



12100 Creditview Developments Limited

TRANSPORTATION IMPACT STUDY

Proposed Commercial Development

12100 Creditview Road,
Town of Caledon

October 2024
22142



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October 18, 2024

Reference Number: 22142

Stephanie Volpentesta
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Dear Stephanie Volpentesta:

RE: Transportation Impact Study
Proposed Commercial Development
12100 Creditview Road, Town of Caledon

LEA Consulting Ltd. is pleased to present the findings of our Transportation Impact Study for the proposed commercial development located at 12100 Creditview Road in the Town of Caledon. This TIS has been prepared for 12100 Creditview Developments Limited in support of the Site Plan Approval (SPA) for the proposed development. This report concludes that the traffic associated with the proposed development maintains acceptable conditions for the road network in the surrounding area, with signalization of the Mayfield Road & Robert Parkinson Drive / South Site Access 1 and minor optimizations for the network.

Please do not hesitate to contact the undersigned should you have any additional questions or concerns at (905) 470-0015.

Yours truly,

LEA CONSULTING LTD.

Zara Georgis, M. Eng., P. Eng
Manager, Transportation Engineering
(Western Canada)

Encl. Transportation Impact Study – 12100 Creditview Road, Proposed Commercial Development, Town of Caledon (October 2024)

Disclaimer

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1 INTRODUCTION

LEA Consulting Ltd. (LEA) has been retained by 12100 Creditview Developments Limited to prepare a Transportation Impact Study (TIS) in support of the Site Plan Approval (SPA) for the proposed commercial development located at 12100 Creditview Road (herein referred to as the “subject site”) in the Town of Caledon.

The subject site occupies a segment of the future development lands. As part of this application, the proposed commercial development will occur on the southern part of the development lands. The development lands are currently vacant and are bounded by Mayfield Road to the south, Creditview Road to the east, institutional properties to the west, and undeveloped lands to the north. Figure 1-1 illustrates the development lands and subject site.

Figure 1-1: Site Location



Source: Google Maps, Accessed December 2021

The purpose of this study is to assess the proposed development from a transportation perspective, to determine the traffic impacts to the adjacent road network over a five-year horizon, and to identify any required mitigation measures. The study will be conducted in accordance with the Town of Caledon *Transportation Impact Study Guidelines (2017)* and in-line with the Region of Peel *Transportation Impact Study Guidelines*.

1.1 PROPOSED DEVELOPMENT

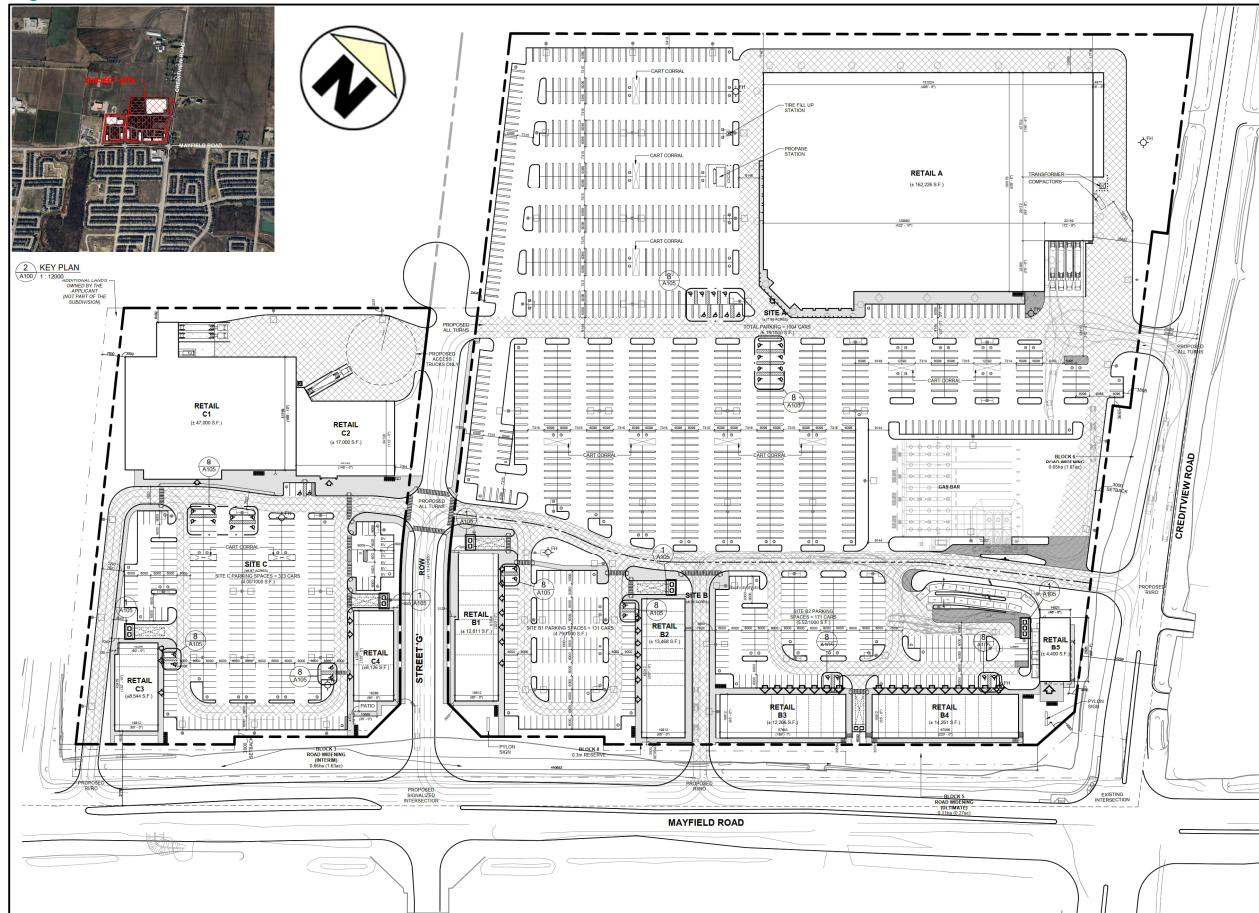
Based on the latest site plan, the development proposal consists of nine (9) commercial structures (A, B1-B5, and C1-C4) providing a total gross floor area (GFA) of 303,468 ft² and 1,629 parking spaces. A gas bar with 12 fueling stations is also proposed on the east side of the site, south of Commercial Structure A. A breakdown of the proposed land uses is presented in Table 1-1.

Table 1-1: Site Statistics

Current Development Stats (October 2024)	
Land Use	GFA
Retail A	162,226 ft ²
Retail B1	13,811 ft ²
Retail B2	13,468 ft ²
Retail B3	12,266 ft ²
Retail B4	14,261 ft ²
Retail B5	4,400 ft ²
Retail C1 (Including Mezzanine)	49,366 ft ²
Retail C2	17,000 ft ²
Retail C3	8,544 ft ²
Retail C4	8,126 ft ²
Overall GFA	303,468 ft²
Gas Bar	12 fueling positions
Vehicular Parking Supply	1,629 spaces

Access to the site is proposed via one (1) full movement driveway and one (1) right-in / right-out (RIRO) driveway off Creditview Road. Two (2) RIRO driveways and one (1) full movement driveway (Street 'G') off Mayfield Road is also available for access to the site. The proposed site plan is illustrated in Figure 1-2.

Figure 1-2: Site Plan



Source: Turner Fleischer, October 2024

2 EXISTING TRANSPORTATION CONDITIONS

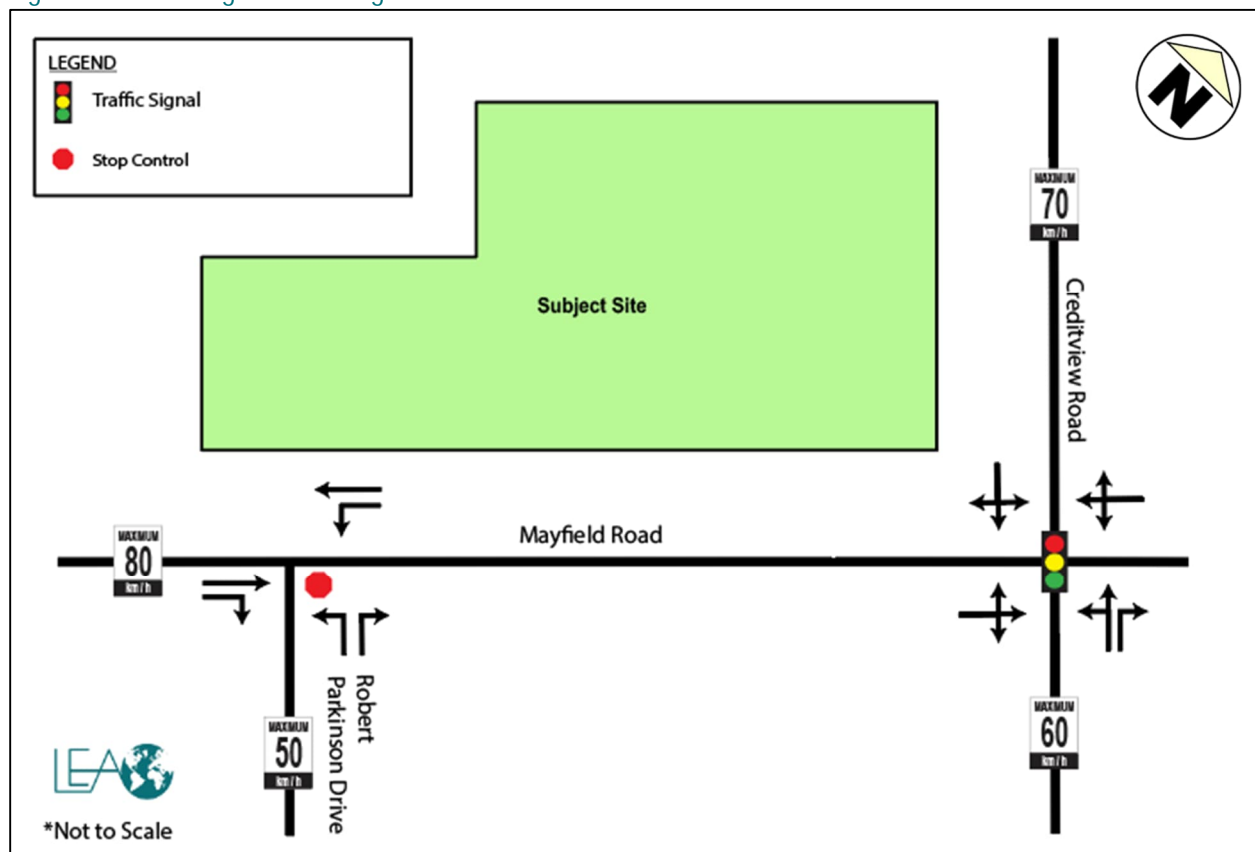
This section identifies and assesses the existing transportation conditions within the study area, including the road, transit, cycling, and pedestrian networks. The study area was determined by assessing the size of the proposed commercial development and its anticipated transportation impact, and through consultation with Town and Region staff, which is included in Appendix A. The study includes the following existing intersections:

- ▶ Mayfield Road & Creditview Road (Signalized); and
- ▶ Mayfield Road & Robert Parkinson Drive (Unsignalized).

2.1 EXISTING ROAD NETWORK

The following section provides a description and classification of the roadways within the study area. Roadways within the study area are under the jurisdiction of the Region of Peel, Town of Caledon, and City of Brampton. Figure 2-1 illustrates the existing lane configuration.

Figure 2-1: Existing Lane Configuration



Mayfield Road is an east-west arterial road under the jurisdiction of the Region of Peel and operates with a two-lane cross-section (one lane per direction) within the study area. The roadway extends from Winston Churchill Boulevard in the west to Highway 50 in the east. Mayfield Road operates with a posted speed limit of 80km/h within the study area.

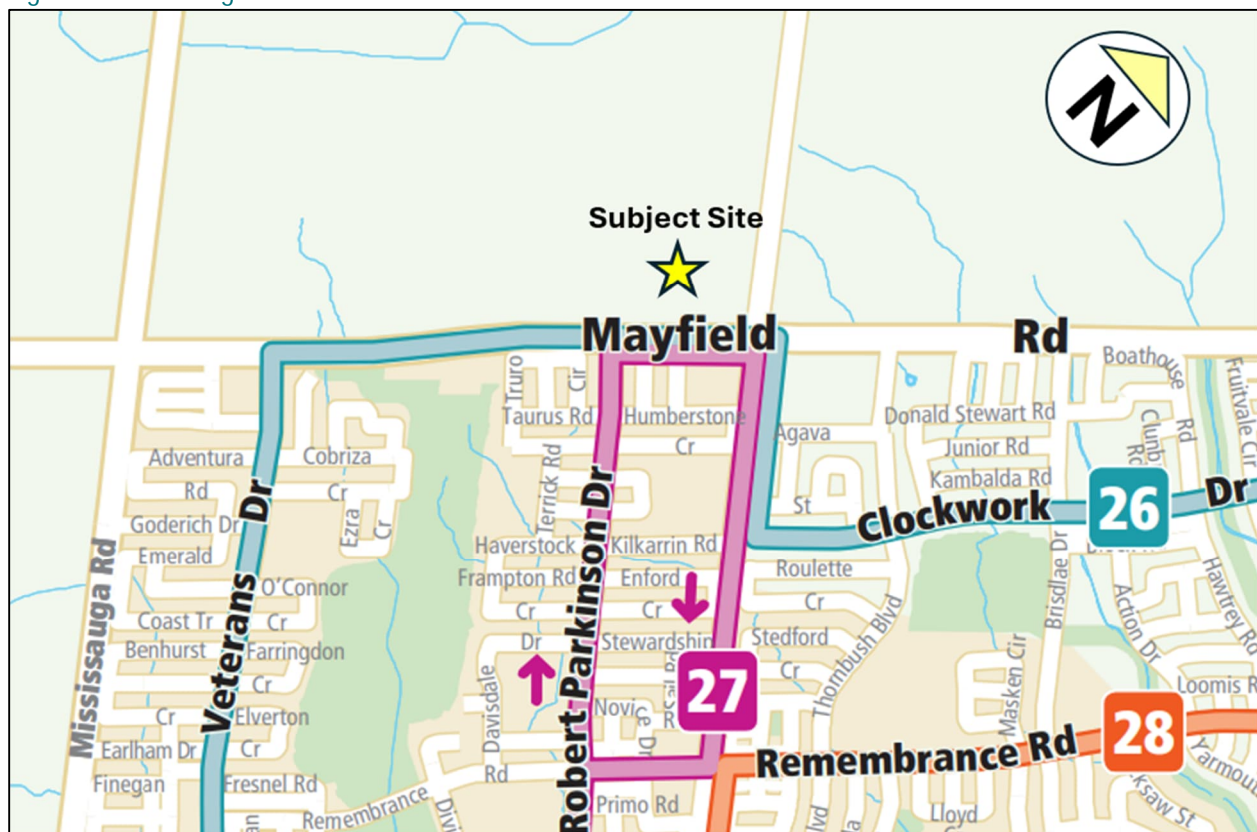
Creditview Road is a north-south collector road under the jurisdiction of the Town of Caledon and operates with a two-lane cross-section (one lane per direction) within the study area. The roadway extends from The Grande Side Road in the north to Bovaird Drive West in the south. Creditview Road operates with a posted speed limit of 70km/h north of Mayfield Road and 60km/h south of Mayfield Road.

Robert Parkinson Drive is north-south collector road under the jurisdiction of the City of Brampton and operates with a two-lane cross-section (one lane per direction) within the study area. The roadway extends from Mayfield Road in the north to Sandalwood Parkway West in the south. Robert Parkinson Drive operates with an assumed speed limit of 50km/h within the study area.

2.2 EXISTING TRANSIT NETWORK

There is currently limited transit accessibility surrounding the subject site. The closest available transit stops are located at the intersection of Mayfield Road & Robert Parkinson Drive and at the intersection of Mayfield Road & Creditview Road along Route 27 – Robert Parkinson provided by Brampton Transit. While Brampton Transit Route 26 – Mount Pleasant operates along Mayfield Road, there are no transit stops for this route within a reasonable walking distance of the subject site. The existing transit network surrounding the subject site is illustrated in Figure 2-2. Service details of available transit routes are described below.

Figure 2-2: Existing Transit Network



Source: Brampton Transit, June 2024

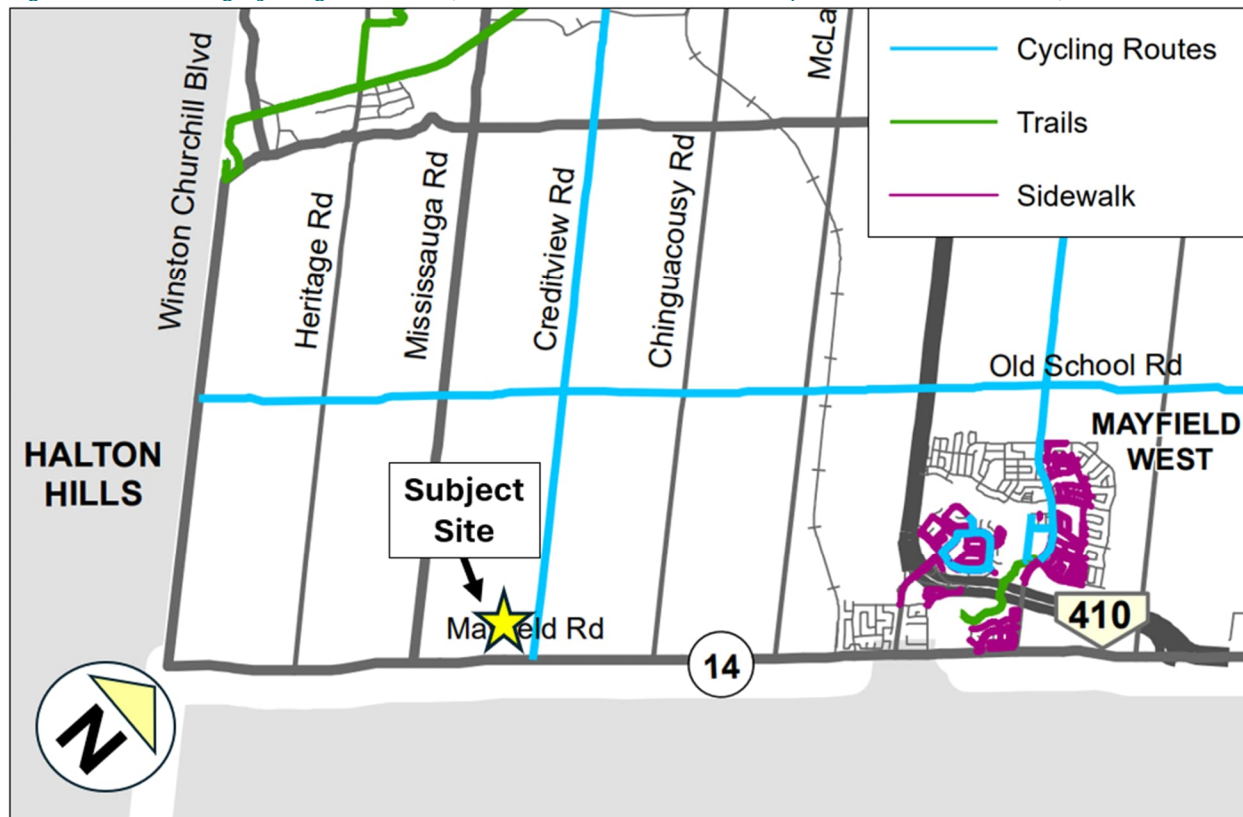
Route 27 – Robert Parkinson is a bus route that operates generally in a north-south direction between Mount Pleasant GO station to the area of Robert Parkinson and Mayfield Road. The route operates on weekdays with headways of approximately 35-minutes during peak periods.

Access Location: Route 27 is accessible at the intersection of Robert Parkinson Drive & Mayfield Road and at the intersection of Mayfield Road & Creditview Road, located directly south and south-east of the subject site, respectively.

2.3 EXISTING CYCLING NETWORK

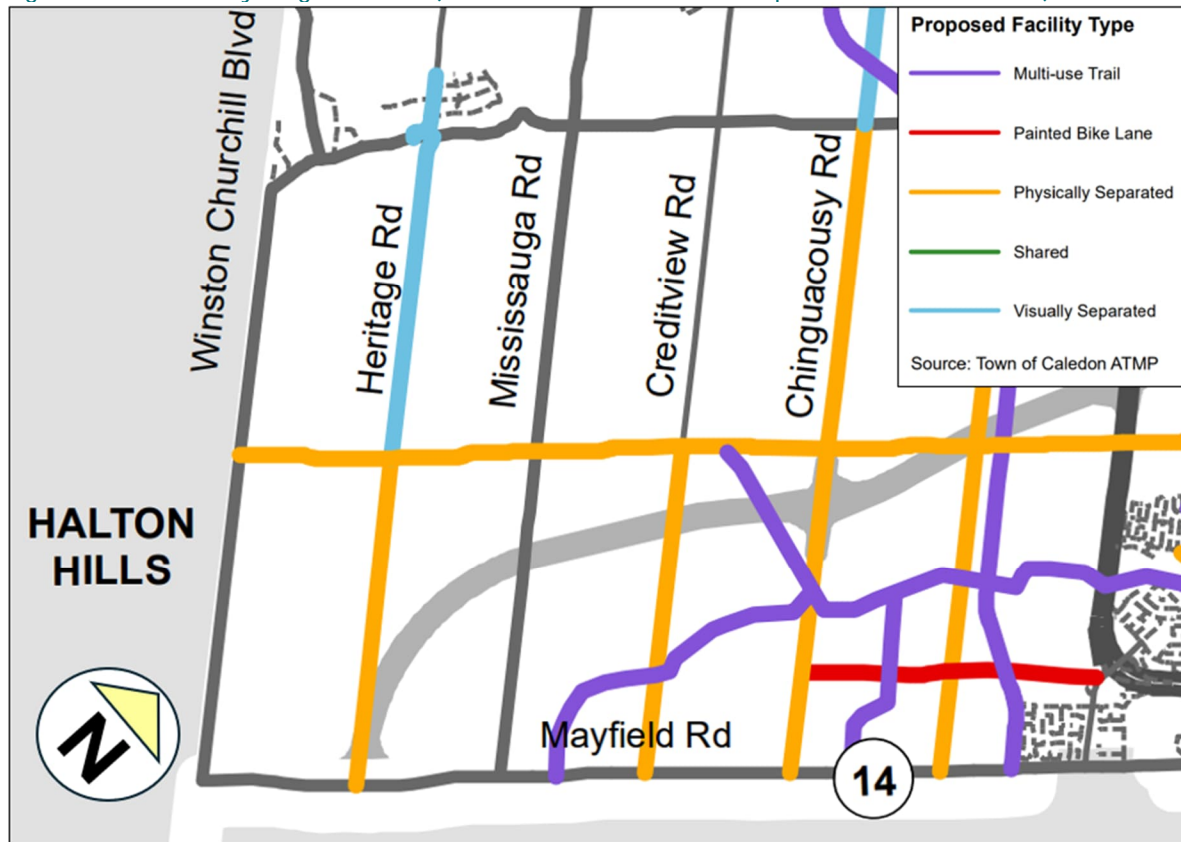
Based on *The Town of Caledon Multi-Modal Transportation Master Plan (MMTMP)*, painted bike lanes are provided along Creditview Road, as illustrated in Figure 2-3. This Plan also proposes a new cycling network comprised of on-road and off-road cycling and multi-use routes intended to facilitate commute, personal, and recreational bicycle travel. Physically separated bike lanes are proposed near the subject site on Creditview Road and Chinguacousy Road, extending north from Mayfield Road. Additionally, a multi-use trail is planned to begin west of Creditview Road at Mayfield Road, providing a connection to Old School Road. Furthermore, as per the *Mount Pleasant Block 51-1 Collector Road and Transportation Study (2015)*, multi-use paths are proposed along Mayfield Road and on-street separated bike lanes are proposed along Robert Parkinson Drive. The future cycling network from the Town of Caledon is illustrated in Figure 2-4 with the Mount Pleasant Block 51-1 proposed cycling network illustrated in Figure 2-5.

Figure 2-3: Existing Cycling Network (Caledon Multi-Modal Transportation Master Plan)



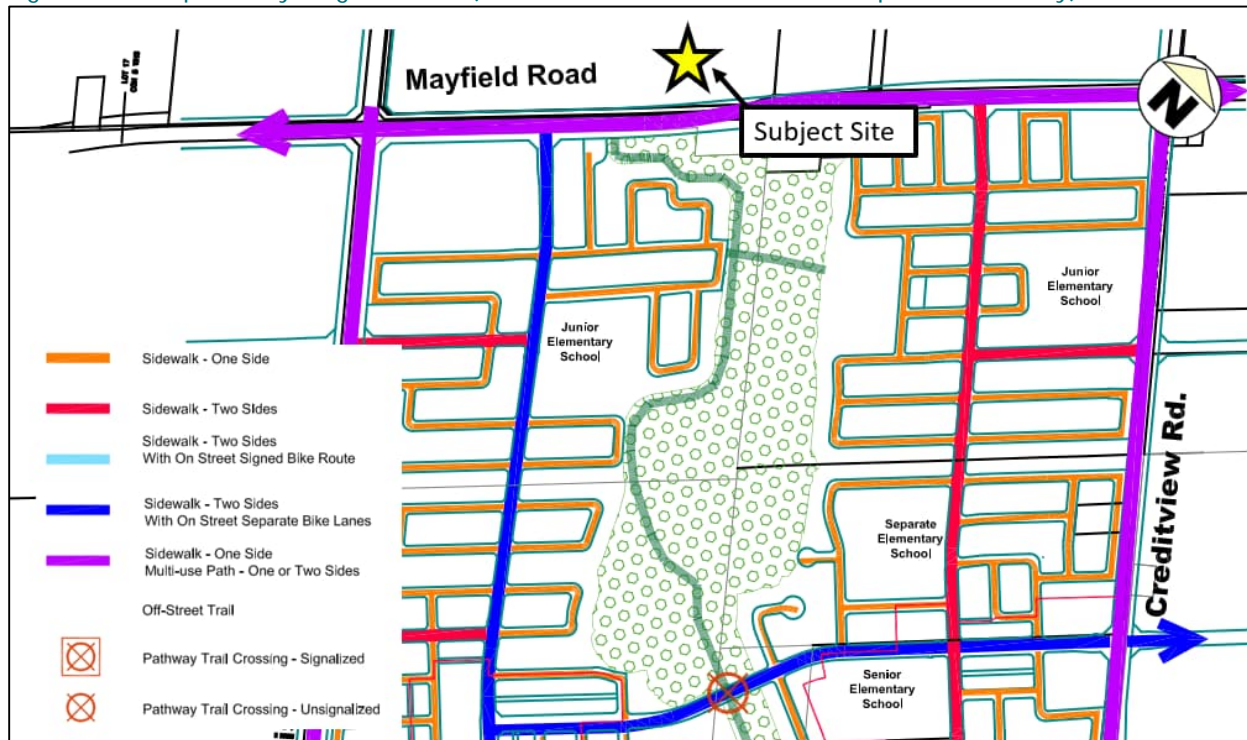
Source: Caledon Multi-Modal Transportation Master Plan, 2024

Figure 2-4: Future Cycling Network (Caledon Multi-Modal Transportation Master Plan)



Source: Caledon Multi-Modal Transportation Master Plan, 2024

Figure 2-5: Proposed Cycling Network (Mount Pleasant Block 51-1 Transportation Study)



Source: Mount Pleasant Block 51-1 Collector Road and Transportation Study, 2015

2.4 EXISTING PEDESTRIAN NETWORK

There is currently no significant pedestrian network immediately surrounding the subject site. Crosswalks are available at the Creditview Road & Mayfield Road intersection with sidewalks provided along both sides of Robert Parkinson Drive and Creditview Road, south of Mayfield Road. However, there are no sidewalks along Mayfield Road and Creditview Road, north of Mayfield Road.

2.5 TRAFFIC DATA COLLECTION

Turning movements counts (TMCs) were used as the source of traffic data for the intersection capacity analysis. Traffic counts were obtained from LEA Consulting. A summary of the TMC data collected is provided in Table 2-1, with detailed traffic counts and signal timing plans available in Appendix B.

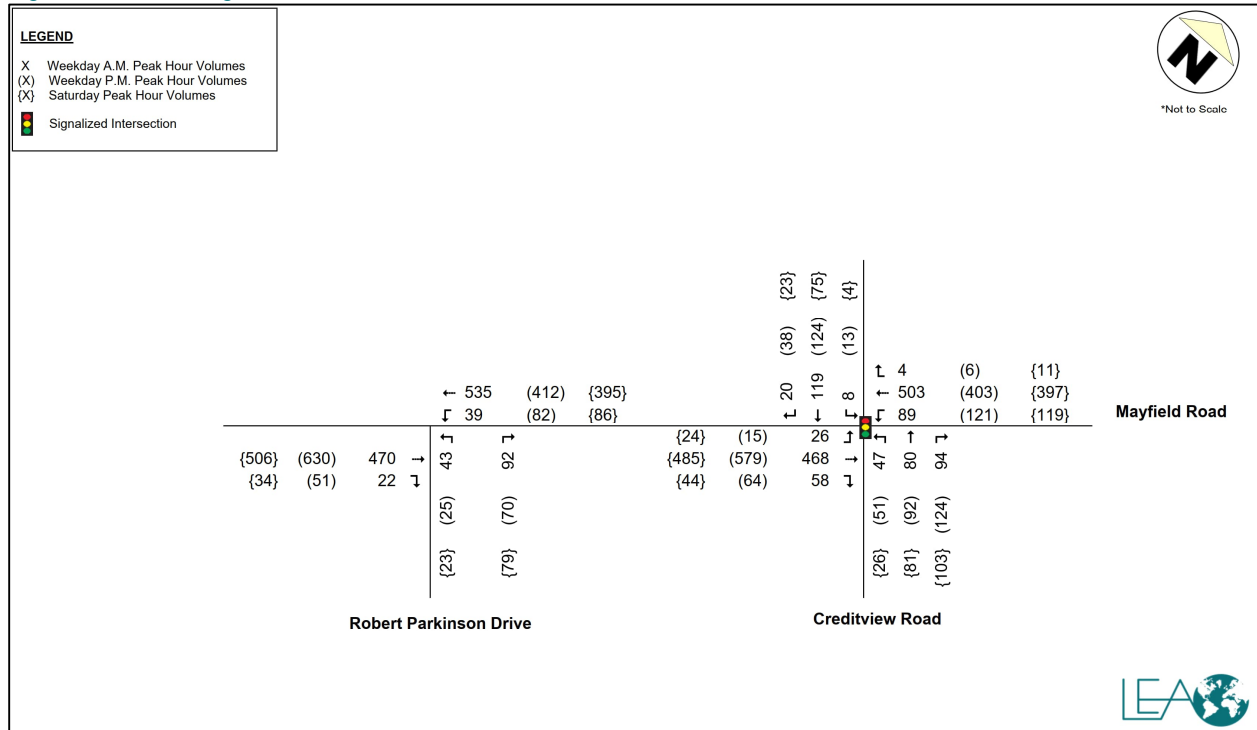
Table 2-1: Data Collection Summary

Intersection	Date	Source
Mayfield Road & Robert Parkinson Drive	September 24, 2024	LEA Consulting
Mayfield Road & Creditview Road		

2.6 EXISTING TRAFFIC VOLUMES

The existing traffic volumes for the weekday AM, PM, and Saturday peak hours are illustrated in Figure 2-6.

Figure 2-6: Existing Peak Hour Traffic Volumes



3 FUTURE BACKGROUND TRANSPORTATION CONDITIONS

For the analysis of future background traffic conditions, this study considers a 5-year horizon to the full build-out year of 2029. Future background traffic includes the traffic added to the network from other future developments within the surrounding study area, corridor growth, as well as all planned infrastructure improvements within the study area. The future background conditions will be used as the baseline for evaluating the impact of the proposed commercial development.

3.1 BACKGROUND DEVELOPMENTS

The Mayfield West background development has been identified and confirmed with the Town of Caledon. Site details for Phase 2 of the Mayfield West Development, Stage 1 and Stage 2 are summarized in Table 3-1.

Table 3-1: Background Developments

Development Address	Land Uses	Prepared By	Date
Mayfield West Phase 2 (Stage 1)	Single Family Detached (Low Density Residential) Residential Condominium / Townhouse (Medium Density Residential) Apartment (High Density Residential, 4-8 storey apartment building) Elementary School High School Daycare Business Park Specialty Retail (Live-Work) Shopping Centre	Paradigm	December 2015
Mayfield West Phase 2 (Stage 2)	Single Family Detached (Low Density Residential) Multifamily Housing (Low-Rise) (Medium Density Residential) Multifamily Housing (Mid-Rise) (High Density Residential) Elementary School High School Daycare Business Park Shopping Centre	Paradigm	January 2018

Background development site traffic volumes have been obtained from their respective Transportation Master Plans for both AM and PM peak hours. For Stage 1, site traffic figures have not been provided. Therefore, the difference between future total and future background figures have been used to determine the site traffic volumes. Furthermore, figures for the Saturday peak hour have not been provided for either of the background development studies; however, trip generation rates for Mayfield West Phase 2 (Stage 1) has been provided for the Saturday peak hour, as well as the number of units / GFA for both Stage 1 and 2. Accordingly, Saturday trips were calculated as follows:

Mayfield West Phase 2 (Stage 1)

Percentage of the overall trips using Mayfield Road during both AM and PM peak hours for the eastbound and westbound directions were calculated based on the trip generation volumes from the Mayfield West

Phase 2 (Stage 1) TIS. The higher of these percentages was applied to the Saturday trip generation volumes to estimate the approximate number of trips utilizing Mayfield Road during the Saturday peak hour. The estimated Saturday trip generation and distribution is outlined in Table 3-2.

Table 3-2: Estimated Saturday Trip Generation and Distribution

Based on Paradigm TIS	AM			PM			Sat		
	In	Out	Total	In	Out	Total	In	Out	Total
Trip Generation	2,785	3,630	6,415	3,984	3,261	7,245	3,701	3,281	6,982
Trips Assigned to Mayfield Road	518	810	1,328	737	515	1,252	688	732	1,420
Percentage Utilizing Mayfield Road	19%	22%	41%	18%	16%	34%	19%	22%	41%

In comparing the percentage of trips using Mayfield Road in/out of the site, it is evident that approximately 19% and 18% of drivers are heading eastbound on Mayfield Road during the AM and PM peak hours, respectively. Similarly, approximately 22% and 16% are heading westbound on Mayfield Road during the AM and PM peak hours, respectively. As a conservative approach, it was assumed that approximately 19% and 22% of drivers would be heading eastbound and westbound, respectively, during the Saturday peak hour.

Mayfield West Phase 2 (Stage 2)

In order to determine the Saturday trip generation for Stage 2, proposed units / GFAs were compared between Stage 1 and 2 to determine the net difference. Trips were calculated based on ITE Trip Generation Manual based on the net difference in units / GFA and applied to the road network accordingly. A comparison of the site statistics between Stage 1 and Stage 2 are provided in Table 3-3.

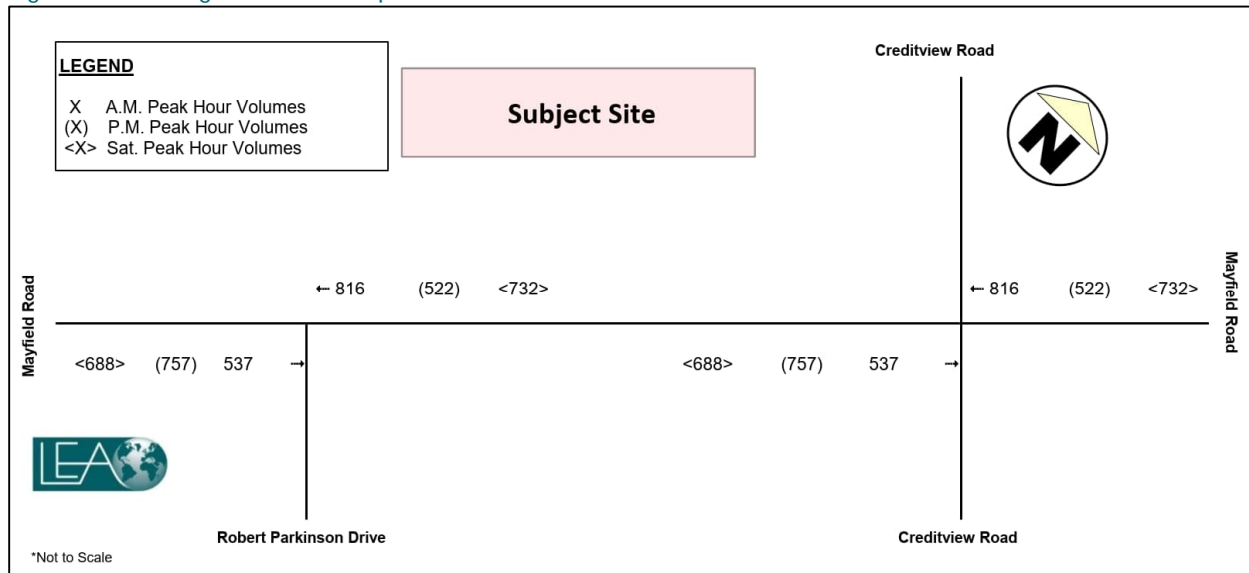
Table 3-3: Statistics Comparison between Stage 1 and Stage 2 of Mayfield West Development

Lane Use Code	Stage 1 Units / GFA	Stage 2 Units / GFA	Net Difference
LUC 210	3,210 units	3,240 units	+30 units
LUC 220	1,513 units	2,060 units	+547 units
LUC 221	394 units	168 units	-226 units
LUC 520	2,525 students	2,725 students	+200 students
LUC 530	1,500 students	1,500 students	0 students
LUC 565	68 students	68 students	0 students
LUC 770	1,164 employees	1,164 employees	0 employees
LUC 820	711,500 GFA	564,762 GFA	-146,738 GFA

In comparing the ITE trips generated for the Saturday peak hour, it is evident that based on land use and unit type changes, negative trips are generated for the Saturday peak hour. As a conservative approach, 0 trips were added to the road network for the Saturday peak hour. It should be noted that Mayfield West Phase 2 (Stage 2) is a slight modification to the work completed for Mayfield West Phase 2 (Stage 1). Detailed trip generation calculations are provided in Appendix C.

The background development peak hour traffic volumes are illustrated in Figure 3-1.

Figure 3-1: Background Development Peak Hour Traffic Volumes



3.2 CORRIDOR GROWTH

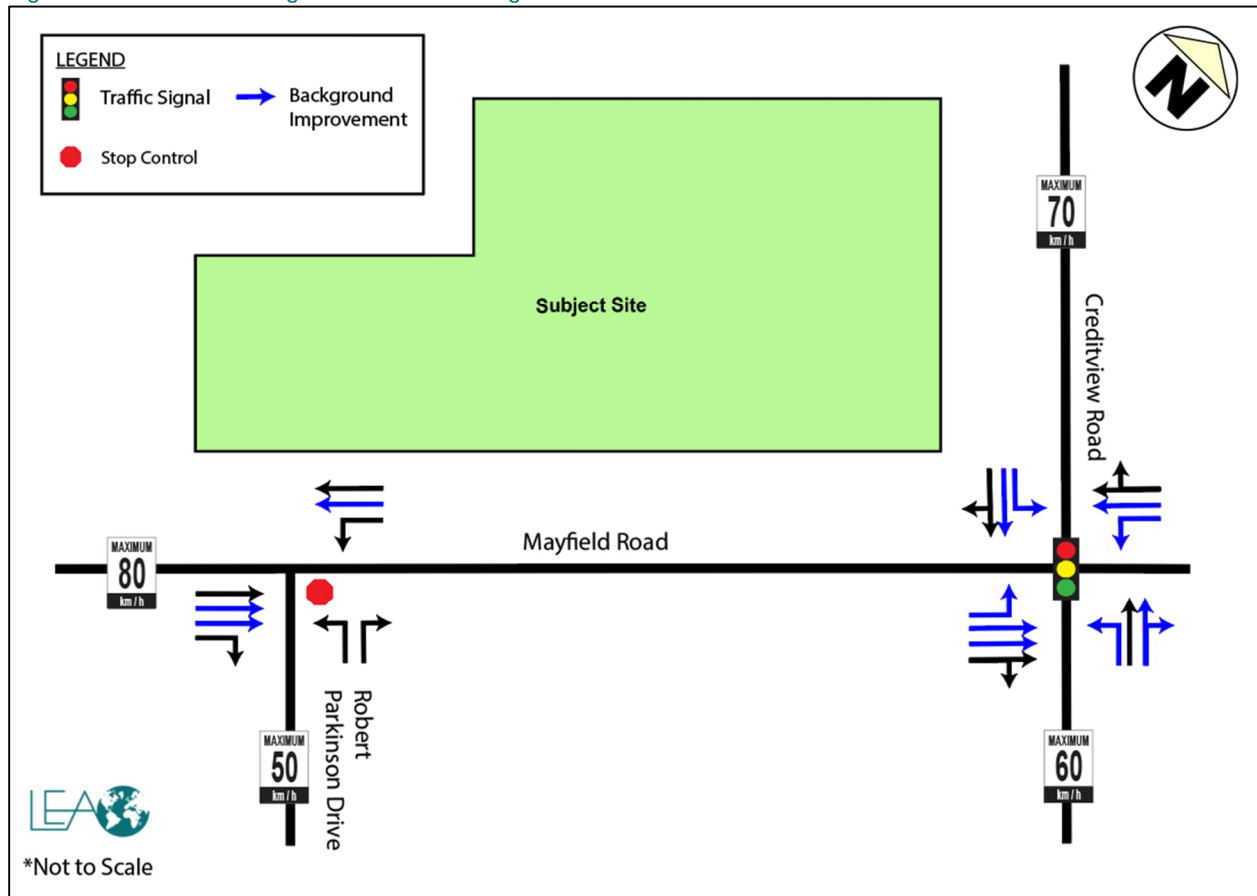
Based on correspondences with the Town of Caledon, a 2% growth rate has been applied to the through movements at Mayfield Road & Robert Parkinson Drive. Similarly, a 2% growth rate has been applied to both through and key turning movements at the Mayfield Road & Creditview Road intersection.

3.3 FUTURE ROAD IMPROVEMENTS & MODIFICATIONS

As indicated in *The Town of Caledon Multi-Modal Transportation Master Plan (MMTMP)*, Mayfield Road is anticipated to be widened. The Region of Peel has completed the Schedule 'C' Environmental Assessment (EA) for the upgrades to Mayfield Road, spanning from Chinguacousy Road to Winston Churchill Boulevard. This EA has been finalized and the project has now been moved into the next phase, "Detailed design & Construction". The widening includes 3 eastbound through lanes, 2 westbound through lanes, along with left and right turning lanes. In addition, per Brampton's 2015 *Transportation Master Plan*, Creditview Road is planned to widen from 2 to 4 lanes from Wanless Drive to Mayfield Road. The widening includes left turning lanes at its intersection with Mayfield Road. Preliminary design of the future road widenings is provided in Appendix D. Based on confirmation from the Region, the anticipated timeline for the Mayfield Road improvement to be completed is 2024. As such, the identified planned road network improvements have been incorporated into the 2029 future background analysis.

The future background road network and lane configuration is illustrated in Figure 3-2.

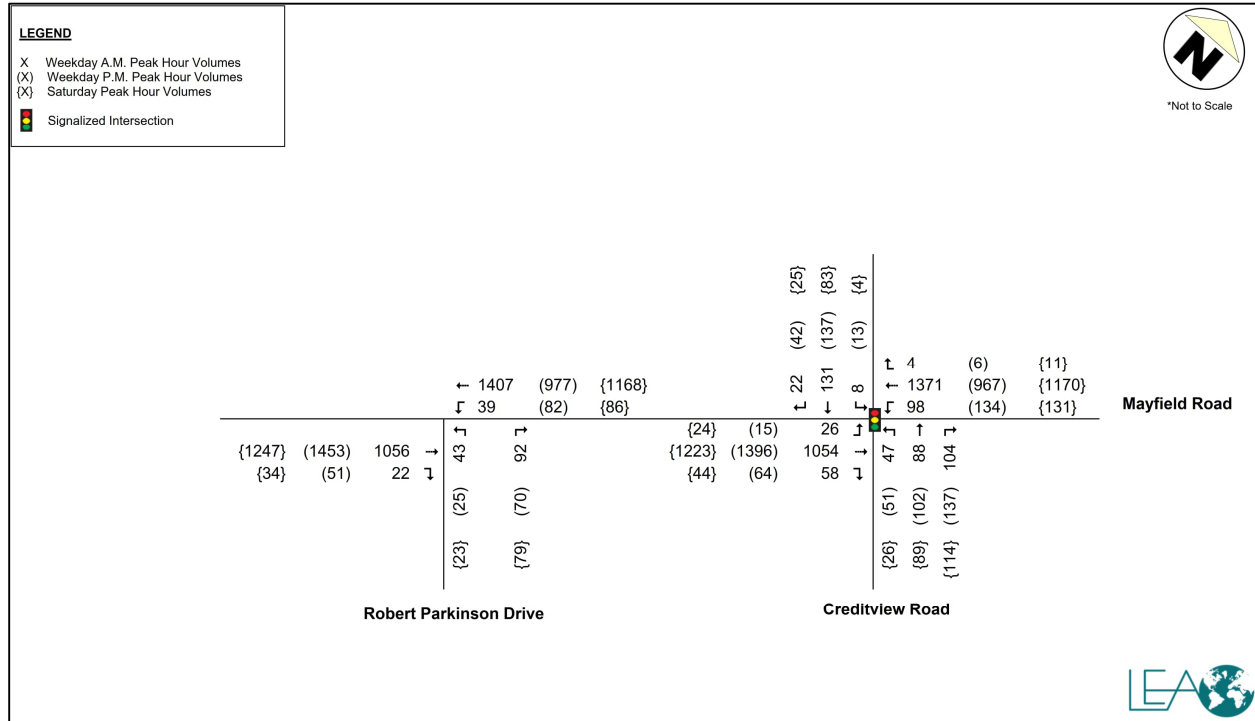
Figure 3-2: Future Background Lane Configuration



3.4 FUTURE BACKGROUND TRAFFIC VOLUMES

The future background traffic volumes for the weekday AM, PM, and Saturday peak hours are illustrated in Figure 3-3.

Figure 3-3: Future Background Peak Hour Traffic Volumes (2029)



4 SITE-GENERATED TRAFFIC

4.1 MODAL SPLIT

The town's mode split is provided in the *Town of Caledon Multi-Modal Transportation Master Plan (MMTMP)*, dated June 2024. An excerpt of the rates is provided in Appendix E and is presented in Table 4-1.

Table 4-1: Projected Modal Split

Source	Automobile	School Bus	GO Rail Only	Walk	Transit Excluding GO Rail
Caledon MMTMP (June 2024)	87%	9%	0%	3%	1%
Total	~96%		~4%		

According to the data reviewed, 96% of trips are made with automobiles while 4% of trips are made through transit and active transportation. Due to the high automobile mode share, no mode split reductions were calculated into the trip generation.

4.2 TRIP GENERATION

The proposed development consists of nine (9) commercial structures and a gas bar. A total of 303,468 ft² of retail GFA is proposed across all commercial structures, and a total of 12 fueling positions are proposed for the gas bar. Access to the site is proposed via one (1) full movement driveway and one (1) RIRO driveway off Creditview Road. Two (2) RIRO driveways and one (1) full movement driveway (Street 'G') off Mayfield Road is also available for access to the site.

Trip generation was estimated using baseline trip rates from the *ITE Trip Generation Manual 11th Edition*. The retail trip generation was based on a GFA of 302,000 ft². The average trip rate from ITE Land Use Code 820 was used for commercial trips and ITE Land Use Code 945 was used for gas station trips. The projected reduced auto mode share was applied to determine external auto driver trips for each proposed use. Finally, pass-by trips were applied to commercial trips generated by the proposed development. As data was not available for Saturday pass-by trips, it was assumed the PM rates are the same as Saturday rates. The site trip generation is provided in Table 4-2.

Table 4-2: Trip Generation

Land Use	Description	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
		AM In	AM Out	AM Total	PM In	PM Out	PM Total	Sat In	Sat Out	Sat Total
Shopping Centre (LUC 820) 302,000 ft ²	Trip Rate	0.52	0.32	0.84	1.63	1.77	3.4	2.29	2.11	4.4
	Vehicle Trips Generated	157	97	254	493	534	1027	691	638	1329
	Pass-by (0%/34%/34%) ⁽¹⁾	0	0	0	168	182	350	235	217	452
Retail Auto Driver		157	97	254	493	534	1027	691	638	1329
Gasoline/Service Station with Convenience Market (LUC 945) 12 Fueling Positions	Trip Rate	8.03	8.03	16.06	9.21	9.21	18.42	8.51	8.51	17.01
	Vehicle Trips Generated	96	97	193	111	110	221	102	102	204
	Pass-by (62%/56%/56%) ⁽¹⁾	60	60	120	62	62	124	57	57	114
Gas Bar Auto Driver		96	97	193	111	110	221	102	102	204
Net Auto Driver		253	194	447	604	644	1248	793	740	1533

Note: (1) – No data for Saturday Pass-by trips were available. Therefore, it was assumed that PM rates are the same as Saturday rates.

Based on the ITE Trip Gen Manual, the subject site is anticipated to generate 447 two-way trips during the AM peak hour (253 inbound and 194 outbound), 1,248 two-way trips during the PM peak hour (604 inbound and 644 outbound), and 1,533 two-way trips during the Saturday peak hour (793 inbound and 740 outbound).

4.3 TRIP DISTRIBUTION AND ASSIGNMENT

Trip distribution for the proposed commercial development was estimated using Transportation Tomorrow Survey (TTS) 2016 data. The TTS data was filtered for Market/Shop based auto trips during the weekday AM and PM peak periods. Due to insufficient data being provided for both AM and Saturday peak periods, the PM peak period distribution was used for both AM and Saturday peak period distributions. More specifically, PM In was used for AM Out and Saturday In, and PM out was used for AM In and Saturday Out.

The site traffic was assigned to the road network based on trip patterns in the study area, changes in the future road network, logical routing, and the location and configuration of the site accesses. Table 4-3 below outlines the trip distribution for the proposed uses. Detailed TTS calculations are provided in Appendix E.

Table 4-3: Trip Distribution and Assignment

Direction	Route	Weekday AM		Weekday PM		Saturday Mid-Day	
		Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
South	Creditview	33%	25%	25%	33%	25%	33%
	Mississauga	12%	10%	10%	12%	10%	12%
West	Mayfield	3%	30%	30%	3%	30%	3%
East	Mayfield	52%	35%	35%	52%	35%	52%
Total		100%	100%	100%	100%	100%	100%

The site-generated traffic volumes, pass-by traffic volumes, and net site generated traffic volumes for the weekday AM, PM, and Saturday peak hours are illustrated in Figure 4-1, Figure 4-2, Figure 4-4, respectively.

Figure 4-1: Site-Generated Peak Hour Traffic Volumes

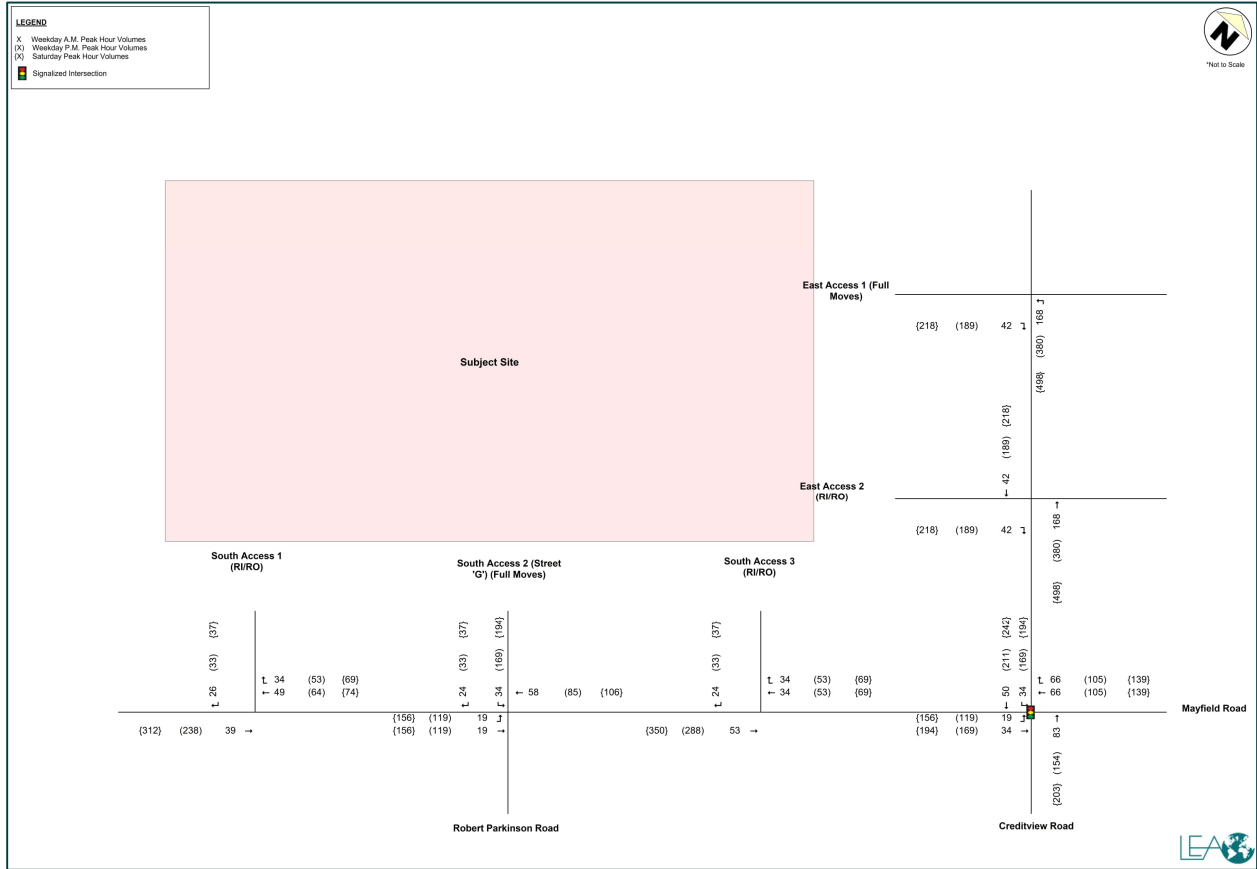


Figure 4-2: Retail Pass-By Peak Hour Traffic Volumes

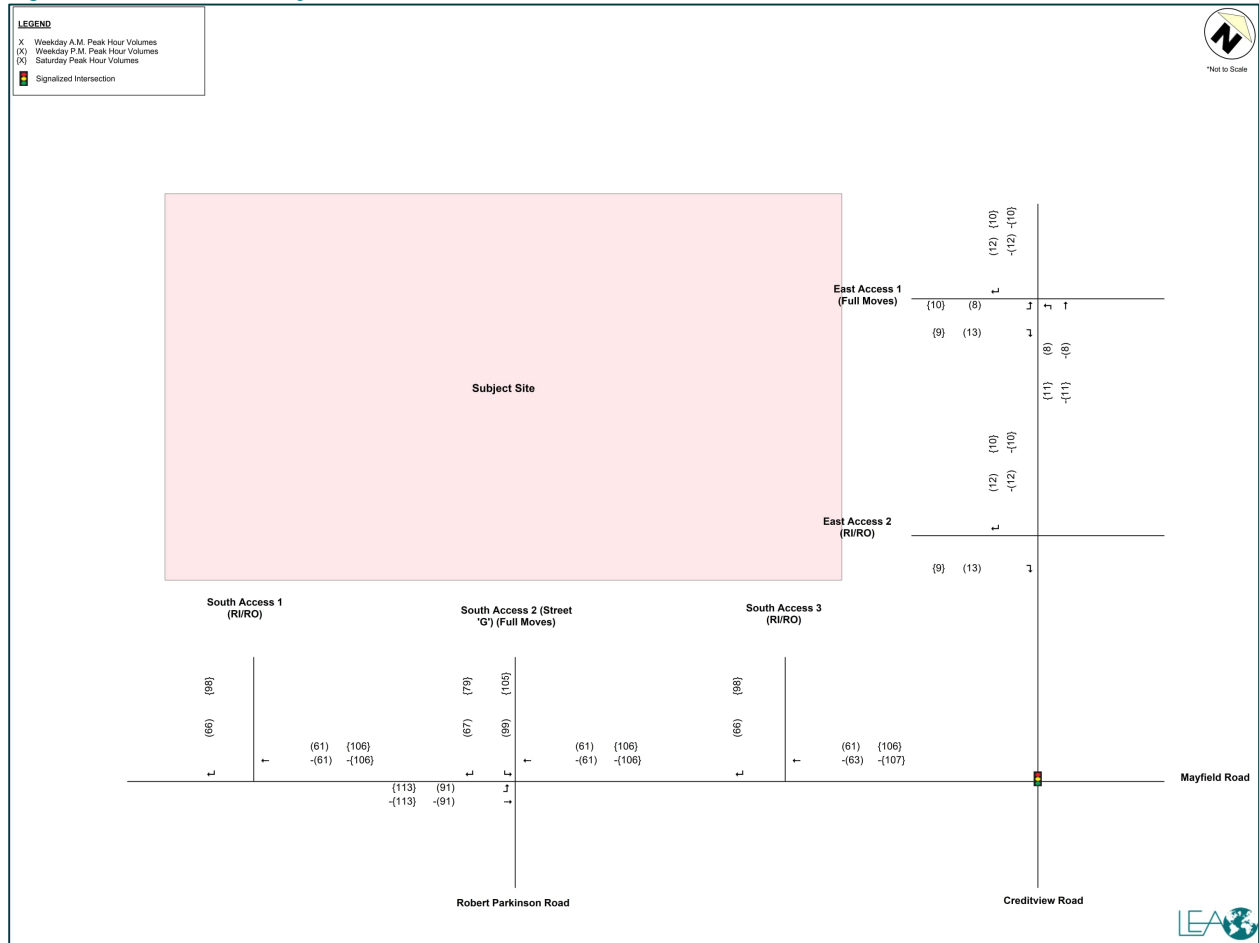


Figure 4-3: Gas Station Pass-By Peak Hour Traffic Volumes

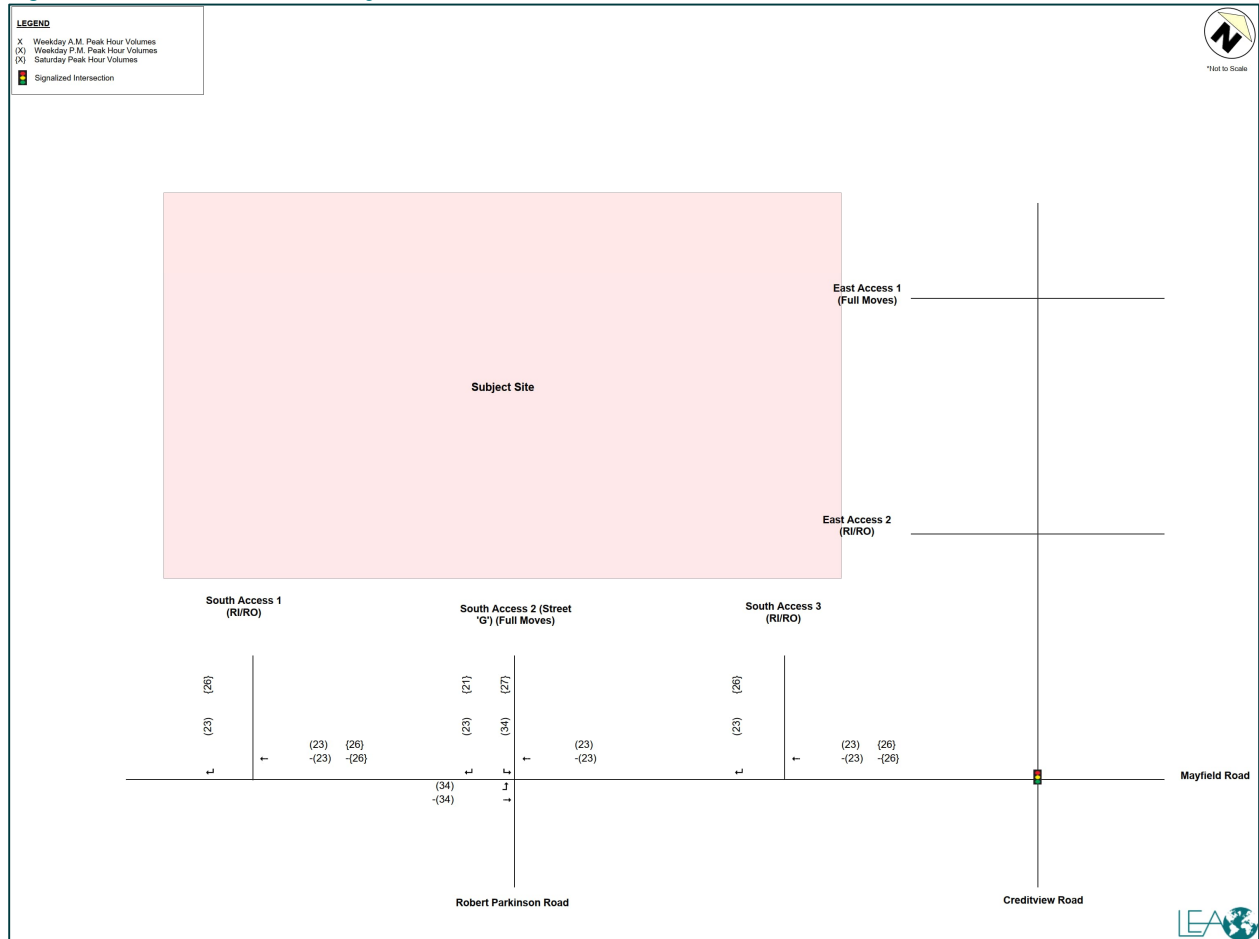
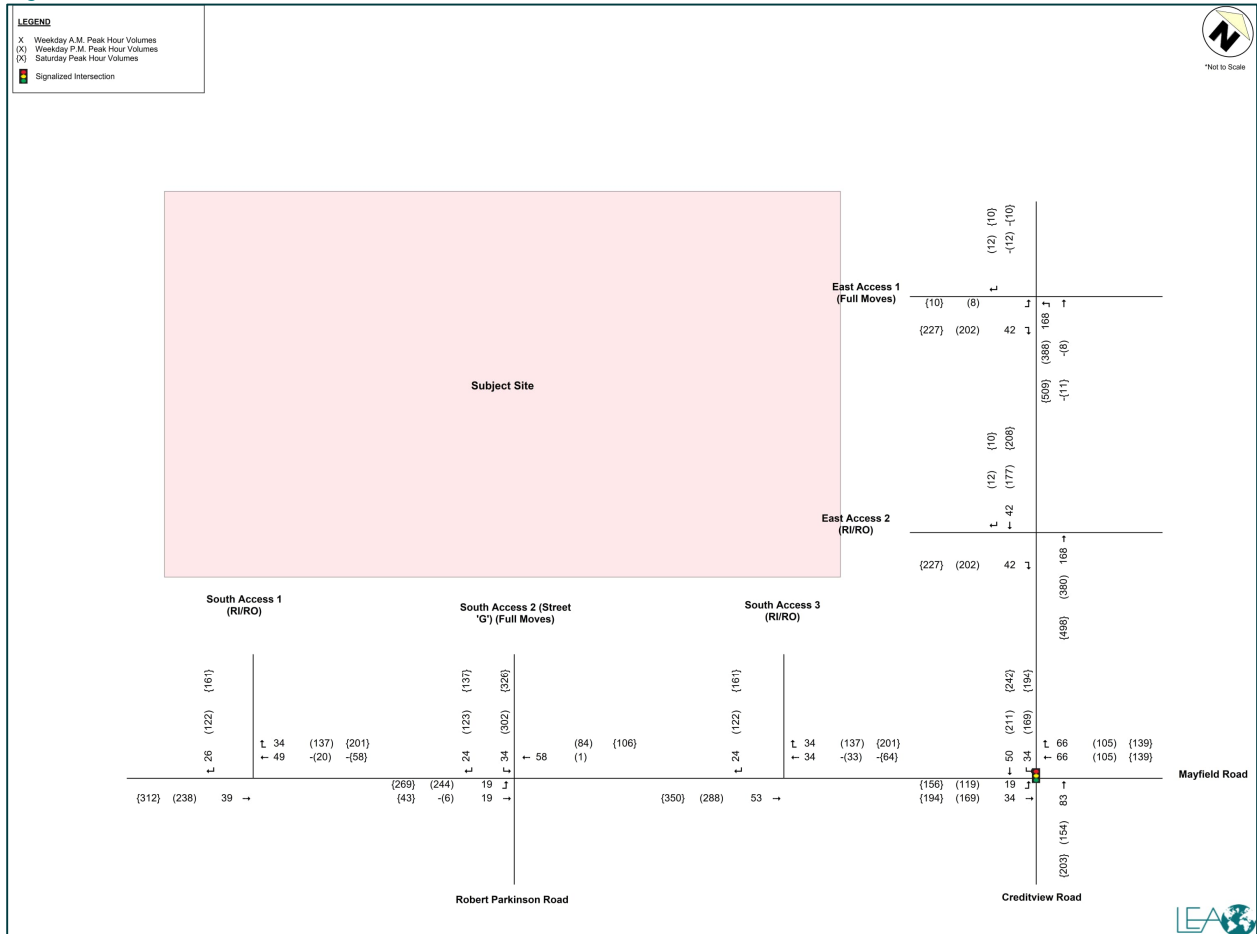


Figure 4-4: Net Site Generated Peak Hour Traffic Volumes



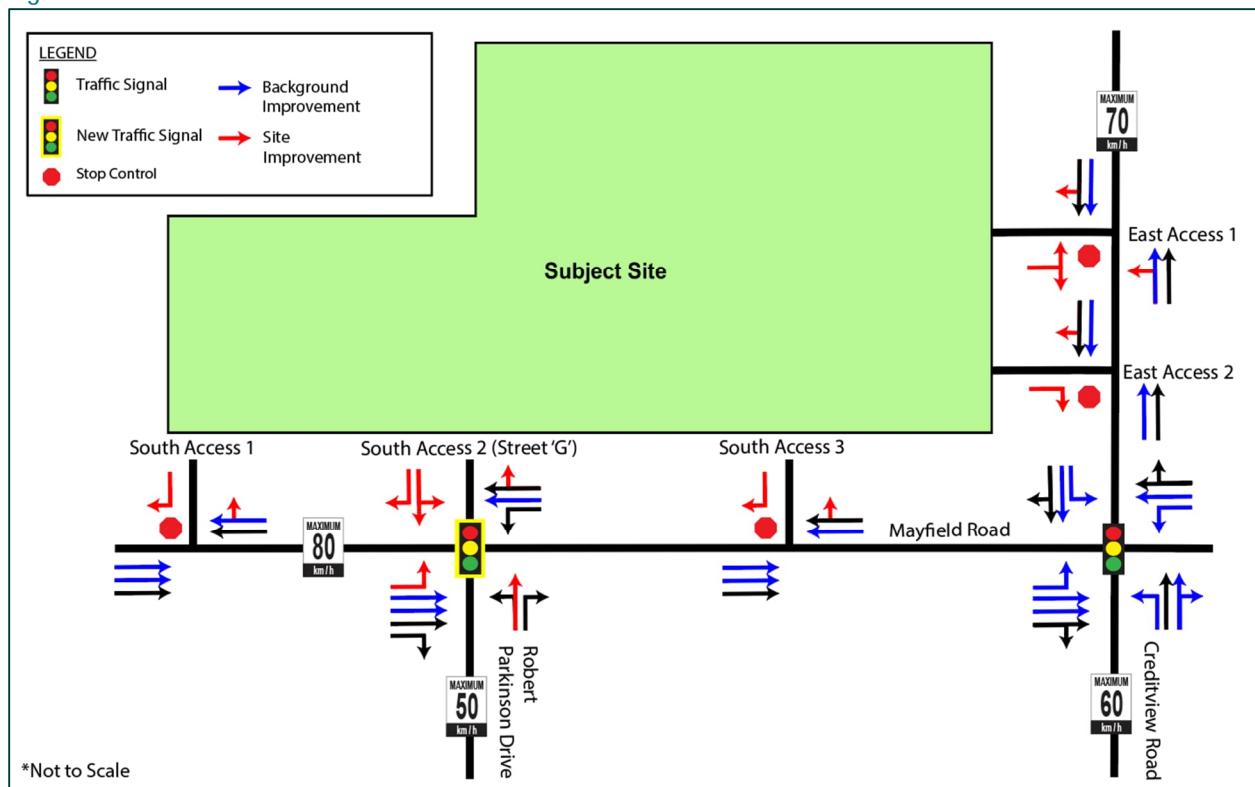
5 FUTURE TOTAL TRANSPORTATION CONDITIONS

Future total traffic conditions include the addition of site trips to the 2029 future background volumes. Five (5) new site accesses are proposed to facilitate the subject site:

- ▶ Creditview Road & East Site Access 1: New full moves unsignalized access
- ▶ Creditview Road & East Site Access 2: New RIRO unsignalized access
- ▶ Mayfield Road & South Site Access 1: New RIRO unsignalized access
- ▶ Mayfield Road & South Site Access 2 (Street 'G'): New full moves signalized access (addition of north leg). This intersection is recommended for signalization upon development of the subject site to better accommodate site traffic.
- ▶ Mayfield Road & South Site Access 3: New RIRO unsignalized access

The recommended future road network with the site access configurations is illustrated in Figure 5-1.

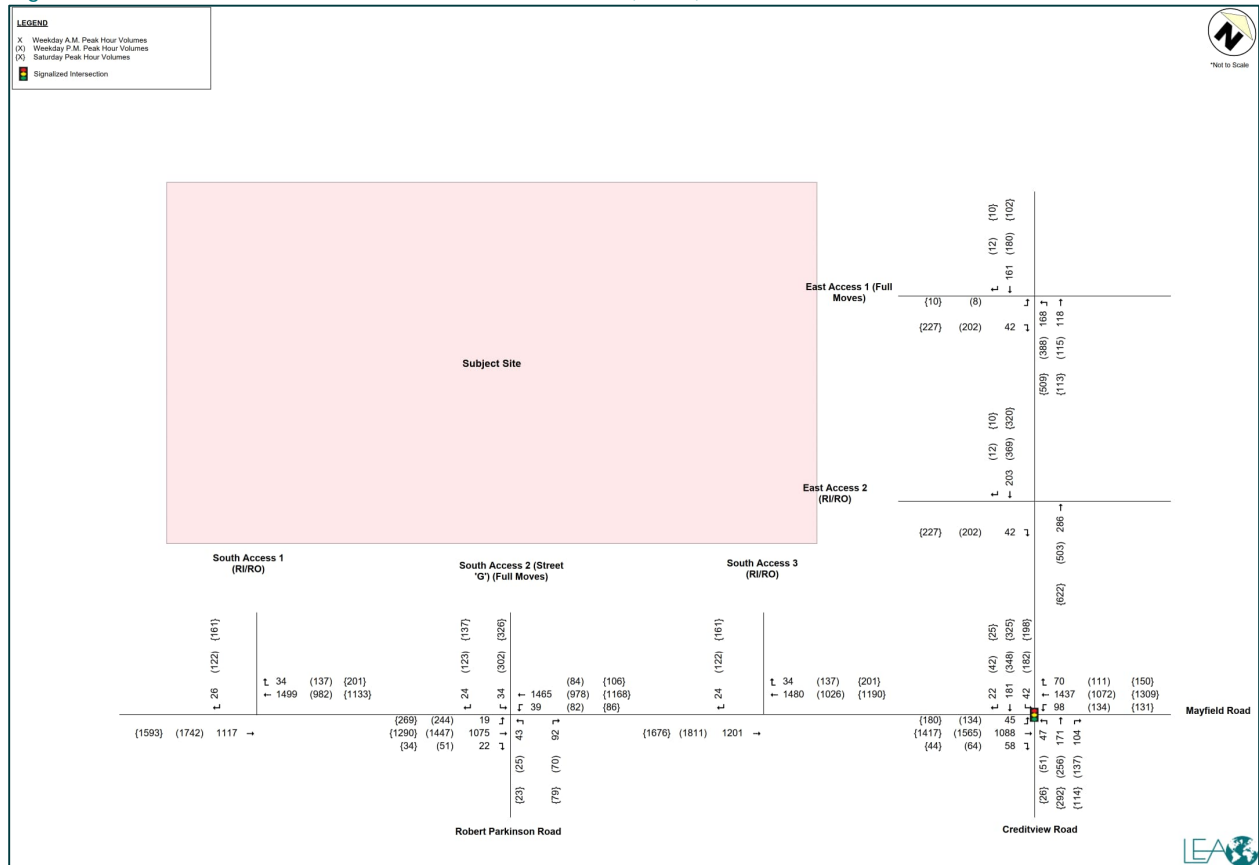
Figure 5-1: Recommended Future Road Network



5.1 FUTURE TOTAL TRAFFIC VOLUMES

The future total traffic volumes for the weekday AM, PM, and Saturday peak hours are illustrated in Figure 5-2.

Figure 5-2: Future Total Peak Hour Traffic Volumes (2029)



6 INTERSECTION CAPACITY ANALYSIS

The capacity analysis for the study area was undertaken using Synchro version 11.0, which is based on the Highway Capacity Manual 2000 methodology and adhering to the Town of Caledon and Peel Region *Traffic Impact Study Guidelines*. The intersection capacity analysis was conducted for the weekday AM, PM, and Saturday peak hours. As per Town of Caledon guidelines, critical movements for signalized intersections were identified as those with a volume-to-capacity (v/c) ratio greater than 0.90 for overall intersection operations, through movements or shared through/turning movements and a v/c ratio greater than 1.00 for exclusive turning movements. For unsignalized intersections, critical movements were identified as those with a level-of-service (LOS) 'E' or greater.

6.1 EXISTING CONDITIONS SYNCHRO MODEL INPUTS

Existing traffic operations were assessed to provide a baseline for future traffic operations. The existing analysis incorporates the most recent signal timing plans for the study intersections. The applied Peak Hour Factor (PHF) values were calculated based on surveyed counts.

6.2 FUTURE CONDITIONS SYNCHRO MODEL INPUTS

Input parameters from the existing scenario were maintained with corresponding future volumes, with the exception of the following changes outlined in Table 6-1.

Table 6-1: Future Conditions Synchro Model Input Modifications

Intersection/Road	Modifications
Mayfield Road & Creditview Road	<ul style="list-style-type: none"> • Addition of two (2) eastbound through lanes and one (1) westbound through lane, along with dedicated left-turning lanes to accommodate the planned widening of Mayfield Road. • Addition of one (1) northbound and southbound through lane, along with left-turning lanes at Mayfield Road & Creditview Road to accommodate the planned widening of Creditview Road.
Mayfield Road & Robert Parkinson Drive	<ul style="list-style-type: none"> • Addition of two (2) eastbound through lanes and one (1) westbound through lane, along with dedicated left-turning lanes to accommodate the planned widening of Mayfield Road. • Signalization with a proposed cycle length of 120 seconds.

The following sections outline a comparison of the capacity analysis results for existing, 2029 future background, and 2029 future total conditions. Detailed capacity analysis results are provided in the following appendices:

- ▶ Appendix F: Existing Intersection Capacity Analysis;
- ▶ Appendix G: 2029 Future Background Intersection Capacity Analysis; and
- ▶ Appendix H: 2029 Future Total Intersection Capacity Analysis.

6.3 EXISTING SIGNALIZED INTERSECTIONS

The results for the existing signalized intersections under each traffic scenario during the weekday AM, PM, and Saturday peak hours are summarized in the section below.

6.3.1 Mayfield Road & Creditview Road

The intersection capacity analysis at Mayfield Road & Creditview Road is summarized in Table 6-2. A summary of the queue lengths is provided in Table 6-3.

Table 6-2: Intersection Capacity Analysis, Mayfield Road & Creditview Road

Mvmt	Existing				AM	Future Background 2029				Future Total 2029			
	Vol	V/C	Delay (s)	LOS	Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
AM Peak Hour													
Overall	-	-	12	B	Overall	-	-	11	B	-	-	13	B
EBL	26	0.51	9	A	EBL	26	0.11	16	B	45	0.23	21	C
EBT	468	0.00	0	A	EBT	1054	0.38	7	A	1088	0.39	7	A
EBR	58	0.00	0	A	EBR	58	0.38	8	A	58	0.39	8	A
WBL	89	0.59	10	B	WBL	98	0.30	13	B	98	0.31	14	B
WBT	503	0.00	0	A	WBT	1371	0.67	12	B	1437	0.73	14	B
WBR	4	0.00	0	A	WBR	4	0.67	12	B	70	0.74	14	B
NBL	47	0.31	21	C	NBL	47	0.16	22	C	47	0.17	23	C
NBT	80	0.00	0	A	NBT	88	0.26	21	C	171	0.40	22	C
NBR	94	0.32	21	C	NBR	104	0.34	21	C	104	0.43	22	C
SBL	8	0.36	22	C	SBL	8	0.03	22	C	42	0.17	24	C
SBT	119	0.00	0	A	SBT	131	0.22	20	C	181	0.29	21	C
SBR	20	0.00	0	A	SBR	22	0.23	20	C	22	0.30	21	C
PM Peak Hour													
Overall	-	-	13	B	Overall	-	-	11	B	-	-	16	B
EBL	15	0.60	10	B	EBL	15	0.05	10	B	134	0.53	27	C
EBT	579	0.00	0	A	EBT	1396	0.49	8	A	1565	0.57	10	A
EBR	64	0.00	0	A	EBR	64	0.49	9	A	64	0.57	11	B
WBL	121	0.57	10	A	WBL	134	0.54	25	C	134	0.64	36	D
WBT	403	0.00	0	A	WBT	967	0.47	9	A	1072	0.61	12	B
WBR	6	0.00	0	A	WBR	6	0.47	9	A	111	0.61	12	B
NBL	51	0.35	21	C	NBL	51	0.18	23	C	51	0.21	24	C
NBT	92	0.00	0	A	NBT	102	0.29	21	C	256	0.50	21	C
NBR	124	0.42	22	C	NBR	137	0.44	22	C	137	0.52	22	C
SBL	13	0.43	22	C	SBL	13	0.06	24	C	182	0.79	44	D
SBT	124	0.00	0	A	SBT	137	0.26	21	C	348	0.48	21	C
SBR	38	0.00	0	A	SBR	42	0.27	21	C	42	0.49	21	C
Sat Peak Hour													
Overall	-	-	12	B	Overall	-	-	11	B	-	-	19	B
EBL	24	0.50	9	A	EBL	24	0.09	13	B	180	0.92	72	E
EBT	485	0.00	0	A	EBT	1223	0.42	7	A	1417	0.51	9	A
EBR	44	0.00	0	A	EBR	44	0.42	8	A	44	0.51	10	A
WBL	119	0.53	9	A	WBL	131	0.44	18	B	131	0.54	27	C
WBT	397	0.00	0	A	WBT	1170	0.56	10	A	1309	0.74	15	B
WBR	11	0.00	0	A	WBR	11	0.56	10	A	150	0.75	15	B
NBL	26	0.26	21	C	NBL	26	0.08	21	C	26	0.10	23	C
NBT	81	0.00	0	A	NBT	89	0.25	21	C	292	0.51	21	C
NBR	103	0.34	21	C	NBR	114	0.37	21	C	114	0.52	22	C
SBL	4	0.25	21	C	SBL	4	0.01	23	C	198	0.86	54	D

Mvmt	Existing				AM	Future Background 2029				Future Total 2029			
	Vol	V/C	Delay (s)	LOS	Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
SBT	75	0.00	0	A	SBT	83	0.15	20	C	325	0.43	20	C
SBR	23	0.00	0	A	SBR	25	0.16	20	C	25	0.43	20	C

Table 6-3: Intersection Queue Lengths, Mayfield Road & Creditview Road

Mvmt	Existing		Mvmt	Future Background 2029		Future Total 2029	
	50th Queue	95th Queue		50th Queue	95th Queue	50th Queue	95th Queue
AM Peak Hour							
Overall	-	-	Overall	-	-	-	-
EBL	0	0	EBL	1	6	3	9
EBT	35	65	EBT	23	30	34	41
EBR	0	0	EBR	0	0	0	0
WBL	0	0	WBL	6	19	9	37
WBT	43	84	WBT	54	75	62	88
WBR	0	0	WBR	0	0	0	0
NBL	0	0	NBL	5	13	5	13
NBT	14	27	NBT	6	14	14	24
NBR	0	10	NBR	0	0	0	0
SBL	0	0	SBL	1	4	4	12
SBT	14	28	SBT	7	14	10	18
SBR	0	0	SBR	0	0	0	0
PM Peak Hour							
Overall	-	-	Overall	-	-	-	-
EBL	0	0	EBL	1	3	21	45
EBT	45	83	EBT	33	43	32	36
EBR	0	0	EBR	0	0	0	0
WBL	0	0	WBL	14	32	20	38
WBT	38	77	WBT	31	44	44	62
WBR	0	0	WBR	0	0	0	0
NBL	0	0	NBL	5	14	5	14
NBT	15	30	NBT	11	21	21	33
NBR	0	12	NBR	0	0	0	0
SBL	0	0	SBL	1	6	22	56
SBT	17	32	SBT	7	15	20	33
SBR	0	0	SBR	0	0	0	0
Sat Peak Hour							
Overall	-	-	Overall	-	-	-	-
EBL	0	0	EBL	1	5	66	107
EBT	34	60	EBT	27	35	69	80
EBR	0	0	EBR	0	0	0	0
WBL	0	0	WBL	10	39	14	32
WBT	36	69	WBT	41	57	62	87
WBR	0	0	WBR	0	0	0	0
NBL	0	0	NBL	3	8	3	8
NBT	11	23	NBT	8	16	21	33
NBR	0	11	NBR	0	0	0	0
SBL	0	0	SBL	0	3	24	61

Mvmt	Existing		Mvmt	Future Background 2029		Future Total 2029	
	50th Queue	95th Queue		50th Queue	95th Queue	50th Queue	95th Queue
SBT	8	19	SBT	4	10	18	29
SBR	0	0	SBR	0	0	0	0

Existing Conditions: Under existing conditions, the signalized intersection operates within capacity, with acceptable delays and an overall LOS of 'B' under all peak hours. No critical movements have been identified.

Future Background Conditions: Under future background conditions, with the widening of Mayfield Road and Creditview Road, the intersection is expected to operate similarly to existing conditions. The intersection is expected to operate at acceptable levels of service, with no critical movements identified.

Future Total Conditions: Under future total traffic conditions, with implementation of the recommended signal timing plan, the intersection is expected to operate at acceptable levels of service under all peak hours. It should be noted that the eastbound left and southbound left movements are approaching capacity during the Saturday PM peak hour; however, operate at v/c ratios less than 1.00.

6.4 NEW SIGNALIZED INTERSECTION

The results for new signalized intersections under future traffic scenarios during the weekday AM, PM, and Saturday peak hours are summarized in the section below.

6.4.1 Mayfield Road & Robert Parkinson Drive / South Site Access 2 (Street 'G')

The signalization of Mayfield Road & Robert Parkinson Drive / South Site Access 2 (Street 'G') has been recommended to accommodate site traffic volumes. A signal warrant analysis to determine whether signalization is warranted is provided in Section 7.

The recommended signal timing plans with a proposed cycle length of 120 seconds are summarized in Table 6-4.

Table 6-4: Recommended Signal Timing Plan, Mayfield Road & Robert Parkinson Drive / South Site Access 2 (Street 'G')

Intersection	Peak Period	Recommended Signal Timing Plan
Mayfield Road & Robert Parkinson Drive / South Site Access 2	Recommended AM	<p>Splits and Phases: 2: Robert Parkinson Drive/South Site Access 2 (Street 'G') & Mayfield Road</p>
	Recommended PM	<p>Splits and Phases: 2: Robert Parkinson Drive/South Site Access 2 (Street 'G') & Mayfield Road</p>
	Recommended Sat	<p>Splits and Phases: 2: Robert Parkinson Drive/South Site Access 2 (Street 'G') & Mayfield Road</p>

The intersection capacity analysis at Mayfield Road & Robert Parkinson Drive / South Site Access 2 (Street 'G') is summarized in Table 6-5, for the weekday AM, PM, and Saturday peak hours. A summary of the queue lengths is provided in Table 6-6.

To note, only future total conditions are provided below as signalization is recommended upon development of the site. Capacity analysis results for the existing unsignalized intersection operations are provided in Section 6.5.1.

Table 6-5: Intersection Capacity Analysis, Mayfield Road & Robert Parkinson Drive / South Site Access 2 (Street 'G')

Mvmt	Future Total 2029 (Optimized)			
	Vol	V/C	Delay (s)	LOS
AM Peak				
Overall	-	-	22	C
EBL	19	0.12	19	B
EBT	1075	0.36	13	B
EBR	22	0.03	10	B
WBL	39	0.13	18	B
WBT	1465	0.78	26	C
WBR	0	0.00	0	A
NBL	43	0.65	77	E
NBT	0	0.00	0	A
NBR	92	0.18	29	C
SBL	34	0.52	66	E
SBT	0	0.00	0	A
SBR	24	0.05	27	C
PM Peak				
Overall	-	-	16	B
EBL	244	0.62	12	B
EBT	1447	0.40	7	A
EBR	51	0.05	5	A
WBL	82	0.33	16	B
WBT	978	0.49	15	B
WBR	84	0.49	15	B
NBL	25	0.24	58	E
NBT	0	0.00	0	A
NBR	70	0.23	40	D
SBL	302	0.74	50	D
SBT	0	0.00	0	A
SBR	123	0.40	42	D
Sat Peak				
Overall	-	-	21	C
EBL	269	0.88	35	D
EBT	1290	0.39	8	A
EBR	34	0.03	6	A
WBL	86	0.35	18	B
WBT	1168	0.66	21	C
WBR	106	0.66	21	C
NBL	23	0.23	58	E
NBT	0	0.00	0	A
NBR	79	0.25	38	D
SBL	326	0.77	50	D
SBT	0	0.00	0	A

Mvmt	Future Total 2029 (Optimized)			
	Vol	V/C	Delay (s)	LOS
SBR	137	0.43	41	D

Table 6-6: Intersection Queue Lengths, Mayfield Road & Robert Parkinson Drive / South Site Access 2 (Street 'G')

Mvmt	Future Total 2029 (Optimized)	
	50th Queue	95th Queue
AM Peak		
Overall	-	-
EBL	1	2
EBT	14	22
EBR	0	1
WBL	0	2
WBT	5	95
WBR	0	0
NBL	0	0
NBT	11	23
NBR	1	18
SBL	0	0
SBT	8	19
SBR	0	2
PM Peak		
Overall	-	-
EBL	24	51
EBT	61	73
EBR	0	5
WBL	12	34
WBT	83	97
WBR	0	0
NBL	0	0
NBT	5	13
NBR	3	15
SBL	0	0
SBT	72	118
SBR	0	15
Sat Peak		
Overall	-	-
EBL	57	110
EBT	57	67
EBR	0	4
WBL	16	24
WBT	124	151
WBR	0	0
NBL	0	0
NBT	5	13
NBR	5	18
SBL	0	0

Mvmt	Future Total 2029 (Optimized)	
	50th Queue	95th Queue
SBT	85	143
SBR	0	16

Future Total Conditions: Under future total traffic conditions, with signalization and implementation of the recommended signal timing plan, the intersection is expected to operate at acceptable levels of service under all peak hours. The exception for this is the NBL movement during the weekday and Saturday peak hours, and the SBL movement during the weekday AM peak hours, for which Synchro reports a LOS of 'E'; however, with an acceptable v/c ratio. No other critical movements have been identified.

6.5 EXISTING UNSIGNALIZED INTERSECTIONS

The results for the studied existing unsignalized intersections under each traffic scenario during the weekday AM, PM, and Saturday peak hours are summarized in the section below.

6.5.1 Mayfield Road & Robert Parkinson Drive

As previously mentioned in Section 6.4.1, the signalization of Mayfield Road & Robert Parkinson Drive is recommended for this development. As such, only the existing and future background unsignalized operations are provided below in Table 6-7 for the weekday AM, PM, and Saturday peak hours.

Table 6-7: Intersection Capacity Analysis, Mayfield Road & Robert Parkinson Drive

Mvmt	Existing					Future Background 2029				
	Vol	V/C	Delay (s)	LOS	95th Queue	Vol	V/C	Delay (s)	LOS	95th Queue
AM Peak										
Overall	-	-	2	-	-	-	-	3	-	-
NBL	43	0.20	25	D	1	43	0.60	109	F	3
NBR	92	0.16	12	B	1	92	0.23	16	C	1
EBT	470	0.00	0		0	1056	0.00	0		0
EBR	22	0.00	0		0	22	0.00	0		0
WBL	39	0.04	9	A	0	39	0.12	17	C	0
WBT	535	0.00	0		0	1407	0.00	0		0
PM Peak										
Overall	-	-	2	-	-	-	-	4	-	-
NBL	25	0.15	29	D	1	25	0.78	267	F	3
NBR	70	0.16	14	B	1	70	0.24	21	C	1
EBT	630	0.00	0		0	1453	0.00	0		0
EBR	51	0.00	0		0	51	0.00	0		0
WBL	82	0.09	9	A	0	82	0.40	33	D	2
WBT	412	0.00	0		0	977	0.00	0		0
Sat Peak										
Overall	-	-	2	-	-	-	-	3	-	-
NBL	23	0.13	26	D	0	23	0.69	226	F	3
NBR	79	0.16	13	B	1	79	0.25	19	C	1
EBT	506	0.00	0		0	1247	0.00	0		0
EBR	34	0.00	0		0	34	0.00	0		0
WBL	86	0.09	9	A	0	86	0.37	27	D	2
WBT	395	0.00	0		0	1168	0.00	0		0

Existing Conditions: Under existing conditions, the unsignalized intersection operates within capacity and with acceptable delays under all peak hours. No critical movements have been identified.

Future Background Conditions: Under future background conditions, the intersection is expected to operate similarly to existing conditions. While the NBL movement is expected to operate with a LOS of 'F' during all peak hours, the movement operates with residual capacity and with v/c ratios less than 0.80 during all peak hours. No other critical movements have been identified.

6.6 NEW UNSIGNALIZED INTERSECTIONS

The results for new unsignalized intersections under each traffic scenario during the weekday AM, PM, and Saturday peak hours are summarized in the section below.

6.6.1 Creditview Road & East Site Access 1

The intersection capacity analysis for weekday AM, PM, and Saturday peak hours at Creditview Road & East Site Access 1 is summarized in Table 6-8.

Table 6-8: Intersection Capacity Analysis, Creditview Road & East Site Access 1

AM		Future Total 2029			
Mvmt	Vol	V/C	Delay(s)	LOS	95th Queue
Overall	-	-	4	-	-
NBL	168	0.12	8	A	0
NBT	118	0.00	0	A	0
EBLR	42	0.05	9	A	0
SBT	161	0.00	0	-	0
SBR	0	0.00	0	-	0
PM		Future Total 2029			
Mvmt	Vol	V/C	Delay(s)	LOS	95th Queue
Overall	-	-	6	-	-
NBL	388	0.29	9	A	1
NBT	115	0.00	0	A	0
EBLR	210	0.28	11	B	1
SBT	180	0.00	0	-	0
SBR	12	0.00	0	-	0
Sat		Future Total 2029			
Mvmt	Vol	V/C	Delay(s)	LOS	95th Queue
Overall	-	-	8	-	-
NBL	509	0.35	9	A	2
NBT	113	0.00	0	A	0
EBLR	237	0.33	12	B	1
SBT	102	0.00	0	-	0
SBR	10	0.00	0	-	0

Future Total Conditions: The full moves site access off Creditview Road is expected to operate well within capacity and with acceptable delays for all individual movements during all peak hours. No constraints have been identified.

6.6.2 Creditview Road & East Site Access 2

The intersection capacity analysis for weekday AM, PM, and Saturday peak hours at Creditview Road & East Site Access 2 is summarized in Table 6-9.

Table 6-9: Intersection Capacity Analysis, Creditview Road & East Site Access 2

AM		Future Total 2029			
Mvmt	Vol	V/C	Delay(s)	LOS	95th Queue
Overall	Overall	-	-	1	-
NBT	NBT	286	0.00	0	-
EBR	EBR	42	0.05	9	A
SBT	SBT	203	0.00	0	-
SBR	SBR	0	0.00	0	-
PM		Future Total 2029			
Mvmt	Vol	V/C	Delay(s)	LOS	95th Queue
Overall	-	-	2	-	-
NBT	503	0.00	0	-	0
EBR	202	0.26	11	B	1
SBT	369	0.00	0	-	0
SBR	12	0.00	0	-	0
Sat		Future Total 2029			
Mvmt	Vol	V/C	Delay(s)	LOS	95th Queue
Overall	-	-	2	-	-
NBT	622	0.00	0	-	0
EBR	227	0.28	11	B	1
SBT	320	0.00	0	-	0
SBR	10	0.00	0	-	0

Future Total Conditions: The RIRO site access off Creditview Road is expected to operate well within capacity and with acceptable delays for all individual movements during all peak hours. No constraints have been identified.

6.6.3 Mayfield Road & South Site Access 1

The intersection capacity analysis for weekday AM, PM, and Saturday peak hours at Mayfield Road & South Site Access 1 is summarized in Table 6-10.

Table 6-10: Intersection Capacity Analysis, Mayfield Road & South Site Access 1

AM		Future Total 2029			
Mvmt	Vol	V/C	Delay(s)	LOS	95th Queue
Overall	-	-	0	-	-
EBT	1117	0.00	0	-	0
WBT	1499	0.00	0	-	0
WBR	34	0.00	0	-	0
SBR	26	0.08	17	C	0
PM		Future Total 2029			
Mvmt	Vol	V/C	Delay(s)	LOS	95th Queue
Overall	-	-	1	-	-
EBT	1742	0.00	0	-	0
WBT	982	0.00	0	-	0
WBR	137	0.00	0	-	0
SBR	122	0.27	16	C	1
Sat		Future Total 2029			
Mvmt	Vol	V/C	Delay(s)	LOS	95th Queue
Overall	-	-	1	-	-
EBT	1593	0.00	0	-	0
WBT	1133	0.00	0	-	0
WBR	201	0.00	0	-	0
SBR	161	0.47	23	C	2

Future Total Conditions: The RIRO site access off Mayfield Road is expected to operate well within capacity and with acceptable delays for all individual movements during all peak hours. While the SBR movement is expected to operate with a LOS of 'C' during all peak hours, the movement operates with v/c ratios less than 0.50 during all peak hours and no significant queues are anticipated. No constraints have been identified.

6.6.4 Mayfield Road & South Site Access 3

The intersection capacity analysis for weekday AM, PM, and Saturday peak hours at Mayfield Road & South Site Access 3 is summarized in Table 6-11.

Table 6-11: Intersection Capacity Analysis, Mayfield Road & South Site Access 3

AM		Future Total 2029			
Mvmt	Vol	V/C	Delay(s)	LOS	95th Queue
Overall	-	-	0	-	-
EBT	1201	0.00	0	-	0
WBT	1480	0.00	0	-	0
WBR	34	0.00	0	-	0
SBR	24	0.08	17	C	0
PM		Future Total 2029			
Mvmt	Vol	V/C	Delay(s)	LOS	95th Queue
Overall	-	-	1	-	-
EBT	1811	0.00	0	-	0
WBT	1026	0.00	0	-	0
WBR	137	0.00	0	-	0
SBR	122	0.29	16	C	1
Sat		Future Total 2029			
Mvmt	Vol	V/C	Delay(s)	LOS	95th Queue
Overall	-	-	1	-	-
EBT	1676	0.00	0	-	0
WBT	1190	0.00	0	-	0
WBR	201	0.00	0	-	0
SBR	161	0.44	22	C	2

Future Total Conditions: The RIRO site access off Mayfield Road is expected to operate well within capacity and with acceptable delays for all individual movements during all peak hours. While the SBR movement is expected to operate with a LOS of 'C' during all peak hours, the movement operates with v/c ratios less than 0.50 during all peak hours and no significant queues are anticipated. No constraints have been identified.

6.7 SUMMARY OF INTERSECTION CAPACITY ANALYSIS

With signal optimizations and planned widenings along adjacent roads, the intersection capacity analysis results indicate that site traffic is expected to have an acceptable impact on the surrounding road network. In addition, the proposed site accesses to the subject lands are expected to operate sufficiently under future conditions.

7 SIGNAL WARRANT ANALYSIS

Based on the future total capacity analysis results outlined in Section 6, a traffic signal warrant analysis was conducted for the intersection of Mayfield Road & Parkinson Drive / South Site Access 2. The AM and PM peak hour average volumes were used to determine whether signalization is required at the intersection. The traffic signal warrant analysis was conducted based on the methodologies outlined in Ontario Traffic Manual (OTM) Book 12: Traffic Signals, for the future horizon year. A summary of the signal warrant analysis is provided in Table 7-1, with a full detailed analysis provided in Appendix I. The intersection meets the MTO warrant criteria for signalization and is therefore recommended for further consideration.

Table 7-1: Signal Warrant Analysis Results

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicular Volumes	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
Justification 2	Delay to Cross Traffic	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>		

8 PARKING AND LOADING REVIEW

8.1 PARKING REVIEW

The vehicle parking requirements for the proposed commercial development is subject to standards provided within the Town of Caledon Zoning By-law 2006-50, *Section 5 - Parking, Loading and Delivery (Section 5.2.3 - Non-Residential Parking Requirements, Revised: July 20, 2023)*. It should be noted that at this stage of development, the net floor area (NFA) has not yet been determined. Therefore, as a conservative method, the GFA has been used for the parking calculation. Furthermore, it is understood that the gas bar's accessory office area will be determined during the future detailed design stage. As such, the gas bar has not been included in the parking requirements calculation. The parking requirements and proposed supply are summarized in Table 8-1.

Table 8-1: Town of Caledon Zoning By-law 2006-50 Parking Requirement

Land Use	Commercial Structure	GFA	Town of Caledon ZBL 2006-50		Proposed Supply
			Parking Rate	Required Spaces ⁽¹⁾	
Commercial	A-B	20,479 m ²	1 space / 20m ² of net floor area	1,024	1,306
Commercial	C	7,714 m ²	1 space / 20m ² of net floor area	386	323
Total				1,410	1,629

Note: (1) – According to Town of Caledon By-law 2006-50, Section 5.2.4, where the minimum number of parking, loading or delivery spaces is calculated on the basis of a rate or ratio, the required number of parking, loading or delivery spaces shall be rounded to the next higher whole number.

Based on the minimum parking requirements under the Town of Caledon By-law 2006-50, the proposed commercial development is required to provide a total of 1,410 parking spaces. The proposed supply of 1,306 parking spaces for commercial lot A and B exceeds and satisfies the parking requirement. The proposed supply for commercial lot C is 323, which does not satisfy the minimum parking requirement of 386 spaces. As the number of parking spaces in retail lot A and B significantly exceeds the required minimum, it should adequately address the parking shortfall for commercial lot C. In total, the proposed supply of 1,629 parking spaces satisfies, and exceeds the number of required parking spaces for the proposed site.

8.2 LOADING REVIEW

The loading requirements are subject to Town of Caledon Zoning By-law 2006-50, *Section 5 - Parking, Loading and Delivery (Section 5.4.2 - Delivery Space Requirements, July 20, 2023)*. The commercial delivery space requirement is *1 per building per lot*. The loading space requirements referenced in Section 5.4.2 of the By-law was applied to the proposed commercial development as summarized in Table 8-2.

Table 8-2: Town of Caledon Zoning By-law 2006-50 Loading Requirement

Land Use	Commercial Structure	Town of Caledon ZBL 2006-50		Proposed Supply
		Delivery Space Requirement	Required Spaces	
Commercial	A	1 per building per lot	1	4
Commercial	B1 – B2		2	2
Commercial	B3 – B5		3	1
Commercial	C1 – C2		1	3
Commercial	C3 – C4		2	2
Total			9	12

All commercial buildings will require 1 delivery space per building per lot. Therefore, a total of 9 delivery spaces are required. A total of 12 delivery spaces are proposed for the overall development. Four (4) loading spaces are proposed for commercial structure A, and 2 loading spaces are proposed for commercial structures B1 and B2. A single loading space is proposed to be shared among commercial buildings B3, B4, and B5, which does not comply with the bylaw requirement mandating one dedicated delivery space per building. However, it is anticipated that deliveries will be scheduled to ensure that no overlapping loading activities occur at the same time. Commercial lot C has a total of 5 loading spaces. 3 of 5 spaces are proposed to be shared between structures C1 and C2, while C3 and C4 each have their own loading space. As such, it is of our opinion that the proposed shared delivery space configuration provides adequate space for commercial servicing/loading activities. Furthermore, all proposed delivery spaces meet the required delivery space dimensions of at least 9 metres long, 3.5 metres wide, 3 metres in vertical clearance.

8.3 BICYCLE PARKING REVIEW

No official bicycle parking rates have been provided in the current Zoning By-law or Active Transportation Master Plan (ATMP). However, following discussions with the applicant, a standard of five bicycle parking spaces per individual building has been established. As a result, the site will offer a total of 50 bicycle parking spaces. The proposed bicycle parking has been summarized in Table 8-3.

Table 8-3: Bicycle Parking Proposed Supply

Land Use	Proposed Rate	Requirement	Proposed Supply
Commercial	5 vehicles per building	50	50

As detailed above, the subject site will provide cycling using a rate of 5 bicycle spaces per building. The proposed site includes 10 individual building units, which would require 50 total bicycle spaces. The proposed supply of 50 bicycle spaces is acceptable for the proposed development.

9 ACTIVE TRANSPORTATION REVIEW

This section outlines the active transportation strategies to be implemented, in accordance with the requirements of the Town of Caledon's Green Development Standards (GDS) and Active Transportation Master Plan (ATMP). To comply with the requirements of the GDS, the proposed site must incorporate a minimum of three strategies for the draft plan of subdivision and at least one strategy for the site plan. The strategies listed below aim to reduce the number of single-occupancy vehicle trips associated with the proposed development:

1. **Bike Repair Station:** A bike repair station will be installed to support local cyclists and encourage increased bicycle usage.
2. **Pavement Marking and Signage Plan:** The proposed development will include appropriate pavement markings and signage to effectively guide vehicles, pedestrians, and cyclists.
3. **Sidewalk Provision:** The proposed development will provide a minimum 1.8-meter-wide sidewalk along Street 'G', enhancing pedestrian accessibility.
4. **Mid-block Connections:** Mid-block connections will be established along Mayfield Road to link the southern portion of the site with the sidewalk network, improving pedestrian access.

As detailed above, the proposed site will provide a bike repair station, adequate signage and pavement markings, sidewalks, and mid-block connections. Through the implementation of the proposed strategies, the proposed development satisfies the requirements of the Town's Green Development Standards and Active Transportation Master Plan.

10 FUNCTIONAL DESIGN AND ACCESS REVIEW

Functional Design Review

A review of the functionality and accessibility of the proposed loading spaces was completed to determine that the proposed loading spaces can be accessed and egressed by the appropriate vehicles. The functionality of the proposed parking spaces was also confirmed. Furthermore, a review of internal roads reveals that Fire and Emergency Service vehicles can safely access the site. The swept path diagrams are provided in Appendix J. The review finds that all design vehicles can be accommodated.

Sightline Analysis

A sightline analysis was conducted for the proposed accesses on Mayfield Road and Creditview Road to ensure that vehicles can safely enter and exit the site. The sightline analysis considered Stopping Sight Distance and Intersection Sight Distance. The assessment is based on the methodology outlined in the Geometric Design Guide for Canadian Roads TAC manual. The sightline analysis is provided in Appendix J.

Based on the design speed limit of 80 km/h along Mayfield Road and 70 km/h along Creditview Road, TAC recommended a minimum distance of 130 m and 105 m respectively, in order for vehicles to safely come to a stop when they see a vehicle exiting from the minor road. As shown in Drawing No. 007 and Drawing No. 008, vehicles coming from the east and west will have a clear sight distance of 130 m and vehicles coming north and south will have a clear sight distance of 105 m. Therefore, the stopping sight distances at all site accesses are considered acceptable.

LEA also conducted an intersection sight distance analysis for the proposed site accesses. In accordance with the TAC manual, the vertex of the departure sight triangle on the minor road should be 4.4 m from

the edge of the major road. Drawing No. 009 and Drawing No. 010 illustrates the intersection sight distance based on the 4.4 m from the edge of the road. With this distance from the edge of the road, the vertical sightlines acceptable at all site accesses.

11 CONCLUSION AND RECOMMENDATIONS

- ▶ LEA Consulting Ltd. (LEA) was retained by 12100 Creditview Developments Limited to prepare a Transportation Impact Study (TIS) for the proposed commercial development located at 12100 Creditview Road in the Town of Caledon. The subject site is currently vacant. The proposed development consists of nine (9) commercial structures (A, B1-B5, and C1-C4) providing a total gross floor area (GFA) of 303,468 ft² and 1,629 parking spaces. A gas bar with 12 fuelling positions is also proposed on the east side of the site, south of Commercial Structure A. Access to the site is proposed via one (1) full movement driveway and one (1) right-in / right-out (RIRO) driveway off Creditview Road. Two (2) RIRO driveways and one (1) full movement driveway off Mayfield Road is also available for access to the site.
- ▶ Local transit service for the subject site is provided by Brampton Transit with the closest available stops located at the intersections of Mayfield Road & Robert Parkinson Drive and Mayfield Road & Creditview Road. There are currently limited cycling and pedestrian facilities surrounding the subject site; however, the Town of Caledon MMTMP and Mount Pleasant Block 51-1 Collector Road and Transportation Study plans for a new network of on- and off-road cycling facilities and multi-use trails.
- ▶ The proposed commercial development is anticipated to generate 447 two-way trips during the AM peak hour (253 inbound and 194 outbound), 1,248 two-way trips during the PM peak hour (604 inbound and 644 outbound), and 1,533 two-way trips during the Saturday peak hour (793 inbound and 740 outbound).
- ▶ This assessment considers a 5-year horizon from base year 2024 to future year 2029. Under existing conditions, the signalized and unsignalized intersections during all peak hours are operating at acceptable levels of service. No critical movements are identified.
- ▶ The future background scenario incorporates background development traffic, corridor growth rates, and future planned road improvements. Under future background conditions, all signalized and unsignalized intersections during all peak hours are operating at acceptable levels of service. No critical movements are identified.
- ▶ To improve traffic conditions, signalization of Mayfield Road & Robert Parkinson Drive / South Site Access 2 is recommended. While a few movements are operating close to capacity under future total optimized conditions, no further changes are required. In addition, the proposed site accesses to the subject lands are expected to operate sufficiently under future conditions. As such, the proposed commercial development can be accommodated by the surrounding road network.
- ▶ The signal warrant analysis conducted for the intersection of Mayfield Road & Parkinson Drive / South Site Access 2 confirms that the intersection meets the MTO warrant criteria for signalization and is therefore recommended for further consideration.
- ▶ A total of 1,629 vehicular parking spaces are proposed, satisfying, and exceeding the Town of Caledon Zoning By-law 2006-50 parking requirements.
- ▶ No official bicycle parking rates have been identified. Based on discussions with the applicant, a total of 50 bicycle parking spaces are proposed.

- ▶ A total of 12 delivery spaces are proposed for the commercial development. It is anticipated that deliveries will be scheduled to ensure that no overlapping loading activities occur at the same time. As such, it is of our opinion that the proposed shared delivery space configuration provides adequate space for commercial servicing/loading activities.
- ▶ A review of the functionality and accessibility of the loading and parking spaces reveal that the proposed spaces can be safely accessed and egressed by the appropriate vehicles.
- ▶ A sightline analysis was conducted for the proposed site accesses. The analysis finds that stopping sight distance and intersection sight distances for all site accesses are considered acceptable.



APPENDIX A

Terms of Reference



November 19, 2021

Reference Number: 22142

Rosalie Shan, Region of Peel
Via Email: Rosalie.Shan@peelregion.ca

**RE: Terms of Reference
Proposed Retail Development
12100 Creditview Road, Town of Caledon**

Dear Rosalie,

We wish to confirm the following work plan for the Transportation Impact Study (TIS) for the proposed retail development located at the municipal address 12100 Creditview Road (herein referred to as the “subject site”) in the Town of Caledon, as illustrated in **Figure 1**. Based on the information received to date, the subject site is currently vacant.

Figure 1: Subject Site Location

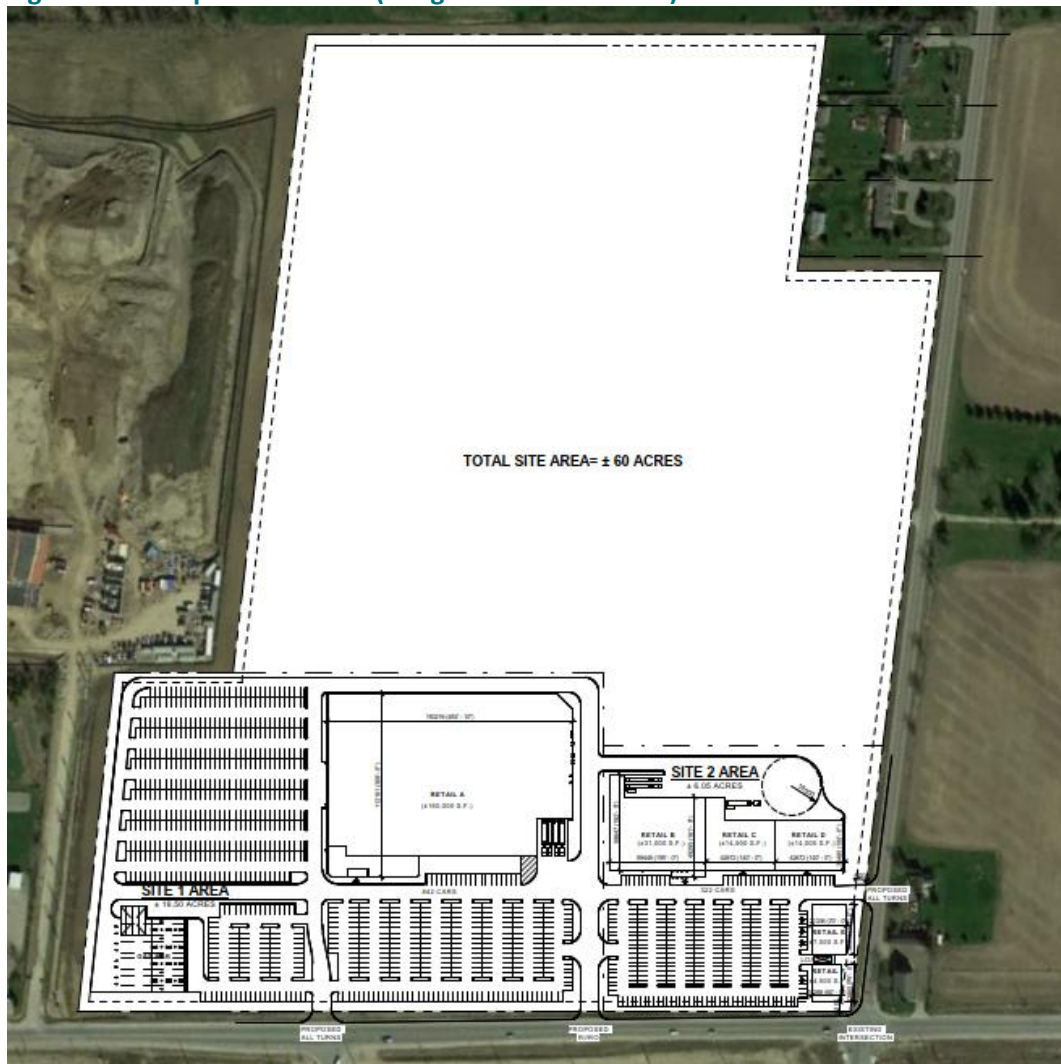




PROPOSED DEVELOPMENT

Based on the information received, it is understood that the development proposal will include six (6) retail areas (A, B, C, D, E and F) providing a total gross floor area (GFA) of 213,000 ft². Accesses are proposed via two (2) full movement driveways on Creditview Road and Mayfield Road, as well as a RI/RO driveway on Creditview Road. The proposed development will include a total of 1,164 parking spaces. The conceptual plan is illustrated in **Figure 2**.

Figure 2: Conceptual Site Plan (Image: Turner Fleischer)



The TIS for the proposed redevelopment will be conducted in accordance with the *Region of Peel Transportation Impact Study Guidelines*. Detailed below are the study assumptions requiring confirmation from Town of Caledon.



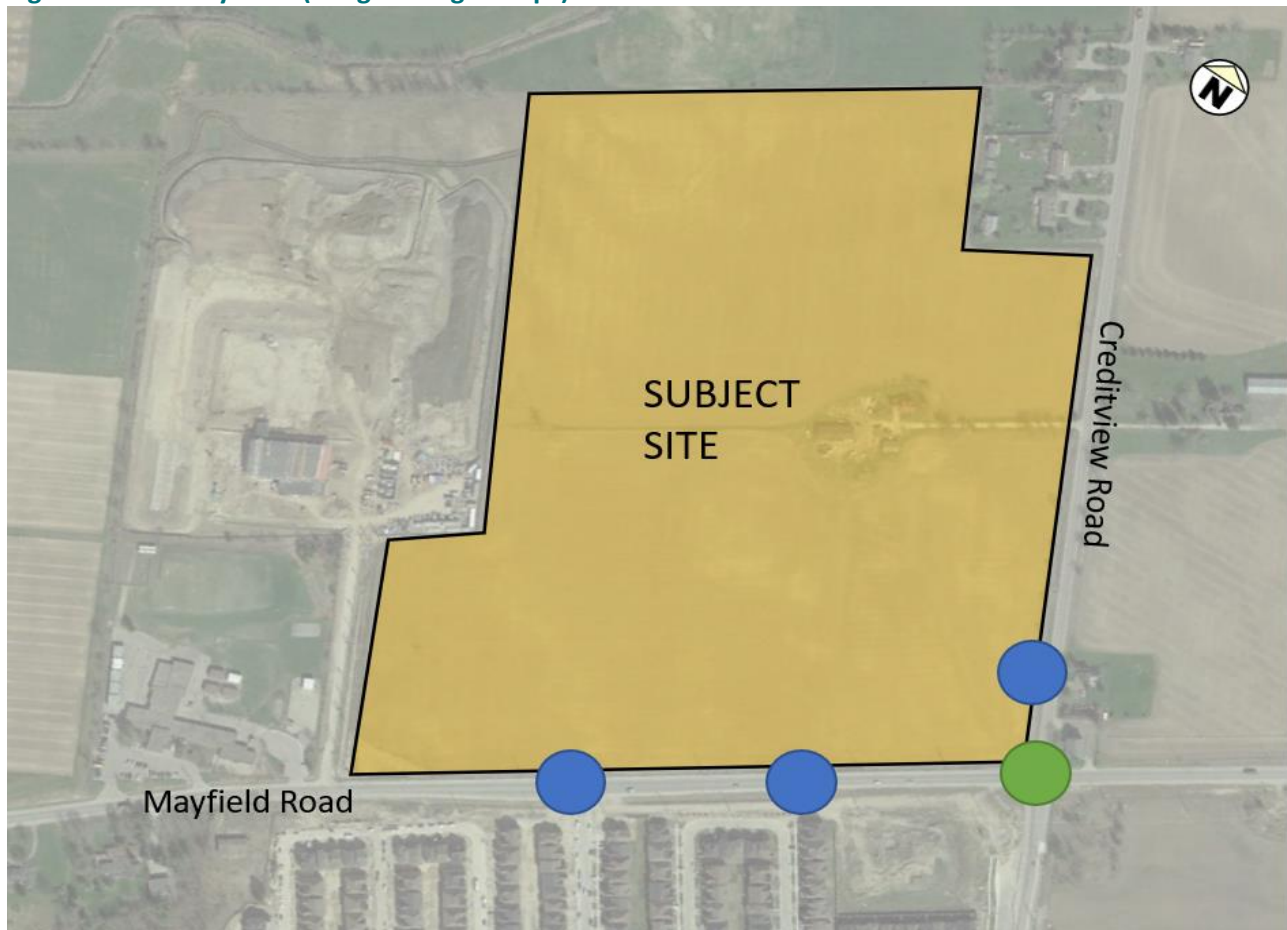
STUDY AREA & TRAFFIC DATA

The study will assess the weekday AM and PM peak hours. The proposed study area will include an analysis of the following intersections:

- ▶ Mayfield Road and Creditview Road (Signalized);
- ▶ Mayfield Road and Robert Parkinson Drive (Unsignalized);
- ▶ Proposed Site Access and Mayfield Road (Unsignalized); and
- ▶ Proposed Site Access and Creditview Road (Unsignalized).

The location of signalized (green) and unsignalized (blue) intersections are provided below in **Figure 3**.

Figure 3: TIS Study Area (Image: Google Maps)



Due to limitations brought forth by the COVID-19 pandemic in capturing accurate traffic data during typical weekday periods, LEA will use the most recent historical turning movement counts (TMC) available for the study area intersections. If the TMC data are not readily available for purchase from the Region of Peel nor Town of Caledon for all study area intersections, LEA proposes to survey the intersections and apply an appropriate adjustment factor to account for COVID-19 related restrictions.



TRAFFIC ASSESSMENT & STUDY HORIZON YEAR

The study will focus on the weekday AM and PM peak hour traffic operations of intersections within the study area. Synchro version 11.0 will be used to assess intersection operations during the weekday peak hours. The analyses will be in accordance with the City's *Synchro 11 Guidelines*. A five (5) year planning horizon year of 2026 will be assessed in this TIS.

BACKGROUND TRAFFIC

General Corridor Growth Rate – LEA will consult with the Region and the Town to obtain historical TMC data in the area for an appropriate growth rate.

Road Network Improvements – LEA will note any anticipated road network improvements identified within the study area and account for any traffic diversions associated with these improvements within our analysis. It is anticipated that there are no major road network improvements planned for the area.

Background Development Traffic – LEA will consult with Staff from Town of Caledon on any background developments to be included in the study area. LEA anticipates that the Town will make the TIS report for these background developments available.

TRIP GENERATION, DISTRIBUTION & ASSIGNMENT

Trip generation associated with the proposed development will be forecast using the Institute of Transportation Engineers (ITE) Trip Generation Manual 10th Edition. The general trip distribution and assignment of site traffic will be based on the latest Transportation Tomorrow Survey (TTS) data and existing traffic patterns. Trip assignment will reflect the configuration of site accesses, turning restrictions, and logical routings.

FUTURE TRAFFIC SCENARIOS

Future background and future total analyses for the aforementioned intersections within the study area will be over a five (5) year horizon for the year 2026.

REMEDIAL MEASURES

Any movements at the studied intersections that exceed a V/C ratio of 1.00 under future total conditions will be identified. If remedial actions such as signal optimization are unsuccessful this will also be identified. If remedial measures are to be employed, a scenario will be provided demonstrating the change in intersection operations.

PARKING AND LOADING

The site is currently under the jurisdiction of the Town of Caledon Zoning By-law 2006-50. LEA will review the parking and loading provisions and compare to the relevant by-laws. It is understood that the proposed parking will meet the Zoning By-law requirement. As such, a parking justification and loading justification study will not be conducted.



Should you have any comments with our assumptions or have any concerns, please contact the undersigned at ZGeorgis@lea.ca.

Yours truly,

LEA CONSULTING LTD.

A handwritten signature in black ink that reads 'Zara Georgis'.

Zara Georgis, M. Eng., P. Eng
Project Manager

:jw



September 24, 2021

Reference Number: 22142

Jillian Britto

Via Email: Jillian.Britto@caledon.ca

**RE: Terms of Reference
Proposed Retail Development
12100 Creditview Road, Town of Caledon**

Dear Jillian,

We wish to confirm the following work plan for the Transportation Impact Study (TIS) for the proposed retail development located at the municipal address 12100 Creditview Road (herein referred to as the “subject site”) in the Town of Caledon, as illustrated in **Figure 1**. Based on the information received to date, the subject site is currently vacant.

Figure 1: Subject Site Location

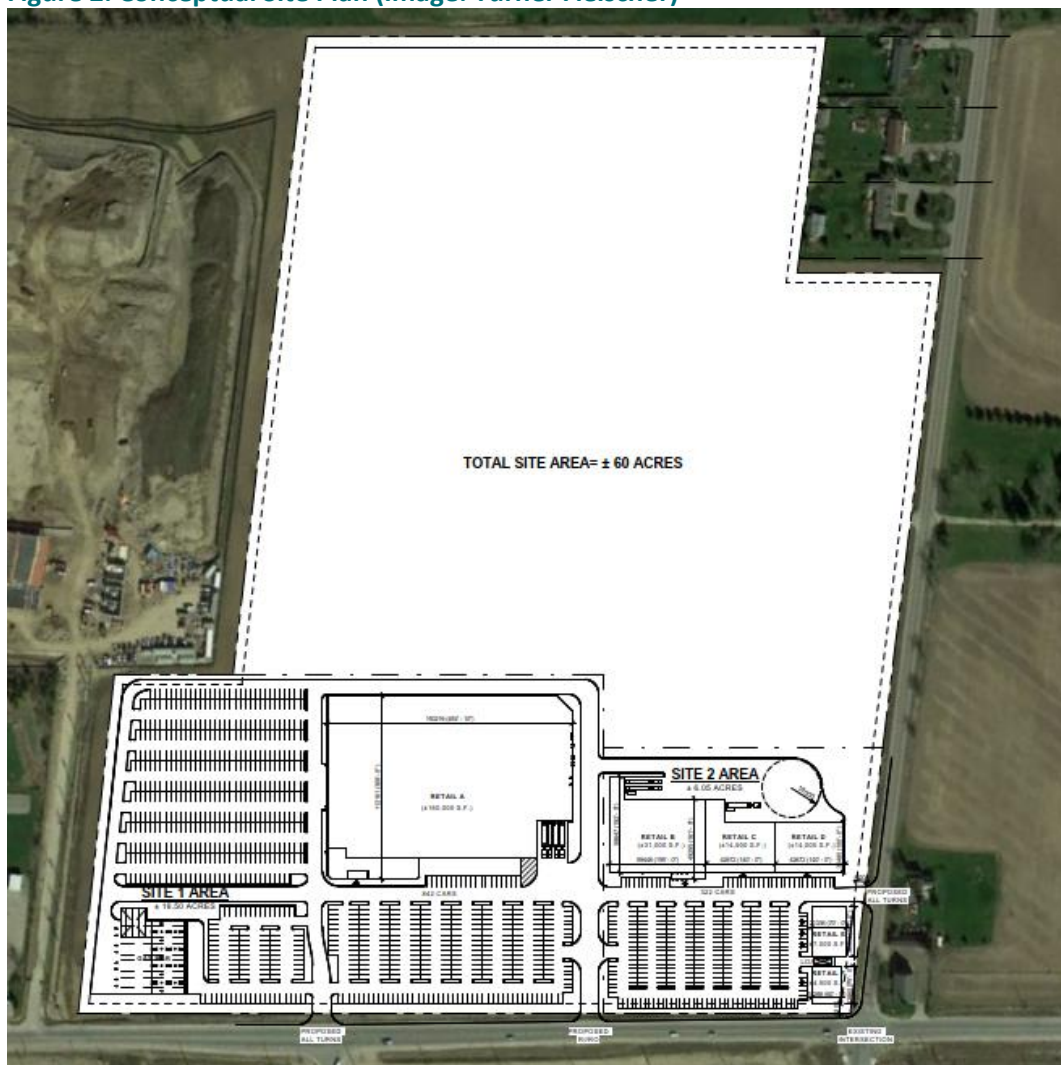




PROPOSED DEVELOPMENT

Based on the information received, it is understood that the development proposal will include six (6) retail areas (A, B, C, D, E and F) providing a total gross floor area (GFA) of 213,000 ft². Accesses are proposed via two (2) full movement driveways on Creditview Road and Mayfield Road, as well as a RI/RO driveway on Creditview Road. The proposed development will include a total of 1,164 parking spaces. The conceptual plan is illustrated in **Figure 2**.

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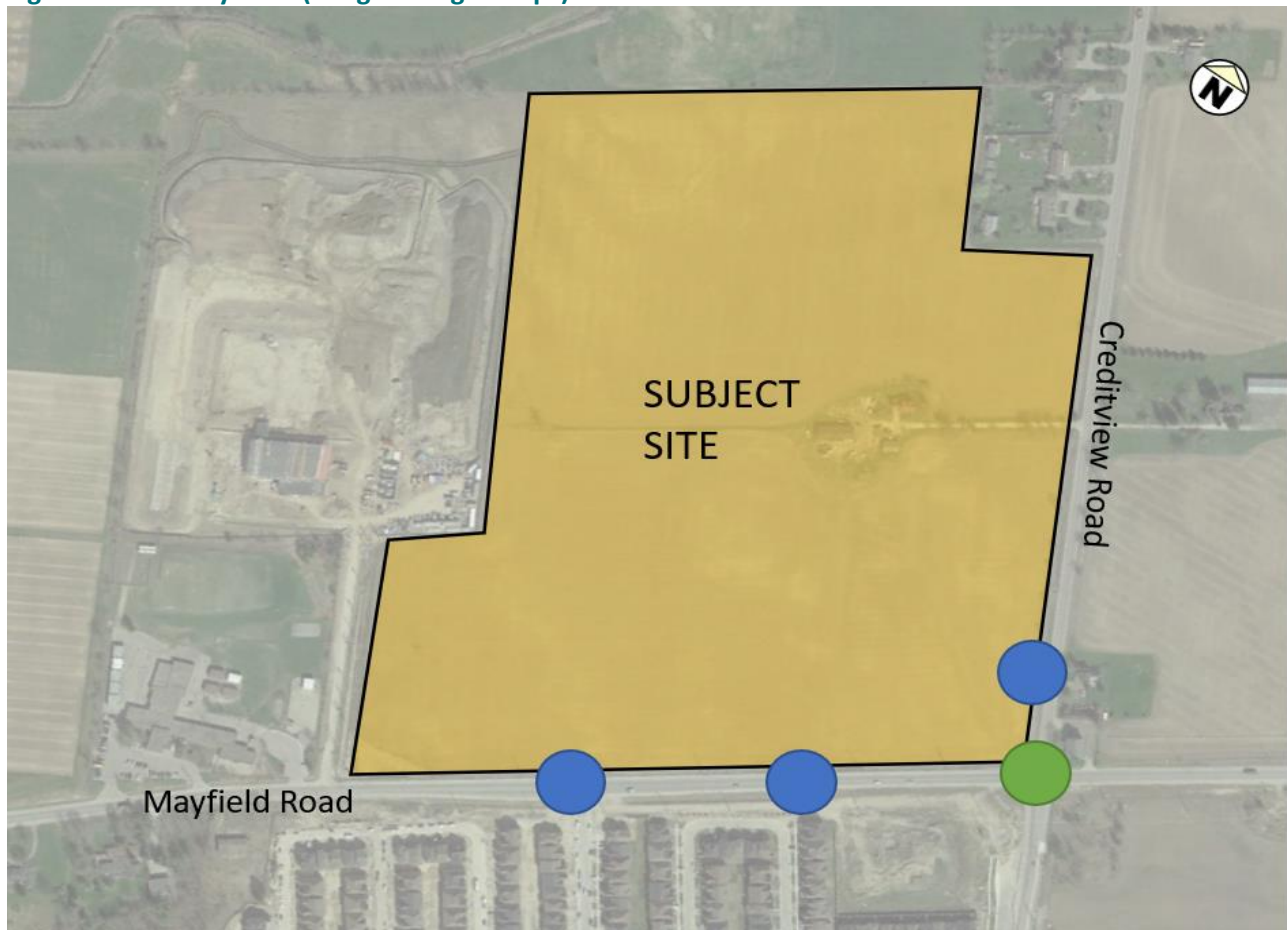
STUDY AREA & TRAFFIC DATA

The study will assess the weekday AM and PM peak hours. The proposed study area will include an analysis of the following intersections:

- ▶ Mayfield Road and Creditview Road (Signalized);
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- ▶ Proposed Site Access and Creditview Road (Unsignalized).

The location of signalized (green) and unsignalized (blue) intersections are provided below in **Figure 3**.

Figure 3: TIS Study Area (Image: Google Maps)



Due to limitations brought forth by the COVID-19 pandemic in capturing accurate traffic data during typical weekday periods, LEA will use the most recent historical turning movement counts (TMC) available for the study area intersections. If the TMC data are not readily available for purchase from the Region of Peel nor Town of Caledon for all study area intersections, LEA proposes to survey the intersections and apply an appropriate adjustment factor to account for COVID-19 related restrictions.



TRAFFIC ASSESSMENT & STUDY HORIZON YEAR

The study will focus on the weekday AM and PM peak hour traffic operations of intersections within the study area. Synchro version 11.0 will be used to assess intersection operations during the weekday peak hours. The analyses will be in accordance with the City's *Synchro 11 Guidelines*. A five (5) year planning horizon year of 2026 will be assessed in this TIS.

BACKGROUND TRAFFIC

General Corridor Growth Rate – LEA will consult with the Region and the Town to obtain historical TMC data in the area for an appropriate growth rate.

Road Network Improvements – LEA will note any anticipated road network improvements identified within the study area and account for any traffic diversions associated with these improvements within our analysis. It is anticipated that there are no major road network improvements planned for the area.

Background Development Traffic – LEA will consult with Staff from Town of Caledon on any background developments to be included in the study area. LEA anticipates that the Town will make the TIS report for these background developments available.

TRIP GENERATION, DISTRIBUTION & ASSIGNMENT

Trip generation associated with the proposed development will be forecast using the Institute of Transportation Engineers (ITE) Trip Generation Manual 10th Edition. The general trip distribution and assignment of site traffic will be based on the latest Transportation Tomorrow Survey (TTS) data and existing traffic patterns. Trip assignment will reflect the configuration of site accesses, turning restrictions, and logical routings.

FUTURE TRAFFIC SCENARIOS

Future background and future total analyses for the aforementioned intersections within the study area will be over a five (5) year horizon for the year 2026.

REMEDIAL MEASURES

Any movements at the studied intersections that exceed a V/C ratio of 1.00 under future total conditions will be identified. If remedial actions such as signal optimization are unsuccessful this will also be identified. If remedial measures are to be employed, a scenario will be provided demonstrating the change in intersection operations.

PARKING AND LOADING

The site is currently under the jurisdiction of the Town of Caledon Zoning By-law 2006-50. LEA will review the parking and loading provisions and compare to the relevant by-laws. It is understood that the proposed parking will meet the Zoning By-law requirement. As such, a parking justification and loading justification study will not be conducted.



Should you have any comments with our assumptions or have any concerns, please contact the undersigned at ZGeorgis@lea.ca.

Yours truly,

LEA CONSULTING LTD.

A handwritten signature in black ink that reads 'Zara Georgis'.

Zara Georgis, M. Eng., P. Eng
Project Manager

:jw

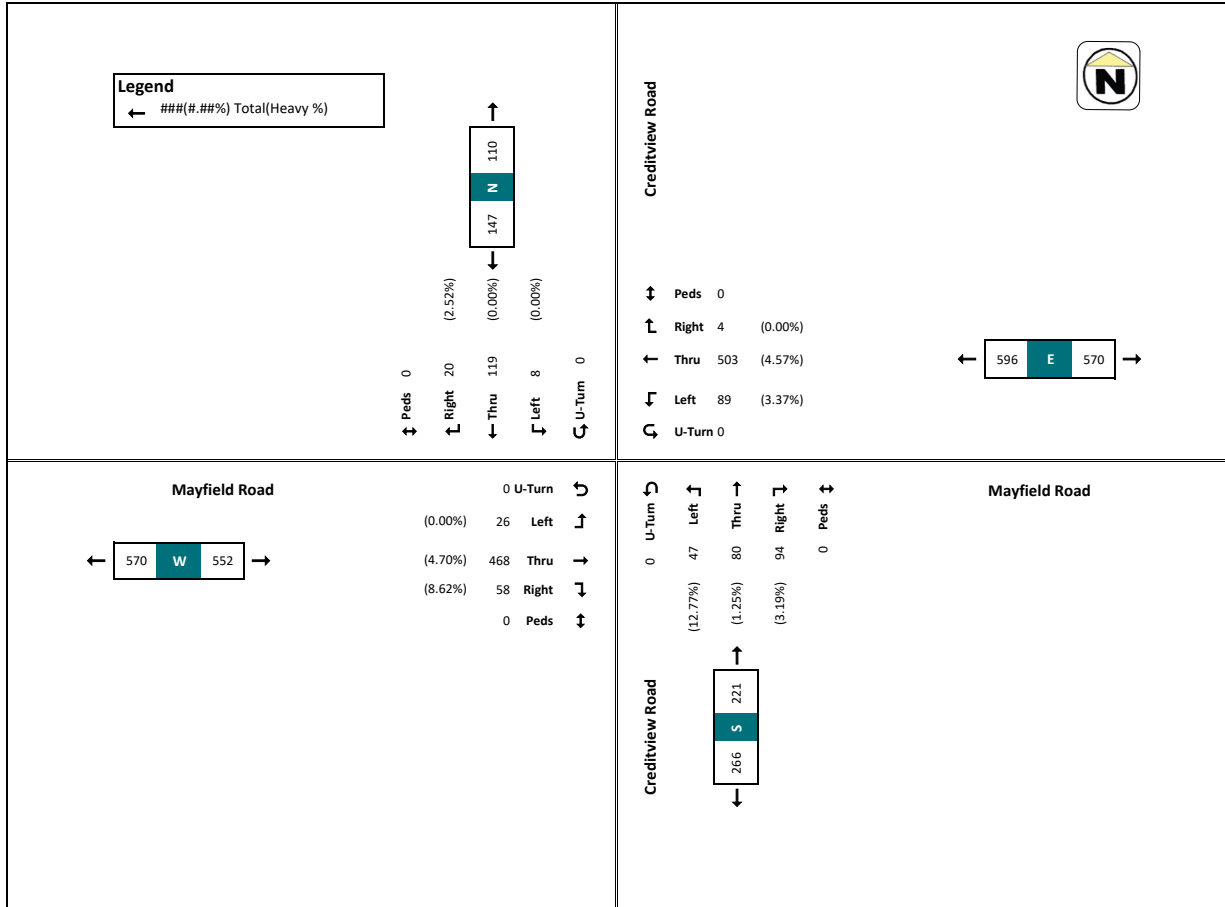


APPENDIX B

Traffic Data & Signal Timing Plan

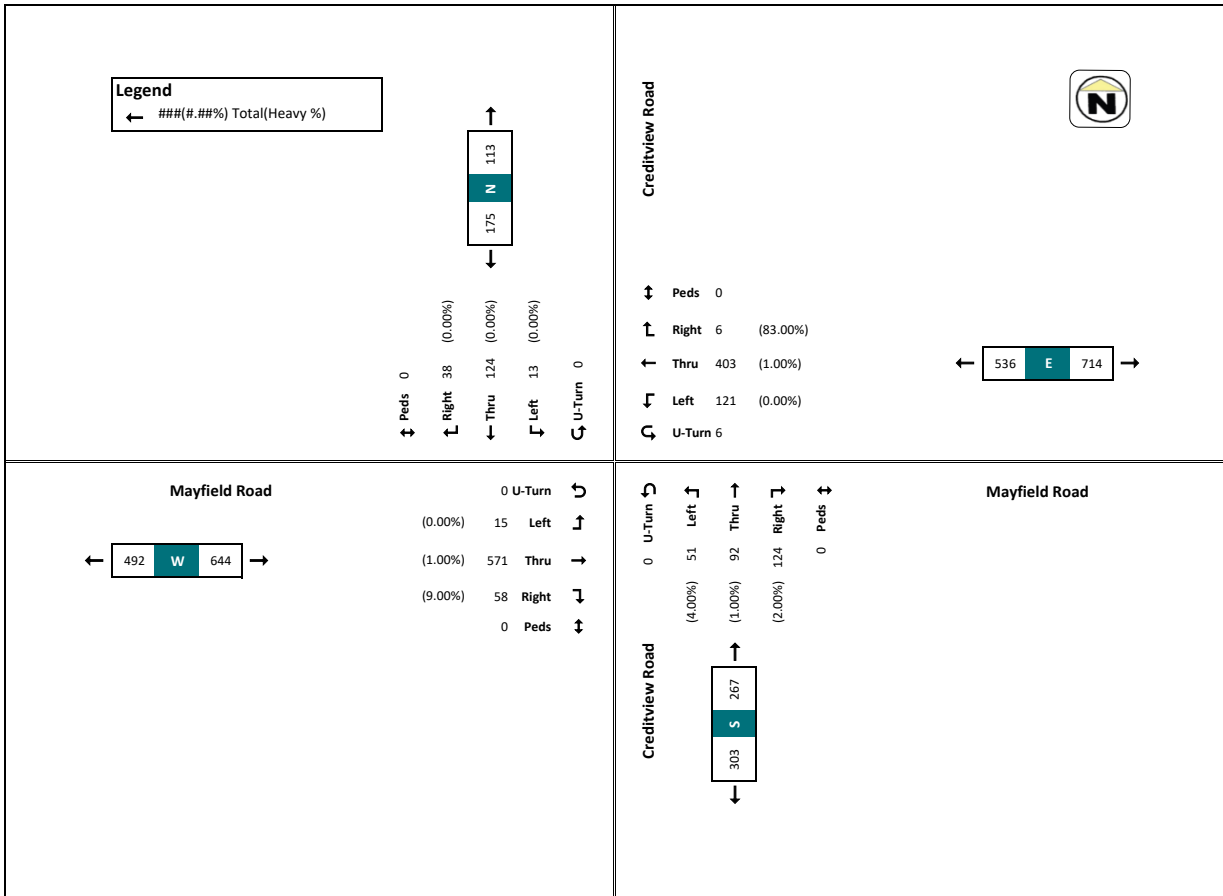
AM Peak Hour - Creditview Road & Mayfield Road

Start Time	Creditview Road Southbound					Mayfield Road Westbound					Creditview Road Northbound					Mayfield Road Eastbound					Grand Total					
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left		Thru	Right	Peds	App. Total	
7:30	0	2	36	8	0	42	0	18	117	1	0	136	0	15	27	19	0	61	0	9	123	14	0	146	355	
7:45	0	2	38	1	0	41	0	26	141	0	0	167	0	6	17	28	0	51	0	6	118	14	0	138	397	
8:00	0	2	33	7	0	42	0	20	124	1	0	145	0	14	18	17	0	49	0	6	125	14	0	145	381	
8:15	0	2	12	8	0	22	0	25	121	2	0	148	0	12	18	30	0	60	0	5	102	16	0	123	353	
Hourly Total	0	8	119	20	0	147	0	89	503	4	0	596	0	47	80	94	0	221	0	26	468	58	0	552	1516	
Approach %	0.0%	5.4%	81.0%	13.6%	-	-	0.0%	14.5%	84.4%	0.7%	-	-	0.0%	21.3%	36.2%	42.5%	-	-	0.0%	4.7%	84.8%	10.5%	-	-	-	
Total %	0.0%	0.5%	7.8%	1.3%	-	9.7%	0.0%	5.9%	33.2%	0.3%	-	39.3%	0.0%	3.1%	5.3%	6.2%	-	14.6%	0.0%	1.7%	30.9%	3.8%	-	36.4%	-	
PHF	0	1	0.78	0.63	-	0.88	0	0.86	0.89	0.5	-	0.89	0	0.78	0.74	0.78	-	0.91	0	0.72	0.94	0.91	-	0.95	0.95	
U/HTS	0	8	116	19	-	143	0	86	480	4	-	570	0	41	79	91	-	211	0	26	446	58	-	525	1449	
% Lights	100.0%	97.5%	95.0%	97.3%	-	96.6%	95.4%	100.0%	95.6%	95.6%	-	95.6%	87.2%	98.8%	96.8%	-	95.9%	-	100.0%	95.3%	91.4%	95.1%	-	95.6%	95.6%	
Bikes	0	3	0	3	-	3	0	3	0	0	-	3	0	2	0	2	-	7	0	7	5	0	-	12	34	
% Buses	0.0%	2.5%	0.0%	-	2.0%	-	3.4%	1.8%	0.0%	-	2.0%	-	10.6%	0.0%	2.1%	-	3.2%	-	0.0%	1.5%	8.6%	-	-	2.2%	2.2%	
Trucks	0	0	1	1	-	1	0	14	0	-	14	0	1	1	1	-	3	-	0	15	0	-	-	15	33	
% Trucks	0.0%	0.0%	5.0%	0.7%	-	0.7%	-	0.0%	2.8%	0.0%	-	2.3%	0.0%	1.3%	1.1%	-	1.4%	-	0.0%	3.2%	0.0%	-	-	2.7%	2.2%	
Bicycles	-	-	-	0	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
Pedestrians	-	-	-	0	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0



PM Peak Hour - Creditview Road & Mayfield Road

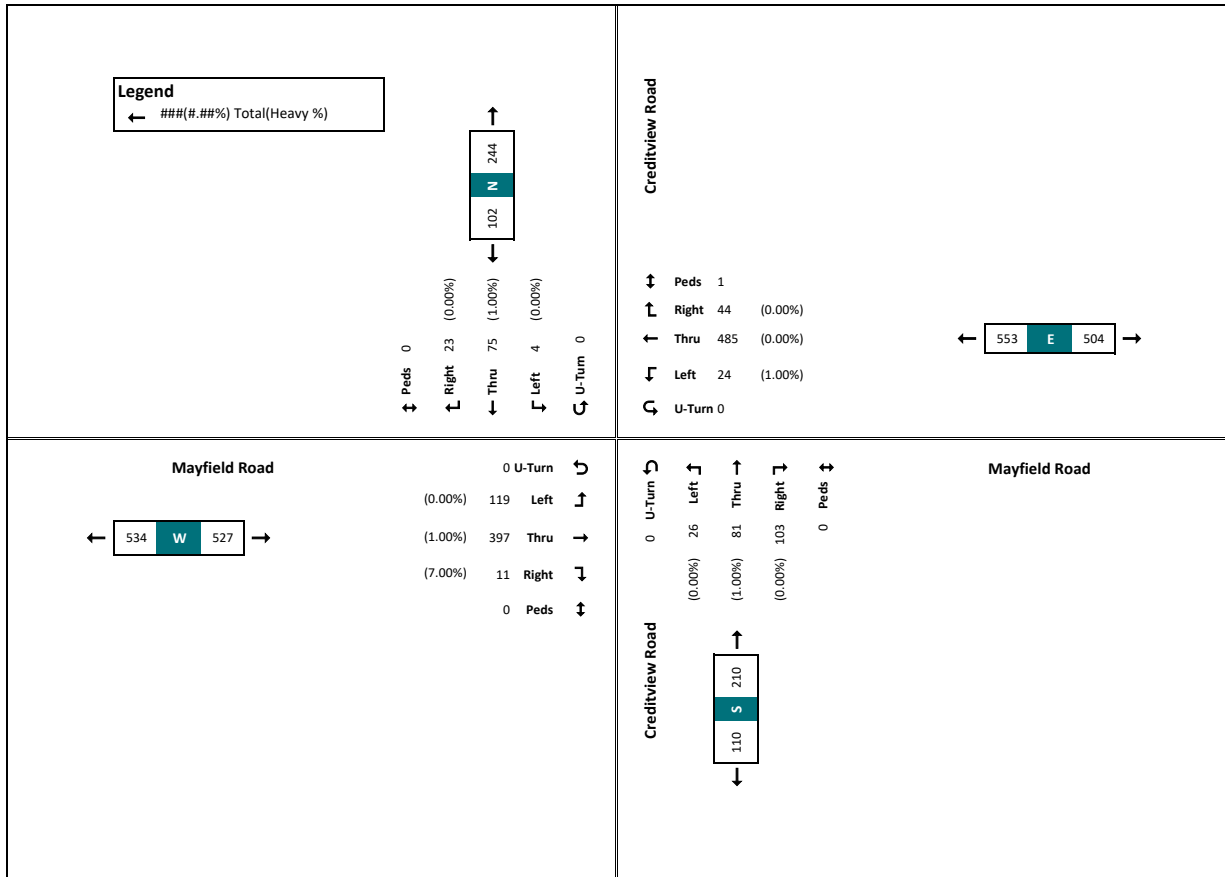
Start Time	Creditview Road Southbound					Mayfield Road Westbound					Creditview Road Northbound					Mayfield Road Eastbound					Grand Total				
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left		Thru	Right	Peds	App. Total
17:15	0	2	35	7	0	44	0	33	83	1	0	117	0	10	28	36	0	74	0	3	159	16	0	178	413
17:30	0	1	27	11	0	39	0	24	114	0	0	138	0	17	20	30	0	67	0	5	154	21	0	180	424
17:45	0	7	35	12	0	54	0	35	101	2	0	139	0	11	20	26	0	57	0	4	133	11	0	148	358
18:00	0	3	27	8	0	38	0	29	105	2	0	136	0	13	24	32	0	69	0	3	133	16	0	152	395
Hourly Total	0	13	124	38	0	175	0	121	403	6	0	530	0	51	92	124	0	267	0	15	579	64	0	658	1630
Approach %	0.0%	7.4%	70.9%	21.7%	-	100.0%	0.0%	22.8%	76.0%	1.1%	-	100.0%	0.0%	19.1%	34.5%	46.4%	-	100.0%	0.0%	2.3%	88.0%	9.7%	-	100.0%	-
Total %	0.0%	0.8%	7.5%	2.3%	-	10.7%	0.0%	8.0%	26.0%	0.4%	-	32.5%	0.0%	3.4%	6.1%	8.2%	-	16.4%	0.0%	1.0%	38.2%	4.2%	-	40.4%	-
PHE	0	0.4%	0.89	0.79	-	0.81	0	0.86	0.88	0.5	-	0.95	0	0.75	0.82	0.86	-	0.8	0	0.75	0.91	0.7	-	0.91	0.96
Lights	0	13	124	38	-	175	0	120	395	5	-	520	0	49	91	122	-	262	0	15	571	58	-	644	1601
% Lights	100.0%	100.0%	100.0%	100.0%	-	100.0%	-	99.2%	98.0%	83.3%	-	98.1%	-	96.1%	98.9%	98.4%	-	98.1%	-	100.0%	98.6%	90.6%	-	97.9%	98.2%
% Buses	0	0	0	0	-	0	0	0	0	0	-	1	0	0	2	0	-	1	0	0	2	0	-	2	15
% Trucks	0	0	0	0	-	0	0	1	7	1	-	9	0	1	0	0	-	1	0	0	6	1	-	7	17
% Trucks	0.0%	0.0%	0.0%	0.0%	-	0.0%	-	0.8%	1.7%	16.7%	-	1.7%	-	0.0%	1.1%	0.0%	-	0.4%	-	0.0%	1.0%	1.6%	-	1.1%	1.0%
Bicycles	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	0	0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	0	0





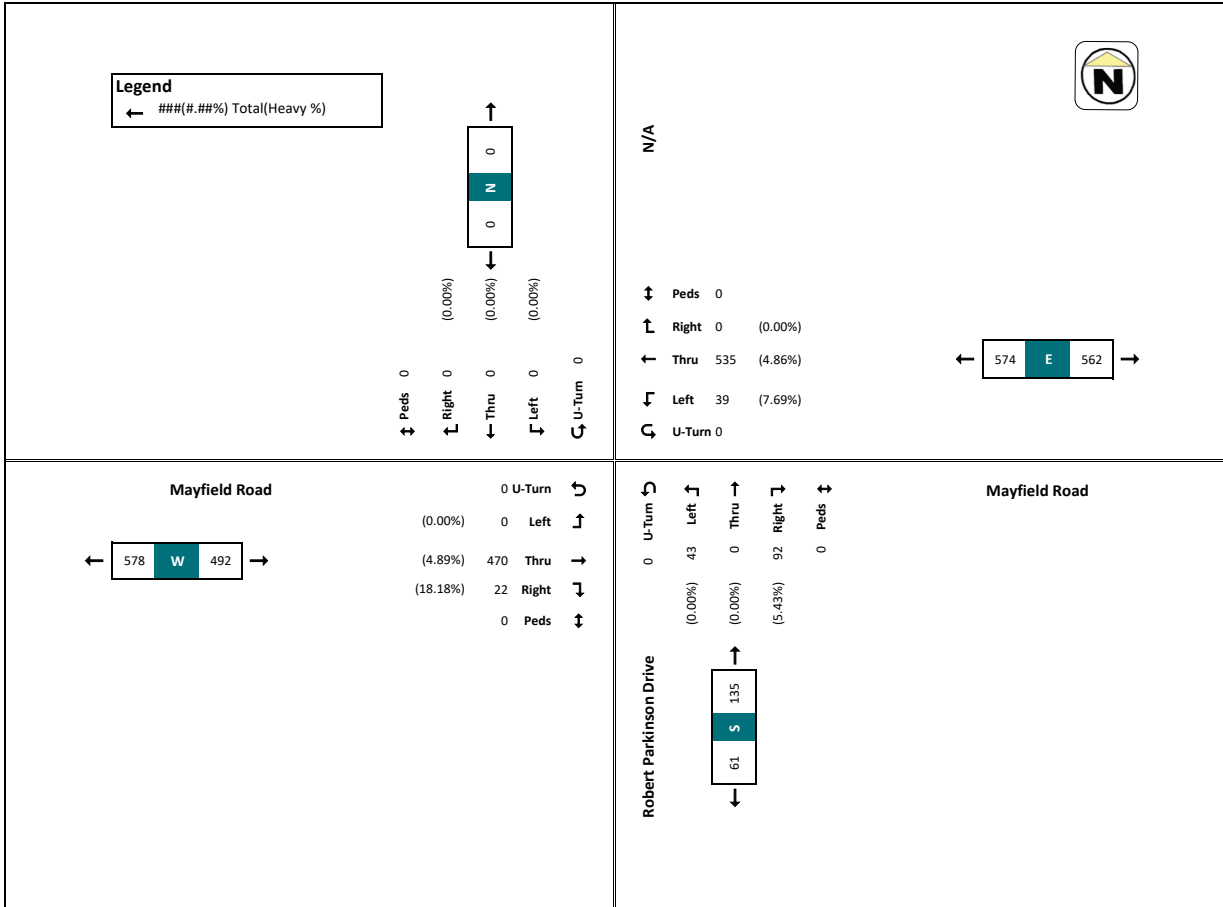
SAT Peak Hour - Creditview Road & Mayfield Road

Start Time	Creditview Road Southbound					Mayfield Road Westbound					Creditview Road Northbound					Mayfield Road Eastbound					Grand Total				
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left		Thru	Right	Peds	App. Total
14:30	0	0	27	6	0	33	0	32	100	7	0	134	0	7	17	28	0	42	0	8	109	8	0	125	344
14:45	0	1	14	7	0	22	0	38	106	1	0	135	0	8	18	27	0	54	0	4	135	10	0	149	360
15:00	0	3	18	6	0	27	0	25	100	4	0	129	0	1	21	25	0	47	0	6	110	14	1	130	333
15:15	0	0	16	4	0	20	0	34	91	4	0	129	0	9	25	23	0	57	0	6	131	12	0	149	355
Hourly Total	0	4	75	23	0	102	0	119	397	11	0	527	0	26	81	103	0	210	0	24	485	44	1	553	1392
Approach %	0.0%	3.9%	73.5%	22.5%	-	-	0.0%	22.6%	75.3%	2.1%	-	-	0.0%	12.4%	38.6%	49.0%	-	-	0.0%	4.3%	87.7%	8.0%	-	-	-
Total %	0.0%	0.3%	5.4%	1.7%	-	-	0.0%	7.8%	26.2%	0.8%	-	37.9%	0.0%	0.7%	5.3%	6.8%	-	35.5%	0.0%	1.6%	32.0%	2.0%	-	39.7%	-
PHF	0	0.33	0.69	0.82	-	0.77	0	0.88	0.94	0.69	-	0.98	0	0.72	0.81	0.92	-	0.92	0	0.75	0.9	0.79	-	0.93	0.97
Lights	0	4	74	23	-	101	0	118	396	11	-	525	0	26	80	103	-	209	0	24	482	41	-	547	1382
% Lights	0	100.0%	98.7%	100.0%	-	99.0%	-	99.2%	99.7%	100.0%	-	99.6%	0	100.0%	98.8%	100.0%	-	99.5%	0	100.0%	99.4%	93.2%	-	98.9%	99.9%
Buses	0	0	0	0	-	0	-	1	0	0	-	1	-	0	0	0	-	0	-	0	0	2	-	2	3
% Buses	0.0%	0.0%	0.0%	0.0%	-	0.0%	-	0.8%	0.0%	0.0%	-	0.2%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	4.5%	-	0.4%	0.2%
Trucks	0	1	0	1	-	1	-	0	1	0	-	1	-	0	1	0	-	1	-	0	3	1	-	4	7
% Trucks	0.0%	0.0%	1.3%	0.0%	-	1.0%	-	0.0%	0.3%	0.0%	-	0.2%	-	0.0%	1.2%	0.0%	-	0.5%	-	0.0%	0.6%	2.3%	-	0.7%	0.5%
Bicycles	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	0
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	1



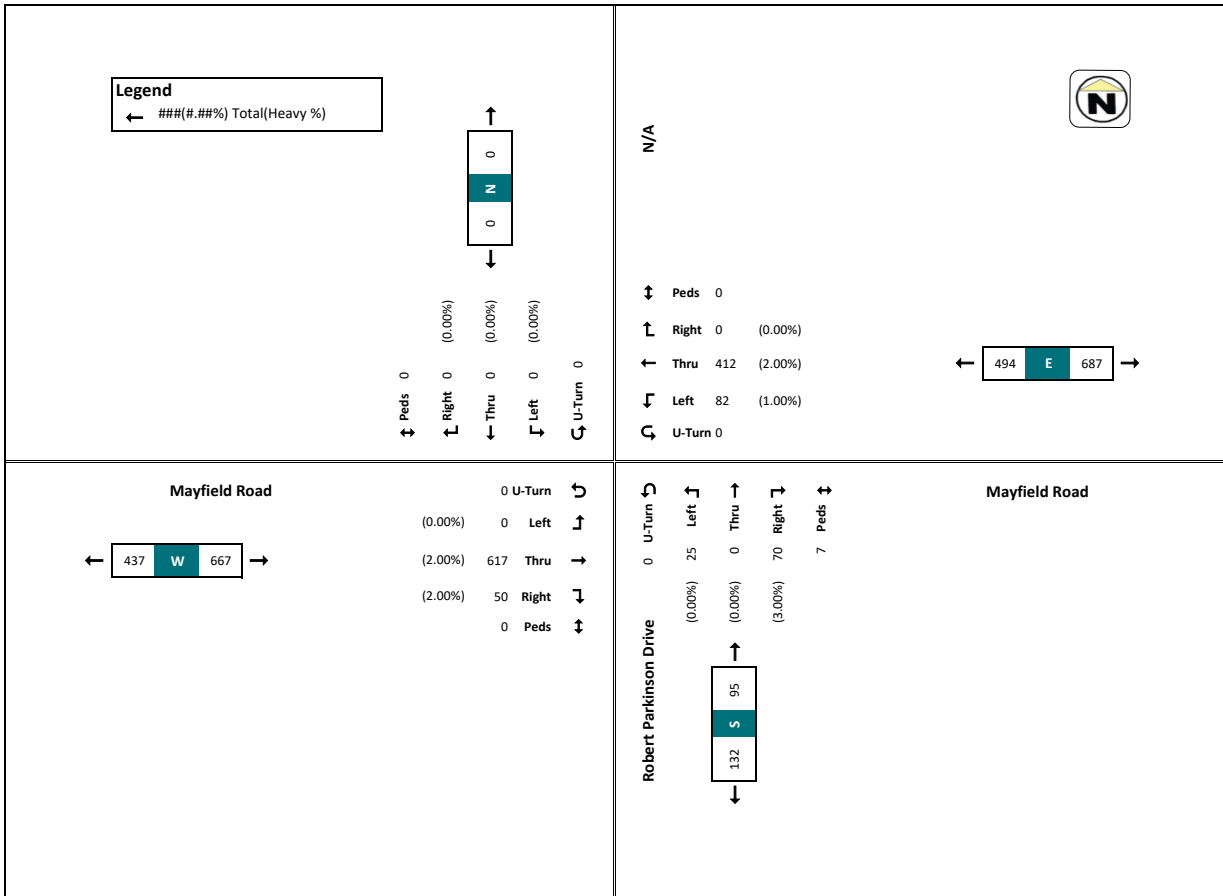
AM Peak Hour - Robert Parkinson Drive & Mayfield Road

Start Time	N/A Southbound					Mayfield Road Westbound					Robert Parkinson Drive Northbound					Mayfield Road Eastbound					Grand Total										
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left		Thru	Right	Peds	App. Total						
7:30	0	0	0	0	0	0	0	8	131	0	0	139	0	13	0	38	0	44	0	0	119	8	0	127	0	0	0	0	0	0	310
7:45	0	0	0	0	0	0	0	7	141	0	0	148	0	11	0	20	0	31	0	0	121	6	0	127	0	0	0	0	0	0	306
8:00	0	0	0	0	0	0	0	12	127	0	0	139	0	11	0	21	0	32	0	0	117	6	0	123	0	0	0	0	0	0	294
8:15	0	0	0	0	0	0	0	12	136	0	0	148	0	8	0	20	0	28	0	0	113	2	0	115	0	0	0	0	0	0	291
Hourly Total	0	0	0	0	0	0	0	39	535	0	0	574	0	43	0	92	0	135	0	0	470	22	0	492	0	0	0	0	0	0	1201
Approach %	-	-	-	-	-	0.0%	0.0%	6.8%	93.2%	0.0%	-	0.0%	0.0%	31.9%	0.0%	68.1%	-	0.0%	0.0%	0.0%	95.5%	4.5%	-	0.0%	0.0%	0.0%	95.5%	4.5%	-	0.0%	41.0%
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	44.5%	0.0%	-	47.8%	0.0%	3.6%	0.0%	7.7%	-	11.2%	0.0%	0.0%	39.1%	1.8%	-	0.97	0.0%	0.0%	39.1%	1.8%	-	0.97	0.97
PHF	0	0	0	0	0	0	0	0.81	0.95	0	-	0.97	0	0.83	0	0.74	-	0.77	0	0	0.97	0.69	-	0.65	0	0	0.97	0.69	-	0.65	0.65
U/MPH	0	0	0	0	0	0	0	36	307	0	-	545	0	83	0	87	-	130	0	0	447	16	-	463	0	0	0	0	-	0	1140
% Lights	-	-	-	-	-	-	-	92.3%	95.1%	-	-	94.9%	-	100.0%	-	94.9%	-	96.3%	-	-	95.1%	83.8%	-	94.5%	-	-	-	-	-	-	94.5%
% Buses	-	-	-	-	-	-	-	3	10	0	-	13	-	0	0	4	-	4	-	-	7	4	-	11	-	-	-	-	-	-	28
% Trucks	-	-	-	-	-	-	-	7.7%	1.9%	0	-	2.3%	-	0.0%	-	4.3%	-	3.0%	-	-	1.5%	18.2%	-	2.2%	-	-	-	-	-	-	2.3%
% Trucks	0	0	0	0	0	0	0	0	16	0	-	16	0	0	0	1	-	1	0	0	16	0	-	16	0	0	0	0	-	0	16
% Trucks	-	-	-	-	-	-	-	0.0%	3.0%	0	-	2.8%	-	0.0%	-	1.1%	-	0.7%	-	-	3.4%	0.0%	-	3.3%	-	-	-	-	-	-	2.7%
Bicycles	-	-	-	-	-	-	-	0	0	0	-	0	-	-	-	0	-	0	-	-	0	0	-	0	-	-	-	-	-	-	0
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	0	-	-	-	0	-	0	-	-	-	0	-	0	-	-	-	-	-	-	0



PM Peak Hour - Robert Parkinson Drive & Mayfield Road

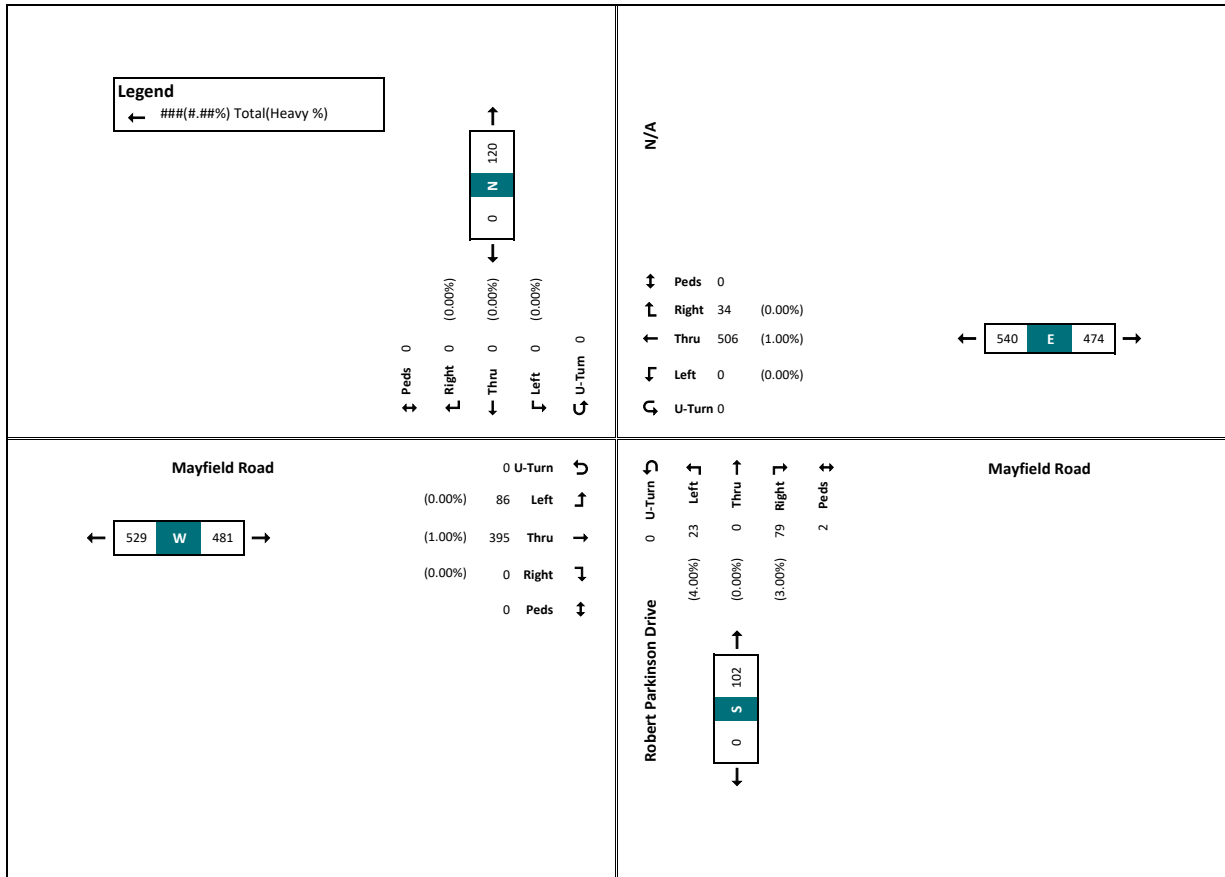
Start Time	N/A					Mayfield Road Westbound					Robert Parkinson Drive Northbound					Mayfield Road Eastbound					Grand Total				
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left		Thru	Right	Peds	App. Total
16:45	0	0	0	0	0	0	0	24	111	0	0	135	0	5	0	16	4	21	0	0	158	9	0	167	323
17:00	0	0	0	0	0	0	0	22	102	0	0	124	0	7	0	11	2	19	0	0	140	14	0	154	295
17:15	0	0	0	0	0	0	0	16	86	0	0	102	0	7	0	13	1	20	0	0	181	14	0	195	327
17:30	0	0	0	0	0	0	0	20	113	0	0	133	0	6	0	20	0	26	0	0	151	15	0	166	325
Hourly Total	0	0	0	0	0	0	0	82	412	0	0	494	0	25	0	70	7	95	0	0	630	51	0	681	1270
Approach %	-	-	-	-	-	0.0%	16.6%	83.4%	0.0%	-	-	0.0%	26.3%	0.0%	73.7%	-	-	0.0%	0.0%	92.5%	7.5%	-	-	-	-
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.8%	34.3%	0.0%	-	-	38.9%	0.0%	2.1%	0.0%	5.8%	-	7.5%	0.0%	0.0%	52.5%	4.2%	-	-	53.6%
PHE	0	0	0	0	0	0	0.85	0.94	0	-	-	0.91	0	0.85	0	0.76	-	0.75	0	0	0.87	0.85	-	-	0.87
Lights	0	0	0	0	0	0	80	402	0	-	-	482	0	25	0	68	-	93	0	0	617	50	-	-	667
% Lights	-	-	-	-	-	-	97.6%	97.6%	0	-	-	97.6%	-	100.0%	-	97.1%	-	97.9%	-	-	97.9%	98.0%	-	-	97.8%
% Buses	-	-	-	-	-	-	1	2	0	-	-	3	-	0	0	2	-	2	-	-	8	1	-	-	9
% Trucks	-	-	-	-	-	-	1.2%	0.5%	0.6%	-	-	0.6%	-	0.0%	0.0%	2.9%	-	2.1%	-	-	1.3%	2.0%	-	-	3.3%
% Pedestrians	-	-	-	-	-	-	0	0	0	-	-	0	-	0	0	0	-	0	-	-	0	0	-	-	0





SAT Peak Hour - Robert Parkinson Drive & Mayfield Road

Start Time	N/A Southbound					Mayfield Road Westbound					Robert Parkinson Drive Northbound					Mayfield Road Eastbound					Grand Total					
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left		Thru	Right	Peds	App. Total	
14:45	0	0	0	0	0	0	26	108	0	0	0	134	0	0	26	2	26	0	0	131	10	0	0	0	141	305
15:00	0	0	0	0	0	0	23	88	0	0	0	111	0	5	0	19	0	24	0	0	118	10	0	0	128	263
15:15	0	0	0	0	0	0	17	97	0	0	0	114	0	9	0	20	0	29	0	0	137	8	0	0	145	288
15:30	0	0	0	0	0	0	20	102	0	0	0	122	0	5	0	14	0	19	0	0	120	6	0	0	126	267
Hourly Total	0	0	0	0	0	0	86	395	0	0	0	481	0	23	0	79	2	102	0	0	506	34	0	0	540	1123
Approach %	-	-	-	-	-	-	0.0%	17.9%	82.1%	0.0%	-	0.0%	22.5%	0.0%	77.5%	-	0.0%	0.0%	93.7%	6.3%	-	-	-	-	48.1%	-
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.2%	32.2%	0.0%	-	-	42.8%	0.0%	0.64%	0.0%	6.6%	-	8.1%	0.0%	42.1%	2.8%	-	-	-	48.1%	-
PHF	0	0	0	0	0	0	0.83	0.91	0	-	-	0.9	0	0.64	0	0.76	-	0.85	0	0.92	0.85	-	-	-	0.93	0.92
Lights	0	0	0	0	0	0	86	390	0	-	-	476	0	22	0	77	-	99	0	0	501	34	0	0	535	1110
% Lights	-	-	-	-	-	-	100.0%	98.7%	0	-	-	99.0%	0	85.7%	0	97.5%	-	97.1%	0	0	99.0%	100.0%	0	0	99.1%	98.8%
Buses	0	0	0	0	0	0	0	0	0	-	-	1	0	0	2	-	2	-	0	1	0	0	0	1	4	4
% Buses	-	-	-	-	-	-	0.0%	0.3%	0	-	-	0.2%	0	0.0%	2.5%	-	2.0%	-	0	0.2%	0.0%	0	0	0	0.2%	0.4%
Trucks	0	0	0	0	0	0	0	4	0	-	-	4	1	0	0	-	1	-	0	4	0	0	0	4	9	9
% Trucks	-	-	-	-	-	-	0.0%	1.0%	0	-	-	0.8%	0	4.3%	0.0%	0.0%	-	1.0%	-	0.8%	0.0%	0	0	0	0.7%	0.8%
Bicycles	-	-	-	-	0	0	-	-	0	-	-	0	-	-	-	-	-	0	-	-	-	0	0	0	0	0
Pedestrians	-	-	-	-	0	0	-	-	0	-	-	0	-	-	-	-	-	0	-	-	-	0	0	0	0	0



REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	October 11, 2022		Prepared Date	October 7, 2024
Database Rev	MaxView		Completed By	N.R.L
Timing Card / Field rev	1		Checked By	N.T

Location **Mayfield Road at Creditview Road**

Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s) (Green+Amber+All Red)		
			WALK	FDWALK			AM MAX	OFF MAX	PM MAX
			1	Not In Use			-	-	-
2	Mayfield Road - Eastbound	12	12	13	4.6	2.0	40.0	40.0	40.0
3	Not In Use	-	-	-	-	-	-	-	-
4	Creditview Road - Northbound	12	12	13	4.2	2.0	20.0	20.0	20.0
5	Not In Use	-	-	-	-	-	-	-	-
6	Mayfield Road - Westbound	12	12	13	4.6	2.0	40.0	40.0	40.0
7	Not In Use	-	-	-	-	-	-	-	-
8	Creditview Road - Southbound	12	12	13	4.2	2.0	20.0	20.0	20.0

System Control	TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
Yes	FREE	AM	0	0
Semi-Actuated Mode	FREE	OFF	0	0
Yes	FREE	PM	0	0



APPENDIX C

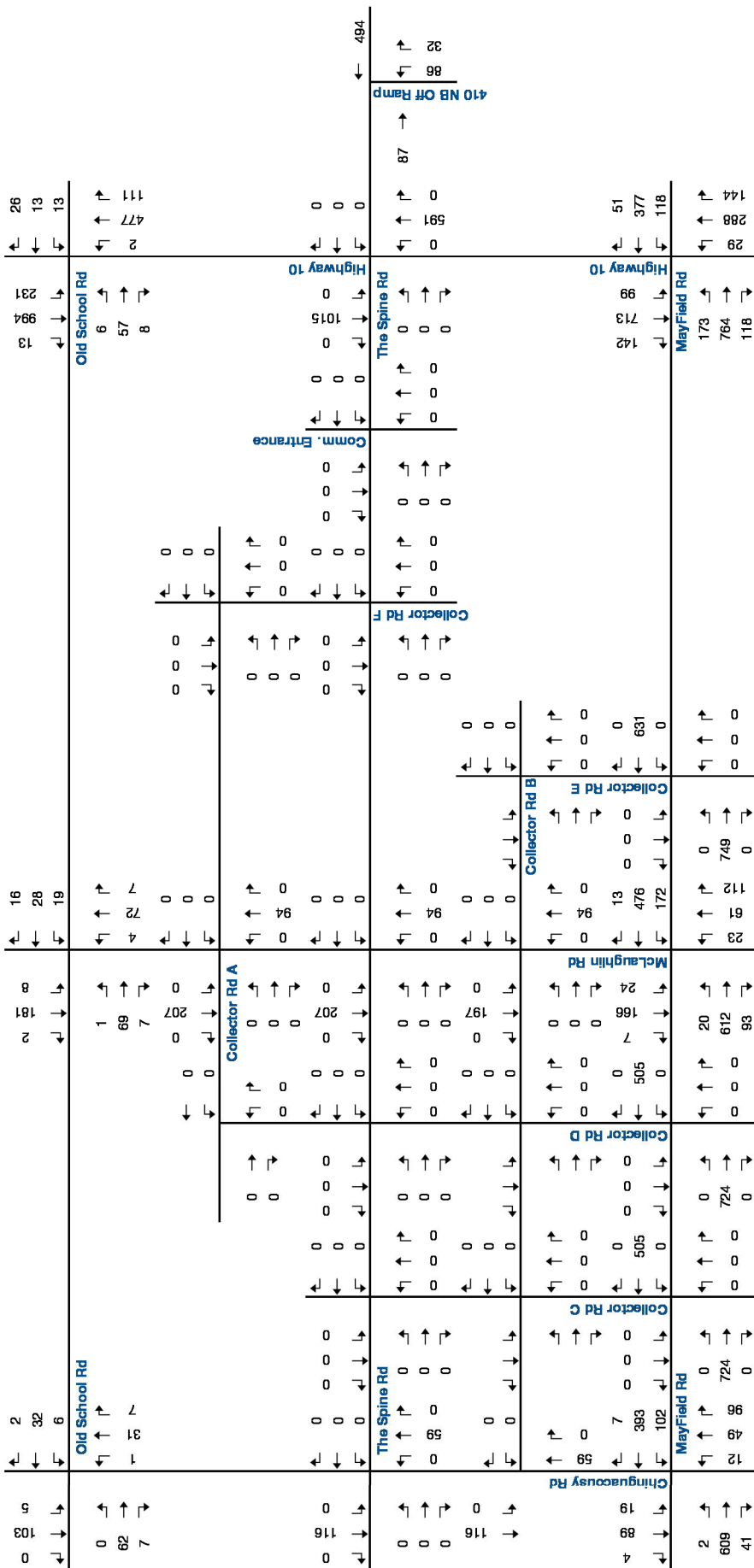
Background Developments



Mayfield West Phase 2 Secondary Plan Transportation Master Plan Final Report

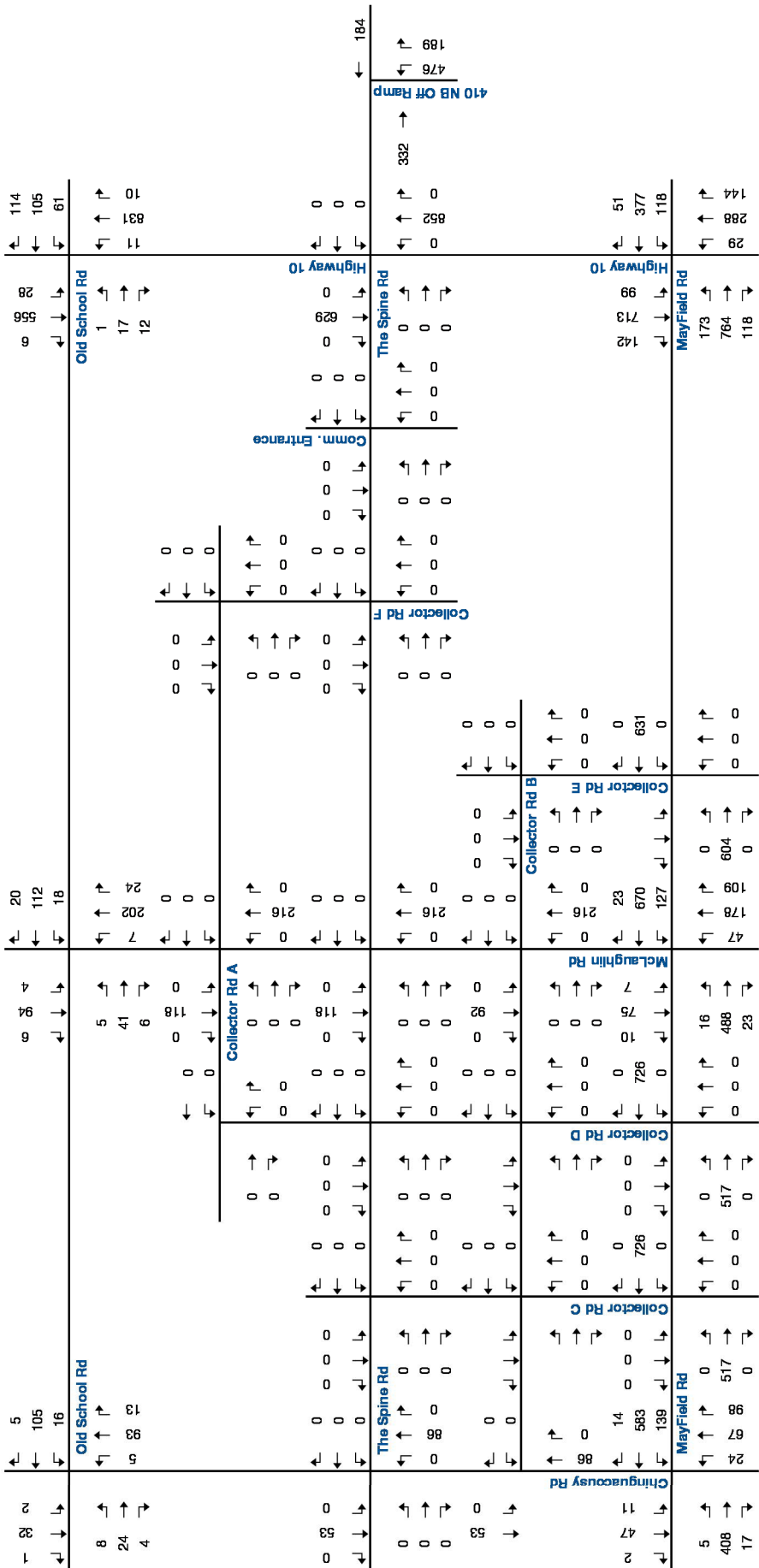
Paradigm Transportation Solutions Limited

December 2015



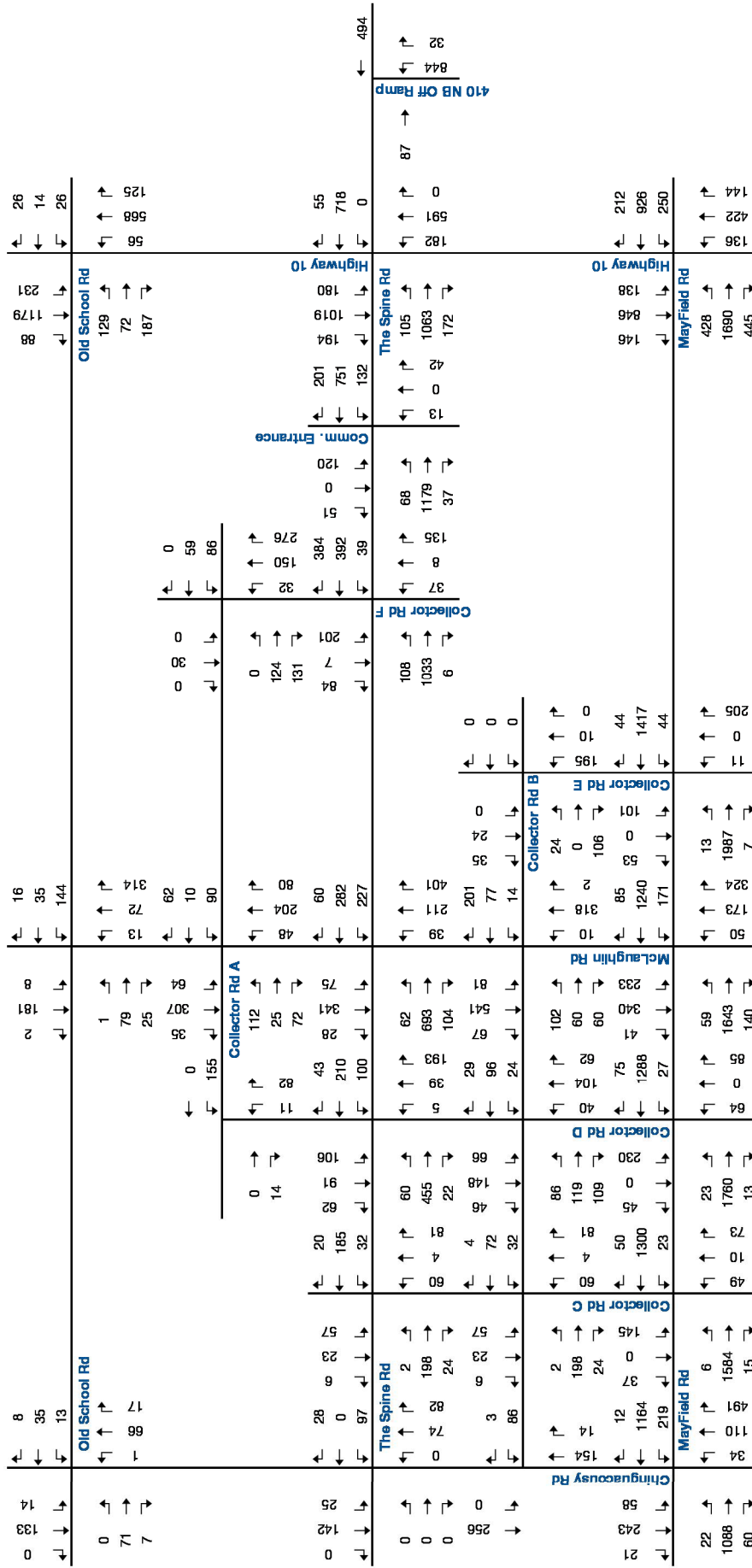
Future Background Traffic – AM Peak Hour

Figure 6.3



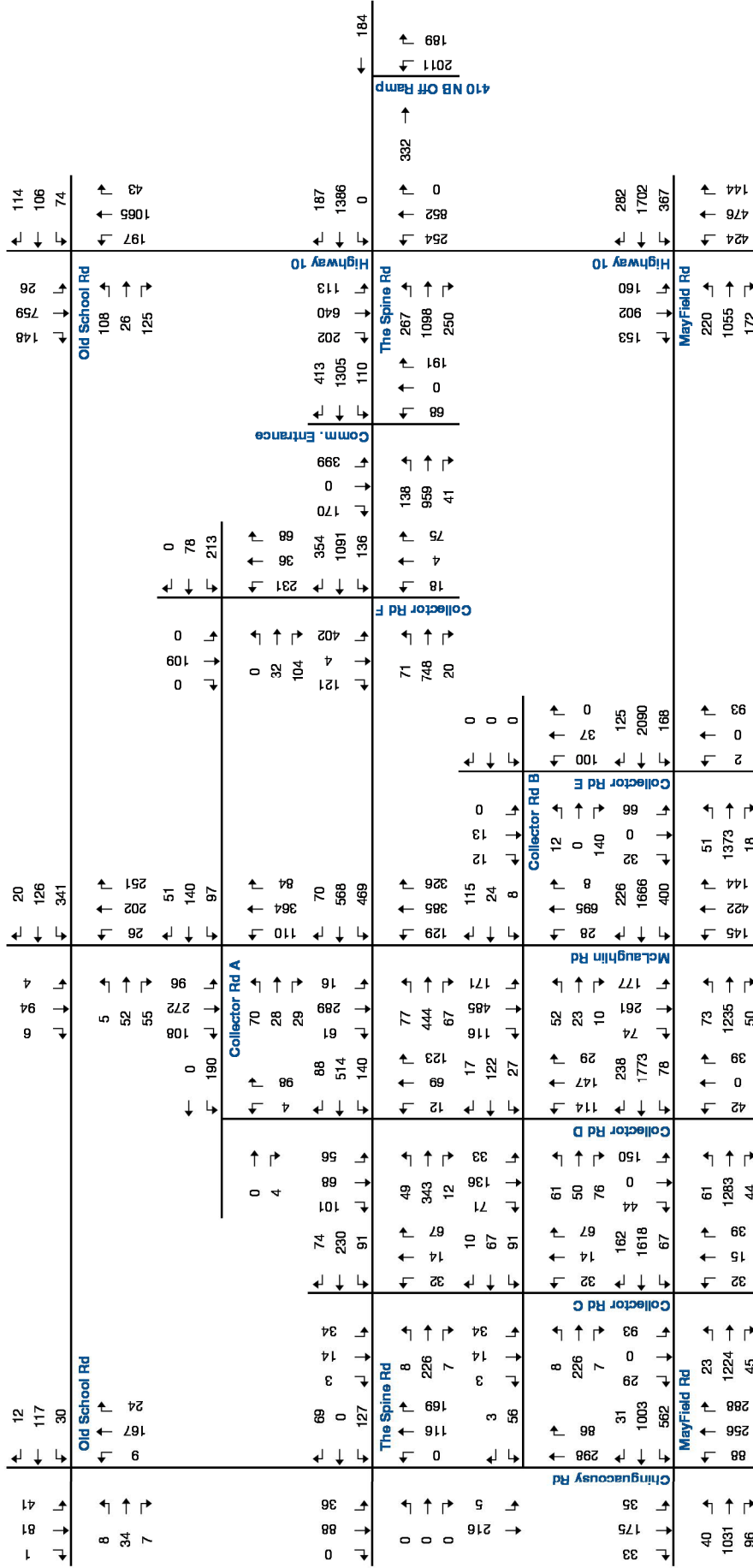
Future Background Traffic – PM Peak Hour

Figure 6.4



Future Total Traffic – AM Peak Hour

Figure 6.5



Future Total Traffic – PM Peak Hour

Figure 6.6

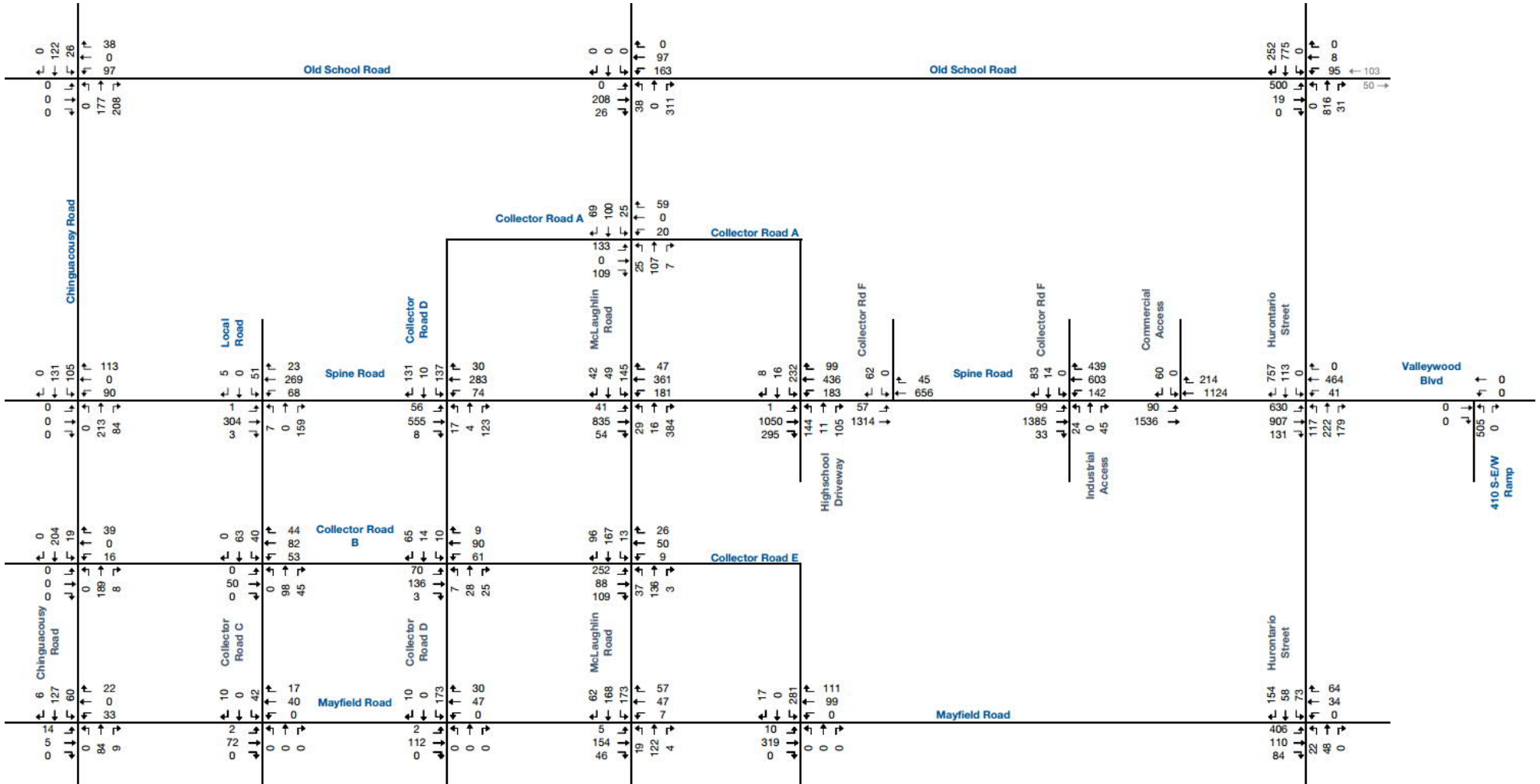


Mayfield West Phase 2 Stage 2 Transportation Assessment

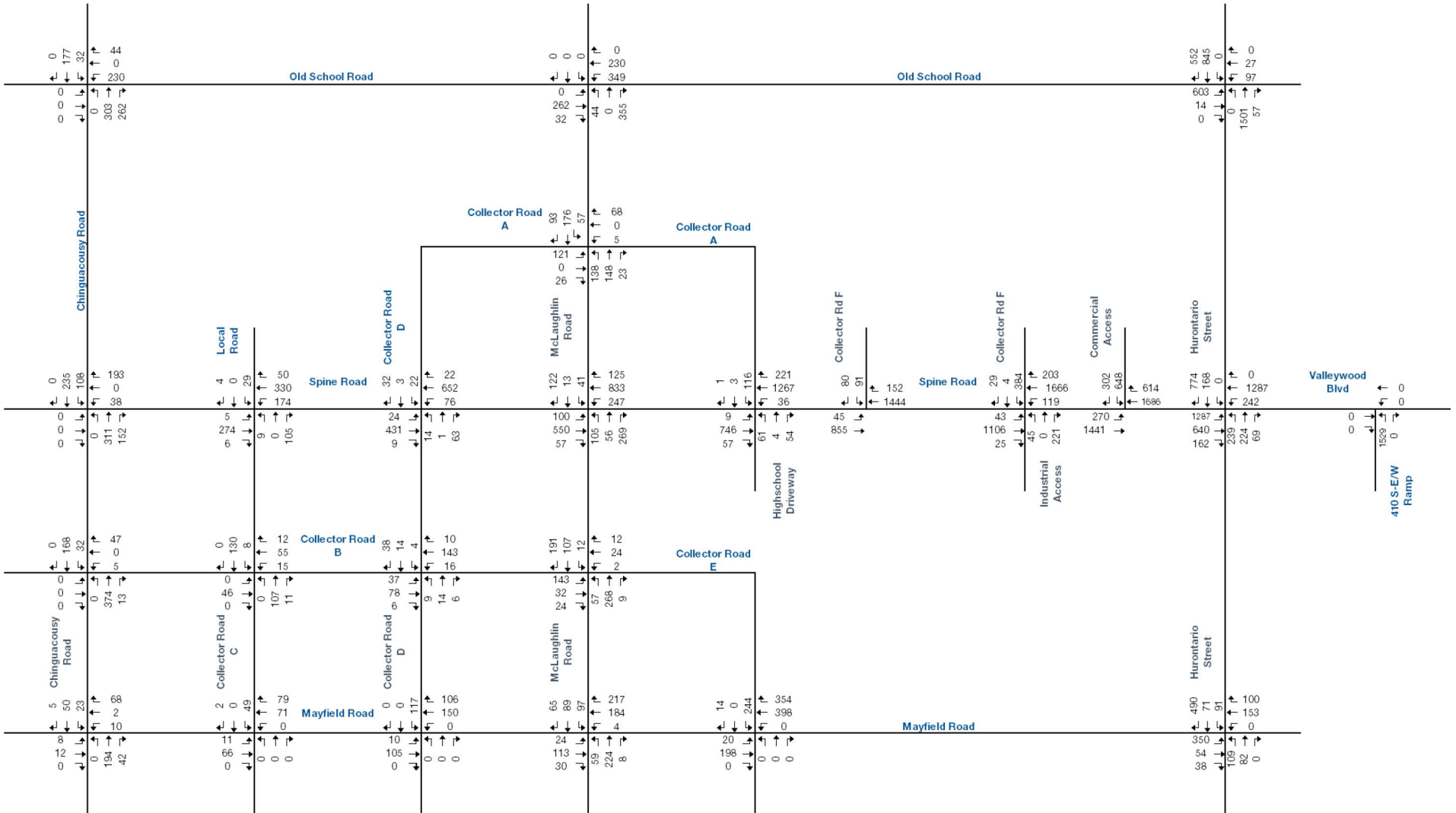
Town of Caledon

Paradigm Transportation Solutions Limited

January 2018



Site Trip Assignment – AM Peak Hour



Site Trip Assignment – PM Peak Hour

ITE Land Use Code	Description of Land Use Type	Units	Number of Peak Hour Trips					
			AM			PM		
			In	Out	Total	In	Out	Total
Zone 1								
LEA Trip Gen	Peel Regional Police Station		167	55	222	137	259	396
210	Single Family Detached	65	13	38	51	42	25	67
220	Residential Condominium/Townhouse	65	7	25	32	25	15	40
<i>Zone 1 Residential Modal Split 5%</i>			1	3	4	3	2	5
<i>Zone 1 Residential Trips</i>			19	60	79	64	38	102
<i>Zone 1 New Trips</i>			186	115	301	201	297	498
Zone 2								
820	Shopping Center (sq. ft.)	51,200 sq.m.	321	197	518	922	999	1921
<i>Pass-By Reduction - Shopping Center(0% AM, 35% PM, 25% SAT)</i>			0	0	0	290	315	605
<i>Zone 2 Internal Trips (10%)</i>			32	20	52	92	100	192
<i>Zone 2 Internal Modal Split 5%</i>			2	1	3	5	5	10
<i>Zone 2 New Internal Trips</i>			30	19	49	88	95	182
<i>Zone 2 Mode Split External Trips</i>			14	9	23	41	45	86
<i>Zone 2 New External Trips</i>			274	168	443	498	539	1037
<i>Zone 2 New Trips</i>			305	187	492	586	634	1220
Zone 3								
210	Single Family Detached	37	8	23	31	25	14	39
220	Multifamily Housing (Low-Rise)	22	3	8	11	9	6	15
<i>Zone 3 Modal Split 5%</i>			1	2	2	2	1	3
<i>Zone 3 New Trips</i>			10	29	40	32	19	51
Zone 4								
210	Single Family Detached	145	27	81	108	91	54	145
220	Multifamily Housing (Low-Rise)	100	11	37	48	37	22	59
<i>Zone 4 Modal Split 5%</i>			2	6	8	6	4	10
<i>Zone 4 New Trips</i>			36	112	148	122	72	194
Zone 5 & 25								
520	Elementary School	475 students	172	146	318	39	42	81
770	Business Park	1,164 employees	483	85	568	115	407	522
<i>Zone 5 Business Park Modal Split 10%</i>			48	9	57	12	41	53
<i>Zone 5 Business Park Trips</i>			435	76	511	103	366	469
<i>Zone 25 School Internal trips 67%</i>			115	98	213	26	28	54
<i>Zone 25 School Internal Mode Split 5%</i>			6	5	11	1	1	3
<i>Zone 25 School Internal Trips</i>			109	93	202	25	27	51
<i>Zone 25 School Modal Split 5%</i>			3	2	5	1	1	1
<i>Zone 25 New School Trips</i>			54	46	100	12	13	26
<i>Zone 5 & 25 New External Trips</i>			598	215	813	140	406	546
Zone 6								
210	Single Family Detached	214	39	118	157	133	78	211
<i>Zone 6 Modal Split 5%</i>			2	6	8	7	4	11
<i>Zone 6 New Trips</i>			37	112	149	126	74	200
Zone 7								
210	Single Family Detached	60	12	35	47	39	23	62
220	Multifamily Housing (Low-Rise)	26	3	10	13	11	7	18
<i>Zone 7 Modal Split 5%</i>			1	2	3	3	2	4
<i>Zone 7 New Trips</i>			14	43	57	47	28	76
Zone 8								
210	Single Family Detached	88	17	50	67	57	33	90
220	Multifamily Housing (Low-Rise)	112	12	41	53	41	24	65
221	Multifamily Housing (Mid-Rise)	168	16	44	60	45	29	74
<i>Zone 8 Modal Split 5%</i>			2	7	9	7	4	11
<i>Zone 8 New Trips</i>			43	128	171	136	82	218
Zone 9								
530	High School	1,500 students	523	257	780	101	109	210
<i>Zone 9 School Internal trips 67%</i>			350	172	523	68	73	141
<i>Zone 9 School Internal Trip Mode Split 5%</i>			18	9	26	3	4	7
<i>Zone 9 New Internal School Trips</i>			333	163	497	65	69	134
<i>Zone 9 External School Modal Split 5%</i>			9	4	13	2	2	3
<i>Zone 9 New External School Trips</i>			164	81	244	31	34	66
<i>Zone 9 New Trips</i>			497	244	741	96	104	200
Zone 10								
210	Single Family Detached	72	14	42	56	47	27	74
220	Multifamily Housing (Low-Rise)	110	12	40	52	40	24	64
<i>Zone 10 Modal Split 5%</i>			1	4	5	4	3	7
<i>Zone 10 New Trips</i>			25	78	103	83	48	131
Zone 11								
210	Single Family Detached	136	25	76	101	86	50	136
220	Multifamily Housing (Low-Rise)	109	12	40	52	40	24	64
<i>Zone 11 Modal Split 5%</i>			2	6	8	6	4	10
<i>Zone 11 New Trips</i>			35	110	145	120	70	190
Zone 12								
210	Single Family Detached	164	30	91	121	103	60	163
565	Daycare Centre (existing Church used for daycare)	68	28	25	53	25	29	54
<i>Zone 12 Modal Split 5%</i>			5	7	12	8	6	14
<i>Zone 12 New Trips</i>			87	132	219	149	118	267

Zone 13								
210	Single Family Detached	52	11	31	42	34	20	54
820	Shopping Center (sq. ft.)	2850	18	11	29	109	118	227
<i>Pass-By Reduction - Shopping Center(0% AM, 35% PM, 25% SAT)</i>			0	0	0	34	37	71
<i>Zone 13 Residential Modal Split 5%</i>			1	2	2	2	1	3
<i>Zone 13 Residential New Trips</i>			10	29	40	32	19	51
<i>Zone 13 Shopping Centre Internal Trips (10%)</i>			2	1	3	11	12	23
<i>Zone 13 Shopping Centre Internal Trips Mode Split (5%)</i>			0	0	0	1	1	1
<i>Zone 13 Shopping Centre Internal Trips</i>			2	1	3	10	11	22
<i>Zone 13 Shopping Centre External Trips Mode Split (5%)</i>			1	0	1	5	5	10
<i>Zone 13 Shopping Centre External Trips</i>			15	10	25	93	101	194
<i>Zone 13 New Trips</i>			27	40	68	135	131	267
Zone 14								
210	Single Family Detached	134	25	75	100	85	50	135
220	Multifamily Housing (Low-Rise)	36	4	14	18	15	9	24
<i>Zone 14 Modal Split 5%</i>			1	4	6	5	3	8
<i>Zone 14 New Trips</i>			28	85	112	95	56	151
Zone 15								
210	Single Family Detached	26	6	17	23	18	10	28
220	Multifamily Housing (Low-Rise)	142	15	52	67	51	30	81
820	Shopping Center (sq. ft.)	400	2	2	4	25	28	53
<i>Pass-By Reduction - Shopping Center(0% AM, 35% PM, 25% SAT)</i>			0	0	0	9	10	19
<i>Zone 15 Modal Split 5%</i>			1	4	5	5	3	8
<i>Zone 15 New Trips</i>			22	67	89	80	55	135
Zone 16								
220	Multifamily Housing (Low-Rise)	72	8	27	35	28	16	44
820	Shopping Center (sq. ft.)	4800	30	19	49	160	173	333
<i>Pass-By Reduction - Shopping Center(0% AM, 35% PM, 25% SAT)</i>			0	0	0	50	54	104
<i>Zone 16 Residential Modal Split 5%</i>			0	1	2	1	1	2
<i>Zone 16 Residential New Trips</i>			8	26	33	27	15	42
<i>Zone 16 Shopping Centre Internal Trips (10%)</i>			3	2	5	16	17	33
<i>Zone 16 Shopping Centre Internal Trips Mode Split (5%)</i>			0	0	0	1	1	2
<i>Zone 16 Shopping Centre Internal Trips</i>			3	2	5	15	16	31
<i>Zone 16 Shopping Centre External Trips Mode Split (5%)</i>			1	1	2	7	8	15
<i>Zone 16 Shopping Centre External Trips</i>			26	16	42	137	148	285
<i>Zone 16 New Trips</i>			37	44	80	179	179	358
Zone 17								
210	Single Family Detached	167	31	92	123	105	61	166
220	Multifamily Housing (Low-Rise)	55	6	21	27	22	13	35
<i>Zone 17 Modal Split 5%</i>			2	6	8	6	4	10
<i>Zone 17 New Trips</i>			35	107	143	121	70	191
Zone 18								
210	Single Family Detached	30	7	19	26	20	12	32
220	Multifamily Housing (Low-Rise)	40	5	15	20	16	10	26
<i>Zone 18 Modal Split 5%</i>			1	2	2	2	1	3
<i>Zone 18 New Trips</i>			11	32	44	34	21	55
Zone 19								
520	Elementary School	850	172	398	570	39	106	145
<i>Zone 19 School Internal trips 67%</i>			115	267	382	26	71	97
<i>Zone 19 School Internal Trip Mode Split 5%</i>			6	13	19	1	4	5
<i>Zone 19 New Internal School Trips</i>			109	254	363	25	67	92
<i>Zone 19 External School Modal Split 5%</i>			3	7	9	1	2	2
<i>Zone 19 New External School Trips</i>			54	124	179	12	33	46
<i>Zone 19 New Trips</i>			163	378	542	37	101	138
Zone 20								
210	Single Family Detached	174	32	96	128	109	64	173
220	Multifamily Housing (Low-Rise)	40	5	15	20	16	10	26
<i>Zone 20 Modal Split 5%</i>			2	6	7	6	4	10
<i>Zone 20 New Trips</i>			35	105	141	119	70	189
Zone 21								
210	Single Family Detached	198	36	109	145	123	73	196
<i>Zone 21 Modal Split 5%</i>			2	5	7	6	4	10
<i>Zone 21 New Trips</i>			34	104	138	117	69	186
Zone 22								
210	Single Family Detached	56	11	34	45	37	21	58
<i>Zone 22 Modal Split 5%</i>			1	2	2	2	1	3
<i>Zone 22 New Trips</i>			10	32	43	35	20	55
Zone 23								
210	Single Family Detached	199	37	109	146	124	73	197
<i>Zone 23 Modal Split 5%</i>			2	5	7	6	4	10
<i>Zone 23 New Trips</i>			35	104	139	118	69	187
Zone 24								
520	Elementary School	550	172	197	369	39	55	94
<i>Zone 24 School Internal trips 67%</i>			115	132	247	26	37	63
<i>Zone 24 School Internal Modal Split 5%</i>			6	7	12	1	2	3
<i>Zone 24 New Internal School Trips</i>			109	125	235	25	35	60
<i>Zone 24 School External Modal Split 5%</i>			3	3	6	1	1	2
<i>Zone 24 New External School Trips</i>			54	62	116	12	17	29
<i>Zone 24 New Trips</i>			163	187	351	37	52	89
Zone 26								
210	Single Family Detached	86	17	49	66	55	33	88
<i>Zone 26 Modal Split 5%</i>			1	2	3	3	2	4
<i>Zone 26 New Trips</i>			16	47	63	52	31	84

Zone 27								
210	Single Family Detached	125	24	70	94	79	47	126
220	Multifamily Housing (Low-Rise)	97	11	35	46	36	21	57
<i>Zone 27 Modal Split 5%</i>			2	5	7	6	3	9
<i>Zone 27 New Trips</i>			33	100	133	109	65	174
Zone 28								
210	Single Family Detached	252	46	138	184	156	91	247
220	Multifamily Housing (Low-Rise)	32	4	12	16	13	8	21
<i>Zone 28 Modal Split 5%</i>			3	8	10	8	5	13
<i>Zone 28 New Trips</i>			48	143	190	161	94	255
Zone 29								
210	Single Family Detached	155	29	86	115	98	57	155
220	Multifamily Housing (Low-Rise)	67	8	25	33	26	15	41
520	Elementary School	850	172	398	570	39	106	145
<i>Zone 29 Residential Modal Split 5%</i>			2	6	7	6	4	10
<i>Zone 29 New Residential Trips</i>			35	105	141	118	68	186
<i>Zone 29 School Internal trips 67%</i>			115	267	382	26	71	97
<i>Zone 29 School Internal Modal Split 5%</i>			6	13	19	1	4	5
<i>Zone 29 New Internal School Trips</i>			109	254	363	25	67	92
<i>Zone 29 School External Modal Split 5%</i>			3	7	9	1	2	2
<i>Zone 29 New External School Trips</i>			54	124	179	12	33	46
<i>Zone 29 New Trips</i>			199	484	682	155	169	324
Zone 30								
210	Single Family Detached	82	16	47	63	53	31	84
<i>Zone 30 Modal Split 5%</i>			1	2	3	3	2	4
<i>Zone 30 New Trips</i>			15	45	60	50	29	80
Zone 31								
210	Single Family Detached	79	15	46	61	51	30	81
220	Multifamily Housing (Low-Rise)	280	29	98	127	93	55	148
<i>Zone 31 Modal Split 5%</i>			2	7	9	7	4	11
<i>Zone 31 New Trips</i>			42	137	179	137	81	218
Zone 32								
210	Single Family Detached	30	7	19	26	20	12	32
220	Multifamily Housing (Low-Rise)	50	6	19	25	20	12	32
<i>Zone 32 Modal Split 5%</i>			1	2	3	2	1	3
<i>Zone 32 New Trips</i>			12	36	48	38	23	61
Zone 33								
210	Single Family Detached	65	13	38	51	42	25	67
220	Multifamily Housing (Low-Rise)	202	21	72	93	69	41	110
<i>Zone 33 Modal Split 5%</i>			2	6	7	6	3	9
<i>Zone 33 New Trips</i>			32	105	137	105	63	168
Zone 34								
210	Single Family Detached	38	8	24	32	25	15	40
220	Multifamily Housing (Low-Rise)	181	19	65	84	63	37	100
<i>Zone 34 Modal Split 5%</i>			1	4	6	4	3	7
<i>Zone 34 New Trips</i>			26	85	110	84	49	133
Zone 35								
210	Single Family Detached	192	35	106	141	120	70	190
220	Multifamily Housing (Low-Rise)	27	3	11	14	11	7	18
<i>Zone 35 Modal Split 5%</i>			2	6	8	7	4	10
<i>Zone 35 New Trips</i>			36	111	147	124	73	198
Zone 36								
210	Single Family Detached	119	22	67	89	76	44	120
220	Multifamily Housing (Low-Rise)	70	8	26	34	27	16	43
<i>Zone 36 Modal Split 5%</i>			2	5	6	5	3	8
<i>Zone 36 New Trips</i>			29	88	117	98	57	155
Zone 37								
220	Multifamily Housing (Low-Rise)	125	14	45	59	45	27	72
820	Shopping Center (sq. ft.)	5600	35	22	57	180	194	374
<i>Pass-By Reduction - Shopping Center(0% AM, 35% PM, 25% SAT)</i>			0	0	0	57	61	118
<i>Zone 37 Residential Modal Split 5%</i>			1	2	3	2	1	4
<i>Zone 37 Residential New Trips</i>			13	43	56	43	26	68
<i>Zone 37 Shopping Centre Internal Trips (10%)</i>			4	2	6	18	19	37
<i>Zone 37 Shopping Centre Internal Trips Mode Split (5%)</i>			0	0	0	1	1	2
<i>Zone 37 Shopping Centre Internal Trips</i>			4	2	6	17	18	35
<i>Zone 37 Shopping Centre External Trips Mode Split (5%)</i>			2	1	3	8	9	17
<i>Zone 37 Shopping Centre External Trips</i>			30	19	48	154	166	320
<i>Zone 37 New Trips</i>			46	64	110	214	210	423

Total			3,009	4,233	7,243	4,271	3,790	8,063
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TRIP GENERATION RATES (MW2 Stage 2)

Land Uses		
ITE 210		
Single-Family Detach		30
AM		
Equation	$T = 0.71(X)$	26
Average Rate	0.74	22
PM		
Equation	$\ln(T) = 0.96$	32
Average Rate	0.99	30
Saturday		
Equation	$T = 0.84(X)$	43
Average Rate	0.93	28

	Saturday Peak Hour		
	In	Out	Total
Single-Family Detached Housing			
ITE 210	54%	46%	100%
Trip Rate	0.50	0.43	0.93
ITE Trips	23	20	43
96% Person Trip	24	21	45
5% Modal Split	1	1	2
Trips	23	20	43

Land Uses		
ITE 220		
Multifamily Housing		547
AM		
Equation	$\ln(T) = 0.95$	240
Average Rate	0.46	252
PM		
Equation	$\ln(T) = 0.89$	268
Average Rate	0.56	306
Saturday		
Equation	$T = 1.08(X)$	558
Average Rate	0.7	383

	Saturday Peak Hour		
	In	Out	Total
Multifamily Housing (Low-Rise)			
ITE 220	50%	50%	100%
Trip Rate	0.35	0.35	0.70
ITE Trips	279	279	558
96% Person Trip	291	291	582
5% Modal Split	15	15	30
Trips	276	276	552

Land Uses		
ITE 221		
Multifamily Housing		226
AM		
Equation	$\ln(T) = 0.98$	76
Average Rate	0.36	81
PM		
Equation	$\ln(T) = 0.96$	97
Average Rate	0.44	99
Saturday		
Equation	$T = 0.42(X)$	102
Average Rate	0.44	99

	Saturday Peak Hour		
	In	Out	Total
Multifamily Housing (Mid-Rise)			
ITE 221	49%	51%	100%
Trip Rate	0.22	0.22	0.44
ITE Trips	50	52	102
96% Person Trip	52	54	106
5% Modal Split	3	3	6
Trips	-49	-51	-100

Land Uses		
ITE 520		
Elementary School		550
AM		
Equation		
Average Rate	0.67	369
PM		
Equation		
Average Rate	0.17	94
Saturday		
Equation		
Average Rate		

	Saturday Peak Hour		
	In	Out	Total
Elementary School			
ITE 520	49%	51%	100%
Trip Rate	0.00	0.00	0.00
ITE Trips	0	0	0
5% Modal Split	0	0	0
Trips	0	0	0

Land Uses		
ITE 820		
Shopping Center		146.738
AM		
Equation	$T = 0.50(X)$	225
Average Rate	0.94	138
PM		
Equation	$\ln(T) = 0.74$	722
Average Rate	3.81	559
Saturday		
Equation	$\ln(T) = 0.75$	838
Average Rate	4.5	660

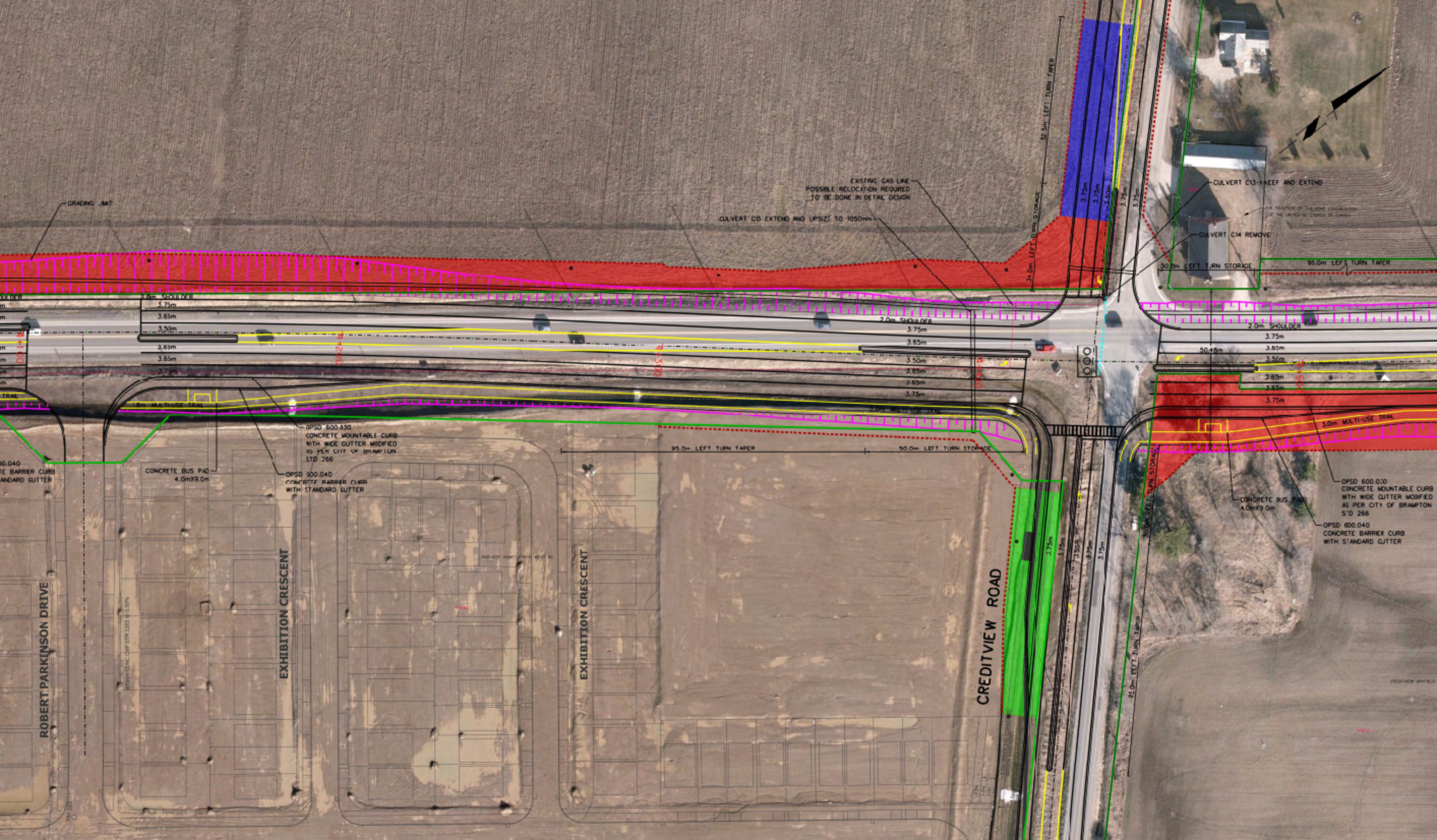
	Saturday Peak Hour		
	In	Out	Total
Shopping Center			
ITE 820	52%	48%	100%
Trip Rate	2.34	2.16	4.50
ITE Trips	436	402	838
5% Modal Split	22	20	42
25% Passby	109	101	210
Trips	-414	-382	-796

Net Total -164 -137 -301



APPENDIX D

Future Mayfield Road Widening



GRADING LIMIT

EXISTING GAS LINE
POSSIBLE RELOCATION REQUIRED
TO BE DONE IN DETAIL DESIGN

CULVERT C3 - EXTEND AND UPSIZE TO 1050mm

CULVERT C13 - KEEP AND EXTEND

CULVERT C14 REMOVE

31.0m LEFT TURN STORAGE

3.75m

3.75m

3.75m

3.75m

3.75m

3.75m

3.75m

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3.75m

30.0m LEFT TURN STORAGE

95.0m LEFT TURN TAPER

2.0m SHOULDER

2.0m SHOULDER

7.0m SHOULDER

3.75m

3.65m

3.50m

3.63m

3.65m

3.7m

3.7m

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OPSD 600.030
CONCRETE MOUNTABLE CURB
WITH WIDE GUTTER MODIFIED
AS PER CITY OF BRAMPTON
STD 266

OPSD 500.040
CONCRETE BARRIER CURB
WITH STANDARD GUTTER

CONCRETE BUS PAD
4.0mX9.0m

CONCRETE BUS PAD
4.0mX9.0m

OPSD 600.030
CONCRETE MOUNTABLE CURB
WITH WIDE GUTTER MODIFIED
AS PER CITY OF BRAMPTON
STD 266

OPSD 600.040
CONCRETE BARRIER CURB
WITH STANDARD GUTTER

3.0m MULTI-USE TRAIL

95.0m LEFT TURN TAPER

50.0m LEFT TURN STORAGE

30.0m LEFT TURN STORAGE

CREDITVIEW ROAD

EXHIBITION CRESCENT

EXHIBITION CRESCENT

ROBERT PARKINSON DRIVE

0.00% (0.00% GWP STR 120) @ 0.50%

PARADE HOUSE WITH WEST IN

CREDITVIEW ROAD



APPENDIX E

Mode Split & TTS Data

A review of internal trips within the Town indicates that the majority of trips originating within each sub-area of Caledon are internal during the morning peak period. This is particularly evident for trips originating in Bolton, where most trips (approximately 5,500) are internal to the sub-area (i.e., destined to Bolton). While travel between these major sub-areas do not appear to be significant compared to the proportion of internal sub-area trips, a decent portion of trips originating in Caledon East and Mayfield West are destined for Bolton (84 and 135 trips, respectively). The internal trip distribution by sub-area is summarized in **Table 3-9**.

Table 3-9: Internal Trip Distribution by Sub-Area (2016, AM Peak Period, All Modes)

Origin / Destination	Bolton	Mayfield West	Caledon Village	Rural Caledon West	Caledon East	Rural Caledon East	Total
Bolton	5,524	16	32	39	63	986	6,660
Mayfield West	135	735	0	455	78	0	1,403
Caledon Village	0	65	0	76	0	0	141
Rural Caledon West	245	388	7	630	92	193	1,555
Caledon East	84	0	0	45	280	0	409
Rural Caledon East	1,642	76	0	123	249	815	2,905
Total	7,630	1,280	39	1,368	762	1,994	13,073

3.4.3 Mode Splits

Trips with origins or destinations in Caledon consist largely of vehicle trips during the morning peak period. This is especially evident for external trips (i.e., those that start or end outside of the Town), which have a 95% automobile mode share.

Trips with both origin and destination in Caledon, however, have higher non-auto trip use. Approximately one-quarter of the trips internal to the Town are made via a school bus. The most prevalent active transportation mode is walking, which makes up 9% of the mode share for internal trips. Minimal cycling trips were identified during the morning peak period.

The mode share breakdown is shown in **Table 3-10**.

Table 3-10: Mode Share for Caledon Trips (2016, AM Peak Period)

Mode	Internal		External		Total	
	Trips	%	Trips	%	Trips	%
Automobile	8,445	65%	32,233	95%	40,678	87%
Local Transit	18	0%	577	2%	595	1%
GO Rail / Joint GO Rail	0	0%	136	0%	136	0%
School Bus	3,389	26%	1054	3%	4,443	9%
Walk	1,220	9%	64	0%	1,284	3%
Cycle	0	0%	0	0%	0	0%
Other (e.g., Motorcycle)	0	0%	35	0%	35	0%
Total	13,072	100%	34,099	100%	47,171	100%

Column1	Column2	Column3
Mon Oct 04 2021 15:11:21 GMT-0400 (Eastern Daylight Time) - Run Time: 2392ms		
Cross Tabulation Query Form - Trip - 2016 v1.1		
Row: 2006 GTA zone of destination - gta06_dest		
Column: 2006 GTA zone of origin - gta06_orig		
Filters:		
(2006 GTA zone of origin - gta06_orig In 3436		
and		
Start time of trip - start_time In 1600-1900		
and		
Trip purpose of destination - purp_dest In M		
and		
Primary travel mode of trip - mode_prime In D		
M)		
Trip 2016		
ROW : gta06_dest		
COLUMN : gta06_orig		
gta06_dest	gta06_orig	total
3324	3375	4
3342	3375	54
3357	3375	80
3369	3375	5
3375	3375	78
3375	3436	21
3376	3436	38
3381	3375	8
3417	3375	6
3430	3375	60
3436	3375	9
3467	3375	26
3467	3436	45
3462	3436	53
3493	3375	15
3617	3436	27
4158	3375	16

	Creditview (South)	Mayfield (East)	Mississauga (South)	Mayfield (West)	
	4				
	54	54			
	80	80			
	5	5			
	78	78			
	21	21			
	38	38			
	8	8			
	6	6			
	60		60		
	9	9			
	26	26			
	45	45			
	53	53			
	15	15			
	2			2	
	16			16	
Total	170	272	60	18	520
Percentage	33%	52%	12%	3%	100%

PM Out - AM In - Sat Out

Column1	Column2	Column3
Mon Oct 04 2021 15:08:22 GMT-0400 (Eastern Daylight Time) - Run Time: 2959ms		
Cross Tabulation Query Form - Trip - 2016 v1.1		
Row: 2006 GTA zone of origin - gta06_orig		
Column: 2006 GTA zone of destination - gta06_dest		
Filters:		
(2006 GTA zone of destination - gta06_dest In 3436		
and		
Start time of trip - start_time In 1600-1900		
and		
Trip purpose of destination - purp_dest In M		
and		
Primary travel mode of trip - mode_prime In D		
M)		
Trip 2016		
ROW : gta06_orig		
COLUMN : gta06_dest		
gta06_orig	gta06_dest	total
131	3375	32
2026	3375	42
3196	3375	8
3330	3375	10
3334	3436	10
3367	3375	6
3375	3375	78
3375	3436	9
3427	3375	19
3432	3375	18
3432	3436	19
3434	3375	6
3434	3436	36
3436	3375	21
3456	3375	30
3464	3375	27
3482	3375	21
3486	3375	29
3509	3375	12
3612	3375	12
4164	3436	58

	Creditview (South)	Mayfield (East)	Mississauga (South)	Mayfield (West)	
	32				
	42	42			
	8	8			
	10	10			
	10	10			
	6	6			
	78	78			
	9	9			
	19		19		
	18			18	
	19			19	
	6			6	
	36			36	
	21	21			
	30		30		
	27	27			
	21	21			
	29		29		
	12		12		
	12			12	
	58			58	
Total	129	176	49	149	503
Percentage	26%	35%	10%	30%	100%

PM In - AM Out - Sat In



APPENDIX F

Existing Intersection Capacity Analysis Results

Queues

1: Creditview Road & Mayfield Road

10-01-2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕		↕	↕		↕
Traffic Volume (vph)	26	468	89	503	47	80	94	8	119
Future Volume (vph)	26	468	89	503	47	80	94	8	119
Lane Group Flow (vph)	0	581	0	627	0	133	99	0	154
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		2		6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phase	2	2	6	6	8	8	8	4	4
Switch Phase									
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	31.6	31.6	31.6	31.6	31.2	31.2	31.2	31.2	31.2
Total Split (s)	40.0	40.0	40.0	40.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	66.7%	66.7%	66.7%	66.7%	33.3%	33.3%	33.3%	33.3%	33.3%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0	0.0		0.0
Total Lost Time (s)		6.6		6.6		6.2	6.2		6.2
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None
v/c Ratio		0.49		0.60		0.41	0.26		0.41
Control Delay		8.9		11.4		24.7	7.0		22.5
Queue Delay		0.0		0.0		0.0	0.0		0.0
Total Delay		8.9		11.4		24.7	7.0		22.5
Queue Length 50th (m)		34.8		43.4		13.6	0.0		14.4
Queue Length 95th (m)		64.9		84.2		26.8	10.0		28.3
Internal Link Dist (m)		308.9		183.6		258.3			276.9
Turn Bay Length (m)							15.0		
Base Capacity (vph)		1184		1049		366	422		423
Starvation Cap Reductn		0		0		0	0		0
Spillback Cap Reductn		0		0		0	0		0
Storage Cap Reductn		0		0		0	0		0
Reduced v/c Ratio		0.49		0.60		0.36	0.23		0.36

Intersection Summary

Cycle Length: 60

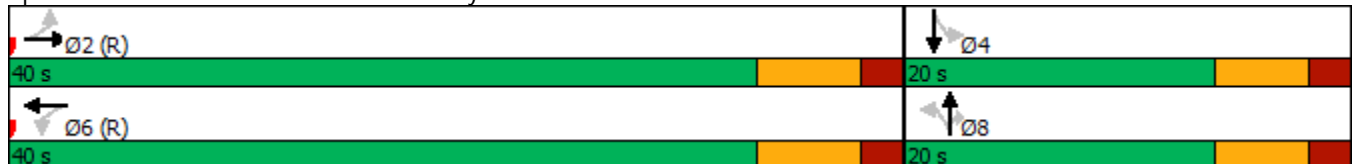
Actuated Cycle Length: 60

Offset: 22.5 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 1: Creditview Road & Mayfield Road



HCM 6th Signalized Intersection Summary

1: Creditview Road & Mayfield Road

10-01-2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↗		↕	
Traffic Volume (veh/h)	26	468	58	89	503	4	47	80	94	8	119	20
Future Volume (veh/h)	26	468	58	89	503	4	47	80	94	8	119	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1824	1900	1824	1824	1900	1824	1824	1900	1824	1824	1900	1824
Adj Flow Rate, veh/h	27	493	61	94	529	4	49	84	99	8	125	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	85	935	112	175	887	6	170	253	309	70	309	50
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	38	1593	191	180	1510	11	441	1265	1546	36	1549	250
Grp Volume(v), veh/h	581	0	0	627	0	0	133	0	99	154	0	0
Grp Sat Flow(s),veh/h/ln	1822	0	0	1702	0	0	1707	0	1546	1835	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	3.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.2	0.0	0.0	12.5	0.0	0.0	3.6	0.0	3.3	4.3	0.0	0.0
Prop In Lane	0.05		0.10	0.15		0.01	0.37		1.00	0.05		0.14
Lane Grp Cap(c), veh/h	1132	0	0	1068	0	0	423	0	309	430	0	0
V/C Ratio(X)	0.51	0.00	0.00	0.59	0.00	0.00	0.31	0.00	0.32	0.36	0.00	0.00
Avail Cap(c_a), veh/h	1132	0	0	1068	0	0	471	0	356	484	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.4	0.0	0.0	7.6	0.0	0.0	20.7	0.0	20.5	21.0	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	0.0	2.4	0.0	0.0	0.4	0.0	0.6	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.7	0.0	0.0	0.4	0.0	0.3	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.1	0.0	0.0	10.0	0.0	0.0	21.1	0.0	21.1	21.5	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	C	A	C	C	A	A
Approach Vol, veh/h		581			627			232				154
Approach Delay, s/veh		9.1			10.0			21.1				21.5
Approach LOS		A			B			C				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.8		18.2		41.8		18.2				
Change Period (Y+Rc), s		6.6		6.2		6.6		6.2				
Max Green Setting (Gmax), s		33.4		13.8		33.4		13.8				
Max Q Clear Time (g_c+I1), s		13.2		6.3		14.5		5.6				
Green Ext Time (p_c), s		4.8		0.5		5.3		0.8				

Intersection Summary

HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	470	22	39	535	43	92
Future Vol, veh/h	470	22	39	535	43	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	30	55	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	485	23	40	552	44	95

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	508	0	1117
Stage 1	-	-	-	-	485
Stage 2	-	-	-	-	632
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1067	-	231
Stage 1	-	-	-	-	623
Stage 2	-	-	-	-	534
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1067	-	222
Mov Cap-2 Maneuver	-	-	-	-	222
Stage 1	-	-	-	-	623
Stage 2	-	-	-	-	514

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	16.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	222	586	-	-	1067	-
HCM Lane V/C Ratio	0.2	0.162	-	-	0.038	-
HCM Control Delay (s)	25.2	12.3	-	-	8.5	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	0.6	-	-	0.1	-

Queues

1: Creditview Road & Mayfield Road

10-01-2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕		↕	↕		↕
Traffic Volume (vph)	15	579	121	403	51	92	124	13	124
Future Volume (vph)	15	579	121	403	51	92	124	13	124
Lane Group Flow (vph)	0	686	0	552	0	149	129	0	183
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		2		6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phase	2	2	6	6	8	8	8	4	4
Switch Phase									
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	31.6	31.6	31.6	31.6	31.2	31.2	31.2	31.2	31.2
Total Split (s)	40.0	40.0	40.0	40.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	66.7%	66.7%	66.7%	66.7%	33.3%	33.3%	33.3%	33.3%	33.3%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0	0.0		0.0
Total Lost Time (s)		6.6		6.6		6.2	6.2		6.2
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None
v/c Ratio		0.57		0.59		0.47	0.31		0.48
Control Delay		10.2		11.8		26.1	6.7		22.8
Queue Delay		0.0		0.0		0.0	0.0		0.0
Total Delay		10.2		11.8		26.1	6.7		22.8
Queue Length 50th (m)		44.7		37.9		15.4	0.0		16.6
Queue Length 95th (m)		82.9		76.8		30.0	11.5		32.3
Internal Link Dist (m)		308.9		183.6		258.3			276.9
Turn Bay Length (m)							15.0		
Base Capacity (vph)		1210		931		350	445		419
Starvation Cap Reductn		0		0		0	0		0
Spillback Cap Reductn		0		0		0	0		0
Storage Cap Reductn		0		0		0	0		0
Reduced v/c Ratio		0.57		0.59		0.43	0.29		0.44

Intersection Summary

Cycle Length: 60

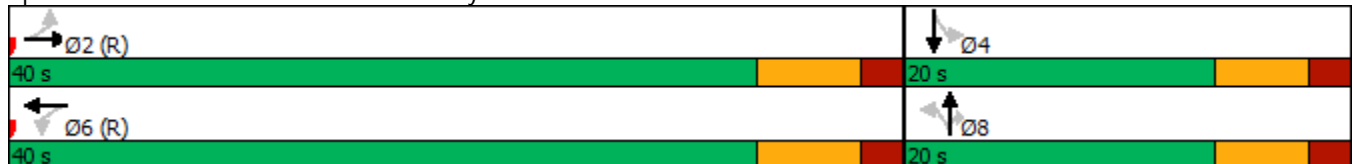
Actuated Cycle Length: 60

Offset: 22.5 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Splits and Phases: 1: Creditview Road & Mayfield Road



HCM 6th Signalized Intersection Summary

1: Creditview Road & Mayfield Road

10-01-2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	
Traffic Volume (veh/h)	15	579	64	121	403	6	51	92	124	13	124	38
Future Volume (veh/h)	15	579	64	121	403	6	51	92	124	13	124	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1824	1900	1824	1824	1900	1824	1824	1900	1824	1824	1900	1824
Adj Flow Rate, veh/h	16	603	67	126	420	6	53	96	129	14	129	40
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	71	972	106	231	734	10	166	260	309	77	268	78
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	16	1656	181	268	1251	17	425	1300	1546	61	1339	392
Grp Volume(v), veh/h	686	0	0	552	0	0	149	0	129	183	0	0
Grp Sat Flow(s),veh/h/ln	1853	0	0	1536	0	0	1725	0	1546	1792	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.4	0.0	0.0	11.6	0.0	0.0	4.1	0.0	4.4	5.3	0.0	0.0
Prop In Lane	0.02		0.10	0.23		0.01	0.36		1.00	0.08		0.22
Lane Grp Cap(c), veh/h	1148	0	0	975	0	0	426	0	309	423	0	0
V/C Ratio(X)	0.60	0.00	0.00	0.57	0.00	0.00	0.35	0.00	0.42	0.43	0.00	0.00
Avail Cap(c_a), veh/h	1148	0	0	975	0	0	474	0	356	475	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.1	0.0	0.0	7.3	0.0	0.0	20.8	0.0	21.0	21.3	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.0	2.4	0.0	0.0	0.5	0.0	0.9	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	0.6	0.0	0.0	0.5	0.0	0.5	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.4	0.0	0.0	9.7	0.0	0.0	21.3	0.0	21.9	22.0	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C	A	C	C	A	A
Approach Vol, veh/h		686			552			278				183
Approach Delay, s/veh		10.4			9.7			21.6				22.0
Approach LOS		B			A			C				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.8		18.2		41.8		18.2				
Change Period (Y+Rc), s		6.6		6.2		6.6		6.2				
Max Green Setting (Gmax), s		33.4		13.8		33.4		13.8				
Max Q Clear Time (g_c+l1), s		16.4		7.3		13.6		6.4				
Green Ext Time (p_c), s		5.4		0.6		5.0		0.9				

Intersection Summary

HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection						
Int Delay, s/veh	2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	630	51	82	412	25	70
Future Vol, veh/h	630	51	82	412	25	70
Conflicting Peds, #/hr	0	7	7	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	30	55	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	649	53	85	425	26	72

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	709	0	1251
Stage 1	-	-	-	-	656
Stage 2	-	-	-	-	595
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	899	-	192
Stage 1	-	-	-	-	520
Stage 2	-	-	-	-	555
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	895	-	173
Mov Cap-2 Maneuver	-	-	-	-	173
Stage 1	-	-	-	-	517
Stage 2	-	-	-	-	502

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	18.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	173	467	-	-	895	-
HCM Lane V/C Ratio	0.149	0.155	-	-	0.094	-
HCM Control Delay (s)	29.4	14.1	-	-	9.4	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	0.5	-	-	0.3	-

Queues

1: Creditview Road & Mayfield Road

10-01-2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕		↕	↕		↕
Traffic Volume (vph)	24	485	119	397	26	81	103	4	75
Future Volume (vph)	24	485	119	397	26	81	103	4	75
Lane Group Flow (vph)	0	570	0	543	0	111	106	0	105
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		2		6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phase	2	2	6	6	8	8	8	4	4
Switch Phase									
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	31.6	31.6	31.6	31.6	31.2	31.2	31.2	31.2	31.2
Total Split (s)	40.0	40.0	40.0	40.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	66.7%	66.7%	66.7%	66.7%	33.3%	33.3%	33.3%	33.3%	33.3%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0	0.0		0.0
Total Lost Time (s)		6.6		6.6		6.2	6.2		6.2
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None
v/c Ratio		0.47		0.56		0.33	0.27		0.28
Control Delay		8.5		10.7		23.5	7.1		18.6
Queue Delay		0.0		0.0		0.0	0.0		0.0
Total Delay		8.5		10.7		23.5	7.1		18.6
Queue Length 50th (m)		34.0		36.1		11.1	0.0		8.0
Queue Length 95th (m)		59.9		68.8		23.4	10.6		19.3
Internal Link Dist (m)		308.9		183.6		258.3			276.9
Turn Bay Length (m)							15.0		
Base Capacity (vph)		1202		965		383	428		427
Starvation Cap Reductn		0		0		0	0		0
Spillback Cap Reductn		0		0		0	0		0
Storage Cap Reductn		0		0		0	0		0
Reduced v/c Ratio		0.47		0.56		0.29	0.25		0.25

Intersection Summary

Cycle Length: 60

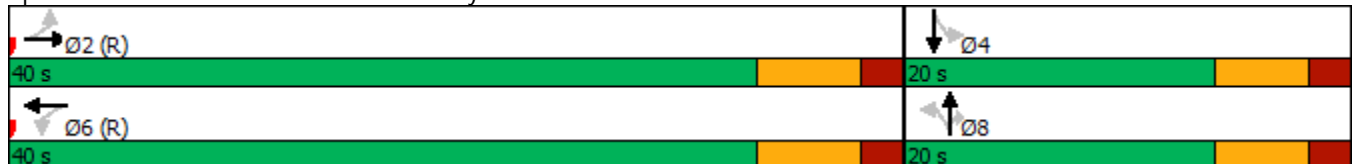
Actuated Cycle Length: 60

Offset: 22.5 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 1: Creditview Road & Mayfield Road



HCM 6th Signalized Intersection Summary

1: Creditview Road & Mayfield Road

10-01-2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑	↗		↔	
Traffic Volume (veh/h)	24	485	44	119	397	11	26	81	103	4	75	23
Future Volume (veh/h)	24	485	44	119	397	11	26	81	103	4	75	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1824	1900	1824	1824	1900	1824	1824	1900	1824	1824	1900	1824
Adj Flow Rate, veh/h	25	500	45	123	409	11	27	84	106	4	77	24
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	83	975	85	240	762	19	123	310	308	67	275	83
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	35	1660	145	283	1298	33	241	1551	1542	21	1377	414
Grp Volume(v), veh/h	570	0	0	543	0	0	111	0	106	105	0	0
Grp Sat Flow(s),veh/h/ln	1841	0	0	1614	0	0	1792	0	1542	1812	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.8	0.0	0.0	10.1	0.0	0.0	3.0	0.0	3.5	2.9	0.0	0.0
Prop In Lane	0.04		0.08	0.23		0.02	0.24		1.00	0.04		0.23
Lane Grp Cap(c), veh/h	1143	0	0	1021	0	0	432	0	308	424	0	0
V/C Ratio(X)	0.50	0.00	0.00	0.53	0.00	0.00	0.26	0.00	0.34	0.25	0.00	0.00
Avail Cap(c_a), veh/h	1143	0	0	1021	0	0	484	0	355	478	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.4	0.0	0.0	7.2	0.0	0.0	20.4	0.0	20.6	20.4	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	2.0	0.0	0.0	0.3	0.0	0.7	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.6	0.0	0.0	0.4	0.0	0.4	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.9	0.0	0.0	9.2	0.0	0.0	20.7	0.0	21.3	20.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	C	C	A	A
Approach Vol, veh/h		570			543			217			105	
Approach Delay, s/veh		8.9			9.2			21.0			20.7	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.8		18.2		41.8		18.2				
Change Period (Y+Rc), s		6.6		6.2		6.6		6.2				
Max Green Setting (Gmax), s		33.4		13.8		33.4		13.8				
Max Q Clear Time (g_c+l1), s		12.8		4.9		12.1		5.5				
Green Ext Time (p_c), s		4.6		0.3		4.9		0.7				

Intersection Summary

HCM 6th Ctrl Delay	11.7
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	506	34	86	395	23	79
Future Vol, veh/h	506	34	86	395	23	79
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	30	55	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	550	37	93	429	25	86

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	589	0	1167
Stage 1	-	-	-	-	552
Stage 2	-	-	-	-	615
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	996	-	216
Stage 1	-	-	-	-	581
Stage 2	-	-	-	-	543
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	995	-	196
Mov Cap-2 Maneuver	-	-	-	-	196
Stage 1	-	-	-	-	580
Stage 2	-	-	-	-	493

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	15.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	196	536	-	-	995	-
HCM Lane V/C Ratio	0.128	0.16	-	-	0.094	-
HCM Control Delay (s)	26	13	-	-	9	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	0.6	-	-	0.3	-



APPENDIX G

**Future Background (2029)
Intersection Capacity Analysis**

Queues

1: Creditview Road & Mayfield Road

10-01-2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↗	↗↗↗	↖	↗↗	↖	↗↗	↖	↗↗
Traffic Volume (vph)	26	1054	98	1371	47	88	8	131
Future Volume (vph)	26	1054	98	1371	47	88	8	131
Lane Group Flow (vph)	27	1170	103	1447	49	202	8	161
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	31.6	31.6	31.6	31.6	31.2	31.2	31.2	31.2
Total Split (s)	40.0	40.0	40.0	40.0	20.0	20.0	20.0	20.0
Total Split (%)	66.7%	66.7%	66.7%	66.7%	33.3%	33.3%	33.3%	33.3%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.2	4.2	4.2	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6	6.6	6.6	6.6	6.2	6.2	6.2	6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.21	0.39	0.45	0.69	0.21	0.28	0.04	0.22
Control Delay	10.9	7.0	14.7	10.8	22.9	14.0	20.0	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.9	7.0	14.7	10.8	22.9	14.0	20.0	18.1
Queue Length 50th (m)	1.3	22.6	5.8	53.5	4.8	6.3	0.8	7.0
Queue Length 95th (m)	5.7	30.3	18.7	74.5	13.0	14.3	3.9	14.2
Internal Link Dist (m)		308.9		183.6		258.3		276.9
Turn Bay Length (m)	50.0		30.0		30.0		34.0	
Base Capacity (vph)	127	2994	231	2094	265	813	254	821
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.39	0.45	0.69	0.18	0.25	0.03	0.20

Intersection Summary

Cycle Length: 60

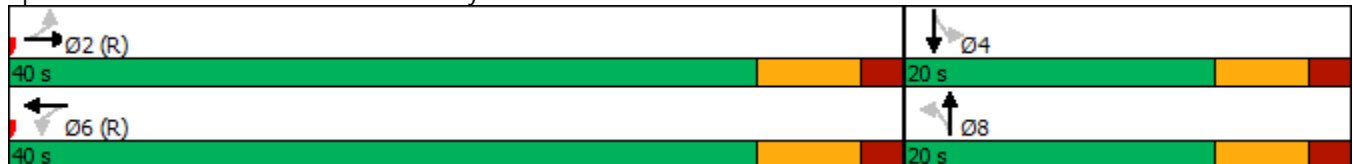
Actuated Cycle Length: 60

Offset: 22.5 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 1: Creditview Road & Mayfield Road



HCM 6th Signalized Intersection Summary

1: Creditview Road & Mayfield Road

10-01-2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↑↑↑		↵	↑↑		↵	↑↑		↵	↑↑	
Traffic Volume (veh/h)	26	1054	58	98	1371	4	47	88	104	8	131	22
Future Volume (veh/h)	26	1054	58	98	1371	4	47	88	104	8	131	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1824	1900	1824	1824	1900	1824	1824	1900	1824	1824	1900	1824
Adj Flow Rate, veh/h	27	1109	61	103	1443	4	49	93	109	8	138	23
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	236	2953	162	340	2167	6	313	361	322	283	621	101
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	359	5032	277	468	3693	10	1195	1805	1610	1151	3106	508
Grp Volume(v), veh/h	27	762	408	103	705	742	49	93	109	8	79	82
Grp Sat Flow(s),veh/h/ln	359	1729	1850	468	1805	1898	1195	1805	1610	1151	1805	1809
Q Serve(g_s), s	3.3	7.0	7.0	9.0	15.9	15.9	2.2	2.6	3.5	0.4	2.2	2.3
Cycle Q Clear(g_c), s	19.2	7.0	7.0	16.0	15.9	15.9	4.4	2.6	3.5	3.8	2.2	2.3
Prop In Lane	1.00		0.15	1.00		0.01	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	236	2029	1086	340	1059	1114	313	361	322	283	361	361
V/C Ratio(X)	0.11	0.38	0.38	0.30	0.67	0.67	0.16	0.26	0.34	0.03	0.22	0.23
Avail Cap(c_a), veh/h	236	2029	1086	340	1059	1114	349	415	370	318	415	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.9	6.6	6.6	10.8	8.4	8.4	22.0	20.3	20.6	22.3	20.1	20.1
Incr Delay (d2), s/veh	1.0	0.5	1.0	2.3	3.3	3.2	0.2	0.4	0.6	0.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.3	0.2	1.0	1.0	0.2	0.3	0.4	0.0	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.9	7.1	7.6	13.1	11.7	11.6	22.2	20.6	21.2	22.3	20.4	20.4
LnGrp LOS	B	A	A	B	B	B	C	C	C	C	C	C
Approach Vol, veh/h		1197			1550			251			169	
Approach Delay, s/veh		7.5			11.7			21.2			20.5	
Approach LOS		A			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.8		18.2		41.8		18.2				
Change Period (Y+Rc), s		6.6		6.2		6.6		6.2				
Max Green Setting (Gmax), s		33.4		13.8		33.4		13.8				
Max Q Clear Time (g_c+I1), s		21.2		5.8		18.0		6.4				
Green Ext Time (p_c), s		7.2		0.6		11.0		0.9				

Intersection Summary

HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection						
Int Delay, s/veh	2.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	1056	22	39	1407	43	92
Future Vol, veh/h	1056	22	39	1407	43	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	63	40	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1089	23	40	1451	44	95

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1112	0	1895
Stage 1	-	-	-	-	1089
Stage 2	-	-	-	-	806
Critical Hdwy	-	-	5.3	-	6.25
Critical Hdwy Stg 1	-	-	-	-	6.6
Critical Hdwy Stg 2	-	-	-	-	5.8
Follow-up Hdwy	-	-	3.1	-	3.65
Pot Cap-1 Maneuver	-	-	351	-	83
Stage 1	-	-	-	-	221
Stage 2	-	-	-	-	394
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	351	-	74
Mov Cap-2 Maneuver	-	-	-	-	74
Stage 1	-	-	-	-	221
Stage 2	-	-	-	-	349

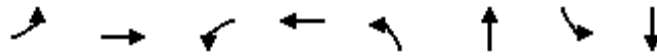
Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	45.8
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	74	417	-	-	351	-
HCM Lane V/C Ratio	0.599	0.227	-	-	0.115	-
HCM Control Delay (s)	109.2	16.2	-	-	16.6	-
HCM Lane LOS	F	C	-	-	C	-
HCM 95th %tile Q(veh)	2.6	0.9	-	-	0.4	-

Queues

1: Creditview Road & Mayfield Road

10-01-2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↖	↕
Traffic Volume (vph)	15	1396	134	967	51	102	13	137
Future Volume (vph)	15	1396	134	967	51	102	13	137
Lane Group Flow (vph)	16	1521	140	1013	53	249	14	187
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	31.6	31.6	31.6	31.6	31.2	31.2	31.2	31.2
Total Split (s)	40.0	40.0	40.0	40.0	20.0	20.0	20.0	20.0
Total Split (%)	66.7%	66.7%	66.7%	66.7%	33.3%	33.3%	33.3%	33.3%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.2	4.2	4.2	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6	6.6	6.6	6.6	6.2	6.2	6.2	6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.06	0.51	0.98	0.48	0.24	0.37	0.07	0.26
Control Delay	6.1	7.9	92.2	8.1	23.3	19.8	20.5	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	7.9	92.2	8.1	23.3	19.8	20.5	16.4
Queue Length 50th (m)	0.7	32.7	13.6	31.0	5.2	11.4	1.3	7.3
Queue Length 95th (m)	2.9	42.8	#31.5	43.9	13.8	20.6	5.5	15.0
Internal Link Dist (m)		308.9		183.6		258.3		276.9
Turn Bay Length (m)	50.0		30.0		30.0		34.0	
Base Capacity (vph)	262	2993	143	2091	258	775	243	826
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.51	0.98	0.48	0.21	0.32	0.06	0.23

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 22.5 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Creditview Road & Mayfield Road



HCM 6th Signalized Intersection Summary

1: Creditview Road & Mayfield Road

10-01-2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↓		↗	↑↑		↗	↑↑		↗	↑↑	
Traffic Volume (veh/h)	15	1396	64	134	967	6	51	102	137	13	137	42
Future Volume (veh/h)	15	1396	64	134	967	6	51	102	137	13	137	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1824	1900	1824	1824	1900	1824	1824	1900	1824	1824	1900	1824
Adj Flow Rate, veh/h	16	1454	67	140	1007	6	53	106	143	14	143	44
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	354	2981	137	261	2159	13	300	361	322	255	548	163
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	543	5082	234	334	3679	22	1167	1805	1610	1103	2742	816
Grp Volume(v), veh/h	16	989	532	140	494	519	53	106	143	14	92	95
Grp Sat Flow(s),veh/h/ln	543	1729	1858	334	1805	1896	1167	1805	1610	1103	1805	1753
Q Serve(g_s), s	1.0	9.9	9.9	25.0	9.3	9.3	2.4	3.0	4.7	0.7	2.6	2.7
Cycle Q Clear(g_c), s	10.4	9.9	9.9	35.0	9.3	9.3	5.2	3.0	4.7	5.4	2.6	2.7
Prop In Lane	1.00		0.13	1.00		0.01	1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h	354	2029	1090	261	1059	1112	300	361	322	255	361	351
V/C Ratio(X)	0.05	0.49	0.49	0.54	0.47	0.47	0.18	0.29	0.44	0.06	0.26	0.27
Avail Cap(c_a), veh/h	354	2029	1090	261	1059	1112	335	415	370	288	415	403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.0	7.2	7.2	17.3	7.1	7.1	22.5	20.4	21.1	23.4	20.2	20.3
Incr Delay (d2), s/veh	0.2	0.8	1.6	7.7	1.5	1.4	0.3	0.4	1.0	0.1	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.5	0.6	0.4	0.4	0.2	0.4	0.5	0.1	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.2	8.0	8.7	25.0	8.5	8.5	22.8	20.8	22.0	23.5	20.6	20.7
LnGrp LOS	B	A	A	C	A	A	C	C	C	C	C	C
Approach Vol, veh/h		1537			1153			302			201	
Approach Delay, s/veh		8.3			10.5			21.7			20.9	
Approach LOS		A			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.8		18.2		41.8		18.2				
Change Period (Y+Rc), s		6.6		6.2		6.6		6.2				
Max Green Setting (Gmax), s		33.4		13.8		33.4		13.8				
Max Q Clear Time (g_c+I1), s		12.4		7.4		37.0		7.2				
Green Ext Time (p_c), s		12.9		0.6		0.0		1.0				

Intersection Summary

HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection						
Int Delay, s/veh	4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	1453	51	82	977	25	70
Future Vol, veh/h	1453	51	82	977	25	70
Conflicting Peds, #/hr	0	7	7	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	63	40	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1498	53	85	1007	26	72

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1558	0	2179
Stage 1	-	-	-	-	1505
Stage 2	-	-	-	-	674
Critical Hdwy	-	-	5.3	-	6.25
Critical Hdwy Stg 1	-	-	-	-	6.6
Critical Hdwy Stg 2	-	-	-	-	5.8
Follow-up Hdwy	-	-	3.1	-	3.65
Pot Cap-1 Maneuver	-	-	213	-	56
Stage 1	-	-	-	-	122
Stage 2	-	-	-	-	460
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	212	-	33
Mov Cap-2 Maneuver	-	-	-	-	33
Stage 1	-	-	-	-	121
Stage 2	-	-	-	-	276

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	85.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	33	302	-	-	212	-
HCM Lane V/C Ratio	0.781	0.239	-	-	0.399	-
HCM Control Delay (s)	266.7	20.6	-	-	32.8	-
HCM Lane LOS	F	C	-	-	D	-
HCM 95th %tile Q(veh)	2.7	0.9	-	-	1.8	-

Queues

1: Creditview Road & Mayfield Road

10-01-2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↖	↕
Traffic Volume (vph)	24	1223	131	1170	26	89	4	83
Future Volume (vph)	24	1223	131	1170	26	89	4	83
Lane Group Flow (vph)	25	1306	135	1217	27	210	4	112
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	31.6	31.6	31.6	31.6	31.2	31.2	31.2	31.2
Total Split (s)	40.0	40.0	40.0	40.0	20.0	20.0	20.0	20.0
Total Split (%)	66.7%	66.7%	66.7%	66.7%	33.3%	33.3%	33.3%	33.3%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.2	4.2	4.2	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6	6.6	6.6	6.6	6.2	6.2	6.2	6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.13	0.44	0.70	0.58	0.11	0.30	0.02	0.16
Control Delay	7.6	7.4	33.5	9.2	21.1	16.6	19.8	16.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	7.4	33.5	9.2	21.1	16.6	19.8	16.5
Queue Length 50th (m)	1.1	26.5	9.6	40.5	2.6	8.1	0.4	4.3
Queue Length 95th (m)	4.5	34.9	#39.4	56.7	8.4	16.4	2.5	10.2
Internal Link Dist (m)		308.9		183.6		258.3		276.9
Turn Bay Length (m)	50.0		30.0		30.0		34.0	
Base Capacity (vph)	191	3000	193	2092	277	792	252	810
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.44	0.70	0.58	0.10	0.27	0.02	0.14

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 22.5 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

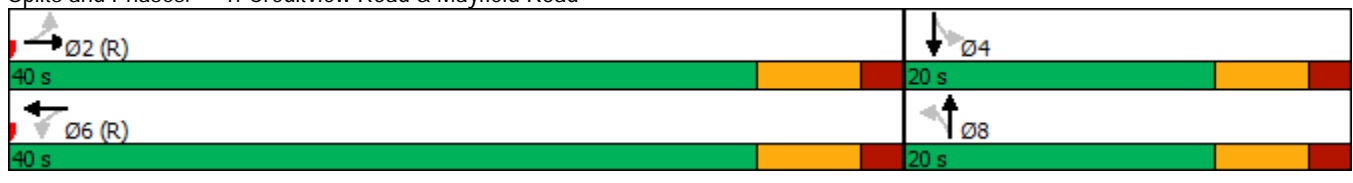
Natural Cycle: 90

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Creditview Road & Mayfield Road



HCM 6th Signalized Intersection Summary

1: Creditview Road & Mayfield Road

10-01-2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↓		↖	↑↑		↖	↑↑		↖	↑↑	
Traffic Volume (veh/h)	24	1223	44	131	1170	11	26	89	114	4	83	25
Future Volume (veh/h)	24	1223	44	131	1170	11	26	89	114	4	83	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1824	1900	1824	1824	1900	1824	1824	1900	1824	1824	1900	1824
Adj Flow Rate, veh/h	25	1261	45	135	1206	11	27	92	118	4	86	26
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	292	3017	108	306	2151	20	336	361	321	276	552	160
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	447	5142	183	411	3666	33	1248	1805	1608	1142	2758	801
Grp Volume(v), veh/h	25	848	458	135	594	623	27	92	118	4	55	57
Grp Sat Flow(s),veh/h/ln	447	1729	1867	411	1805	1894	1248	1805	1608	1142	1805	1754
Q Serve(g_s), s	2.2	8.1	8.1	16.1	12.2	12.2	1.1	2.6	3.8	0.2	1.5	1.6
Cycle Q Clear(g_c), s	14.3	8.1	8.1	24.1	12.2	12.2	2.7	2.6	3.8	4.0	1.5	1.6
Prop In Lane	1.00		0.10	1.00		0.02	1.00		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	292	2029	1095	306	1059	1111	336	361	321	276	361	351
V/C Ratio(X)	0.09	0.42	0.42	0.44	0.56	0.56	0.08	0.25	0.37	0.01	0.15	0.16
Avail Cap(c_a), veh/h	292	2029	1095	306	1059	1111	373	415	370	310	415	404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.1	6.8	6.8	13.4	7.6	7.6	21.0	20.2	20.7	22.4	19.8	19.8
Incr Delay (d2), s/veh	0.6	0.6	1.2	4.6	2.1	2.0	0.1	0.4	0.7	0.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.4	0.4	0.6	0.6	0.1	0.3	0.4	0.0	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.6	7.4	8.0	18.0	9.8	9.7	21.1	20.6	21.4	22.5	20.0	20.1
LnGrp LOS	B	A	A	B	A	A	C	C	C	C	C	C
Approach Vol, veh/h		1331			1352			237			116	
Approach Delay, s/veh		7.7			10.6			21.1			20.1	
Approach LOS		A			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.8		18.2		41.8		18.2				
Change Period (Y+Rc), s		6.6		6.2		6.6		6.2				
Max Green Setting (Gmax), s		33.4		13.8		33.4		13.8				
Max Q Clear Time (g_c+I1), s		16.3		6.0		26.1		5.8				
Green Ext Time (p_c), s		9.9		0.3		5.5		0.9				

Intersection Summary

HCM 6th Ctrl Delay	10.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection

Int Delay, s/veh 3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↘	↑↑	↘	↗
Traffic Vol, veh/h	1247	34	86	1168	23	79
Future Vol, veh/h	1247	34	86	1168	23	79
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	63	40	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1355	37	93	1270	25	86

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1394
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	5.3
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.1
Pot Cap-1 Maneuver	-	-	256
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	256
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	65.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	36	341	-	-	256	-
HCM Lane V/C Ratio	0.694	0.252	-	-	0.365	-
HCM Control Delay (s)	225.9	19.1	-	-	26.9	-
HCM Lane LOS	F	C	-	-	D	-
HCM 95th %tile Q(veh)	2.5	1	-	-	1.6	-



APPENDIX H

**Future Total (2029)
Intersection Capacity Analysis**

Queues

1: Creditview Road & Mayfield Road

10-01-2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↖	↕
Traffic Volume (vph)	45	1088	98	1437	47	171	42	181
Future Volume (vph)	45	1088	98	1437	47	171	42	181
Lane Group Flow (vph)	47	1206	103	1587	49	289	44	214
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	31.6	31.6	31.6	31.6	31.2	31.2	31.2	31.2
Total Split (s)	40.0	40.0	40.0	40.0	20.0	20.0	20.0	20.0
Total Split (%)	66.7%	66.7%	66.7%	66.7%	33.3%	33.3%	33.3%	33.3%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.2	4.2	4.2	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6	6.6	6.6	6.6	6.2	6.2	6.2	6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.27	0.40	0.84	0.76	0.27	0.42	0.24	0.30
Control Delay	11.0	7.9	66.9	12.3	24.8	21.5	24.2	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.0	7.9	66.9	12.3	24.8	21.5	24.2	19.7
Queue Length 50th (m)	3.3	33.9	8.5	62.0	4.9	14.3	4.3	10.1
Queue Length 95th (m)	8.7	40.7	#36.7	88.5	13.4	24.4	12.4	18.4
Internal Link Dist (m)		137.9		183.6		293.9		119.3
Turn Bay Length (m)	50.0		30.0		30.0		34.0	
Base Capacity (vph)	177	2995	123	2075	208	793	206	823
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.40	0.84	0.76	0.24	0.36	0.21	0.26

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

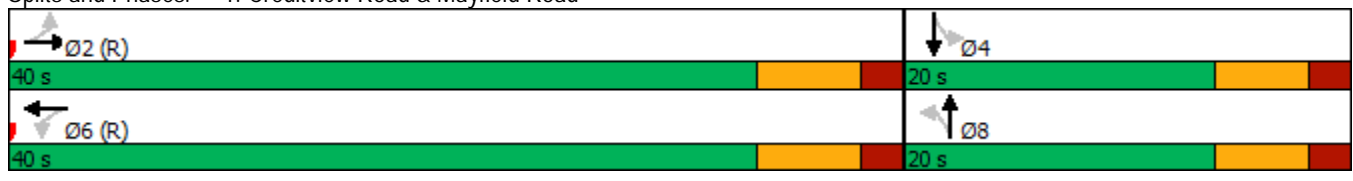
Natural Cycle: 75

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Creditview Road & Mayfield Road



HCM 6th Signalized Intersection Summary

1: Creditview Road & Mayfield Road

10-01-2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↑↑↓		↵	↑↑↓		↵	↑↑↓		↵	↑↑↓	
Traffic Volume (veh/h)	45	1088	58	98	1437	70	47	171	104	42	181	22
Future Volume (veh/h)	45	1088	58	98	1437	70	47	171	104	42	181	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1824	1900	1824	1824	1900	1824	1824	1900	1824	1824	1900	1824
Adj Flow Rate, veh/h	47	1145	61	103	1513	74	49	180	109	44	191	23
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	205	2958	157	330	2055	100	290	441	254	253	650	77
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	314	5041	268	452	3503	171	1138	2206	1271	1063	3249	386
Grp Volume(v), veh/h	47	785	421	103	777	810	49	146	143	44	105	109
Grp Sat Flow(s),veh/h/ln	314	1729	1852	452	1805	1869	1138	1805	1671	1063	1805	1830
Q Serve(g_s), s	7.7	7.3	7.3	9.5	18.7	19.0	2.3	4.2	4.5	2.3	3.0	3.0
Cycle Q Clear(g_c), s	26.7	7.3	7.3	16.8	18.7	19.0	5.3	4.2	4.5	6.8	3.0	3.0
Prop In Lane	1.00		0.14	1.00		0.09	1.00		0.76	1.00		0.21
Lane Grp Cap(c), veh/h	205	2029	1086	330	1059	1097	290	361	334	253	361	366
V/C Ratio(X)	0.23	0.39	0.39	0.31	0.73	0.74	0.17	0.40	0.43	0.17	0.29	0.30
Avail Cap(c_a), veh/h	205	2029	1086	330	1059	1097	324	415	384	285	415	421
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	6.6	6.6	11.1	9.0	9.0	22.7	20.9	21.0	24.0	20.4	20.4
Incr Delay (d2), s/veh	2.6	0.6	1.0	2.5	4.5	4.5	0.3	0.7	0.9	0.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.3	0.2	1.3	1.4	0.2	0.5	0.5	0.2	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.4	7.2	7.7	13.6	13.5	13.5	23.0	21.6	21.9	24.3	20.8	20.9
LnGrp LOS	C	A	A	B	B	B	C	C	C	C	C	C
Approach Vol, veh/h		1253			1690			338			258	
Approach Delay, s/veh		7.9			13.5			21.9			21.4	
Approach LOS		A			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.8		18.2		41.8		18.2				
Change Period (Y+Rc), s		6.6		6.2		6.6		6.2				
Max Green Setting (Gmax), s		33.4		13.8		33.4		13.8				
Max Q Clear Time (g_c+l1), s		28.7		8.8		21.0		7.3				
Green Ext Time (p_c), s		3.5		0.7		9.9		1.2				

Intersection Summary

HCM 6th Ctrl Delay	12.9
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Queues

2: Robert Parkinson Drive/South Site Access 2 (Street 'G') & Mayfield Road

10-01-2024

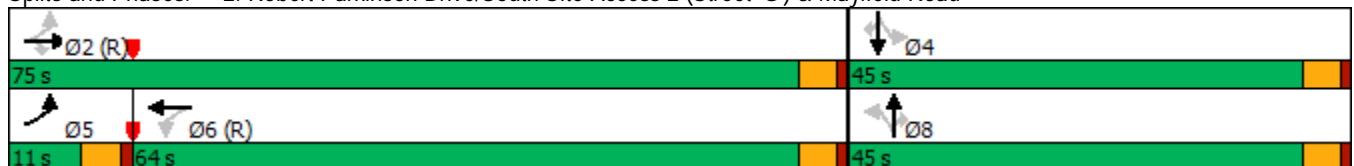


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑		↖	↗		↖	↗
Traffic Volume (vph)	19	1075	22	39	1465	43	0	92	34	0	24
Future Volume (vph)	19	1075	22	39	1465	43	0	92	34	0	24
Lane Group Flow (vph)	20	1108	23	40	1510	0	44	95	0	35	25
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6		8			4	
Permitted Phases	2		2	6		8		8	4		4
Detector Phase	5	2	2	6	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	11.0	75.0	75.0	64.0	64.0	45.0	45.0	45.0	45.0	45.0	45.0
Total Split (%)	9.2%	62.5%	62.5%	53.3%	53.3%	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5
Lead/Lag	Lead			Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None	None
v/c Ratio	0.07	0.25	0.02	0.11	0.52		0.42	0.48		0.33	0.15
Control Delay	2.3	2.1	0.8	1.7	2.6		63.3	20.2		59.6	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	2.3	2.1	0.8	1.7	2.6		63.3	20.2		59.6	3.7
Queue Length 50th (m)	0.6	14.1	0.0	0.3	5.3		10.6	1.4		8.4	0.0
Queue Length 95th (m)	2.0	22.4	1.4	m1.6	94.6		22.6	17.9		18.8	1.8
Internal Link Dist (m)		157.3			147.0		205.6			102.6	
Turn Bay Length (m)	63.0		63.0	40.0							
Base Capacity (vph)	283	4346	1280	352	2901		465	567		461	545
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.07	0.25	0.02	0.11	0.52		0.09	0.17		0.08	0.05

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Robert Parkinson Drive/South Site Access 2 (Street 'G') & Mayfield Road



HCM 6th Signalized Intersection Summary

2: Robert Parkinson Drive/South Site Access 2 (Street 'G') & Mayfield Road

10-01-2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑			↖	↗		↖	↗
Traffic Volume (veh/h)	19	1075	22	39	1465	0	43	0	92	34	0	24
Future Volume (veh/h)	19	1075	22	39	1465	0	43	0	92	34	0	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1824	1900	1824	1824	1900	1824	1824	1900	1824	1824	1900	1824
Adj Flow Rate, veh/h	20	1108	23	40	1510	0	44	0	95	35	0	25
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	167	3065	914	297	1925	0	68	0	516	67	0	516
Arrive On Green	0.02	0.59	0.59	0.53	0.53	0.00	0.33	0.00	0.33	0.33	0.00	0.33
Sat Flow, veh/h	1737	5187	1546	485	3705	0	24	0	1546	22	0	1546
Grp Volume(v), veh/h	20	1108	23	40	1510	0	44	0	95	35	0	25
Grp Sat Flow(s),veh/h/ln	1737	1729	1546	485	1805	0	24	0	1546	22	0	1546
Q Serve(g_s), s	0.6	13.3	0.7	5.5	40.3	0.0	0.7	0.0	5.2	0.7	0.0	1.3
Cycle Q Clear(g_c), s	0.6	13.3	0.7	10.9	40.3	0.0	40.1	0.0	5.2	40.1	0.0	1.3
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	167	3065	914	297	1925	0	68	0	516	67	0	516
V/C Ratio(X)	0.12	0.36	0.03	0.13	0.78	0.00	0.65	0.00	0.18	0.52	0.00	0.05
Avail Cap(c_a), veh/h	225	3065	914	297	1925	0	73	0	522	72	0	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.5	12.8	10.2	17.1	22.5	0.0	59.9	0.0	28.4	59.9	0.0	27.0
Incr Delay (d2), s/veh	0.3	0.3	0.1	0.9	3.3	0.0	16.8	0.0	0.2	6.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.5	0.1	0.4	7.4	0.0	1.3	0.0	1.2	0.9	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	13.1	10.2	18.0	25.8	0.0	76.7	0.0	28.5	66.0	0.0	27.1
LnGrp LOS	B	B	B	B	C	A	E	A	C	E	A	C
Approach Vol, veh/h		1151			1550			139				60
Approach Delay, s/veh		13.1			25.6			43.8				49.8
Approach LOS		B			C			D				D
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		75.2		44.8	6.9	68.3		44.8				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		70.5		40.5	6.5	59.5		40.5				
Max Q Clear Time (g_c+l1), s		15.3		42.1	2.6	42.3		42.1				
Green Ext Time (p_c), s		13.4		0.0	0.0	12.2		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				22.0								
HCM 6th LOS				C								

HCM 6th TWSC
 3: Mayfield Road & South Site Access 1

10-01-2024

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑			↑
Traffic Vol, veh/h	0	1117	1499	34	0	26
Future Vol, veh/h	0	1117	1499	34	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1152	1545	35	0	27

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 790
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 6.9
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.3
Pot Cap-1 Maneuver	0	-	- 0 337
Stage 1	0	-	- 0 -
Stage 2	0	-	- 0 -
Platoon blocked, %	-	-	- - -
Mov Cap-1 Maneuver	-	-	- - 337
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.6
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	337
HCM Lane V/C Ratio	-	-	-	0.08
HCM Control Delay (s)	-	-	-	16.6
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.3

HCM 6th TWSC
 4: Mayfield Road & South Site Access 3

10-01-2024

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑			↑
Traffic Vol, veh/h	0	1201	1480	34	0	24
Future Vol, veh/h	0	1201	1480	34	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1264	1558	36	0	25

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.7
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	334
HCM Lane V/C Ratio	-	-	-	0.076
HCM Control Delay (s)	-	-	-	16.7
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.2

HCM 6th TWSC
 5: Creditview Road & East Site Access 1

10-01-2024

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	0	42	168	118	161	0
Future Vol, veh/h	0	42	168	118	161	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	44	177	124	169	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	585	85	169	0	0
Stage 1	169	-	-	-	-
Stage 2	416	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	447	963	1421	-	-
Stage 1	850	-	-	-	-
Stage 2	640	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	387	963	1421	-	-
Mov Cap-2 Maneuver	387	-	-	-	-
Stage 1	736	-	-	-	-
Stage 2	640	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	4.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1421	-	963	-	-
HCM Lane V/C Ratio	0.124	-	0.046	-	-
HCM Control Delay (s)	7.9	0.1	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.4	-	0.1	-	-

HCM 6th TWSC
 6: Creditview Road & East Site Access 2

10-01-2024

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	42	0	286	203	0
Future Vol, veh/h	0	42	0	286	203	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	44	0	301	214	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	107	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.9	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.3	-
Pot Cap-1 Maneuver	0	933	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	933	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 933	-	-
HCM Lane V/C Ratio	- 0.047	-	-
HCM Control Delay (s)	- 9.1	-	-
HCM Lane LOS	- A	-	-
HCM 95th %tile Q(veh)	- 0.1	-	-

Queues

1: Creditview Road & Mayfield Road

10-01-2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↵	↑↑↓	↵	↑↑	↵	↑↓	↵	↑↓
Traffic Volume (vph)	134	1565	134	1072	51	256	182	348
Future Volume (vph)	134	1565	134	1072	51	256	182	348
Lane Group Flow (vph)	140	1697	140	1233	53	410	190	407
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	31.6	31.6	31.6	31.6	31.2	31.2	31.2	31.2
Total Split (s)	40.0	40.0	40.0	40.0	20.0	20.0	20.0	20.0
Total Split (%)	66.7%	66.7%	66.7%	66.7%	33.3%	33.3%	33.3%	33.3%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.2	4.2	4.2	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6	6.6	6.6	6.6	6.2	6.2	6.2	6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.83	0.60	1.20	0.62	0.26	0.52	0.93	0.50
Control Delay	49.9	7.4	168.3	10.5	22.7	21.9	74.7	21.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	7.4	168.3	10.5	22.7	21.9	74.7	21.5
Queue Length 50th (m)	20.7	32.0	~20.2	44.4	5.0	20.7	21.5	20.4
Queue Length 95th (m)	m#44.8	35.7	#38.1	62.3	13.7	33.0	#56.2	32.5
Internal Link Dist (m)		137.9		183.6		293.9		119.3
Turn Bay Length (m)	50.0		30.0		30.0		34.0	
Base Capacity (vph)	168	2850	117	1975	208	793	206	823
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.60	1.20	0.62	0.25	0.52	0.92	0.49

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

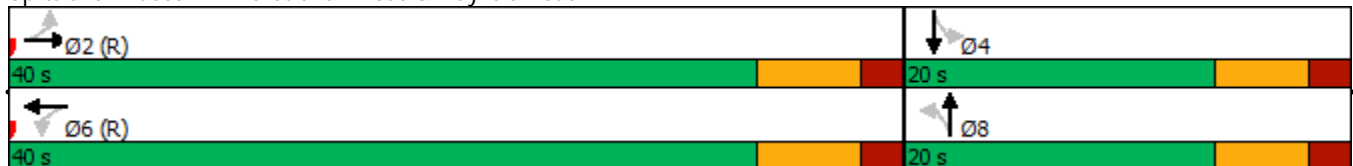
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Creditview Road & Mayfield Road



HCM 6th Signalized Intersection Summary

1: Creditview Road & Mayfield Road

10-01-2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Traffic Volume (veh/h)	134	1565	64	134	1072	111	51	256	137	182	348	42
Future Volume (veh/h)	134	1565	64	134	1072	111	51	256	137	182	348	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1824	1900	1824	1824	1900	1824	1824	1900	1824	1824	1900	1824
Adj Flow Rate, veh/h	140	1630	67	140	1117	116	53	267	143	190	362	44
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	265	2845	117	218	1838	191	247	528	274	239	746	90
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	441	5110	210	282	3301	342	955	2297	1193	952	3243	391
Grp Volume(v), veh/h	140	1103	594	140	610	623	53	208	202	190	200	206
Grp Sat Flow(s),veh/h/ln	441	1729	1862	282	1805	1838	955	1805	1685	952	1805	1830
Q Serve(g_s), s	18.7	12.5	12.5	20.9	13.6	13.6	3.1	6.0	6.3	7.5	5.8	5.9
Cycle Q Clear(g_c), s	32.4	12.5	12.5	33.4	13.6	13.6	8.9	6.0	6.3	13.8	5.8	5.9
Prop In Lane	1.00		0.11	1.00		0.19	1.00		0.71	1.00		0.21
Lane Grp Cap(c), veh/h	265	1925	1037	218	1005	1023	247	415	388	239	415	421
V/C Ratio(X)	0.53	0.57	0.57	0.64	0.61	0.61	0.21	0.50	0.52	0.79	0.48	0.49
Avail Cap(c_a), veh/h	265	1925	1037	218	1005	1023	247	415	388	239	415	421
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	8.7	8.7	22.6	8.9	8.9	23.9	20.1	20.2	27.6	20.0	20.0
Incr Delay (d2), s/veh	7.3	1.2	2.3	13.6	2.7	2.7	0.4	0.9	1.2	16.7	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.3	0.7	0.9	0.8	0.8	0.2	0.6	0.7	2.1	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	9.9	11.0	36.2	11.6	11.6	24.3	21.1	21.5	44.4	20.9	20.9
LnGrp LOS	C	A	B	D	B	B	C	C	C	D	C	C
Approach Vol, veh/h		1837			1373			463			596	
Approach Delay, s/veh		11.6			14.1			21.6			28.4	
Approach LOS		B			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.0		20.0		40.0		20.0				
Change Period (Y+Rc), s		6.6		6.2		6.6		6.2				
Max Green Setting (Gmax), s		33.4		13.8		33.4		13.8				
Max Q Clear Time (g_c+I1), s		34.4		15.8		35.4		10.9				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.9				

Intersection Summary

HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Queues

2: Robert Parkinson Drive/South Site Access 2 (Street 'G') & Mayfield Road

10-01-2024

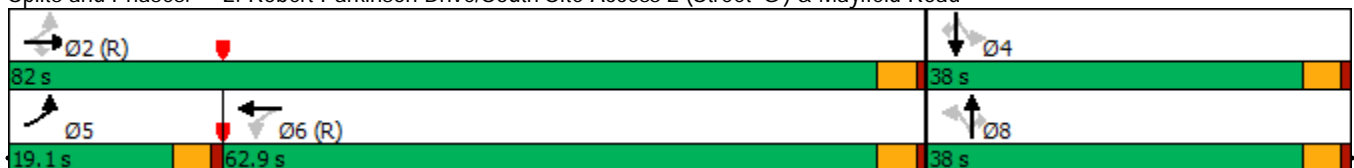


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑		↖	↗		↖	↗
Traffic Volume (vph)	244	1447	51	82	978	25	0	70	302	0	123
Future Volume (vph)	244	1447	51	82	978	25	0	70	302	0	123
Lane Group Flow (vph)	252	1492	53	85	1095	0	26	72	0	311	127
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6		8			4	
Permitted Phases	2		2	6		8		8	4		4
Detector Phase	5	2	2	6	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	19.1	82.0	82.0	62.9	62.9	38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)	15.9%	68.3%	68.3%	52.4%	52.4%	31.7%	31.7%	31.7%	31.7%	31.7%	31.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5
Lead/Lag	Lead			Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None	None
v/c Ratio	0.75	0.43	0.05	0.55	0.58		0.18	0.17		0.89	0.27
Control Delay	25.8	9.9	2.2	31.9	17.2		37.1	13.1		70.4	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	25.8	9.9	2.2	31.9	17.2		37.1	13.1		70.4	7.1
Queue Length 50th (m)	23.5	61.1	0.0	12.4	83.4		4.9	3.1		72.4	0.0
Queue Length 95th (m)	#50.9	72.7	4.6	m34.1	96.8		13.1	14.7		#118.1	14.9
Internal Link Dist (m)		157.3			147.0		205.6			102.6	
Turn Bay Length (m)	63.0		63.0	40.0							
Base Capacity (vph)	360	3455	989	154	1878		158	460		388	512
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.70	0.43	0.05	0.55	0.58		0.16	0.16		0.80	0.25

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Robert Parkinson Drive/South Site Access 2 (Street 'G') & Mayfield Road



Future (2029) Total PM (Opt) 12:52 pm 10-08-2021

HCM 6th Signalized Intersection Summary

2: Robert Parkinson Drive/South Site Access 2 (Street 'G') & Mayfield Road

10-01-2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑			↖	↗		↖	↗
Traffic Volume (veh/h)	244	1447	51	82	978	84	25	0	70	302	0	123
Future Volume (veh/h)	244	1447	51	82	978	84	25	0	70	302	0	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1824	1900	1824	1824	1900	1824	1824	1900	1824	1824	1900	1824
Adj Flow Rate, veh/h	252	1492	53	85	1008	87	26	0	72	311	0	127
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	409	3741	1109	259	2055	177	109	0	315	422	0	315
Arrive On Green	0.07	0.72	0.72	0.61	0.61	0.61	0.20	0.00	0.20	0.20	0.00	0.20
Sat Flow, veh/h	1737	5187	1538	327	3361	290	243	0	1546	1776	0	1546
Grp Volume(v), veh/h	252	1492	53	85	541	554	26	0	72	311	0	127
Grp Sat Flow(s),veh/h/ln	1737	1729	1538	327	1805	1846	243	0	1546	1776	0	1546
Q Serve(g_s), s	6.1	13.5	1.2	16.5	20.0	20.0	2.4	0.0	4.7	0.0	0.0	8.6
Cycle Q Clear(g_c), s	6.1	13.5	1.2	16.9	20.0	20.0	22.2	0.0	4.7	19.8	0.0	8.6
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	409	3741	1109	259	1104	1129	109	0	315	422	0	315
V/C Ratio(X)	0.62	0.40	0.05	0.33	0.49	0.49	0.24	0.00	0.23	0.74	0.00	0.40
Avail Cap(c_a), veh/h	495	3741	1109	259	1104	1129	206	0	432	530	0	432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.3	6.5	4.8	12.4	12.9	12.9	56.6	0.0	39.9	45.9	0.0	41.4
Incr Delay (d2), s/veh	1.6	0.3	0.1	3.4	1.6	1.5	1.1	0.0	0.4	4.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.0	0.5	2.3	2.4	0.6	0.0	1.2	6.5	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.0	6.9	4.9	15.8	14.5	14.5	57.7	0.0	40.3	50.0	0.0	42.3
LnGrp LOS	B	A	A	B	B	B	E	A	D	D	A	D
Approach Vol, veh/h		1797			1180			98				438
Approach Delay, s/veh		7.5			14.6			44.9				47.8
Approach LOS		A			B			D				D
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		91.0		29.0	13.2	77.9		29.0				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		77.5		33.5	14.6	58.4		33.5				
Max Q Clear Time (g_c+I1), s		15.5		21.8	8.1	22.0		24.2				
Green Ext Time (p_c), s		22.4		2.2	0.6	14.4		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				15.9								
HCM 6th LOS				B								

HCM 6th TWSC
 3: Mayfield Road & South Site Access 1

10-01-2024

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑			↑
Traffic Vol, veh/h	0	1742	982	137	0	122
Future Vol, veh/h	0	1742	982	137	0	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1796	1012	141	0	126

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	465
HCM Lane V/C Ratio	-	-	-	0.27
HCM Control Delay (s)	-	-	-	15.6
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.1

HCM 6th TWSC
 4: Mayfield Road & South Site Access 3

10-01-2024

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑			↑
Traffic Vol, veh/h	0	1811	1026	137	0	122
Future Vol, veh/h	0	1811	1026	137	0	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1886	1069	143	0	127

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	445
HCM Lane V/C Ratio	-	-	-	0.286
HCM Control Delay (s)	-	-	-	16.3
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.2

Intersection						
Int Delay, s/veh	6.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	8	202	388	115	180	12
Future Vol, veh/h	8	202	388	115	180	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	210	404	120	188	13

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1063	101	201	0	0
Stage 1	195	-	-	-	-
Stage 2	868	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	222	941	1383	-	-
Stage 1	825	-	-	-	-
Stage 2	376	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	153	941	1383	-	-
Mov Cap-2 Maneuver	153	-	-	-	-
Stage 1	567	-	-	-	-
Stage 2	376	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	6.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1383	-	787	-	-
HCM Lane V/C Ratio	0.292	-	0.278	-	-
HCM Control Delay (s)	8.7	0.2	11.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	1.2	-	1.1	-	-

HCM 6th TWSC
 6: Creditview Road & East Site Access 2

10-01-2024

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	202	0	503	369	12
Future Vol, veh/h	0	202	0	503	369	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	210	0	524	384	13

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	199	-	0	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-
Pot Cap-1 Maneuver	0	815	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	815	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 815	-	-
HCM Lane V/C Ratio	- 0.258	-	-
HCM Control Delay (s)	- 10.9	-	-
HCM Lane LOS	- B	-	-
HCM 95th %tile Q(veh)	- 1	-	-

Queues

1: Creditview Road & Mayfield Road

10-01-2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↵	↑↑↓	↵	↑↓	↵	↑↓	↵	↑↓
Traffic Volume (vph)	180	1417	131	1309	26	292	198	325
Future Volume (vph)	180	1417	131	1309	26	292	198	325
Lane Group Flow (vph)	186	1506	135	1504	27	419	204	361
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	31.6	31.6	31.6	31.6	31.2	31.2	31.2	31.2
Total Split (s)	40.0	40.0	40.0	40.0	20.0	20.0	20.0	20.0
Total Split (%)	66.7%	66.7%	66.7%	66.7%	33.3%	33.3%	33.3%	33.3%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.2	4.2	4.2	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6	6.6	6.6	6.6	6.2	6.2	6.2	6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	1.58	0.53	1.01	0.76	0.12	0.52	1.00	0.44
Control Delay	314.2	9.0	103.5	13.3	20.1	21.3	94.2	21.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	314.2	9.0	103.5	13.3	20.1	21.3	94.2	21.1
Queue Length 50th (m)	~66.4	68.6	~14.3	61.6	2.5	20.5	~23.9	18.2
Queue Length 95th (m)	m#107.4	m80.4	#32.1	86.5	8.2	33.0	#61.2	29.4
Internal Link Dist (m)		137.9		183.6		293.9		119.3
Turn Bay Length (m)	50.0		30.0		30.0		34.0	
Base Capacity (vph)	118	2849	134	1971	218	810	203	820
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.58	0.53	1.01	0.76	0.12	0.52	1.00	0.44

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 8.8 (15%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

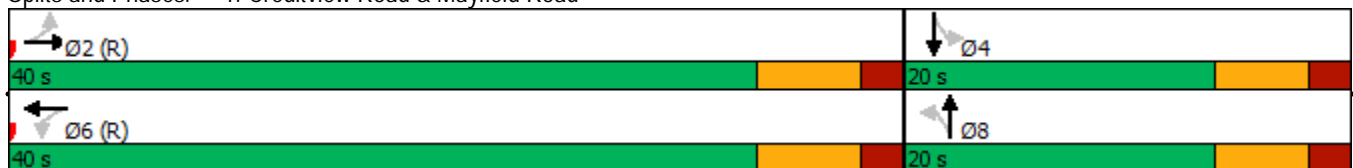
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Creditview Road & Mayfield Road



HCM 6th Signalized Intersection Summary

1: Creditview Road & Mayfield Road

10-01-2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↓		↖	↑↑		↖	↑↑		↖	↑↑	
Traffic Volume (veh/h)	180	1417	44	131	1309	150	26	292	114	198	325	25
Future Volume (veh/h)	180	1417	44	131	1309	150	26	292	114	198	325	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1824	1900	1824	1824	1900	1824	1824	1900	1824	1824	1900	1824
Adj Flow Rate, veh/h	186	1461	45	135	1349	155	27	301	118	204	335	26
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	202	2878	89	250	1817	208	264	586	225	237	781	60
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	340	5170	159	339	3265	373	995	2549	978	943	3395	262
Grp Volume(v), veh/h	186	977	529	135	742	762	27	211	208	204	177	184
Grp Sat Flow(s),veh/h/ln	340	1729	1871	339	1805	1833	995	1805	1722	943	1805	1852
Q Serve(g_s), s	14.5	10.5	10.5	22.9	18.6	18.9	1.4	6.1	6.3	7.5	5.0	5.1
Cycle Q Clear(g_c), s	33.4	10.5	10.5	33.4	18.6	18.9	6.5	6.1	6.3	13.8	5.0	5.1
Prop In Lane	1.00		0.09	1.00		0.20	1.00		0.57	1.00		0.14
Lane Grp Cap(c), veh/h	202	1925	1042	250	1005	1020	264	415	396	237	415	426
V/C Ratio(X)	0.92	0.51	0.51	0.54	0.74	0.75	0.10	0.51	0.52	0.86	0.43	0.43
Avail Cap(c_a), veh/h	202	1925	1042	250	1005	1020	264	415	396	237	415	426
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	8.2	8.2	19.0	10.0	10.1	22.5	20.1	20.2	27.9	19.7	19.7
Incr Delay (d2), s/veh	45.4	1.0	1.8	8.2	4.9	5.0	0.2	1.0	1.3	25.8	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.3	0.5	0.6	1.4	1.4	0.1	0.7	0.7	2.8	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.2	9.2	10.0	27.2	14.9	15.1	22.7	21.2	21.5	53.6	20.4	20.4
LnGrp LOS	E	A	A	C	B	B	C	C	C	D	C	C
Approach Vol, veh/h		1692			1639			446			565	
Approach Delay, s/veh		16.4			16.0			21.4			32.4	
Approach LOS		B			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.0		20.0		40.0		20.0				
Change Period (Y+Rc), s		6.6		6.2		6.6		6.2				
Max Green Setting (Gmax), s		33.4		13.8		33.4		13.8				
Max Q Clear Time (g_c+I1), s		35.4		15.8		35.4		8.5				
Green Ext Time (p_c), s		0.0		0.0		0.0		1.4				

Intersection Summary

HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Queues

2: Robert Parkinson Drive/South Site Access 2 (Street 'G') & Mayfield Road

10-01-2024

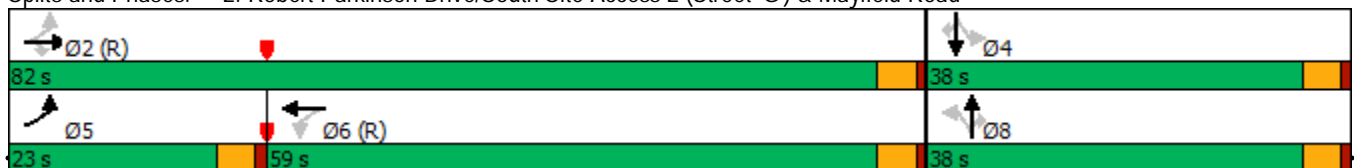


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑		↖	↗		↖	↗
Traffic Volume (vph)	269	1290	34	86	1168	23	0	79	326	0	137
Future Volume (vph)	269	1290	34	86	1168	23	0	79	326	0	137
Lane Group Flow (vph)	292	1402	37	93	1385	0	25	86	0	354	149
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6		8			4	
Permitted Phases	2		2	6		8		8	4		4
Detector Phase	5	2	2	6	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	23.0	82.0	82.0	59.0	59.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)	19.2%	68.3%	68.3%	49.2%	49.2%	31.7%	31.7%	31.7%	31.7%	31.7%	31.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5
Lead/Lag	Lead			Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None	None
v/c Ratio	0.94	0.42	0.04	0.62	0.84		0.19	0.19		0.94	0.29
Control Delay	72.7	10.4	2.5	39.6	27.8		37.3	14.1		77.5	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	72.7	10.4	2.5	39.6	27.8		37.3	14.1		77.5	6.8
Queue Length 50th (m)	56.5	57.3	0.0	15.6	123.6		4.7	4.9		85.0	0.0
Queue Length 95th (m)	#110.4	66.9	3.9	m24.4	151.1		12.9	18.0		#143.2	15.9
Internal Link Dist (m)		157.3			147.0		205.6			102.6	
Turn Bay Length (m)	63.0		63.0	40.0							
Base Capacity (vph)	318	3359	973	149	1657		137	463		388	528
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.92	0.42	0.04	0.62	0.84		0.18	0.19		0.91	0.28

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Robert Parkinson Drive/South Site Access 2 (Street 'G') & Mayfield Road



Future (2029) Total Sat (Opt) 1:38 pm 11-10-2021

HCM 6th Signalized Intersection Summary

2: Robert Parkinson Drive/South Site Access 2 (Street 'G') & Mayfield Road

10-01-2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑	↖	↗	↑↑			↖	↖		↖	↖
Traffic Volume (veh/h)	269	1290	34	86	1168	106	23	0	79	326	0	137
Future Volume (veh/h)	269	1290	34	86	1168	106	23	0	79	326	0	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1824	1900	1824	1824	1900	1824	1824	1900	1824	1824	1900	1824
Adj Flow Rate, veh/h	292	1402	37	93	1270	115	25	0	86	354	0	149
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	332	3625	1079	267	1917	173	108	0	350	462	0	350
Arrive On Green	0.09	0.70	0.70	0.57	0.57	0.57	0.23	0.00	0.23	0.23	0.00	0.23
Sat Flow, veh/h	1737	5187	1544	362	3348	302	211	0	1546	1779	0	1546
Grp Volume(v), veh/h	292	1402	37	93	683	702	25	0	86	354	0	149
Grp Sat Flow(s),veh/h/ln	1737	1729	1544	362	1805	1845	211	0	1546	1779	0	1546
Q Serve(g_s), s	7.8	13.4	0.9	17.7	31.2	31.5	2.3	0.0	5.5	0.0	0.0	9.9
Cycle Q Clear(g_c), s	7.8	13.4	0.9	17.7	31.2	31.5	24.9	0.0	5.5	22.6	0.0	9.9
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	332	3625	1079	267	1034	1056	108	0	350	462	0	350
V/C Ratio(X)	0.88	0.39	0.03	0.35	0.66	0.66	0.23	0.00	0.25	0.77	0.00	0.43
Avail Cap(c_a), veh/h	446	3625	1079	267	1034	1056	174	0	432	539	0	432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.8	7.5	5.6	14.8	17.6	17.7	56.7	0.0	38.0	44.7	0.0	39.8
Incr Delay (d2), s/veh	14.3	0.3	0.1	3.6	3.3	3.3	1.1	0.0	0.4	5.6	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.1	0.0	0.7	5.0	5.1	0.6	0.0	1.4	7.4	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	7.8	5.6	18.3	21.0	21.0	57.7	0.0	38.4	50.2	0.0	40.6
LnGrp LOS	D	A	A	B	C	C	E	A	D	D	A	D
Approach Vol, veh/h		1731			1478			111				503
Approach Delay, s/veh		12.3			20.8			42.8				47.4
Approach LOS		B			C			D				D
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		88.4		31.6	15.1	73.2		31.6				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		77.5		33.5	18.5	54.5		33.5				
Max Q Clear Time (g_c+I1), s		15.4		24.6	9.8	33.5		26.9				
Green Ext Time (p_c), s		20.0		2.2	0.8	13.6		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				21.1								
HCM 6th LOS				C								

HCM 6th TWSC
 3: Mayfield Road & South Site Access 1

10-01-2024

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑			↑
Traffic Vol, veh/h	0	1593	1133	201	0	161
Future Vol, veh/h	0	1593	1133	201	0	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1732	1232	218	0	175

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	23
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	372
HCM Lane V/C Ratio	-	-	-	0.47
HCM Control Delay (s)	-	-	-	23
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	2.4

HCM 6th TWSC
 4: Mayfield Road & South Site Access 3

10-01-2024

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑			↑
Traffic Vol, veh/h	0	1676	1190	201	0	161
Future Vol, veh/h	0	1676	1190	201	0	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1728	1227	207	0	166

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	717
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	377
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	377
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	21.8
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	377
HCM Lane V/C Ratio	-	-	-	0.44
HCM Control Delay (s)	-	-	-	21.8
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	2.2

HCM 6th TWSC
5: Creditview Road & East Site Access 1

10-01-2024

Intersection						
Int Delay, s/veh	7.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	10	227	509	113	102	10
Future Vol, veh/h	10	227	509	113	102	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	234	525	116	105	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1218	58	115	0	0
Stage 1	110	-	-	-	-
Stage 2	1108	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	176	1002	1487	-	-
Stage 1	908	-	-	-	-
Stage 2	282	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	110	1002	1487	-	-
Mov Cap-2 Maneuver	110	-	-	-	-
Stage 1	566	-	-	-	-
Stage 2	282	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	7.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1487	-	747	-	-
HCM Lane V/C Ratio	0.353	-	0.327	-	-
HCM Control Delay (s)	8.7	0.2	12.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	1.6	-	1.4	-	-

HCM 6th TWSC
 6: Creditview Road & East Site Access 2

10-01-2024

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	227	0	622	320	10
Future Vol, veh/h	0	227	0	622	320	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	234	0	641	330	10

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	170	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.9	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.3	-
Pot Cap-1 Maneuver	0	851	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	851	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	-	851	-
HCM Lane V/C Ratio	-	0.275	-
HCM Control Delay (s)	-	10.8	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	1.1	-



APPENDIX I

Signal Warrant Analysis

M.T.O. MINIMUM REQUIREMENTS FOR INSTALLATION OF TRAFFIC SIGNAL

INTERSECTION: Mayfield Rd & Robert Parkinson Drive / South Site Access 2
 HORIZON / DESCRIPTION: Future Total 2029

Number of lanes on main road: ≥2
 Flow conditions: Restricted (speeds less than 70 km/h with frequent side friction)
 Number of approach legs: 4
 Number of existing roads: 2 (all approach legs exist)
 Major direction: East-West

Justification 1: if both Justification 1A and 1B are 100% fulfilled.
 Justification 2: if both Justification 2A and 2B are 100% fulfilled.
 Justification 3: if all of Justifications 1A, 1B, 2A, and 2B are at least 80% fulfilled (only if both roads exist).

All justifications modified by Justification 7 to use peak hour projected volumes.

Justification 1: Minimum Vehicle Volume

		Value	Percent Met
A.	Base volume requirement:	900	
	Requirement after 120% expansion:	1080	1554.75 / 100%
B.	Base volume requirement (minor street):	170	
	Requirement after 120% expansion:	204	178.25 / 87%

Justification 2: Delay to Cross Traffic

		Value	Percent Met
A.	Base volume requirement (major street):	900	
	Requirement after 120% expansion:	1080	1376.5 / 100%
B.	Base volume requirement (crossing major):	75	
	Requirement after 120% expansion:	90	101 / 100%

	Volumes		Sum	Average Hourly
	AM	PM		
NBL	43	25	68	17
NBT	0	0	0	0
NBR	92	70	162	40.5
SBL	34	302	336	84
SBT	0	0	0	0
SBR	24	123	147	36.75
EBL	19	244	263	65.75
EBT	1075	1447	2522	630.5
EBR	22	51	73	18.25
WBL	39	82	121	30.25
WBT	1465	978	2443	610.75
WBR	0	84	84	21
Peds			0	0

Pedestrians crossing major road





APPENDIX J

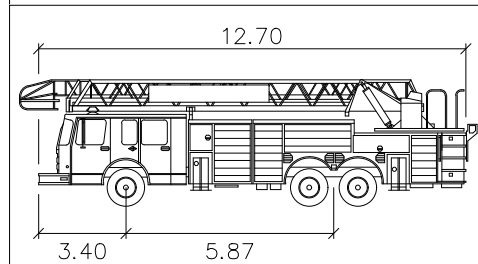
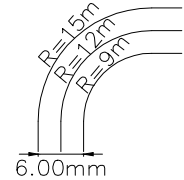
Functional Design Review

NOTES:

AS PER THE ONTARIO BUILDING CODE 3.2.5

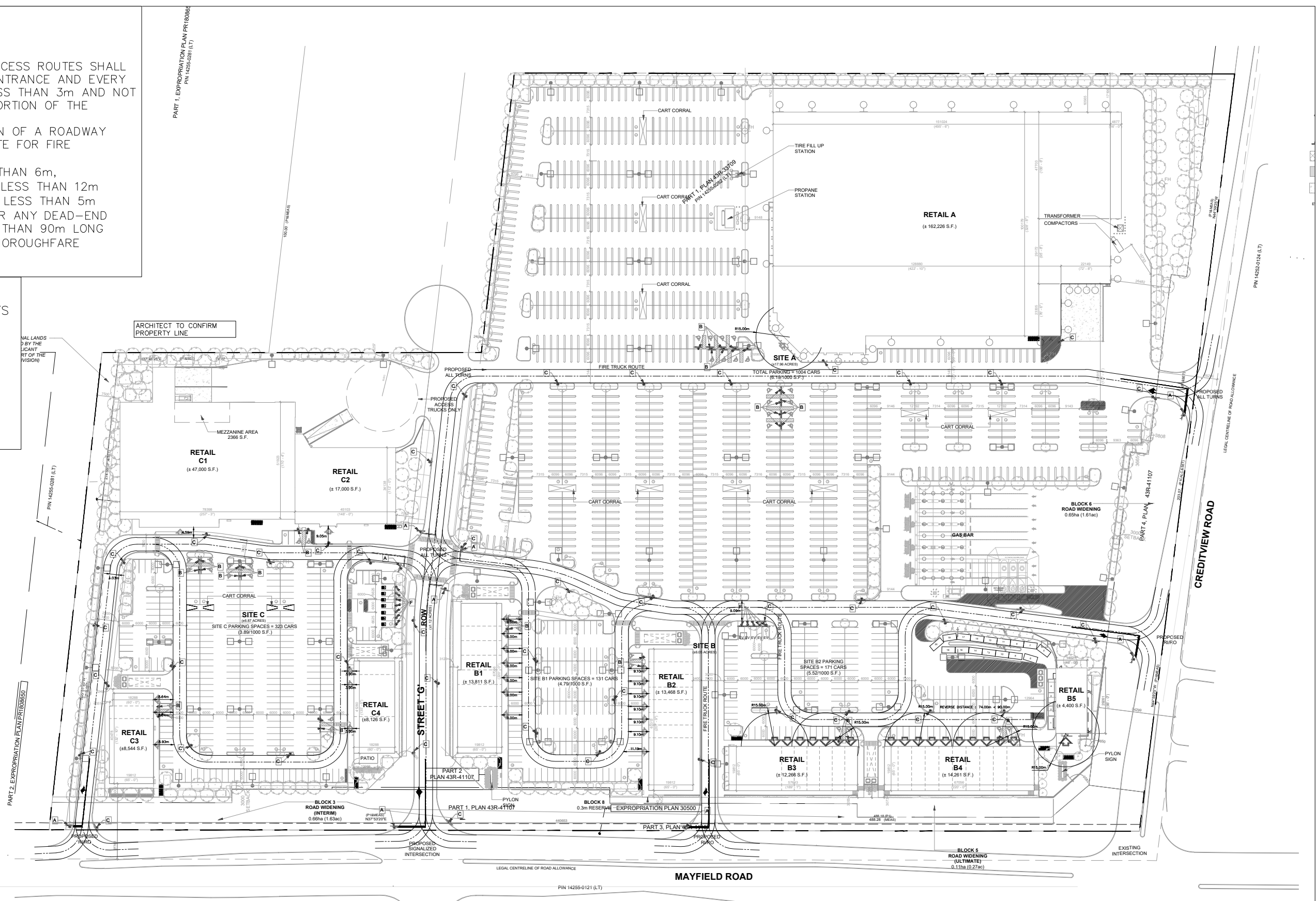
1. 5.1 LOCATION OF ACCESS ROUTES – ACCESS ROUTES SHALL BE LOCATED SO THAT THE PRINCIPAL ENTRANCE AND EVERY ACCESS OPENING ARE LOCATED NOT LESS THAN 3m AND NOT MORE THAN 15m FROM THE CLOSEST PORTION OF THE ACCESS ROUTE
2. 6.1 ACCESS ROUTE DESIGN – A PORTION OF A ROADWAY PROVIDED AS A REQUIRED ACCESS ROUTE FOR FIRE DEPARTMENT USE SHALL:
 - (i) 6.1.a HAVE A CLEAR WIDTH NOT LESS THAN 6m,
 - (ii) 6.1.b HAVE A CENTRELINE RADIUS NOT LESS THAN 12m
 - (iii) 6.1.c HAVE AN OH CLEARANCE OF NOT LESS THAN 5m
 - (iv) 6.1.d HAVE TURNAROUND FACILITIES FOR ANY DEAD-END PORTION OF THE ACCESS ROUTE MORE THAN 90m LONG
 - (v) 6.1.g BE CONNECTED WITH A PUBLIC THOROUGHFARE

MINIMUM CENTERLINE RADIUS OF FIRE ACCESS ROUTE TO FOLLOW REQUIREMENTS AS BELOW:



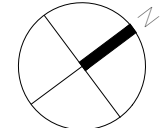
Fire Truck – ON

	6.00	meters
Width	: 2.60	
Track	: 2.54	
Lock to Lock Time	: 6.0	
Steering Angle	: 29.2	



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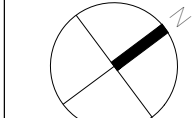
12100 CREDITVIEW ROAD
CALEDON ONTARIO
17.5 0 17.5 35 52.5m
1:1750

SITE PLAN
FIRE ROUTE REVIEW

Drawing No. 001

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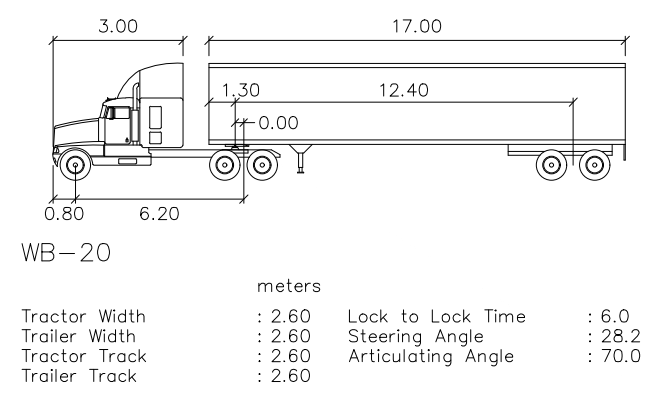
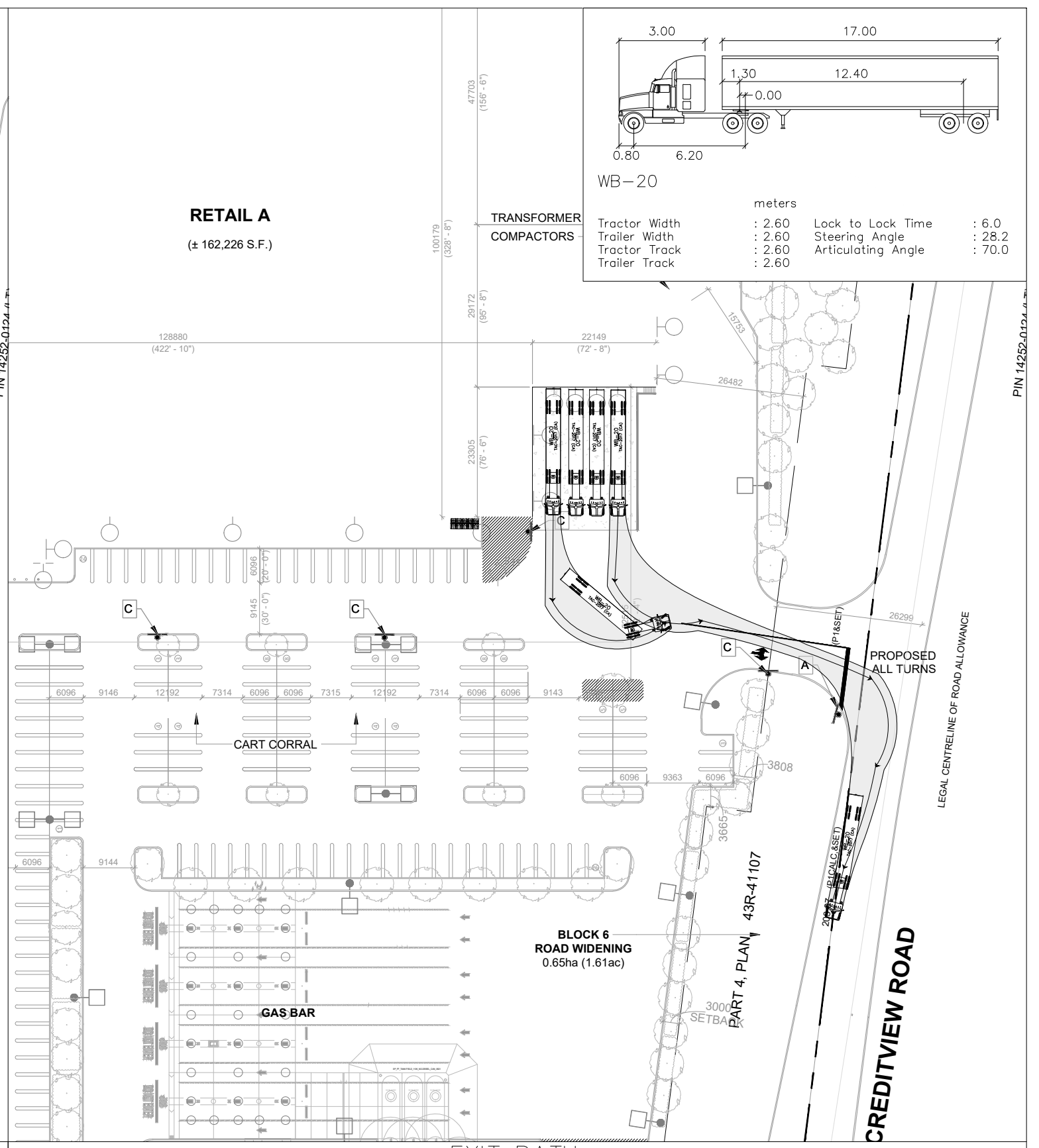
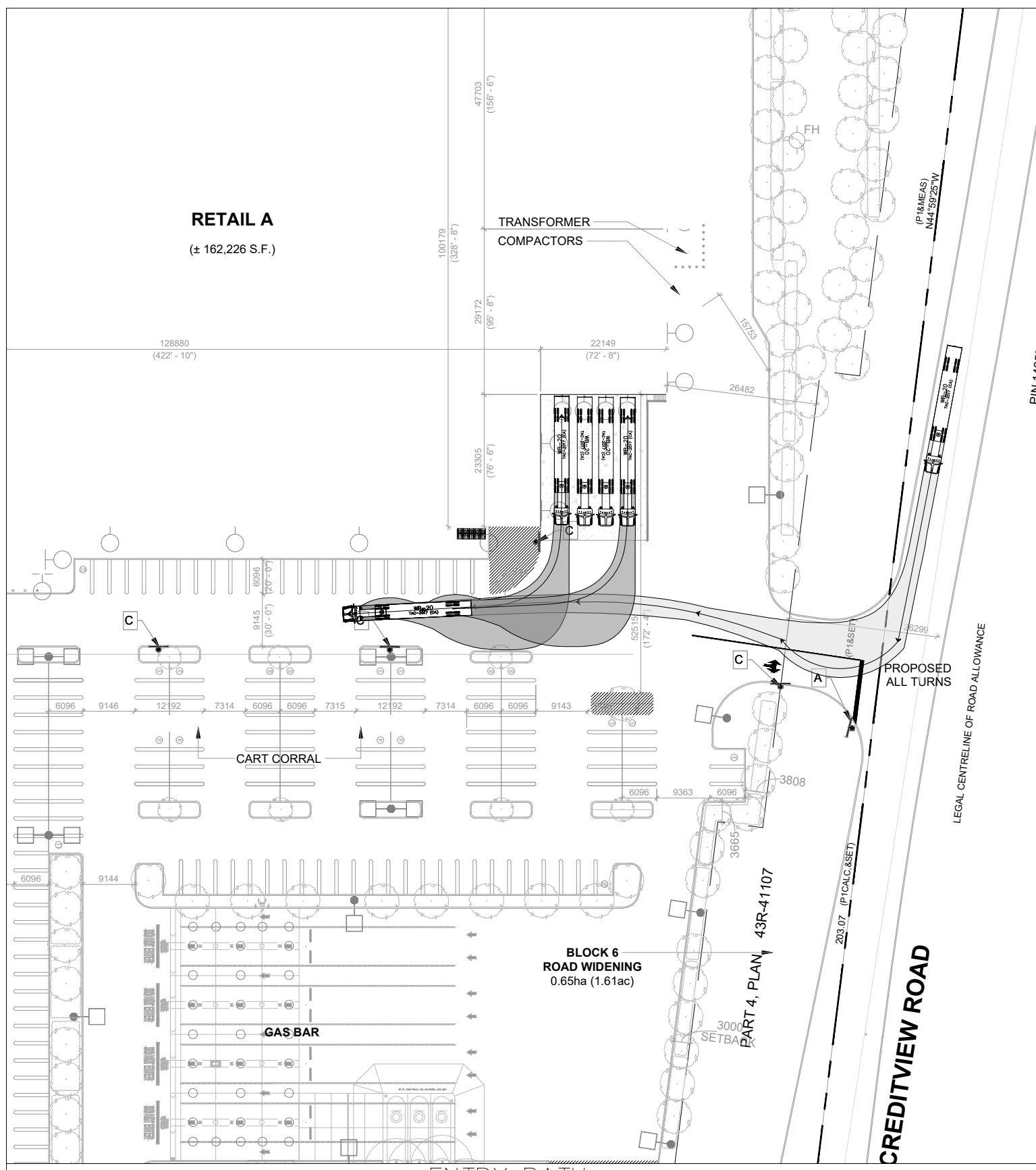


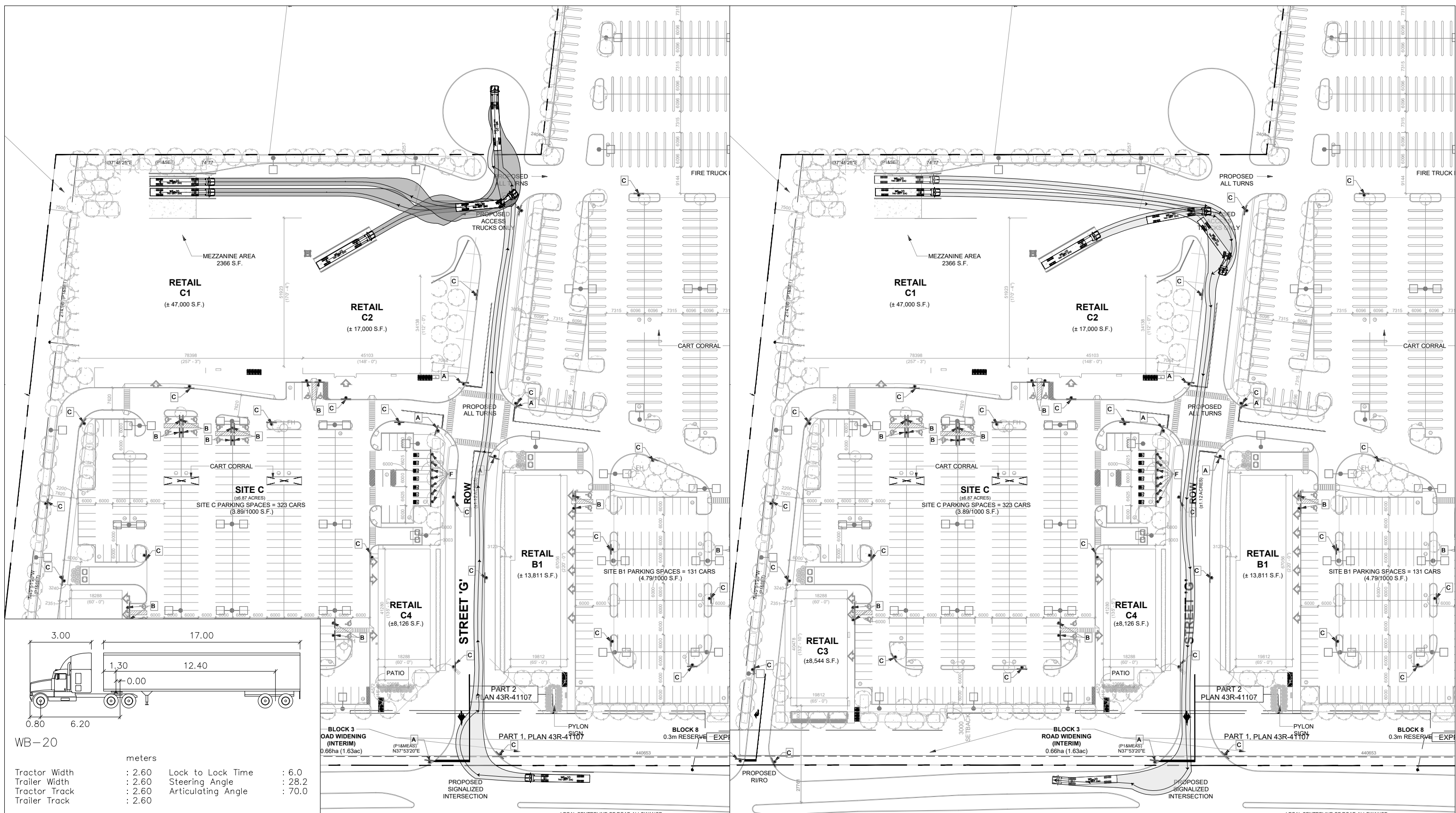
Project No.
22142
Date
OCT 18, 2024

12100 CREDITVIEW ROAD
CALEDON ONTARIO
9 0 9 18 27m
1:900

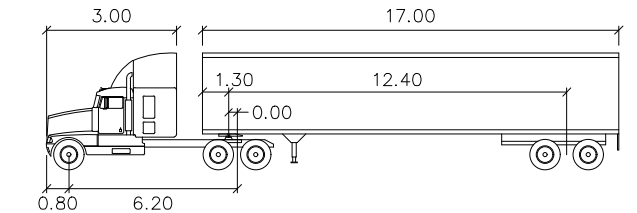
SITE PLAN
LOADING REVIEW
WB-20 (TAC)- RETAIL A
ENTRY AND EXIT PATH

Drawing No.
002





PLOT DATE: October 18, 2024

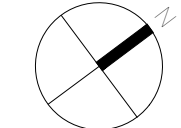


WB-20

	Tractor Width	Trailer Width	Tractor Track	Trailer Track
Tractor Width	: 2.60			
Trailer Width	: 2.60			
Tractor Track	: 2.60			
Trailer Track	: 2.60			

	Lock to Lock Time	Steering Angle	Articulating Angle
Lock to Lock Time	: 6.0		
Steering Angle		: 28.2	
Articulating Angle			: 70.0

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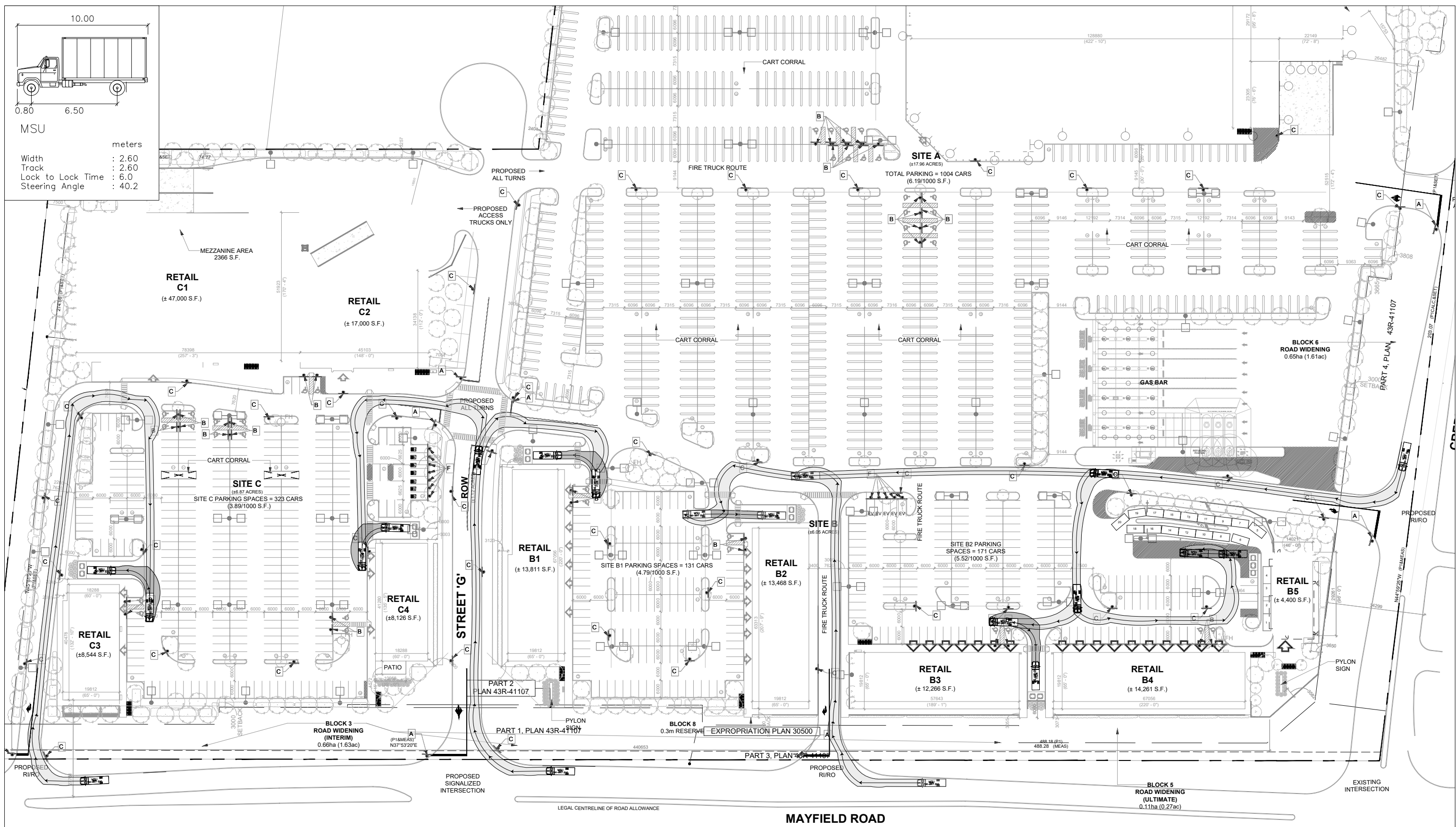


Project No.
 22142
 Date
 OCT 18, 2024

12100 CREDITVIEW ROAD
 CALEDON ONTARIO
 12.5 0 12.5 25 37.5m
 1:1250

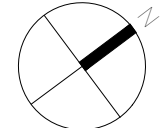
SITE PLAN
 LOADING REVIEW
 WB-20 (TAC)- RETAIL C1
 ENTRY AND EXIT PATH

Drawing No.
 003



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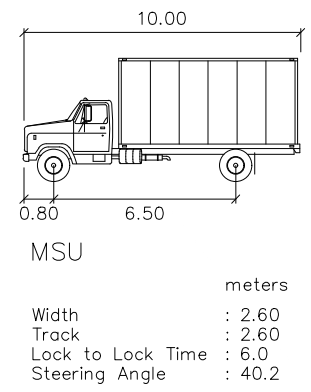
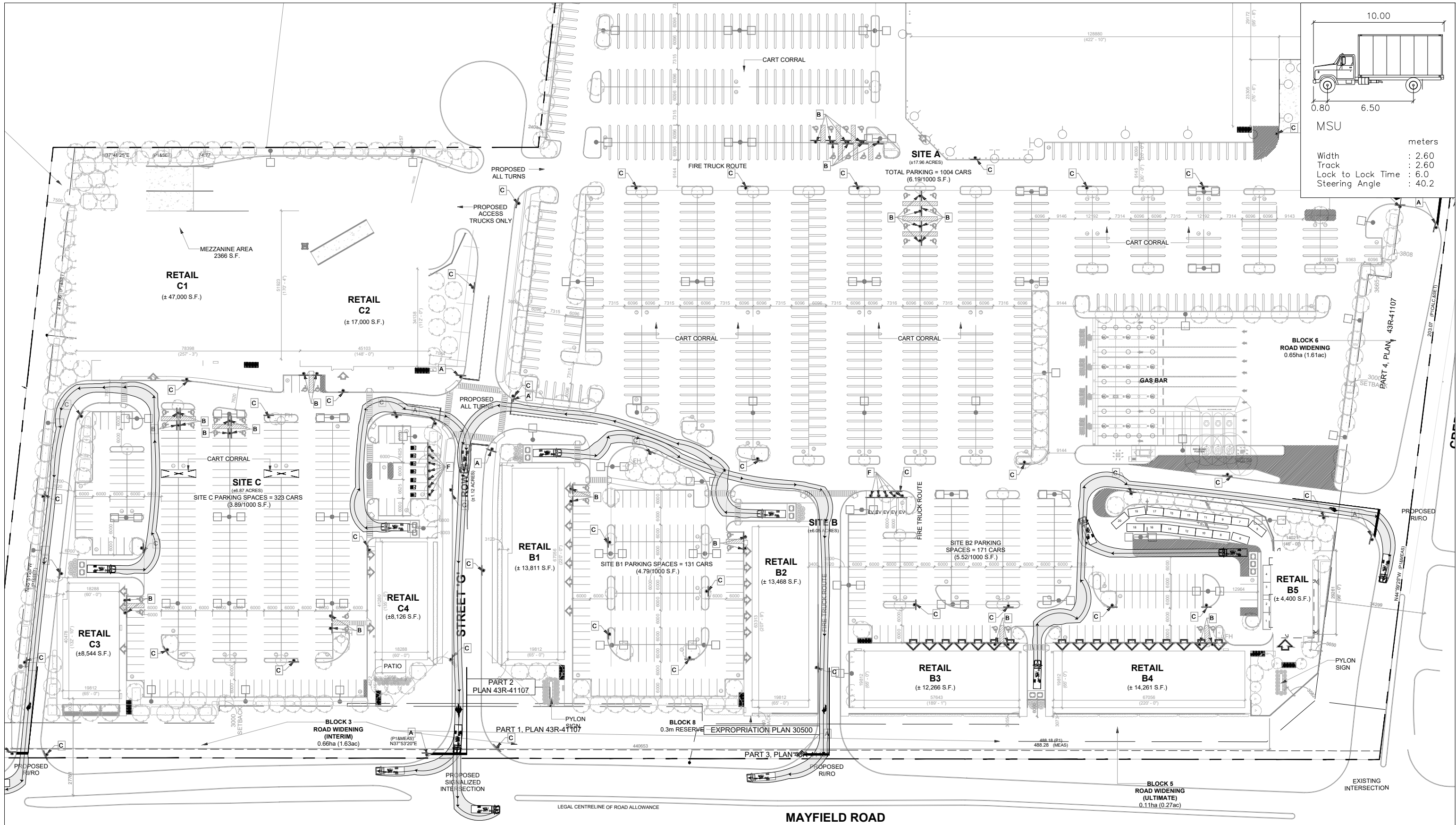


Project No.
22142
 Date
OCT 18, 2024

12100 CREDITVIEW ROAD
 CALEDON ONTARIO
 12.5 0 12.5 25 37.5m
 1:1250

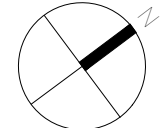
SITE PLAN
 TYPE "B" LOADING SPACE REVIEW
 DELIVERY TRUCK – MSU
 ENTRY PATHS

Drawing No.
004



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Project No.
22142

Date
OCT 18, 2024

12100 CREDITVIEW ROAD
CALEDON ONTARIO

12.5 0 12.5 25 37.5m

1:1250

SITE PLAN
TYPE "B" LOADING SPACE REVIEW
DELIVERY TRUCK – MSU
EXIT PATHS

Drawing No.
005

NOTES:

AS PER THE TOWN OF CALEDON ZONING SECTION 5: PARKING, LOADING AND DELIVERY STANDARDS:

5.2.11 SIZE OF PARKING SPACES:

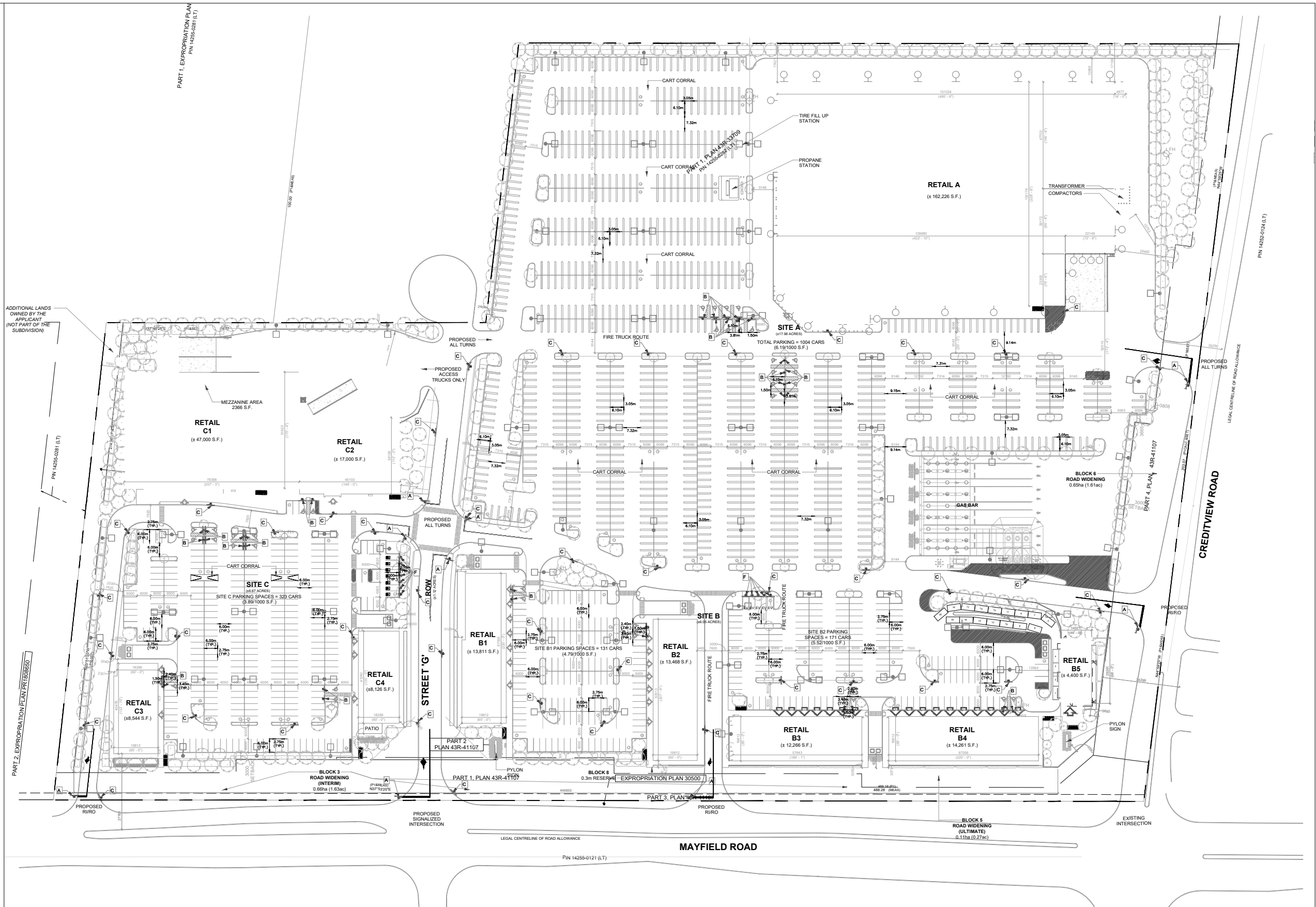
- a) SURFACE PARKING SPACES SHALL HAVE A MINIMUM WIDTH OF 2.75m AND MINIMUM LENGTH OF 6.0m
- b) ENCLOSED OR UNDERGROUND PARKING SPACES SHALL HAVE A MINIMUM WIDTH OF 2.6m AND MINIMUM LENGTH OF 5.8m,
- c) THE WIDTH AND LENGTH OF A PARKING SPACE SHALL BE MEASURED EXCLUSIVE OF THE WIDTH OR LENGTH OF ANY PAINTED LINES MARKING SUCH PARKING SPACE

5.2.12 WIDTH OF AISLES

- a) MINIMUM WIDTH OF AN AISLE PROVIDING ACCESS TO A PARKING SPACE SHALL BE 6.0m EXCEPT IN THE CASE OF ANGLED OFF STREET PARKING BY

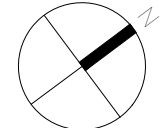
AS PER AODA ACCESSIBLE PARKING REQUIREMENTS:

1. TYPE A:
 - a) BE A MINIMUM OF 3.4 METRES WIDE
2. TYPE B:
 - a) BE A MINIMUM OF 2.4 METRES WIDE
3. ACCESS AISLE
 - a) HAVE AN ACCESS AISLE THAT IS A MINIMUM OF 1.5 METRES WIDE AND EXTEND THE FULL LENGTH OF THE PARKING SPACE



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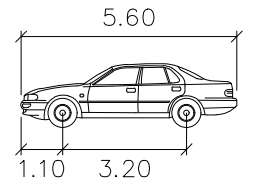
Project No.
22142
Date
OCT 18, 2024

12100 CREDITVIEW ROAD
CALEDON ONTARIO
17.5 0 17.5 35 52.5m
1:1750

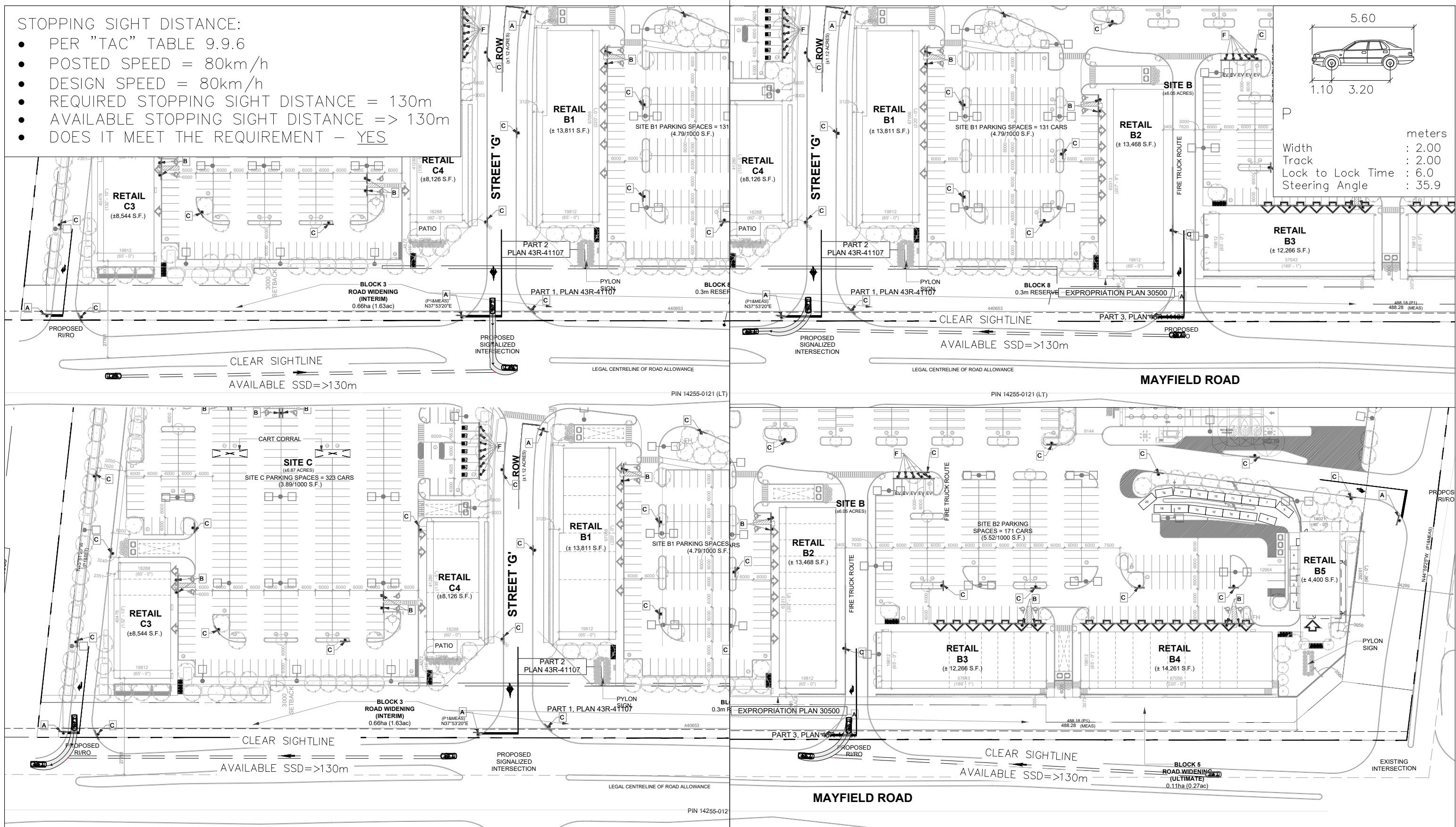
SITE PLAN
PARKING REVIEW

Drawing No.
006

- STOPPING SIGHT DISTANCE:
- PER "TAC" TABLE 9.9.6
 - POSTED SPEED = 80km/h
 - DESIGN SPEED = 80km/h
 - REQUIRED STOPPING SIGHT DISTANCE = 130m
 - AVAILABLE STOPPING SIGHT DISTANCE => 130m
 - DOES IT MEET THE REQUIREMENT - YES

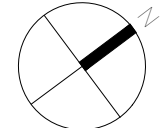


Width	: 2.00	meters
Track	: 2.00	
Lock to Lock Time	: 6.0	
Steering Angle	: 35.9	



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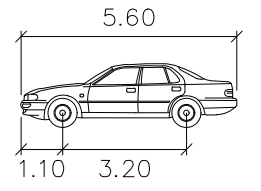
Project No.
22142
Date
OCT 18, 2024

12100 CREDITVIEW ROAD
CALEDON ONTARIO
12.5 0 12.5 25 37.5m
1:1250

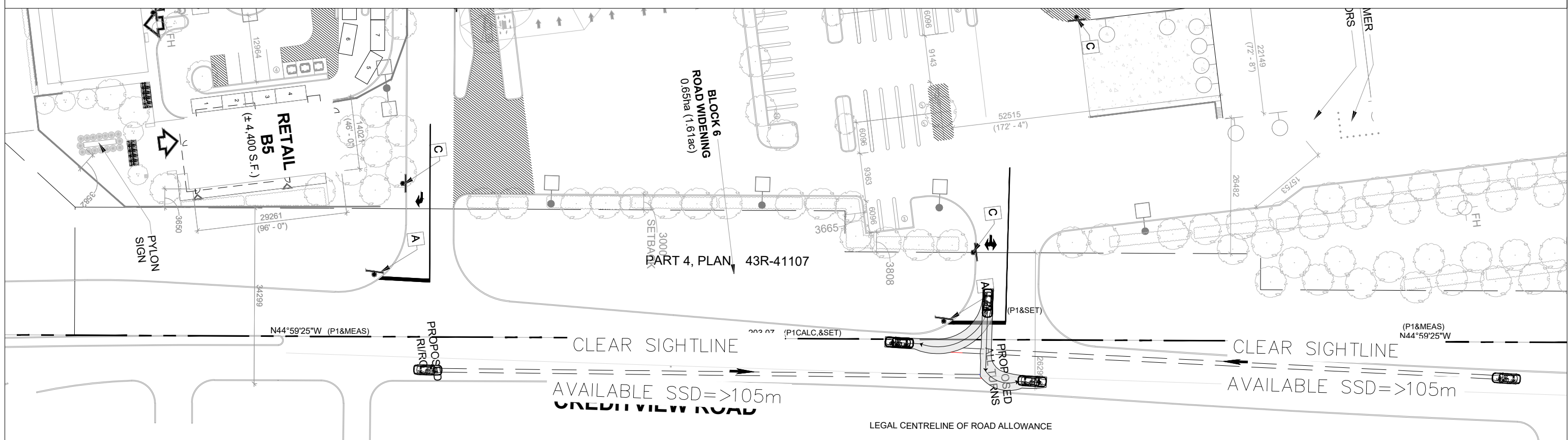
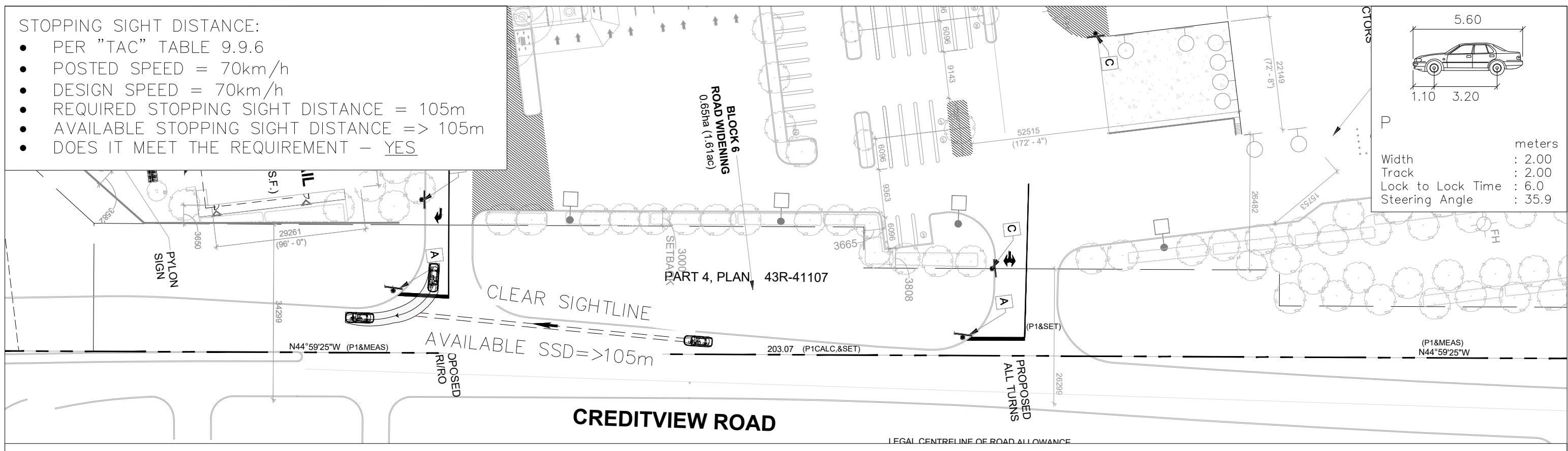
PROPOSED SITE ACCESS
SIGHTLINE ANALYSIS
STOPPING SIGHT DISTANCE (SSD)
MAYFIELD ROAD ACCESS

Drawing No.
007

- STOPPING SIGHT DISTANCE:
- PER "TAC" TABLE 9.9.6
 - POSTED SPEED = 70km/h
 - DESIGN SPEED = 70km/h
 - REQUIRED STOPPING SIGHT DISTANCE = 105m
 - AVAILABLE STOPPING SIGHT DISTANCE => 105m
 - DOES IT MEET THE REQUIREMENT - YES

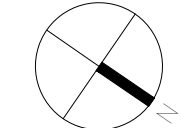


	parameters	values	units
Width	:	2.00	meters
Track	:	2.00	meters
Lock to Lock Time	:	6.0	seconds
Steering Angle	:	35.9	degrees



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Date
OCT 18, 2024

12100 CREDITVIEW ROAD
CALEDON ONTARIO

7.5 0 7.5 15 22.5m

1:750

PROPOSED SITE ACCESS
SIGHTLINE ANALYSIS
STOPPING SIGHT DISTANCE (SSD)
CREDITVIEW ROAD ACCESS

Drawing No.
008

INTERSECTION SIGHT DISTANCE:

- POSTED SPEED = 80km/h
- DESIGN SPEED = 80km/h

LEFT TURN FROM STOP

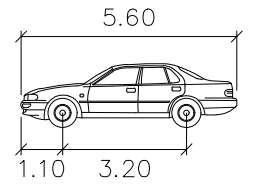
- PER "TAC" TABLE 9.9.4
- REQUIRED LEFT TURN SIGHT DISTANCE = 170m
- AVAILABLE LEFT TURN SIGHT DISTANCE => 170m
- DOES IT MEET THE REQUIREMENT - **YES**

INTERSECTION SIGHT DISTANCE:

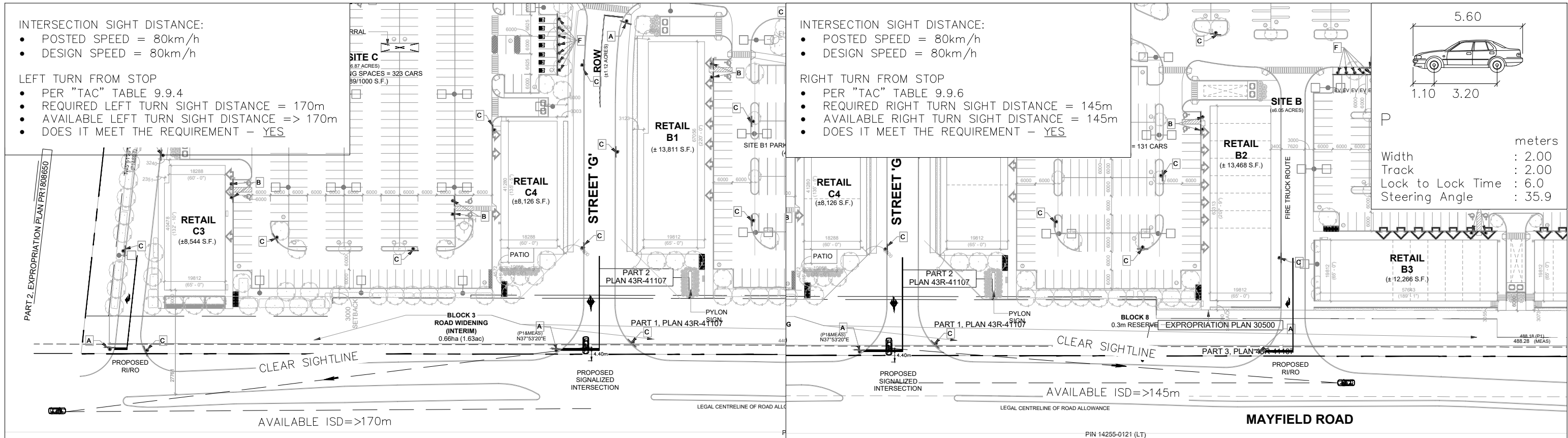
- POSTED SPEED = 80km/h
- DESIGN SPEED = 80km/h

RIGHT TURN FROM STOP

- PER "TAC" TABLE 9.9.6
- REQUIRED RIGHT TURN SIGHT DISTANCE = 145m
- AVAILABLE RIGHT TURN SIGHT DISTANCE = 145m
- DOES IT MEET THE REQUIREMENT - **YES**



Width	: 2.00	meters
Track	: 2.00	
Lock to Lock Time	: 6.0	
Steering Angle	: 35.9	



INTERSECTION SIGHT DISTANCE:

- POSTED SPEED = 80km/h
- DESIGN SPEED = 80km/h

RIGHT TURN FROM STOP

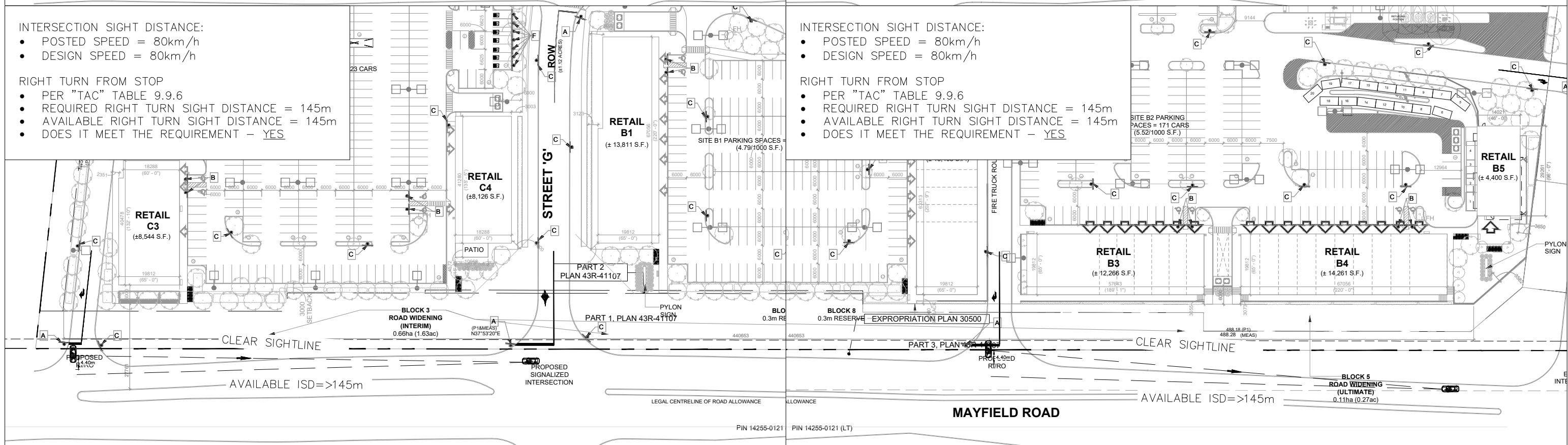
- PER "TAC" TABLE 9.9.6
- REQUIRED RIGHT TURN SIGHT DISTANCE = 145m
- AVAILABLE RIGHT TURN SIGHT DISTANCE = 145m
- DOES IT MEET THE REQUIREMENT - **YES**

INTERSECTION SIGHT DISTANCE:

- POSTED SPEED = 80km/h
- DESIGN SPEED = 80km/h

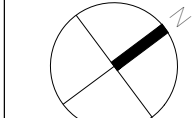
RIGHT TURN FROM STOP

- PER "TAC" TABLE 9.9.6
- REQUIRED RIGHT TURN SIGHT DISTANCE = 145m
- AVAILABLE RIGHT TURN SIGHT DISTANCE = 145m
- DOES IT MEET THE REQUIREMENT - **YES**



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OCT 18, 2024

12100 CREDITVIEW ROAD
CALEDON ONTARIO
12.5 12.5 25 37.5m
1:1250

PROPOSED SITE ACCESS
SIGHTLINE ANALYSIS
INTERSECTION SIGHT DISTANCE (ISD)
MAYFIELD ROAD ACCESS

Drawing No.
009

INTERSECTION SIGHT DISTANCE:

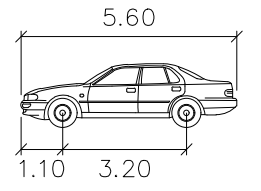
- POSTED SPEED = 70km/h
- DESIGN SPEED = 70km/h

LEFT TURN FROM STOP

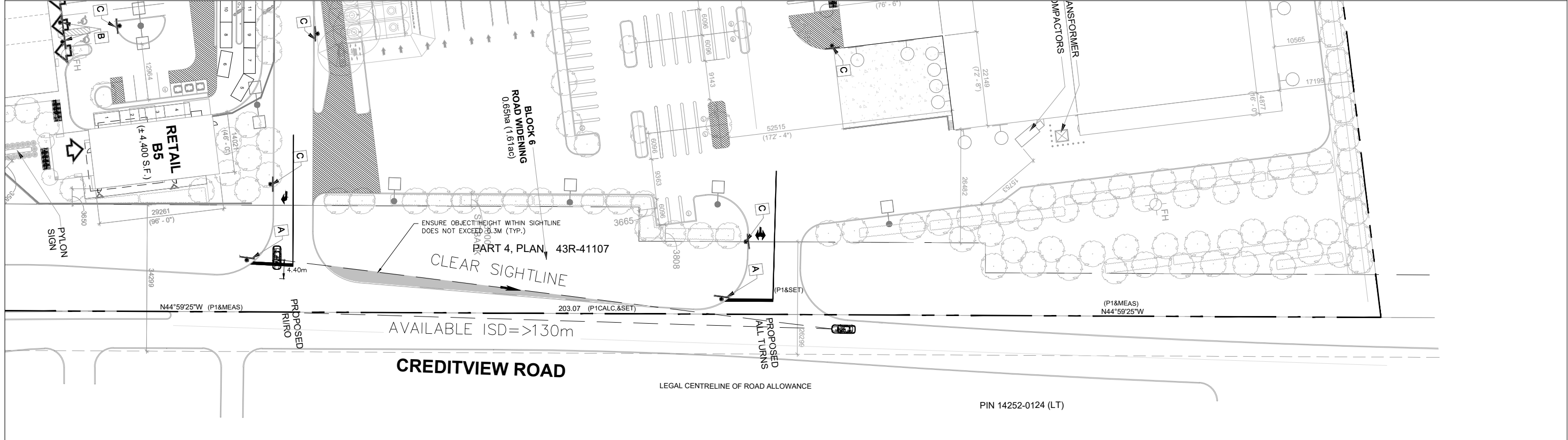
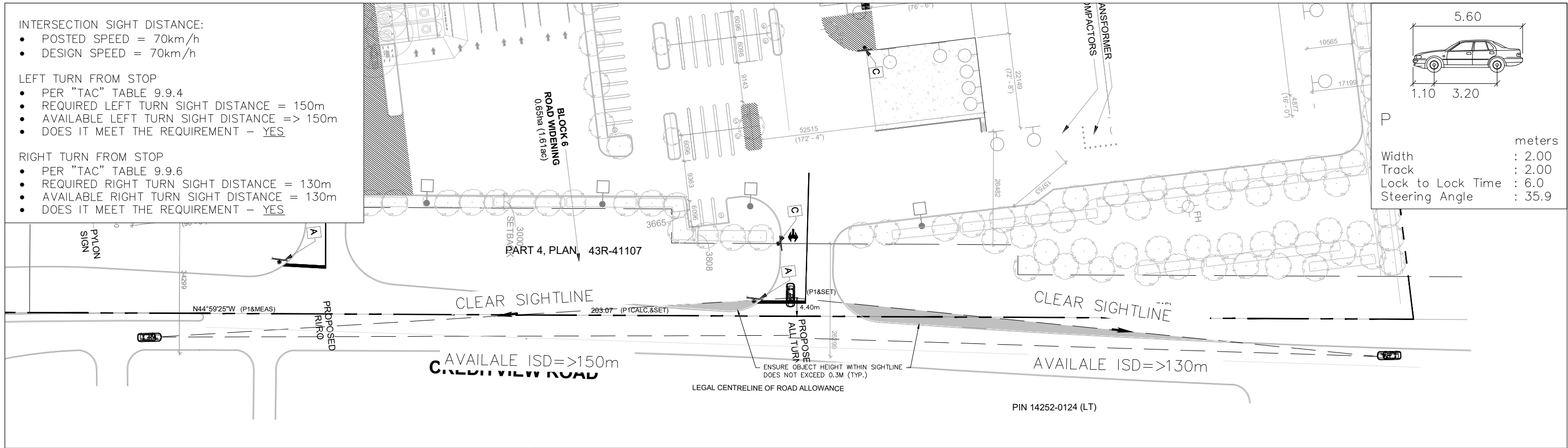
- PER "TAC" TABLE 9.9.4
- REQUIRED LEFT TURN SIGHT DISTANCE = 150m
- AVAILABLE LEFT TURN SIGHT DISTANCE => 150m
- DOES IT MEET THE REQUIREMENT - YES

RIGHT TURN FROM STOP

- PER "TAC" TABLE 9.9.6
- REQUIRED RIGHT TURN SIGHT DISTANCE = 130m
- AVAILABLE RIGHT TURN SIGHT DISTANCE = 130m
- DOES IT MEET THE REQUIREMENT - YES

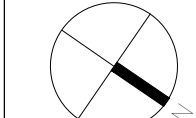


	Width	: 2.00	meters
	Track	: 2.00	
	Lock to Lock Time	: 6.0	
	Steering Angle	: 35.9	



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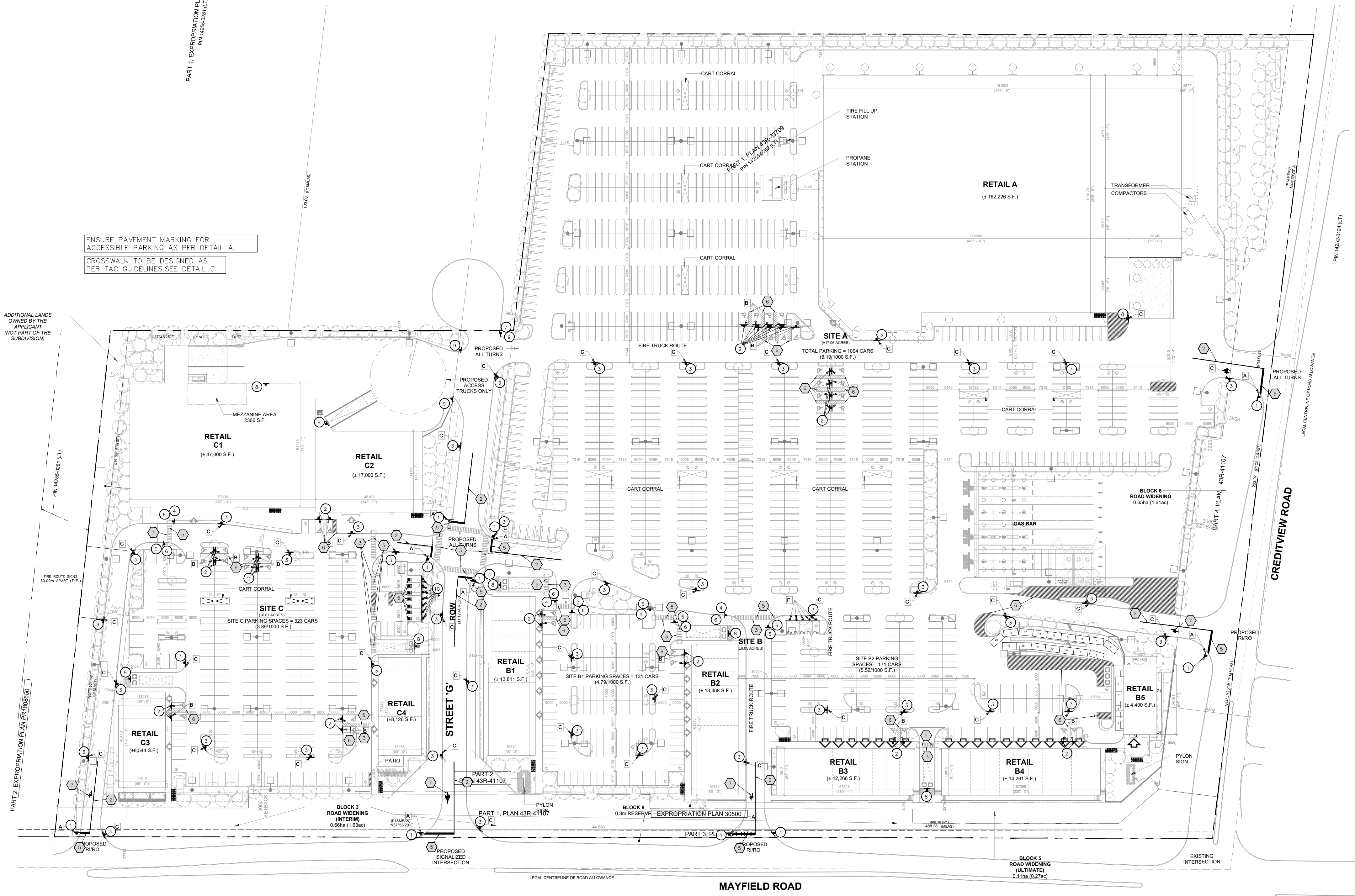
12100 CREDITVIEW ROAD
CALEDON ONTARIO
9 0 9 18 27m
1:900

PROPOSED SITE ACCESS
SIGHTLINE ANALYSIS
INTERSECTION SIGHT DISTANCE (ISD)
CREDITVIEW ROAD ACCESS

Drawing No.
010

PART 1 EXPROPRIATION PLAN PIN 14255-0121 (LT)
PIN 14255-0121 (LT)

ENSURE PAVEMENT MARKING FOR ACCESSIBLE PARKING AS PER DETAIL A.
CROSSWALK TO BE DESIGNED AS PER TAC GUIDELINES SEE DETAIL C.

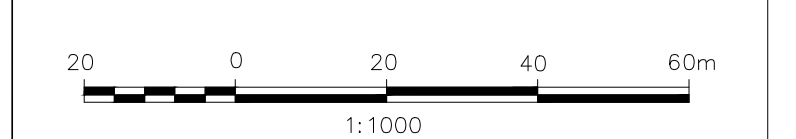


TRAFFIC SIGNS SCHEDULE

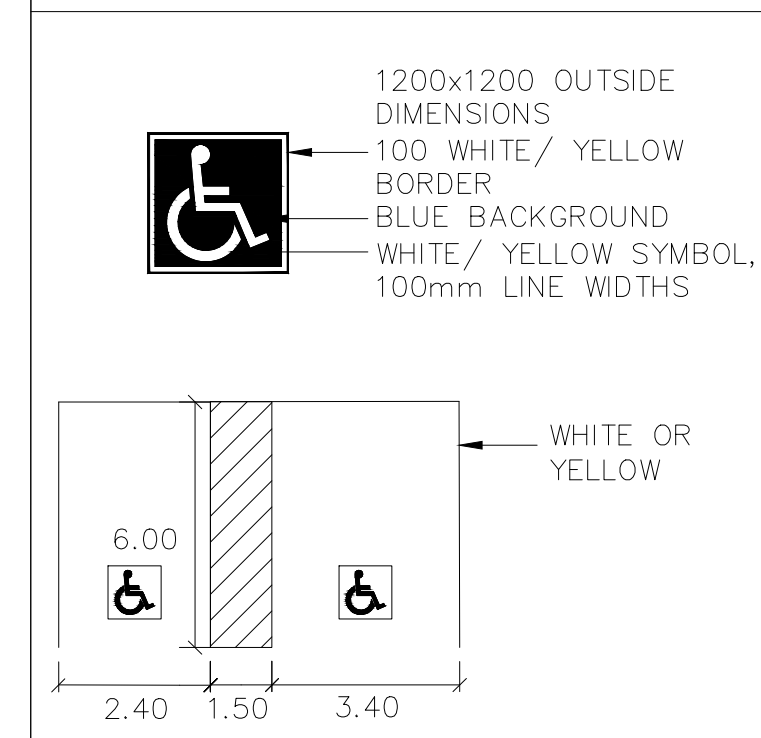
SIGN	SIGN NUMBER	QUANTITY REQUIRED	COLOURS
	1	9	Ra-1 (600x600) BLACK LEGEND & BORDER - WHITE REFL. BACKGROUND - RED REFL.
	2	22	Rb-93 (300x450) BLACK LEGEND, BORDER & LETTER P, WHITE REFL. BACKGROUND, RED REFL. INTERDICTIONARY SYMBOL. INTERDICTIONARY SYMBOL - BLUE REFL. BACKGROUND & OUTLINE
	3	48	(300x450) RED REFL. INTERDICTIONARY SYMBOL BLACK SYMBOL, WHITE REFL. "FIRE ROUTE" ON RED BACKGROUND BLACK LEGEND, RED BORDER WHITE REFL. BACKGROUND
	4	4	Wc-7 (750x750) BLACK SYMBOL & BORDER, YELLOW REFL. BACKGROUND.
	5	4	Wc-7 (750x750) BLACK SYMBOL & BORDER, YELLOW REFL. BACKGROUND.
	6	8	Ra-4t (600x450) BLACK LEGEND & BORDER, WHITE REFL. BACKGROUND.
	7	1	Rb-52 MOD. (300x450) RED REFL. INTERDICTIONARY SYMBOL, BLACK SYMBOL, LEGEND & BORDER, WHITE REFL. BACKGROUND.
	8	8	Rb-51 MOD. (300x450) RED REFL. INTERDICTIONARY SYMBOL, BLACK LEGEND & BORDER & WHITE REFL. BACKGROUND.
	9	3	Rb-19 MODIFIED (600x900) RED REFL. INTERDICTIONARY SYMBOL, BLACK LEGEND & BORDER, WHITE REFL. BACKGROUND.
	10	7	(600x600) WHITE REFL. LEGEND & BORDER, BLUE REFL. BACKGROUND.

NOTES:
• ALL SIGNS ARE STEEL POST-MOUNTED, UNLESS OTHERWISE INDICATED.
• UNDERSIDES OF ALL SIGNS TO BE LOCATED MIN. 2.0m ABOVE TOP OF PAVEMENT OR TOP OF SIDEWALK. ALL SIGNS ARE PER "ONTARIO TRAFFIC MANUAL", LATEST EDITION.
• ALL PAVEMENT MARKINGS SHALL BE MADE IN ACCORDANCE WITH ONTARIO TRAFFIC MANUAL, BOOK 5, 11 AND 15.
• SIGN Rb-4t TO BE MOUNTED ON THE SAME POST OF SIGN Wc-7, AND BELOW IT.
• CONTRACTOR TO ENSURE FIRE ROUTE SIGNS ARE INSTALLED IN ACCORDANCE WITH TOWN OF MILTON BY-LAW 48-82

11			
10			
9			
8			
7			
6			
5			
4			
3			
2			
1	H.B.	2024-10-10	SUBMISSION
REV.	Drawn	Date	Description



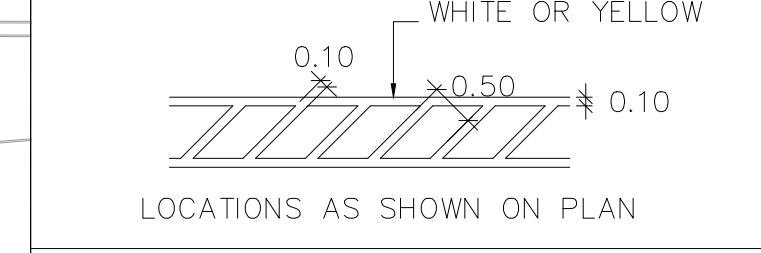
A - ACCESSIBLE PARKING PAVEMENT GRAPHICS



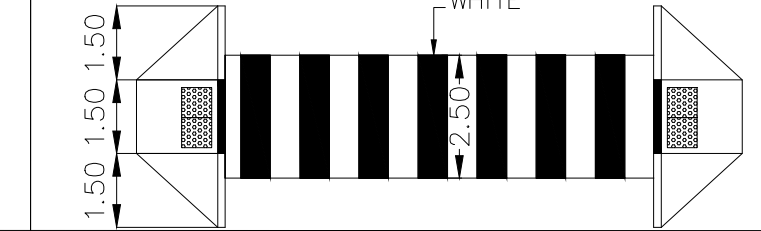
PAVEMENT MARKING & SIGNAGE LEGEND

- WALL MOUNTED SIGN
- POST MOUNTED SIGN
- SIGN NUMBER
- 1 SOLID WHITE, 10cm
- 2 SOLID YELLOW, 10cm
- 3 SOLID WHITE, 20cm
- 4 SOLID YELLOW, 50cm
- 5 SOLID WHITE, 60cm
- 6 10cm HATCHING AS SHOWN (TYP.)
- 7 SYMBOL AS SHOWN (TYP.)
- 8 "ELECTRIC VEHICLE" PAVEMENT MARKING

B - PAINTED HATCHING



C - CROSSWALK DESIGN AS PER TAC GUIDELINES



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12100 CREDITVIEW ROAD
CALEDON ONTARIO

SITE PLAN PAVEMENT MARKING & SIGNAGE PLAN

Design By	H.B.	Date	OCT 18, 2024
Drawn By	H.B.	Checked By	M.B.
Project No.	22142	Drawing No.	011