

Addendum Letter Report

To: Mohamed El-Koury (Sina)
 Copy: Mark Baker, P.Eng.
 From: Arman Matti P.Eng.

Date: 14 November 2023
 Project: 478864-01000

Re: 788 March Road, Kanata Ontario
Transportation Impact Assessment – Addendum No.4

1. Introduction

There have been several submissions related to the subject development at 788 March Road since the original TIA in 2018. The following provides a summary of the various submissions related to transportation, ordered in ascending order, from the oldest to most recent document:

- 788 March Road Draft TIA, submitted August 2018 (Draft TIA submission assumed 196 units).
- 788 March Road Final TIA, submitted October 2018 (Final TIA Submission assumed 196 units which incorporated City comments from the Draft submission as Addendum #1 in Appendix A). The TIA also included an RMA drawing which was approved on February 8th, 2019. See Section 4 for details.
- 788 March Road Addendum #2, submitted December 2018 (Addressing City comments).
- 788 March Road Addendum #3, submitted March 2020 (revisions to site plan that assumed reduction to 92 units).

The most recent site plan (Attachment A) reverts to the original TIA submission (October 2018) and accommodates a total of 196 units. Although, the number of units and access arrangements have remained similar to the original TIA submission, communication with City of Ottawa Transportation Project Manager for this file indicated that given the TIA is within the 5-year window, the update be limited to refreshing the trip generation for the site.

The City’s acceptable trip generation rates and mode share splits for residential developments have been updated since 2018. Instead of revising the TIA, the trip generation revisions have been presented in the form of this addendum letter report. The addendum will also review and provide comments on access arrangements and circulation.

2. Trip Generation Revisions

2.1. Trip Generation – Previous Study (October 2018)

Table 1 below reflects the previous Site Plan (October 2018) full buildout horizon (+5 year beyond development) where 196 residential units were proposed:

Table 1: Total Site Person Trip Generation – Previous TIA Study (2018)

Travel Mode	Mode Share	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In	Out	Total	In	Out	Total
Auto Driver	50%	19	50	69	40	29	69
Auto Passenger	10%	4	9	13	7	6	13
Transit	25%	9	26	35	20	15	35
Non-motorized	15%	5	16	21	12	9	21
Total Person Trips	100%	37	101	138	79	59	138

The anticipated total two-way site generated person trips were 138 for both the AM and PM peak hours, and the total two-way vehicle generated trips were 69 trips for the AM and PM peak hours.

2.2. Trip Generation – 2023 Site Plan

The acceptable methodology and trip rates for estimating trips generated by residential developments in Ottawa has been updated in recent years. The appropriate trip generation rates for high-rise apartment building land uses were obtained from the 2020 TRANS Trip Generation Manual. The Manual provides person-trip rates during the peak AM and PM periods (7am-9:30am and 3:30pm-6pm), which can then be factored to peak hour trips. The updated trip rates are summarized in **Table 2** below.

Table 2: Residential Trip Generation Trip Rates

Land Use	Data Source	Trip Rates	
		AM Peak Period (7-9:30am)	PM Peak Period (3:30-6pm)
High-Rise Apartments	TRANS 2020	T = 0.8(du);	T = 0.9(du);
Notes: T = Average Vehicle Trip Ends du = Dwelling unit			

Using the trip rates provided in **Table 2**, the total number of person trips generated during the morning and afternoon peak periods can be found in **Table 3**.

Table 3: Apartment Units Peak Period Person Trip Generation

Land Use	Dwelling Units	AM Peak Period Person Trips	PM Peak Period Person Trips
High-Rise Apartments	196	157	176

The proposed development is anticipated to generate 157 and 176 person trips during the AM and PM peak periods, respectively. The total peak period person trips in **Table 3** are then categorized into different travel modes using residential mode share percentages obtained from the 2020 TRANS Manual for the “Kanata – Stittsville” district assuming High-Rise Multi-Family Housing (defined by TRANS as 3-storeys or more). **Table 4** provides the travel mode breakdown for the proposed building.

Table 4: Residential Peak Period Trips Mode Shares Breakdown (Full build-out + 5-years)

Travel Mode	Mode Share	AM Peak Period Person Trips	Mode Share	PM Peak Period Person Trips
Auto Driver	43%	67	55%	97
Auto Passenger	26%	40	19%	34
Transit ¹	28%	43	21%	38
Active Transportation	4%	6	5%	8
Total Person Trips	100%	157	100%	176

1- Although these transit percentage reflect the broader Kanata-Stittsville area within 2020 TRANS Manual and not the immediate site location, the future affordable network illustrates March Road as BRT north of Hwy 417 to Solandt Road and as an isolated transit priority corridor to Maxwell Bridge Road. A park and ride is also proposed 1km north of Maxwell Road. These future transit infrastructure improvements would encourage transit ridership within the immediate study area.

Traffic analysis is usually conducted using the morning and afternoon peak hour trips as they represent a worst-case scenario. The 2020 TRANS Manual provides conversions rates from peak period to peak hours for different mode shares. The conversion rates are provided in **Table 5** below.

Table 5: Peak Period to Peak Hour Conversion Factors (2020 TRANS Manual)

Travel Mode	Peak Period to Peak Hour Conversion Factors	
	AM	PM
Auto Driver and Passenger	0.48	0.44
Transit	0.55	0.47
Active Transportation	0.58	0.52

Using the conversion rates in **Table 5** and the peak period person trips for different travel modes in **Table 4**, the peak hour trips for different travel modes can be calculated as shown in **Table 6**.

Table 6: Residential Peak Hour Trips Mode Share Breakdown

Travel Mode	AM Peak Hour Trips	PM Peak Hour Trips
Auto Driver	32	43
Auto Passenger	19	15
Transit	24	18
Active Transportation	4	4
Total Person Trips	79	79

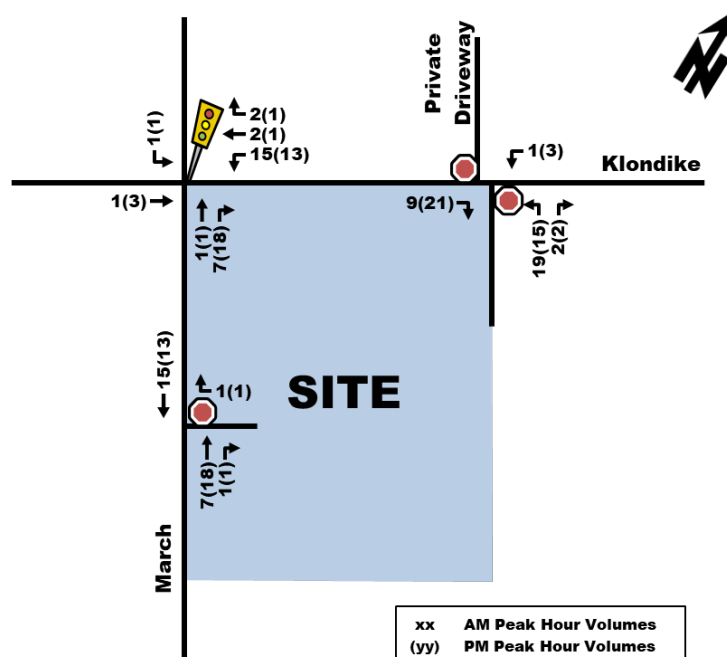
As shown in **Table 6**, the proposed development is anticipated to generate up to a total of 79 person trips during the AM and PM peak hours. Inbound and outbound percentages were obtained from the 2020 TRANS Manual and applied to each travel mode as shown in **Table 7**.

Table 7: Residential Land Use Trip Generation (Full build-out + 5 years beyond)

Travel Mode	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
	In (31%)	Out (69%)	Total	In (58%)	Out (42%)	Total
Auto Driver	10	22	32	25	18	43
Passenger	6	13	19	9	6	15
Transit	7	16	23	10	7	17
Active Transportation	1	3	4	2	2	4
Total Person Trips	24	54	78	46	33	79

As shown in **Table 7**, the proposed development is anticipated to generate up to 43 vehicle trips, 23 transit trips and 4 active transportation (walking and cycling) trips, during the AM and PM peak hours. The site-generated vehicle trips were then assigned to the road network as shown in **Figure 1**.

Figure 1: Site-Generated Vehicle Trip Distribution



2.3. Difference in Forecasted Trips

The site traffic volumes from the previous TIA (October 2018) were compared to the new site traffic volumes estimated using the most recent methodology, modal splits and trip rates for estimating trips generated by residential developments. **Table 8** summarizes the difference (Table 7 less Table 1 values).

Table 8: Difference in Trips – Comparison of Previous TIA and Most Recent Trip Generation Rates and Methodology

Travel Mode	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
	In	Out	Total	In	Out	Total
Auto Driver	-9	-28	-37	-15	-11	-26
Passenger	2	4	6	2	0	2
Transit	-2	-10	-12	-10	-8	-18
Active Transportation	-4	-13	-17	-10	-7	-17
Total Person Trips	-13	-47	-60	-33	-26	-59

As shown in **Table 8** above, there is a net decrease from the previous study of 60 person trips during the AM and PM peak hours and a decrease of 37 vehicle trips and 26 vehicle trips during the AM and PM peak hours, respectively. Due to the forecasted decrease in person and vehicle trips generated, the updated methodology, trip generation rates and modal splits will have less of an impact to the surrounding road, sidewalk and cycling facilities compared to the original plan presented as part of the previous TIA (October 2018).

3. Review of On-Site Design

3.1. Traffic Circulation

The proposed development would be served by two driveway accesses. A full-movement driveway is proposed to Klondike Road that provides access to the underground parking garage. A right-in/right-out driveway connection is proposed to March Road that provides access to the visitor parking lot.

Garbage pick-up will take place on-site. The garbage bins are located in the proposed underground parking garage and will be rolled out to the garbage pick-up area located at the bottom of the ramp, with access to/from Klondike Road. The garbage truck can reverse into the site for pick-up such that it can exit the site driving forward. The truck turning templates (assumed vehicle HSU) are provided as Attachment B.

Fire truck access is assumed to be on-street along March Road. Move-in and delivery trucks will use the visitor parking area. A typical MSU vehicle was used as a move-in truck (understanding these are apartment units) to undertake turning movement simulations for the March Road access. Truck turning template is provided as Attachment B.

3.2. Access Design

The March Road access is proposed as a right-in/right-out driveway located approximately 85m south of the March/Klondike intersection and will provide access to the visitor parking lot and drop-off zone. The driveway is within the influence of the northbound dual left-turn lanes of the March/Klondike intersection. Given the low number of vehicles projected to enter and exit this driveway during peak hours (approximately 1 to 2 veh/h), the driveway is expected to operate acceptably. The width of the driveway is noted to be 6.7m, which meets the City's Private Approach By-Law.

The proposed full-movement parking garage access on Klondike Road is located approximately 45m east of the March/Klondike intersection, which meets the City's Private Approach By-Law requirements. There is an adjacent driveway access located along the north side of Klondike Road which is off-set from this driveway by approximately 7-to-8 m. If the two driveways were aligned, the subject site driveway would be located 30m from March Road, which would no longer meet the Private Approach By-Law. Drivers exiting both driveways will have good visibility of each driveway and given the low number of vehicles exiting the proposed site driveway, minimal conflicts are expected to occur given this off-set. The existing bus stop located where the driveway is proposed is being relocated south of the new access.

3.3. Parking

Vehicle Parking

A total of 236 underground parking spaces are proposed to serve the residents of the proposed development. A total of 39 visitor parking spaces are proposed, and 23 spaces are provided in a surface parking lot and the remainder located underground. This amount of residential parking meets the City's minimum By-Law requirements (1.2 spaces per unit x 196 units = 235 parking spaces) within Area C, identified on the City's Schedule 1A. The number of visitor parking spaces also meets the City's minimum visitor By-law requirements (0.2 spaces per unit x 196 = 39 parking spaces).

Bicycle Parking

A total of 198 bicycle parking spaces are proposed, where 29 spaces are provided in the surface parking lot and remainder in the underground parking lot to serve the subject residential development. This amount of bicycle parking exceeds the City's minimum requirement (0.5 spaces per unit x 196 units = 98 bicycle parking spaces) with respect to the City's By-Law.

4. Off-site Design / Roadway Modification Approval (RMA)

The RMA for the urbanization of Klondike Road (fronting the site) and relocation of bus stop was approved on February 8th, 2019, as part of the original TIA submission (October 2018). The approved RMA concept illustrated a continuation of the MUP along the south side of Klondike Road with bus stop relocated south of

the proposed Klondike access. Contemporary changes to the design would likely be required such as inclusion of the sidewalk and raised cycle track/MUP fronting the site. These revisions can be addresses through preliminary/detailed design process.

5. Conclusion

Based on the most recent trip generation rates and methodology, there is a net decrease from the original TIA (October 2018) of 60 person trips during the AM and PM peak hours and a decrease of 37 vehicle trips and 26 vehicle trips during the AM and PM peak hours, respectively. Due to the decrease in person and vehicle trips generated, the updated methodology, trip generation rates and modal split will have less of an impact to the surrounding road, sidewalk and cycling facilities compared to the original plan presented as part of the previous TIA (October 2018).

Therefore, approval from the traffic and transportation perspective of the proposed 788 March Road development is recommended.

Sincerely,

Prepared by:



Arman Matti, P.Eng.
Senior Transportation Engineer

Reviewed by:



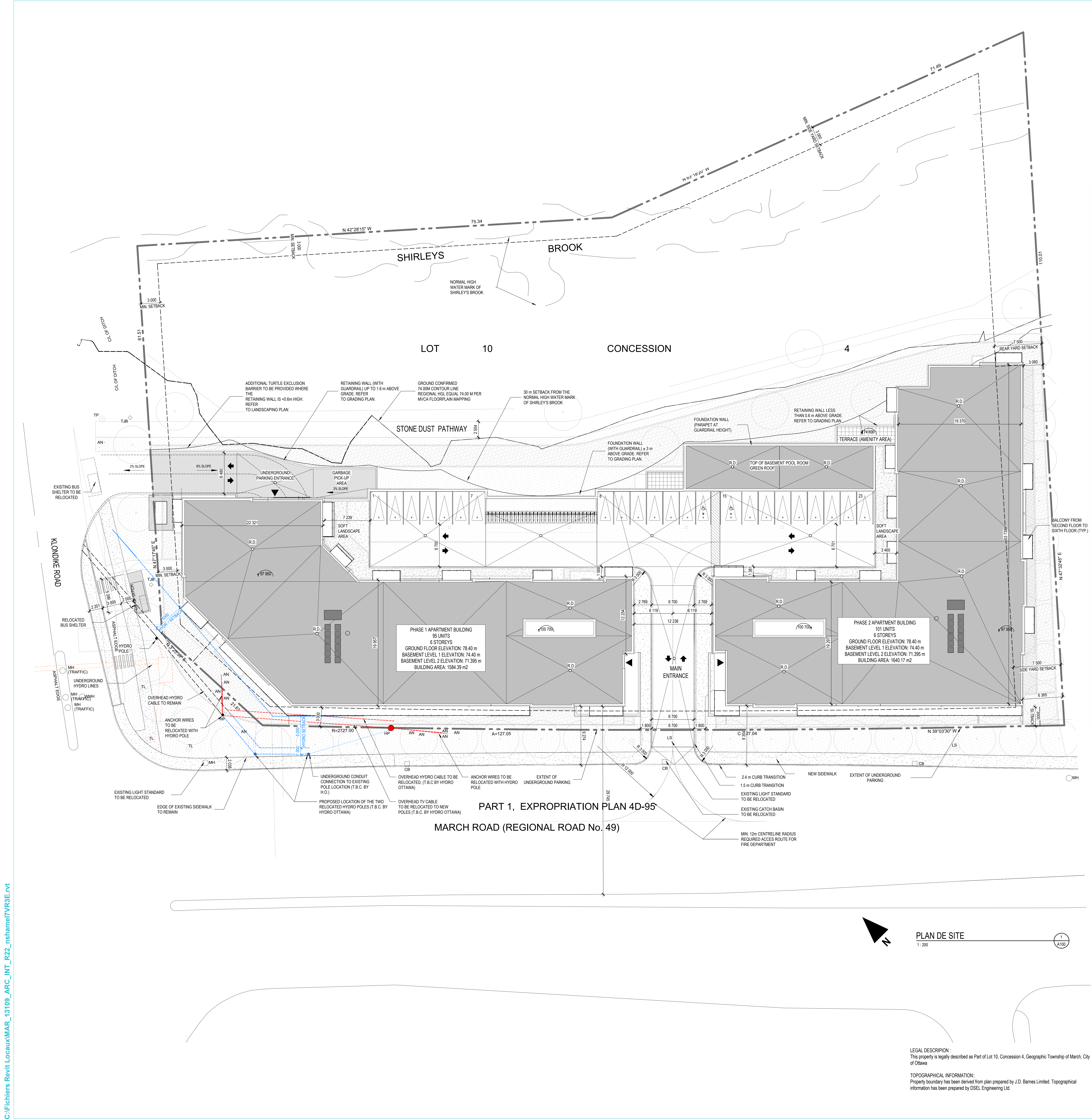
Mark Baker, P.Eng.
Manager, Transportation Planning & Traffic

Attachments

Attachment "A" – Updated Site Plan

Attachment "B" – Turning Movement Templates

Attachment A
Site Plan



Property Area		2023-11-01
Zoning	City of Ottawa zoning By-Law No. 2008-200	
Property Area	12210.01 sq. m	131,429 sq. ft.

PROJECT STATISTICS	APARTMENT BUILDING	
	PHASE 1	PHASE 2
BUILDING HEIGHT (m)	21.3m	
GROSS FLOOR AREA UNDER GROUND	10,588 m ²	
GROSS FLOOR AREA ABOVE GROUND	19,488 m ²	
TOTAL GROSS FLOOR AREA	30,076 m ²	

UNIT STATISTICS	APARTMENT BUILDING	
	PHASE 1	PHASE 2
1 Bedroom	24	4
1 Bedroom + Den	13	3
2 Bedroom	35	5
2 Bedroom + Den	17	2
3 Bedroom	6	1
TOTAL	95	15

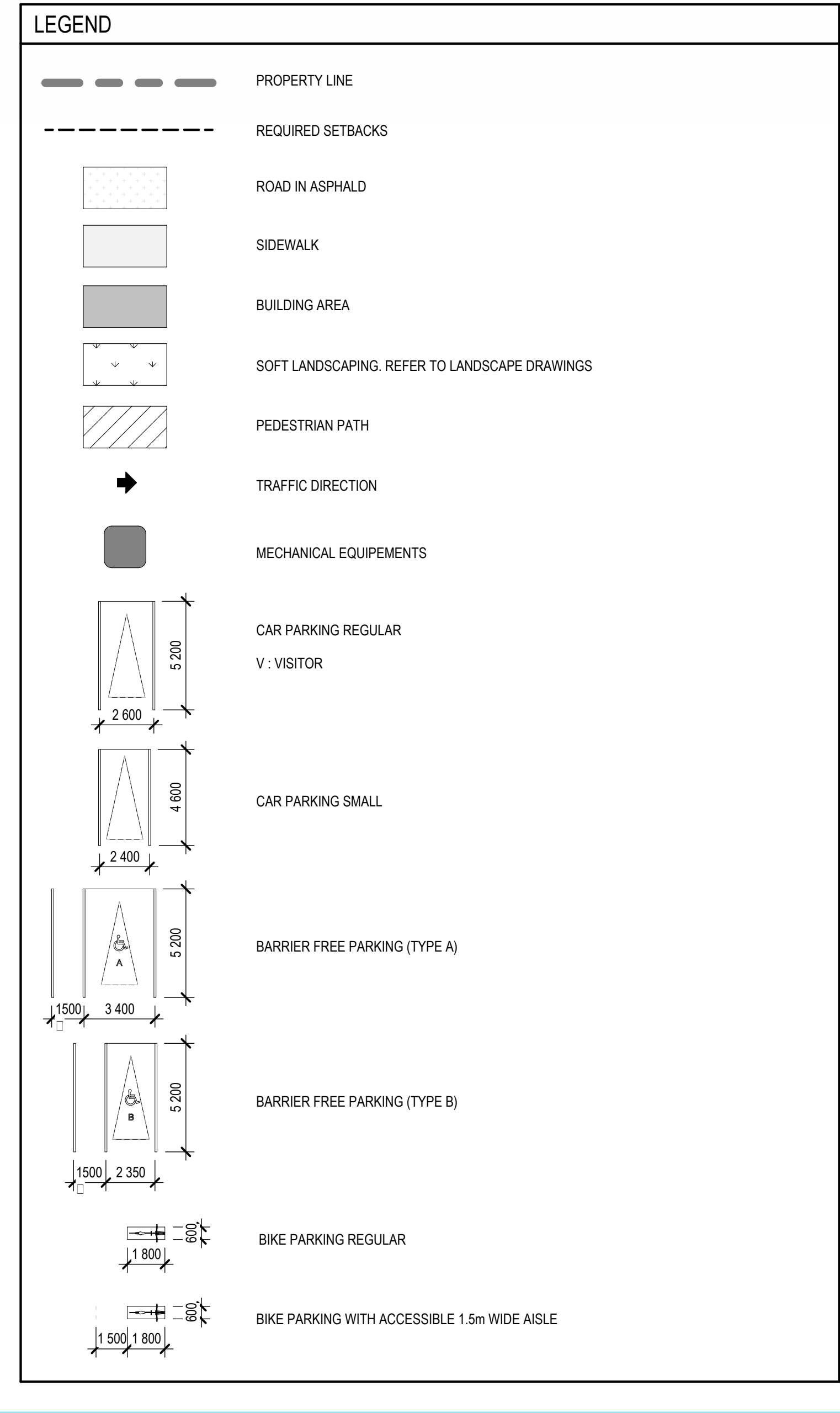
PARKING	PHASE 1 & 2	
	REQUIRED	PROVIDED
APARTMENT BUILDING - 196 UNITS	1,000	235
VISITORS	0.20	38
TOTAL	274	273

GENERAL MIXED USE ZONE - GM	REQUIRED		PROVIDED	
	MINIMUM	NO MINIMUM	MINIMUM	NO MINIMUM
MINIMUM LOT AREA	120 m ²	120 m ²	12,210.01 m ²	64.6m
MINIMUM LOT WIDTH	3m	3m	3m	3m

AMENITY AREA	REQUIRED		PROVIDED	
	MINIMUM	NO MINIMUM	MINIMUM	NO MINIMUM
ZONING BY-LAW SECTION 107	1176 m ²	1823 m ²	588 m ²	600 m ²
MINIMUM FOR APARTMENT DWELLING - 6m ² /UNIT	54 m ²	479 m ²	-	25 m ²

WASTE MANAGEMENT	REQUIRED		PROVIDED	
	PHASE 1 - 95 UNITS	PHASE 2 - 15 UNITS	PHASE 1 - 95 UNITS	PHASE 2 - 15 UNITS
GARBAGE - LOOSE	0.11 UNIT	10.45m ³	2.8m ³ CONT.	2.8m ³ CONT.
RECYCLING - FEL GLASS METAL PLASTIC	0.018 UNIT	1.71m ³	1.2m ³ CONT.	1.2m ³ CONT.

LEGEND				
	PROPERTY LINE			
	REQUIRED SETBACKS			
	ROAD IN ASPHALT			
	SIDEWALK			
	BUILDING AREA			
	SOFT LANDSCAPING REFER TO LANDSCAPE DRAWINGS			
	PEDESTRIAN PATH			
	TRAFFIC DIRECTION			
	MECHANICAL EQUIPMENTS			
	CAR PARKING REGULAR			
	V: VISITOR			
	CAR PARKING SMALL			
	BARRIER FREE PARKING (TYPE A)			
	BARRIER FREE PARKING (TYPE B)			
	BIKE PARKING REGULAR			
	BIKE PARKING WITH ACCESSIBLE 1.5m WIDE AISLE			



NOTES GÉNÉRALES / General Notes

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- Veuillez noter l'architecture de toute dimension enroulées divergences entre ces documents et ceux des autres professionnels. / The architect must be notified of all errors, omissions and discrepancies between these documents and those of the other professionals.
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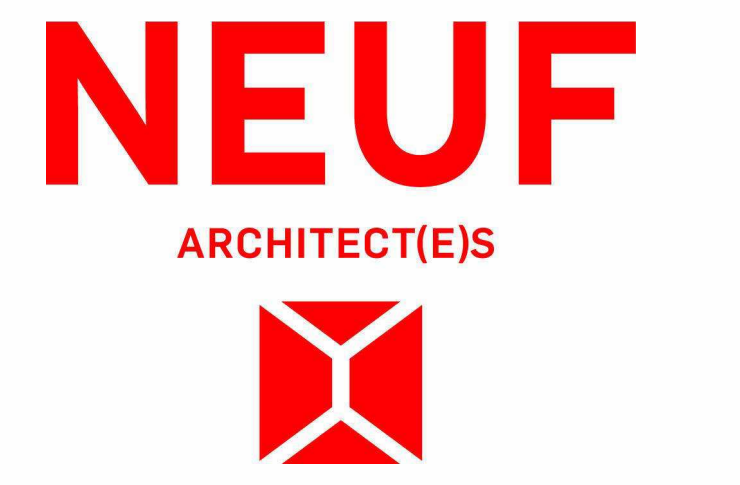
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SCAUI / Seal



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 47 Clarence Street, Ottawa, ON K1A 0K1

OUVRAGE / Project
788 MARCH ROAD

EMPLACEMENT / Location **NO PROJET / No. PROJECT**
OTTAWA **13109**

NO REVISION **DATE (aa-mm-jj)**

DESIGNÉ PAR / Drawn by **VÉRIFIÉ PAR / Checked by**
Author **Checker**
DATE (aa-mm-jj) **ÉCHELLE / Scale**
2023-11-13 **As**
TITRE DU DESSIN / Drawing Title **indicated**
SITE PLAN

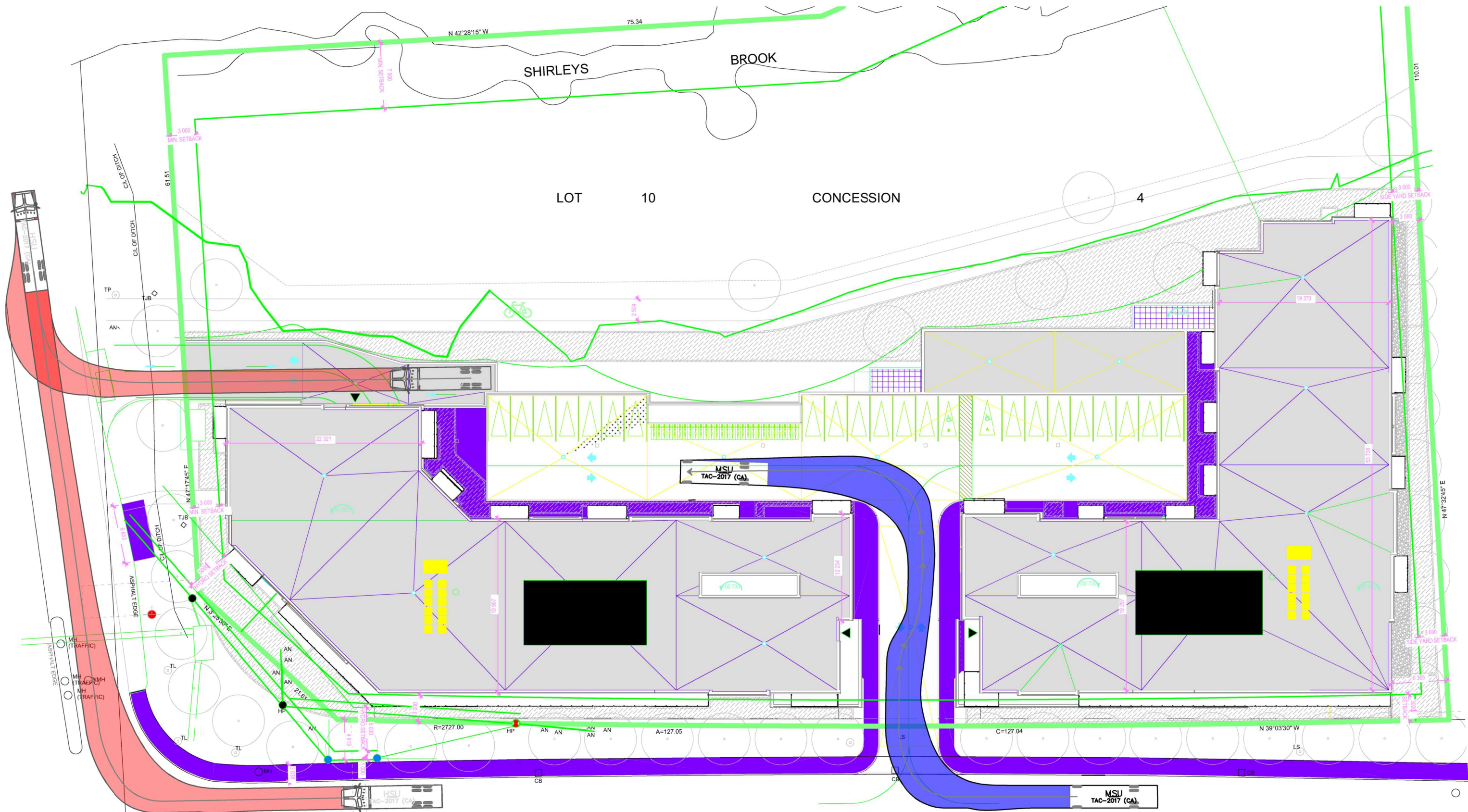
REVISION / Revision **NO. DESSIN / Draw Number**
NO. REVISION **NO. DRAWING**
1 **A100**

TOPOGRAPHICAL INFORMATION:
 Property boundary has been derived from plan prepared by J.D. Barnes Limited. Topographical information has been prepared by DSEL Engineering Ltd.

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Attachment B
Turning Movement Templates



PART 1, EXPROPRIATION PLAN 4D-95
 MARCH ROAD (REGIONAL ROAD No. 49)