Traffic and Parking Impact Study
Proposed Ivy Boutique Hotel
Arlington Heights, Illinois

Prepared For:

EUROPEAN CRYSTAL
BANQUET & CONFERENCE CENTER

Prepared By:

KLOA
Kenig, Lindgren, O'Hara, Aboona, Inc.

August 9, 2017

1. Introduction

This report summarizes the methodologies, results and findings of a traffic and parking impact study conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for the proposed Ivy Boutique Hotel in Arlington Heights, Illinois. As proposed, the European Crystal Banquets and Conference Center at 519 W. Algonquin Road will be the site for a twelve-story Ivy Boutique Hotel with a total of 126 rooms. The proposed hotel will result in a modified parking lot that will continue to provide 172 space parking lot. An additional 45 parking spaces can be provided with valet parking. Access to the proposed site will continue to be provided via the existing access system serving the European Crystal Banquets facility.

Figure 1 shows the location of the site in relation to the area roadway system. **Figure 2** shows an aerial view of the site area.

The purpose of this study was to examine existing traffic conditions, assess the impact that the proposed development would have on traffic conditions in the area and determine if any roadway and/or traffic control are necessary in order to accommodate Year 2023 projected traffic conditions as well as evaluate the adequacy of the parking supply in accommodating existing and future parking needs.

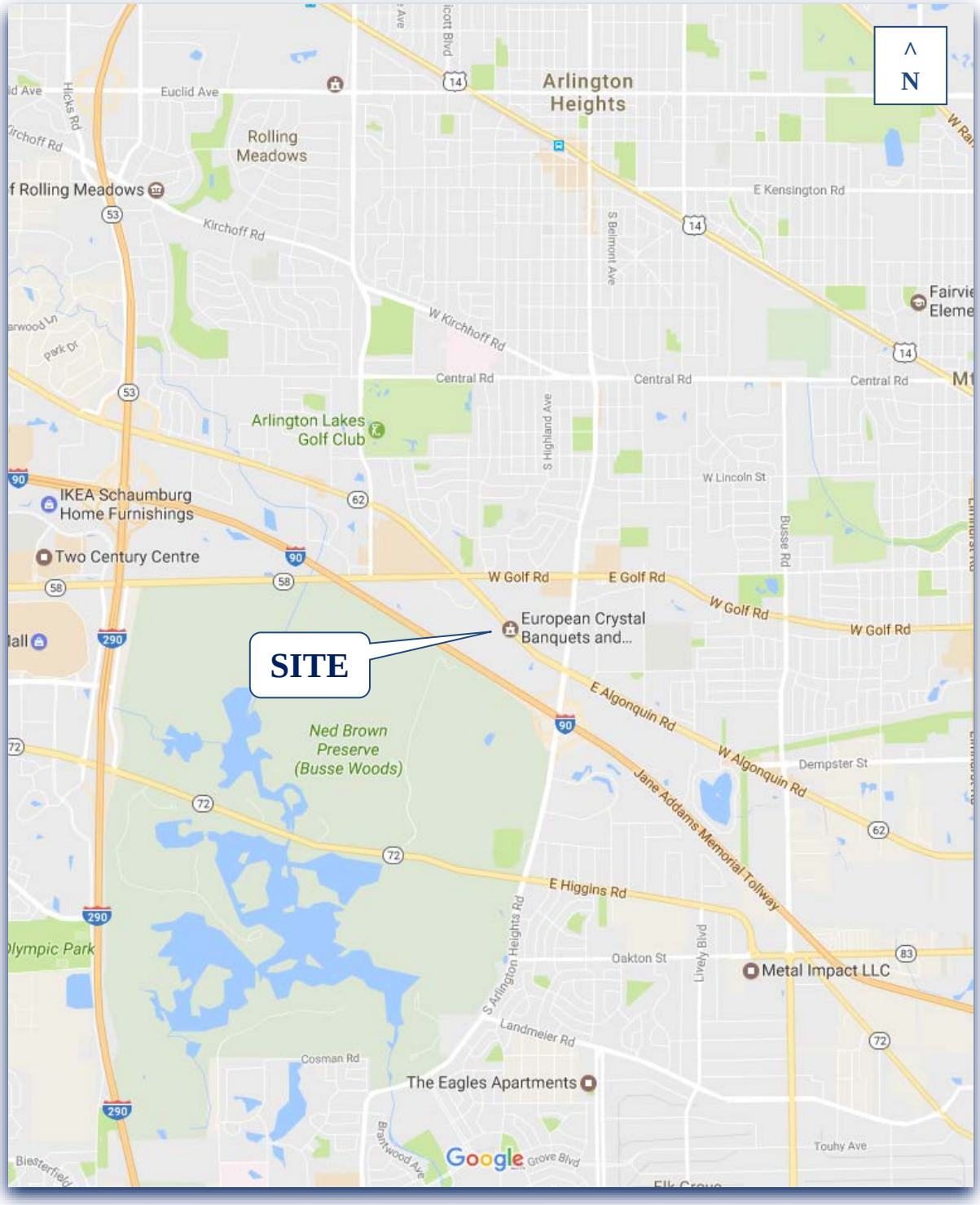
The sections of this report present the following.

- Existing roadway conditions
- A description of the proposed development
- Directional distribution of the development traffic
- Vehicle trip generation for the development
- Future traffic conditions including access to the site
- Traffic analyses for the weekday morning, evening and Saturday evening peak hours
- Recommendations with respect to adequacy of the site access and adjacent roadway system
- Evaluation of the adequacy of the proposed parking supply in accommodating future parking demand.

Traffic capacity analyses were conducted for the weekday morning, evening and Saturday evening peak hours for the following conditions.

1. Existing Condition - Analyzes the capacity of the existing roadway system using existing peak hour traffic volumes in the surrounding area.

2. Future Condition - The future projected traffic volumes include the existing traffic volumes, ambient area growth not attributable to any particular development and the traffic estimated to be generated by the proposed subject development.



Site Location **Figure 1**

Aerial View of Site Area **Figure 2**

2. Existing Conditions

Existing traffic and roadway conditions were documented based on field visits and traffic counts conducted by KLOA, Inc. The following provides a detailed description of the physical characteristics of the roadways including geometry and traffic control, adjacent land uses and peak hour traffic flows along area roadways.

Site Location

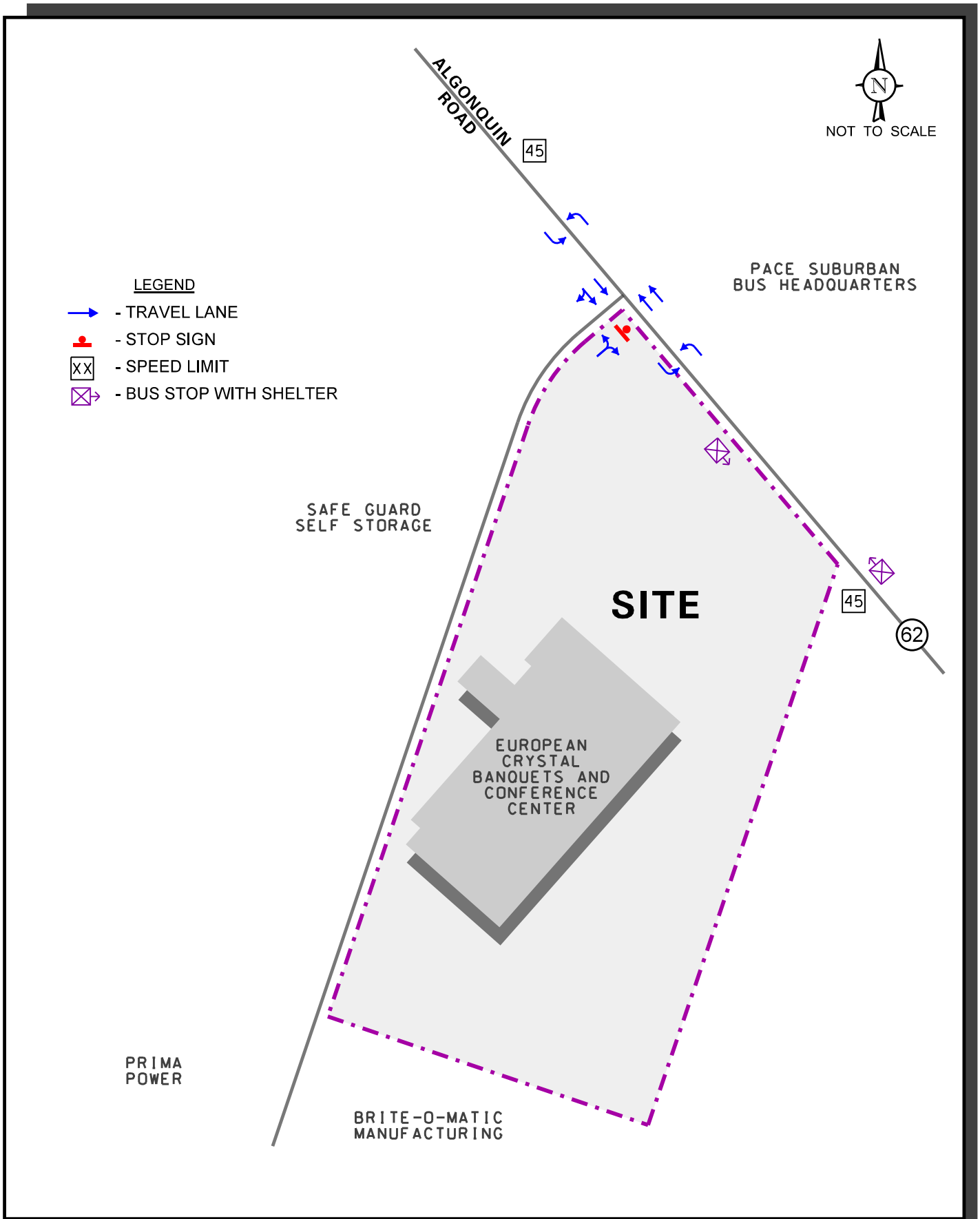
The site, which is currently occupied by the European Crystal Banquets and Conference Center, is located on the south side of Algonquin Road approximately 850 feet west of Meijer Road at 519 W. Algonquin Road. Land uses in the vicinity of the site are mixed commercial and industrial and include the Pace Suburban Bus headquarters to the north, Hand Surgery Associates and Motel 6 to the east, Brite-O-Matic Manufacturing and Prima Power to the south and Safeguard Self Storage to the west.

Existing Roadway System Characteristics

The characteristics of the existing roadways that surround the proposed development are illustrated in **Figure 3** and described below.

Algonquin Road is generally an east-west arterial roadway that in the vicinity of the site provides two through lanes in each direction separated by a two-way left-turn lane. At its unsignalized intersection with the north-south access roadway, Algonquin Road provides an exclusive through lane and a shared through/right-turn lane on the eastbound approach and an exclusive left-turn lane and two exclusive through lanes on the westbound approach. Algonquin Road is under the jurisdiction of the Illinois Department of Transportation (IDOT), carries an annual average daily traffic (AADT) volume of 29,900 vehicles (IDOT AADT 2015) and has a posted speed limit of 45 miles per hour.

North-South Access Roadway is generally a north-south roadway that extends from Algonquin Road to its terminus approximately 1,400 feet south. The north-south access roadway provides one lane in each direction and serves as the shared access roadway for European Crystal Banquets and Conference Center, Safeguard Self Storage, Prima Power, Brite-O-Matic Manufacturing, Line Group, Kanematsu USA and KGK International. At its unsignalized intersection with Algonquin Road, the access roadway provides a shared left/right-turn lane under stop-sign control. This shared lane is wide enough to accommodate truck turning maneuvers to and from Algonquin Road and as such, operates as an exclusive left-turn and an exclusive right-turn for passenger vehicles.



Proposed Ivy Hotel
Arlington Heights, Illinois

Existing Roadway Characteristics

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Job No: 16-051 Figure: 3

Existing Traffic Volumes

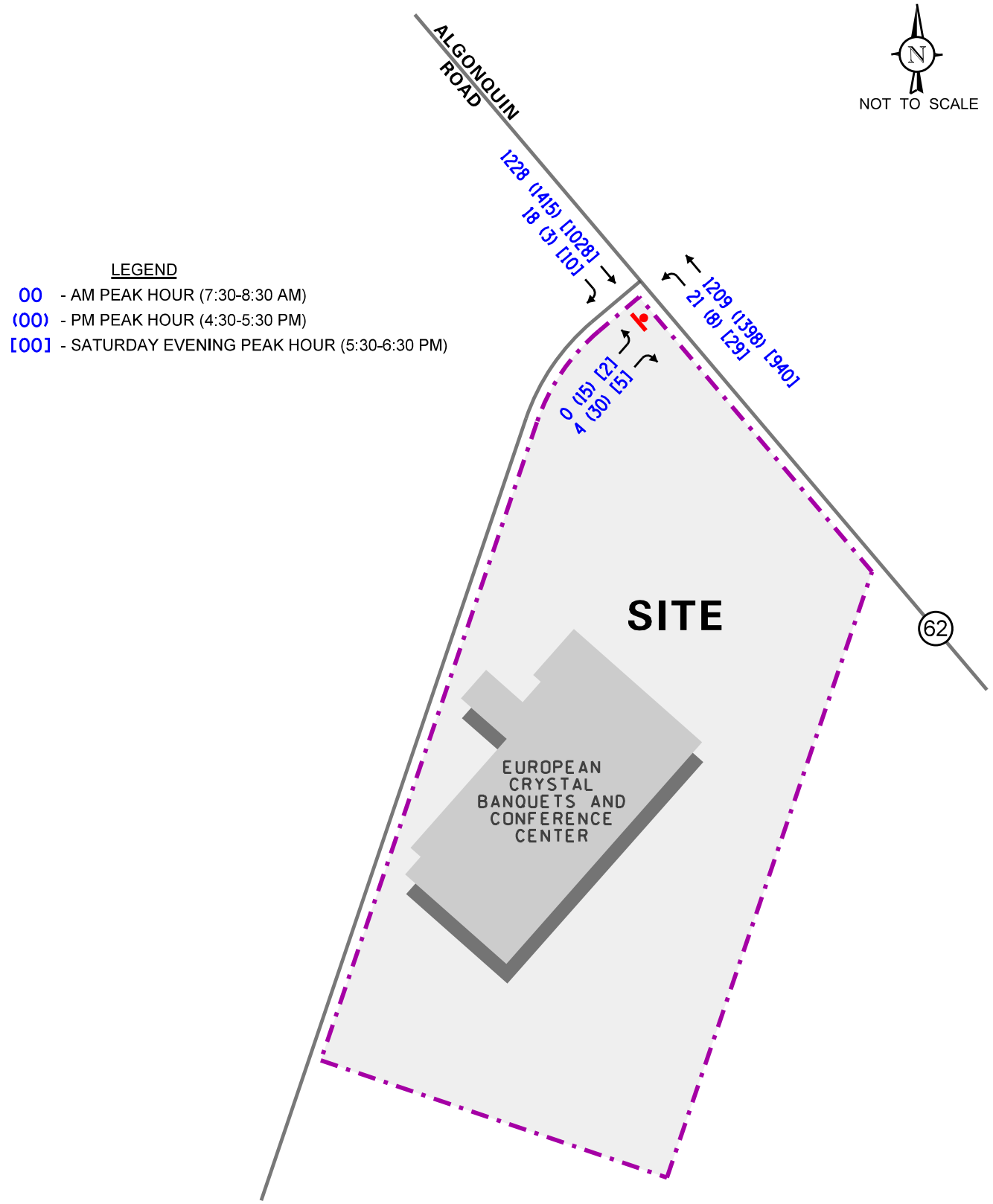
Manual turning movement vehicle traffic counts were conducted using Miovision Scout Collection Units on Thursday, March 16, 2017 during the weekday morning (7:00 to 9:00 A.M.) and the weekday evening (4:00 to 6:00 P.M.) peak periods and on Saturday, March 18, 2017 during the Saturday evening (5:30 to 7:30 P.M.) peak period at the intersection of Algonquin Road with the north-south access roadway. The Saturday evening peak period was chosen to coincide with an event occurring at the banquet facility that had an attendance of 375 guests. The results of the manual turning movement counts indicated that the weekday morning peak hour occurs between 7:30 and 8:30 A.M., the weekday evening peak hour occurs between 4:30 and 5:30 P.M. and the Saturday evening peak hour occurs between 5:30 and 6:30 P.M. These respective peak hours will be used for the traffic capacity analyses which are presented later in this report. The existing peak hour traffic volumes for the weekday morning, evening and Saturday evening peak hours are shown in **Figure 4**.

Gap Study

A gap study was also conducted on Thursday, March 16, 2017 during the weekday morning and weekday evening peak hours and on Saturday, March 18, 2017 during the Saturday evening peak hour along Algonquin Road in order to determine the availability of gaps or interruptions in the Algonquin Road traffic stream. Gaps in the eastbound direction on Algonquin Road will allow traffic to turn left onto the north-south access roadway and right out from the north-south access roadway onto Algonquin Road. Gaps in both directions on Algonquin Road will allow traffic to turn left from the north-south access roadway onto Algonquin Road. It should be noted that this gap study does not quantify the number of two-stage left-turn maneuvers that can be made utilizing the existing two-way left-turn lane. The results of the gap study are summarized in **Table 1**.

Table 1
GAP STUDY RESULTS – ALGONQUIN ROAD

Time Periods	Number of Potential Movements Based on Gaps Available		
	Westbound Left-Turn	Northbound Right-Turn	Northbound Left-Turn
Weekday Morning 7:30 - 8:30 A.M.	709	358	86
Weekday Evening 4:30 – 5:30 P.M.	511	195	54
Saturday Evening 5:30 – 6:30 P.M.	733	355	128



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Existing Traffic Volumes

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3. Traffic Characteristics of the Proposed Development

To evaluate the impact of the subject development on the area roadway system, it was necessary to quantify the number of vehicle trips the site will generate during the weekday morning, evening and Saturday evening peak hours and then determine the directions from which this traffic will approach and depart the site.

Proposed Site and Development Plan

As proposed, the European Crystal Banquets facility will be the site of the proposed twelve-story, 126-room Ivy Boutique Hotel. Access to the site will continue to be provided via the north-south access roadway and its unsignalized intersection with Algonquin Road.

As previously indicated, the north-south access roadway also serves as the roadway for Safeguard Self Storage, Prima Power, Brite-O-Matic Manufacturing, Line Group, Kanematsu USA and KGK International. The European Crystal Banquet facility will continue to be served by three existing curb cuts along the north-south access roadway located approximately 200 feet, 480 feet and 550 feet south of Algonquin Road. These access drives provide one inbound lane and one outbound lane. The existing curb cut 350 feet south of Algonquin Road provides access to the porte-cochere for the banquet facility which will be eliminated as part of the proposed hotel.

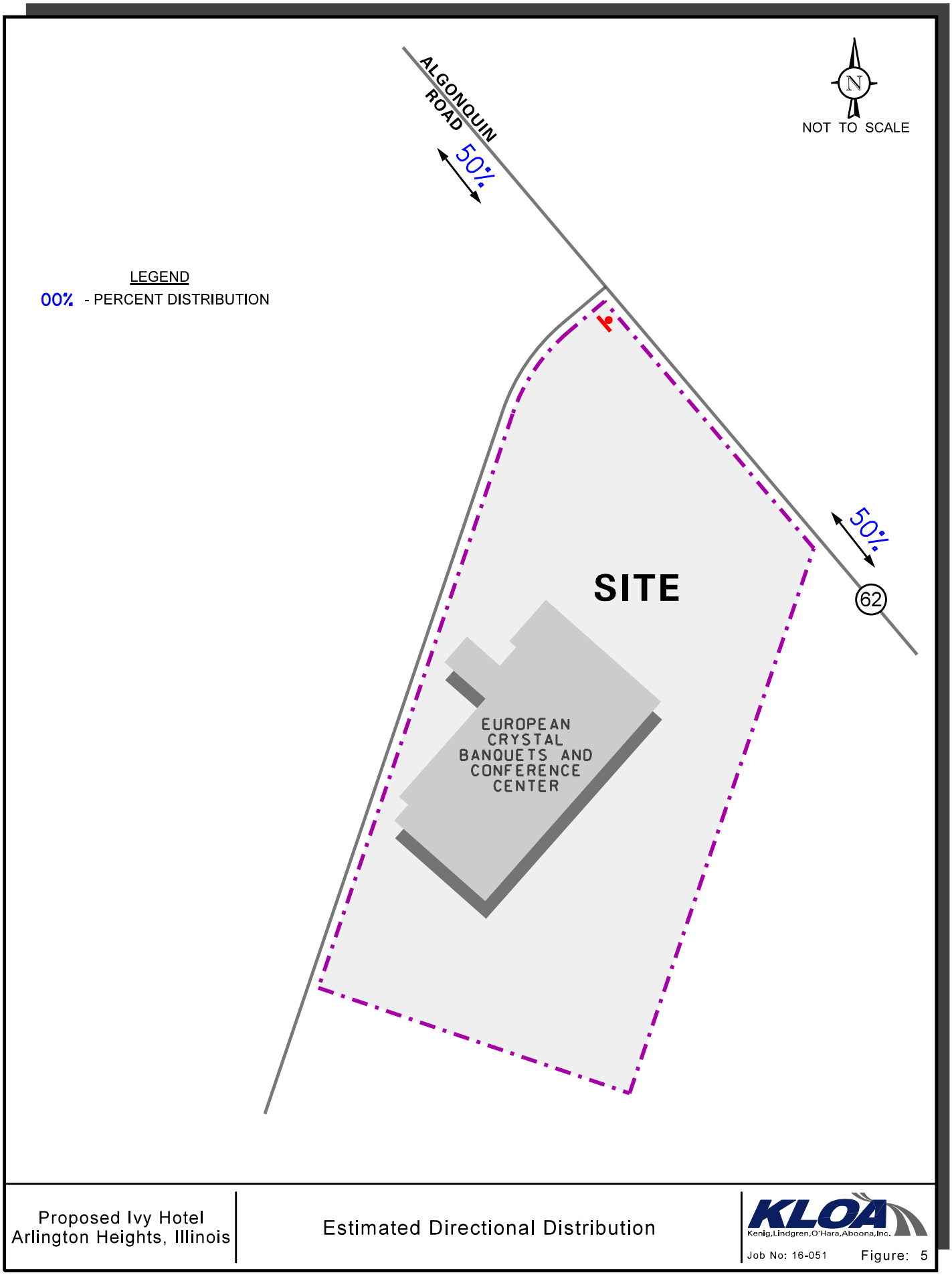
The proposed hotel will result in modified parking lot that will continue to provide 172 parking spaces. An additional 45 valet parking spaces can be provided increasing the total parking supply to 217 parking spaces. A site plan is included in the Appendix.

Directional Distribution

The directional distribution of development-generated traffic is based on the characteristics and operations of the surrounding roadway system and existing traffic patterns. **Figure 5** shows the estimated directional distribution for the peak hours.

Estimated Development Traffic Generation

The estimates of traffic to be generated by the development are based upon the proposed land use type and size. The volume of traffic generated for the proposed Ivy Hotel was estimated using data published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th Edition for land-use code 310 (Hotel). **Table 2** tabulates the vehicle trips anticipated for this development for the weekday morning, evening and Saturday evening peak hours.



Proposed Ivy Hotel
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Estimated Directional Distribution

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Table 2
PROJECTED SITE-GENERATED TRAFFIC VOLUMES

Land-Use and Code	Size	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Saturday Evening Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
Ivy Hotel (310)	126 rooms	40	27	67	39	37	76	56	35	91

4. Projected Traffic Conditions

The total projected traffic volumes include the existing traffic volumes, increase in background traffic due to ambient growth, and the traffic estimated to be generated by the proposed expansion.

Development Traffic Assignment

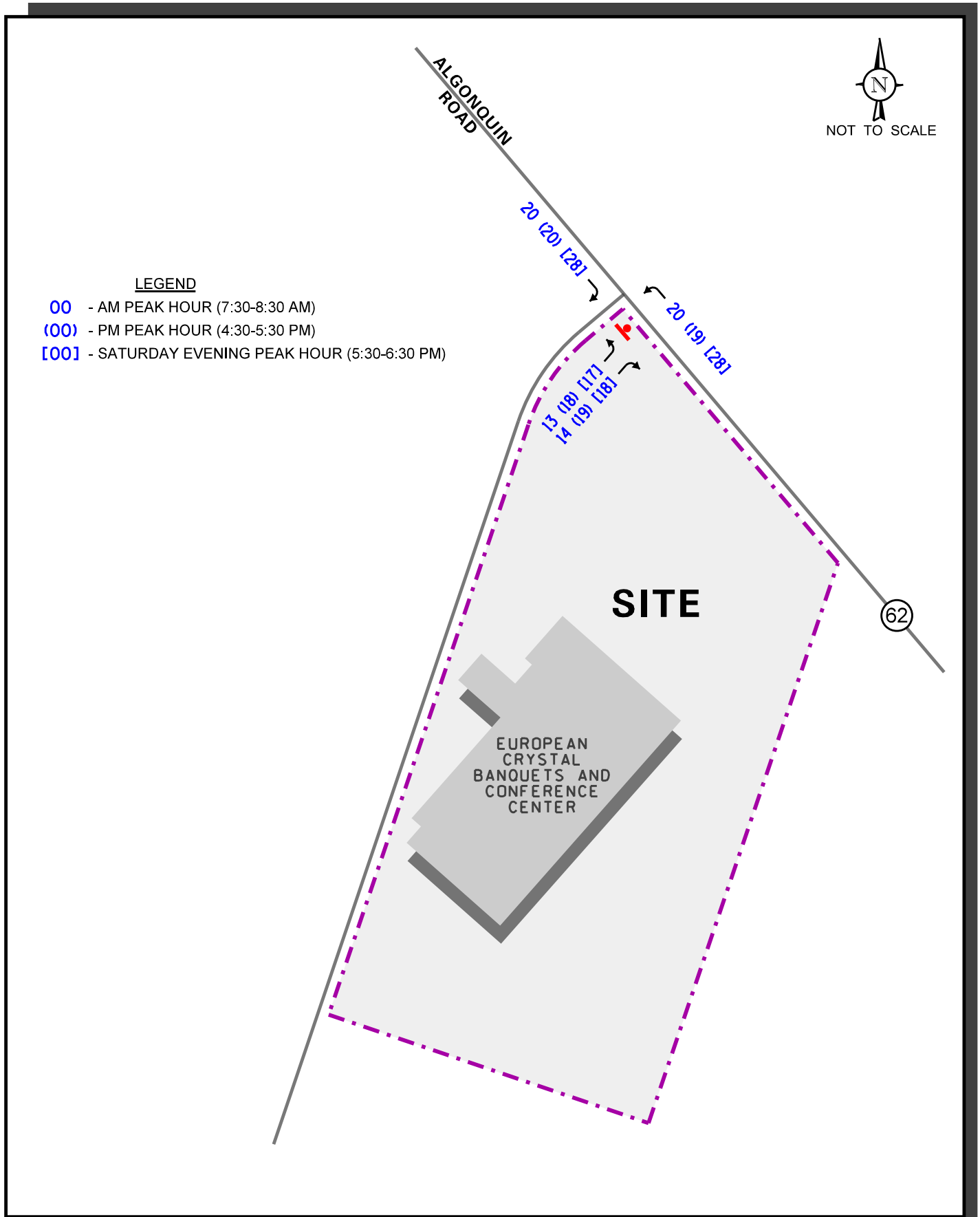
The development-generated traffic volumes (refer to Table 1) were assigned to the area roadways based on the directional distribution analysis (Figure 5) and are shown in **Figure 6.**

Background Traffic Volumes

The existing traffic volumes (Figure 4) were increased by a regional growth factor to account for the increase in existing traffic related to regional growth in the area (i.e., not attributable to any particular planned development). Based on ADT projections provided by the Chicago Metropolitan Agency for Planning (CMAP) in a letter dated April 11, 2017, the through volumes along Algonquin Road were increased by an increase of approximately 1.2 percent total (0.2 percent per year) was applied to project Year 2023 conditions (buildout plus five-year analysis). A copy of the CMAP 2040 projections letter is included in the Appendix.

Total Projected Traffic Conditions

The total projected traffic volumes include the peak hour traffic volumes increased by a regional growth factor and the peak hour traffic volumes generated by the proposed development (Figure 6). The total projected traffic volumes for Year 2023 conditions are shown in **Figure 7.**



Proposed Ivy Hotel
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Estimated Site Traffic Assignment

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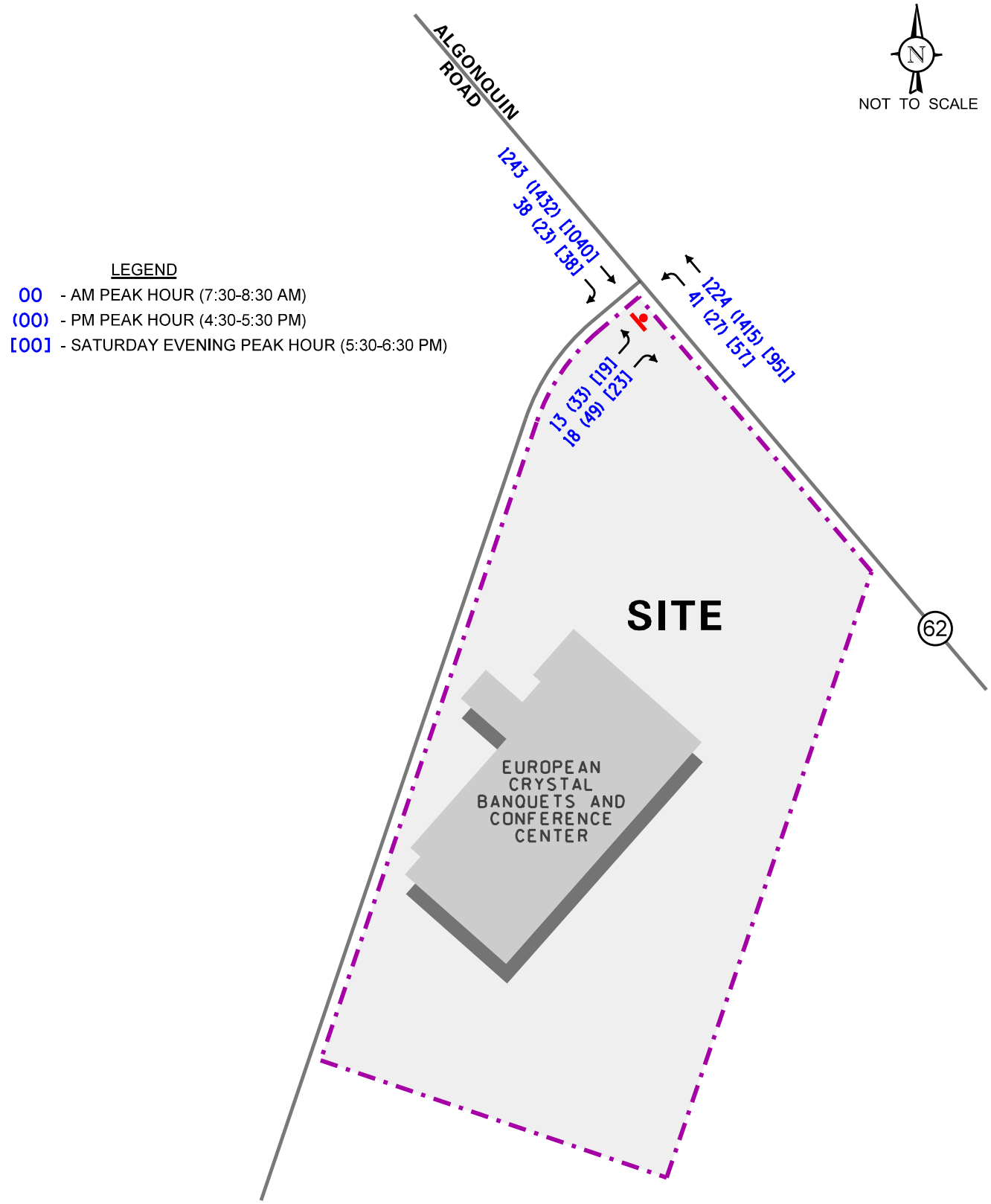

Proposed Ivy Hotel
Arlington Heights, Illinois

Year 2023 Total Projected
Traffic Volumes

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Job No: 16-051 Figure: 7

5. Traffic Analysis and Recommendations

The following provides an evaluation conducted for the weekday morning, evening and Saturday evening peak hours. The analysis includes conducting capacity analyses to determine how well the roadway system and access drives are projected to operate and whether any roadway improvements or modification are required.

Traffic Analyses

Roadway and adjacent or nearby intersection analyses were performed for the weekday morning, weekday evening and Saturday evening peak hours for the existing (Year 2017) and future projected (Year 2023) traffic volumes.

The traffic analyses were performed using the methodologies outlined in the Transportation Research Board's *Highway Capacity Manual (HCM), 2010* and the capacity analyses were analyzed using the HCS 7 computer software.

The analyses for the unsignalized intersections determine the average control delay to vehicles at an intersection. Control delay is the elapsed time from a vehicle joining the queue at a stop sign (includes the time required to decelerate to a stop) until its departure from the stop sign and resumption of free flow speed. The methodology analyzes each intersection approach controlled by a stop sign and considers traffic volumes on all approaches and lane characteristics.

The ability of an intersection to accommodate traffic flow is expressed in terms of level of service, which is assigned a letter from A to F based on the average control delay experienced by vehicles passing through the intersection. The *Highway Capacity Manual* definitions for levels of service and the corresponding control delay for unsignalized intersections are included in the Appendix of this report.

Summaries of the traffic analysis results showing the level of service and overall intersection delay (measured in seconds) for the study area intersection under existing and Year 2023 total projected conditions and the results are presented in **Table 3**. A discussion of the intersection follows. Summary sheets for the capacity analyses are included in the Appendix.

Table 3
CAPACITY ANALYSIS RESULTS
ALGONQUIN ROAD WITH NORTH-SOUTH ACCESS ROADWAY

	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Evening Peak Hour	
Intersection	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
Year 2017 Existing Conditions						
• Northbound Approach	C	17.2	D	26.1	C	15.0
• Westbound Left-Turns	B	12.7	B	13.2	B	10.6
Year 2023 Projected Conditions						
• Northbound Approach	C	24.7	E	38.4	C	19.2
• Westbound Left-Turns	B	13.4	B	13.9	B	11.1

LOS = Level of Service
Delay is measured in seconds

Discussion and Recommendations

The results of the capacity analyses indicate that at the intersection of Algonquin Road with the north-south access roadway the northbound approach (exiting movements) currently operates at level of service (LOS) C during the weekday morning and Saturday evening peak hours and at LOS D during the weekday evening peak hour.

Under Year 2023 projected traffic conditions, the northbound approach is projected to continue operating at LOS C during the weekday morning and Saturday evening peak hours with increases in delay of approximately seven and four seconds, respectively. During the weekday evening peak hour, the northbound approach is projected to operate at LOS E with increases in delay of approximately twelve seconds.

This level of service is expected for a minor access roadway that has a unsignalized intersection with a major roadway such as Algonquin Road. Furthermore, these analyses do not take into consideration the proximity of the signalized intersections of Algonquin Road with Marriott Entrance (approximately 1,500 feet to the east) and Algonquin Road with Meijer Drive (approximately 850 feet to the west) which create gaps in the Algonquin Road traffic stream. As shown in the following section, adequate gaps exist in the Algonquin Road traffic stream to accommodate the expansion generated traffic.

Westbound left-turn movements from Algonquin Road onto the access roadway are projected to continue operating at LOS B during all three peak hours with 95th percentile queues of one to two vehicles.

As such, the proposed expansion traffic will have a limited impact on the operations of the intersection of Algonquin Road with the north-south Access Roadway and the expansion generated traffic will not have a significant impact on the industrial developments that also utilize the access roadway. Furthermore, the existing two-way left-turn lane along Algonquin Road will continue to be adequate in accommodating left-turns onto the access roadway.

Gap Study Results

Table 4 shows the total number of potential movements compared to the number of required gaps that are needed to accommodate the projected traffic turning onto and from the north-south access roadway. As shown in Table 4, there are more than sufficient gaps in the Algonquin Road traffic stream to accommodate the westbound left-turns onto the north-south access roadway and northbound right-turns and northbound left-turns from the proposed access roadway onto Algonquin Road for the weekday morning, weekday evening and Saturday evening peak hours of adjacent roadway traffic. These results indicate that these movements will be completed with minimal delays and impact on Algonquin Road traffic.

Table 4
REQUIRED GAPS – ALGONQUIN ROAD

Time Periods	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Evening Peak Hour	
	Potential Movements	Required Gaps	Potential Movements	Required Gaps	Potential Movements	Required Gaps
Westbound Left-Turns	709	20	511	19	733	28
Northbound Right-Turns	358	14	195	19	355	18
Northbound Left-Turns	86	13	54	18	128	17

6. Parking Evaluation

In order to determine the adequacy of the existing parking supply, the following tasks were undertaken:

- Parking occupancy surveys were conducted by KLOA, Inc. at the European Crystal Banquets facility during two events held in March 2017.
- Projected parking demand was generated for the proposed 126-room Ivy Boutique Hotel.
- Adequacy of proposed parking supply was evaluated to accommodate the projected parking demand of the existing and proposed uses on-site.

Existing Parking Occupancy of European Crystal Banquets

The existing banquet facility has a maximum occupancy of 377 people in the Grand Ballroom and is served by a surface parking lot with 172 parking spaces. The facility is in use primarily on Fridays through Sundays.

To determine the parking occupancy during an event, KLOA, Inc. conducted parking occupancy surveys at the European Crystal Banquets facility on Saturday, March 18th, 2017 and on Saturday, March 25th, 2017 during two Saturday evening events. On March 18th the total event attendance was 375 guests and the event started at 6:00 P.M. On March 25th the total event attendance was 390 guests and the event started at 6:00 P.M. The counts were conducted every hour from 6:00 P.M. to 9:00 P.M. In performing the parking occupancy surveys, any vehicle found parked in an adjacent off-site parking lot was included in the total parking demand to accurately assess the existing parking demand of the 172 surveyed parking spaces at the subject property. The results of the parking occupancy surveys are summarized in **Table 5** indicate the following:

- Peak occupancy on Saturday, March 18 was 78 vehicles (45 percent) occurring at 8:00 P.M. resulting in a surplus of 94 parking spaces.
- Peak occupancy on Saturday, March 25 was 73 vehicles (42 percent) occurring at 7:00 P.M. and 8:00 P.M. resulting in a surplus of 99 parking spaces.

It should be noted that parking occupancy survey were previously conducted on Saturday, February 20, 2016 during two events that had a combined attendance of 350 guests and on Friday through Sunday, April 22 to 24, 2016 during events that had occupancies of 370, 340, and 300 guests, respectively. The surveys were conducted between 6:00 P.M. and 9:00 P.M. and showed a peak occupancy of ranged between 109 to 72 spaces, which is 62 to 41 percent of the available spaces, further confirming that the parking supply is more than adequate in accommodating the peak parking demand of the banquet facility. As can be seen from Table 5 and the previously conducted parking occupancy surveys, the hourly parking demand during events is similar with nearly identical peak parking demand during events. The results of the previously conducted parking occupancy surveys are included in the Appendix.

Table 5
PARKING OCCUPANCY – MARCH 2017

Time	Saturday, March 18th			Saturday March 25th		
	Parking Occupancy	Percent Occupied	Surplus Spaces	Parking Occupancy	Percent Occupied	Surplus Spaces
6:00 P.M.	45	26%	127	46	27%	126
7:00 P.M.	76	44%	96	73	42%	99
8:00 P.M.	78	45%	94	73	42%	99
9:00 P.M.	70	41%	102	71	41%	101
Inventory	**172 Spaces**					

Vehicle Occupancy

The number of guests per vehicle were also surveyed during the two events on Saturday, March, 18th, 2017 and Saturday, March 25th, 2017. The results of the vehicle occupancy surveys for each day are summarized in **Table 6**. As can be seen from Table 6 there was an average of two guests per vehicles on March 18th and on March 25th. It should be noted that on March 18th it was observed that six guests were dropped off via a Marriott Shuttle Bus and ten guests were dropped off via a limousine. These guests were not included in the average guests per vehicle calculation.

Table 6
VEHICLE OCCUPANCY

Number of Guests Per Vehicle	1 Guest	2 Guests	3 Guests	4 Guests	5 Guests	6 Guests	Total
Saturday March 18th							
Total Vehicles	20	21	8	3	1	0	53
Total Guests	20	42	24	12	5	0	103
Average Number of Guests Per Vehicle							**1.94**
Saturday March 25th							
Total Vehicles	22	28	12	11	1	3	77
Total Guests	22	56	36	44	5	18	181
Average Number of Guests Per Vehicle							**2.35**

Proposed Ivy Hotel Projected Parking Demand

As indicated earlier, the proposed Ivy hotel will be a boutique hotel that will contain 126 rooms. The parking lot will be modified but will continue to provide a total of 172 parking spaces and an additional 45 valet parking spaces will be provided, if required, for a total of 217 spaces. Based on the Village of Arlington Heights zoning code, the proposed hotel will require parking at a ratio of one space per room or 126 spaces and the banquet facility requires parking spaces equal to 30 percent of the capacity. With a capacity of 377 persons, the banquet facility is required to provide 113 parking spaces for a total parking demand of 239 parking spaces. While the required parking exceeds the 172 parking spaces provided. It is expected that this parking demand will be accommodated by the provided parking on weekdays for the following reasons:

- European Crystal Banquet is not in use on weekdays (Monday through Thursday) when the hotel occupancy is highest. Therefore, the only parking will be generated by the proposed Hotel.

- A shuttle will be provided between the hotel and the airport to facilitate use by business travelers and, as such, reduce the parking demand.

- It is anticipated that 20 to 30 rooms will be booked by airlines for use by pilots and flight attendants who will not drive and instead will use the airport's shuttle service.

- Historically, the average occupancy of similar hotels in the same market is between 60 and 70 percent, further reducing the parking requirements.

On weekends, it is anticipated that the hotel will provide synergy with the banquet facility as follows:

- Some of the attendees of events at the facility will likely stay at the hotel, resulting in sharing of the parking spaces.

- Airlines will continue to use 20 to 30 rooms on weekends, which creates no parking demand.

- The peak parking demand for the hotel on weekends will therefore be 63 spaces, assuming 70 percent hotel occupancy and the use of 25 rooms by pilots and flight attendants.

Parking Evaluation

Given the banquet facility is not open during weekdays, the proposed parking supply will be more than adequate in accommodating the peak hotel demand. For weekends and based on the parking occupancy surveys conducted in 2016 and 2017, there were a minimum of 66 to 94 parking spaces available. With the provision of valet parking, the surplus will increase to 111 to 139 parking spaces. This surplus in parking can easily accommodate the projected parking demand of 63 parking spaces, assuming 70 percent occupancy, that may be generated by hotel guests on weekends that are not airline employees, have not taken the airport shuttle, or are not attending a function at the banquet facility.

Additionally, it should be noted that parking occupancy surveys were conducted at the existing Courtyard Marriott hotel in Arlington Heights on April 14 to 16, 2016. This hotel has 147 rooms, provides 1,248 square-feet of meeting space with a capacity of 80 patrons and a parking lot with approximately 151 parking spaces. The results of the surveys indicated a peak parking occupancy of 42 spaces (28 percent) on a weekday and 54 spaces (36 percent occupied) on a Saturday. This parking occupancy is less than the observed parking surplus at the subject site in 2016 and 2017 of 111 and 139 parking spaces, respectively. While the room occupancy of the Courtyard Marriott hotel is unknown at the time the parking occupancy surveys were conducted, the results indicate that the peak parking ratio is approximately 0.36 spaces per room.

Furthermore, located approximately one-quarter of a mile to the south is the DoubleTree – Arlington. This hotel has 240 rooms and provides approximately 7,620 square-feet of meeting space with a maximum occupancy for 508 guests, and the Birch River Grill which can accommodate approximately 100 patrons and a total of 304 parking spaces. Therefore, this facility operates with an approximately 28 percent less parking than required based on Village of Arlington Heights Code. As such the proposed parking supply of 172 parking spaces for the European Crystal Banquets and proposed Ivy Hotel (28 percent less than required) is consistent with a parking deficit previously approved by the Village. Including the additional 45 parking spaces provided with valet parking will increase the parking to 217 spaces (nine percent less than required).

7. Conclusion

Based on the preceding analyses and recommendations, the following conclusions have been made:

- The traffic projected to be generated by the proposed hotel will not have a significant impact on the operations of the access drive serving the site and as such no roadway or traffic control improvements will be required.

- The existing access system serving the subject site will continue to be adequate in accommodating the traffic projected to be generated by the proposed development.

- Adequate gaps exist in the Algonquin Road traffic stream to accommodate turning movements to/from Algonquin Road and the north-south access roadway.

- The proposed parking supply will be adequate in accommodating the existing and projected parking demand based on the following:

    - The two facilities have different peak parking characteristics with the hotel peaking on weekdays (Monday through Thursday) and the banquet facility peaking on weekends.

    - The proposed hotel will be a boutique hotel primarily catering to business travelers on weekdays.

    - Shuttle bus service will be offered to and from Chicago-O'Hare Airport which will reduce the parking demand.

    - Approximately 20 to 30 rooms will be allocated for airline personnel who will use the shuttle bus service and as such will not drive to the hotel.

    - Hotel occupancy on weekends is typically low in the northwest suburbs with occupants being primarily airline employees and attendees of events at the banquet facility.

    - Parking occupancy surveys conducted at the banquet facility during peak events indicated a parking occupancy of approximately 60 percent leaving ample parking for use by the hotel.

    - In the unlikely event that additional parking is needed, valet service can be provided during peak events at the banquet facility, accommodating 45 additional vehicles.

Appendix

-Traffic Count Summary Sheets
-Site Plan
-CMAP 2040 Projections Letter
-Level of Service Criteria
-Capacity Analysis Summary Sheets
-Parking Occupancy Surveys - 2016

Traffic Count Summary Sheets

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Algonquin Road with Access Drive
Site Code:
Start Date: 03/16/2017

Turning Movement Data

Start Time	Access Drive Eastbound					Algonquin Road Northbound					Algonquin Road Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	0	0	2	196	0	198	0	246	2	0	248	446
7:15 AM	0	0	1	1	1	0	3	203	0	206	0	301	4	0	305	512
7:30 AM	0	0	1	1	1	1	2	289	0	292	0	326	3	0	329	622
7:45 AM	0	0	0	0	0	0	6	320	0	326	0	346	3	0	349	675
Hourly Total	0	0	2	2	2	1	13	1008	0	1022	0	1219	12	0	1231	2255
8:00 AM	0	0	2	1	2	0	7	300	0	307	0	273	9	0	282	591
8:15 AM	0	0	1	0	1	0	6	300	0	306	0	283	3	0	286	593
8:30 AM	0	0	1	0	1	0	11	297	0	308	0	273	8	0	281	590
8:45 AM	0	3	1	0	4	0	9	296	0	305	0	255	14	0	269	578
Hourly Total	0	3	5	1	8	0	33	1193	0	1226	0	1084	34	0	1118	2352
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	7	4	0	11	0	3	370	0	373	0	302	1	0	303	687
4:15 PM	0	3	8	1	11	0	3	334	0	337	0	339	3	0	342	690
4:30 PM	0	4	7	1	11	0	3	338	0	341	0	352	2	0	354	706
4:45 PM	0	2	7	1	9	1	1	364	0	366	0	301	0	0	301	676
Hourly Total	0	16	26	3	42	1	10	1406	0	1417	0	1294	6	0	1300	2759
5:00 PM	0	6	11	2	17	1	0	342	0	343	0	400	1	0	401	761
5:15 PM	0	3	5	2	8	0	4	354	0	358	0	362	0	0	362	728
5:30 PM	0	4	7	0	11	0	1	318	0	319	0	359	3	0	362	692
5:45 PM	0	2	5	1	7	0	0	315	0	315	0	306	4	0	310	632
Hourly Total	0	15	28	5	43	1	5	1329	0	1335	0	1427	8	0	1435	2813
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5:30 PM	0	0	1	1	1	0	4	225	0	229	0	263	1	0	264	494
5:45 PM	0	1	0	0	1	0	4	248	0	252	0	248	3	0	251	504
Hourly Total	0	1	1	1	2	0	8	473	0	481	0	511	4	0	515	998
6:00 PM	0	1	1	3	2	0	9	235	0	244	0	261	3	0	264	510
6:15 PM	0	0	3	0	3	0	12	232	0	244	0	256	3	0	259	506
6:30 PM	0	1	0	0	1	0	6	202	0	208	0	264	0	0	264	473
6:45 PM	0	0	2	1	2	0	3	207	0	210	0	190	1	0	191	403
Hourly Total	0	2	6	4	8	0	30	876	0	906	0	971	7	0	978	1892
7:00 PM	0	2	1	0	3	0	0	199	0	199	0	214	1	0	215	417
7:15 PM	0	0	0	0	0	0	2	207	0	209	0	211	1	0	212	421
Grand Total	0	39	69	16	108	3	101	6691	0	6795	0	6931	73	0	7004	13907
Approach %	0.0	36.1	63.9	-	-	0.0	1.5	98.5	-	-	0.0	99.0	1.0	-	-	-
Total %	0.0	0.3	0.5	-	0.8	0.0	0.7	48.1	-	48.9	0.0	49.8	0.5	-	50.4	-
Lights	0	37	63	-	100	3	95	6539	-	6637	0	6761	69	-	6830	13567
% Lights	-	94.9	91.3	-	92.6	100.0	94.1	97.7	-	97.7	-	97.5	94.5	-	97.5	97.6
Buses	0	0	0	-	0	0	1	48	-	49	0	56	0	-	56	105

% Buses	-	0.0	0.0	-	0.0	0.0	1.0	0.7	-	0.7	-	0.8	0.0	-	0.8	0.8
Single-Unit Trucks	0	2	4	-	6	0	3	75	-	78	0	77	3	-	80	164
% Single-Unit Trucks	-	5.1	5.8	-	5.6	0.0	3.0	1.1	-	1.1	-	1.1	4.1	-	1.1	1.2
Articulated Trucks	0	0	2	-	2	0	2	29	-	31	0	36	1	-	37	70
% Articulated Trucks	-	0.0	2.9	-	1.9	0.0	2.0	0.4	-	0.5	-	0.5	1.4	-	0.5	0.5
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	1
% Bicycles on Road	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	16	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Algonquin Road with Access Drive
Site Code:
Start Date: 03/16/2017

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Access Drive Eastbound					Algonquin Road Northbound					Algonquin Road Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Int. Total
7:30 AM	0	0	1	1	1	1	2	289	0	292	0	326	3	0	329	622
7:45 AM	0	0	0	0	0	0	6	320	0	326	0	346	3	0	349	675
8:00 AM	0	0	2	1	2	0	7	300	0	307	0	273	9	0	282	591
8:15 AM	0	0	1	0	1	0	6	300	0	306	0	283	3	0	286	593
Total	0	0	4	2	4	1	21	1209	0	1231	0	1228	18	0	1246	2481
Approach %	0.0	0.0	100.0	-	-	0.1	1.7	98.2	-	-	0.0	98.6	1.4	-	-	-
Total %	0.0	0.0	0.2	-	0.2	0.0	0.8	48.7	-	49.6	0.0	49.5	0.7	-	50.2	-
PHF	0.000	0.000	0.500	-	0.500	0.250	0.750	0.945	-	0.944	0.000	0.887	0.500	-	0.893	0.919
Lights	0	0	2	-	2	1	20	1159	-	1180	0	1189	17	-	1206	2388
% Lights	-	-	50.0	-	50.0	100.0	95.2	95.9	-	95.9	-	96.8	94.4	-	96.8	96.3
Buses	0	0	0	-	0	0	0	12	-	12	0	9	0	-	9	21
% Buses	-	-	0.0	-	0.0	0.0	0.0	1.0	-	1.0	-	0.7	0.0	-	0.7	0.8
Single-Unit Trucks	0	0	2	-	2	0	1	27	-	28	0	24	1	-	25	55
% Single-Unit Trucks	-	-	50.0	-	50.0	0.0	4.8	2.2	-	2.3	-	2.0	5.6	-	2.0	2.2
Articulated Trucks	0	0	0	-	0	0	0	11	-	11	0	6	0	-	6	17
% Articulated Trucks	-	-	0.0	-	0.0	0.0	0.0	0.9	-	0.9	-	0.5	0.0	-	0.5	0.7
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	-	0.0	-	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Algonquin Road with Access Drive
Site Code:
Start Date: 03/16/2017

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Access Drive Eastbound					Algonquin Road Northbound					Algonquin Road Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Int. Total
4:30 PM	0	4	7	1	11	0	3	338	0	341	0	352	2	0	354	706
4:45 PM	0	2	7	1	9	1	1	364	0	366	0	301	0	0	301	676
5:00 PM	0	6	11	2	17	1	0	342	0	343	0	400	1	0	401	761
5:15 PM	0	3	5	2	8	0	4	354	0	358	0	362	0	0	362	728
Total	0	15	30	6	45	2	8	1398	0	1408	0	1415	3	0	1418	2871
Approach %	0.0	33.3	66.7	-	-	0.1	0.6	99.3	-	-	0.0	99.8	0.2	-	-	-
Total %	0.0	0.5	1.0	-	1.6	0.1	0.3	48.7	-	49.0	0.0	49.3	0.1	-	49.4	-
PHF	0.000	0.625	0.682	-	0.662	0.500	0.500	0.960	-	0.962	0.000	0.884	0.375	-	0.884	0.943
Lights	0	15	29	-	44	2	8	1376	-	1386	0	1388	2	-	1390	2820
% Lights	-	100.0	96.7	-	97.8	100.0	100.0	98.4	-	98.4	-	98.1	66.7	-	98.0	98.2
Buses	0	0	0	-	0	0	0	5	-	5	0	10	0	-	10	15
% Buses	-	0.0	0.0	-	0.0	0.0	0.0	0.4	-	0.4	-	0.7	0.0	-	0.7	0.5
Single-Unit Trucks	0	0	0	-	0	0	0	9	-	9	0	7	0	-	7	16
% Single-Unit Trucks	-	0.0	0.0	-	0.0	0.0	0.0	0.6	-	0.6	-	0.5	0.0	-	0.5	0.6
Articulated Trucks	0	0	1	-	1	0	0	8	-	8	0	10	1	-	11	20
% Articulated Trucks	-	0.0	3.3	-	2.2	0.0	0.0	0.6	-	0.6	-	0.7	33.3	-	0.8	0.7
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	6	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Algonquin Road with Access Drive
Site Code:
Start Date: 03/16/2017

Turning Movement Peak Hour Data (5:30 PM)

Start Time	Access Drive Eastbound					Algonquin Road Northbound					Algonquin Road Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Int. Total
5:30 PM	0	0	1	1	1	0	4	225	0	229	0	263	1	0	264	494
5:45 PM	0	1	0	0	1	0	4	248	0	252	0	248	3	0	251	504
6:00 PM	0	1	1	3	2	0	9	235	0	244	0	261	3	0	264	510
6:15 PM	0	0	3	0	3	0	12	232	0	244	0	256	3	0	259	506
Total	0	2	5	4	7	0	29	940	0	969	0	1028	10	0	1038	2014
Approach %	0.0	28.6	71.4	-	-	0.0	3.0	97.0	-	-	0.0	99.0	1.0	-	-	-
Total %	0.0	0.1	0.2	-	0.3	0.0	1.4	46.7	-	48.1	0.0	51.0	0.5	-	51.5	-
PHF	0.000	0.500	0.417	-	0.583	0.000	0.604	0.948	-	0.961	0.000	0.977	0.833	-	0.983	0.987
Lights	0	2	5	-	7	0	29	935	-	964	0	1019	10	-	1029	2000
% Lights	-	100.0	100.0	-	100.0	-	100.0	99.5	-	99.5	-	99.1	100.0	-	99.1	99.3
Buses	0	0	0	-	0	0	0	3	-	3	0	3	0	-	3	6
% Buses	-	0.0	0.0	-	0.0	-	0.0	0.3	-	0.3	-	0.3	0.0	-	0.3	0.3
Single-Unit Trucks	0	0	0	-	0	0	0	2	-	2	0	4	0	-	4	6
% Single-Unit Trucks	-	0.0	0.0	-	0.0	-	0.0	0.2	-	0.2	-	0.4	0.0	-	0.4	0.3
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	1
% Articulated Trucks	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.1	0.0	-	0.1	0.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	1
% Bicycles on Road	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.1	0.0	-	0.1	0.0
Pedestrians	-	-	-	4	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

Site Plan

IVY BOUTIQUE HOTEL
519 E. ALGONQUIN RD
ARLINGTON HEIGHTS, IL 60007

LOT AREAS	
MIN LOT SIZE:	N/A
EX. LOT SIZE:	±111,981 SF (2.57A)

BUILDING AREAS	
EXISTING	
BANQUET HALL	20,404
PROPOSED	
DEMOLITION	-5,722
TOTAL REMAINING (NET)	14,682
HOTEL ADDITION	93,380
TOTAL	108,062

ZONING ANALYSIS
MIN. LOT WIDTH: N/A
REQUIRED YARDS:
FRONT & REAR: 15 FEET
SIDE: 10 FEET

MAX. F.A.R.: (279,953) 250%
PROPOSED FAR: (108,062) 96.5%

MAX. BLDG COVERAGE: N/A
PROPOSED BLDG. COVERAGE:
23,283 SF (±0.21%)

MAX. BLDG. HT: N/A
PROPOSED BLDG. HT.: 134'-6"

REQUIRED PARKING
BANQUET (30% OF OCCUPANCY)
5,654 / 15 = 377 OCCUPANTS
377 * 0.30 = 113 CARS

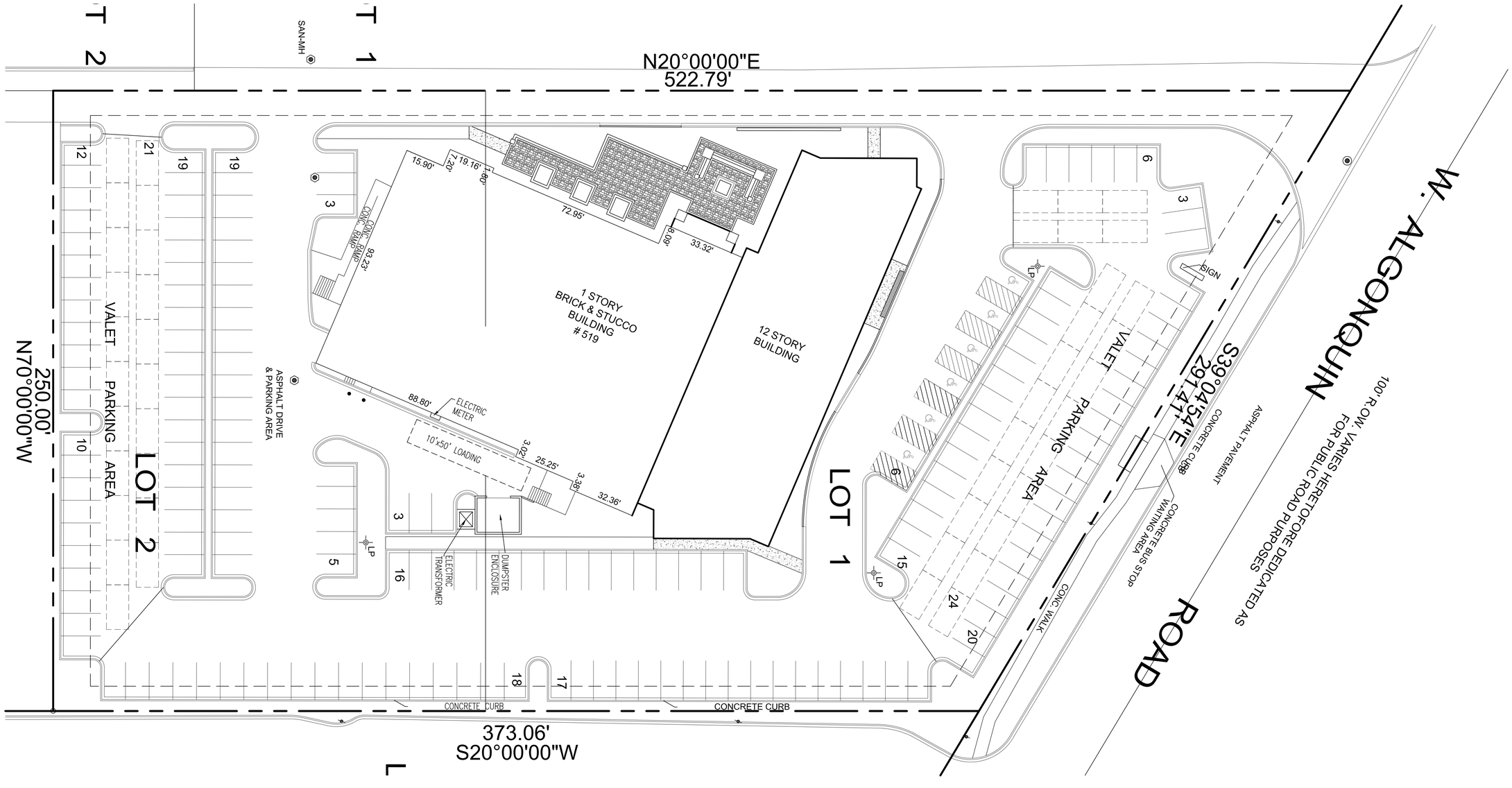
HOTEL (1 PER LODGING AR) 126 CARS

PROPOSED HOTEL ROOMS 126

TOTAL REQUIRED (INCL HC)	239
TOTAL HC REQUIRED	7
EXISTING PARKING (INCL. 6 HC STALLS)	175
PROPOSED TOTAL PARKING	217

172 (INCL. 6 HC STALLS)
45 (VALET STALLS)

12TH FLOOR LOUNGE, 1ST FLOOR SPA AND COFFEE AREA WILL ONLY BE ACCESSIBLE BY HOTEL GUESTS VIA KEYCARD



1 **PROPOSED SITE PLAN**
SCALE : 1" = 20'-0" AUGUST 8, 2017
NORTH

Enrique Castel Architect
460 WEDGEWOOD CIR . LAKE IN THE HILLS, IL 60156 .
P 224-253-8027 . ENCAST@COMCAST.NET

CMAP 2040 Projections Letter

Chicago Metropolitan
Agency for Planning

233 South Wacker Drive
Suite 800
Chicago, Illinois 60606

312 454 0400
www.cmap.illinois.gov

April 11, 2017

Brendan S. May
Consultant
Kenig, Lindgren, O'Hara and Aboona, Inc.
9575 West Higgins Road
Suite 400
Rosemont, IL 60018

Subject: IL 62 (Algonquin Road) from Golf Road to Arlington Heights Road
IDOT

Dear Mr. May:

In response to a request made on your behalf and dated April 10, 2017, we have developed year 2040 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current ADT	Year 2040 ADT
IL 62 (Algonquin Rd) - Golf Rd to Arlington Heights Rd	29,900	31,400

Traffic projections are developed using existing ADT data provided in the request letter and the results from the March 2017 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2040 socioeconomic projections and assumes the implementation of the GO TO 2040 Comprehensive Regional Plan for the Northeastern Illinois area.

If you have any questions, please call me at (312) 386-8806.

Sincerely,

Jose Rodriguez, PTP, AICP
Senior Planner, Research & Analysis

cc: Fortmann (IDOT)
S:\AdminGroups\ResearchAnalysis\TrafficForecasts_CY2017\ArlingtonHeights\ck-30-17\ck-30-17.docx

Level of Service Criteria

LEVEL OF SERVICE CRITERIA

Signalized Intersections

Level of Service	Interpretation	Average Control Delay (seconds per vehicle)
A	Favorable progression. Most vehicles arrive during the green indication and travel through the intersection without stopping.	≤10
B	Good progression, with more vehicles stopping than for Level of Service A.	>10 - 20
C	Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear. Number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	>20 - 35
D	The volume-to-capacity ratio is high and either progression is ineffective or the cycle length is too long. Many vehicles stop and individual cycle failures are noticeable.	>35 - 55
E	Progression is unfavorable. The volume-to-capacity ratio is high and the cycle length is long. Individual cycle failures are frequent.	>55 - 80
F	The volume-to-capacity ratio is very high, progression is very poor and the cycle length is long. Most cycles fail to clear the queue.	>80.0

Unsignalized Intersections

Level of Service	Average Total Delay (SEC/VEH)
A	0 - 10
B	> 10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

Source: *Highway Capacity Manual*, 2010.

Capacity Analysis Summary Sheets

HCS7 Two-Way Stop-Control Report

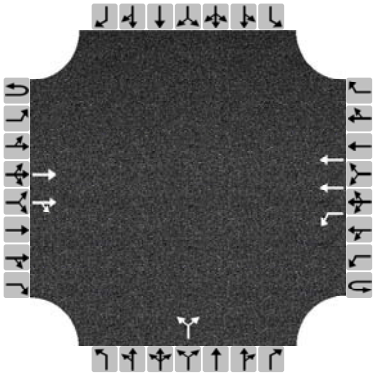
General Information

Analyst	BSM
Agency/Co.	KLOA, Inc.
Date Performed	4/26/2017
Analysis Year	2017
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	16-051

Site Information

Intersection	Algonquin Road with Acces
Jurisdiction	IDOT
East/West Street	Algonquin Road
North/South Street	Access Drive
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	0	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume, V (veh/h)			1228	18		21	1209			0		4				
Percent Heavy Vehicles (%)						5				0		50				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						23					4					
Capacity, c (veh/h)						488					300					
v/c Ratio						0.05					0.01					
95% Queue Length, Q_{95} (veh)						0.1					0.0					
Control Delay (s/veh)						12.7					17.2					
Level of Service, LOS						B					C					
Approach Delay (s/veh)						0.2					17.2					
Approach LOS											C					

HCS7 Two-Way Stop-Control Report

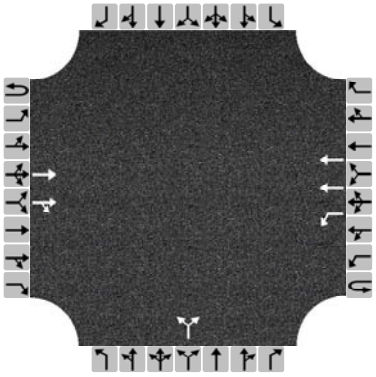
General Information

Analyst	BSM
Agency/Co.	KLOA, Inc.
Date Performed	4/26/2017
Analysis Year	2017
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	16-051

Site Information

Intersection	Algonquin Road with Acces
Jurisdiction	IDOT
East/West Street	Algonquin Road
North/South Street	Access Drive
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	0	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume, V (veh/h)			1415	3		8	1398			15		30				
Percent Heavy Vehicles (%)						0				0		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						9					48					
Capacity, c (veh/h)						450					218					
v/c Ratio						0.02					0.22					
95% Queue Length, Q_{95} (veh)						0.1					0.8					
Control Delay (s/veh)						13.2					26.1					
Level of Service, LOS						B					D					
Approach Delay (s/veh)						0.1					26.1					
Approach LOS											D					

HCS7 Two-Way Stop-Control Report

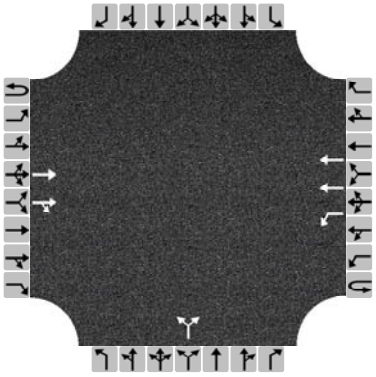
General Information

Analyst	BSM
Agency/Co.	KLOA, Inc.
Date Performed	4/26/2017
Analysis Year	2017
Time Analyzed	Sat Peak Hour
Intersection Orientation	East-West
Project Description	16-051

Site Information

Intersection	Algonquin Road with Acces
Jurisdiction	IDOT
East/West Street	Algonquin Road
North/South Street	Access Drive
Peak Hour Factor	0.99
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	0	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume, V (veh/h)			1028	10		29	940			2		5				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						29					7					
Capacity, c (veh/h)						672					366					
v/c Ratio						0.04					0.02					
95% Queue Length, Q_{95} (veh)						0.1					0.1					
Control Delay (s/veh)						10.6					15.0					
Level of Service, LOS						B					C					
Approach Delay (s/veh)						0.3					15.0					
Approach LOS											C					

HCS7 Two-Way Stop-Control Report

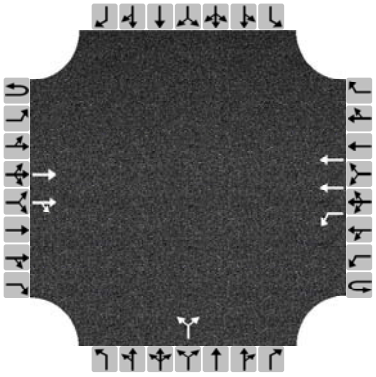
General Information

Analyst	BSM
Agency/Co.	KLOA, Inc.
Date Performed	4/26/2017
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	16-051

Site Information

Intersection	Algonquin Road with Acces
Jurisdiction	IDOT
East/West Street	Algonquin Road
North/South Street	Access Drive
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	0	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume, V (veh/h)			1243	38		41	1224			13		18				
Percent Heavy Vehicles (%)						5				0		13				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						45					34					
Capacity, c (veh/h)						472					217					
v/c Ratio						0.10					0.16					
95% Queue Length, Q_{95} (veh)						0.3					0.5					
Control Delay (s/veh)						13.4					24.7					
Level of Service, LOS						B					C					
Approach Delay (s/veh)						0.4					24.7					
Approach LOS											C					

HCS7 Two-Way Stop-Control Report

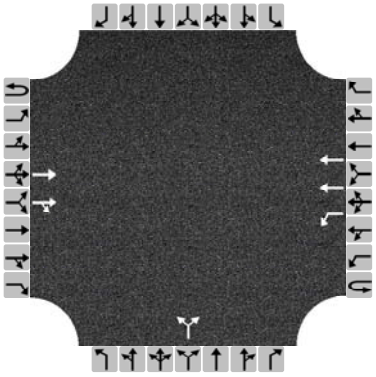
General Information

Analyst	BSM
Agency/Co.	KLOA, Inc.
Date Performed	4/26/2017
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	16-051

Site Information

Intersection	Algonquin Road with Acces
Jurisdiction	IDOT
East/West Street	Algonquin Road
North/South Street	Access Drive
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	0	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume, V (veh/h)			1432	23		27	1415			33		49				
Percent Heavy Vehicles (%)						0				0		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						29					87					
Capacity, c (veh/h)						435					192					
v/c Ratio						0.07					0.45					
95% Queue Length, Q_{95} (veh)						0.2					2.1					
Control Delay (s/veh)						13.9					38.4					
Level of Service, LOS						B					E					
Approach Delay (s/veh)						0.3					38.4					
Approach LOS											E					

HCS7 Two-Way Stop-Control Report

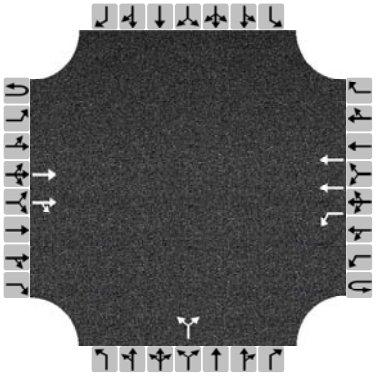
General Information

Analyst	BSM
Agency/Co.	KLOA, Inc.
Date Performed	4/26/2017
Analysis Year	2023
Time Analyzed	Sat Peak Hour
Intersection Orientation	East-West
Project Description	16-051

Site Information

Intersection	Algonquin Road with Acces
Jurisdiction	IDOT
East/West Street	Algonquin Road
North/South Street	Access Drive
Peak Hour Factor	0.99
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	0	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume, V (veh/h)			1040	38		57	951			19		23				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						58					42					
Capacity, c (veh/h)						648					296					
v/c Ratio						0.09					0.14					
95% Queue Length, Q_{95} (veh)						0.3					0.5					
Control Delay (s/veh)						11.1					19.2					
Level of Service, LOS						B					C					
Approach Delay (s/veh)						0.6					19.2					
Approach LOS											C					

Parking Occupancy Surveys - 2016

Table A
PARKING OCCUPANCY SURVEYS – FEBRUARY 2016

	Friday, April 22, 2016		
Time	Parking Occupancy	Percent Occupied	Surplus Spaces
6:00 P.M.	26	15%	146
6:30 P.M.	44	26%	128
7:00 P.M.	63	37%	109
7:30 P.M.	80	47%	92
8:00 P.M.	81	47%	91
8:30 P.M.	81	47%	91
9:00 P.M.	83	48%	89
Inventory	**172 Spaces**		

Table B
PARKING OCCUPANCY SURVEYS – APRIL 2016

	Friday, April 22, 2016			Saturday, April 23, 2016			Sunday, April 24, 2016		
Time	Parking Occupancy	Percent Occupied	Surplus Spaces	Parking Occupancy	Percent Occupied	Surplus Spaces	Parking Occupancy	Percent Occupied	Surplus Spaces
4:30 P.M.	--	--	--	25	15%	147	25	15%	147
5:30 P.M.	--	--	--	49	28%	123	49	28%	123
5:30 P.M.	22	13%	150	64	37%	108	64	37%	108
6:00 P.M.	45	26%	127	66	38%	106	66	38%	106
6:30 P.M.	75	44%	97	70	41%	102	70	41%	102
7:00 P.M.	100	58%	72	69	40%	103	69	40%	103
7:30 P.M.	106	62%	66	72	42%	100	72	42%	100
8:00 P.M.	106	62%	66	--	--	--	--	--	--
8:30 P.M.	109	63%	63	--	--	--	--	--	--
Inventory	**172 Spaces**								