

Memorandum

To/Attention Brenda Guy, Manager of

Planning & Development Town of Gananoque 30 King Street East Gananoque, Ontario

K7G 1E9

From Ben Pascolo-Neveu, P.Eng. Project

No

Date

April 6, 2021

126533

cc Todd Shea, President

RKJL Foods Ltd. 1165 Division Street Kingston, ON K7H 5W3

Subject 670 King Street East, Gananoque – Transportation Brief

Dear Ms. Guy,

We are pleased to provide you with the enclosed Transportation Brief in support of the proposed implementation of a dual-lane drive-through for an existing McDonald's restaurant, located at 670 King Street East in the Town of Gananoque, Ontario. IBI Group was retained by RKJL Foods Ltd. to undertake a transportation assessment of the proposed site plan reconfiguration, as required by the Town of Gananoque.

The subject property consists of a standalone McDonald's restaurant with a single-lane drive-through and surface parking for 49 vehicles and is presently accessed by a single, full-movement private approach on King Street East. As indicated in the Development Permit By-law, the site is zoned Gateway Commercial.

King Street East is identified in the Official Plan as the primary commercial artery within the Town of Gananoque. Within the vicinity of the site, its cross-section consists of a two-lane road with a centre two-way left-turn lane, providing access to a number of commercial driveways.

The site and its surrounding context is illustrated in Figure 1 below.

Through discussions with Town planning staff, however, it is understood that there are concerns with the existing site circulation and access configuration.

To address these concerns, the proposed site plan shown in **Appendix A** indicates an additional private approach near the southwest corner of the site to complement the proposed dual drive-through configuration and afford drive-through motorists a more direct egress route, while reducing the potential for vehicle conflicts near the existing site access.

As part of this exercise, three alternative site configurations featuring both the dual drive-through lanes and an additional site access have been reviewed from a transportation perspective to

determine the overall impacts of each on mitigating internal vehicular conflicts and develop a preferred site configuration. Consideration has been given to changes in parking supply, existing turning movements permitted along the segment of King Street adjacent to the site and Transportation Association of Canada (TAC) corner clearance guidelines.

The alternative site configurations reviewed in this Transportation Brief are summarized below:

- Alternative 1 Introduce a dual-lane outbound only access at the southwest corner of the site, while maintaining the full movement operations of the existing access.
- Alternative 2 Introduce a dual-lane outbound only access at the southwest corner of the site, while restricting the existing access to inbound only movements.
- Alternative 3 Introduce a right-out only access at the southwest corner of the site, while maintaining the full movement operations of the existing access.

The recommended site circulation and access configuration has been further supported by field investigations undertaken by IBI staff for this assignment, including a sight-line assessment at the proposed secondary private approach, collection of traffic volumes at the existing site access during each of the weekday morning and afternoon peak hours, as well as data regarding drive-through proportion and maximum queue lengths observed. On-site traffic data has been reviewed to establish baseline operating conditions, quantify the expected impacts of the dual-lane drive-through and the redistribution of drive-through traffic to the proposed secondary private approach driveway at the southwest corner of the site.

It should be noted that an additional alternative was considered which would have involved the introduction of dual drive-through lanes along the eastern property boundary of the site, while the impacted drive aisle and parking stalls would have been relocated immediately west and abutting the building. Although this alternative may have contributed to improved traffic operations at the drive-through entrance, it is expected that it would have also resulted in further conflicts where vehicles are required to cross the drive-through stacking lanes to access parking stalls along the northern property boundary. Consequently, upon further discussion with Town planning staff, this alternative was eliminated and therefore was given no further consideration as part of this Transportation Brief.





Parking & Queuing Requirements

Currently, the subject site provides 49 surface parking spaces. The proposed site plan, however, indicates a reduction to 41 spaces in order to accommodate a dual drive-through lane. It should be noted that this reduction in parking supply remains within the permissible range of at least 30 spaces, as prescribed in the Development Permit By-law (October 2015). Further, the proposed plan complies with barrier-free parking requirements, providing the prescribed 1:20 ratio by including 2 barrier-free spaces and enhanced pedestrian connections to facilitate direct access to the main building entrance.

With respect to queuing, the Development Permit By-law also specifies that a drive-through facility serving a restaurant land use is required to have a minimum of 11 off-street queuing spaces leading to and from the service, each with a length of 6 metres. Based on the proposed plan provided in **Appendix A**, the new dual-lane drive-through configuration is expected to provide queuing for at least 14 vehicles and therefore is well above the minimum threshold prescribed in the By-law.

Access Management Review

As discussed previously, the subject site is located within a Gateway Commercial zone on King Street East, identified as a primary commercial artery within the Town of Gananoque. Within the vicinity of the site, King Street East consists of a three-lane urbanized cross-section with a single vehicle travel lane in each direction and a centre two-way left-turn lane.

According to the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads, it is generally suggested that a driveway or public lane should be at least 70 metres from the nearest signalized intersection. The proposed site access driveway falls just shy of this threshold with an approximate 65-metre distance from the signalized intersection of King Street East & Carmichael Drive, however given that the proposed site access driveway is separated from this intersection by two other site access driveways and that it will be restricted to outbound only movements, this guideline can be considered to be sufficiently satisfied.

The subject property consists of an approximate 61-metre frontage on King Street East. The proposed site access driveway is approximately 11 metres from western property boundary of the site, while the existing all movements connection is located approximately 3 metres from the adjacent property to the east.

Abutting the site to the west is a hotel land use consisting of dedicated unidirectional site access driveways, with the inbound access located closest to the proposed site access driveway and separated by an approximate 13-metre distance. Opposite the proposed site access driveway, a full movements access exists for a commercial retail plaza at 709-713 King Street East. Abutting the subject property to the east is an undeveloped greenfield site with gravel access located approximately 48 metres from the existing access.

The permitted turning movements for existing site access driveways serving sites adjacent to the subject property are illustrated in **Figure 2** below.

Figure 2 – Site Access Driveways for Adjacent Sites



Trip Generation

Turning movement counts were conducted by IBI during the weekday morning and afternoon peak periods for the existing site access on Wednesday, March 17, 2021 from 7:00-9:00am and 4:00-6:00pm. These peak period volumes were used to derive base weekday morning and afternoon peak hour site-generated traffic volumes which are presented in **Table 1** below.

Traffic count data collected for this study is provided in **Appendix B**.

Table 1 - Base Peak Hour Site-Generated Traffic Volumes

INTERSECTION	PERIOD	GI	ENERATED TRIPS (VP	H)
INTERCEOTION	, Engo	IN	OUT	TOTAL
Existing Site Access	AM	91	88	179
(All Movements)	PM	78	70	148

Notes: vehicles per hour (vph)

It is acknowledged that the above traffic volumes were collected during the off-peak season and in the midst of the COVID-19 pandemic. As such, these volumes may not be representative of typical peak season conditions. Through discussions with the client, a scaling factor of 50% has been applied to the turning movement counts presented in **Table 1** above to approximate typical annual peak conditions based on typical daily sales data at this McDonald's location. Further adjustments have been made based on increased business anticipated with the introduction of a dual drive-through lane configuration, which is expected to result in marginally higher sales figures of approximately 3%. Based on the above, an overall adjustment factor of 1.55 was applied to the weekday peak hour volumes observed at the site access and the adjusted volumes are presented in **Table 2** below.

Table 2 – Adjusted Peak Hour Site-Generated Traffic Volumes

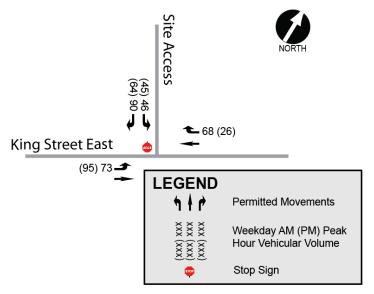
INTERSECTION	PERIOD	ADJUSTMENT	GEI	NERATED TRIPS ((VPH)
		FACTOR	IN	OUT	TOTAL
Existing Site	AM	1.55	141	136	277
Access (All Movements)	PM	1.55	121	109	229

Notes: vehicles per hour (vph)

As per **Table 2** above, during a typical peak season, it is expected that the subject site would generate up to 277 and 229 two-way vehicle trips under weekday morning and afternoon peak hour conditions, respectively, with the introduction of a dual-lane drive-through.

Adjusted peak hour traffic volumes representative of existing conditions are shown in **Figure 3** below.

Figure 3 – Adjusted Site-Generated Traffic (Existing Access Configuration)



The proportion of site-generated traffic using the drive-through in comparison with the surface parking lot was also recorded in 15-minute intervals during the field investigation. A review of this data suggests that approximately 93% and 84% of site-generated vehicular traffic uses the drive-through during both the weekday morning and afternoon peak hours, respectively. It is acknowledged, however, that this data may be skewed by the current restrictions imposed during the COVID-19 pandemic, which encourage restaurant patrons to use drive-through facilities instead of dining in. Under typical operating conditions, the proportion of drive-through use is more in the order of 65%, as compared with those that park and dine-in. The analysis of drive-through queuing can therefore be considered conservative.

Table 3 below summarizes the average proportions of drive-through and surface parking vehicles over the course of the weekday morning and afternoon peak hours.

Table 3 - Percentage of Site-Generated Traffic using Drive-Through vs. Surface Parking Lot

PEAK HOUR	DRIVE-THROUGH VEHICLES	PARKED VEHICLES	BOTH (DRIVE-THROUGH & PARKED)	TOTAL
AM	89%	7%	4%	100%
PM	77%	16%	7%	100%

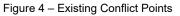
As part of the field investigation, queue spillback beyond the drive-through stacking lane was also observed during the weekday morning and afternoon peak periods. A review of this data identified five instances of spillback beyond the defined drive-through stacking lane and two instances of drive-through spillback into the parking lot drive aisles, all of which occurred during the weekday afternoon peak hour and resulted in maximum queue spillback of 10 vehicles from the order speaker located on the north side of the building. Presently, the drive-through can accommodate approximately 6 vehicles queuing to place an order, as well as 2 additional vehicles before spillover within the drive aisle occurs. The proposed dual-lane configuration would increase this stacking distance by one vehicle leading up to the order speaker, and accommodate a total of 11 vehicles within the designated stacking area before queue spillback would be expected. Based on discussions with the client, the introduction of a dual drive-through lane is expected to increase the overall capacity of the drive-through facility from 100-120 drive-through orders per hour to 150-180 driver through orders per hour, which equates to a significant increase in capacity of roughly 50%.

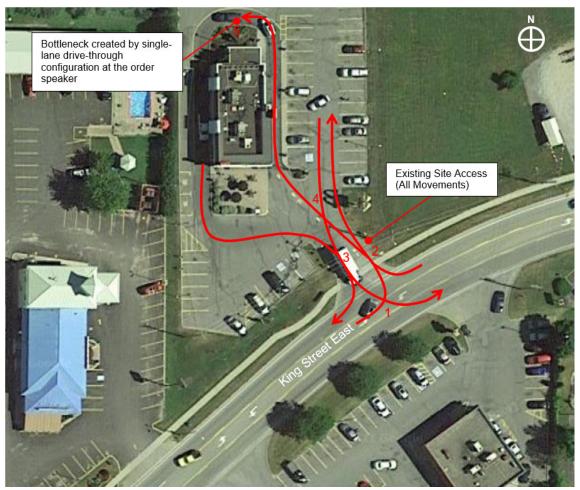
Through field investigations conducted for this study and the application of the seasonal adjust factor discussed previously, it is expected that the drive-through facility is presently operating near or above its theoretical capacity in the peak season. During the weekday morning and afternoon peak hours in the peak season, it is estimated that 134 and 104 drive-through orders are processed, respectively. With the introduction of dual drive-through lanes, the order count may increase slightly to 136 and 106 orders during weekday mornings and afternoon peak hours, respectively, however both would be expected to remain consistently below the lower limit capacity threshold of 150 orders per hour. Providing dual order boards and order speakers is expected to help significantly decrease the opportunity for bottleneck conditions from occurring during the ordering process, while reducing queue lengths to more manageable levels as well. It is possible that queues may still occasionally extend into the drive aisle, however these instances are expected to occur with a significantly lower frequency and be sustained for shorter time periods.

Site Circulation & Access

As discussed previously, the subject site is presently served by a single all movements access driveway on King Street East. Field investigations conducted for this study indicate that drive-through queues occasionally spillback beyond the available stacking lane which results in an increased potential for conflicts to occur within the vicinity of the site's sole access. The site reconfiguration provides a direct egress route for drive-through traffic and also allows for vehicles to circulate around the back of the building by providing a secondary means of egress, while further mitigating the existing issue of vehicles crossing paths near the existing site access. With a substantial amount of site traffic associated with the drive-through, the establishment of a secondary site egress will relieve congestion at the existing site access and significantly reduce the queue and delay for vehicles exiting the site.

The existing conflict areas on site are illustrated in **Figure 4** below. There are five potential conflict points, almost all of which are triggered as a direct consequence of spillback of the drive-through queue beyond the storage lane. Impacted vehicular movements include inbound movements at the site access and egress movements from either the drive-through facility or the surface parking lot east of the restaurant building.





IBI GROUP MEMORANDUM

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In addition to the proposed implementation of dual drive-through lanes, which is expected to significantly reduce queue spillback issues through more efficient order processing, introducing an additional private approach driveway near the southwest corner of the site is anticipated to help further mitigate the potential for traffic circulation issues on site by providing a more direct egress route for drive-through traffic. Field investigations conducted for this study indicate that drive-through traffic contributes significantly to the overall trip generation of the site, therefore this has been considered in the review of the proposed alternative configurations.

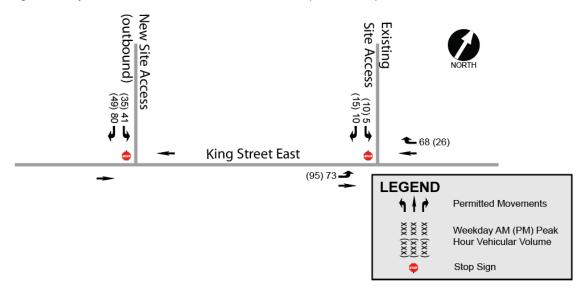
As discussed previously, the three alternative configurations site access configurations were developed based on the desire to introduce a secondary access point and are discussed in more detail below. A review of potential conflict points associated with each alternative configuration is provided as well.

Alternative 1 - New Outbound Access & Existing All Movements Access

This alternative would involve introducing an outbound only access at the southwest corner of the site with dedicated southbound left- and right-turn auxiliary lanes, while maintaining the full movement operations of the existing access. Alternative 1 would be expected to help significantly mitigate potential site circulation conflicts from occurring by providing a more direct egress route for drive-through traffic.

The expected redistribution of traffic volumes associated with Alternative 1 is presented in **Figure 5** below. This redistribution was based on the proportion of vehicles observed using the drivethrough and surface parking lot during the field investigation, as presented in **Table 3** above. Motorists which were classified as both using the drive-through and subsequently parking were assumed to egress through the existing site access, representing the most direct connection to King Street East.

Figure 5 - Adjusted & Redistributed Site-Generated Traffic (Alternative 1)



With Alternative 1, it is expected that the overall number of potential conflict points associated with the site access configuration would be reduced from five to four, in comparison with existing conditions. A new potential conflict is identified between outbound left-turn vehicles at the proposed site access and westbound left-turn vehicles into the shopping centre access which may lead to queue spillback to the end of the drive-through facility. Further review of the traffic data collected during the field investigation, however, suggests that the majority of outbound site traffic consists of right-turning vehicles during both weekday peak hours and therefore the implementation of a dual-lane egress would be expected to help better manage queues at this secondary egress. Ordinarily, dual-lane unsignalized approaches are discouraged as adjacent vehicles can block visibility to oncoming vehicles. In this case, however, the 90-degree approach angle proposed and the curvature of King Street East will provide sufficient visibility to vehicles approaching from the east.

This alternative would also help to divert significant vehicle trips away from the existing site access, while providing flexibility for egressing vehicles to use either access should traffic operational issues arise at one access point.

The potential conflict points associated with Alternative 1 are illustrated in Figure 6 below.

Proposed Dual-lane Outbound Access

Dual-lane drive-through (see Appendix A) significantly reduces instances of potential spillback beyond stacking lanes

Existing Site Access (All Movements)

Existing Site Access (All Movements)

SBL vehicle blocked by WBL turning vehicle

Vehicle waiting to turn WBL into shopping centre

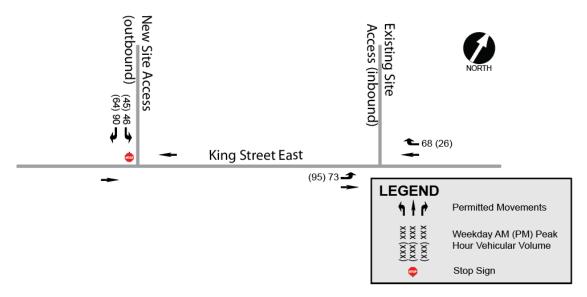
Figure 6 - Potential Conflict Points - Alternative 1

Alternative 2 - New Outbound Access & Existing Access Restricted to Inbound Movements

This alternative would involve introducing an outbound only access at the southwest corner of the site with dedicated southbound left- and right-turn auxiliary lanes, while restricting the existing access to inbound only movements. While Alternative 2 would be expected to help mitigate potential site circulation conflicts from occurring at the existing site access by providing a more direct egress route for drive-through traffic, any potential queuing issues associated with Alternative 1 regarding the southbound left-turn at the proposed site access driveway would be further exacerbated by this configuration, as all outbound left-turning traffic would be required to egress via this movement.

The expected redistribution of traffic volumes associated with the Alternative 2 is presented in Figure 7 below. This redistribution was based on the proportion of vehicles observed using the drive-through and surface parking lot during the field investigation, as presented in **Table 3** above.

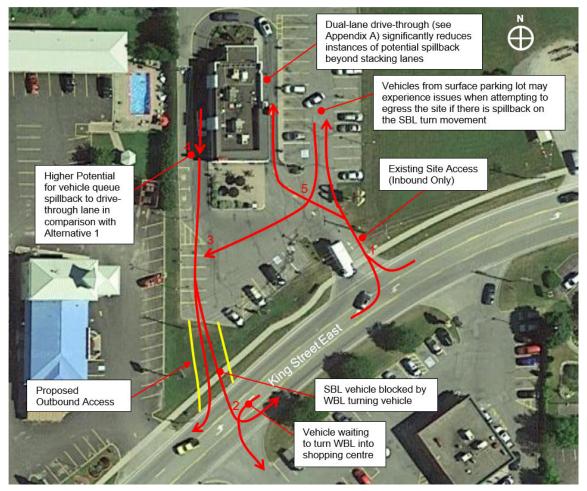
Figure 7 - Adjusted & Redistributed Site-Generated Traffic (Alternative 2)



With Alternative 2, it is expected that the overall number of potential conflict points will remain at five, similar to the existing site configuration. Given that the proposed site access would be aligned opposite an existing shopping centre access, this may result in delays to southbound left-turn vehicles waiting to egress the site. Any queued vehicles waiting to turn westbound left into the shopping centre would have priority over southbound left-turn vehicles egressing the site and may lead to queue spillback of vehicles to the end of the drive-through aisle. Further, as the proposed access would serve as the sole site egress location, any motorists from the surface parking lot to the east of the restaurant would also be required to exit here as well, and may experience conflicts if there are queues on the southbound left-turn movement.

The potential conflict points associated with Alternative 2 are illustrated in Figure 8 below.

Figure 8 - Potential Conflict Points - Alternative 2

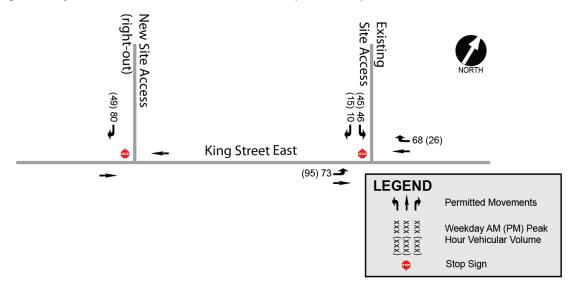


Alternative 3 - New Right-out Access & Existing All Movements Access

This alternative would involve introducing a right-out only access near the southwest corner of the site, while maintaining full movement operations at the existing access. Alternative 3 would be expected to help mitigate potential for site circulation conflicts from occurring by providing a more direct egress route for right-turning drive-through traffic, while requiring that all outbound left-turn movements continue to use the existing site access in order to help mitigate potential delays on this critical movement. As a substantial amount of traffic exits the site via a right-turn movement, this will decrease delays and queuing in the outbound direction at the existing site access.

The expected redistribution of traffic volumes associated with the Alternative 3 is presented in **Figure 9** below. This redistribution was based on the proportion of vehicles observed using the drive-through and surface parking lot during the field investigation, as presented in **Table 3** above. Motorists which were classified as both using the drive-through and subsequently parking were assumed to egress through the existing site access, representing the most direct connection to King Street East.

Figure 9 - Adjusted & Redistributed Site-Generated Traffic (Alternative 3)



With Alternative 3, it is expected that the number of conflict points would be reduced from five to four relative to the existing configuration. In comparison with the existing configuration, right-out traffic will have a direct connection to King Street East and while this will help to significantly reduce the amount of traffic which would otherwise egress through the existing driveway connection, it provides less overall flexibility for motorists as compared with Alternative 1 by forcing all left-turning traffic to navigate back to and egress via the existing access.

The potential conflict points associated with Alternative 3 are illustrated in Figure 10 below.

Dual-lane drive-through (see Appendix A) significantly reduces instances of potential spillback beyond stacking lanes

Existing Site Access (All Movements)

Proposed Right-out Access

Figure 10 - Potential Conflict Points - Alternative 3

Sight Line Review

A sight line investigation was also undertaken by IBI to document any visibility constraints at the proposed site access location for comparison with minimum standards for safe egress (intersection sight distance) and stopping sight distance, as prescribed in the Transportation Association of Canada (TAC) Design Guidelines.

Sight distance requirements must be considered both for approaching the intersection and departing from the stopped position at the intersection. Stopping sight distance is the distance required for a motorist to react to an observed hazard and come to a complete stop given an initial operating speed. Intersection sight distance criteria for stop-controlled intersections are longer than the minimum stopping sight distance to allow the intersection to operate smoothly. In this case, the stopping sight distance and intersection sight distance review considers the required visibility of an approaching vehicle on the westbound approach to safely make a left turn from the proposed site access driveway with recognition of the existing horizontal curve on King Street immediately east of the site. West of the site access, the alignment of King Street East is generally straight with no significant grade, therefore sight lines along this segment were assumed to meet the minimum visibility requirements and were not considered explicitly as part of this sight line review.

The segment of King Street East within the study area has a posted speed limit of 50 km/h, therefore an operating speed of 60 km/h, representing 10 km/h above the posted speed limit, is assumed to be appropriate for the purposes of analysis.

Corresponding TAC standards for *intersection* and *stopping sight* distances with a 60 km/h design speed are provided in **Table 4** below, with respect to the sight line constraints measured at the proposed site access driveway location. It should be noted that only the critical upstream or downstream visibility constraints to the east of the site were evaluated against the TAC standards.

Table 4 – Visibility at Proposed Site Access (Westbound Approach)

	MINIMUM SIGHT DISTANCE REQUIRED	ACHIEVABLE SIGHT DISTANCE ¹
Intersection Sight Distance (ISD)	125m	193m
Stopping Sight Distance (SSD)	85m	193m

Notes: ¹ Determined through field investigations conducted by IBI Group on March 17, 2021.

Based on the results in **Table 4** above, sufficient visibility is achievable for the safe egress of vehicles to turn left out of the site at the proposed western driveway.

As noted previously, with regards to the dual-lane egress configuration proposed for Alternatives 1 and 2, the curvature of King Street East will also afford motorists egressing the site sufficient visibility of vehicles approaching from the east and allow for the implementation of separate left-and right-turn lanes at the proposed site access driveway.

The proposed western private approach, as seen from the east, is shown in **Figure 11** below. The construction cone used to conduct the sight line analysis is circled in the photograph.

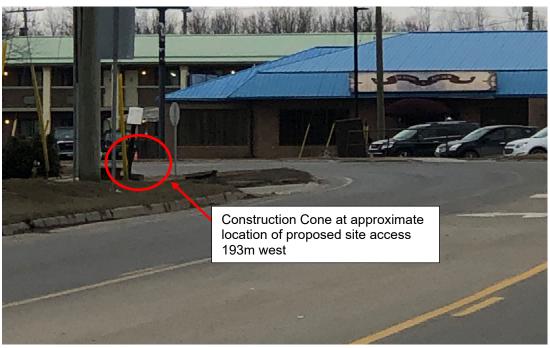
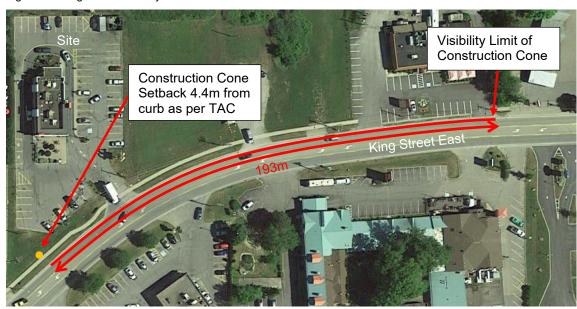


Figure 11 - Looking westbound towards proposed site access location 193m away

The achievable sight distance measured on King Street East is illustrated in Figure 12 below.





Recommended Alternative

Overall, the marginal 3% increase in traffic associated with the introduction of a dual-lane drivethrough is not expected to significantly impact traffic operations. Furthermore, the diversion of many outbound vehicle trips away from the site access is anticipated to have a net positive impact on operations at the existing site access, resulting in both shortened drive-through and outbound queues, as well as a reduction in the overall number of vehicle path crossings.

Based on the three alternative site access configurations discussed previously, Alternative 1 provides the greatest net benefit to the site in terms of addressing the existing circulation issues. This configuration proposes that the new dual-lane western driveway be limited to outbound left-and right-turn movements, while the existing access continue to serve as a full movements connection on King Street East.

It is recognized that the southbound left-turn movement at the proposed site access driveway may occasionally experience queue spillback towards the drive-through, however given the relatively small proportion of left-turning outbound traffic observed during the field investigation and the increased flexibility afforded to motorists by maximizing egress, this alternative is expected to help further reduce potential impacts associated with this critical outbound movement. Further, with a dual-lane egress, right-turning outbound traffic will be segregated from and therefore less impacted by any operational issues experienced on the left-turn outbound movement. By contrast, Alternatives 2 and 3 do not afford motorists this level of flexibility by requiring that all outbound left-turn vehicles navigate through the site and exit via the existing access with a shared lane configuration.

Conclusion

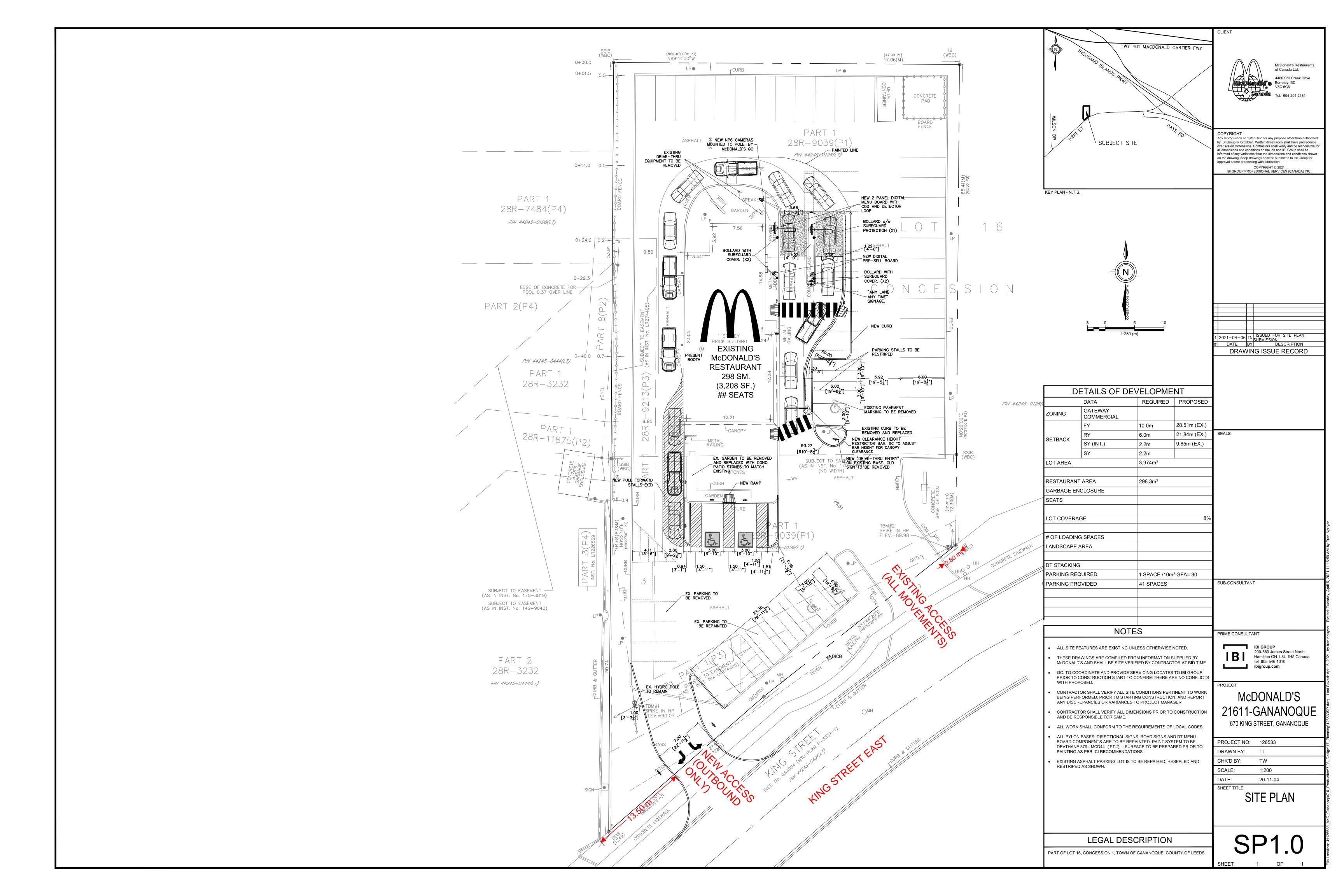
Based on the site access review conducted above, it is the overall opinion of IBI Group that a new dual-lane outbound access driveway can be safely accommodated at the location identified in the proposed plan in combination with the planned dual-lane drive-through. The proposed site access driveway location meets the parking and queuing requirements outlined in Development Permit By-law, the minimum visibility requirements outlined in TAC and is further supported by trip generation estimates developed for the site during the peak season. As indicated by the observed traffic data, the introduction of this secondary access with dedicated left- and right-turn auxiliary lanes would remove a substantial amount of outbound traffic from the existing access and help to further mitigate congestion and delays for vehicles exiting the site.

Prepared By:



Ben Pascolo-Neveu, P.Eng. Project Engineer, Transportation

Appendix A – Draft Site Plan



Appendix B – Traffic Count Data

Survey Date:	Wednesday	March	17	2021
Weather:	Dry	,		

NB (South Leg) Street Name: EB (West Leg) Street Name: King Street East
SB (North Leg) Street Name: Existing Site Access WB (East Leg) Street Name: King Street East

 Start Time (AM Peak):
 7:00

 End Time (AM Peak):
 9:00

 The AM Peak Hour is from (AM Peak):
 0:30 AM (a 8:30 AM)

AADT Factor: 1.0



								Turn	ing Mo	veme	nt Coun	t - 15	Minute	e Vehic	le Sun	nmary	Repor	t (AM	Peak)					
Time Period			0 Northbound					ting Site A Southboun			N/S STREET			ng Street Ea Eastbound	ıst				n g Street E Westboun			E/W STREET	Grand	1 Hour Traffic Volumes (All Scenarios)
	LT	ST	RT	U-Turns	NB TOTAL	LT	ST	RT	U-Turns	SB TOTAL	TOTAL	LT	ST	RT	U-Turns	EB TOTAL	LT	ST	RT	U-Turns	WB TOTAL	TOTAL	TOTAL	Thou traine volumes (All Scenarios)
7:00 7:15					0	5		8		13	13	10				10			7		7	17	30	
7:15 7:30					0	8		15		23	23	9				9			11		11	20	43	16
7:30 7:45					0	5		16		21	21	11				11			12		12	23	44	4 5
7:45 8:00					0	10		14		24	24	17				17			6		6	23	47	4
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TOTAL PK HR:	0	0	0	0	0	30	0	58	0	88	88	47	0	0	0	47	0	0	44	0	44	91	179	

								ting Site Ac						ng Street Ea	st				g Street E					
Time Period			Northbound					Southboun	d		N/S STR			Eastbound			Westbound					E/W STR	Grand	1 Hour Traffic Volumes
		ST	RT	U-Turns	NB TOTAL	LT		RT	U-Turns	SB TOTAL	TOTAL	LT	ST	RT	U-Turns	EB TOTAL	LT	ST		U-Turns	WB TOTAL	TOTAL	TOTAL	(All Scenarios)
16:00 16:15					0	9		4		13	13	9				9			3		3	12	25	
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17:30 17:45					0	7		10		17	17	11				11			6		6	17	34	
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TOTAL PK HR:	0	0	0	0	0	29	0	41	0	70	70	61	0	0	0	61	0	0	17	0	17	78	148	