Average Control Delay - 35.1 to 55.0 secs.

The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high Volume/Capacity (V/C) Ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LEVEL OF SERVICE E

Average Control Delay - 55.1 to 80.0 secs.

The limit of acceptable delay.

Higher delay values generally indicate poor progression, long cycle lengths, and high V/C Ratios. Individual cycle failures are frequent occurrences.

LEVEL OF SERVICE F

Average Control Delay - in excess of 80.0 secs.

Unacceptable to most drivers.

Occurs with oversaturation, i.e., arrival flow rates exceed the capacity of the intersection. May also occur at high V/C Ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.

UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE A
Average Control Delay - 10.0 secs. or less
Operations with little or no delay to minor turning movements.

LEVEL OF SERVICE B
Average Control Delay - 10.1 to 15.0 secs.
Operations with short delays on minor turning movements.

LEVEL OF SERVICE C
Average Control Delay - 15.1 to 25.0 secs.
Operations with average delays on minor turning movements.

LEVEL OF SERVICE D
Average Control Delay - 25.1 to 35.0 secs.
Operations with some delays on minor turning movements.

LEVEL OF SERVICE E
Average Control Delay - 35.1 to 50.0 secs.
Operations with long delays on minor turning movements.

LEVEL OF SERVICE F
Average Control Delay - In excess of 50.0 secs.
Operations where demand exceeds capacity. Very long delays with queuing may be experienced on the minor street approach.

RAMPS AND RAMP JUNCTIONS

LEVEL OF SERVICE A

Maximum Density - 10 pc/mi/ln

Unrestricted operations with no noticeable turbulence in the ramp influence area.

LEVEL OF SERVICE B

Maximum Density - 20 pc/mi/ln

Minimal levels of turbulence exist and speeds of vehicles in the influence area begin to decline.

LEVEL OF SERVICE C

Maximum Density - 28 pc/mi/ln

Level of turbulence becomes noticeable as average speed within the influence area declines. Driving conditions are still relatively comfortable at this level.

LEVEL OF SERVICE D

Maximum Density - 35 pc/mi/ln

.

Turbulence levels become intrusive. Queues may form on some high volume on-ramps but freeway operation remains stable.

LEVEL OF SERVICE E

Maximum Density - >35 pc/mi/ln

.

Conditions approaching and reaching capacity. Speeds are reduced and turbulence of merging/diverging vehicles becomes intrusive to all vehicles in the influence area. Flow levels approach capacity limits and minor changes in demand can cause ramp and freeway queues to occur.

LEVEL OF SERVICE F

Maximum Density – Demand flow exceeds limits

Unstable, or breakdown, operation. Approaching demand flows exceed the discharge capacity of the downstream freeway or ramp. Queues are visibly formed on the freeway and on-ramps and will continue to grow as long as the approaching demand exceeds the discharge capacity.

APPENDIX B

TRAFFIC FIGURES

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White Plains, NY 10601
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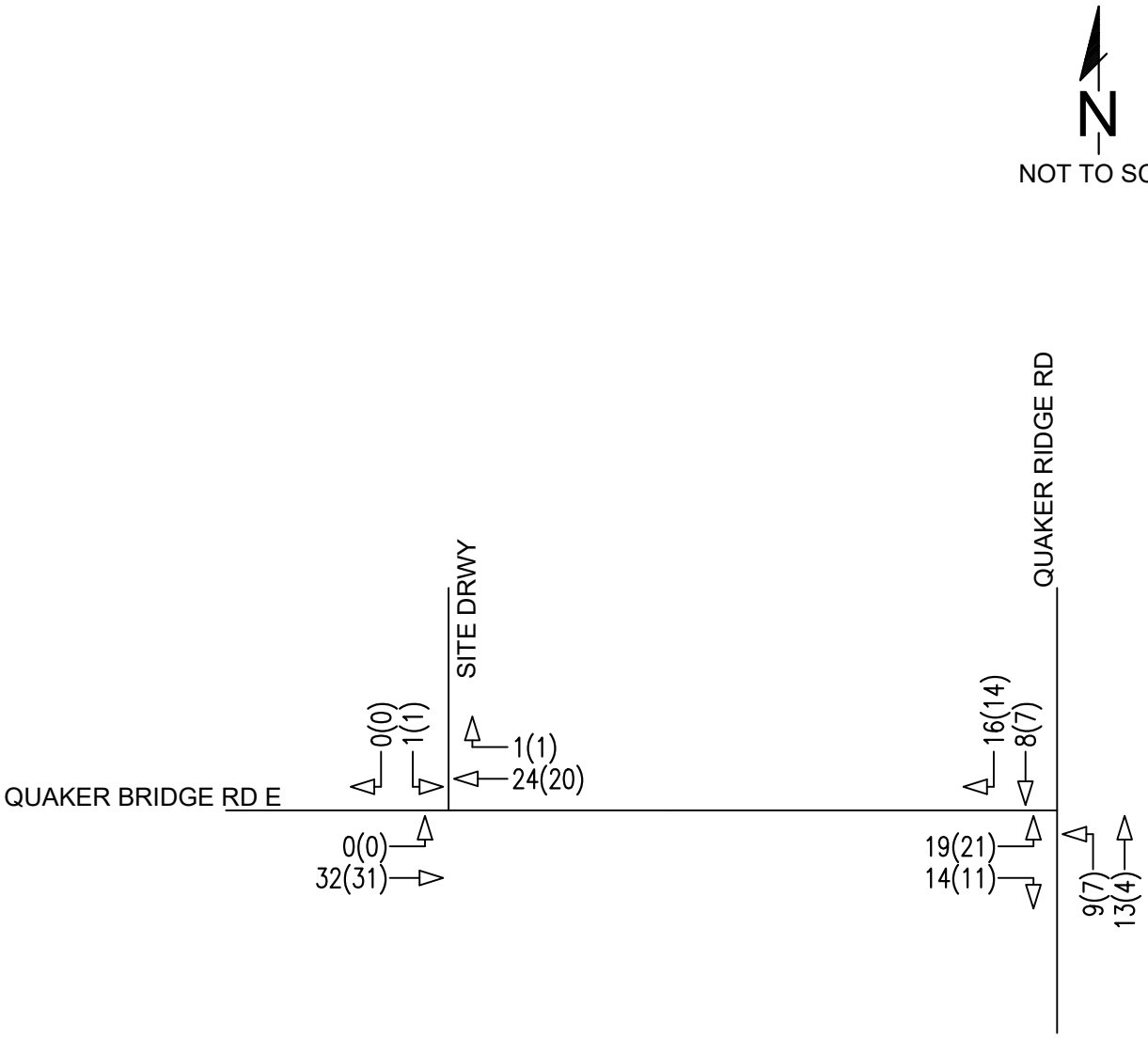
F: 914.428.0017

Site Location
Gurdjieff Foundation
Cortlandt, Westchester County, NY

Project No. 0900
May 2022

Figure No. 01



LEGEND

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(00) - VPH-PEAK SUN HOUR (2:00-3:00)

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Existing Traffic Volumes
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Figure No. 02

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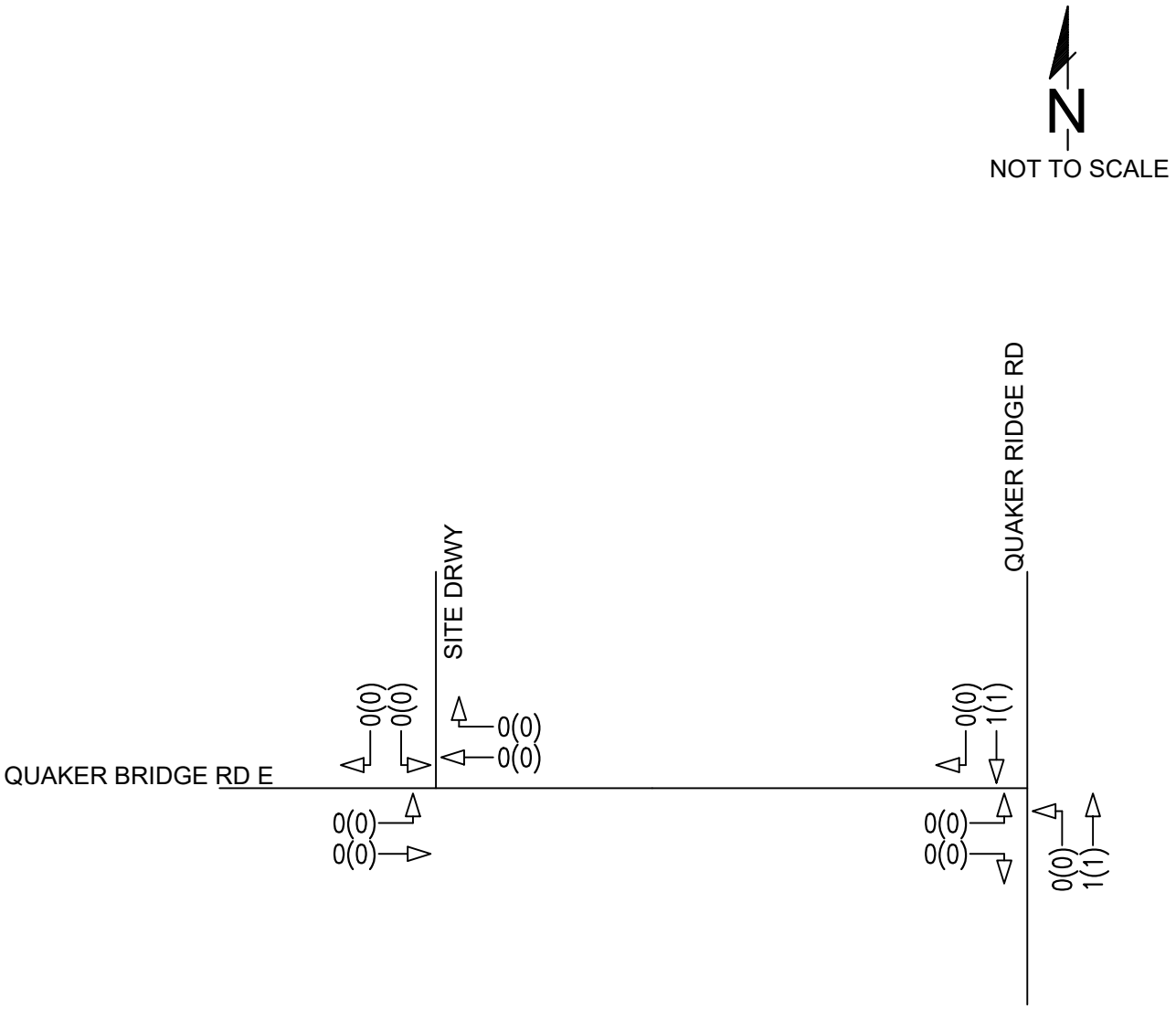

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(00) - VPH-PEAK SUN HOUR (2:00-3:00)

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Adjacent Development Traffic Volumes
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Cortlandt, Westchester County, NY

Figure No. 03

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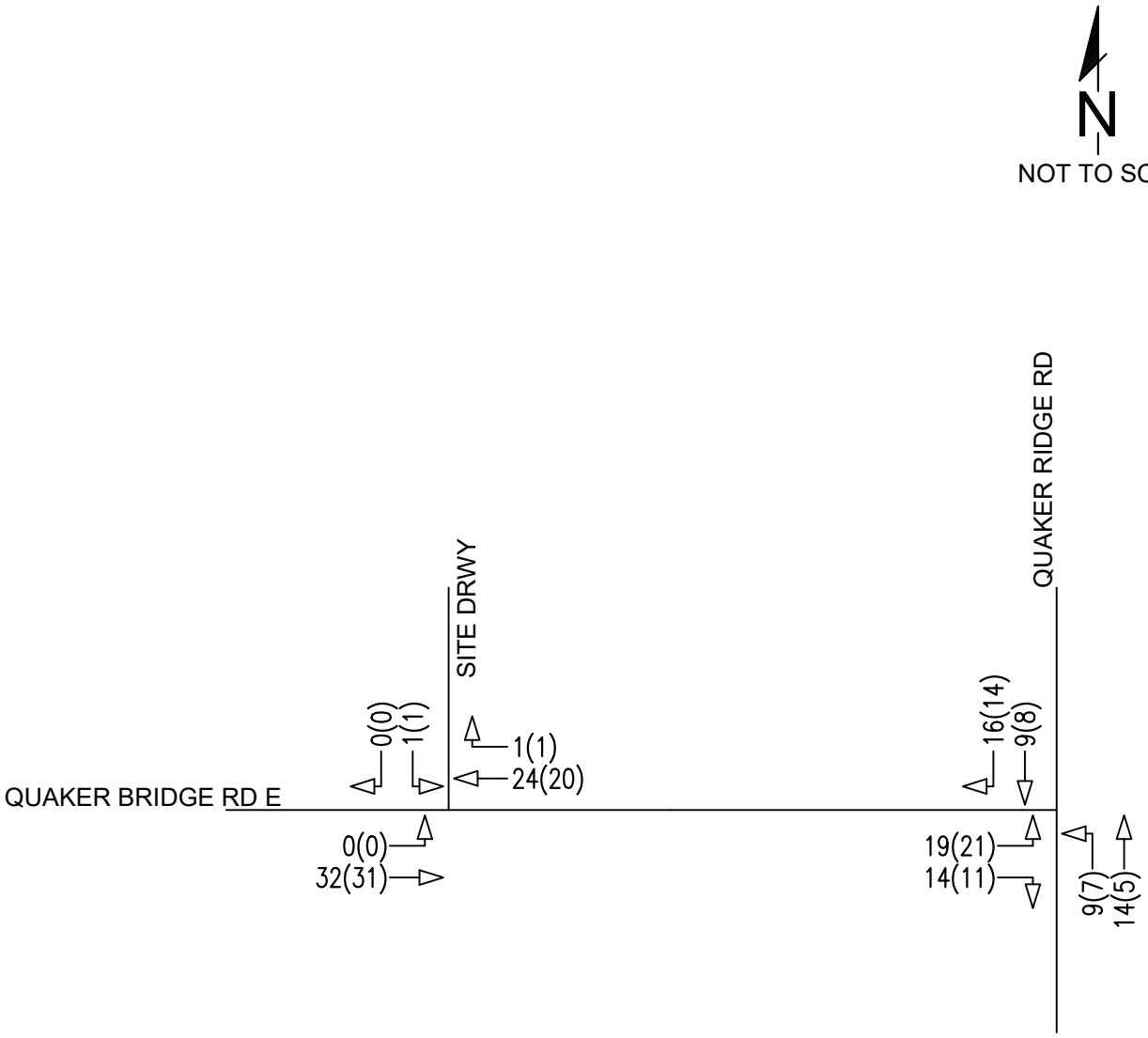

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(00) - VPH-PEAK SUN HOUR (2:00-3:00)

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No-Build Traffic Volumes
Gurdjieff Foundation
Cortlandt, Westchester County, NY

Figure No. 04

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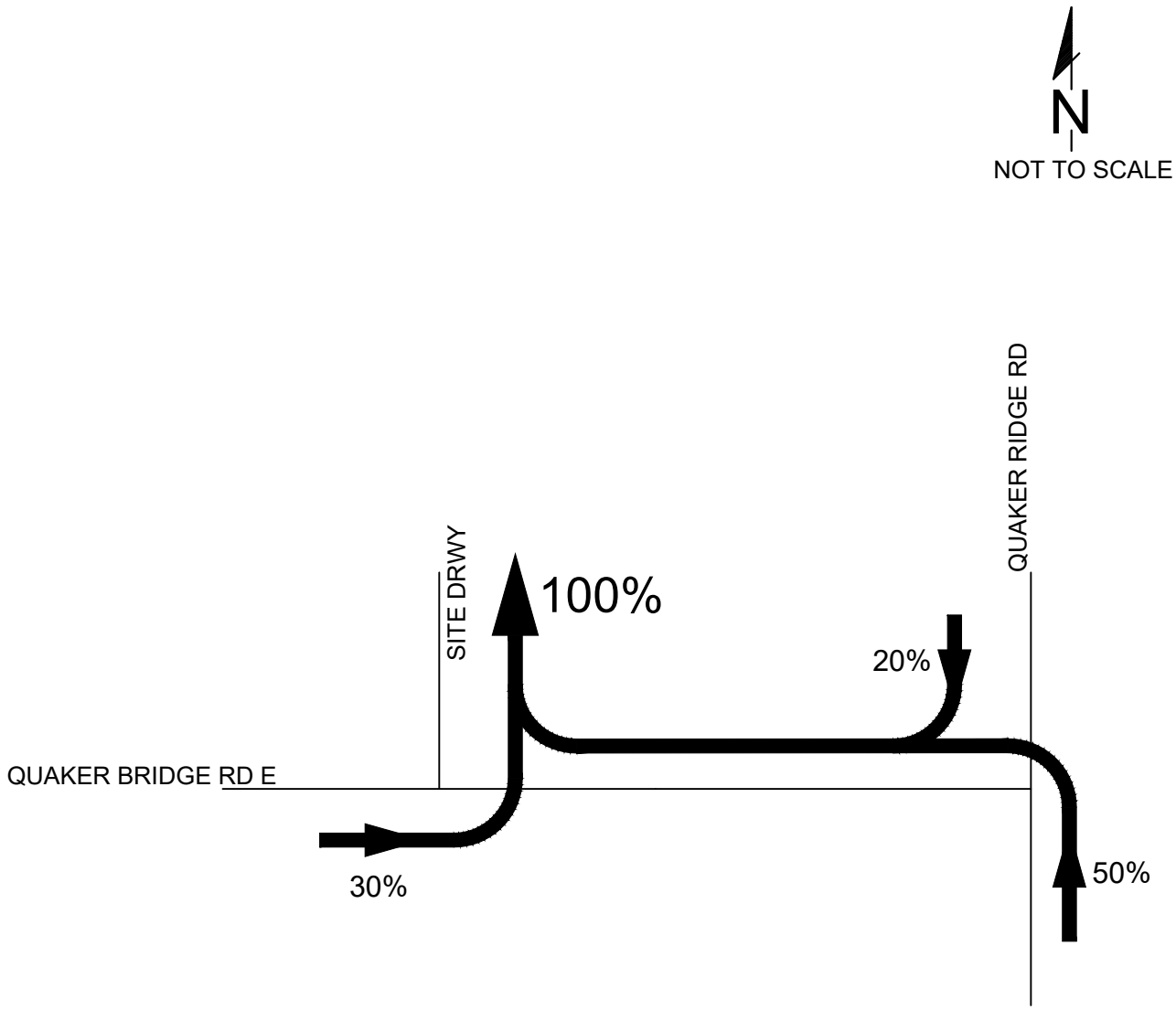

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Arrival Distribution
Gurdjieff Foundation
Cortlandt, Westchester County, NY

Figure No. 05

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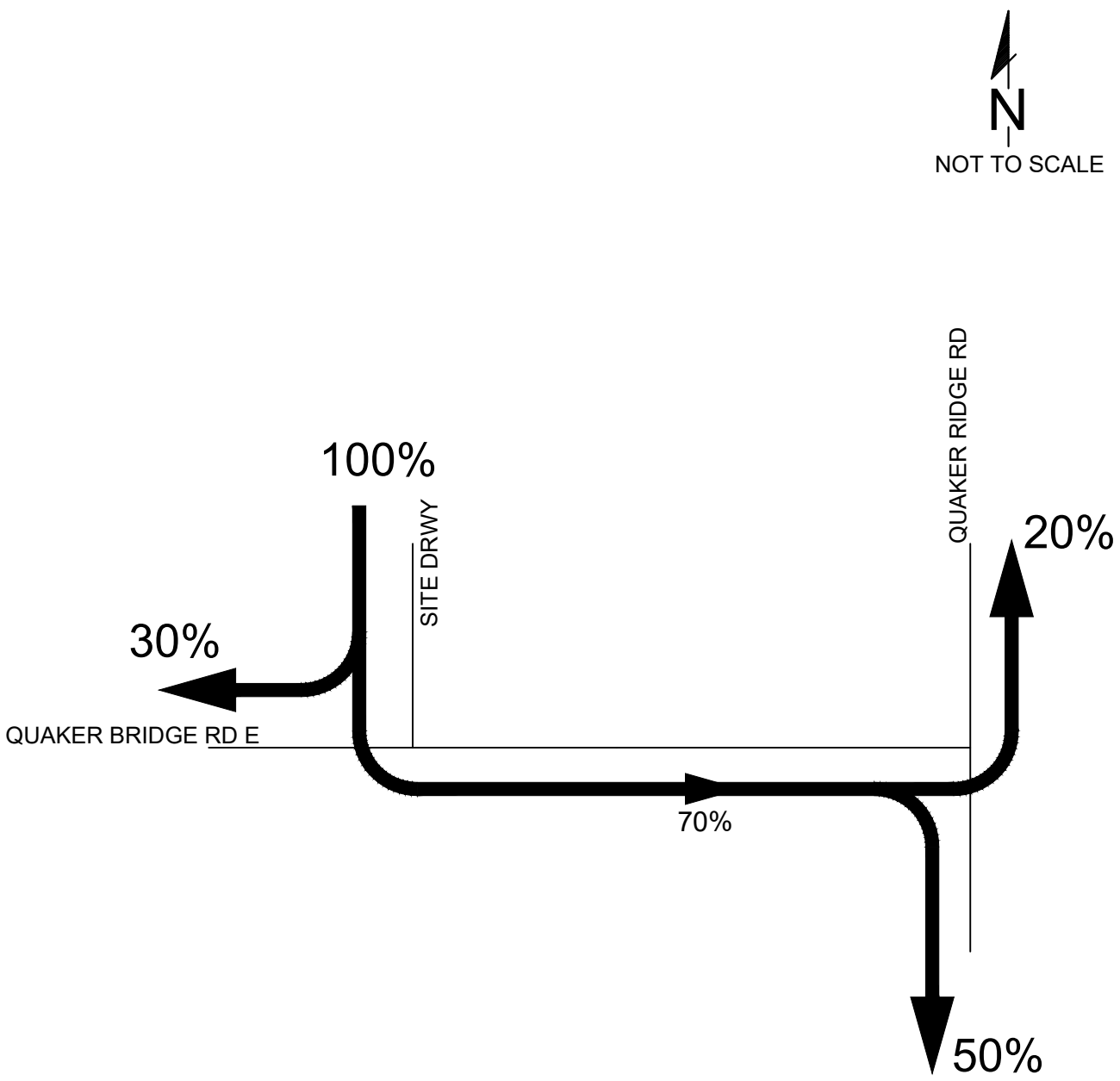

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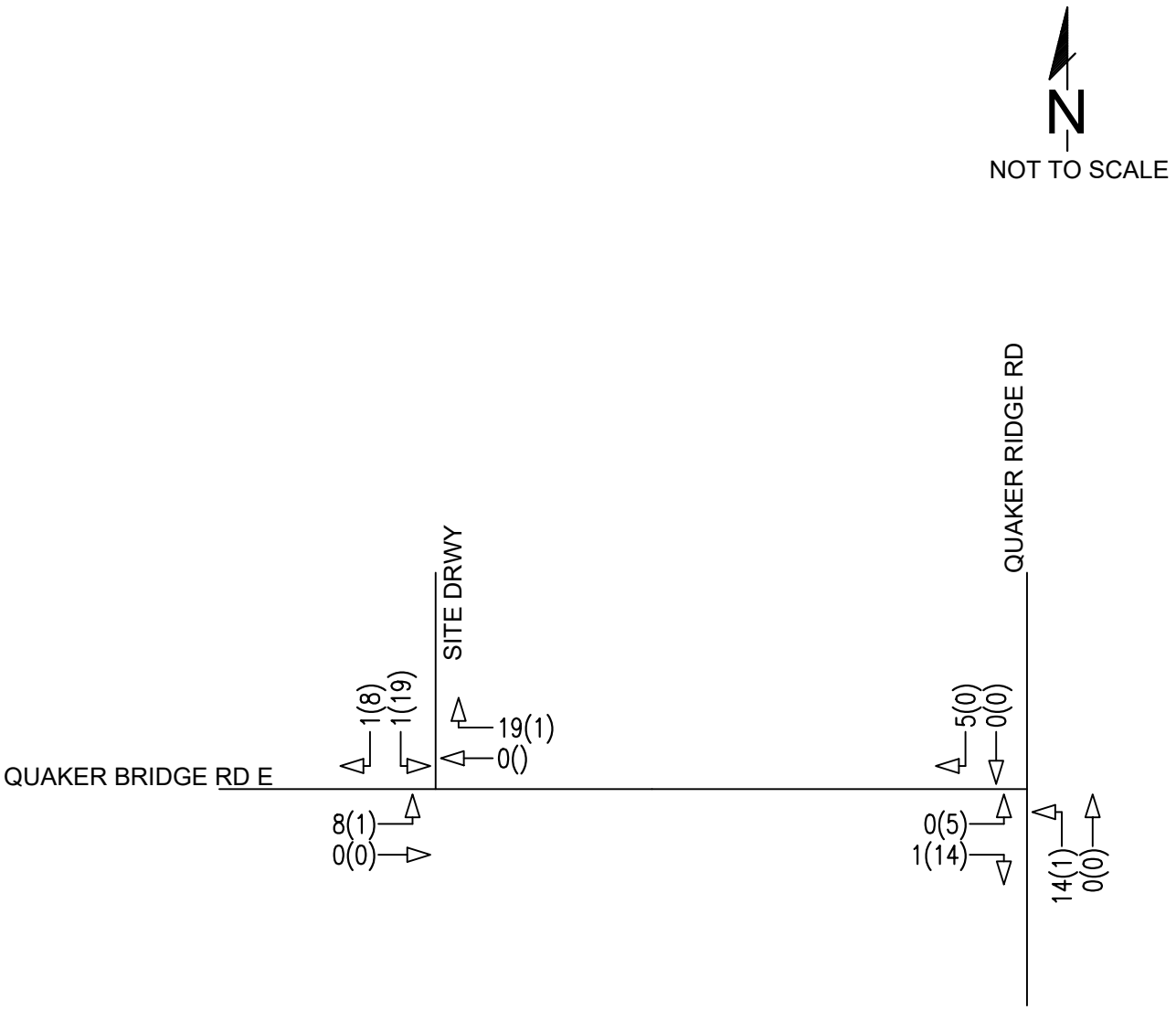
Departure Distribution
Gurdjieff Foundation
Cortlandt, Westchester County, NY

Figure No. 06



LEGEND

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(00) - VPH-PEAK SUN HOUR (2:00-3:00)

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Site-Generated Traffic Volumes
Gurdjieff Foundation
Cortlandt, Westchester County, NY

Figure No. 07

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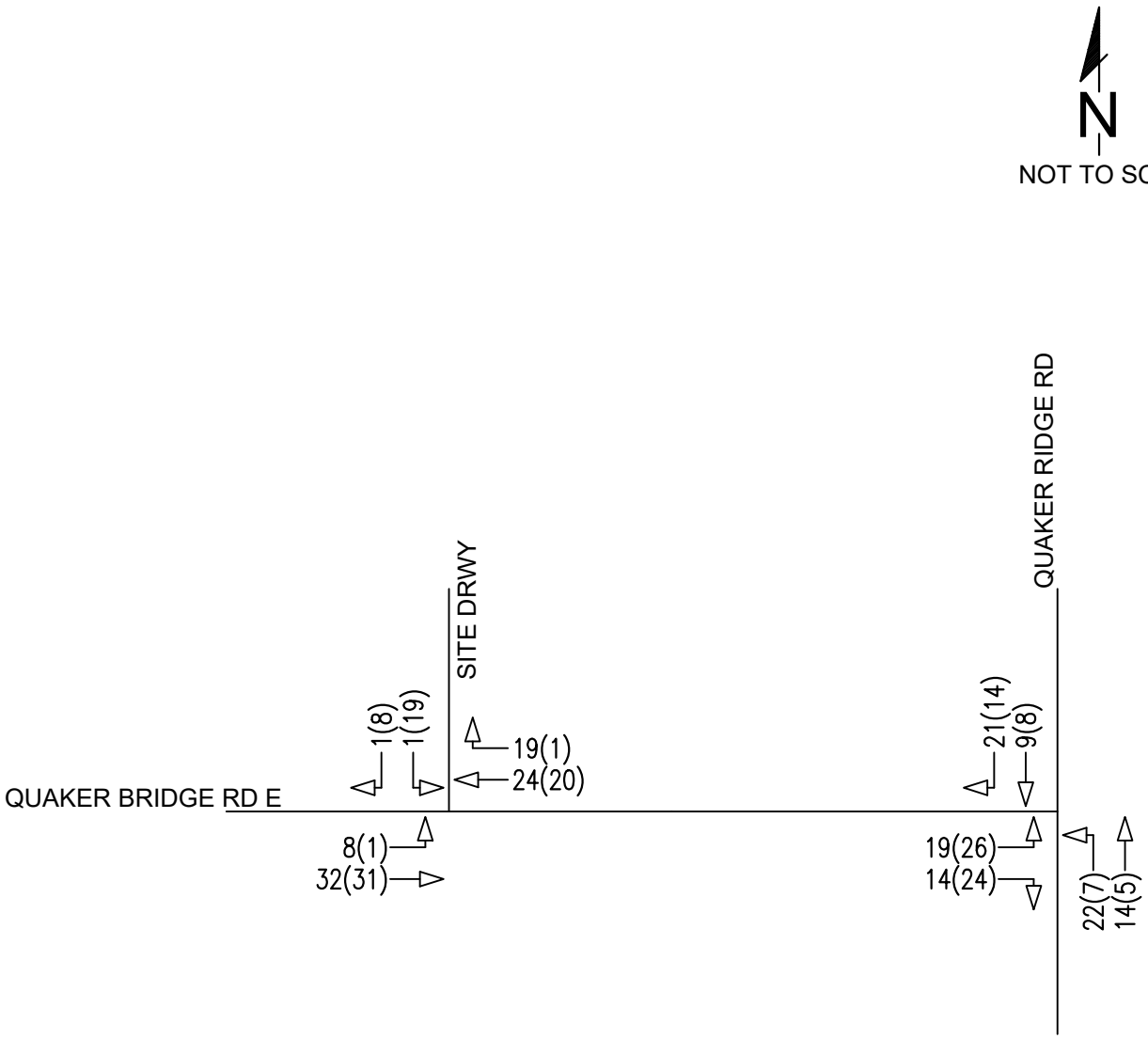

LEGEND

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(00) - VPH-PEAK SUN HOUR (2:00-3:00)

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Build Traffic Volumes
Gurdjieff Foundation
Cortlandt, Westchester County, NY

Figure No. 08

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APPENDIX C

LEVEL OF SERVICE TABLES

TABLE NO. 1

PEAK HOUR LEVEL OF SERVICE SUMMARY TABLE

Quaker Ridge Road & Quaker Bridge Road East

APPROACH		PEAK PM HOUR			PEAK SUN HOUR		
		2022 EXISTING	**2025 NO-BUILD**	**2025 BUILD**	**2022 EXISTING**	**2025 NO-BUILD**	**2025 BUILD**
		LOS DELAY (sec) V/C Ratio	LOS DELAY (sec) V/C Ratio	LOS DELAY (sec) V/C Ratio	LOS DELAY (sec) V/C Ratio	LOS DELAY (sec) V/C Ratio	LOS DELAY (sec) V/C Ratio
Quaker Ridge Road							
NB	LT	a 7.3	a 7.3	a 7.3	a 7.3	a 7.3	a 7.3
SB	TR	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0
Quaker Bridge Road East							
EB	LR	a 8.8	a 8.8	a 8.9	a 8.7	a 8.7	a 8.8

TABLE NO. 2

PEAK HOUR LEVEL OF SERVICE SUMMARY TABLE

Quaker Bridge Road East & Site Driveway

APPROACH		PEAK PM HOUR			PEAK SUN HOUR		
		2022 EXISTING	**2025 NO-BUILD**	**2025 BUILD**	**2022 EXISTING**	**2025 NO-BUILD**	**2025 BUILD**
		LOS DELAY (sec) V/C Ratio	LOS DELAY (sec) V/C Ratio	LOS DELAY (sec) V/C Ratio	LOS DELAY (sec) V/C Ratio	LOS DELAY (sec) V/C Ratio	LOS DELAY (sec) V/C Ratio
Site Driveway							
SB	LT	a 8.8	a 8.8	a 8.7	a 8.8	a 8.8	a 8.8
Quaker Bridge Road East							
EB	LT	- 0.0	- 0.0	a 7.3	- 0.0	- 0.0	a 7.3
WB	TR	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0

APPENDIX D

CAPACITY ANALYSIS

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	14	9	13	8	16
Future Vol, veh/h	19	14	9	13	8	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	15	10	14	9	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	52	18	26	0	-	0
Stage 1	18	-	-	-	-	-
Stage 2	34	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	957	1061	1588	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	988	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	951	1061	1588	-	-	-
Mov Cap-2 Maneuver	951	-	-	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	988	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1588	-	995	-	-
HCM Lane V/C Ratio	0.006	-	0.036	-	-
HCM Control Delay (s)	7.3	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	32	24	1	1	0
Future Vol, veh/h	0	32	24	1	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	35	26	1	1	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	27	0	-	0	62	27
Stage 1	-	-	-	-	27	-
Stage 2	-	-	-	-	35	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1587	-	-	-	944	1048
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1587	-	-	-	944	1048
Mov Cap-2 Maneuver	-	-	-	-	944	-
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	987	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1587	-	-	-	944
HCM Lane V/C Ratio	-	-	-	-	0.001
HCM Control Delay (s)	0	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	14	9	14	9	16
Future Vol, veh/h	19	14	9	14	9	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	15	10	15	10	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	54	19	27	0	-	0
Stage 1	19	-	-	-	-	-
Stage 2	35	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	954	1059	1587	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	987	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	948	1059	1587	-	-	-
Mov Cap-2 Maneuver	948	-	-	-	-	-
Stage 1	998	-	-	-	-	-
Stage 2	987	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	2.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1587	-	992	-	-
HCM Lane V/C Ratio	0.006	-	0.036	-	-
HCM Control Delay (s)	7.3	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	32	24	1	1	0
Future Vol, veh/h	0	32	24	1	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	35	26	1	1	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	27	0	-	0	62	27
Stage 1	-	-	-	-	27	-
Stage 2	-	-	-	-	35	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1587	-	-	-	944	1048
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1587	-	-	-	944	1048
Mov Cap-2 Maneuver	-	-	-	-	944	-
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	987	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1587	-	-	-	944
HCM Lane V/C Ratio	-	-	-	-	0.001
HCM Control Delay (s)	0	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	14	22	14	9	21
Future Vol, veh/h	19	14	22	14	9	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	15	24	15	10	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	85	22	33	0	-	0
Stage 1	22	-	-	-	-	-
Stage 2	63	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	916	1055	1579	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	902	1055	1579	-	-	-
Mov Cap-2 Maneuver	902	-	-	-	-	-
Stage 1	986	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	4.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1579	-	961	-	-
HCM Lane V/C Ratio	0.015	-	0.037	-	-
HCM Control Delay (s)	7.3	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	32	24	19	1	1
Future Vol, veh/h	8	32	24	19	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	35	26	21	1	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	47	0	-	0	90	37
Stage 1	-	-	-	-	37	-
Stage 2	-	-	-	-	53	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1560	-	-	-	910	1035
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	970	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1560	-	-	-	905	1035
Mov Cap-2 Maneuver	-	-	-	-	905	-
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	970	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1560	-	-	-	966
HCM Lane V/C Ratio	0.006	-	-	-	0.002
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	11	7	4	7	14
Future Vol, veh/h	21	11	7	4	7	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	12	8	4	8	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	36	16	23	0	-	0
Stage 1	16	-	-	-	-	-
Stage 2	20	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	977	1063	1592	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	1003	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	972	1063	1592	-	-	-
Mov Cap-2 Maneuver	972	-	-	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	1003	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	4.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1592	-	1001	-	-
HCM Lane V/C Ratio	0.005	-	0.035	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	31	20	1	1	0
Future Vol, veh/h	0	31	20	1	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	34	22	1	1	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	57	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	34	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	950	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	988	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	950	1054
Mov Cap-2 Maneuver	-	-	-	-	950	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	988	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	950
HCM Lane V/C Ratio	-	-	-	-	0.001
HCM Control Delay (s)	0	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	11	7	5	8	14
Future Vol, veh/h	21	11	7	5	8	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	12	8	5	9	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	38	17	24	0	-	0
Stage 1	17	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	974	1062	1591	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	1002	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	969	1062	1591	-	-	-
Mov Cap-2 Maneuver	969	-	-	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	1002	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	4.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1591	-	999	-	-
HCM Lane V/C Ratio	0.005	-	0.035	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	31	20	1	1	0
Future Vol, veh/h	0	31	20	1	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	34	22	1	1	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	57	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	34	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	950	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	988	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	950	1054
Mov Cap-2 Maneuver	-	-	-	-	950	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	988	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	950
HCM Lane V/C Ratio	-	-	-	-	0.001
HCM Control Delay (s)	0	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	24	7	5	8	14
Future Vol, veh/h	26	24	7	5	8	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	26	8	5	9	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	38	17	24	0	-	0
Stage 1	17	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	974	1062	1591	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	1002	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	969	1062	1591	-	-	-
Mov Cap-2 Maneuver	969	-	-	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	1002	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	4.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1591	-	1012	-	-
HCM Lane V/C Ratio	0.005	-	0.054	-	-
HCM Control Delay (s)	7.3	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	31	20	1	19	8
Future Vol, veh/h	1	31	20	1	19	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	34	22	1	21	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	59	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	36	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	948	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	986	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1592	-	-	-	947	1054
Mov Cap-2 Maneuver	-	-	-	-	947	-
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	986	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	976
HCM Lane V/C Ratio	0.001	-	-	-	0.03
HCM Control Delay (s)	7.3	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1