Technical Memorandum

Project Name: Brantview Plaza, 1881 Fairview St. **MTE File No.:** 63701_001

To: Michael Tylman, Rathcliffe Properties Limited **Date:** August 8, 2025

cc: **From:** Quinn Aitchison, Joseph Asztalos

RE: Site Servicing Memo (Water Usage and Sanitary Discharge Report) for ZBA Approval for Proposed Change in Use Development

Background

MTE Consultants Inc. were retained by Rathcliffe Properties Limited to complete a Servicing Memo as requested by the Region of Halton to support the ZBA Approval process to remove the prohibition against a Supermarket/Grocery Store. The servicing memo includes the review of the existing conditions onsite and a comparison for the proposed sanitary and water demands to the existing conditions.

The subject site is currently a commercial building divided into five (5) different units.

- Units 1 is occupied by Staples Business Centre
- Unit 2 is occupied by Pro Patio Furniture
- Unit 3 is occupied by Mandarin Restaurant
- Unit 4 and 5 is occupied by Compassion Society of Halton

The proposed development would convert Unit 1 and 2 into a proposed Grocery Store. There will be no external construction onsite, the memo confirms that the existing servicing onsite will be able to service the proposed development and have no impact on the infrastructure downstream.

In Support of the Memo, detailed calculations and background information has been included in the appendices attached:

Appendix A – Sanitary Calculations

Appendix B – Water Calculations

Appendix C – Site Plan and Existing Servicing Information

SANITARY SERVICING

Existing Site Servicing Conditions

There is an existing 150mm diameter sanitary service at the northwest corner of the building that goes towards the site limits along Brant Street. The sanitary service is used by all five units onsite, the service has a slope of 0.50% flowing north with a full flow capacity of 16.3 L/s.

Existing Sanitary Servicing Demands

The existing sanitary discharge rate from the building was estimated using the Ontario Building Code, and the Region of Halton Water and Wastewater Linear Design Manual.

Table 1.1 – Existing Sanitary Sewer Discharge

Plaza Units – Description	Units [A]	Floor Space [A]	Unitary Flow Rate [B]	Avg. Flow (L/s) [C]
1&2 – Retail Stores Space	--	3815 m^2	5 L/m^2/day	0.221
3 – Restaurant	500 seats	--	125 L/seat/day	0.723
4&5 – Store Space	--	330 m^2	5 L/m2/day	0.019
Site Area (Infiltration) [D]	--	0.60 ha	0.286 L/s/ha	0.172
Total Sanitary Discharge (Including Infiltration)				***1.135*** [E]

[A] Gross floor area based on site statistics from the most recent site plan provided by Rathcliffe Properties Limited. Restaurant seats estimated based on restaurant size.
[B] Unitary Flow Rate based on OBC Table 8.2.1.3.B and the Region of Halton Water and Wastewater Linear Design Manual.
[C] Average Daily Flow based on floor space or units and unitary flow.
Ex: Avg. Daily Flow (Units 1&2)= (3815 m^2) x (5 L/m^2/day) / (60 x 60 x 24 s/day) = 0.221 L/s
[D] Infiltration Allowance (IA) based on 0.286 x 10^{-3} m^3/ha/s for all land use, as outlines in the Region of Halton Water and Wastewater Linear Design Manual.
IA = (0.286 L/ha/s) x (0.60 ha) = 0.172 L/s
[E] Total Sanitary Discharge = Average Flow + Infiltration = 0.221 + 0.723 + 0.019 + 0.172 = 1.135 L/s

The Existing Sanitary Demands for the site total is 1.135 L/s.

Detailed Calculations can be found in the Appendix A that is attached which provides a breakdown for the expected existing sanitary discharge from the site.

Proposed Sanitary Servicing Demands

The proposed sanitary discharge rate from the building was estimated using the Ontario Building Code, and the Region of Halton Water and Wastewater Linear Design Manual.

Table 1.2 – Proposed Sanitary Sewer Discharge

Plaza Units – Description	Units [A]	Floor Space [A]	Unitary Flow Rate [B]	Avg. Flow (L/s) [C]
1&2 – Grocer Store Space (General Floor/Shelves)	--	3435 m^2	40 L/9.25m^2/day	0.172
1&2 – Grocer (Deli/Bakery/ etc. spaces)	--	380 m^2	190 L/9.25m^2/day	0.090
1&2 – Grocer (Water Closets)	12 each	--	930 L/each/day	0.129
3 – Restaurant	500 seats	--	125 L/seat/day	0.723
4&5 – Store Space	--	330 m^2	5 L/m2/day	0.019
Site Area (Infiltration) [D]	--	0.60 ha	0.286 L/s/ha	0.172
Total Sanitary Discharge (Including Infiltration)				***1.306*** [E]

[A] Gross floor area based on site statistics from the most recent site plan provided by Rathcliffe Properties Limited. Restaurant seats estimated based on restaurant size. Grocer Service Floor Space estimated to be 10% of available floor space from reference grocer layout plan provided.
[B] Unitary Flow Rate based on OBC Table 8.2.1.3.B and the Region of Halton Water and Wastewater Linear Design Manual.
[C] Average Daily Flow based on floor space or units and unitary flow.
Ex: Avg. Daily Flow (Units 1&2 General Floor) = (3435 m^2) x (40 L/9.25m^2/day) / (60 x 60 x 24s/day) = (3435 m^2) x (4.32 L/m^2/day) / (86,400 s/day) = 0.172 L/s
[D] Infiltration Allowance (IA) based on 0.286 x 10^{-3} m^3/ha/s for all land use, as outlines in the Region of Halton Water and Wastewater Linear Design Manual.
IA = (0.286 L/ha/s) x (0.60 ha) = 0.172 L/s
[E] Total Sanitary Discharge = Avg Flow + Infiltration = 0.172+0.090+0.129+.723+0.019+0.172=1.306 L/s

The Proposed Sanitary Demands for the site total is 1.306 L/s.

Detailed Calculations can be found in the Appendix A that is attached which provides a breakdown for the proposed development sanitary discharge from the site.

Based on the expected sanitary sewer discharge (1.306 L/s), the site can continue to be serviced with the 150mm diameter sanitary pipe at a 0.5 % slope with a full flow capacity of 16.3 L/s as the expected sanitary demand is well below this limit. The expected sanitary discharge of 1.306 L/s will account for 8.0% of the existing 150mm diameter sanitary services capacity, and is only a 0.171 L/s increase compared to the existing conditions. Therefore, it is not expected to result in any significant impact to the downstream sanitary infrastructure.

WATER SERVICING

Existing Conditions

The existing water distribution system around the site consists of a 200mm diameter watermain for Fire Protection that is located to the east of the building and is connected to Fairview Street. As well as a 100mm diameter watermain for domestic use that connects to three locations on the west side of the building, the watermain runs to the north of the site towards Brant Street.

Existing Domestic Water Demands

The existing Domestic Water Demand for the building was estimated using the Ontario Building Code, and the Region of Halton Water and Wastewater Linear Design Manual.

Table 2.1 – Existing Domestic Water Demands

Plaza Units – Description	Units [A]	Floor Space [A]	Unitary Flow Rate [B]	Demand (L/s) [C]	Avg. Day Demand (L/s) [D]	Max Day Demand (L/s) [D]	Peak Hour Demand (L/s) [D]
1&2 – Retail Stores Space	--	3815 m^2	5 L/m^2/day	0.22	0.22	0.50	0.50
3 – Restaurant	500 seats	--	125 L/seat/day	0.72	0.72	1.62	1.62
4&5 – Store Space	--	330 m^2	5 L/m2/day	0.02	0.02	0.05	0.05
				Totals	***0.96***	***2.16***	***2.16***

[A] Gross floor area based on site statistics from the most recent site plan provided by Rathcliffe Properties Limited. Restaurant seats estimated based on restaurant size.
[B] Unitary Demand based on OBC Table 8.2.1.3.B and the Region of Halton Water and Wastewater Linear Design Manual.
[C] Average Daily Demand based on floor space or units and unitary flow.
Ex: Avg. Daily Demand (Units 1&2)= (3815 m^2) x (5 L/m^2/day) / (60 x 60 x 24 s/day) = 0.22 L/s
[D] Peaking Factors as per Region of Halton Water and Wastewater Linear Design Manual. Average Day = 1.0, Max Day = 2.25, Peak Hour = 2.25

The Existing Water Demand for the site:

- **Average Day Demand is 0.96 L/s**
- **Max Day Demand is 2.16 L/s**
- **Peak Hour Demand is 2.16 L/s.**

Detailed Calculations can be found in the Appendix B that is attached which provides a breakdown for the expected existing water demands for the site.

Proposed Water Servicing Plan

The proposed Domestic Water Demand for the development was estimated using the Ontario Building Code, and the Region of Halton Water and Wastewater Linear Design Manual.

Table 2.2 – Proposed Domestic Water Demands

Plaza Units – Description	Units [A]	Floor Space [A]	Unitary Flow Rate [B]	Demand (L/s) [C]	Avg. Day Demand (L/s) [D]	Max Day Demand (L/s) [D]	Peak Hour Demand (L/s) [D]
1&2 – Retail Stores Space	--	3435 m^2	40 L/9.25m^2/day	0.17	0.17	0.38	0.38
1&2 – Grocer (Deli/Bakery/ etc. spaces)	--	380 m^2	190 L/9.25m^2/day	0.09	0.09	0.20	0.20
1&2 – Grocer (Water Closets)	12 each	--	930 L/each/day	0.13	0.13	0.29	0.29
3 – Restaurant	500 seats	--	125 L/seat/day	0.72	0.72	1.62	1.62
4&5 – Store Space	--	330 m^2	5 L/m2/day	0.02	0.02	0.05	0.05
				Totals	***1.13***	***2.54***	***2.54***

[A] Gross floor area based on site statistics from the most recent site plan provided by Rathcliffe Properties Limited. Restaurant seats estimated based on restaurant size. Grocer Service Floor Space estimated to be 10% of available floor space from reference grocer layout plan provided.
[B] Unitary Demand based on OBC Table 8.2.1.3.B and the Region of Halton Water and Wastewater Linear Design Manual.
[C] Average Daily Demand based on floor space or units and unitary flow.
Ex: Avg. Daily Demand (Units 1&2 General Floor)= (3435 m^2) x (40 L/9.25m^2/day) / (60x60x24 s/day) = (3435 m^2) x (4.32 L/m^2/day) / (86,400 s/day) = 0.17 L/s
[D] Peaking Factors as per Region of Halton Water and Wastewater Linear Design Manual. Average Day = 1.0, Max Day = 2.25, Peak Hour = 2.25

The Proposed Water Demand for the site:

- **Average Day Demand is 1.13 L/s**
- **Max Day Demand is 2.54 L/s**
- **Peak Hour Demand is 2.54 L/s.**

Detailed Calculations can be found in the Appendix B that is attached which provides a breakdown for the expected proposed water demands for the site.

Based on the proposed peak domestic water demands (2.54 L/s), the site can continue to be serviced with the 100mm diameter service connections. There is no expected impact to the existing configuration or downstream infrastructure.

Fire Flow Demands

Fire flow demands for the building were determined using the methodology outlined in the "Water Supply for Public Fire Protection" (Fire Underwriters Survey, 2020). As the building itself will not be undergoing any changes the required fire flow will not change with the proposed development.

Table 3.1 - Fire Flow Demands

Fire Flow Demands	
Building	**Required Fire Flow**
Mixed Use	193.3 L/s

The Fire Flow Demand associated with the building was calculated to be 193.3 L/s.

Detailed calculations can be found in Appendix B.

CONCLUSIONS

Based on the information provided herein, it can be concluded that:

i. The Sanitary Demands for the proposed development will be a minor increase from the existing conditions, the existing service onsite will be suitable and there is no expected impact for the downstream infrastructure; and

ii. The Domestic Water demands for the proposed development will be a minor increase from the existing conditions, the existing servicing onsite will be suitable for the development and there is no expected impact for existing infrastructure; and

iii. The Fire Flow Demand for the building will remain the same as per existing conditions; and

iv. There are no water servicing or sanitary servicing concerns with respect to permitting the proposed use and we therefore recommend the zoning by-law amendment to be approved.

All of which is respectfully submitted,
MTE Consultants Inc.

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Appendix A

Sanitary Calculations

1881 Fairview Street

City of Burlington
Project No: 63701_001
Date: August 2025
By: QDA

Sanitary Demand Calculations

Location	Commercial				Final Demand	
	Units (ea) [1]	Floor Space (m^2)	Wastewater Demands (L/m^2 & L/Unit) [2]	Demand (L/s)	Total Average Demand (L/s)	Total Peaked Demand + Infiltration (L/s)
Plaza Units 1 & 2 Existing Configuration:						
Retail Store Space	-	3815	0.000058	0.221	0.221	
Plaza Units 4 & 5 Existing Configuration:						
Store Space	-	330	0.000058	0.019	0.019	
Plaza Unit 3 Existing Configuration:						
Restaurant (Estimated Seats)	500	-	0.001447	0.723	0.723	
Totals					**0.963**	**1.135**

Sanitary Demand		
Retails Space Daily Demands [2]	5	L/m^2/day
	0.0001	L/m^2/sec
Restaurant Daily Demands [2]	125	L/ca/day
	0.00145	L/ca/sec
Site Area	0.600	ha
Infiltration Allowance [3]	0.286	L/s/ha
	0.172	L/s

Note 1: Unit Floor Area provided by Rathcliffe Properties Limited

Note 2: Wastewater Demands based on OBC Sewage System Design Flows - Table 8.2.1.3.B Other Occupancies (Store)

Note 3: Infiltration allowance based on Region of Halton Water and Wastewater Linear Design Manual Design (Section 3)

1881 Fairview Street

City of Burlington
Project No: 63701_001
Date: August 2025
By: QDA

Sanitary Demand Calculations

Location	Commercial				Final Demand	
	Units (ea) [1]	Floor Space (m^2)	Wastewater Demands (L/m^2 & L/Unit) [2]	Demand (L/s)	Total Average Demand (L/s)	Total Peaked Demand + Infiltration (L/s)
Plaza Units 1 & 2 Converted to Grocer:						
Grocer Retail Space General	-	3435	0.000050	0.172	0.172	
Grocer Retail Space (Delicatessen, Bakery, Meat Dept.)	-	380	0.000238	0.090	0.090	
Per Water Closet (Estimated Washroom Count)	12	-	0.010764	0.129	0.129	
Plaza Units 4 & 5 Existing Configuration:						
Store Space	-	330	0.000058	0.019	0.019	
Plaza Unit 3 Existing Configuration:						
Restaurant (Estimated Seats)	500	-	0.001447	0.723	0.723	
Totals					**1.134**	**1.306**

Sanitary Demand		
Retails Space Daily Demands [2]	5	$L/m^2/day$
	0.0001	$L/m^2/sec$
Restaurant Daily Demands 2	125	L/ca/day
	0.0014	L/ca/sec
Food Outlet Space Daily Demands [2]	4.32	$L/m^2/day$
*General Use (40L per 9.25m2)	0.0001	$L/m^2/sec$
Food Outlet Space Daily Demands [2]	20.54	$L/m^2/day$
*Deli, Bakery, Meat Dept. (190L per 9.25m2)	0.0002	$L/m^2/sec$
Food Outlet Water Closer Daily Demands [2]	930	L/ca/day
	0.0108	L/ca/sec
Site Area	0.600	ha
Infiltration Allowance [6]	0.286	L/s/ha
	0.172	L/s

Note 1: Unit Floor Area provided by Rathcliffe Properties Limited

Note 2: Wastewater Demands based on OBC Sewage System Design Flows - Table 8.2.1.3.B Other Occupancies (Store)

Note 3: Infiltration allowance based on Region of Halton Water and Wastewater Linear Design Manual Design (Section 3)

Proposed Sanitary Demand	1.306
Existing Sanitary Demand	1.135
Increase from Development	15%

Ex. 150mm Sanitary Service Capacity	16.300	L/s
Proposed Sanitary Demand	1.306	L/s
Total Sewer Capacity Used	8%	

***No Sanitary Impact from Proposed Development**

Appendix B

Water Calculations

1881 Fairview Street

City of Burlington
Project No: 63701_001
Date: August 2025
By: QDA

Peaking Factors[1]:	
	Design
Avg. Day	1.0
Max. Day	2.25
Peak Hour	2.25

Water Demand Calculations

	Commercial			Final Demand		
Location	Floor / Units (m^2 / each)	Water Demands (L/m^2 & L/Unit) [2]	Demand (L/s)	Avg Day Demand Qavg (L/s)	Max Day Demand Qmax.day (L/s)	Peak Hour Demand Qpeak (L/s)
Plaza Units 1 & 2 Existing Configuration:						
Retail Store Space	3815	0.000058	0.22	0.22	0.50	0.50
Plaza Units 4 & 5 Existing Configuration:						
Store Space	330	0.000058	0.02	0.02	0.05	0.05
Plaza Unit 3 Existing Configuration:						
Restaurant (Estimated Seats)	500	0.001447	0.72	0.72	1.62	1.62
Totals			**0.96**	**0.96**	**2.16**	**2.16**

Water Demand [2]		
Retails Space Daily Demands [2]	5	L/m^2/day
	0.0001	L/m^2/sec
Restaurant Daily Demands [2]	125	L/ca/day
	0.00145	L/ca/sec

Fire Flow [4]		
Fire Flow	11,600	L/min
	193.33	L/s

Max Day + Fire Flow Demand		
Qmax.day+fire	195.49	L/s

Note 1: Peaking factors based on Halton Water and Wastewater Linear Design Manual (Section 2)

Note 2: Water Demands based on OBC Design Flows - Table 8.2.1.3.B Other Occupancies

Note 3: Water Demands based on Region of Halton Water and Wastewater Technical Report

Note 4: Fire flows from FUS (2020) - See attached worksheet

1881 Fairview Street

City of Burlington
Project No: 63701_001
Date: August 2025
By: QDA

Peaking Factors[1]:	
	Design
Avg. Day	1.0
Max. Day	2.25
Peak Hour	2.25

Water Demand Calculations

	Commercial			Final Demand		
Location	Floor / Units (m^2 / each)	Water Demands (L/m^2 & L/Unit) [2]	Demand (L/s)	Avg Day Demand Qavg (L/s)	Max Day Demand Qmax.day (L/s)	Peak Hour Demand Qpeak (L/s)
Plaza Units 1 & 2 Existing Configuration:						
Grocer Retail Space General	3435	0.000050	0.17	0.17	0.38	0.38
Grocer Retail Space (Delicatessen, Bakery, Meat Dept.)	380	0.000238	0.09	0.09	0.20	0.20
Per Water Closet (Estimated Washroom Count)	12	0.010764	0.13	0.13	0.29	0.29
Plaza Units 4 & 5 Existing Configuration:						
Store Space	330	0.000058	0.02	0.02	0.05	0.05
Plaza Unit 3 Existing Configuration:						
Restaurant (Estimated Seats)	500	0.001447	0.72	0.72	1.62	1.62
Totals			**1.13**	**1.13**	**2.54**	**2.54**

Water Demand [2]		
Retails Space Daily Demands [2]	5	L/m^2/day
	0.0001	L/m^2/sec
Restaurant Daily Demands 2	125	L/ca/day
	0.0014	L/ca/sec
Food Outlet Space Daily Demands [2]	4.32	L/m^2/day
*General Use (40L per 9.25m2)	0.0001	L/m^2/sec
Food Outlet Space Daily Demands [2]	20.54	L/m^2/day
*Deli, Bakery, Meat Dept. (190L per 9.25m2)	0.0002	L/m^2/sec
Food Outlet Water Closer Daily Demands [2]	930	L/ca/day
	0.0108	L/ca/sec

Fire Flow [4]		
Fire Flow	11,600	L/min
	193.33	L/s

Max Day + Fire Flow Demand		
Qmax.day+fire	195.88	L/s

Note 1: Peaking factors based on Halton Water and Wastewater Linear Design Manual (Section 2)

Note 2: Water Demands based on OBC Design Flows - Table 8.2.1.3.B Other Occupancies

Note 3: Water Demands based on Region of Halton Water and Wastewater Technical Report

Note 4: Fire flows from FUS (2020) - See attached worksheet

Proposed Dom. Demand	2.543
Existing Dom. Demand	2.160
Increase from Development	17.71%

***No Water Impact from Proposed Development (Domestic or Fire)**

1881 Fairview Street
City of Burlington
Project No: 63701_001
Date: August 2025
By: QDA

FIRE FLOW DEMAND REQUIREMENTS - FIRE UNDERWRITERS SURVEY (FUS GUIDELINES)

Fire flow demands for the FUS method is based on information and guidance provided in "Water Supply for Public Protection" (Fire Underwriters Survey, 2020).

An estimate of the fire flow required is given by the following formula:

$$RFF = 220C\sqrt{A}$$

where:

RFF = the required fire flow in litres per minute
C = coefficient related to the type of construction
= 1.5 for **Type V** Wood Frame Construction
= 0.8 for **Type IV-A** Mass Timber Construction
= 0.9 for **Type IV-B** Mass Timber Construction
= 1.0 for **Type IV-C** Mass Timber Construction
= 1.5 for **Type IV-D** Mass Timber Construction
= 1.0 for **Type III** Ordinary Construction
= 0.8 for **Type II** Noncombustible Costruction
= 0.6 for **Type I** Fire Resistive Construction
A = Total floor area in square metres from Site Plan
(for Type II Noncombustible Costruction)
A = single largest floor area plus 25% of each of the two immediat `
- vertical openings and exterior vertical communications are properly protected in accordance with the National Building Code

Adjustments to the calculated fire flow can be made based on occupancy, sprinkler protection and exposure to other structures. The table below summarizes the adjustments made to the basic fire flow demand.

			(1)		(2)		(3)		(4)		**Final Adjusted**		
Building	Area "A"	C	Fire Flow "RFF"		Occupancy		Sprinkler		Exposure		**Fire Flow**		
	(m^2)	(Type II)	(l/min)	(l/s)	%	Adjusted Fire Flow (L/min)	%	Adjustment (L/min)	%	Adjustment (L/min)	**(L/min)**	**Rounded(L/min)**	**(L/s)**
Commercial Stores	6,000.0	1.0	17,000	283.3	-15	14,450	-40	-5,780	20	2,890	11,560	11,600	**193.3**

(2) Occupancy

Non-Combustible	-25%
Limited Combustible	-15%
Combustible	No charge
Free Burning	15%
Rapid Burning	25%

(3) Sprinkler

-30% - Automatic sprinkler protection designed and installed in accordance with NFPA 13
-10% - Water supply is standard for both the system and Fire Department hose line

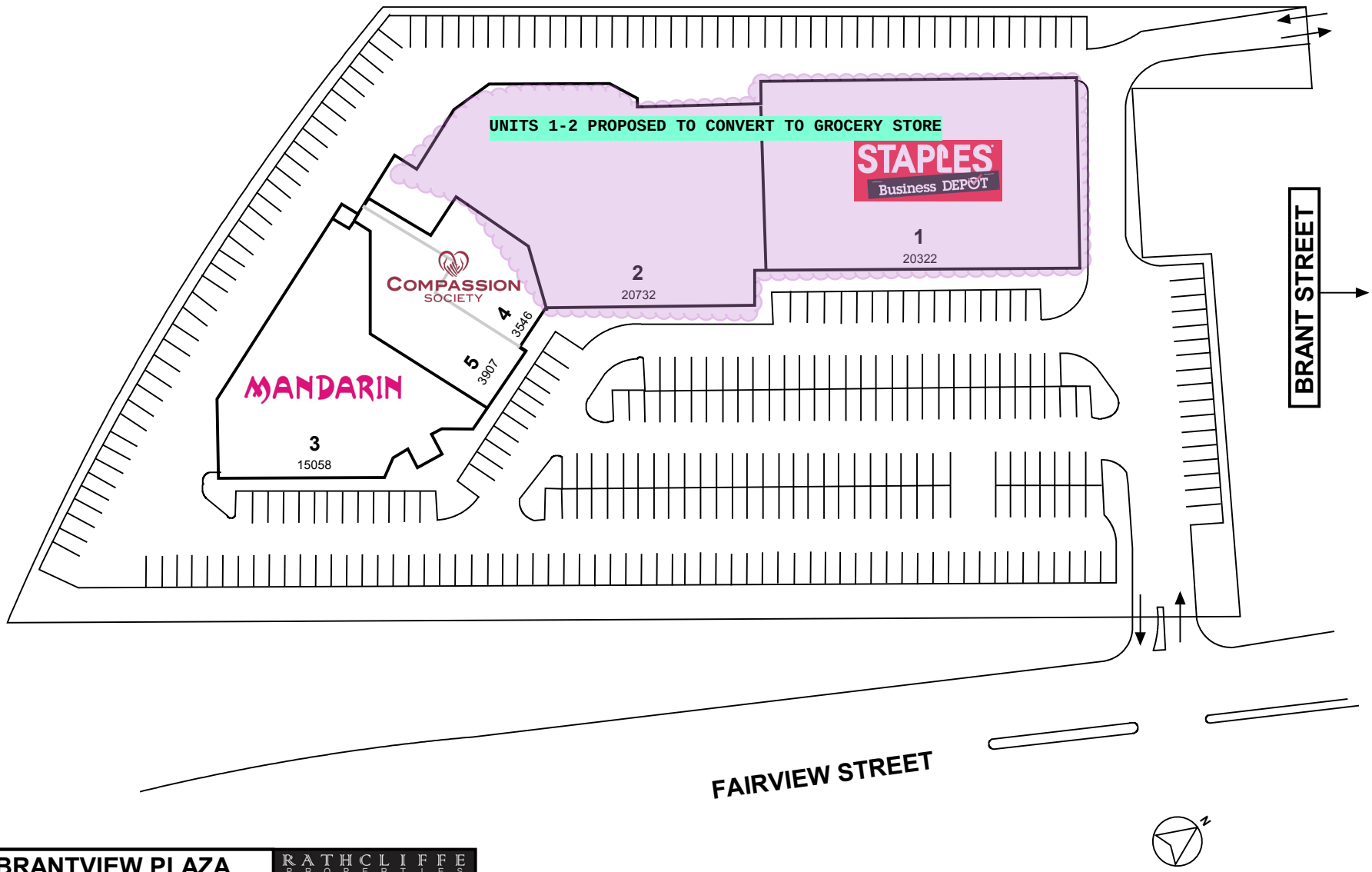
(4) Exposure

0 to 3m	25%	
3.1 to 10m	20%	Calculate for all
10.1 to 20m	15%	sides. Maximum
20.1 to 30m	10%	charge shall not
>30	0%	exceed 75%

Direction	**Distance (m)**	**%**
N	25	10
E	30	10
S	30+	0
W	30+	0
	Total	20

Appendix C

Site Plan
Existing Site Servicing Information



BRANTVIEW PLAZA
BURLINGTON, ONTARIO

RATHCLIFFE PROPERTIES
#300-1020 LAWRENCE AVENUE WEST
TORONTO, ONTARIO M6A 1C8
TEL: 416-787-1135
FAX: 416-787-8017
EMAIL: info@rathcliffe.com

SKETCH PLAN ONLY - NOT TO SCALE

LEGEND

EX.MH EX.CB — EXISTING MANHOLE/ CATCHBASIN

MH CB — PROPOSED MANHOLE/ CATCHBASIN

RD — PROPOSED RAMP DRAIN

R.W.L. — PROPOSED ROOF WATER LEAD

PROPOSED DIRECTION OF FLOW

GENERAL NOTES

1 ALL CATCHBASINS TO HAVE INLET PROTECTION DURING CONSTRUCTION UNTIL FIRST COAT OF ASPHALT. SEE DETAIL ON DRAWING 5 OF 5.
2 SILT FENCES MUST BE ERECTED BEFORE CONSTRUCTION BEGINS.
3 ALL WORK TO BE DONE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS OF THE CITY OF BURLINGTON AND REGIONAL MUNICIPALITY OF HALTON, AND O.P.S.D. WITH REGIONAL ADDITIONS AND REVISIONS.
4 ALL CONCRETE PIPE IS TO BE FROM PLANTS APPROVED BY THE MINISTRY OF ENVIRONMENT.
5 ALL NON-REINFORCED CONCRETE PIPE SHALL BE IN ACCORDANCE WITH C.S.A. DESIGNATION A257.1 - M1982.
6 ALL UNDERGROUND POURED CONCRETE AND ALL UNDERGROUND CONCRETE PRODUCTS ARE TO BE MADE WITH TYPE 50 CEMENT.
7 ALL ABOVE GROUND CONCRETE PRODUCTS ARE TO BE MADE WITH NORMAL PORTLAND CEMENT.
8 ALL SLOPES TO BE SODDED AS PER OPSD 210.01.
9 MAIN DRIVEWAY AND PARKING AREAS TO BE CONSTRUCTED WITH MIN. 50mm HL8, 40m HL3 AND MIN. 300mm GRANULAR 'A', COMPACTED TO 98% S.P.M.D.D.
10 CURBS TO BE CITY STD. S-120-M TYPE J.
11 PERIMETER RETAINING WALL AS PER CITY STD. S-128-M.
12 LOADING AREA RETAINING WALL TO BE POURED CONCRETE, SEE ARCH. DWG.
13 CONCRETE SIDEWALK AS PER OPSD 303.03

PROPOSED 1.8m CHAIN LINK FENCE AS PER OPSD 900.01
RETAINING WALL
164.24lm (538.85') N 45d 55' 20" E
PROPOSED 100mm 45° BEND c/w ANCHOR BLOCK
EX. FIRE HYDRANT
EXSITING CURB
EX. HYDRO AND BELL DUCTS
PROPOSED TAPPING SLEEVE c/w VALVE AND BOX
7.5m-150mm SAN. @ 0.5%
EX. 150mm WATERMAIN
EX. 150mm SAN.
EX. 200mm SAN.
EX.MH
EX. 400mm STM
EX. 400mm STM EX.MH
9.5m-250mm STM @ 0.5%
43.5m-150mm SAN. @ 0.5%
SAN. MH 1
N 47d 25' 05" W 46.49m
EXISTING SIDEWALK
EX. 150mm SAN.
EX. 300mm STM
EXSITING HYDRO VAULT
CB 4
250mm LEAD (TYPICAL)
36.0m-300mm STM @ 0.5%
CBMH 11
CBMH 10
36.0m-300mm STM @ 0.5%
CBMH 9
35.5m-300mm STM @ 0.5%
MH 3
PROPOSED 100mm WATERMAIN
RETAINING WALL
RD 2
RD 3
PROPOSED 50mm SOFT COPPER SERVICE TO EXTEND 2.5m BEYOND BUILDING LINE.
SANITARY SERVICE TO BE CAPPED 1.0m BEFORE BUILDING LINE.
32.619m (107.02') N 45d 04' 40" E
PROPOSED 100mm 90° BEND c/w ANCHOR BLOCK
EXISTING FUNERAL HOME
28.0m-250mm STM @ 0.5%
CBMH 12
CB 5
RD 1
R.W.L.
SEE MECH. DWG FOR DETAILS
APPROXIMATE FOOTPRINT OF UNIT 1-2 = 3815m2
APPROXIMATE FOOTPRINT OF UNIT 4-5 = 330m2
APPROXIMATE FOOTPRINT OF UNIT 3 = 1860m2
PROPOSED 100mm PLUG c/w ANCHOR BLOCK
SIAMESE CONNECTION TO EXTEND 2.5m BEYOND BUILDING LINE.
24.5m-375mm STM @ 0.5%
CBMH 8
30.50m (100.10') N 47d 18' W
12.497m (41.00') N 45d 04' 40" E
CONCRETE SIDEWALK
CB 3
32.0m-300mm STM @ 0.5%
CBMH 7
32.0m-450mm STM @ 0.5%
MH 2
PROPOSED FIRE HYDRANT AS PER REGION OF HALTON STANDARDS.
PROPOSED 200 x 200 x 150mm TEE AND ANCHOR BLOCK
PROPOSED 200mm ø WATERMAIN
CBMH 6
12.0m-450mm STM @ 0.5%
19.5m-450mm STM @ 0.5%
PROPOSED 45° BEND c/w ANCHOR BLOCK
DCBMH 1
CB 2
27.5m-250mm STM @ 0.5%
27.79 m
CBMH 5
50.0m-250mm STM @ 0.5%
CBMH 4
32.0m-300mm STM @ 0.5%
PROPOSED BARRIER CURB
65.678m (215.48') N 47d 19' W
CB 1
33.0m-250mm STM @ 0.5%
CBMH 3
53.0m-375mm STM @ 0.5%
52.98 m
CBMH 2
50.0m-375mm STM @ 0.5%
CBMH 1
48.5m-375mm STM @ 0.5%
18.5m-525mm STM @ 0.5%
MH 1
16.0m-600mm STM @ 0.5%
PAYLON SIGN
PROPOSED 200mm 22.5° BEND c/w ANCHOR BLOCK
PROPOSED 200mm 22.5° BEND c/w ANCHOR BLOCK
EX. 200mm VALVE AND BOX
EX. 200mm WATER SERVICE
EX.DCB
EX.MH
EX.DI
221.425m (726.46') N 45d 55' 30" E
EX. GASMAIN
BOTTOM OF SLOPE
TOP OF SLOPE
EX.CB
EX.CB
EX.CB
PROPOSED 200x200x100 TEE c/w ANCHOR BLOCK
EX. 600mm WATERMAIN
EX. 750mm STM @ 0.5%
CANADIAN NATIONAL RAILWAYS
R.426.625m (1399.69') N 11d 19' 40" W
FAIRVIEW STREET

NOTE: ALL BUILDINGS AND SITE WORK TO CONFORM TO SITE PLANS APPROVED BY COUNCIL ON Nov 18/92
Planning

STORM SEWER NOTES:

1 ALL STORM MANHOLES TO BE CONSTRUCTED AS PER OPSD 701.05.
2 ALL STORM SEWER PIPE BEDDING TO BE PLACED AS PER OPSD 802.03 CLASS B
3 MANHOLE BENCHING TO BE CONSTRUCTED AS PER OPSD 1004.01.
4 ALL CATCHBASINS TO BE CONSTRUCTED AS PER OPSD 705.02.
5 CATCHBASIN FRAME AND GRATE AS PER OPSD 400.02.

SANITARY SEWER NOTES:

1 SANITARY MANHOLE TO BE CONSTRUCTED AS PER OPSD 1001.01.
2 SANITARY MANHOLE BENCHING TO BE AS PER OPSD 1004.01.
3 SANITARY SEWER BEDDING TO BE AS PER OPSD 1005.02.
4 SANITARY SEWER MIN. COVER 2.15.

WATER SERVICE NOTES:

1 MINIMUM COVER OVER WATER SERVICE TO BE 1.7m.
2 ALL WATER SERVICE BACKFILL TO BE GRANULAR 'A' BACKFILL UNDER ROAD PAVEMENT.
3 HYDRANT AS PER OPSD 1105.01
4 EACH SERVICE TO BE EQUIPPED WITH A WATER METER.
5 EACH SERVICE TO HAVE A 100mm VALVE AT WATERMAIN.
6 EACH SERVICE TO HAVE BACK WATER DEVICES.
7 0.5m VERTICIAL SEPARATION WHERE WATERMAIN CROSSES UNDER SEWERS.
8 WATERMAIN TO BE INSTALLED AS PER OPSD 1103.01

STORM SEWER INFORMATION

STRUCTURE	T OF G	N INV.	S INV.	E INV.	W INV.	STANDARD
MH 1	96.45	93.20	93.12	-	93.34	OPSD701.05
MH 2	96.46	93.64	93.47	-	93.52	OPSD701.05
MH 3	96.67	-	93.90	93.98	94.01	OPSD701.05
DCBMH 1	96.22	93.37	93.29	-	93.56	OPSD701.05
CB 1	96.27	-	-	94.43	-	OPSD705.02
CB 2	96.34	-	-	94.18	-	OPSD705.02
CB 3	96.52	-	-	94.07	-	OPSD705.02
CB 4	96.62	-	-	-	94.03	OPSD705.02
CB 5	96.24	94.97	-	-	-	OPSD705.02
RD 1	95.60	94.95	-	-	-	OPSD705.02
RD 2	95.60	94.69	-	-	-	OPSD705.02
RD 3	95.60	94.53	-	-	-	OPSD705.02

STORM SEWER INFORMATION

STRUCTURE	T OF G	N INV.	S INV.	E INV.	W INV.	STANDARD
CBMH 1	96.32	-	-	93.58	93.60	OPSD701.03
CBMH 2	96.32	-	-	93.85	93.87	OPSD701.03
CBMH 3	96.33	-	-	94.14	94.26	OPSD701.03
CBMH 4	96.17	-	-	93.72	93.77	OPSD701.03
CBMH 5	96.28	-	-	94.02	94.04	OPSD701.03
CBMH 6	96.40	-	-	93.58	93.60	OPSD701.03
CBMH 7	96.44	-	-	93.76	93.91	OPSD701.03
CBMH 8	96.34	93.78	93.76	-	-	OPSD701.03
CBMH 9	96.49	-	-	94.19	94.21	OPSD701.03
CBMH 10	96.13	-	-	94.39	94.41	OPSD701.03
CBMH 11	95.95	-	-	94.59	94.64	OPSD701.04
CBMH 12	95.96	-	94.83	94.78	-	OPSD701.04

Description	Date	Init.
REVISIONS		

APPROVED DATE

NOT FOR CONSTRUCTION UNTIL SIGNED AND DATED

OWNER(S): EMSHIH DEVELOPMENTS INC.

BRANTVIEW
COMMERCIAL PLAZA
CITY OF BURLINGTON
THE REGIONAL MUNICIPALITY OF HALTON

OVERALL SERVICES

RECEIVED CITY OF BURLINGTON NOV 18 1992 DEPARTMENT OF BUILDING SERVICES

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Designed By: M.P.K.	Scale: 1:300
Drawn By: S.M.P.	Date: OCT. 1992
Checked By: M.P.K.	Drawing Number: SP 3 OF 4
Project: HE-227	