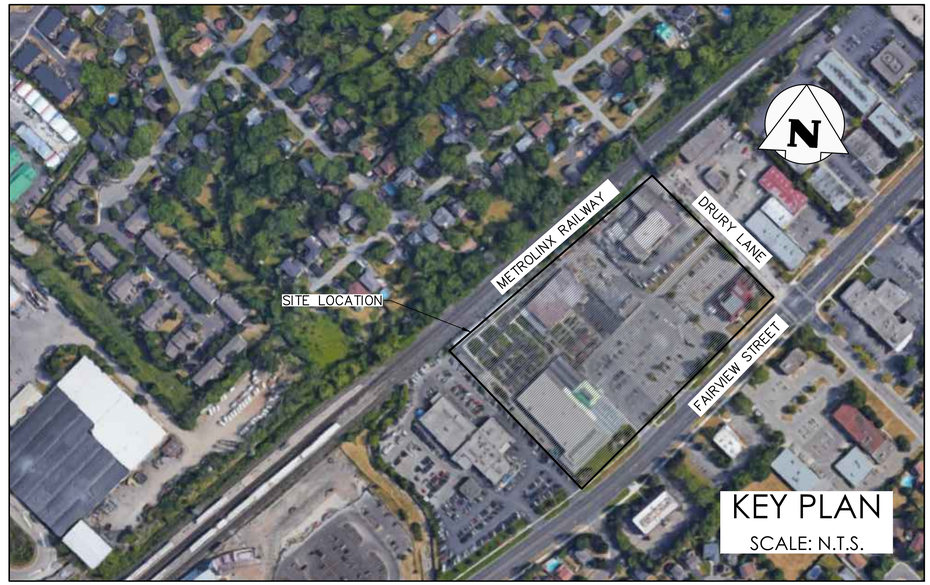
2243 FAIRVIEW STREET,
2269 FAIRVIEW STREET, &
864 DRURY LANE

CITY OF BURLINGTON
REGIONAL MUNICIPALITY OF HALTON

Sheet Number	Sheet Title
C 100	COVER PAGE
C 102 A	PHASE 1 - GENERAL SERVICING PLAN
C 102 B	ULTIMATE- GENERAL SERVICING PLAN
C 102 C	SERVICING STRUCTURES
C 102 D	STORMWATER VAULT SECTIONS
C 102 E	UNDERGROUND SWM CHAMBERS (CUPOLEX) DETAIL
C 102 F	SERVICING DETAIL
C 103 A	PHASE 1 - PNP - CENTRAL STATION COMMON STA. (0+238.85 TO 0+070)
C 103 B	PHASE 1 - PNP - CENTRAL STATION COMMON STA. (0+070 TO 0+000)
C 103 C	PHASE 1 - PNP - SERVICING EASEMENT STA. (0+094.53 TO 0+000)
C 103 D	PHASE 1 - PNP - PARK SERVICING
C 104 A	PHASE 1 - SITE GRADING PLAN
C 104 B	PHASE 1 - SITE GRADING PLAN
C 104 C	PHASE 1 - SITE GRADING PLAN
C 104 D	ULTIMATE - SITE GRADING PLAN
C 104 E	ULTIMATE - SITE GRADING PLAN
C 104 F	ULTIMATE - SITE GRADING PLAN
C 104 G	ULTIMATE - SITE GRADING PLAN
C 104 H	UNDERGROUND PARKING STRUCTURE SECTIONS
C 104 I	GRADING DETAILS AND SECTIONS
C 701	STORM SERVICING DRAINAGE PLAN
C 105	PHASE 1 - COMPOSITE UTILITY PLAN
C 106 A	ESC PHASE 1 - ABOVE GROUND REMOVALS STAGE 1
C 106 B	ESC PHASE 1 - BELOW GROUND REMOVALS STAGE 2
C 106 C	ESC PHASE 1 - EXCAVATION & SERVICING STAGE 3
C 106 D	ESC PHASE 1 - POST CONSTRUCTION STAGE 4
C 107 A	NOTES & DETAILS
C 107 B	NOTES & DETAILS
C 107 C	NOTES & DETAILS
C 107 D	NOTES & DETAILS
C 107 E	NOTES & DETAILS
C 107 F	NOTES & DETAILS
C 107 G	NOTES & DETAILS
C 107 H	NOTES & DETAILS
C 107 I	NOTES & DETAILS
C 108	TRUCK TURNING & MOVEMENT PLAN



CITY OF BURLINGTON
426 BRANT STREET
BURLINGTON, ONTARIO
L7R 3Z6

REGION OF HALTON
1151 BRONTE ROAD
OAKVILLE ONTARIO
L6M 3L1

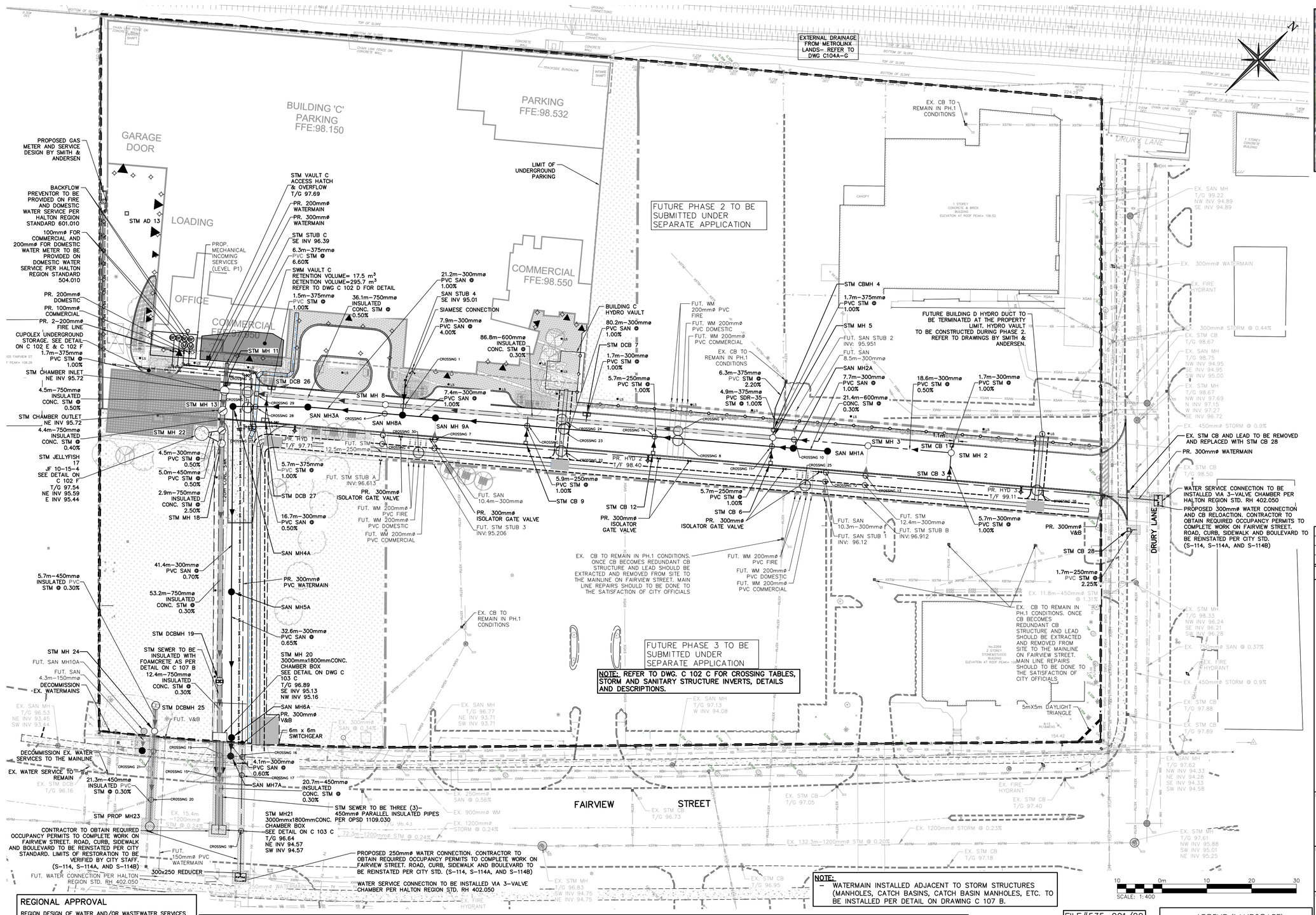
FAIRVIEW LIMITED PARTNERSHIP
c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY STREET
TORONTO, ONTARIO
M5J 2T3

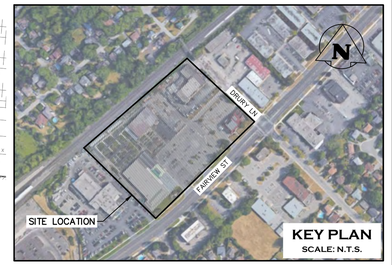
c/c CVL GROUP DEVELOPMENTS INC.
485 BANK STREET, SUITE 200
OTTAWA, ONTARIO
K2P LZ2

CROZIER CONSULTING ENGINEERS
2800 High Point Drive
Suite 100
Milton, ON L9T 6P4
905-875-0026 T
905-875-4915 F
www.cfcrozier.ca

PROJECT No.: 1486-4809

FAIRVIEW STREET & DRURY LANE ISSUED FOR 4TH SUBMISSION CROZIER CONSULTING ENGINEERS 1486-4809





NOTES:
- ALL CATCH BASINS TO BE FITTED WITH CB SHIELDS. SEE DETAILS ON C 107 H.
- STORM SEWERS AND ALL CATCH BASIN LEADS TO BE INSULATED WITH FOAMCRETE AS PER DETAIL ON C 107 B.
- TERRACE DRAINAGE AND INTERNAL CONVEYANCE TO BE DESIGNED BY MECHANICAL ENGINEER
- ALL CONCRETE PIPES TO BE CLASS 65D WITH OPSD 802.030 CLASS B BEDDING
- ALL STORM PVC PIPES TO BE SDR–35 WITH OPSD 802.010 BEDDING
- ALL SANITARY PVC PIPES TO BE SDR–35 WITH OPSD 802.010 BEDDING
- ALL WM PVC PIPES TO BE SDR–28 WITH OPSD 802.010 BEDDING
- ALL WM TEES TO BE 300x300x200mm (UNLESS OTHERWISE NOTED)
- CONTRACTOR TO ENSURE THAT ALL STORM SEWERS ARE INSTALLED PER DESIGNED ELEVATIONS. AT NO POINT THE MINIMUM SLOPES INDICATED IN THE DESIGN SHALL BE REDUCED FURTHER. CONTRACTOR TO REPORT STORM SEWER INVERT ELEVATIONS TO THE ENGINEER IMMEDIATELY AFTER CONSTRUCTION OF EACH PIPE SO THAT THE CONSTRUCTED SLOPES CAN BE VERIFIED.
- EXISTING SERVICES AND CROSSINGS' ELEVATIONS TO BE CONFIRMED ON SITE.

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/DEC/01
2	ISSUED FOR SECOND SPA SUBMISSION	2020/OCT/21
1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

ELEVATION NOTE:

ELEVATIONS SHOWN HEREON ARE REFERRED TO THE CITY OF BURLINGTON BENCHMARK No. 1045
ELEVATION = 93.477m

SURVEY NOTES:

SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141–0
BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS
UTM ZONE 17, NAD83 (CSRS) (2010.0)
DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18–223

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ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

REFER TO SUE PREPARED BY PLANVIEW UTILITY SERVICES LTD. FOR EXISTING UNDERGROUND UTILITY LOCATIONS.

Developer

FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project

2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

Drawing

PHASE 1 – GENERAL SERVICING PLAN

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____
BUSINESS & TECHNICAL SERVICES

The Applicant should be aware that the approval of water systems on private property is the responsibility of the Local Municipality. Regardless, the Applicant must ensure that the Region of Halton's standards and specifications are met *(The Water and Wastewater Linear Design Manual may be obtained thru the Data Management Group at 905–825–6032)* Furthermore, all water quality tests must be completed to the Region of Halton's satisfaction, before the water supply can be turned on.

LEGEND
PROPERTY LINE
LIMIT OF CONSTRUCTION
EX. BELL LINE
EX. UNDERGROUND HYDRO
EX. OVERHEAD HYDRO
EX. GAS LINE
EX. TELEVISION CABLE
EX. STREET LIGHTING
EX. STORM SEWER & MANHOLE
EX. SANITARY SEWER & MANHOLE
EXISTING WATERMAIN & GATE VALVE
EXISTING SINGLE / DOUBLE CATCHBASIN
PROPOSED WATERMAIN & GATE VALVE
PROPOSED FIRE HYDRANT & GATE VALVE
PROPOSED SIAMESE CONNECTION
PROPOSED STORM SEWER & MANHOLE
PROPOSED SINGLE / DOUBLE CATCHBASIN
PROPOSED SINGLE / DOUBLE CATCHBASIN MANHOLE
PROPOSED BACKFLOW AND WATER METER PER HALTON REGION STANDARD 504.010 & 601.010
PROPOSED SANITARY SEWER & MANHOLE
STM SEWER FOAMCRETE INSULATED PER C 107 B
LIMIT OF UNDERGROUND PARKING
PROPOSED ROAD REINSTATING
PROPOSED TREE PIT
PROPOSED SILVA CELL
PROPOSED VISITOR BIKE SPACE
PROPOSED HYDRO DUCT BANK
PROPOSED COMMUNICATION DUCT BANK
PROPOSED GAS MAIN & GAS METER
PROPOSED BUILDING ENTRANCE
MOUNTED WALL LIGHTS
PROPOSED LIGHT STANDARD
DEPRESSED CURB
BARRIER CURB
EXISTING CURB

FILE #535–001/20

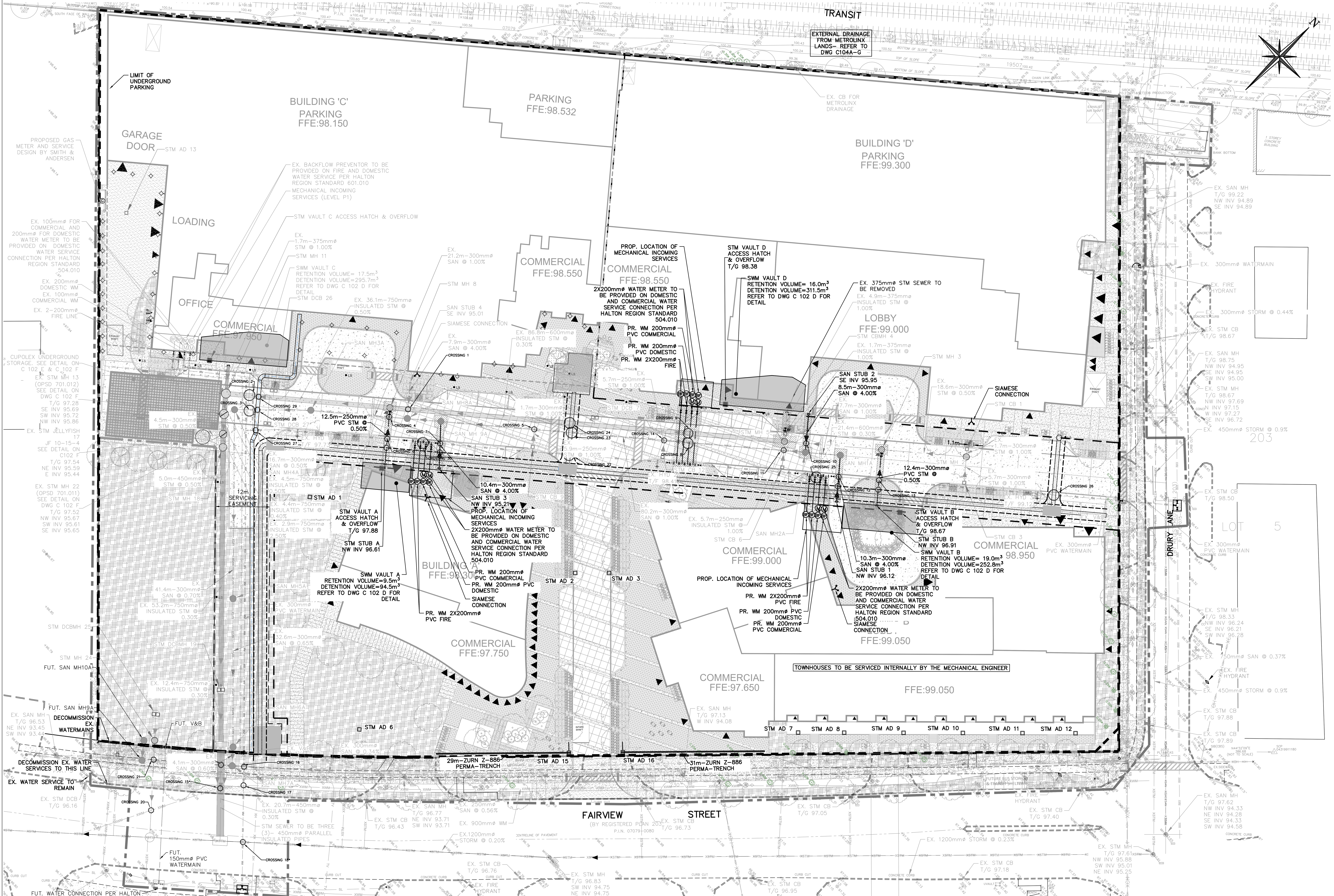
Stamp
LICENSED PROFESSIONAL ENGINEER J. E. PETTIFER 100505043 JUL 20, 2022 PROVINCE OF ONTARIO

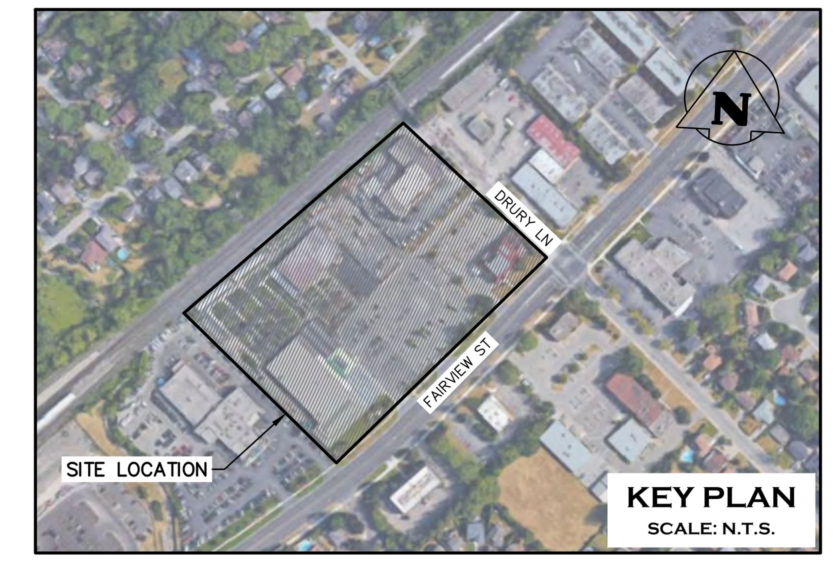
Stamp
LICENSED PROFESSIONAL ENGINEER PAVEL FILIPTSEV 100146817 JULY.20,2022 PROVINCE OF ONTARIO

LEGEND (LANDSCAPE)
PROPOSED LIGHT DUTY PEDESTRIAN CONCRETE PAVING
PROPOSED HEAVY DUTY VEHICULAR CONCRETE PAVING
PROPOSED GRASS SEED
PROPOSED LANDSCAPE AREA
PROPOSED UNIT PAVERS
PROPOSED SODDED AREA

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	Design	Project No.	
M.P./N.C.	M.P./P.F.	1486–4809	
Check	Check	Scale	Dwg.
J.V.	P.F.	1: 400	C 102 A





NOTES:

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NOTE: REFER TO DWG. C 102 C FOR CROSSING TABLES, STORM AND SANITARY STRUCTURE INVERTS, DETAILS AND DESCRIPTIONS

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REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: ________________ DATED: ______________

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LEGEND

- PROPERTY LINE
- LIMIT OF CONSTRUCTION
- EXISTING WATERMAIN & GATE VALVE
- EXISTING STORM SEWER & MANHOLE
- EXISTING SINGLE / DOUBLE CATCHBASIN
- EXISTING SANITARY SEWER & MANHOLE
- EXISTING HYDRO
- EXISTING OVERHEAD HYDRO
- EXISTING GASMAIN
- EXISTING BELL LINE
- EXISTING STREET LIGHT CABLE & LIGHT STANDARD
- EXISTING TV CABLE
- PROPOSED WATERMAIN & GATE VALVE
- PROPOSED FIRE HYDRANT & GATE VALVE
- PROPOSED SIAMESE CONNECTION
- PROPOSED STORM SEWER & MANHOLE
- PROPOSED SINGLE / DOUBLE CATCHBASIN
- PROPOSED SINGLE / DOUBLE CATCHBASIN MANHOLE
- WALL MOUNTED LIGHTS
- STM SEWER FOAMCRETE INSULATED PER C 107 B
- PROPOSED SANITARY SEWER & MANHOLE
- LIMIT OF UNDERGROUND PARKING
- PROPOSED ROAD REINSTATING
- PROPOSED BACK–FLOW PREVENTOR STM
- PROPOSED STORMWATER VAULT W/IN UNDERGROUND PARKING GARAGE
- PROPOSED STORMWATER VAULT ACCESS HATCH
- PROPOSED BACKFLOW AND WATER METER PER HALTON REGION STANDARD 504.010 & 601.010
- PROPOSED LIGHT STANDARD
- EXISTING CURB
- PROPOSED TREE PIT
- PROPOSED SILVA CELL
- PROPOSED VISITOR BIKE SPACE
- PROPOSED HYDRO DUCT BANK
- PROPOSED COMMUNICATION DUCT BANK
- BUILDING ENTRANCE (PERSONNEL DOOR)
- DEPRESSED CURB
- BARRIER CURB
- PROPOSED GAS MAIN & GAS METER

LANDSCAPE

- PROPOSED LIGHT DUTY PEDESTRIAN CONCRETE PAVING
- PROPOSED HEAVY DUTY VEHICULAR CONCRETE PAVING
- PROPOSED VEHICULAR ASPHALT PAVING
- PROPOSED GRASS SEED
- PROPOSED LANDSCAPE AREA
- PROPOSED UNIT PAVERS
- PROPOSED SODDED AREA
- PROPOSED TURF STONE

10 0m 10 20 30
SCALE: 1:400

FILE#535–001/20

Stamp: LICENSED PROFESSIONAL ENGINEER J. E. PETTIFER 100505043 JUL 20, 2022 PROVINCE OF ONTARIO

Stamp: LICENSED PROFESSIONAL ENGINEER PAVEL FILIPTSEV 100146817 JULY.20,2022 PROVINCE OF ONTARIO

Developer
FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC. 181 BAY ST. TORONTO, ON M5J 2T3	c/c CLV GROUP DEVELOPMENTS INC. 485 BANK ST., SUITE 200 OTTAWA, ON K2P 1Z2

Project
2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN CITY OF BURLINGTON

Drawing
ULTIMATE– GENERAL SERVICING PLAN

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	M.P./N.C.	Design	M.P./P.F.	Project No.	1486–4809
Check	J.V.	Check	P.F.	Scale 1:400	Dwg. C 102 B

I:\1400\1486-CLV Realty Corp\4809-2269 Fairview St & 84 Drury Ln\CAD\Civil\Sheets\4809_C102B SERVICING.dwg, 2022-08-09 5:39:17 PM, AutoCAD PDF (General Documentation).pc3

SCHEDULE OF SERVICES CROSSING DATA					
CROSSING NO.	Pipe 1 Type (High Service)	"HIGH" SERVICE INVERT ELEVATION (m)	Pipe 2 Type (Low Service)	"LOW" SERVICE OBVERT ELEVATION (m)	DIFFERENCE (m)
1	STM	96.21	SAN	95.06	1.15
2	STM	95.90	WM	95.40	0.50
3	WM	95.20	SAN	94.59	0.61
4	STM	96.56	SAN	94.90	1.66
5	STM	96.34	SAN	95.25	1.09
6	STM	96.59	WM	95.72	0.87
7	SAN	94.95	WM	94.39	0.56
8	SAN	95.30	WM	94.81	0.50
9	STM	96.40	WM	94.81	1.59
10	STM	96.51	SAN	95.96	0.55
11	STM	96.82	SAN	95.81	1.01
12	SAN	95.91	WM	95.21	0.70
13	STM	96.89	WM	95.21	1.68
14	STM	96.42	SAN	95.55	0.87
15	STM	95.11	EX WM	94.59	0.52
16	WM	94.29	EX SAN	93.88	0.41
17	EX. WM	93.70	WM	93.20	0.50
18	EX STM	94.58	WM	93.85	0.73
19	STM	95.12	EX SAN	93.88	1.24
20	STM	95.10	EXWM	94.60	0.50
21	STM	95.13	EXSAN	93.83	1.30
22	HYDRO	95.59	WM	95.09	0.50
23	HYDRO	95.59	SAN	95.33	0.26
24	STM	96.32	HYDRO	96.09	0.23
25	HYDRO	96.98	WM	96.48	0.50
26	HYDRO	97.22	WM	96.72	0.50
27	COMM	96.10	WM	95.49	0.61
28	COMM	95.72	SAN	94.60	1.12
29	STM	95.91	COMM	95.76	0.15
30	HYDRO	96.43	WM	95.75	0.68

NOTE:
GAS LAYOUT PRELIMINARY. COORDINATION WITH ENBRIDGE GAS IS ONGOING. CONFLICT CHECKS WITH SERVICING DESIGN TO BE COMPLETED UPON CONFIRMATION BY ENBRIDGE

SANITARY STRUCTURE TABLE			
MHA#	T/G	INV	OPSD
STUB 4	97.77	SE INV OUT = 95.01	300 mm STUB
STUB 3	98.07	NW INV OUT = 95.21	300 mm STUB
STUB 2	98.56	SE INV OUT = 95.95	300 mm STUB
STUB 1	98.54	NW INV OUT = 96.12	300 mm STUB
MH10A	96.67	SE INV OUT = 93.73	1,200 mm OPSD 701.010
MH9A	96.59	NW INV IN = 93.64	1,200 mm OPSD 701.010
MH8A	97.62	NE INV IN = 94.65 NW INV IN = 94.69 SW INV OUT = 94.63	1,200 mm OPSD 701.010
MH7A	96.76	NW INV IN = 93.65	1,200 mm OPSD 701.010
MH6A	96.90	NW INV IN = 93.70 SE INV OUT = 93.67	1,200 mm OPSD 701.010
MH5A	96.97	NW INV IN = 93.93 SE INV OUT = 93.91	1,200 mm OPSD 701.010
MH4A	97.29	NE INV IN = 94.28 SE INV OUT = 94.22	1,200 mm OPSD 701.010
MH3A	97.41	NE INV IN = 94.42 SW INV OUT = 94.36	1,200 mm OPSD 701.010
MH2A	98.35	NE INV IN = 95.57 NW INV IN = 95.61 SW INV OUT = 95.55	1,200 mm OPSD 701.010
MH1A	98.41	SE INV IN = 95.71 SW INV OUT = 95.65	1,200 mm OPSD 701.010
MH 9A	97.69	NE INV IN = 94.75 SE INV IN = 94.79 SW INV OUT = 94.73	1,200 mm OPSD 701.010
EX.MH37A	97.65	NW INV IN = 94.28	1,200 mm OPSD 701.010
EX.MH8A	98.77	NW INV IN = 94.69 SE INV OUT = 94.68	1,200 mm OPSD 701.010
EX.MH7	99.24	SE INV OUT = 94.85	1,200 mm OPSD 701.010

SANITARY STRUCTURE TABLE			
MHA#	T/G	INV	OPSD
PROP MH9A	96.59	NE INV IN = 93.52 SW INV OUT = 93.52	1,200 mm OPSD 701.010
PROP MH7A	96.76	NE INV IN = 93.57 SW INV OUT = 93.58	1,200 mm OPSD 701.010
EX. MH40A	93.98	NE INV IN = 93.47	1,200 mm OPSD 701.010
EX. MH20A	96.85	SW INV OUT = 93.68	1,200 mm OPSD 701.010

STORM STRUCTURE TABLE			
MHA#	T/G	INV	OPSD
PROP MH23	96.60	NE INV IN = 94.54 SW INV OUT = 94.54	1,800 mm OPSD 701.012
MH21	96.64	NE INV IN = 94.57 SW INV OUT = 94.57	1,800 x 3,000 mmCONC. CHAMBER BOX
EX. MH38	96.72	NE INV IN = 94.45	1,800 mm OPSD 701.012
EX. MH	97.61	SW INV OUT = 95.01	1,800 mm OPSD 701.012
EX MH39	96.83	NE INV IN = 94.75 SW INV OUT = 94.75	1,800 mm OPSD 701.012

STORM STRUCTURE TABLE			
MHA#	T/G	INV	OPSD
VAULT D ACCESS HATCH & OVERFLOW	98.38		1,200 mm OPSD 701.010
VAULT C ACCESS HATCH & OVERFLOW	97.69		1,200 mm OPSD 701.010
VAULT B ACCESS HATCH & OVERFLOW	98.67		1,200 mm OPSD 701.010
VAULT A ACCESS HATCH & OVERFLOW	97.88		1,200 mm OPSD 701.010
STUB F	96.88	NW INV IN = 96.39	250 mm STUB
STUB E	97.31	SE INV OUT = 96.90	375 mm STUB
STUB D	98.71	NW INV IN = 96.76 SE INV OUT = 96.76	375 mm STUB
STUB C	96.80	SE INV OUT = 96.39	375 mm STUB
STUB B	98.61	NW INV OUT = 96.91	300 mm STUB
STUB A	97.85	NW INV OUT = 96.61	250 mm STUB
MH23	95.55	NW INV IN = 95.08	1,800 mm OPSD 701.012
MH 24	96.66	NW INV IN = 95.18 SE INV OUT = 95.15	1,200 mm OPSD 701.010
MH 22	97.52	NW INV IN = 95.67 SW INV OUT = 95.61 SE INV OUT = 95.65	1,500 mm OPSD 701.011
MH 20	96.89	NW INV IN = 95.16 SE INV OUT = 95.13	1,800 x 3,000 mm Rectangular Structure
MH 18	97.62	W INV IN = 95.41 NW INV IN = 95.58 SE INV OUT = 95.39	1,500 mm OPSD 701.011
MH 13	97.28	SW INV IN = 95.72 NW INV IN = 95.86 SE INV OUT = 95.69	1,800 mm OPSD 701.012
MH 11	97.28	NE INV IN = 95.88 NW INV IN = 95.98 SW INV OUT = 95.74 SE INV OUT = 95.88	1,800 mm OPSD 701.012
MH 8	97.54	NE INV IN = 96.20 SE INV IN = 96.55 SW INV OUT = 96.06	1,200 mm OPSD 701.010
MH 5	98.28	NE INV IN = 96.49 SE INV IN = 96.81 NW INV IN = 96.68 SW INV OUT = 96.46	1,200 mm OPSD 701.010
MH 3	98.43	NE INV IN = 96.85 SE INV IN = 96.85 SW INV OUT = 96.55	1,200 mm OPSD 701.010
MH 2	98.56	SE INV IN = 97.00 NW INV IN = 97.00 SW INV OUT = 96.94	1,200 mm OPSD 701.010
JELLYFISH 17	97.54	NE INV IN = 95.59 E INV OUT = 95.44	3,000 mm OPSD 701.014
EX.MH9	97.18	SE INV OUT = 96.72	1,200 mm OPSD 701.010
DCBMH 25	96.47	SE INV OUT = 95.19	1,800 mm OPSD 701.012
DCBMH 19	96.65	NW INV IN = 95.23 SE INV OUT = 95.20	1,800 mm OPSD 701.011
DCB 27	97.21	NW INV OUT = 96.26	OPSD 705.020
DCB 26	97.21	SE INV IN = 96.22	OPSD 705.020
DCB 7	97.95	SE INV OUT = 96.34	OPSD 705.020
CHAMBER OUTLET	96.66	NE INV OUT = 95.72	
CHAMBER INLET	97.29	NE INV IN = 95.72	

STORM STRUCTURE TABLE			
MHA#	T/G	INV	OPSD
CBMH 4	98.25	NW INV IN = 96.72 SE INV OUT = 96.70	1,200 mm OPSD 701.010
CB 28	96.71	NE INV IN = 96.45	OPSD 705.010
CB 12	98.07	NW INV OUT = 96.46	OPSD 705.010
CB 9	97.82	NW INV OUT = 96.38	OPSD 705.010
CB 6	98.25	NW INV OUT = 96.87	OPSD 705.010
CB 3	98.53	NW INV OUT = 97.06	OPSD 705.010
CB 1	98.53	SE INV OUT = 97.02	OPSD 705.010
AD 16	97.18	NW INV OUT = 95.70	ZURN Z-886 PERMA-TRENCH
AD 15	97.17	NW INV OUT = 95.50	ZURN Z-886 PERMA-TRENCH
AD 13	97.90		ZURN PERMA-TRENCH Z887-24 CATCH BASIN
AD 12	98.90		ZURN PERMA-TRENCH Z887-24 CATCH BASIN
AD 11	98.90		ZURN PERMA-TRENCH Z887-24 CATCH BASIN
AD 10	98.90		ZURN PERMA-TRENCH Z887-24 CATCH BASIN
AD 9	98.90		ZURN PERMA-TRENCH Z887-24 CATCH BASIN
AD 8	98.90		ZURN PERMA-TRENCH Z887-24 CATCH BASIN
AD 7	98.95		ZURN PERMA-TRENCH Z887-24 CATCH BASIN
AD 6	96.55		ZURN PERMA-TRENCH Z887-24 CATCH BASIN
AD 5	96.88		2xZURN PERMA-TRENCH Z887-24 CATCH BASIN
AD 4	96.88		2xZURN PERMA-TRENCH Z887-24 CATCH BASIN
AD 3	97.61		ZURN PERMA-TRENCH Z887-24 CATCH BASIN
AD 2	97.61		ZURN PERMA-TRENCH Z887-24 CATCH BASIN
AD 1	97.00		ZURN PERMA-TRENCH Z887-24 CATCH BASIN



No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/DEC/01
2	ISSUED FOR SECOND SPA SUBMISSION	2020/OCT/21
1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

ELEVATION NOTE:

ELEVATIONS SHOWN HEREON ARE REFERRED TO THE CITY OF BURLINGTON BENCHMARK No. 1045

ELEVATION = 93.477m

SURVEY NOTES:

SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141-0

BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS
UTM ZONE 17, NAD83 (CSRS) (2010.0)

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18-223

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REFER TO SUE PREPARED BY PLANVIEW UTILITY SERVICES LTD. FOR EXISTING UNDERGROUND UTILITY LOCATIONS.

Developer

FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project

2243 FAIRVIEW ST., 2269 FAIRVIEW ST.,
864 DRURY LN
CITY OF BURLINGTON

Drawing

SERVICING STRUCTURES

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	Design	Project No.	
M.P./N.C.	M.P./P.F.		1486-4809
Check	Check	Scale	Dwg.
J.V.	P.F.	N.T.S.	C 102 C

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

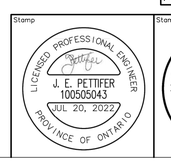
SIGNED: _____ DATED: _____
BUSINESS & TECHNICAL SERVICES

The Applicant should be aware that the approval of water systems on private property is the responsibility of the Local Municipality. Regardless, the Applicant must ensure that the Region of Halton's standards and specifications are met *(The Water and Wastewater Linear Design Manual may be obtained thru the Data Management Group at 905-825-6032)* Furthermore, all water quality tests must be completed to the Region of Halton's satisfaction, before the water supply can be turned on.

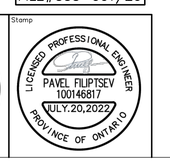
NOTES:
- ALL CATCH BASINS TO BE FITTED WITH CB SHIELDS. SEE DETAILS ON C 107 H.
- STORM SEWERS AND ALL CATCH BASIN LEADS TO BE INSULATED WITH FOAMCRETE AS PER DETAIL ON C 107 B.
- TERRACE DRAINAGE AND INTERNAL CONVEYANCE TO BE DESIGNED BY MECHANICAL ENGINEER
- ALL CONCRETE PIPES TO BE CLASS 65D WITH OPSD 802.030 CLASS B BEDDING
- ALL STORM PVC PIPES TO BE SDR-35 WITH OPSD 802.010 BEDDING
- ALL SANITARY PVC PIPES TO BE SDR-35 WITH OPSD 802.010 BEDDING
- ALL WM PVC PIPES TO BE SDR-28 WITH OPSD 802.010 BEDDING
- ALL WM TEES TO BE 300x300x200mm (UNLESS OTHERWISE NOTED)
- CONTRACTOR TO ENSURE THAT ALL STORM SEWERS ARE INSTALLED PER DESIGNED ELEVATIONS. AT NO POINT THE MINIMUM SLOPES INDICATED IN THE DESIGN SHALL BE REDUCED FURTHER. CONTRACTOR TO REPORT STORM SEWER INVERT ELEVATIONS TO THE ENGINEER IMMEDIATELY AFTER CONSTRUCTION OF EACH PIPE SO THAT THE CONSTRUCTED SLOPES CAN BE VERIFIED.
- EXISTING SERVICES AND CROSSINGS' ELEVATIONS TO BE CONFIRMED ON SITE.

FILE#535-001/20

Stamp

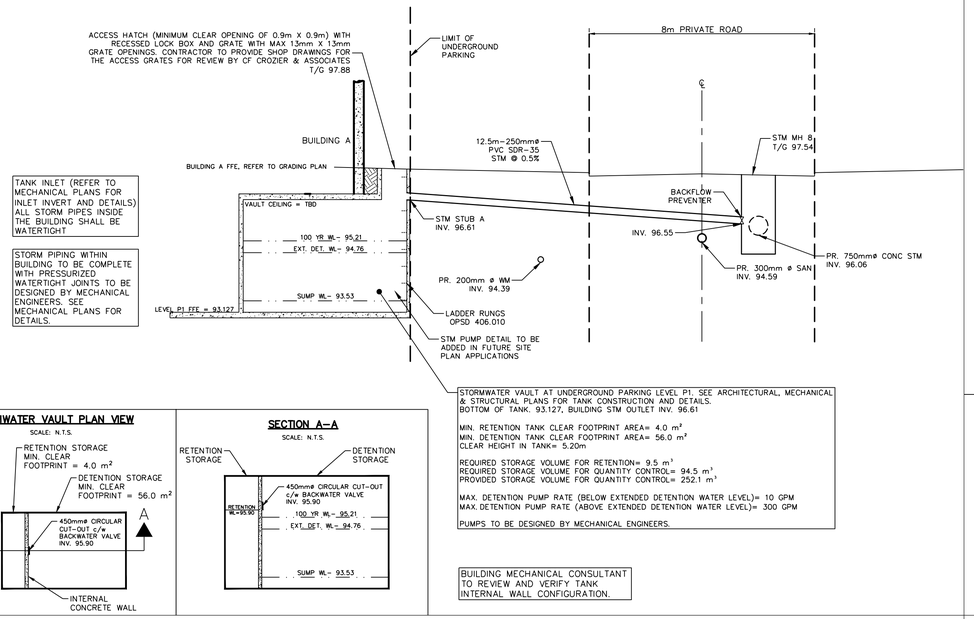


Stamp



STORMWATER VAULT–BUILDING A

SCALE: N.T.S.



STORMWATER VAULT AT UNDERGROUND PARKING LEVEL P1. SEE ARCHITECTURAL, MECHANICAL & STRUCTURAL PLANS FOR TANK CONSTRUCTION AND DETAILS.
BOTTOM OF TANK. 93.127, BUILDING STM OUTLET INV. 96.61

MIN. RETENTION TANK CLEAR FOOTPRINT AREA= 4.0 m^2
MIN. DETENTION TANK CLEAR FOOTPRINT AREA= 56.0 m^2
CLEAR HEIGHT IN TANK= 5.20m

REQUIRED STORAGE VOLUME FOR RETENTION= 9.5 m^3
REQUIRED STORAGE VOLUME FOR QUANTITY CONTROL= 94.5 m^3
PROVIDED STORAGE VOLUME FOR QUANTITY CONTROL= 252.1 m^3

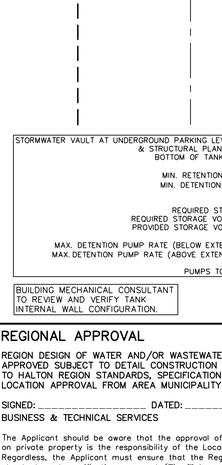
MAX. DETENTION PUMP RATE (BELOW EXTENDED DETENTION WATER LEVEL)= 10 GPM
MAX. DETENTION PUMP RATE (ABOVE EXTENDED DETENTION WATER LEVEL)= 300 GPM

PUMPS TO BE DESIGNED BY MECHANICAL ENGINEERS.

BUILDING MECHANICAL CONSULTANT TO REVIEW AND VERIFY TANK INTERNAL WALL CONFIGURATION.

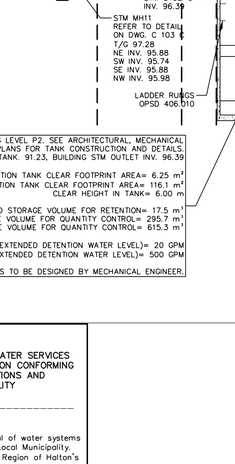
STORMWATER VAULT PLAN VIEW

SCALE: N.T.S.



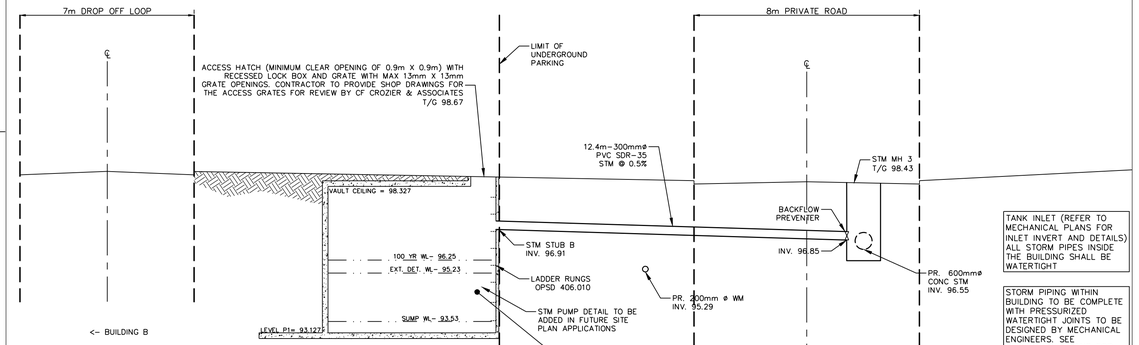
SECTION A–A

SCALE: N.T.S.



STORMWATER VAULT–BUILDING B

SCALE: N.T.S.



STORMWATER VAULT AT UNDERGROUND PARKING LEVEL P1. SEE ARCHITECTURAL, MECHANICAL & STRUCTURAL PLANS FOR TANK CONSTRUCTION AND DETAILS.
BOTTOM OF TANK. 93.127, BUILDING STM OUTLET INV. 96.91

MIN. RETENTION TANK CLEAR FOOTPRINT AREA= 6.5 m^2
MIN. DETENTION TANK CLEAR FOOTPRINT AREA= 92.8 m^2
CLEAR HEIGHT IN TANK= 5.20 m

REQUIRED STORAGE VOLUME FOR RETENTION= 19.0 m^3
REQUIRED STORAGE VOLUME FOR QUANTITY CONTROL= 252.8 m^3
PROVIDED STORAGE VOLUME FOR QUANTITY CONTROL= 417.6 m^3

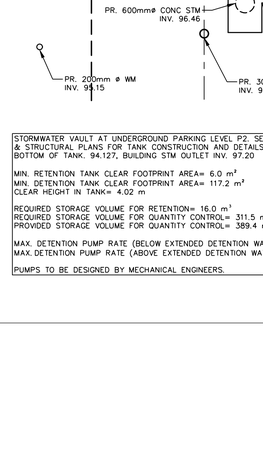
MAX. DETENTION PUMP RATE (BELOW EXTENDED DETENTION WATER LEVEL)= 15 GPM
MAX. DETENTION PUMP RATE (ABOVE EXTENDED DETENTION WATER LEVEL)= 500 GPM

PUMPS TO BE DESIGNED BY MECHANICAL ENGINEERS.

BUILDING MECHANICAL CONSULTANT TO REVIEW AND VERIFY TANK INTERNAL WALL CONFIGURATION.

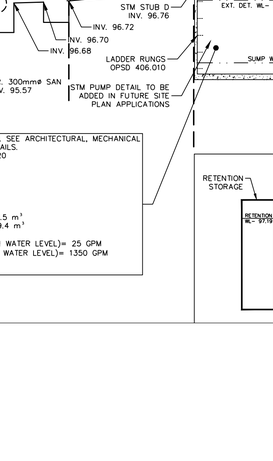
STORMWATER VAULT PLAN VIEW

SCALE: N.T.S.



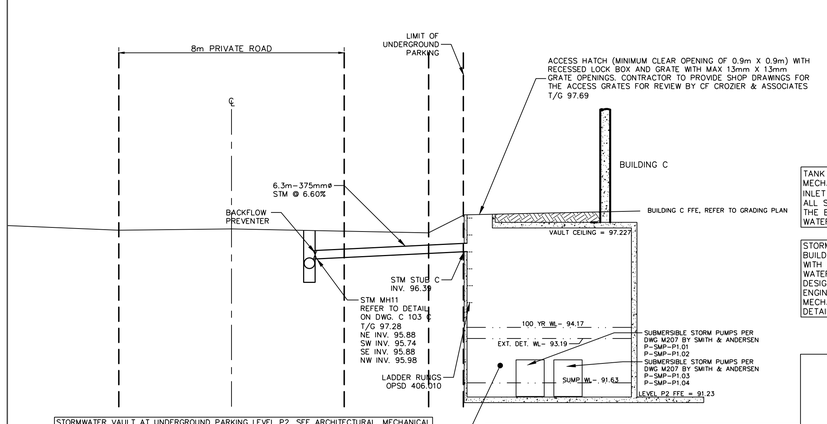
SECTION A–A

SCALE: N.T.S.



STORMWATER VAULT–BUILDING C

SCALE: N.T.S.



STORMWATER VAULT AT UNDERGROUND PARKING LEVEL P2. SEE ARCHITECTURAL, MECHANICAL & STRUCTURAL PLANS FOR TANK CONSTRUCTION AND DETAILS.
BOTTOM OF TANK. 91.23, BUILDING STM OUTLET INV. 96.39

MIN. RETENTION TANK CLEAR FOOTPRINT AREA= 6.25 m^2
MIN. DETENTION TANK CLEAR FOOTPRINT AREA= 116.1 m^2
CLEAR HEIGHT IN TANK= 6.00 m

REQUIRED STORAGE VOLUME FOR RETENTION= 17.5 m^3
REQUIRED STORAGE VOLUME FOR QUANTITY CONTROL= 295.7 m^3
PROVIDED STORAGE VOLUME FOR QUANTITY CONTROL= 615.3 m^3

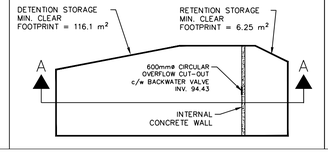
MAX. DETENTION PUMP RATE (BELOW EXTENDED DETENTION WATER LEVEL)= 20 GPM
MAX. DETENTION PUMP RATE (ABOVE EXTENDED DETENTION WATER LEVEL)= 500 GPM

PUMPS TO BE DESIGNED BY MECHANICAL ENGINEER.

BUILDING MECHANICAL CONSULTANT TO REVIEW AND VERIFY TANK INTERNAL WALL CONFIGURATION.

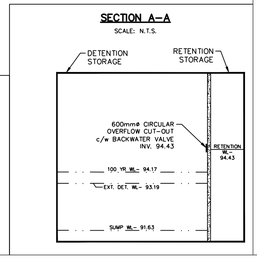
STORMWATER VAULT PLAN VIEW

SCALE: N.T.S.



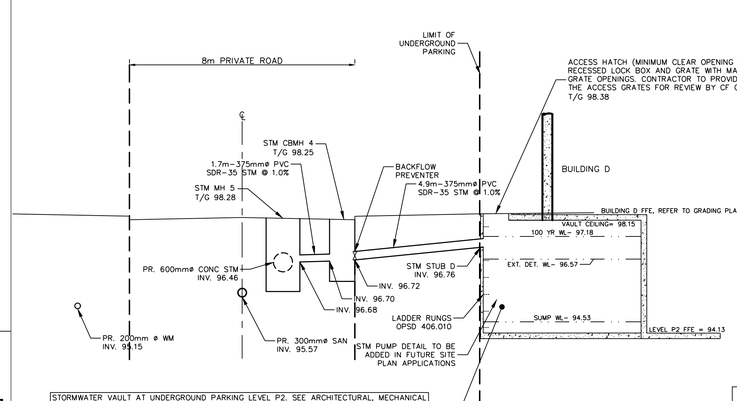
SECTION A–A

SCALE: N.T.S.



STORMWATER VAULT–BUILDING D

SCALE: N.T.S.



STORMWATER VAULT AT UNDERGROUND PARKING LEVEL P2. SEE ARCHITECTURAL, MECHANICAL & STRUCTURAL PLANS FOR TANK CONSTRUCTION AND DETAILS.
BOTTOM OF TANK. 94.127, BUILDING STM OUTLET INV. 97.20

MIN. RETENTION TANK CLEAR FOOTPRINT AREA= 6.0 m^2
MIN. DETENTION TANK CLEAR FOOTPRINT AREA= 117.2 m^2
CLEAR HEIGHT IN TANK= 4.02 m

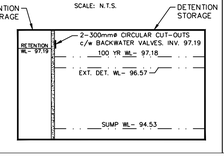
REQUIRED STORAGE VOLUME FOR RETENTION= 16.0 m^3
REQUIRED STORAGE VOLUME FOR QUANTITY CONTROL= 311.5 m^3
PROVIDED STORAGE VOLUME FOR QUANTITY CONTROL= 389.4 m^3

MAX. DETENTION PUMP RATE (BELOW EXTENDED DETENTION WATER LEVEL)= 25 GPM
MAX. DETENTION PUMP RATE (ABOVE EXTENDED DETENTION WATER LEVEL)= 1350 GPM

PUMPS TO BE DESIGNED BY MECHANICAL ENGINEERS.

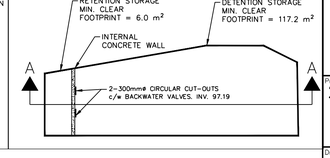
SECTION A–A

SCALE: N.T.S.



STORMWATER VAULT PLAN VIEW

SCALE: N.T.S.



REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____
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FILE#535–001/20

Stamp

LICENSED PROFESSIONAL ENGINEER
J. E. PETTIFER
100505043
JUL 20, 2022
PROVINCE OF ONTARIO

Stamp

LICENSED PROFESSIONAL ENGINEER
PAVEL FILIPTSEV
100146817
JULY.20,2022
PROVINCE OF ONTARIO

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/DEC/01
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1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

ELEVATION NOTE:

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ELEVATION = 93.477m

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SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141–0

BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS
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DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18–223

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Developer

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c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project

2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

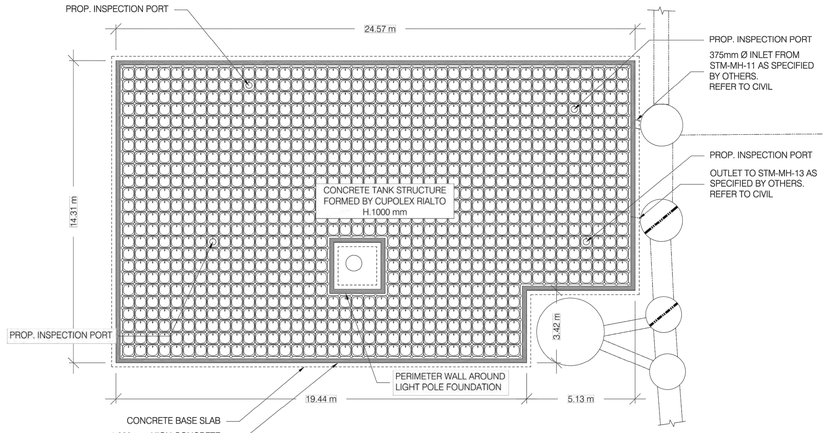
Drawing

STORMWATER VAULT SECTIONS

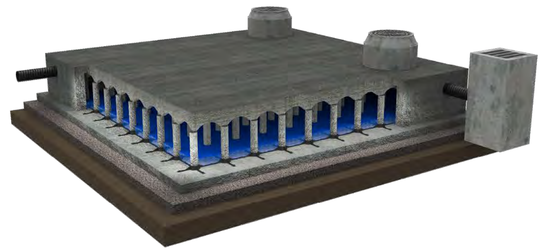
CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	Design	Project No.	
S.T.T.	S.T.T./J.H.		1486–4809
Check	Check	Scale	Dwg.
J.H.	K.J.F.	N.T.S.	C 102 D

CONTRACTOR TO CONTACT CUPOLEX ENGINEERING SOLUTIONS INC. FOR ENGINEER STAMPED DESIGN DRAWINGS. UNDERGROUND CONCRETE TANK STRUCTURE CAN BE DESIGNED TO SUPPORT ANY LOADING. CIVIL ENGINEER TO SPECIFY LOADING CRITERIA



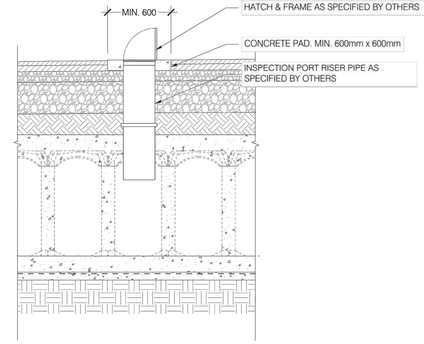
1 / C1 CUPOLEX FORMING PLAN
SCALE 1:100



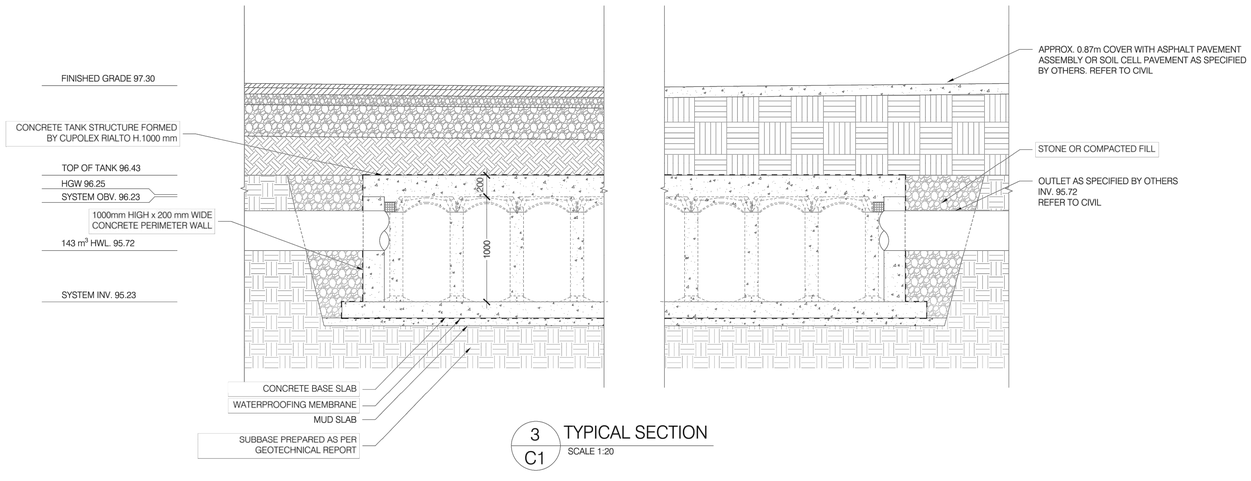
TANK ELEVATIONS	
TANK INV.	95.23
PERMANENT POOL	95.72
HIGH WATER ELEV.	96.23
TANK OBV.	96.23
HIGH GROUNDWATER	96.25
TOP OF TANK*	96.43
AVERAGE FINISHED GRADE	97.30

*NOTE: ASSUMING 200mm CONC. OVER CUPOLEX FORMS

TANK PROPERTIES	
INSIDE PERIMETER	75 m
OUTSIDE PERIMETER	77 m
INSIDE TANK AREA	311 m^2
OUTSIDE TANK AREA	326 m^2
TOTAL STORAGE VOLUME	285.5 m^3
DEAD STORAGE VOLUME	142.3 m^3
ACTIVE STORAGE VOLUME	143.2 m^3
DEPTH OF TANK	1000 mm



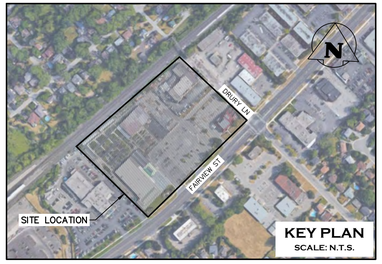
2 / C1 TYPICAL INSPECTION PORT
SCALE 1:20



3 / C1 TYPICAL SECTION
SCALE 1:20

REINFORCING AND CONCRETE THICKNESS ABOVE CUPOLEX TO BE VERIFIED ON FINAL DESIGN

PRELIMINARY
NOT FOR CONSTRUCTION



NOTES:
- CONTRACTOR TO CONTACT CUPOLEX ENGINEERING SOLUTIONS INC. FOR ENGINEER STAMPED DESIGN DRAWINGS
- TANK STRUCTURE DESIGNED TO SUPPORT DEAD LOAD OF COVER AND LIVE LOADING FROM CRANE, AS WELL AS UPLIFT PRESSURE FROM HIGH GROUNDWATER ELEVATION
- CONTRACTOR TO CONTACT GEOTECHNICAL ENGINEER AND CUPOLEX TO CONFIRM SOIL BEARING CAPACITY AND CONSTRUCTION CONSTRAINTS FOR HEAVY EQUIPMENT LOADING
- SHOP DRAWINGS TO BE REVIEWED AND APPROVED BY C.F. CROZIER AND ASSOCIATES

CUPOLEX® ENGINEERING SOLUTIONS INC.
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FAIRVIEW & DRURY
BURLINGTON, ON

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NO.	DATE	DESCRIPTION	DRW.	CHK.
1	25/11/21	CONCEPTUAL DESIGN	AD	MK
2	27/05/22	CONCEPTUAL DESIGN	AD	MK
3	22/06/22	CONCEPTUAL DESIGN	IT	AD
4	19/07/22	CONCEPTUAL DESIGN	AD	MK
5	25/07/22	CONCEPTUAL DESIGN	IT	AD

DATE: 25 November, 2021
DRAWN BY: AD
CHECKED BY: MK
SCALE: As Noted
PROJECT No.: 21-4405

CHAMBER LAYOUT & SECTIONS

C1

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/DEC/01
2	ISSUED FOR SECOND SPA SUBMISSION	2020/OCT/21
1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

ELEVATION NOTE:

ELEVATIONS SHOWN HEREON ARE REFERRED TO THE CITY OF BURLINGTON BENCHMARK No. 1045

ELEVATION = 93.477m

SURVEY NOTES:

SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141-0

BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS
UTM ZONE 17, NAD83 (GSRS) (2010.0)

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18-223

DRAWING NOTES:

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THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.

THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT. DO NOT SCALE THIS DRAWING.

ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

REFER TO SUE PREPARED BY PLANVIEW UTILITY SERVICES LTD. FOR EXISTING UNDERGROUND UTILITY LOCATIONS.

Developer
FAIRVIEW LIMITED PARTNERSHIP
c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3
c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project
2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

Drawing
UNDERGROUND SWM CHAMBERS (CUPOLEX) DETAIL

FILE#535-001/20

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____
BUSINESS & TECHNICAL SERVICES

The Applicant should be aware that the approval of water systems on private property is the responsibility of the Local Municipality. Regardless, the Applicant must ensure that the Region of Halton's standards and specifications are met *(The Water and Wastewater Linear Design Manual may be obtained thru the Data Management Group at 905-825-6032)* Furthermore, all water quality tests must be completed to the Region of Halton's satisfaction, before the water supply can be turned on.

Stamp
LICENSED PROFESSIONAL ENGINEER
J. E. PETTIFER
100505043
JUL 20, 2022
PROVINCE OF ONTARIO

Stamp
LICENSED PROFESSIONAL ENGINEER
PAVEL FILIPTSEV
100146817
JULY.20,2022
PROVINCE OF ONTARIO

CROZIER CONSULTING ENGINEERS
2800 High Point Drive
Suite 100
Milton, ON L9T 6P4
905 875 0026 T
905 875 4915 F
www.cfcrozier.ca

Drawn	Design	Project No.	
M.P./N.C.	M.P./P.F.		1486-4809
Check	Check	Scale	Dwg.
J.V.	P.F.		C 102 E

I:\1400\1486-CLV Realty Corp\4809-2269 Fairview St & 84 Drury Ln\CAD\Civil\Sheets\4809_C102E - C102F SERVICING DETAIL.dwg, C 102 E, 2022-07-29 11:22:06 AM, mbowman

GENERAL NOTES:
1. ALL DIMENSIONS INDICATED ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SPECIFIED.
2. JELLYFISH STRUCTURE INLET AND OUTLET PIPE SIZE AND ORIENTATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.
3. UNLESS OTHERWISE NOTED, BYPASS INFRASTRUCTURE, SUCH AS ALL UPSTREAM DIVERSION STRUCTURES, CONNECTING STRUCTURES, OR PIPE CONDUITS CONNECTING TO COMPLETE THE JELLYFISH SYSTEM SHALL BE PROVIDED AND ADDRESSED SEPARATELY.
4. DRAWING FOR INFORMATION PURPOSES ONLY. REFER TO ENGINEER'S SITE/UTILITY PLAN FOR STRUCTURE ORIENTATION.
5. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OR RECORD.

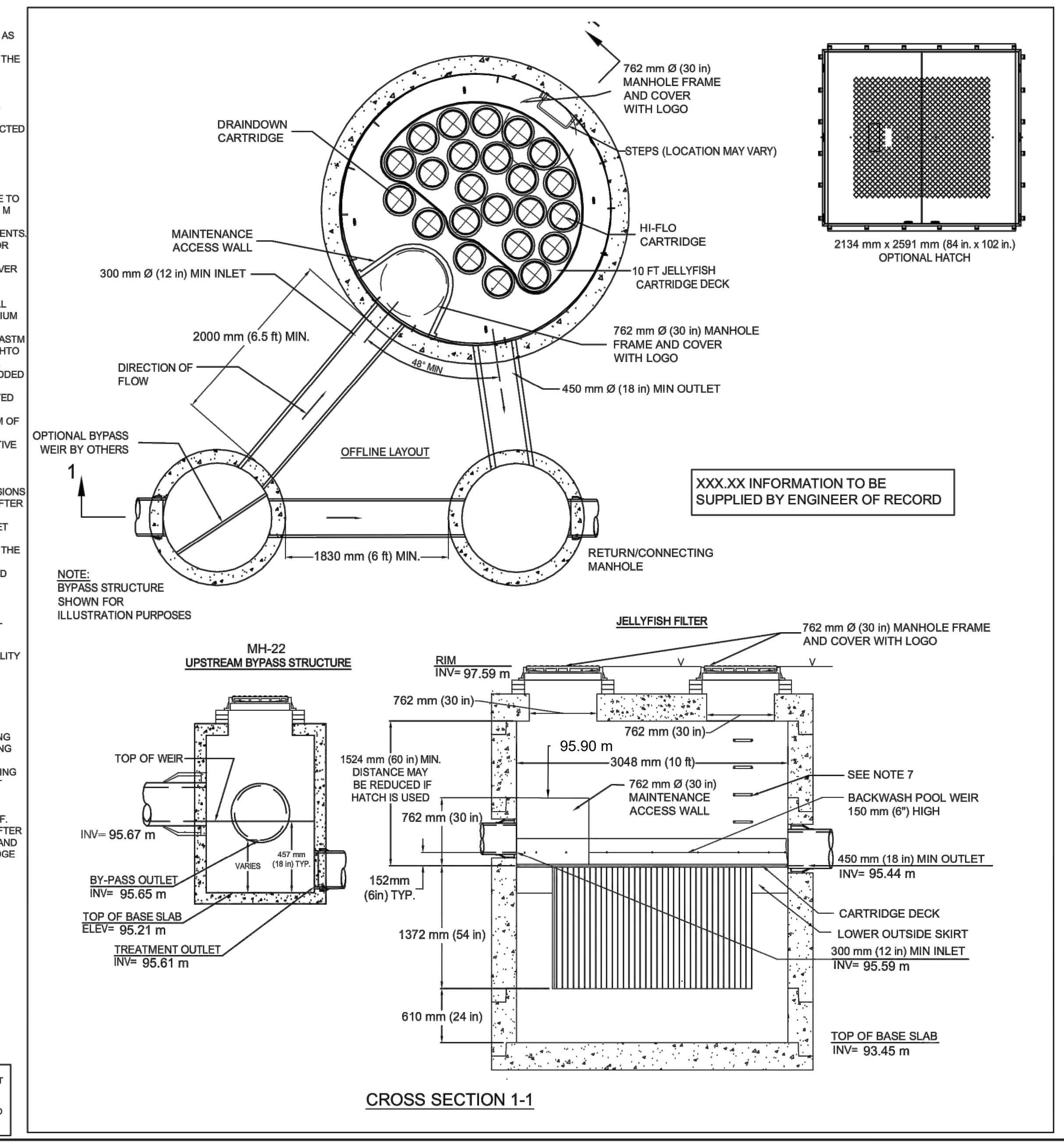
JELLYFISH STRUCTURE & DESIGN NOTES:
1. 762 MM Ø (30") MAINTENANCE ACCESS WALL TO BE USED FOR CLEANOUT AND ACCESS BELOW CARTRIDGE DECK.
2. CASTINGS OR DOORS OF THE JELLYFISH MANHOLE STRUCTURE TO EXTEND TO DESIGN FINISH GRADE. DEPTHS IN EXCESS OF 3.65 M (12') MAY REQUIRE THE DESIGN AND INSTALLATION OF INTERMEDIATE SAFETY GRATES OR OTHER STRUCTURAL ELEMENTS.
3. CASTINGS AND GRADE RINGS, OR DOORS AND DOOR RISERS, OR BOTH, SHALL BE GROUTED FOR WATERTIGHTNESS. STRUCTURE SHALL MEET AASHTO HS-20, ASSUMING EARTH COVER OF 0' - 3', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE IMBRIUM LOGO.
4. ALL STRUCTURAL SECTIONS AND PARTS TO MEET OR EXCEED ASTM C-478, ASTM C-443, AND ASTM D-4097 CORRESPONDING TO AASHTO SPECIFICATIONS, AND ANY OTHER SITE OR LOCAL STANDARDS.
5. CONCRETE RISER SECTIONS FROM BOTTOM TO TOP WILL BE ADDED AS REQUIRED INCLUDING TRANSITION PIECES TO SMALLER DIAMETER RISERS FOR SURFACE ACCESSES WHERE WARRANTED BY SERVICING DEPTH.
6. IF MINIMUM DEPTH FROM TOP OF CARTRIDGE DECK TO BOTTOM OF STRUCTURAL TOP SLAB CANNOT BE ACHIEVED DUE TO PIPING INVERT ELEVATIONS OR OTHER SITE CONSTRAINTS. ALTERNATIVE HATCH CONFIGURATIONS MAY BE AVAILABLE. HATCH DOORS SHOULD BE SIZED TO PROVIDE FULL ACCESS ABOVE THE CARTRIDGES TO ACCOMMODATE MAINTENANCE.
7. STEPS TO BE APPROXIMATELY 330 MM (13") APART AND DIMENSIONS MUST MEET LOCAL STANDARDS. STEPS MUST BE INSTALLED AFTER CARTRIDGE DECK IS IN PLACE.
8. CONFIGURATION OF INLET AND OUTLET PIPE CAN VARY TO MEET SITE'S NEEDS.
9. IT IS THE RESPONSIBILITY OF OTHERS TO PROPERLY PROTECT THE TREATMENT DEVICE, AND KEEP THE DEVICE OFFLINE DURING CONSTRUCTION. FILTER CARTRIDGES SHALL NOT BE INSTALLED UNTIL THE PROJECT SITE IS CLEAN AND FREE OF DEBRIS, BY OTHERS. THE PROJECT SITE INCLUDES ANY SURFACE THAT CONTRIBUTES STORM DRAINAGE TO THE TREATMENT DEVICE. CARTRIDGES SHALL BE FURNISHED NEW, AT THE TIME OF FINAL ACCEPTANCE.
10. THIS DRAWING MUST BE VIEWED IN CONJUNCTION WITH THE STANDARD JELLYFISH SPECIFICATION, AND STORMWATER QUALITY FILTER TREATMENT JELLYFISH DOCUMENTS.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED)
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
D. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
E. CARTRIDGE INSTALLATION, BY IMBRIUM, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT IMBRIUM TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

STANDARD OFFLINE JELLYFISH RECOMMENDED PIPE DIAMETERS			
MODEL DIAMETER (m)	MINIMUM ANGLE INLET/OUTLET PIPES	MINIMUM INLET PIPE DIAMETER (mm)	MINIMUM OUTLET PIPE DIAMETER (mm)
1.2	62	150	200
1.8	59	200	250
2.4	52	250	300
3.0	48	300	450
3.6	40	300	450
CONTACT IMBRIUM SYSTEMS FOR ALTERNATE PIPE DIAMETERS			

FOR SITE SPECIFIC DRAWINGS PLEASE CONTACT YOUR LOCAL JELLYFISH FILTER REPRESENTATIVE. SITE SPECIFIC DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME. SOME FIELD REVISIONS TO THE SYSTEM LOCATION OR CONNECTION PIPING MAY BE NECESSARY BASED ON AVAILABLE SPACE OR SITE CONFIGURATION REVISIONS. ELEVATIONS SHOULD BE MAINTAINED EXCEPT WHERE NOTED ON BYPASS STRUCTURE.

DRAWING NOT TO BE USED FOR CONSTRUCTION



SITE SPECIFIC DATA REQUIREMENTS					
JELLYFISH MODEL	*				
STRUCTURE ID					*
WATER QUALITY FLOW RATE (L/s)					*
PEAK FLOW RATE (L/s)					*
RETURN PERIOD OF PEAK FLOW (yrs)					*
# OF CARTRIDGES REQUIRED (HF / DD)					*
CARTRIDGE SIZE (inches)					*
PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	*	*	*	*	*
* PER ENGINEER OF RECORD					

JELLYFISH DESIGN NOTES

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN. Ø3048mm (120") MANHOLE JELLYFISH PEAK TREATMENT CAPACITY IS 108.5 L/s (3.83 CFS). TREATMENT FLOW RATE IS BASED ON 457 MM (18") OF HEAD PRESSURE.

CARTRIDGE SELECTION				
CARTRIDGE DEPTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE BASE SLAB	90"	76"	63"	51"
FLOW RATE HIGH-FLO / DRAINDOWN (L/s) (per cart)	5.09 / 2.55	3.68 / 1.84	2.55 / 1.27	1.41 / 0.71
SEDIMENT CAPACITY HIGH-FLO / DRAINDOWN (kg) (per cart)	57 / 28	42 / 21	28 / 14	16 / 8
MAX. CARTS HIGH-FLO/DRAINDOWN	19 / 4			
MAX. SEDIMENT CAPACITY (kg)	1195	882	588	336
MAX. TREATMENT (L/s)	106.2	79.6	52.9	29.1

MARK	DATE	REVISION DESCRIPTION	BY
#	#	#	#
#	#	#	#
#	#	#	#
#	#	#	#
1	08/01/2015	NOTES	BSF
0	10/01/2014	INTIAL RELEASE	BSF

Jellyfish®
JF10 STANDARD
Scale – 1:50

imbrium® Jellyfish® Filter

DATE: #####	
DESIGNED:	DRAWN: BSF
CHECKED: BSF	APPROVED: SP
PROJECT #: #####	PROJECT NAME: #####
SHEET: 1 OF 2	

JELLYFISH® FILTER - SPECIFICATIONS

GENERAL
A. WORK INCLUDED: SPECIFIES REQUIREMENTS FOR CONSTRUCTION AND PERFORMANCE OF AN UNDERGROUND STORMWATER QUALITY, MEMBRANE FILTRATION, AND TREATMENT DEVICE THAT REMOVES POLLUTANTS FROM STORMWATER RUNOFF THROUGH THE UNIT OPERATIONS OF SEDIMENTATION, FLOATATION, AND MEMBRANE FILTRATION.
B. REFERENCE STANDARDS:
ASTM C 891: SPECIFICATION FOR INSTALLATION OF UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES
ASTM C 478: SPECIFICATION FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS
ASTM C 990: SPECIFICATION FOR JOINTS FOR CONCRETE MANHOLES USING PREFORMED FLEXIBLE JOINT SEALANTS
ASTM D 4101: SPECIFICATION FOR COPOLYMER STEPS CONSTRUCTION
C. SHOP DRAWINGS: SHOP DRAWINGS FOR THE STRUCTURE AND PERFORMANCE ARE TO BE SUBMITTED WITH EACH ORDER TO THE CONTRACTOR. CONTRACTOR SHALL FORWARD SHOP DRAWING SUBMITTAL TO THE CONSULTING ENGINEER FOR APPROVAL. SHOP DRAWINGS ARE TO DETAIL THE STRUCTURE PRECAST CONCRETE AND CALL OUT OR NOTE THE FIBERGLASS (FRP) INTERNALS/COMPONENTS.
D. PRODUCT SUBSTITUTIONS: NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD. SUBMISSIONS FOR SUBSTITUTIONS REQUIRE REVIEW AND APPROVAL BY THE ENGINEER OF RECORD, FOR HYDRAULIC PERFORMANCE, IMPACT TO PROJECT DESIGNS, EQUIVALENT TREATMENT PERFORMANCE, AND ANY REQUIRED PROJECT PLAN AND REPORT (HYDROLOGY/HYDRAULIC, WATER QUALITY, STORMWATER POLLUTION) MODIFICATIONS THAT WOULD BE REQUIRED BY THE APPROVING JURISDICTIONS/AGENCIES. CONTRACTOR TO COORDINATE WITH THE ENGINEER OF RECORD ANY APPLICABLE MODIFICATIONS TO THE PROJECT ESTIMATES OF COST, BONDING AMOUNT DETERMINATIONS, PLAN CHECK FEES FOR CHANGES TO APPROVED DOCUMENTS, AND/OR ANY OTHER REGULATORY REQUIREMENTS RESULTING FROM THE PRODUCT SUBSTITUTION.
E. HANDLING AND STORAGE: PREVENT DAMAGE TO MATERIALS DURING STORAGE AND HANDLING.

PRODUCTS
A. THE DEVICE SHALL BE A CYLINDRICAL OR RECTANGULAR, ALL CONCRETE STRUCTURE (INCLUDING RISERS), CONSTRUCTED FROM PRECAST CONCRETE RISER AND SLAB COMPONENTS OR MONOLITHIC PRECAST STRUCTURE(S), INSTALLED TO CONFORM TO ASTM C 891 AND TO ANY REQUIRED STATE HIGHWAY, MUNICIPAL OR LOCAL SPECIFICATIONS; WHICHEVER IS MORE STRINGENT. THE DEVICE SHALL BE WATERTIGHT.
B. THE CYLINDRICAL CONCRETE DEVICE SHALL INCLUDE A FIBERGLASS CARTRIDGE DECK INSERT. THE RECTANGULAR CONCRETE DEVICE SHALL INCLUDE A COATED ALUMINUM INSERT. IN EITHER INSTANCE, THE INSERT SHALL BE BOLTED AND SEALED WATERTIGHT INSIDE THE PRECAST CONCRETE CHAMBER. THE INSERT SHALL SERVE AS: (A) A HORIZONTAL DIVIDER BETWEEN THE LOWER TREATMENT ZONE AND THE UPPER TREATED EFFLUENT ZONE; (B) A DECK FOR ATTACHMENT OF FILTER CARTRIDGES SUCH THAT THE MEMBRANE FILTER ELEMENTS OF EACH CARTRIDGE EXTEND INTO THE LOWER TREATMENT ZONE; (C) A PLATFORM FOR MAINTENANCE WORKERS TO SERVICE THE FILTER CARTRIDGES (MAXIMUM MANNED WEIGHT = 450 POUNDS); (D) A CONDUIT FOR CONVEYANCE OF TREATED WATER TO THE EFFLUENT PIPE.
C. MEMBRANE FILTER CARTRIDGES SHALL BE COMPRISED OF REUSABLE CYLINDRICAL MEMBRANE FILTER ELEMENTS CONNECTED TO A PERFORATED HEAD PLATE. THE NUMBER OF MEMBRANE FILTER ELEMENTS PER CARTRIDGE SHALL BE A MINIMUM OF ELEVEN 2.75-INCH (70-MM) OR GREATER DIAMETER ELEMENTS. THE LENGTH OF EACH FILTER ELEMENT SHALL BE A MINIMUM 15 INCHES (381 MM). EACH CARTRIDGE SHALL BE FITTED INTO THE CARTRIDGE DECK BY INSERTION INTO A CARTRIDGE RECEPTACLE THAT IS PERMANENTLY MOUNTED INTO THE CARTRIDGE DECK. EACH CARTRIDGE SHALL BE SECURED BY A CARTRIDGE LID THAT IS THREADED ONTO THE RECEPTACLE, OR SIMILAR MECHANISM TO SECURE THE CARTRIDGE INTO THE DECK. THE MAXIMUM TREATMENT FLOW RATE OF A FILTER CARTRIDGE SHALL BE CONTROLLED BY AN ORIFICE IN THE CARTRIDGE LID, OR ON THE INDIVIDUAL CARTRIDGE ITSELF, AND BASED ON A DESIGN FLUX RATE (SURFACE LOADING RATE) DETERMINED BY THE MAXIMUM TREATMENT FLOW RATE PER UNIT OF FILTRATION MEMBRANE SURFACE AREA. THE MAXIMUM FLUX RATE SHALL BE 0.21 GPM/FT2 (0.142 LPS/M2). EACH MEMBRANE FILTER CARTRIDGE SHALL ALLOW FOR MANUAL INSTALLATION AND REMOVAL.
D. ALL FILTER CARTRIDGES AND MEMBRANES SHALL BE REUSABLE AND ALLOW FOR THE USE OF FILTRATION MEMBRANE RINSING PROCEDURES TO RESTORE FLOW CAPACITY AND SEDIMENT CAPACITY; EXTENDING CARTRIDGE SERVICE LIFE.
E. ACCESS SHALL HAVE A MINIMUM CLEAR HEIGHT OF 60" OVER ALL OF THE FILTER CARTRIDGES, OR BE ACCESSIBLE BY A HATCH OR OTHER MECHANISM THAT PROVIDES MINIMUM 60" VERTICAL CLEAR SPACE OVER ALL OF THE FILTER CARTRIDGES. FILTER CARTRIDGES SHALL BE ABLE TO BE LIFTED STRAIGHT VERTICALLY OUT OF THE RECEPTACLES AND DECK FOR THE ENTIRE LENGTH OF THE CARTRIDGE.
F. THE DEVICE SHALL INCLUDE A MINIMUM 24 INCHES (610 MM) OF SUMP BELOW THE BOTTOM OF THE CARTRIDGES FOR SEDIMENT ACCUMULATION, UNLESS OTHERWISE SPECIFIED BY THE DESIGN ENGINEER. DEPTHS LESS THAN 24" MAY HAVE AN IMPACT ON THE TOTAL PERFORMANCE AND/OR LONGEVITY BETWEEN CARTRIDGE MAINTENANCE/REPLACEMENT OF THE DEVICE.
G. ALL PRECAST CONCRETE COMPONENTS SHALL BE MANUFACTURED TO A MINIMUM LIVE LOAD OF HS-20 TRUCK LOADING OR GREATER BASED ON LOCAL REGULATORY SPECIFICATIONS, UNLESS OTHERWISE MODIFIED OR SPECIFIED BY THE DESIGN ENGINEER, AND SHALL BE WATERTIGHT.
H. GASKETS AND/OR SEALANTS TO PROVIDE WATER TIGHT SEAL BETWEEN CONCRETE JOINTS. JOINTS SHALL BE SEALED WITH PREFORMED JOINT SEALING COMPOUND CONFORMING TO ASTM C 990.
I. FRAME AND COVERS MUST BE MANUFACTURED FROM CAST-IRON OR OTHER COMPOSITE MATERIAL TESTED TO WITHSTAND H-20 OR GREATER DESIGN LOADS, AND AS APPROVED BY THE LOCAL REGULATORY BODY. FRAMES AND COVERS MUST BE EMBOSSED WITH THE NAME OF THE DEVICE MANUFACTURER OR THE DEVICE BRAND NAME.
J. DOOR AND HATCHES, IF PROVIDED SHALL MEET DESIGNATED LOADING REQUIREMENTS OR AT A MINIMUM FOR INCIDENTAL VEHICULAR TRAFFIC.
K. ALL CONCRETE COMPONENTS SHALL BE MANUFACTURED ACCORDING TO LOCAL SPECIFICATIONS AND SHALL MEET THE REQUIREMENTS OF ASTM C 478.
L. THE FIBERGLASS PORTION OF THE FILTER DEVICE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING STANDARD: ASTM D-4097: CONTACT MOLDED GLASS FIBER REINFORCED CHEMICAL RESISTANT TANKS.
M. STEPS SHALL BE CONSTRUCTED ACCORDING TO ASTM D4101 OF COPOLYMER POLYPROPYLENE, AND BE DRIVEN INTO PREFORMED OR PRE-DRILLED HOLES AFTER THE CONCRETE HAS CURED, INSTALLED TO CONFORM TO APPLICABLE SECTIONS OF STATE, PROVINCIAL AND MUNICIPAL BUILDING CODES, HIGHWAY, MUNICIPAL OR LOCAL SPECIFICATIONS FOR THE CONSTRUCTION OF SUCH DEVICES.
N. ALL PRECAST CONCRETE SECTIONS SHALL BE INSPECTED TO ENSURE THAT DIMENSIONS, APPEARANCE AND QUALITY OF THE PRODUCT MEET LOCAL MUNICIPAL SPECIFICATIONS AND ASTM C 478.

PERFORMANCE
A. THE STORMWATER QUALITY FILTER TREATMENT DEVICE SHALL FUNCTION TO REMOVE POLLUTANTS BY THE FOLLOWING UNIT TREATMENT PROCESSES; SEDIMENTATION, FLOATATION, AND MEMBRANE FILTRATION.
B. THE STORMWATER QUALITY FILTER TREATMENT DEVICE SHALL REMOVE OIL, DEBRIS, TRASH, COARSE AND FINE PARTICULATES, PARTICULATE-BOUND POLLUTANTS, METALS AND NUTRIENTS FROM STORMWATER DURING RUNOFF EVENTS.
C. THE STORMWATER QUALITY FILTER TREATMENT DEVICE SHALL TYPICALLY UTILIZE AN EXTERNAL BYPASS TO DIVERT EXCESSIVE FLOWS. INTERNAL BYPASS SYSTEMS SHALL BE EQUIPPED WITH A FLOATABLES BAFFLE, AND MUST PASS WATER OVER THE CARTRIDGE DECK, AND AVOID PASSAGE THROUGH THE SUMP AND/OR CARTRIDGE FILTRATION ZONE.
D. THE STORMWATER QUALITY FILTER TREATMENT DEVICE SHALL TREAT 100% OF THE REQUIRED WATER QUALITY TREATMENT FLOW BASED ON A MAXIMUM TREATMENT FLUX RATE (SURFACE LOADING RATE) ACROSS THE MEMBRANE FILTER CARTRIDGES NOT TO EXCEED 0.21 GPM/FT2 (0.142 LPS/M2).
E. AT A MINIMUM, THE STORMWATER QUALITY FILTER DEVICE SHALL HAVE BEEN FIELD TESTED AND VERIFIED WITH A MINIMUM 25 QUALIFYING STORM EVENTS AND FIELD MONITORING CONDUCTED ACCORDING TO THE TARP TIER II OR TAPE FIELD TEST PROTOCOL, AND HAVE RECEIVED NJCAT VERIFICATION.
F. THE STORMWATER QUALITY FILTER TREATMENT DEVICE SHALL HAVE DEMONSTRATED A MINIMUM MEDIAN TSS REMOVAL EFFICIENCY OF 85% AND A MINIMUM MEDIAN SSC REMOVAL EFFICIENCY OF 95%.
G. THE STORMWATER QUALITY FILTER TREATMENT DEVICE SHALL HAVE DEMONSTRATED THE ABILITY TO CAPTURE FINE PARTICLES AS INDICATED BY A MINIMUM MEDIAN REMOVAL EFFICIENCY OF 75% FOR THE PARTICLE FRACTION LESS THAN 25 MICRONS, AN EFFLUENT D50 OF 15 MICRONS OR LOWER FOR ALL MONITORED STORM EVENTS, AND AN EFFLUENT TURBIDITY OF 15 NTUS OR LOWER.
H. THE STORMWATER QUALITY FILTER TREATMENT DEVICE SHALL HAVE DEMONSTRATED A MINIMUM MEDIAN TOTAL PHOSPHORUS REMOVAL OF 55%, AND A MINIMUM MEDIAN TOTAL NITROGEN REMOVAL OF 50%.
I. THE STORMWATER QUALITY FILTER TREATMENT DEVICE SHALL HAVE DEMONSTRATED A MINIMUM MEDIAN TOTAL ZINC REMOVAL OF 50%, AND A MINIMUM MEDIAN TOTAL COPPER REMOVAL OF 75%.

INSPECTION AND MAINTENANCE
A. DURABILITY OF MEMBRANES ARE SUBJECT TO GOOD HANDLING PRACTICES DURING INSPECTION AND MAINTENANCE (REMOVAL, RINSING, AND REINSERTION) EVENTS, AND SITE SPECIFIC CONDITIONS THAT MAY HAVE HEAVIER OR LIGHTER LOADING ONTO THE CARTRIDGES, AND POLLUTANT VARIABILITY THAT MAY IMPACT THE MEMBRANE STRUCTURAL INTEGRITY. MEMBRANE MAINTENANCE AND REPLACEMENT SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
B. INSPECTION WHICH INCLUDES TRASH AND FLOATABLES COLLECTION, SEDIMENT DEPTH DETERMINATION, AND VISIBLE DETERMINATION OF BACKWASH POOL DEPTH SHALL BE EASILY CONDUCTED FROM GRADE (OUTSIDE THE STRUCTURE).
C. MANUAL RINSING OF THE REUSABLE FILTER CARTRIDGES SHALL PROMOTE RESTORATION OF THE FLOW CAPACITY AND SEDIMENT CAPACITY OF THE FILTER CARTRIDGES, EXTENDING CARTRIDGE SERVICE LIFE.
D. SEDIMENT REMOVAL FROM THE FILTER TREATMENT DEVICE SHALL BE ABLE TO BE CONDUCTED USING A STANDARD MAINTENANCE TRUCK AND VACUUM APPARATUS, AND A MINIMUM ONE POINT OF ENTRY TO THE SUMP THAT IS UNOBSTRUCTED BY FILTER CARTRIDGES.
E. MAINTENANCE ACCESS SHALL HAVE A MINIMUM CLEAR HEIGHT OF 60" OVER ALL OF THE FILTER CARTRIDGES, OR BE ACCESSIBLE BY A HATCH OR OTHER MECHANISM THAT PROVIDES MINIMUM 60" VERTICAL CLEAR SPACE OVER ALL OF THE FILTER CARTRIDGES. FILTER CARTRIDGES SHALL BE ABLE TO BE LIFTED STRAIGHT VERTICALLY OUT OF THE RECEPTACLES AND DECK FOR THE ENTIRE LENGTH OF THE CARTRIDGE.
F. FILTER CARTRIDGES SHALL BE ABLE TO BE MAINTAINED WITHOUT THE USE OF ADDITIONAL LIFTING EQUIPMENT.

EXECUTION
A. THE INSTALLATION OF A WATERTIGHT PRECAST CONCRETE DEVICE SHOULD CONFORM TO ASTM C 891 AND TO ANY STATE HIGHWAY, MUNICIPAL OR LOCAL SPECIFICATIONS FOR THE CONSTRUCTION OF MANHOLES, WHICHEVER IS MORE STRINGENT. SELECTED SECTIONS OF A GENERAL SPECIFICATION THAT ARE APPLICABLE ARE SUMMARIZED BELOW.
B. THE WATERTIGHT PRECAST CONCRETE DEVICE IS INSTALLED IN SECTIONS IN THE FOLLOWING SEQUENCE:
- AGGREGATE BASE
- BASE SLAB
- TREATMENT CHAMBER AND CARTRIDGE DECK RISER SECTION(S)
- BYPASS SECTION
- CONNECT INLET AND OUTLET PIPES
- CONCRETE RISER SECTION(S) AND/OR TRANSITION SLAB (IF REQUIRED)
- MAINTENANCE RISER SECTION(S) (IF REQUIRED)
- FRAME AND ACCESS COVER

C. INLET AND OUTLET PIPES SHOULD BE SECURELY SET INTO THE DEVICE USING APPROVED PIPE SEALS (FLEXIBLE BOOT CONNECTIONS, WHERE APPLICABLE) SO THAT THE STRUCTURE IS WATERTIGHT, AND SUCH THAT ANY PIPE INTRUSION INTO THE DEVICE DOES NOT IMPACT THE DEVICE FUNCTIONALITY.
D. ADJUSTMENT UNITS (E.G. GRADE RINGS) SHOULD BE INSTALLED TO SET THE FRAME AND COVER AT THE REQUIRED ELEVATION. THE ADJUSTMENT UNITS SHOULD BE LAID IN A FULL BED OF MORTAR WITH SUCCESSIVE UNITS BEING JOINED USING SEALANT RECOMMENDED BY THE MANUFACTURER. FRAMES FOR THE COVER SHOULD BE SET IN A FULL BED OF MORTAR AT THE ELEVATION SPECIFIED.
E. IN SOME INSTANCES THE MAINTENANCE ACCESS WALL, IF PROVIDED, SHALL REQUIRE AN EXTENSION ATTACHMENT AND SEALING TO THE PRECAST WALL AND CARTRIDGE DECK AT THE JOB SITE, RATHER THAN AT THE PRECAST FACILITY. IN THIS INSTANCE, INSTALLATION OF THESE COMPONENTS SHALL BE PERFORMED ACCORDING TO INSTRUCTIONS PROVIDED BY THE MANUFACTURER.
F. FILTER CARTRIDGES SHALL BE INSTALLED IN THE CARTRIDGE DECK AFTER THE CONSTRUCTION SITE IS FULLY STABILIZED AND IN ACCORDANCE WITH THE MANUFACTURERS GUIDELINES AND RECOMMENDATIONS. CONTRACTOR TO CONTACT THE MANUFACTURER TO SCHEDULE CARTRIDGE DELIVERY AND REVIEW PROCEDURES/REQUIREMENTS TO BE COMPLETED TO THE DEVICE PRIOR TO INSTALLATION OF THE CARTRIDGES AND ACTIVATION OF THE SYSTEM.
G. MANUFACTURER SHALL COORDINATE DELIVERY OF FILTER CARTRIDGES AND OTHER INTERNAL COMPONENTS WITH CONTRACTOR. FILTER CARTRIDGES SHALL BE DELIVERED AND INSTALLED COMPLETE AFTER SITE IS STABILIZED AND UNIT IS READY TO ACCEPT CARTRIDGES. UNIT IS READY TO ACCEPT CARTRIDGES AFTER IS HAS BEEN CLEANED OUT AND ANY STANDING WATER, DEBRIS, AND OTHER MATERIALS HAVE BEEN REMOVED. CONTRACTOR SHALL TAKE APPROPRIATE ACTION TO PROTECT THE FILTER CARTRIDGE RECEPTACLES AND FILTER CARTRIDGES FROM DAMAGE DURING CONSTRUCTION, AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND GUIDANCE. FOR SYSTEMS WITH CARTRIDGES INSTALLED PRIOR TO FULL SITE STABILIZATION AND PRIOR TO SYSTEM ACTIVATION, THE CONTRACTOR CAN PLUG INLET AND OUTLET PIPES TO PREVENT STORMWATER AND OTHER INFLUENT FROM ENTERING THE DEVICE. PLUGS MUST BE REMOVED DURING THE ACTIVATION PROCESS.
H. THE MANUFACTURER SHALL PROVIDE AN OWNER'S MANUAL UPON REQUEST.
I. AFTER CONSTRUCTION AND INSTALLATION, AND DURING OPERATION, THE DEVICE SHALL BE INSPECTED AND CLEANED AS NECESSARY BASED ON THE MANUFACTURER'S RECOMMENDED INSPECTION AND MAINTENANCE GUIDELINES AND THE LOCAL REGULATORY AGENCY/BODY.
J. WHEN REPLACEMENT MEMBRANE FILTER ELEMENTS AND/OR OTHER PARTS ARE REQUIRED, ONLY MEMBRANE FILTER ELEMENTS AND PARTS APPROVED BY THE MANUFACTURER FOR USE WITH THE STORMWATER QUALITY FILTER DEVICE SHALL BE INSTALLED.

END OF SECTION

MARK	DATE	REVISION DESCRIPTION	BY
#	#	#	#
#	#	#	#
#	#	#	#
#	#	#	#
#	#	#	#
0	10/01/2014	INTIAL RELEASE	BSF

JELLYFISH FILTER SPECIFICATIONS
Jellyfish®
JF10 STANDARD
Scale – 1:50

DATE: #####	
DESIGNED:	DRAWN: BSF
CHECKED: BSF	APPROVED: SP
PROJECT #: #####	PROJECT NAME: #####
SHEET: 2 OF 2	

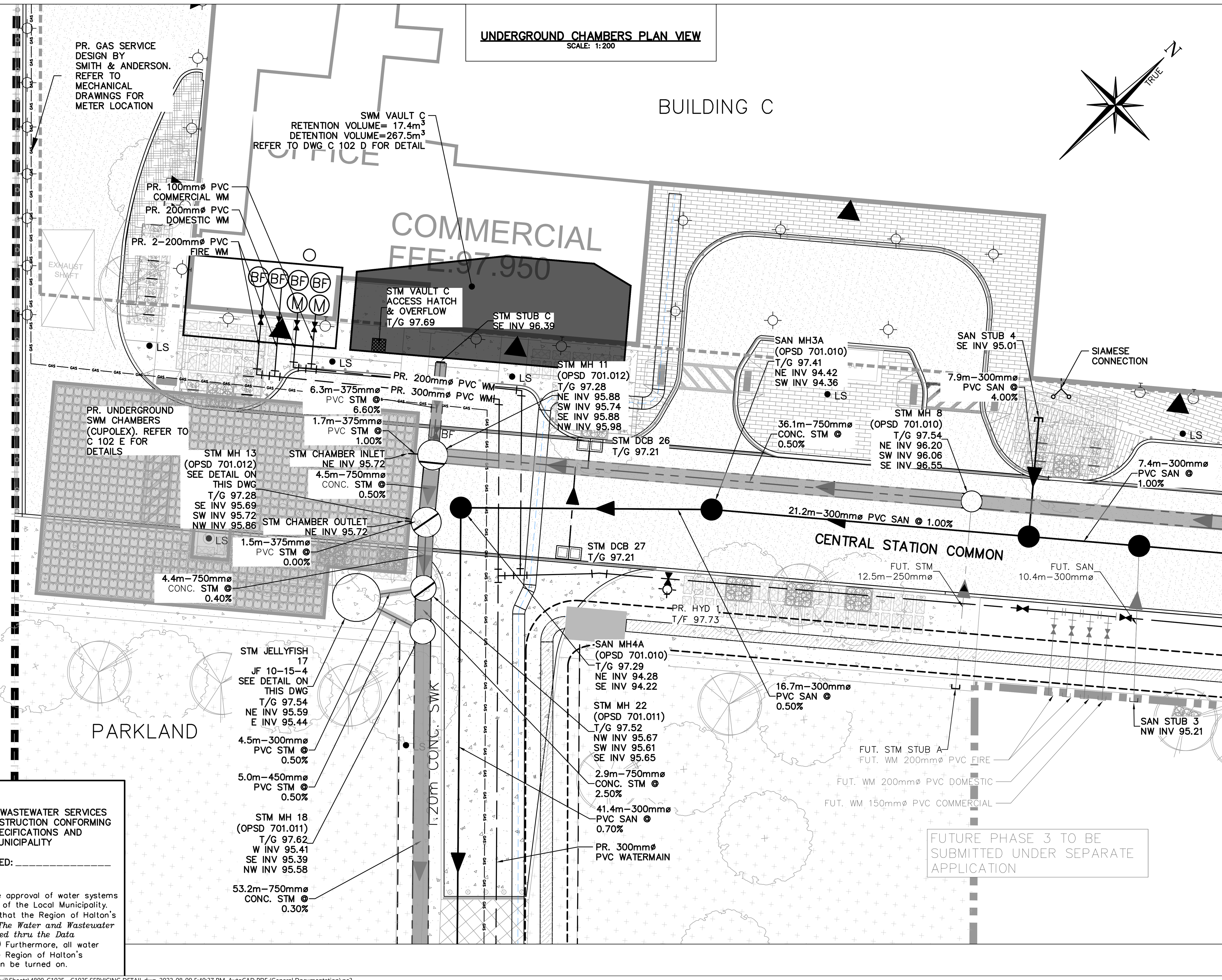


KEY PLAN
SCALE: N.T.S.

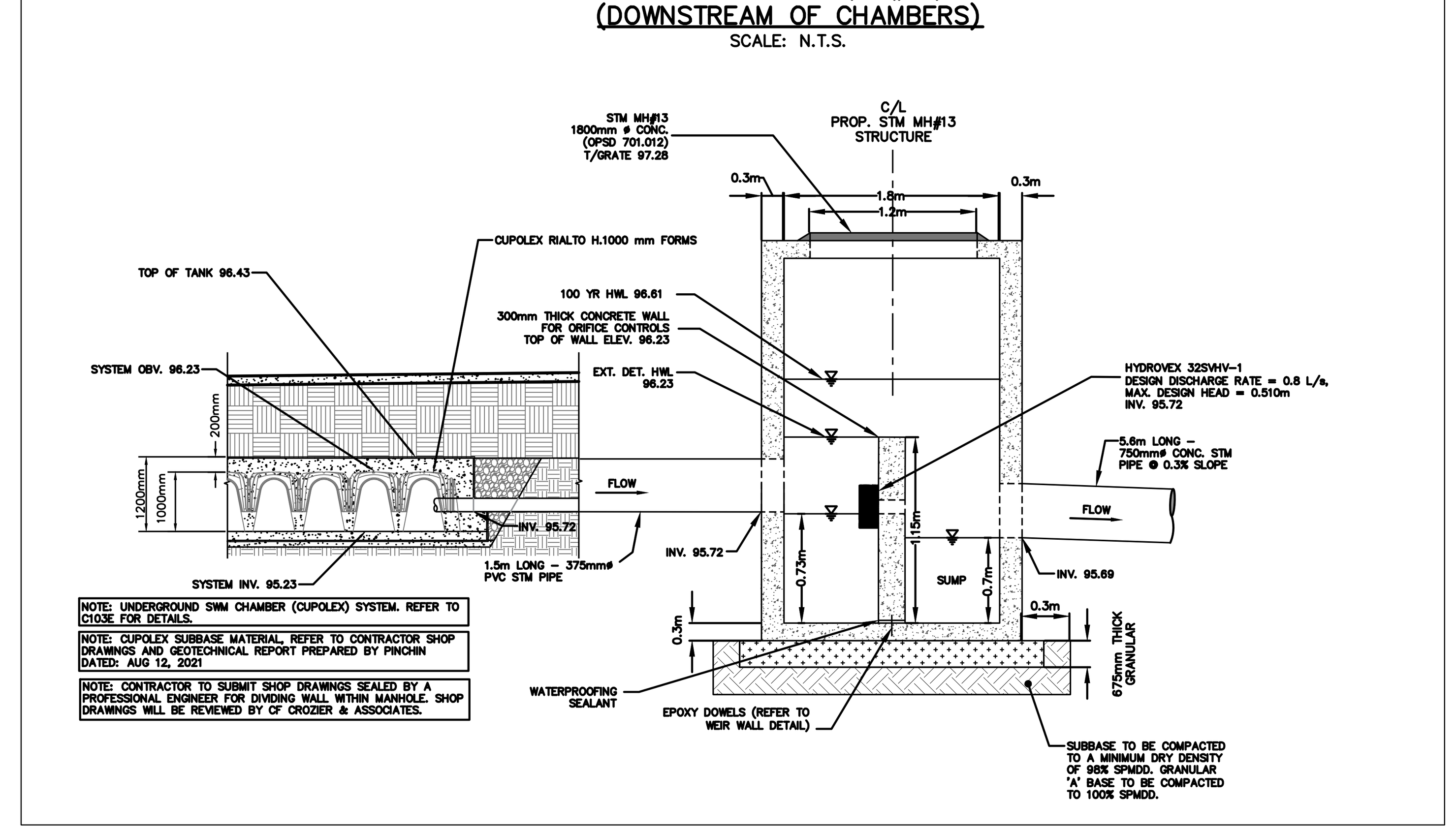
LEGEND

- PROPERTY LINE
- LIMIT OF CONSTRUCTION
- PROPOSED WATERMAIN & GATE VALVE
- PROPOSED FIRE HYDRANT & GATE VALVE
- PROPOSED SIAMESE CONNECTION
- PROPOSED STORM SEWER & MANHOLE
- PROPOSED SINGLE / DOUBLE CATCHBASIN
- PROPOSED SINGLE / DOUBLE CATCHBASIN MANHOLE
- STM SEWER TO BE FOAMCRETE INSULATED
- PROPOSED SANITARY SEWER & MANHOLE
- LIMIT OF UNDERGROUND PARKING
- PROPOSED ROAD REINSTATING
- PROPOSED STORMWATER VAULT W/IN UNDERGROUND PARKING GARAGE
- PROPOSED STORMWATER VAULT ACCESS HATCH
- BF M PROPOSED BACKFLOW AND WATER METER PER HALTON REGION STANDARD 504.010 & 601.010
- LS PROPOSED LIGHT STANDARD
- PROPOSED WALL MOUNTED LIGHTS
- PROPOSED TREE PIT
- PROPOSED SILVA CELL
- PROPOSED VISITOR BIKE SPACE
- PROPOSED HYDRO DUCT BANK
- PROPOSED COMMUNICATION DUCT BANK
- DEPRESSED CURB
- BARRIER CURB
- PROPOSED GAS MAIN & GAS METER
- BUILDING ENTRANCE (PERSONNEL DOOR)

UNDERGROUND CHAMBERS PLAN VIEW
SCALE: 1:200



SWM CONTROL MANHOLE (MH#13) DETAILS (DOWNSTREAM OF CHAMBERS)
SCALE: N.T.S.



NOTE: UNDERGROUND SWM CHAMBER (CUPOLEX) SYSTEM. REFER TO C103E FOR DETAILS.

NOTE: CUPOLEX SUBBASE MATERIAL, REFER TO CONTRACTOR SHOP DRAWINGS AND GEOTECHNICAL REPORT PREPARED BY PINCHIN DATED: AUG 12, 2021

NOTE: CONTRACTOR TO SUBMIT SHOP DRAWINGS SEALED BY A PROFESSIONAL ENGINEER FOR DIVIDING WALL WITHIN MANHOLE. SHOP DRAWINGS WILL BE REVIEWED BY CF CROZIER & ASSOCIATES.

NOTES:
- WATERMAIN INSTALLED ADJACENT TO STORM STRUCTURES (MANHOLES, CATCH BASINS, CATCH BASIN MANHOLES, ETC. TO BE INSTALLED PER DETAIL ON DRAWING C 107 B.
- REFER TO DWG. C 103 C FOR MH#11, MH#20 AND MH#21 DETAILS

LEGEND (LANDSCAPE)

- PROPOSED LIGHT DUTY PEDESTRIAN CONCRETE PAVING
- PROPOSED HEAVY DUTY VEHICULAR CONCRETE PAVING
- PROPOSED VEHICULAR ASPHALT PAVING
- PROPOSED GRASS SEED
- PROPOSED LANDSCAPE AREA
- PROPOSED UNIT PAVERS
- PROPOSED SODDED AREA
- PROPOSED TURF STONE

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: ________________ DATED: ______________

BUSINESS & TECHNICAL SERVICES

The Applicant should be aware that the approval of water systems on private property is the responsibility of the Local Municipality. Regardless, the Applicant must ensure that the Region of Halton's standards and specifications are met *(The Water and Wastewater Linear Design Manual may be obtained thru the Data Management Group at 905-825-6032)* Furthermore, all water quality tests must be completed to the Region of Halton's satisfaction, before the water supply can be turned on.

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1	ISSUED FOR SPA SUBMISSION	2020/JAN/08
No.	ISSUE / REVISION	YYYY/MMM/DD

ELEVATION NOTE:
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ELEVATION = 93.477m

SURVEY NOTES:
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PROJECT No.: 3141–0
BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS
UTM ZONE 17, NAD83 (GSRS) (2010.0)
DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:
DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18–223

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REFER TO SUE PREPARED BY PLANVIEW UTILITY SERVICES LTD. FOR EXISTING UNDERGROUND UTILITY LOCATIONS.

Developer
FAIRVIEW LIMITED PARTNERSHIP
c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3
c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project
2243 FAIRVIEW ST., 2269 FAIRVIEW ST.,
864 DRURY LN
CITY OF BURLINGTON

Drawing
SERVICING DETAIL

FILE#535–001/20

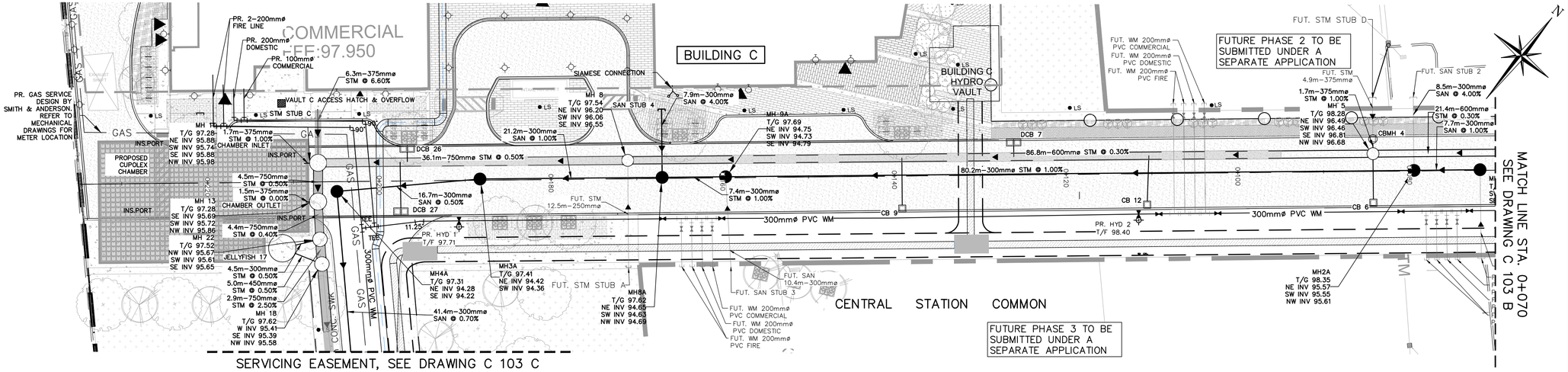
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LICENSED PROFESSIONAL ENGINEER
J. E. PETTIFER
100505043
JUL 20, 2022
PROVINCE OF ONTARIO

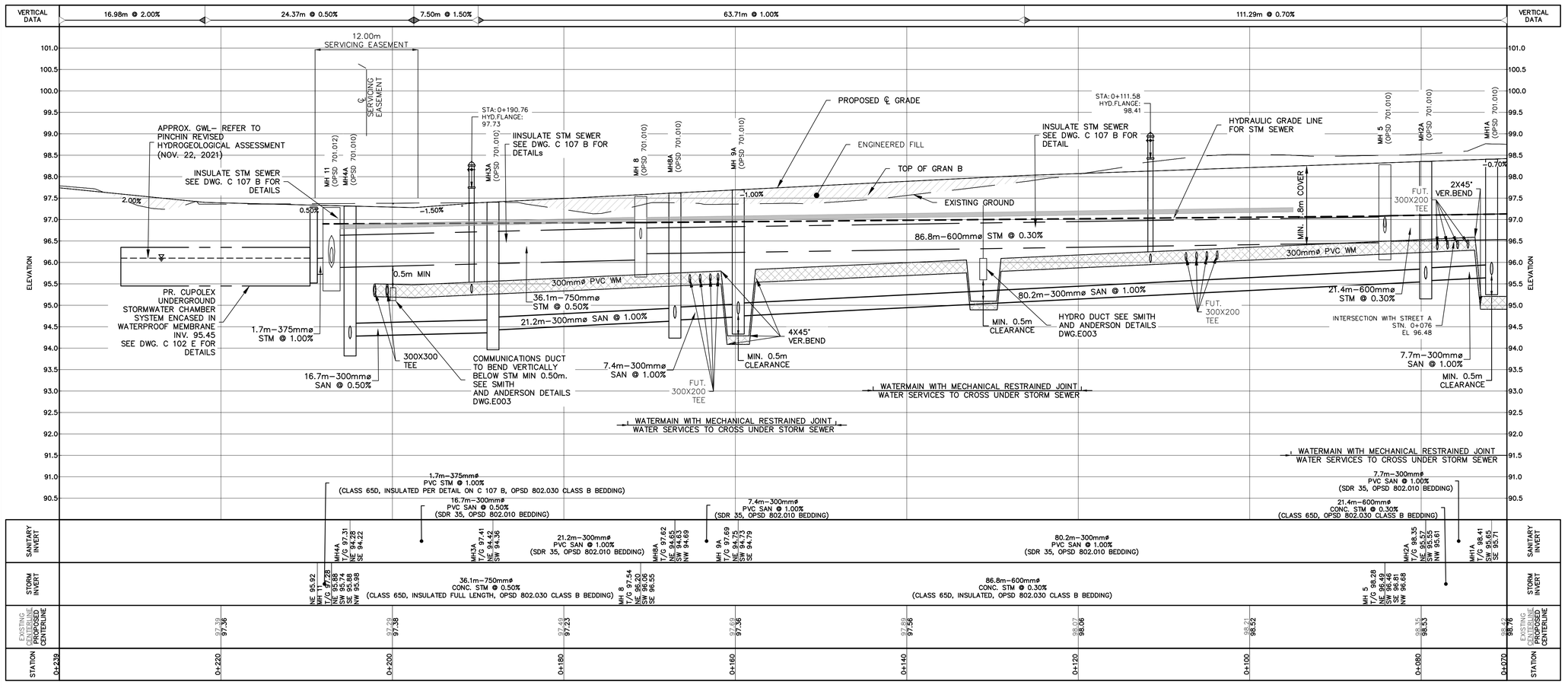
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PAVEL FILIPTSEV
100146817
JULY.20,2022
PROVINCE OF ONTARIO

CROZIER
CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn M.P./N.C.	Design M.P./P.F.	Project No. 1486–4809
Check J.V.	Check P.F.	Scale 1:200 / Dwg. C 102 F

I:\1400\1486-CLV Realty Corp\4809-2269 Fairview St & 84 Drury Ln\CAD\Civil\Sheets\4809_C102E - C102F SERVICING DETAIL.dwg, 2022-08-09 5:40:37 PM, AutoCAD PDF (General Documentation).pc3





NOTES:
- ALL CATCH BASINS TO BE FITTED WITH CB SHIELDS. SEE DETAILS ON C 107 H.
- STORM SEWERS AND ALL CATCH BASIN LEADS TO BE INSULATED WITH FOAMCRETE AS PER DETAIL ON C 107 B.
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5 0m 5 10 15 20
SCALE: 1:250

LEGEND (LANDSCAPE)

- PROPOSED LIGHT DUTY PEDESTRIAN CONCRETE PAVING
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LEGEND

- PROPERTY LINE
- LIMIT OF CONSTRUCTION
- EXISTING WATERMAIN & GATE VALVE
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- EXISTING SANITARY SEWER & MANHOLE
- EXISTING HYDRO
- EXISTING OVERHEAD HYDRO
- EXISTING GASMAIN
- EXISTING BELL LINE
- EXISTING CURB
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Developer
FAIRVIEW LIMITED PARTNERSHIP

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181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project
2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

Drawing
PHASE 1 – PNP – CENTRAL STATION COMMON STA. (0+238.85 TO 0+070)

FILE #535–001/20

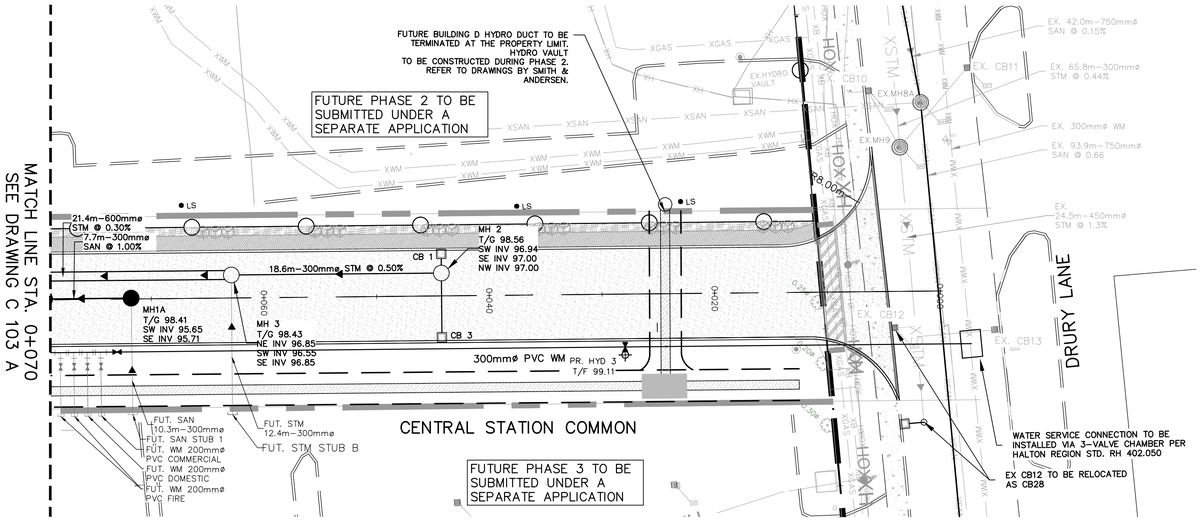
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LICENSED PROFESSIONAL ENGINEER
J. E. PETTIFER
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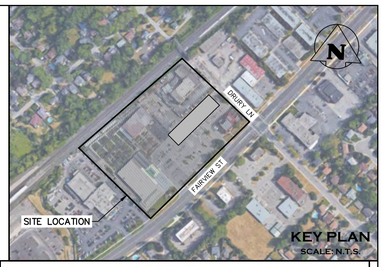
CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905.875.0026 T
905.875.4915 F
WWW.CFCROZIER.CA

Drawn	C.C.	Design	C.C./P.F.	Project No.	1486–4809
Check	J.V./P.F.	Check	J.V./P.F.	Scale	HORIZ.=1:250 VERT.=1:50
				Dwg.	C 103 A

NOTES:
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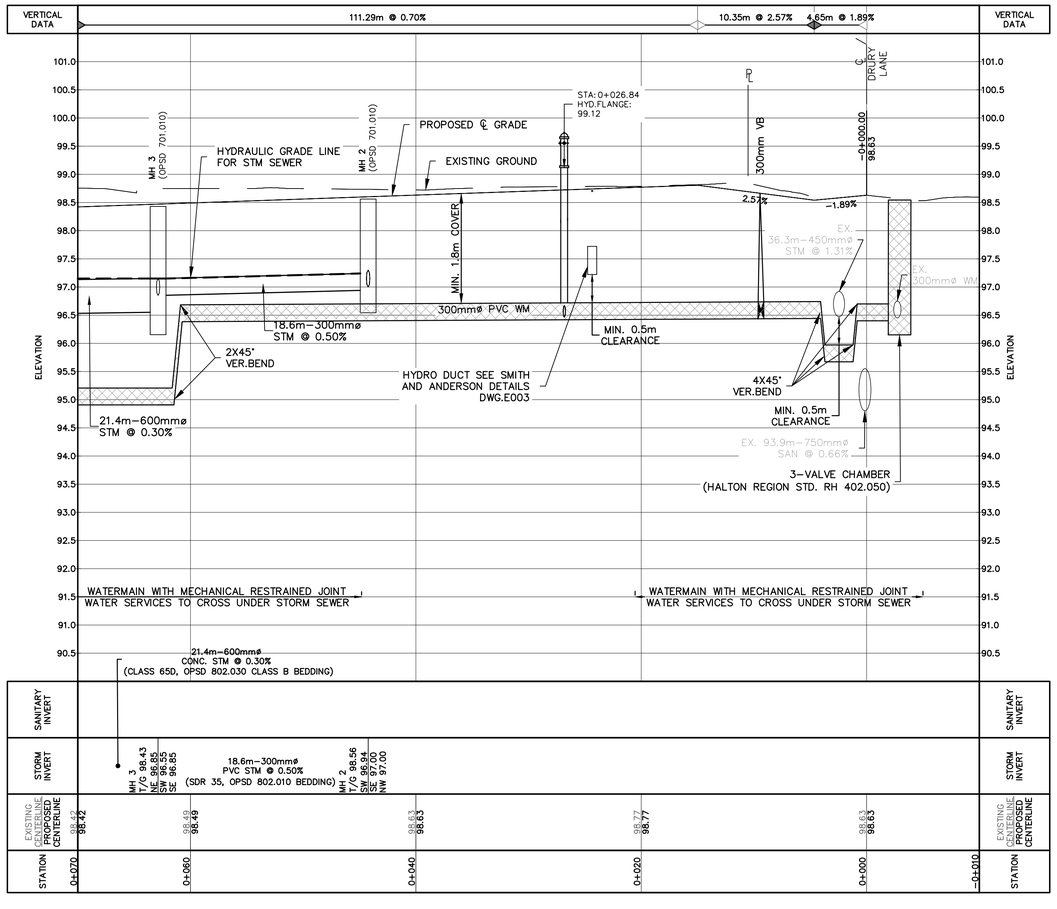






LEGEND

- PROPERTY LINE
- LIMIT OF CONSTRUCTION
- XWM — EXISTING WATERMAIN & GATE VALVE
- XSTM — EXISTING STORM SEWER & MANHOLE
- EXISTING SINGLE / DOUBLE CATCHBASIN
- XSAN — EXISTING SANITARY SEWER & MANHOLE
- XH — EXISTING HYDRO
- XOH — EXISTING OVERHEAD HYDRO
- XGAS — EXISTING GASMAIN
- XB — EXISTING BELL LINE
- EXISTING CURB
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- BARRIER CURB
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- BUILDING ENTRANCE (PERSONNEL DOOR)
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SCALE: 1:250

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PROJECT No.: 18–223

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CITY OF BURLINGTON

Drawing
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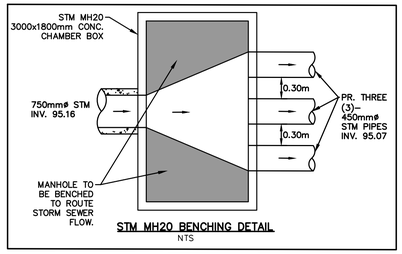
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LICENSED PROFESSIONAL ENGINEER
J. E. PETTIFER
100505043
JUL 20, 2022
PROVINCE OF ONTARIO

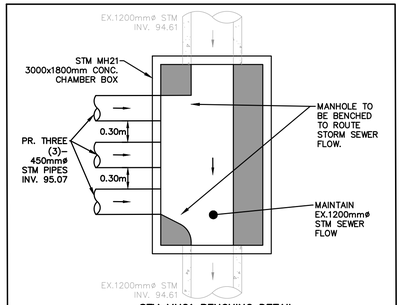
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LICENSED PROFESSIONAL ENGINEER
PAVEL FILIPTSEV
100146817
JULY.20,2022
PROVINCE OF ONTARIO

CROZIER CONSULTING ENGINEERS
2800 High Point Drive
Suite 100
Milton, ON L9T 6P4
905 875-0026 T
905 875-4915 F
WWW.CFCROZIER.CA

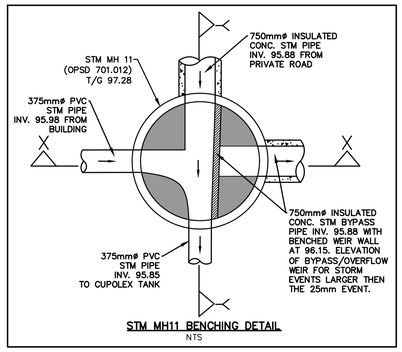
Drawn	Design	Project No.	
C.C.	C.C./P.F.		1486–4809
Check	Check	Scale	Dwg.
J.V./P.F.	J.V./P.F.	HORIZ.=1:250 VERT.=1:50	C 103 B



STM MH20 BENCHING DETAIL
NTS

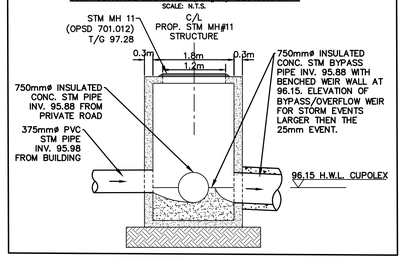


STM MH21 BENCHING DETAIL
NTS

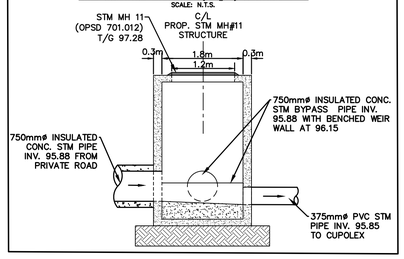


STM MH11 BENCHING DETAIL
NTS

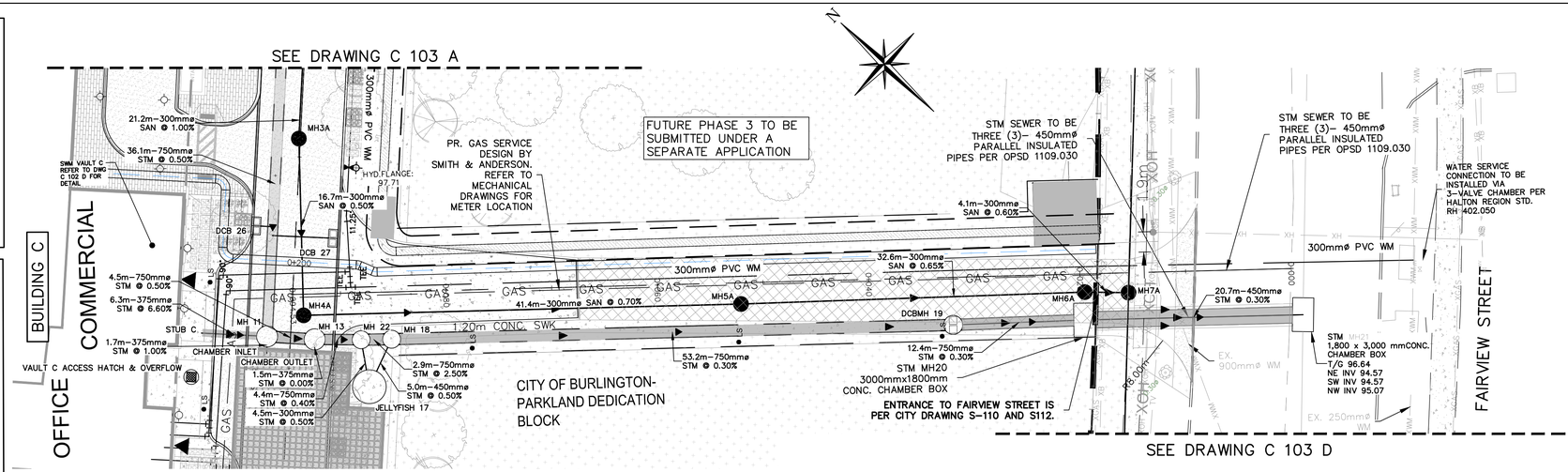
SWM CONTROL MANHOLE (MH#11) SECTION X–X
SCALE: N.T.S.

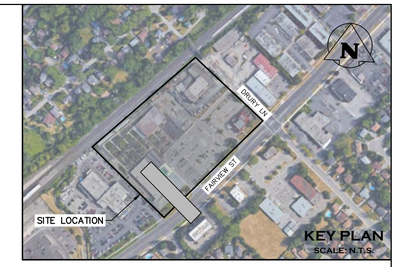


SWM CONTROL MANHOLE (MH#11) SECTION Y–Y
SCALE: N.T.S.



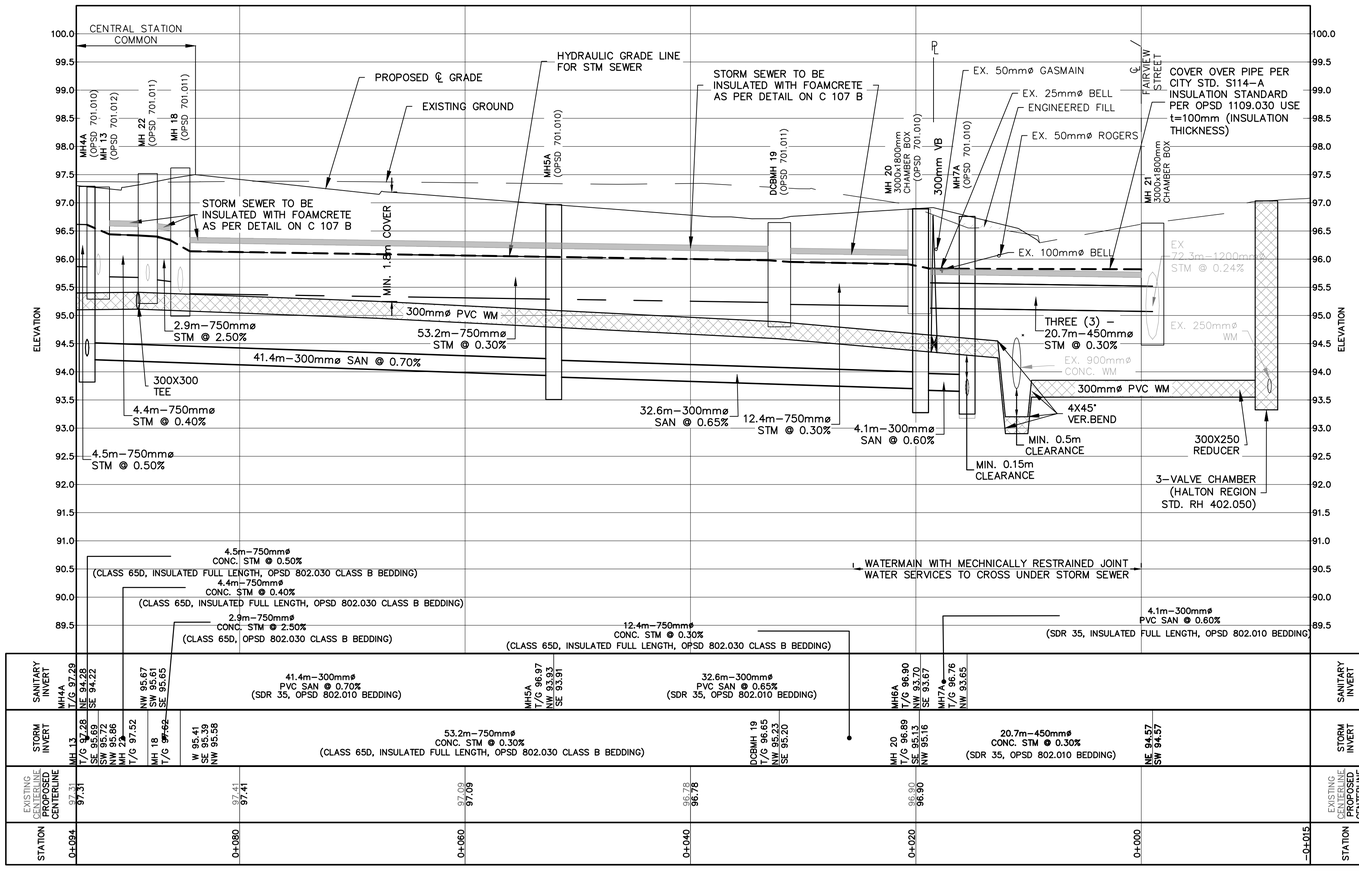
5 0m 5 10 15 20
SCALE: 1:250





LEGEND

- PROPERTY LINE
- LIMIT OF CONSTRUCTION
- EXISTING WATERMAIN & GATE VALVE
- EXISTING STORM SEWER & MANHOLE
- EXISTING SINGLE / DOUBLE CATCHBASIN
- EXISTING SANITARY SEWER & MANHOLE
- EXISTING HYDRO
- EXISTING OVERHEAD HYDRO
- EXISTING GASMAIN
- EXISTING BELL LINE
- EXISTING CURB
- PROPOSED WATERMAIN & GATE VALVE
- PROPOSED FIRE HYDRANT & GATE VALVE
- PROPOSED SIAMESE CONNECTION
- PROPOSED STORM SEWER & MANHOLE
- PROPOSED SINGLE / DOUBLE CATCHBASIN
- PROPOSED SANITARY SEWER & MANHOLE
- STM SEWER TO BE FOAMCRETE INSULATED
- LIMIT OF UNDERGROUND PARKING
- PROPOSED ROAD REINSTATING
- PROPOSED STORMWATER VAULT W/IN UNDERGROUND PARKING GARAGE
- PROPOSED STORMWATER VAULT ACCESS HATCH
- PROPOSED SILVA CELL
- PROPOSED TREE PIT
- PROPOSED HYDRO DUCT BANK
- PROPOSED COMM DUCT BANK
- PROPOSED LIGHT STANDARDS
- PROPOSED WALL MOUNTED LIGHTS
- DEPRESSED CURB
- BARRIER CURB
- TEMPORARY FENCING
- BUILDING ENTRANCE (PERSONNEL DOOR)
- PROPOSED GAS MAIN & GAS METER



NOTES:
- ALL CATCH BASINS TO BE FITTED WITH CB SHIELDS. SEE DETAILS ON C 107 H.
- STORM SEWERS WITHIN THE PROPERTY AND ALL CATCH BASIN LEADS TO BE INSULATED WITH FOAMCRETE AS PER DETAIL ON C 107 B.
- TERRACE DRAINAGE AND INTERNAL CONVEYANCE TO BE DESIGNED BY MECHANICAL ENGINEER
- ALL CONCRETE PIPES TO BE CLASS 65D WITH OPSD 802.030 CLASS B BEDDING
- ALL STORM PVC PIPES TO BE SDR–35 WITH OPSD 802.010 BEDDING
- ALL SANITARY PVC PIPES TO BE SDR–35 WITH OPSD 802.010 BEDDING
- ALL WM PVC PIPES TO BE SDR–28 WITH OPSD 802.010 BEDDING
- ALL WM TEES TO BE 200x200x200mm (UNLESS OTHERWISE NOTED)
- CONTRACTOR TO ENSURE THAT ALL STORM SEWERS ARE INSTALLED PER DESIGNED ELEVATIONS. AT NO POINT THE MINIMUM SLOPES INDICATED IN THE DESIGN SHALL BE REDUCED FURTHER. CONTRACTOR TO REPORT STORM SEWER INVERT ELEVATIONS TO THE ENGINEER IMMEDIATELY AFTER CONSTRUCTION OF EACH PIPE SO THAT THE CONSTRUCTED SLOPES CAN BE VERIFIED.

LEGEND (LANDSCAPE)

- PROPOSED LIGHT DUTY PEDESTRIAN CONCRETE PAVING
- PROPOSED HEAVY DUTY VEHICULAR CONCRETE PAVING
- PROPOSED VEHICULAR ASPHALT PAVING
- PROPOSED GRASS SEED
- PROPOSED LANDSCAPE AREA
- PROPOSED UNIT PAVERS
- PROPOSED SODDED AREA
- PROPOSED TURF STONE

FILE #535–001/20

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/DEC/01
2	ISSUED FOR SECOND SPA SUBMISSION	2020/OCT/21
1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

ELEVATION NOTE:

ELEVATIONS SHOWN HEREON ARE REFERRED TO THE CITY OF BURLINGTON BENCHMARK No. 1045

ELEVATION = 93.477m

SURVEY NOTES:

SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141–0

BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS
UTM ZONE 17, NAD83 (CSRS) (2010.0)

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18–223

DRAWING NOTES:

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Developer
FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project
2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN CITY OF BURLINGTON

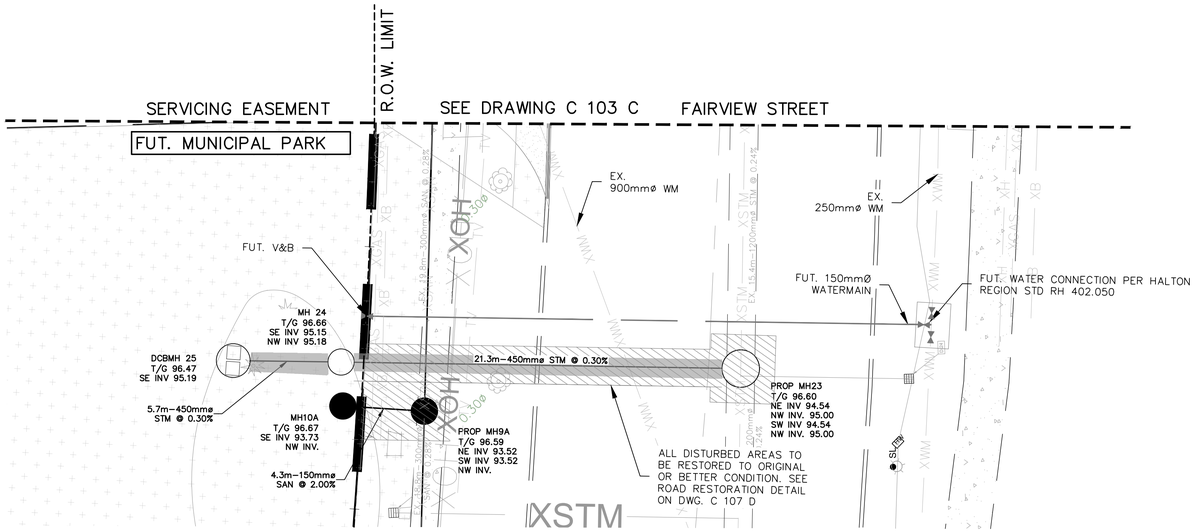
Drawing
PHASE 1 – PNP – SERVICING EASEMENT STA. (0+094.53 TO 0+000)

Stamp
LICENSED PROFESSIONAL ENGINEER
J. E. PETTIFER
100505043
JUL 20, 2022
PROVINCE OF ONTARIO

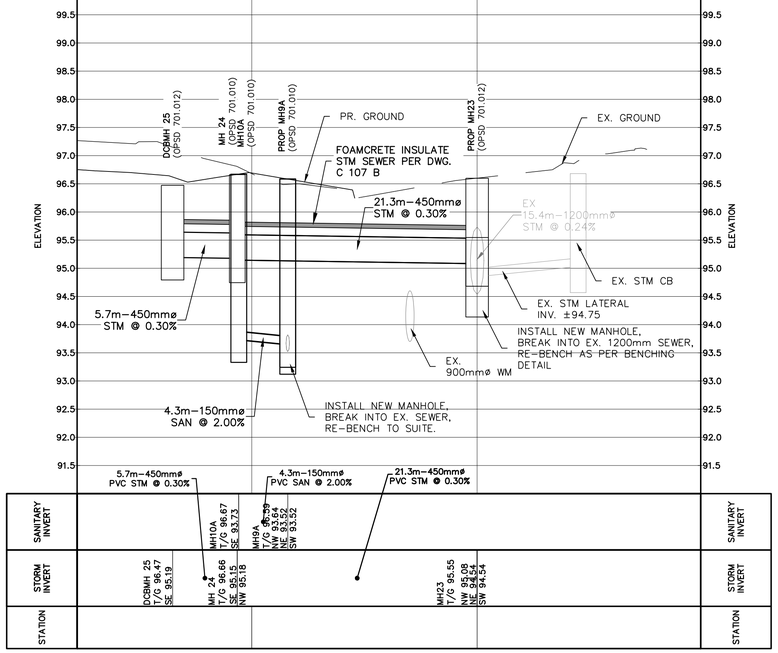
Stamp
LICENSED PROFESSIONAL ENGINEER
PAVEL FILIPTSEV
100146817
JULY.20,2022
PROVINCE OF ONTARIO

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905 875 0026 T
905 875 4915 F
WWW.CFCROZIER.CA

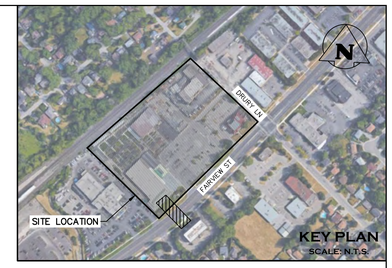
Drawn	C.C.	Design	C.C./P.F.	Project No.	1486–4809
Check	J.V./P.F.	Check	J.V./P.F.	Scale	HORIZ.=1:250 VERT.=1:50
				Dwg.	C 103 C



PARK SERVICES – PIPE PROFILE



STM MH23 BENCHING DETAIL
NTS



LEGEND

- PROPERTY LINE
- LIMIT OF CONSTRUCTION
- XWM — EXISTING WATERMAIN & GATE VALVE
- EXISTING STORM SEWER & MANHOLE
- EXISTING SINGLE / DOUBLE CATCHBASIN
- XSAN — EXISTING SANITARY SEWER & MANHOLE
- XH — EXISTING HYDRO
- XOH — EXISTING OVERHEAD HYRDO
- XGAS — EXISTING GASMAIN
- XB — EXISTING BELL LINE
- TV — EXISTING ROGERS LINE
- PROPOSED WATERMAIN & GATE VALVE
- PROPOSED FIRE HYDRANT & GATE VALVE
- PROPOSED SIAMESE CONNECTION
- PROPOSED STORM SEWER & MANHOLE
- PROPOSED SINGLE / DOUBLE CATCHBASIN
- PROPOSED SANITARY SEWER & MANHOLE
- STM SEWER TO BE INSULATED PER OPSD 1109.030
- LIMIT OF UNDERGROUND PARKING
- ROOF LINE
- PROPOSED ROAD REINSTATING
- PROPOSED STORMWATER VAULT W/IN UNDERGROUND PARKING GARAGE
- PROPOSED STORMWATER VAULT ACCESS HATCH
- PROPOSED SILVA CELL
- PROPOSED TREE PIT
- DEPRESSED CURB
- BARRIER CURB
- EXISTING CURB
- PROPOSED GAS MAIN & GAS METER

LEGEND (LANDSCAPE)

- PROPOSED HEAVY DUTY VEHICULAR CONCRETE PAVING
- PROPOSED VEHICULAR ASPHALT PAVING
- PROPOSED GRASS SEED

NOTES:
- ALL CATCH BASINS TO BE FITTED WITH CB SHIELDS. SEE DETAILS ON C 107 H.
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- ALL STORM PVC PIPES TO BE SDR–35 WITH OPSD 802.010 BEDDING
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- EXISTING SERVICES AND CROSSINGS' ELEVATIONS TO BE CONFIRMED ON SITE.

5 0m 5 10 15 20
SCALE: 1:250

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
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PROJECT No.: 3141–0

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SITE PLAN NOTES:

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DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18–223

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REFER TO SUE PREPARED BY PLANVIEW UTILITY SERVICES LTD. FOR EXISTING UNDERGROUND UTILITY LOCATIONS.

Developer
FAIRVIEW LIMITED PARTNERSHIP
c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3
c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project
2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

Drawing
PHASE 1 – PNP – PARK SERVICING

FILE #535–001/20

Stamp
LICENSED PROFESSIONAL ENGINEER
J. E. PETTIFER
100505043
JUL 20, 2022
PROVINCE OF ONTARIO

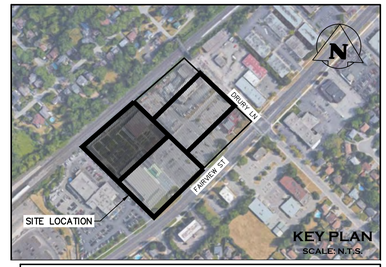
Stamp
LICENSED PROFESSIONAL ENGINEER
PAVEL FILIPTSEV
100146817
JULY.20,2022
PROVINCE OF ONTARIO

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905875-0026 T
905875-4915 F
WWW.CFCROZIER.CA

Drawn	Design	Project No.
C.C.	C.C./P.F.	1486–4809
Check	Check	Scale / Dwg.
J.V./P.F.	J.V./P.F.	HORIZ.=1:250 VERT.=1:50 / C 103 D

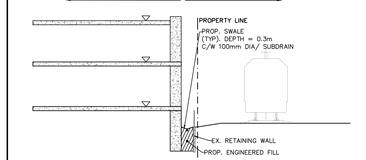
LEGEND

PROPERTY LINE	LIMIT OF CONSTRUCTION	PROPOSED MAJOR OVERLAND FLOW DIRECTION	LANDSCAPE
EXISTING GRADE	LIMIT OF UNDERGROUND PARKING	PROPOSED FIRE HYDRANT & GATE VALVE	PROPOSED LIGHT DUTY CONCRETE SURFACE
EXISTING OVERHEAD WIRES AND HYDRO POLE	DEPRESSED CURB	PROPOSED SIAMESE (FIRE DEPT.) CONNECTION	PROPOSED HEAVY DUTY CONCRETE SURFACE
PROPOSED GRADE	BARRIER CURB	PROPOSED STORM MANHOLE	PROPOSED PAVERS & CONCRETE BANDING SURFACE
PROPOSED GRADE (TO MATCH EXISTING)	EXISTING CURB	PROPOSED SANITARY MANHOLE	PROPOSED HEAVY DUTY ASPHALT SURFACE
PROPOSED MINOR FLOW DIRECTION	PROPOSED SLOPE (3:1 MAX.)	PROPOSED TREE PIT	PROPOSED UNIT PAVERS
PROPOSED GRASSED SWALE	PROPOSED BOLLARD	PROPOSED SILVA CELL	PROPOSED SODDED AREA
PROPOSED SNOW STORAGE AREA	PROPOSED COLLAPSIBLE BOLLARD	PROPOSED LIGHT STANDARDS	PROPOSED SEEDED AREA
PROPOSED VISITOR BIKE SPACE	BUILDING ENTRANCE (PERSONNEL DOOR)	PROPOSED WALL MOUNTED LIGHTS	PROPOSED TURF STONE
PROPOSED CRASH WALL	PROPOSED TACTILE PLATE		
TEMPORARY FENCE (PER LANDSCAPE ARCH.)			



SWALE WITH SUBDRAIN

SCALE: N.T.S.



SEE DWG. C 104 I FOR DETAILS AND SECTIONS

PAVEMENT STRUCTURE DETAILS REFER TO C 107 B

NOTES:
- ALL CURBS TO BE PER OPSD 600.110 UNLESS OTHERWISE NOTED SEE DWG. C 107 F
- ANY WORKS ON ADJACENT LANDS REQUIRE WRITTEN PERMISSION FROM THE OWNER OF THE LANDS
- SNOW TO BE REMOVED FROM SITE IF SNOW STORAGE AREAS REACH CAPACITY
- SEE DWG. C 107 F FOR CURBS AND SUBDRAIN (OPSD 216.021)

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____

BUSINESS & TECHNICAL SERVICES

The Applicant should be aware that the approval of water systems on private property is the responsibility of the Local Municipality. Regardless, the Applicant must ensure that the Region of Halton's standards and specifications are met *(The Water and Wastewater Linear Design Manual may be obtained thru the Data Management Group at 905-825-6032)* Furthermore, all water quality tests must be completed to the Region of Halton's satisfaction, before the water supply can be turned on.

SCALE: 1:200

SEE DWG C 104 B

SEE DWG C 104 C

ALL EXTERNAL GRADES AT BUILDING ENTRANCES TO MEET FFE GRADES AS CONFIRMED WITH THE ARCHITECT TO MEET AODA

CRASH WALL TO BE DESIGNED BY STRUCTURAL ENGINEER. REFER TO STRUCTURAL ENGINEERING DRAWINGS.

SWALE WITH SUBDRAIN BELOW. LOCATED WITHIN 1.1m DISTANCE BETWEEN CRASH WALL AND PROPERTY LIMIT. REFER TO TYP. DETAIL ON DRAWING C 104 H

CRASH WALL TO BE DESIGNED BY STRUCTURAL ENGINEER. REFER TO DRAWINGS BY STRUCTURAL ENGINEERS

CONC. CURB PER OPSD 600.110 (TYP) WITH SUBDRAIN PER OPSD 216.021 (TYP.)

FUTURE PHASE 2 TO BE SUBMITTED UNDER SEPARATE APPLICATION

FILE#535-001/20

Stamp: LICENSED PROFESSIONAL ENGINEER — J. E. PETTIFER — 100505043 — JUL 20, 2022 — PROVINCE OF ONTARIO

Stamp: LICENSED PROFESSIONAL ENGINEER — PAVEL FILIPTSEV — 100146817 — JULY.20,2022 — PROVINCE OF ONTARIO

No.	ISSUE / REVISION	YYYY/MMM/DD
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PROJECT No.: 18-223

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FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project
2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

Drawing
PHASE 1 – SITE GRADING PLAN

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	Design	Project No.	
S.V.N./N.C.	M.P./P.F.		1486-4809
Check	Check	Scale	Dwg
J.P.	P.F.	1:200	C 104 A

SEE DWG C 104 A

SEE DWG C 104 I FOR DETAILS AND SECTIONS

PAVEMENT STRUCTURE DETAILS REFER TO C 107 B

NOTES:
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- SNOW TO BE REMOVED FROM SITE IF SNOW STORAGE AREAS REACH CAPACITY
- SEE DWG. C 107 F FOR CURBS AND SUBDRAIN (OPSD 216.021)

CENTRAL STATION COMMON

SWALE

JELLYFISH 17 T/G: 97.54

MH 22 T/G: 97.52

MH 18 T/G: 97.62

DCB 27 T/G: 97.21

PR. HYD T/F 97.76

CONC. CURB PER OPSD 600.110 (TYP) WITH SUBDRAIN PER OPSD 216.021 (TYP.)

5:1 TIE INTO EXISTING GRADE

7.3m

1.20m CONC. SWK

DRAINAGE DIVIDE

FIVE (5) COLLAPSIBLE BOLLARDS

CONC. CURB PER OPSD 600.110 (TYP) WITH SUBDRAIN PER OPSD 216.021 (TYP.)

PHASE 1 TURFSTONE ACCESS ROAD AND CONC. SIDEWALK TO BE REMOVED FOR PHASE 3, UPON COMPLETION OF FAIRVIEW SQUARE COMMON (NORTH-SOUTH ROAD) AND STABILIZED WITH SOD.

PROP. (TURFSTONE) UNILOCK PERMEABLE PAVERS (32-14-13.19) FOR EMERGENCY ACCESS PAVEMENT STRUCTURE REFER TO DETAIL ON DWG. C 107 B

PROP. CONVEYANCE SWALE, SEE DETAIL ON C104 B

MH5A T/G: 96.97

PROP. GRASS SEEDED AREA

TEMPORARY EMERGENCY EXIT (TURFSTONE)

6.0m

PROP. 1.20m CONC. SIDEWALK

LIMITS OF RESTORATION OF THE MUNICIPAL RIGHT OF WAY SHALL BE ADVISED BY THE CITY INSPECTOR.

FUTURE PHASE 3 TO BE SUBMITTED UNDER SEPARATE APPLICATION

EX CB TO REMAIN IN PH1 CONDITIONS T/G = 96.82

DCBMH 19 T/G: 96.65

DCBMH 25 T/G: 96.47

PROP. SWITCHGEAR BY SMITH & ANDERSEN. REFER TO SMITH & ANDERSEN ELECTRICAL DRAWINGS FOR DETAILS.

MH 20 T/G: 96.89

MH 24 T/G: 96.66

MH10A T/G: 96.67

MH9A T/G: 96.59

MH6A T/G: 96.90

MH7A T/G: 96.76

EX. MH.26B TO BE RETROFITTED WITH CATCH BASIN FRAME AND GRATE AND LOWERED TO 96.93

COLLAPSIBLE BOLLARDS

EX. BOULEVARD TO BE RESTORED TO EXISTING CONDITIONS OR BETTER

EX. HYDRO POLE TO REMAIN

TEMPORARY ENTRANCE TO CONFORM WITH S-110 AND S-112 SEE DWG. C 107 D FOR TEMPORARY ASPHALT PAVEMENT STRUCTURE SEE DWG. C 107 B

REMOVE EXISTING FULL CURB AND INSTALL DROPPED CURB PER OPSD 600.040

REMOVE EXISTING DROPPED CURB AND INSTALL NEW FULL CURB PER OPSD 600.040

20.0m

25.7m

9m

FAIRVIEW STREET

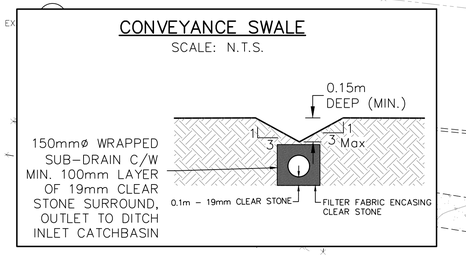
SEE DWG C 104 C

MH23 T/G:96.60

MH21 T/G:96.64

CONVEYANCE SWALE

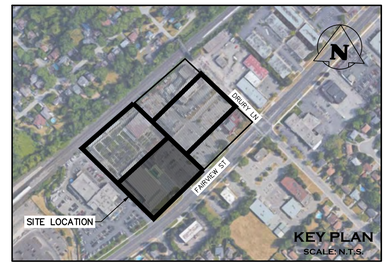
SCALE: N.T.S.



SCALE: 1:200

LEGEND

PROPERTY LINE	LIMIT OF CONSTRUCTION	PROPOSED MAJOR OVERLAND FLOW DIRECTION	LANDSCAPE
EXISTING GRADE	LIMIT OF UNDERGROUND PARKING	PROPOSED FIRE HYDRANT & GATE VALVE	PROPOSED LIGHT DUTY CONCRETE SURFACE
EXISTING OVERHEAD WIRES AND HYDRO POLE	DEPRESSED CURB	PROPOSED SIAMESE (FIRE DEPT.) CONNECTION	PROPOSED HEAVY DUTY CONCRETE SURFACE
PROPOSED GRADE	BARRIER CURB	PROPOSED STORM MANHOLE	PROPOSED PAVERS & CONCRETE BANDING SURFACE
PROPOSED GRADE (TO MATCH EXISTING)	EXISTING CURB	PROPOSED SANITARY MANHOLE	PROPOSED HEAVY DUTY ASPHALT SURFACE
PROPOSED MINOR FLOW DIRECTION	PROPOSED SLOPE (3:1 MAX.)	PROPOSED TREE PIT	PROPOSED UNIT PAVERS
PROPOSED GRASSED SWALE	PROPOSED BOLLARD		PROPOSED SODDED AREA
PROPOSED SNOW STORAGE AREA	PROPOSED COLLAPSIBLE BOLLARD	PROPOSED SILVA CELL	PROPOSED SEEDED AREA
PROPOSED VISITOR BIKE SPACE	BUILDING ENTRANCE (PERSONNEL DOOR)	PROPOSED LIGHT STANDARDS	PROPOSED TURF STONE
PROPOSED CRASH WALL	PROPOSED TACTILE PLATE	PROPOSED WALL MOUNTED LIGHTS	
TEMPORARY FENCE (PER LANDSCAPE ARCH.)			



REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____

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FILE#535-001/20

Stamp: LICENSED PROFESSIONAL ENGINEER — J. E. PETTIFER — 100505043 — JUL 20, 2022 — PROVINCE OF ONTARIO

Stamp: LICENSED PROFESSIONAL ENGINEER — PAVEL FILIPTSEV — 100146817 — JULY.20,2022 — PROVINCE OF ONTARIO

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
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2	ISSUED FOR SECOND SPA SUBMISSION	2020/OCT/21
1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

ELEVATION NOTE:

ELEVATIONS SHOWN HEREON ARE REFERRED TO THE CITY OF BURLINGTON BENCHMARK No. 1045

ELEVATION = 93.477m

SURVEY NOTES:

SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141-0

BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS
UTM ZONE 17, NAD83 (CSRS) (2010.0)

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18-223

DRAWING NOTES:

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REFER TO SUE PREPARED BY PLANVIEW UTILITY SERVICES LTD. FOR EXISTING UNDERGROUND UTILITY LOCATIONS.

Developer
FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

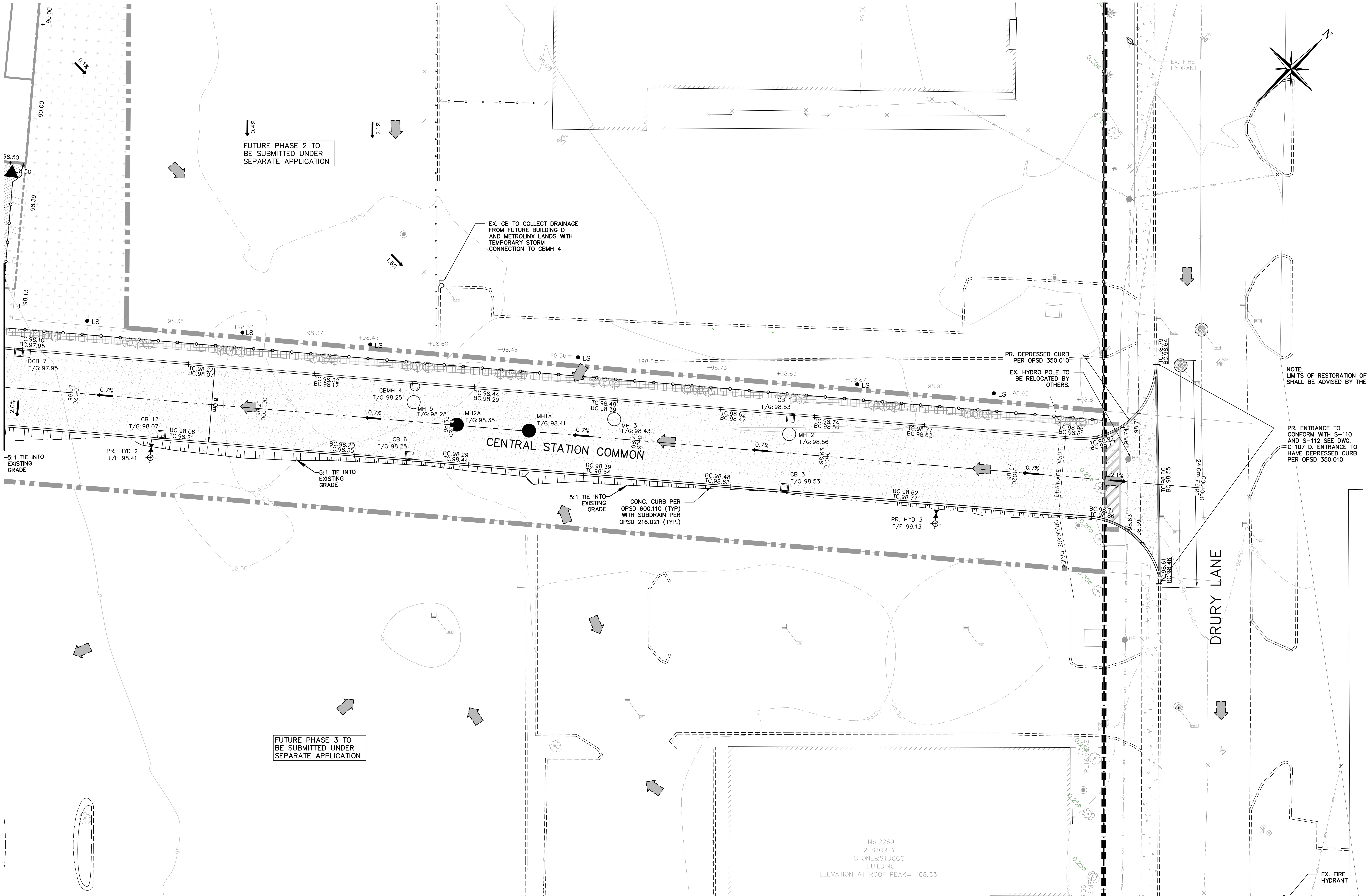
c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST, SUITE 200
OTTAWA, ON K2P 1Z2

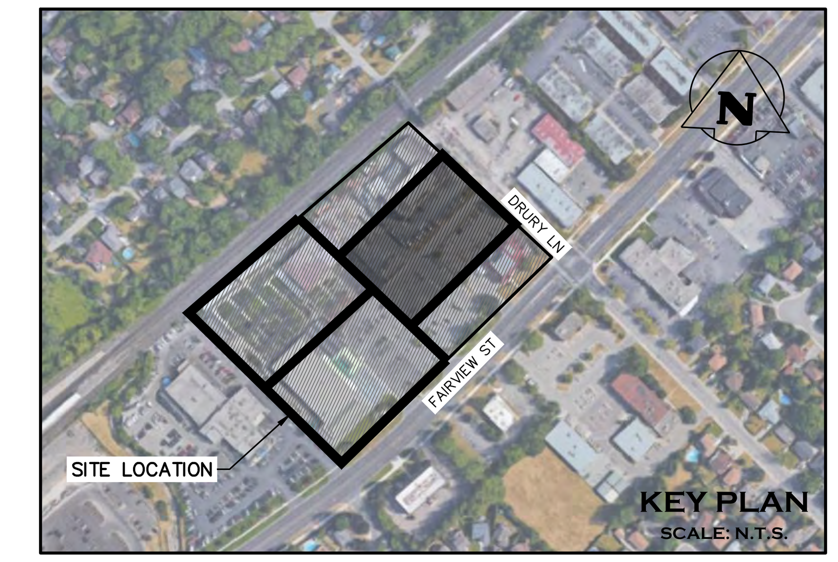
Project
2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

Drawing
PHASE 1 - SITE GRADING PLAN

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	Design	Project No.	
S.V.N./N.C.	M.P./P.F.		1486-4809
Check	Check	Scale	Dwg.
J.P.	P.F.	1: 200	C 104 B





REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: ________________ DATED: ______________

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SEE DWG. C 104 I FOR DETAILS AND SECTIONS

PAVEMENT STRUCTURE DETAILS REFER TO C 107 B

NOTES:
- ALL CURBS TO BE PER OPSD 600.110 UNLESS OTHERWISE NOTED SEE DWG. C 107 F
- ANY WORKS ON ADJACENT LANDS REQUIRE WRITTEN PERMISSION FROM THE OWNER OF THE LANDS
- SNOW TO BE REMOVED FROM SITE IF SNOW STORAGE AREAS REACH CAPACITY
- SEE DWG. C 107 F FOR CURBS AND SUBDRAIN (OPSD 216.021)

LEGEND

- PROPERTY LINE
- EXISTING GRADE (×215.00)
- EXISTING OVERHEAD WIRES AND HYDRO POLE
- PROPOSED GRADE (×215.00)
- PROPOSED GRADE (TO MATCH EXISTING) (×215.00)
- PROPOSED MINOR FLOW DIRECTION (2.0%)
- PROPOSED GRASSED SWALE (2.0%)
- PROPOSED SNOW STORAGE AREA
- PROPOSED VISITOR BIKE SPACE
- PROPOSED CRASH WALL
- TEMPORARY FENCE (PER LANDSCAPE ARCH.)
- LIMIT OF CONSTRUCTION
- LIMIT OF UNDERGROUND PARKING
- DEPRESSED CURB
- BARRIER CURB
- EXISTING CURB
- PROPOSED SLOPE (3:1 MAX.)
- PROPOSED BOLLARD
- PROPOSED COLLAPSIBLE BOLLARD
- BUILDING ENTRANCE (PERSONNEL DOOR)
- PROPOSED TACTILE PLATE
- PROPOSED MAJOR OVERLAND FLOW DIRECTION
- PROPOSED FIRE HYDRANT & GATE VALVE
- PROPOSED SIAMESE (FIRE DEPT.) CONNECTION
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED TREE PIT
- PROPOSED SILVA CELL
- PROPOSED LIGHT STANDARDS (LS)
- PROPOSED WALL MOUNTED LIGHTS

LANDSCAPE

- PROPOSED LIGHT DUTY CONCRETE SURFACE
- PROPOSED HEAVY DUTY CONCRETE SURFACE
- PROPOSED PAVERS & CONCRETE BANDING SURFACE
- PROPOSED HEAVY DUTY ASPHALT SURFACE
- PROPOSED UNIT PAVERS
- PROPOSED SODDED AREA
- PROPOSED SEEDED AREA
- PROPOSED TURF STONE

Developer
FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC. 181 BAY ST. TORONTO, ON M5J 2T3	c/c CLV GROUP DEVELOPMENTS INC. 485 BANK ST., SUITE 200 OTTAWA, ON K2P 1Z2

Project
2243 FAIRVIEW ST., 2269 FAIRVIEW ST.,
864 DRURY LN
CITY OF BURLINGTON

Drawing
PHASE 1 – SITE GRADING PLAN

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn S.V.N./N.C.	Design M.P./P.F.	Project No. 1486-4809
Check J.P.	Check P.F.	Scale 1:200 / Dwg. C 104 C

LEGEND

- PROPERTY LINE
- EXISTING GRADE
- EXISTING OVERHEAD WIRES AND HYDRO POLE
- PROPOSED GRADE
- PROPOSED GRADE (TO MATCH EXISTING)
- PROPOSED MINOR FLOW DIRECTION
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REGIONAL APPROVAL

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SCALE: 1:200

METROLINX

SWALE WITH SUBDRAIN BELOW

CRASH WALL TO BE DESIGNED BY STRUCTURAL ENGINEER.

EX. RETAINING WALL ON METROLINX LANDS TO REMAIN

BUILDING 'C' PARKING FFE:98.150

PARKING FFE:98.532

GARAGE DOOR

LOADING

OFFICE

COMMERCIAL FFE:97.950

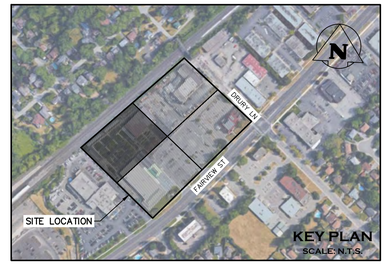
COMMERCIAL FFE:98.550

ALL EXTERNAL GRADES AT BUILDING ENTRANCES TO MEET FFE GRADES AS CONFIRMED WITH THE ARCHITECT TO MEET AODA

CENTRAL STATION COMMON

SEE DWG C 104 E

SEE DWG C 104 G



FILE#535-001/20

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Developer

FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project

2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

Drawing

ULTIMATE – SITE GRADING PLAN

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
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Drawn	Design	Project No.	
S.V.N./N.C.	M.P./P.F.	1486-4809	
Check: J.P.	Check: P.F.	Scale: 1:200	Dwg: C 104 D

SEE DWG C 104 G

CENTRAL STATION COMMON

SEE DWG C 104 F

FAIRVIEW SQUARE COMMON

FAIRVIEW STREET

LEGEND

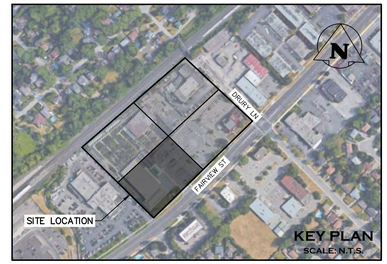
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485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project

2243 FAIRVIEW ST., 2269 FAIRVIEW ST.,
864 DRURY LN
CITY OF BURLINGTON

Drawing

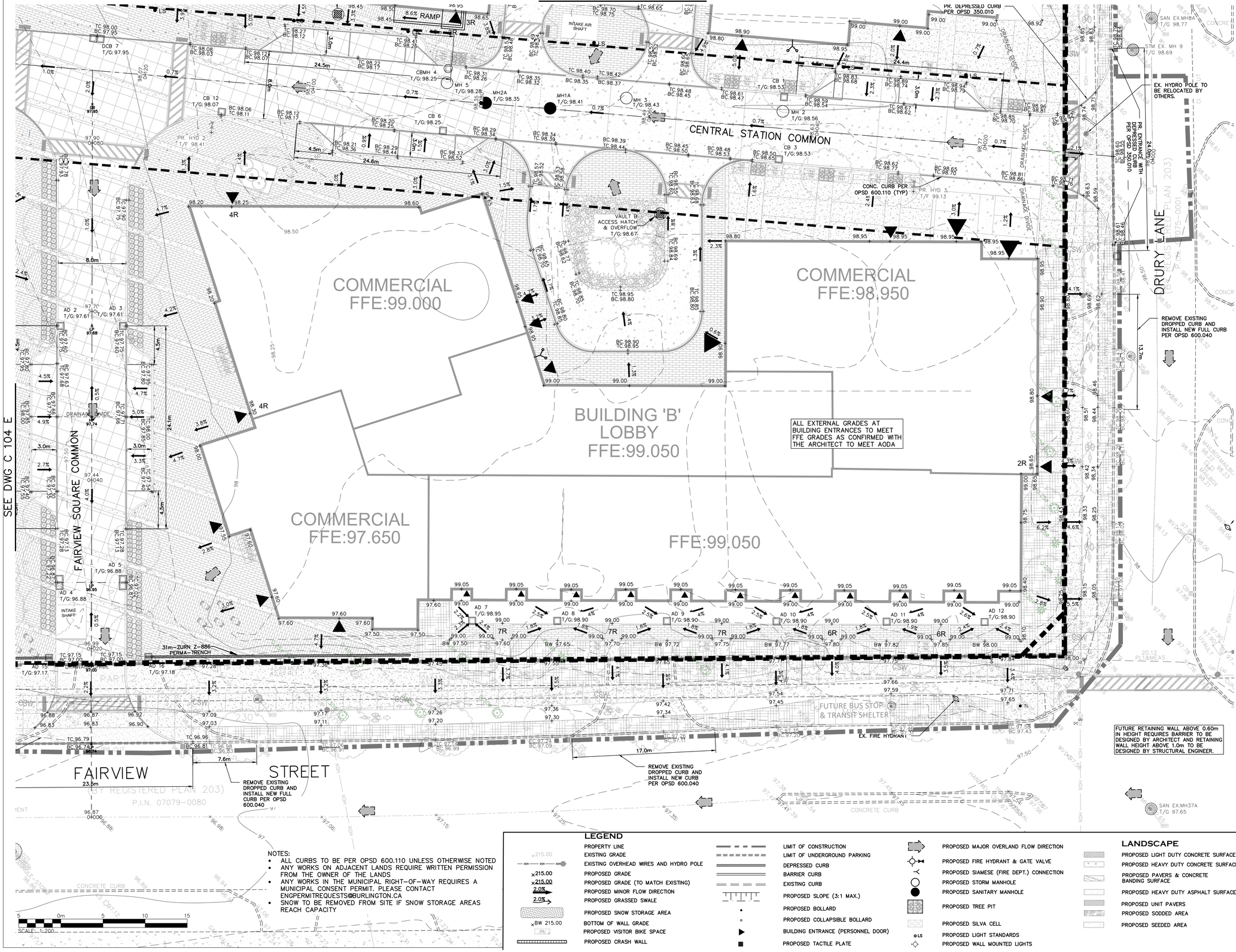
ULTIMATE – SITE GRADING PLAN

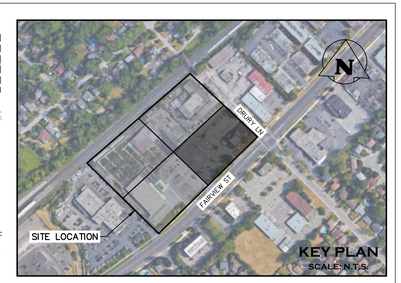
CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	S.V.N./N.C.	Design	M.P./P.F.	Project No.	1486-4809
Check	J.P.	Check	P.F.	Scale	1: 200
				Dwg.	C 104 E

SEE DWG C 104 D

SEE DWG C 104 E





PAVEMENT STRUCTURE DETAILS REFER TO C 107 B

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____

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FILE #535-001/20

Stamp: LICENSED PROFESSIONAL ENGINEER — J. E. PETTIFER — 100505043 — JUL 20, 2022 — PROVINCE OF ONTARIO

Stamp: LICENSED PROFESSIONAL ENGINEER — PAVEL FILIPTSEV — 100146817 — JULY.20,2022 — PROVINCE OF ONTARIO

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
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2	ISSUED FOR SECOND SPA SUBMISSION	2020/OCT/21
1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

ELEVATION NOTE:

ELEVATIONS SHOWN HEREON ARE REFERRED TO THE CITY OF BURLINGTON BENCHMARK No. 1045

ELEVATION = 93.477m

SURVEY NOTES:

SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141-0

BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS
UTM ZONE 17, NAD83 (CSRS) (2010.0)

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: AD01 THROUGH A819, (2022/07/20)
PROJECT No.: 18-223

DRAWING NOTES:

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Developer

FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project

2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN CITY OF BURLINGTON

Drawing

ULTIMATE – SITE GRADING PLAN

NOTES:
- ALL CURBS TO BE PER OPSD 600.110 UNLESS OTHERWISE NOTED
- ANY WORKS ON ADJACENT LANDS REQUIRE WRITTEN PERMISSION FROM THE OWNER OF THE LANDS
- ANY WORKS IN THE MUNICIPAL RIGHT-OF-WAY REQUIRES A MUNICIPAL CONSENT PERMIT. PLEASE CONTACT ENGPERMITREQUESTS@BURLINGTON.CA
- SNOW TO BE REMOVED FROM SITE IF SNOW STORAGE AREAS REACH CAPACITY

SCALE: 1:200

LEGEND

- PROPERTY LINE
- EXISTING GRADE
- EXISTING OVERHEAD WIRES AND HYDRO POLE
- PROPOSED GRADE
- PROPOSED GRADE (TO MATCH EXISTING)
- PROPOSED MINOR FLOW DIRECTION
- PROPOSED GRASSED SWALE
- PROPOSED SNOW STORAGE AREA
- BOTTOM OF WALL GRADE
- PROPOSED VISITOR BIKE SPACE
- PROPOSED CRASH WALL
- LIMIT OF CONSTRUCTION
- LIMIT OF UNDERGROUND PARKING
- DEPRESSED CURB
- BARRIER CURB
- EXISTING CURB
- PROPOSED SLOPE (3:1 MAX.)
- PROPOSED BOLLARD
- PROPOSED COLLAPSIBLE BOLLARD
- BUILDING ENTRANCE (PERSONNEL DOOR)
- PROPOSED TACTILE PLATE
- PROPOSED MAJOR OVERLAND FLOW DIRECTION
- PROPOSED FIRE HYDRANT & GATE VALVE
- PROPOSED SIAMESE (FIRE DEPT.) CONNECTION
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED TREE PIT
- PROPOSED SILVA CELL
- PROPOSED LIGHT STANDARDS
- PROPOSED WALL MOUNTED LIGHTS

LANDSCAPE

- PROPOSED LIGHT DUTY CONCRETE SURFACE
- PROPOSED HEAVY DUTY CONCRETE SURFACE
- PROPOSED PAVERS & CONCRETE BANDING SURFACE
- PROPOSED HEAVY DUTY ASPHALT SURFACE
- PROPOSED UNIT PAVERS
- PROPOSED SODDED AREA
- PROPOSED SEEDED AREA

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
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MILTON, ON L9T 6P4
905-875-0026 T
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Drawn	Design	Project No.	
S.V.N./N.C.	M.P./P.F.		1486-4809
Check	Check	Scale	Dwg.
J.P.	P.F.	1:200	C 104 F

LEGEND

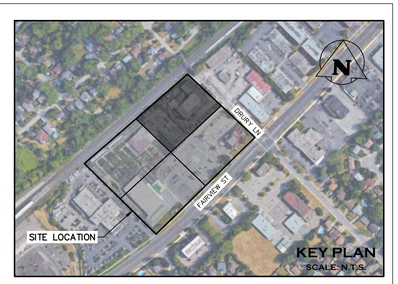
PROPERTY LINE	LIMIT OF CONSTRUCTION
EXISTING GRADE	LIMIT OF UNDERGROUND PARKING
EXISTING OVERHEAD WIRES AND HYDRO POLE	DEPRESSED CURB
PROPOSED GRADE	BARRIER CURB
PROPOSED GRADE (TO MATCH EXISTING)	EXISTING CURB
PROPOSED MINOR FLOW DIRECTION	PROPOSED SLOPE (3:1 MAX.)
PROPOSED GRASSED SWALE	PROPOSED BOLLARD
PROPOSED SNOW STORAGE AREA	PROPOSED COLLAPSIBLE BOLLARD
BOTTOM OF WALL GRADE	BUILDING ENTRANCE (PERSONNEL DOOR)
PROPOSED VISITOR BIKE SPACE	PROPOSED TACTILE PLATE
PROPOSED CRASH WALL	

PROPOSED MAJOR OVERLAND FLOW DIRECTION	
PROPOSED FIRE HYDRANT & GATE VALVE	
PROPOSED SIAMESE (FIRE DEPT.) CONNECTION	
PROPOSED STORM MANHOLE	
PROPOSED SANITARY MANHOLE	
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PROJECT No.: 18-223

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Project

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Drawing

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2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	Design	Project No.	
S.V.N./N.C.	M.P./P.F.		1486-4809
Check	Check	Scale	Dwg.
J.P.	P.F.	1:200	C 104 G

SEE DWG C 104 G

SEE DWG C 104 F

SWALE WITH SUBDRAIN BELOW, LOCATED WITHIN 1.1m DISTANCE BETWEEN CRASH WALL AND PROPERTY LIMIT. REFER TO TYP. DETAIL C 104 I

CRASH WALL TO BE DESIGNED BY STRUCTURAL ENGINEER.

CRASH WALL TO BE DESIGNED BY STRUCTURAL ENGINEER.

PEDESTRIAN CROSSING OVER METROLINX TRACKS TO BE COMPLETED AFTER PH.1 AND TO BE DESIGNED BY OTHERS.

REMOVE EXISTING FULL CURB AND INSTALL NEW DROP CURB PER OPSD 600.040

EX. FIRE HYDRANT

EX. HYDRO POLE TO BE RELOCATED BY OTHERS.

PR. DEPRESSED CURB PER OPSD 350.010

ALL EXTERNAL GRADES AT BUILDING ENTRANCES TO MEET FFE GRADES AS CONFIRMED WITH THE ARCHITECT TO MEET AODA

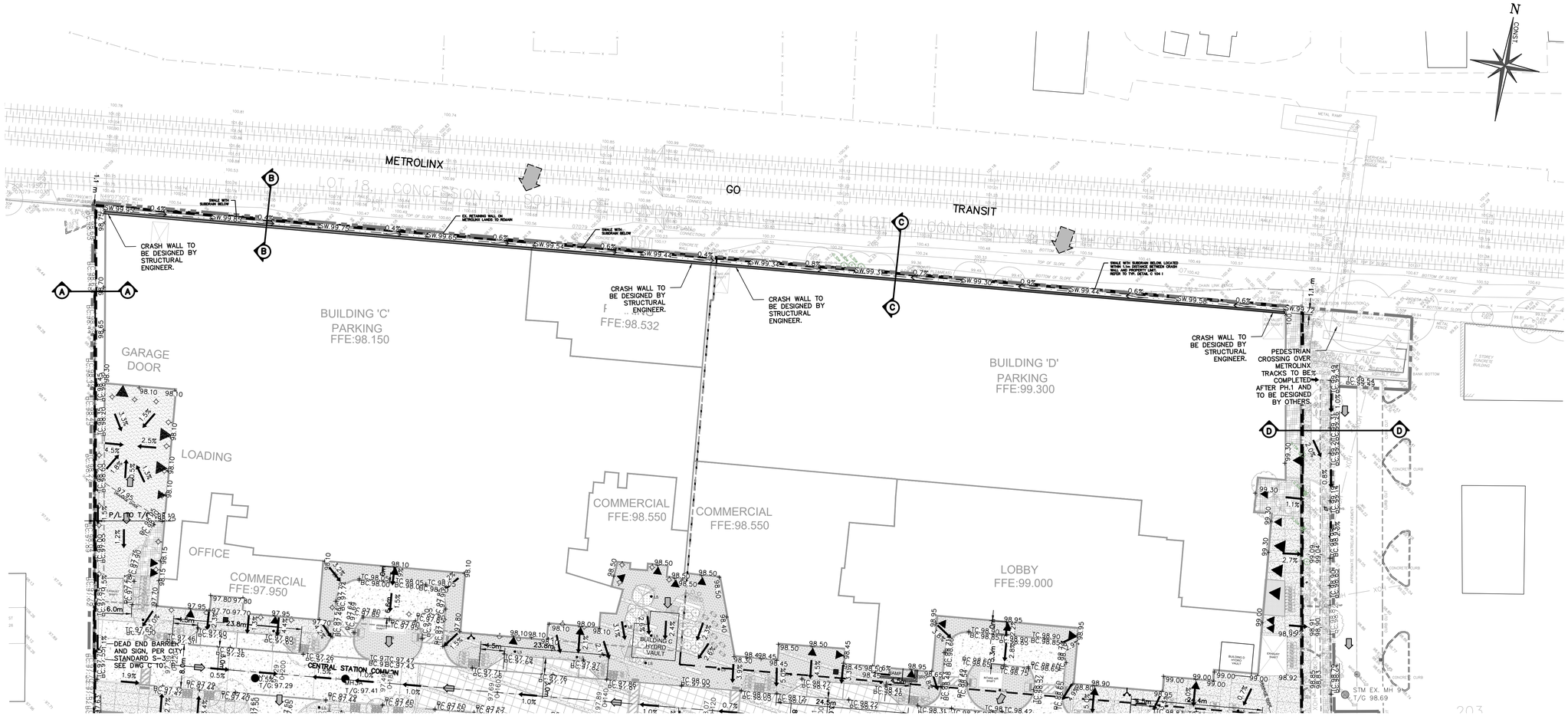
BUILDING 'D' PARKING FFE:99.300

COMMERCIAL FFE:98.550

LOBBY FFE:99.000

DRURY LANE

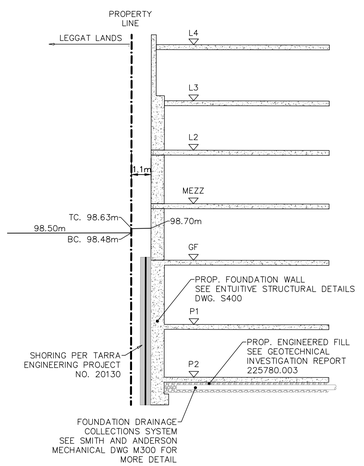
CENTRAL STATION COMMON



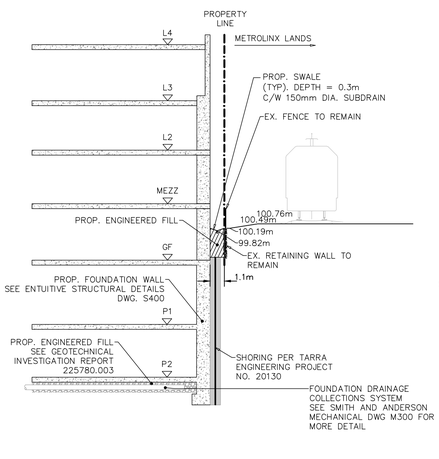


NOTE: REFER TO DWG C 104 I FOR SWALE WITH SUBDRAIN DETAIL

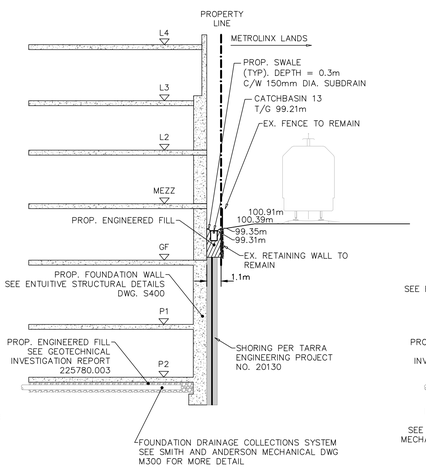
SECTION A–A
SCALE: N.T.S.



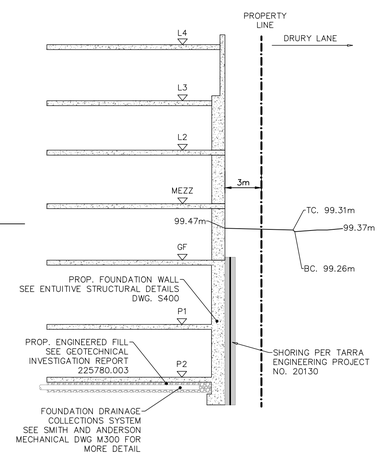
SECTION B–B
SCALE: N.T.S.



SECTION C–C
SCALE: N.T.S.



SECTION D–D
SCALE: N.T.S.



REGIONAL APPROVAL

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10 0m 10 20 30
SCALE: 1:400

I:\1400\L1486-CLV Realty Corp\4809-2269 Fairview St & 84 Drury Ln\CAD\Civil\Sheets\4809_C104 GRADING ULT.dwg, C 104H, 2022-07-29 11:31:28 AM, mbowman

FILE #535-001/20

Stamp
LICENSED PROFESSIONAL ENGINEER
J. E. PETTIFER
100505043
JUL 20, 2022
PROVINCE OF ONTARIO

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DRAWING No.: A001 THROUGH A819, (2022/07/20)
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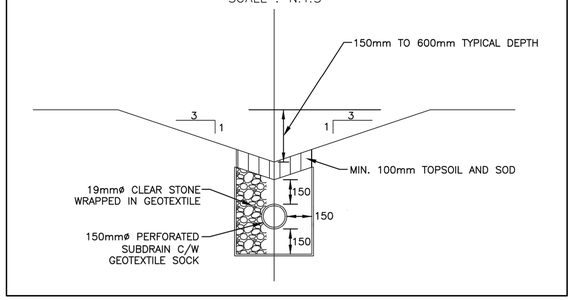
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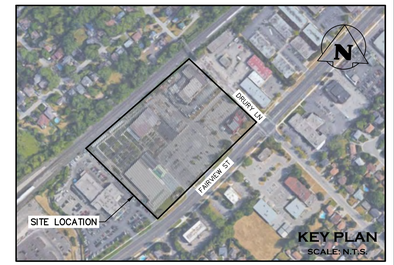
CROZIER CONSULTING ENGINEERS
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Drawn	Design	Project No.
E.D.	E.D.	1486-4809
Check	Check	Scale / Dwg
J.P.		1:400 / C 104 H

SWALE WITH SUBDRAIN DETAIL

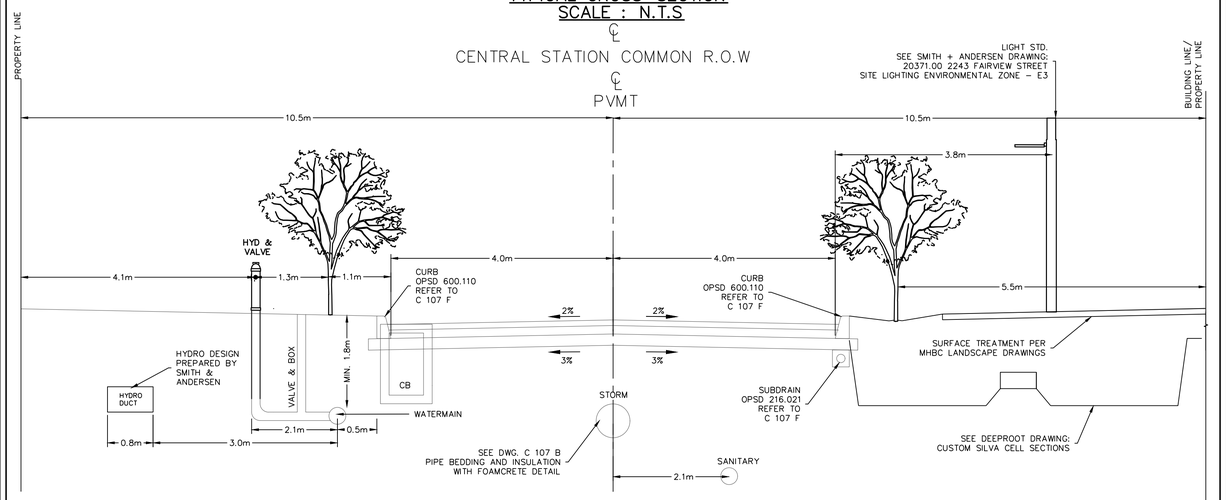
SCALE : N.T.S





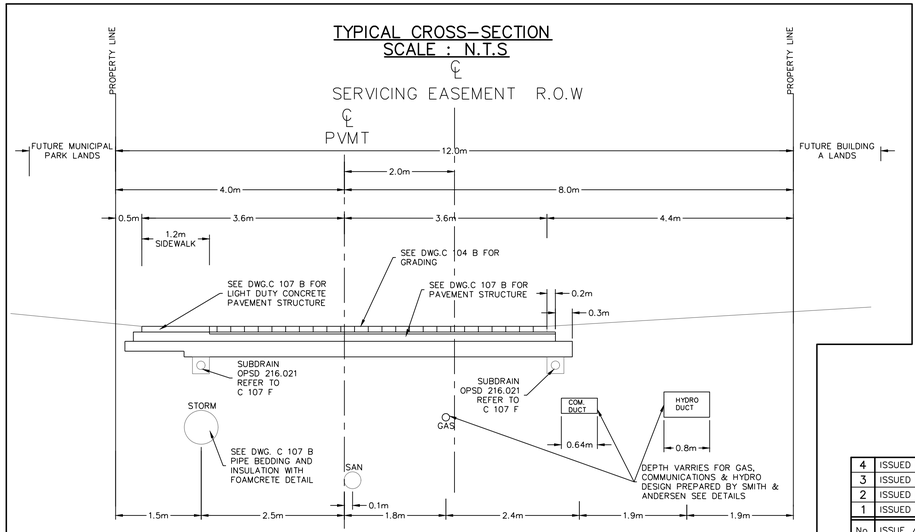
TYPICAL CROSS-SECTION

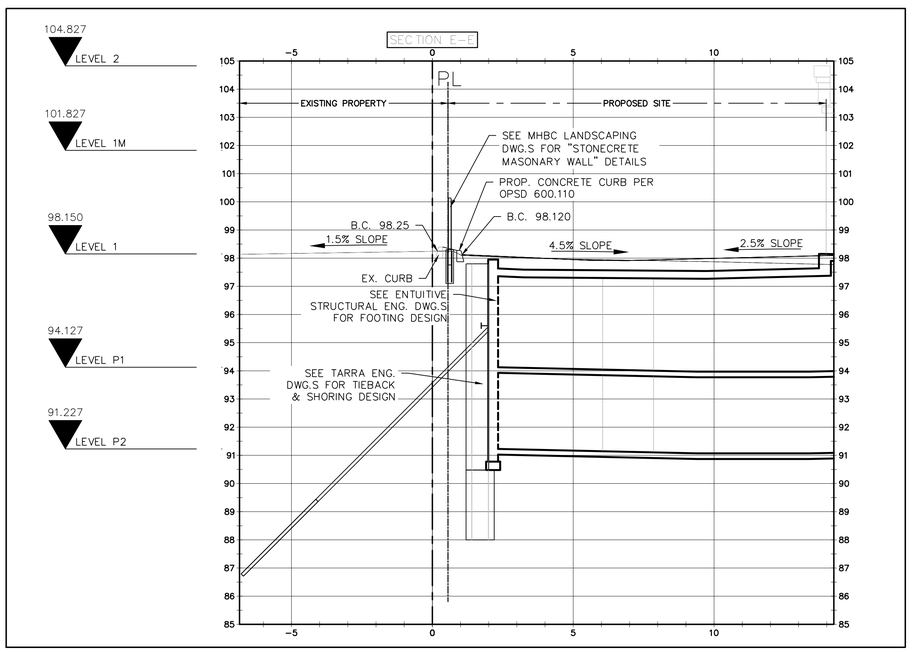
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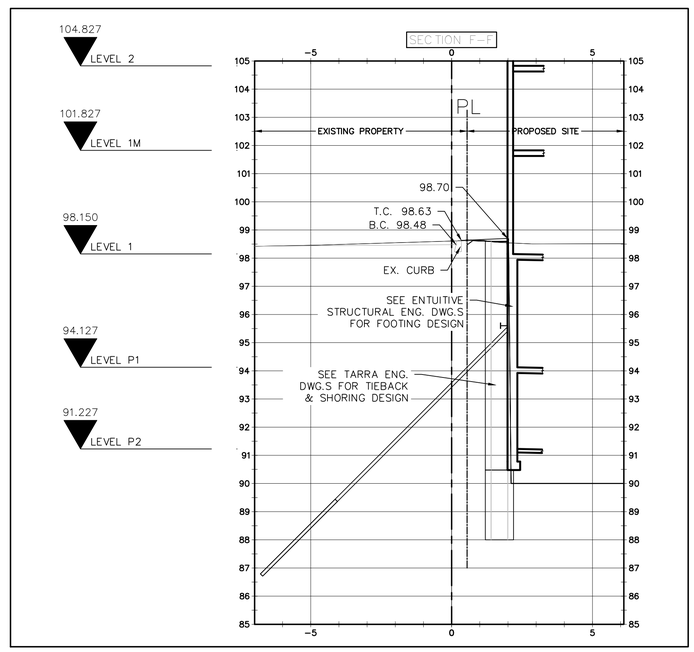


TYPICAL CROSS-SECTION

SCALE : N.T.S







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OTTAWA, ON K2P 1Z2

Project

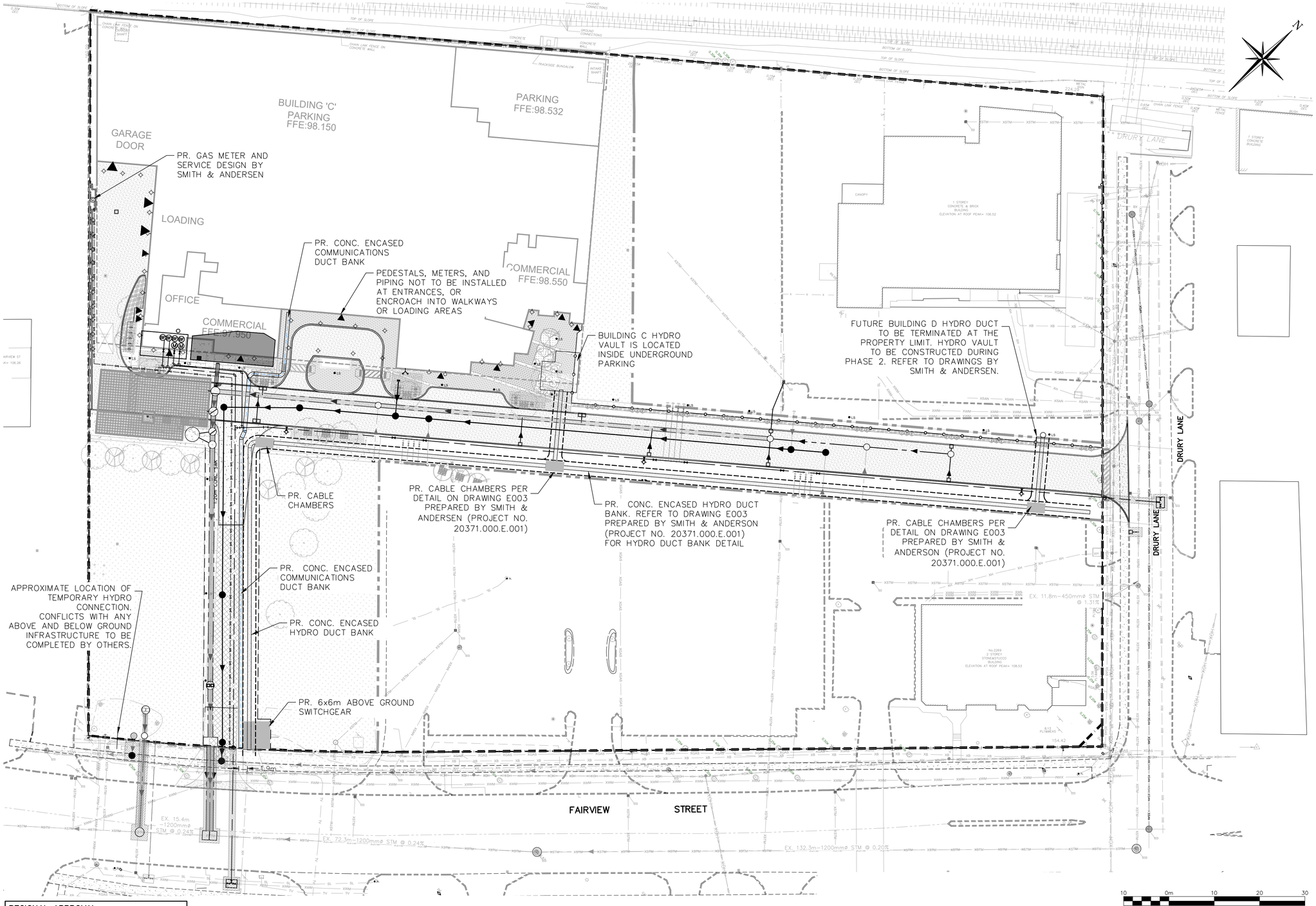
2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN CITY OF BURLINGTON

Drawing

GRADING DETAILS AND SECTIONS

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	Design	Project No.	
S.V.N./N.C.	M.P./P.F.		1486-4809
Check	Check	Scale	Dwg.
J.P.	P.F.	N.T. SCALE	C 104 I





LEGEND

- PROPERTY LINE
- LIMIT OF CONSTRUCTION
- EXISTING WATERMAIN & VALVE
- EXISTING FIRE HYDRANT & VALVE
- EXISTING STORM SEWER & MANHOLE
- EXISTING STORM CATCHBASIN
- EXISTING SANITARY SEWER & MANHOLE
- EXISTING BELL PEDESTAL
- EXISTING TRAFFIC LIGHT POLE
- EXISTING GAS MAIN & GAS VALVE
- EXISTING BELL LINE
- EXISTING HYDRO & HYDRO POLE
- EXISTING OVERHEAD HYDRO
- EXISTING STREET LIGHT CABLE & LIGHT STANDARD
- EXISTING TV CABLE
- PROPOSED WATERMAIN & GATE VALVE
- PROPOSED FIRE HYDRANT & GATE VALVE
- PROPOSED SIAMESE CONNECTION
- PROPOSED STORM SEWER & MANHOLE
- PROPOSED SINGLE / DOUBLE CATCHBASIN
- PROPOSED SANITARY SEWER & MANHOLE
- PROPOSED HYDRO DUCT BANK
- PROPOSED COMMUNICATION DUCT BANK
- PROPOSED SILVA CELL
- PROPOSED GAS MAIN & GAS METER
- WALL MOUNTED LIGHTS / LIGHT STANDARD
- DEPRESSED CURB
- BARRIER CURB
- EXISTING CURB
- STM SEWER TO BE INSULATED PER OPSD 1109.030
- PROPOSED BACKFLOW AND WATER METER PER HALTON REGION STANDARD 504.010 & 601.010

No.	ISSUE / REVISION	YYYY/MM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/DEC/01
2	ISSUED FOR SECOND SPA SUBMISSION	2020/OCT/21
1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

ELEVATION NOTE:

ELEVATIONS SHOWN HEREON ARE REFERRED TO THE CITY OF BURLINGTON BENCHMARK No. 1045

ELEVATION = 93.477m

SURVEY NOTES:

SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141-0

BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS
UTM ZONE 17, NAD83 (CSRS) (2010.0)

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18-223

DRAWING NOTES:

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ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

REFER TO SUE PREPARED BY PLANVIEW UTILITY SERVICES LTD. FOR EXISTING UNDERGROUND UTILITY LOCATIONS.

Developer

FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project

2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN CITY OF BURLINGTON

Drawing

PHASE 1 – COMPOSITE UTILITY PLAN

10 0m 10 20 30
SCALE: 1: 400

FILE#535-001/20

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____
BUSINESS & TECHNICAL SERVICES

The Applicant should be aware that the approval of water systems on private property is the responsibility of the Local Municipality. Regardless, the Applicant must ensure that the Region of Halton's standards and specifications are met *(The Water and Wastewater Linear Design Manual may be obtained thru the Data Management Group at 905-825-6032)* Furthermore, all water quality tests must be completed to the Region of Halton's satisfaction, before the water supply can be turned on.

NOTES:

- A MUNICIPAL CONSENT PERMIT IS REQUIRED FOR ALL WORKS WITHIN THE MUNICIPAL RIGHT OF WAY (FAIRVIEW STREET AND DURY LANE), CONTACT ENGPERMITREQUEST@BURLINGTON.CA FOR DETAILS.
- A ROAD OCCUPANCY PERMIT MAY BE REQUIRED FOR TEMPORARY LANE OR SIDEWALK CLOSURES, DETAILS TO BE PROVIDED IN MUNICIPAL CONSENT PERMIT.
- ALL CATCH BASINS TO BE FITTED WITH CB SHIELDS.
- ALL OTHER UTILITY PLANS AND DRAWINGS HAVE NOT YET BEEN RECEIVED.
- HYDRO AND COMM DUCT BANK DESIGN PREPARED BY SMITH & ANDERSEN LTD. SEE DWG. E003 FOR DETAILS
- DEDICATED PARK ELECTRICAL CLOSETS TO BE SERVICED BY BHI EXTERNALLY OFF OF FAIRVIEW STREET.
- NO ABOVE GROUND INFRASTRUCTURE IS PROPOSED.

LEGEND (LANDSCAPE)

- PROPOSED LIGHT DUTY CONCRETE SURFACE
- PROPOSED HEAVY DUTY ASPHALT SURFACE
- PROPOSED GRASS SEED
- PROPOSED LANDSCAPE AREA
- PROPOSED UNIT PAVERS
- PROPOSED SODDED AREA
- PROPOSED TURF STONE

Stamp

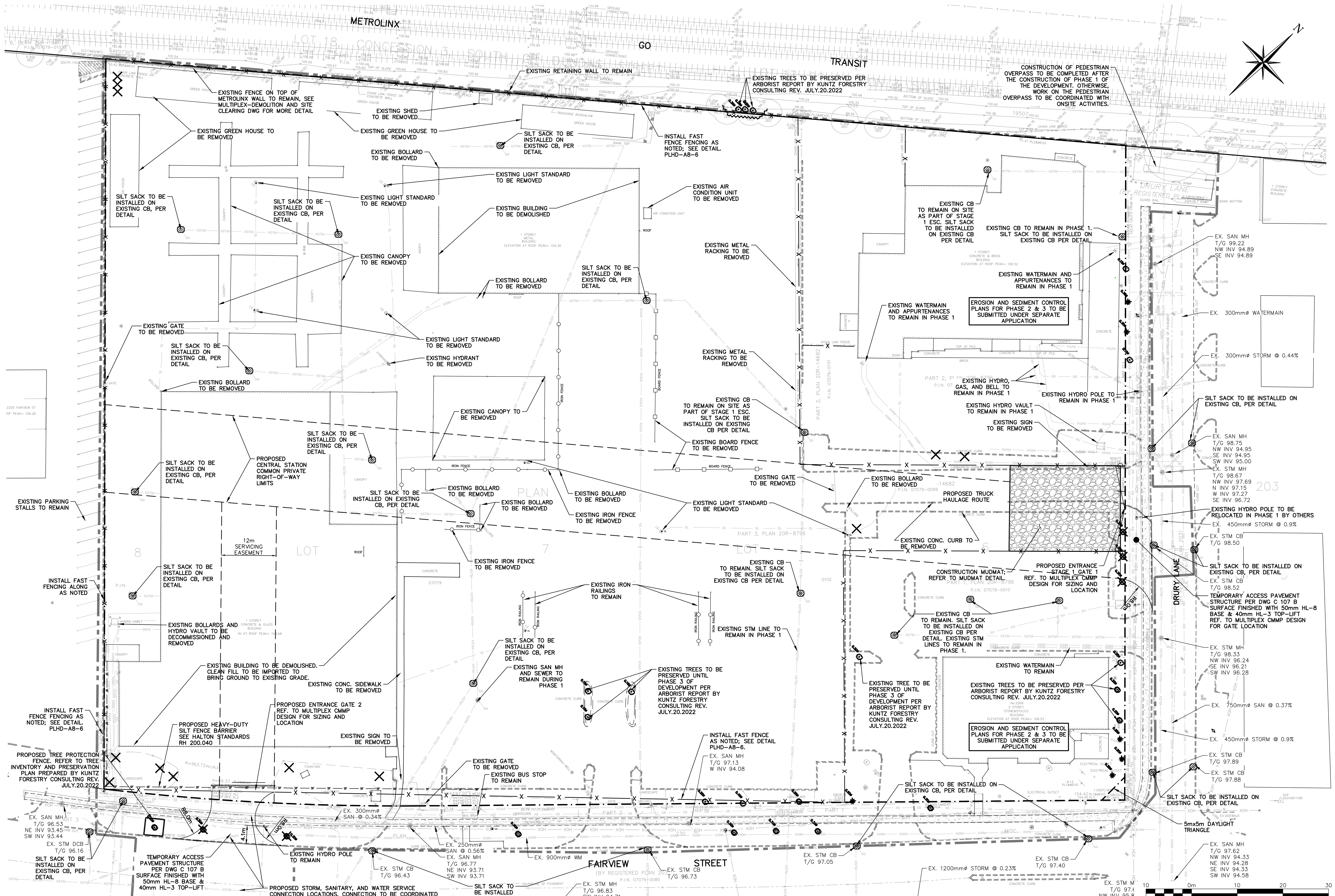
LICENSED PROFESSIONAL ENGINEER
J. E. PETTIFER
100505043
JUL 20, 2022
PROVINCE OF ONTARIO

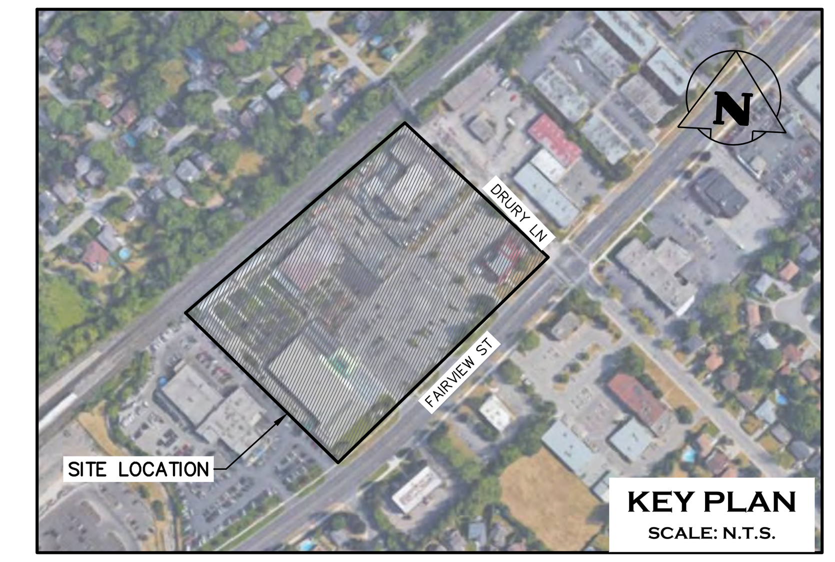
Stamp

LICENSED PROFESSIONAL ENGINEER
PAVEL FILIPTSEV
100146817
JULY.20,2022
PROVINCE OF ONTARIO

CROZIER CONSULTING ENGINEERS
2800 High Point Drive
Suite 100
Milton, ON L9T 6P4
905 875-0026 T
905 875-4915 F
WWW.CFCROZIER.CA

Drawn	M.P./N.C.	Design	M.P./P.F.	Project No.	1486-4809
Check	J.V.	Check	P.F.	Scale	1: 400
				Dwg.	C 105





KEY PLAN
SCALE: N.T.S.

EX. STM CB T/G 96.76

EX. STM CB T/G 96.95

EX. STM CB T/G 97.18

SILT SACK TO BE INSTALLED ON EXISTING CB, PER DETAIL

NOTES:

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CONTRACTOR TO TERMINATE ALL SANITARY WATER AND STORM SERVICES AT MAIN LINE ON FAIRVIEW STREET OR DRURY LANE WHERE NOTED.

CONTRACTOR TO REMOVE ALL INTERNAL PIPING AND BELOW-GRADE STRUCTURES WHERE NOTED.

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REFER TO DRAWING C 107 A FOR DETAILS AND FURTHER EROSION AND SEDIMENT CONTROL NOTES.

TREE INVENTORY & PRESERVATION PLAN REPORT BY KUNTZ FORESTRY SHOULD BE CONSULTED FOR TREE REMOVAL AND PRESERVATION NOTES AND DETAILS.

NOTE: ALL EXISTING SERVICES AND UTILITIES TO REMAIN DURING PHASE 1 FOR 2269 FAIRVIEW STREET AND 864 DRURY LANE.

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
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SURVEY NOTES:

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PROJECT No.: 3141-0

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SITE PLAN NOTES:

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DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18-223

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REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _________________ DATED: _______________
BUSINESS & TECHNICAL SERVICES

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ALL EXISITING WELLS SHALL BE DECOMMISSIONED BY A LICENSED DRILLING COMPANY AND REMOVED.

EXISTING STORM SERVICES ARE TO BE REMOVED TO THE MAINLINE AS NOTED.

CONTACT CITY OF BURLINGTON (ANNETTE.SIMPSON@BURLINGTON.CA) UPON COMPLETION OF INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES FOR APPROVAL.

LEGEND

PROPERTY LINE	EXISTING CURB
LIMIT OF CONSTRUCTION	EXISTING HYDRO POLE
EXISTING WATERMAIN & GATE VALVE	EXISTING HYDRO LINE
EXISTING STORM SEWER & MANHOLE	EXISTING GASMAIN
EXISTING SINGLE / DOUBLE CATCHBASIN	EXISTING BELL LINE
EXISTING SANITARY SEWER & MANHOLE	EXISTING STREET LIGHT CABLE & LIGHT STANDARD
EXISTING OVERHEAD HYDRO CABLES	EXISTING ROGERS LINE
EXISTING FENCE	PROPOSED FAST FENCE
EXISTING GRADE	PROPOSED HORDING WOOD FACED ASSEMBLY; SEE DETAIL PLHD-A8-6
PROPOSED LIGHT DUTY CONCRETE SURFACE	PROPOSED TREE PROTECTION FENCE
PROPOSED MUD-MAT; SEE DETAIL	PROPOSED SILT FENCE
PROPOSED ENTRANCE GATE; SEE DETAIL	PROPOSED TREE REMOVAL
	PROPOSED SILT SACK

FILE#535-001/20

Stamp: LICENSED PROFESSIONAL ENGINEER J. E. PETTIFER 100505043 JUL 20, 2022 PROVINCE OF ONTARIO

Stamp: LICENSED PROFESSIONAL ENGINEER PAVEL FILIPTSEV 100146817 JULY.20,2022 PROVINCE OF ONTARIO

Developer
FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC. 181 BAY ST. TORONTO, ON M5J 2T3	c/c CLV GROUP DEVELOPMENTS INC. 485 BANK ST., SUITE 200 OTTAWA, ON K2P 1Z2

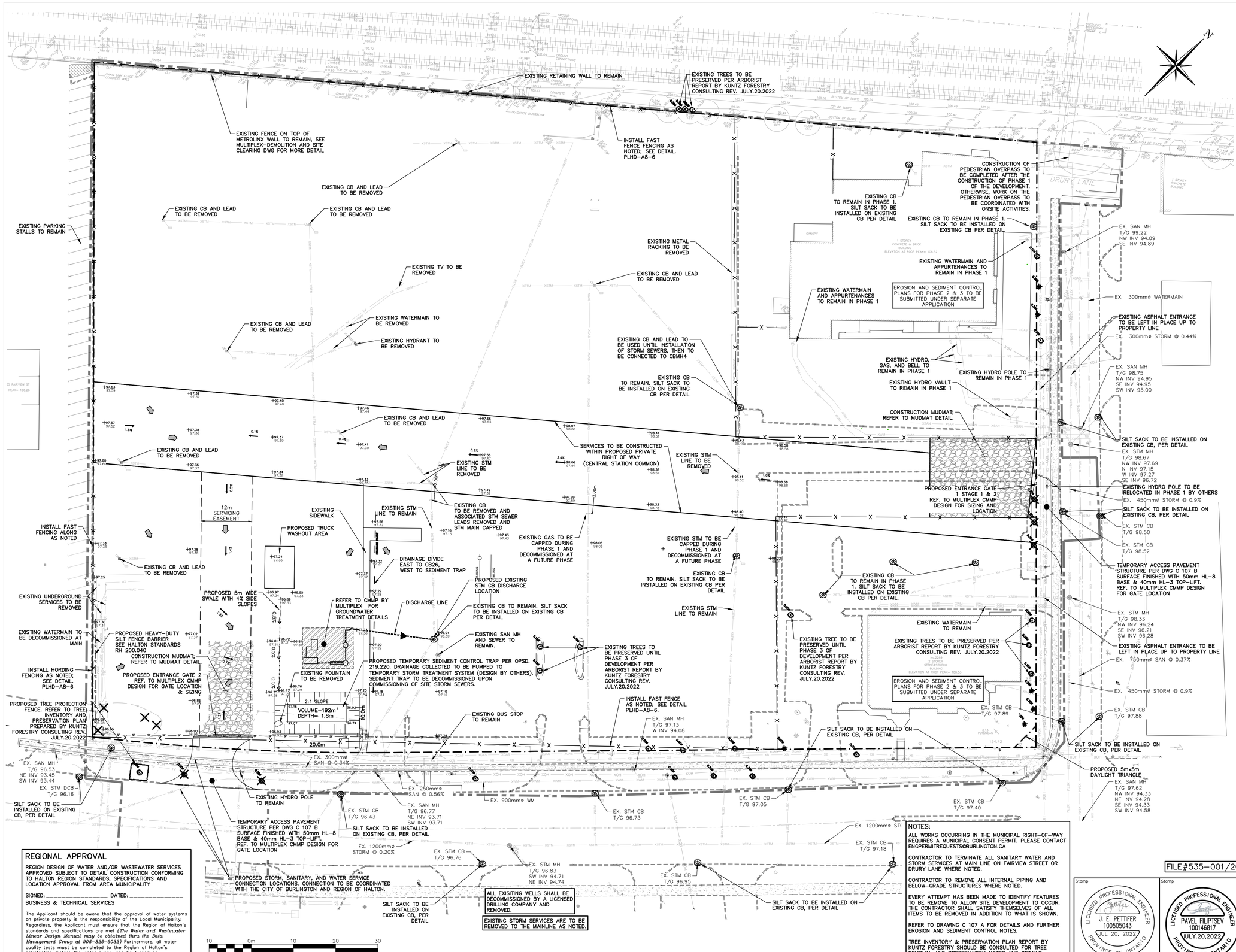
Project
2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

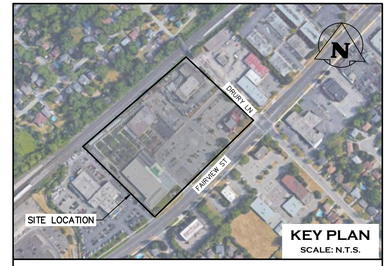
Drawing
ESC PHASE 1 – ABOVE GROUND REMOVALS STAGE 1

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	M.P./N.C.	Design	M.P./P.F.	Project No.	1486–4809
Check	J.V.	Check	P.F.	Scale 1:400	Dwg. C 106 A

I:\1400\1486-CLV Realty Corp\4809-2269 Fairview St & 84 Drury Ln\CAD\Civil\Sheets\PH1\4809_C106A REMOVALS-ESC-PH1_Stage 1.dwg, C 106 A, 2022-07-29 11:35:36 AM, mbowman





KEY PLAN
SCALE: N.T.S.

LEGEND

- PROPERTY LINE
- LIMIT OF CONSTRUCTION
- EXISTING WATERMAIN & GATE VALVE
- EXISTING STORM SEWER & MANHOLE
- EXISTING SINGLE / DOUBLE CATCHBASIN
- EXISTING SANITARY SEWER & MANHOLE
- EXISTING OVERHEAD HYDRO CABLES
- EXISTING GASMAIN
- EXISTING BELL LINE
- EXISTING STREET LIGHT CABLE & LIGHT STANDARD
- EXISTING CURB
- EXISTING HYDRO POLE
- EXISTING HYDRO LINE
- EXISTING FENCE
- EXISTING GRADE
- PROPOSED GRADE
- PROPOSED SWALE
- PROPOSED OVERLAND SLOPE AND FLOW DIRECTION
- PROPOSED MUD-MAT; SEE DETAIL
- PROPOSED ENTRANCE GATE; SEE DETAIL
- PROPOSED FAST FENCE
- PROPOSED HORDING WOOD FACED ASSEMBLY; SEE DETAIL PLHD-A8-6
- PROPOSED SILT FENCE
- PROPOSED TREE PROTECTION FENCE
- PROPOSED TREE REMOVAL
- PROPOSED SILT SACK

NOTE: ALL EXISTING SERVICES AND UTILITIES TO REMAIN DURING PHASE 1 FOR 2269 FAIRVIEW STREET AND 864 DRURY LANE.

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/DEC/01
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ELEVATION NOTE:

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ELEVATION = 93.477m

SURVEY NOTES:

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PROJECT No.: 3141-0

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DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18-223

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Developer

FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project

2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

Drawing

ESC PHASE 1 – BELOW GROUND REMOVALS STAGE 2

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____
BUSINESS & TECHNICAL SERVICES

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FILE#535-001/20

Stamp

LICENSED PROFESSIONAL ENGINEER
J. E. PETTIFER
100505043
JUL 20, 2022
PROVINCE OF ONTARIO

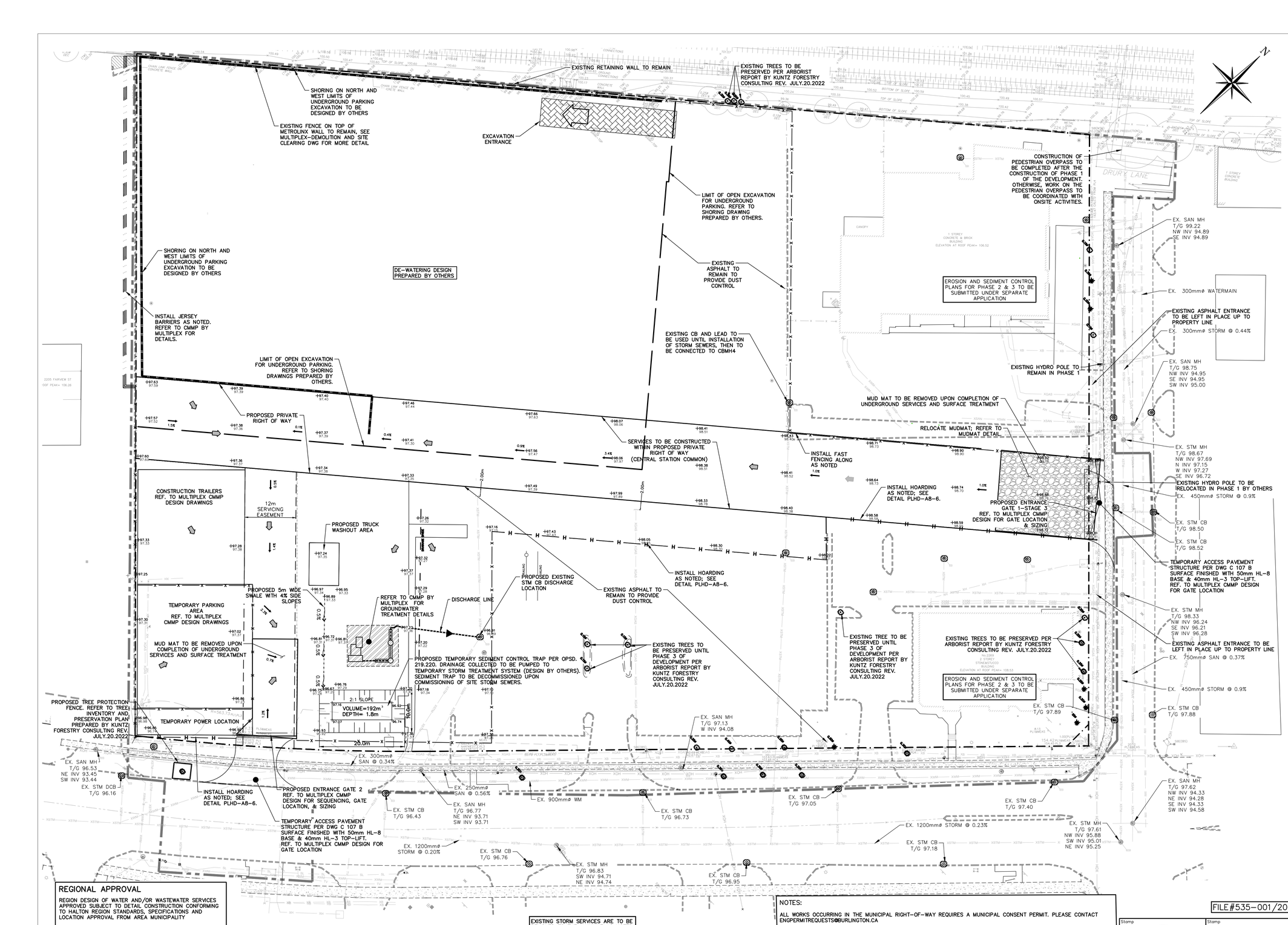
Stamp

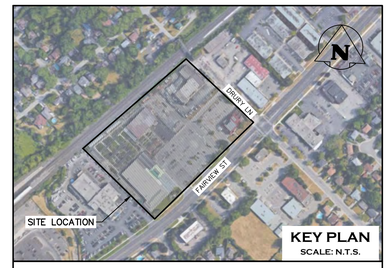
LICENSED PROFESSIONAL ENGINEER
PAVEL FILIPTSEV
100146817
JULY.20,2022
PROVINCE OF ONTARIO

CROZIER CONSULTING ENGINEERS
2800 High Point Drive
Suite 100
Milton, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	M.P./N.C.	Design	M.P./P.F.	Project No.	1486-4809
Check	J.V.	Check	P.F.	Scale	1: 400
				Dwg.	C 106 B

I:\1400\1486-CLV Realty Corp\4809-2269 Fairview St & 84 Drury Ln\CAD\Civil\Sheets\PH1\4809_C106B,C REMOVALS-ESC-PH1.dwg, C 106 B, 2022-07-29 11:35:49 AM, mbowman





KEY PLAN
SCALE: N.T.S.

LEGEND

- PROPERTY LINE
- LIMIT OF CONSTRUCTION
- EXISTING WATERMAIN & GATE VALVE
- EXISTING STORM SEWER & MANHOLE
- EXISTING SINGLE / DOUBLE CATCHBASIN
- EXISTING SANITARY SEWER & MANHOLE
- EXISTING OVERHEAD HYDRO CABLES
- EXISTING CURB
- EXISTING HYDRO POLE
- EXISTING HYDRO LINE
- EXISTING GASMAIN
- EXISTING BELL LINE
- EXISTING STREET LIGHT CABLE & LIGHT STANDARD
- EXISTING FENCE
- EXISTING GRADE
- PROPOSED MUD-MAT; SEE DETAIL
- PROPOSED ENTRANCE GATE; SEE DETAIL
- PROPOSED FAST FENCE
- PROPOSED HORDING WOOD FACED ASSEMBLY; SEE DETAIL PLHD-A8-6
- PROPOSED JERSEY BARRIERS
- PROPOSED SHORING
- PROPOSED TREE PROTECTION FENCE
- PROPOSED SILT SACK
- OVERLAND FLOW DIRECTION
- PROPOSED EXCAVATION LIMIT FOR UNDERGROUND PARKING
- PROPOSED GRADE
- PROPOSED OVERLAND SLOPE AND FLOW DIRECTION
- PROPOSED SWALE

4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/DEC/01
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c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project
2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

Drawing
ESC PHASE 1 – EXCAVATION & SERVICING STAGE 3

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____
BUSINESS & TECHNICAL SERVICES

The Applicant should be aware that the approval of water systems on private property is the responsibility of the Local Municipality. Regardless, the Applicant must ensure that the Region of Halton's standards and specifications are met *(The Water and Wastewater Linear Design Manual may be obtained thru the Data Management Group at 905-825-6032)* Furthermore, all water quality tests must be completed to the Region of Halton's satisfaction, before the water supply can be turned on.

NOTES:

ALL WORKS OCCURRING IN THE MUNICIPAL RIGHT-OF-WAY REQUIRES A MUNICIPAL CONSENT PERMIT. PLEASE CONTACT ENGPERMITREQUESTS@BURLINGTON.CA

ENCROACHMENTS ONTO ADJACENT PRIVATE PROPERTIES IS NOT PERMITTED WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER AND A LETTER SHALL BE SUBMITTED TO THE CITY.

ALL STORMWATER DISCHARGE OUTSIDE OF EXCAVATION TO BE ADEQUATELY TREATED AND DISCHARGED TO THE EXISTING MUNICIPAL STORM SEWER SYSTEM.

THE GROUNDWATER TREATMENT SYSTEM DESIGN IS COMPLETED BY MULTIPLEX AND WILL BE REFLECTED ON THE CONSTRUCTION MANAGEMENT AND MOBILITY PLAN AND IN THE TEMPORARY WATER TAKING REPORT (MULTIPLEX).

REFER TO DEWATERING PLAN (BY OTHERS) FOR PROPOSED EXCAVATION DEWATERING.

REFER TO DRAWING C 107 A FOR DETAILS AND FURTHER EROSION AND SEDIMENT CONTROL NOTES.

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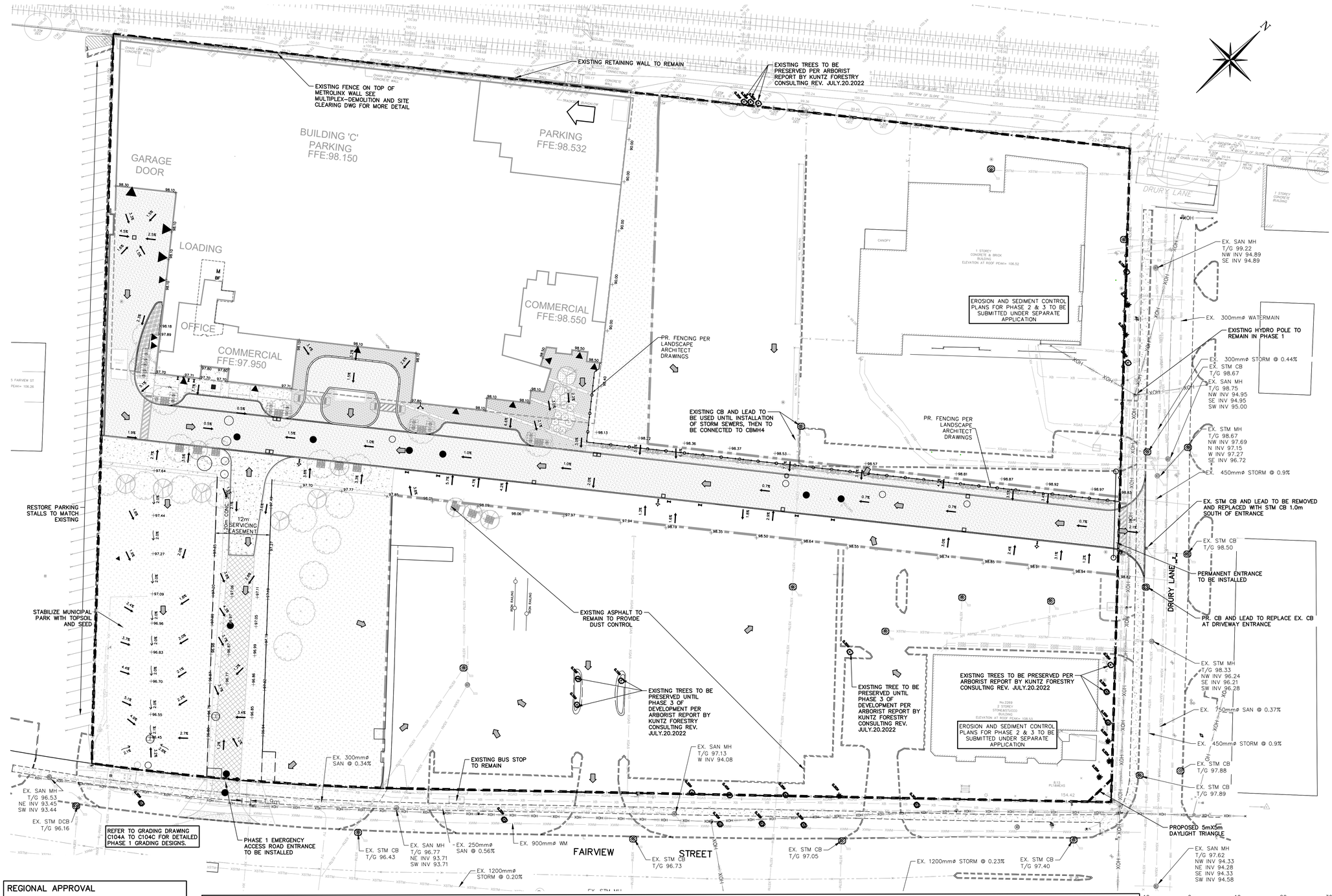
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LICENSED PROFESSIONAL ENGINEER
J. E. PETTIFER
100505043
JUL 20, 2022
PROVINCE OF ONTARIO

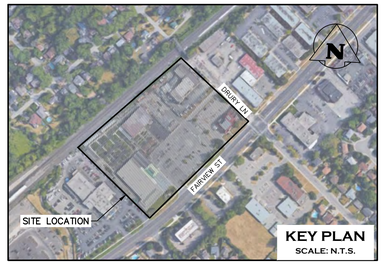
Stamp
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PAVEL FILIPTSEV
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JULY.20.2022
PROVINCE OF ONTARIO

CROZIER CONSULTING ENGINEERS
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Suite 100
Milton, ON L9T 6P4
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905 875 4915 F
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Drawn	Design	Project No.	
M.P./N.C.	M.P./P.F.		1486-4809
Check	Check	Scale	Dwg.
J.V.	P.F.	1: 400	C 106 C

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NOTES:

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REFER TO DEWATERING PLAN (BY OTHERS) FOR PROPOSED EXCAVATION DEWATERING.

REFER TO DRAWING C 107 A FOR DETAILS AND FURTHER EROSION AND SEDIMENT CONTROL NOTES.

No.	ISSUE / REVISION	YYYY/MM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/DEC/01
2	ISSUED FOR SECOND SPA SUBMISSION	2020/OCT/21
1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

ELEVATION NOTE:

ELEVATIONS SHOWN HEREON ARE REFERRED TO THE CITY OF BURLINGTON BENCHMARK No. 1045

ELEVATION = 93.477m

SURVEY NOTES:

SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141-0

BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS
UTM ZONE 17, NAD83 (CSRS) (2010.0)

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18-223

DRAWING NOTES:

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC. AND THE REPRODUCTION OF ANY PART OF IT WITHOUT PRIOR WRITTEN CONSENT OF THIS OFFICE IS STRICTLY PROHIBITED.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.

THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT. DO NOT SCALE THIS DRAWING.

ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

REFER TO SUE PREPARED BY PLANVIEW UTILITY SERVICES LTD. FOR EXISTING UNDERGROUND UTILITY LOCATIONS.

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____

BUSINESS & TECHNICAL SERVICES

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LEGEND

- PROPERTY LINE
- LIMIT OF CONSTRUCTION
- EXISTING WATERMAIN & GATE VALVE
- EXISTING STORM SEWER & MANHOLE
- EXISTING SINGLE / DOUBLE CATCHBASIN
- EXISTING SANITARY SEWER & MANHOLE
- EXISTING OVERHEAD HYDRO CABLES
- EXISTING CURB
- EXISTING HYDRO LINE & HYDRO POLE
- EXISTING FENCE
- EXISTING GASMAIN
- EXISTING BELL LINE
- EXISTING TV CABLE
- EXISTING GRADE
- PROPOSED FIRE HYDRANT & GATE VALVE
- OVERLAND FLOW DIRECTION
- PROPOSED STORM SEWER & MANHOLE
- PROPOSED SANITARY SEWER & MANHOLE
- PROPOSED ENTRANCE GATE; SEE DETAIL
- PROPOSED FENCING (PER LANDSCAPE ARCH.)
- PROPOSED HORDING WOOD FACED ASSEMBLY; SEE DETAIL PLHD-A8-6
- PROPOSED JERSEY BARRIERS
- PROPOSED SHORING
- PROPOSED TREE PROTECTION FENCE
- PROPOSED SILT SACK
- PROPOSED FAST FENCE
- PROPOSED TREE PIT
- PROPOSED VISITOR BIKE SPACE
- DEPRESSED CURB
- BARRIER CURB
- PROPOSED GRADE
- PROPOSED SLOPE
- PROPOSED SWALE
- PROPOSED MUD-MAT; SEE DETAIL

LANDSCAPE

- PROPOSED LIGHT DUTY PEDESTRIAN CONCRETE PAVING
- PROPOSED HEAVY DUTY VEHICULAR CONCRETE PAVING
- PROPOSED GRASS SEED
- PROPOSED UNIT PAVERS
- PROPOSED SODDED AREA
- PROPOSED VEHICULAR ASPHALT PAVING
- PROPOSED TURF STONE
- PROPOSED LANDSCAPE AREA

Developer

FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project

2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

Drawing

ESC PHASE 1 – POST CONSTRUCTION STAGE 4

Stamp

LICENSED PROFESSIONAL ENGINEER
J. E. PETTIFER
100505043
JUL 20, 2022
PROVINCE OF ONTARIO

Stamp

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PAVEL FILIPTSEV
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PROVINCE OF ONTARIO

CROZIER CONSULTING ENGINEERS
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905.875.4915 F
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Drawn	M.P./N.C.	Design	M.P./P.F.	Project No.	1486-4809
Check	J.V.	Check	P.F.	Scale	1:400
				Dwg.	C 106 D

CONSTRUCTION NOTES:

1.0 GENERAL NOTES

1.1 THE LOCATION OF ALL UNDERGROUND AND ABOVEGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THESE DRAWINGS, AND, WHERE SHOWN, THE ACCURACY OF THE LOCATION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED (SUE INVESTIGATION LEVEL 'A' COMPLETED BY PLANVIEW UTILITY SERVICES LTD. ON 2021.MAR.09). BEFORE STARTING WORK, THE CONTRACTOR SHALL DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS WITH THE EXISTING UTILITIES.

1.2 ALL AREAS DISTURBED BY THE CONTRACTOR DURING THE CONSTRUCTION OF THE WORKS SHOWN HEREIN SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER AS DETERMINED BY THE CAPITAL WORKS DEPARTMENT AND ADJACENT LANDOWNERS. ALL GRASS AND VEGETATION COVERED AREAS SHALL BE RESTORED BY PLACING 150mm OF TOPSOIL AND No. 1 NURSERY SOD TO ESTABLISH A GRASS COVER TO THE SATISFACTION OF THE CITY UNLESS NOTED OTHERWISE.

1.3 CITY OF BURLINGTON AND REGION OF HALTON STANDARD DRAWINGS AND OPSD WITH REGIONAL AMENDMENTS FOR SANITARY SEWERS AND WATERMAINS SHALL CONSTITUTE PART OF THE ENGINEERING DESIGN AND CONSTRUCTION CONTRACT. CONTRACTOR TO MAINTAIN CURRENT COPY OF CITY, REGION AND ONTARIO STANDARDS ON SITE AT ALL TIMES.

1.4 ALTERNATIVE MATERIALS MAY BE ACCEPTABLE, PROVIDED APPROVAL HAS FIRST BEEN OBTAINED FROM THE CITY ENGINEER AND/OR THE REGIONAL COMMISSIONER OF PUBLIC WORKS.

1.5 NO BLASTING IS PERMITTED.

1.6 MANHOLE AND VALVE CHAMBER COVERS ARE TO BE SET FLUSH WITH BASE COURSE ASPHALT AND ADJUSTED TO FINAL GRADE PRIOR TO INSTALLING TOP LIFT OF ASPHALT.

1.7 ALL TRENCHES WITHIN EXISTING R.O.W. ARE TO BE BACKFILLED IN ACCORDANCE WITH CITY OF BURLINGTON REQUIREMENTS.

1.8 ALL DIMENSIONS TO BE CHECKED AND VERIFIED ON THE SITE PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER BEFORE PROCEEDING.

1.9 CONTRACTOR TO PROVIDE SHOP DRAWINGS OF ALL MATERIALS AND PRODUCTS FOR REVIEW BY THE ENGINEER PRIOR TO INSTALLATION.

1.10 REFER TO CITY AND REGION STANDARDS AND SPECIFICATIONS FOR LIST OF APPROVED MANUFACTURERS AND MATERIALS.

1.11 ENCROACHMENT ONTO ADJACENT PROPERTIES IS NOT PERMITTED UNLESS OTHERWISE NOTED, INSTRUCTED BY THE ENGINEER AND THERE IS WRITTEN PERMISSION FROM THE ADJACENT LANDOWNER.

1.12 THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S CONTRACTOR FROM OBTAINING AND PAYING FOR PERMITS.

1.13 THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SITE PLAN, LANDSCAPE PLAN, SITE ELECTRICAL PLANS, AND ANY OTHER PLANS OR DRAWINGS WHICH DEPICT WORKS THAT ARE PROPOSED FOR THIS SITE.

1.14 THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS. ALL SIGNS, ETC. SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS FOR THE CITY AND THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR ONTARIO.

1.15 THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING ABOVE AND BELOW GROUND UTILITIES PRIOR TO AND DURING CONSTRUCTION.

1.16 ANY UTILITY RELOCATIONS DUE TO THIS DEVELOPMENT TO BE UNDERTAKEN AT THE EXPENSE OF THE OWNER.

1.17 ALL CONSTRUCTION WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTIONS PROJECTS.

1.18 CONSTRUCTION ACCESS SHALL BE CONSTRUCTED PER DETAIL ON THIS PLAN, AND AS PER CITY ENTRANCE PERMIT.

1.19 ALL EXISTING SEWERS ARE TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION INCLUDING SEWER INVERTS, MATERIAL TYPE, AND SIZE. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.

1.20 CONTRACTOR SHALL PROVIDE A DIGITAL AS-BUILT SURVEY OF ALL UNDERGROUND AND ABOVEGROUND WORKS TO THE SATISFACTION OF THE ENGINEER. IT IS EXPECTED THAT THE CIVIL CONSULTING ENGINEER (OR THEIR REPRESENTATIVE) WILL UNDERTAKE AS-CONSTRUCTED LOCATIONS/INVERTS/ELEVATIONS/ETC. AND USE THIS INFORMATION TO PREPARE AS-CONSTRUCTED DRAWINGS WHICH ARE REQUIRED PRIOR TO SECURITY RELEASE.

1.21 CONTRACTOR TO INSTALL BOTH HOARDING AND EROSION CONTROL FENCE ON THE PERIMETER OF THE PROPERTY AND AT LOCATIONS DETERMINED BY THE MANAGER, DEVELOPMENT ENGINEERING, CITY OF BURLINGTON, PRIOR TO COMMENCEMENT OF ANY WORKS ON THE SITE. HOARDING AND EROSION CONTROL FENCING TO REMAIN IN PLACE FOR THE DURATION OF THE CONTRACT OR AS DIRECTED BY THE MANAGER, DEVELOPMENT ENGINEERING, CITY OF BURLINGTON.

1.22 PRIOR TO COMMENCEMENT OF ANY WORKS WITHIN THE MUNICIPAL ROAD ALLOWANCE, THE OWNER IS RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS FROM THE ENGINEERING SERVICES DEPARTMENT, CITY OF BURLINGTON, FOR THE PURPOSES OF VEHICULAR ACCESS TO THE PROPERTY, (ENTRANCE PERMIT), AND SERVICING EXCAVATIONS, (ROAD OCCUPANCY PERMIT), WITHIN THE MUNICIPAL RIGHT OF ALLOWANCE. THE MUNICIPAL CONSENT PERMIT CAN BE CONTACTED AT ENGPERMITREQUESTS@BURLINGTON.CA.

2.0 STORM SEWERS

2.1 ALL STORM SEWERS 375mmø AND SMALLER TO BE PVC SDR-35.

2.2 ALL STORM SEWERS 450mmø AND LARGER TO BE CONCRETE CLASS 65D.

2.3 BEDDING AND COVER FOR PVC SEWERS (FLEXIBLE PIPE) AS PER OPSD 802.010.

2.4 BEDDING AND COVER FOR CONCRETE SEWERS (RIGID PIPE) AS PER OPSD 802.030.

2.5 ALL STORM SERVICES TO BUILDINGS SHALL BE AT A MINIMUM SLOPE OF 2.0% (UNLESS NOTED OTHERWISE). ALL SERVICES TO TERMINATE 1.0m FROM BUILDING AND PLUGGED AND CAPPED WITH MANUFACTURER'S APPROVED PRODUCT.

2.6 STORM MANHOLES SHALL BE AS PER OPSD AS SPECIFIED. BENCHING TO SPRINGLINE OF PIPE AS PER OPSD 701.021. FRAME & COVER AS PER OPSD 401.010 TYPE "A". COVERS TO BE EMBOSSED WITH THE WORDS "DANGER STORM", LETTERS 75mm HIGH.

2.7 CATCH BASIN FRAMES AND GRATES LOCATED IN ROADWAY AS PER OPSD 400.090 AND ADJUSTED PER OPSD 704.010.

2.8 ALL MANHOLE AND CATCH BASIN FINAL ADJUSTMENTS SHALL BE AS PER S-130. MAXIMUM OF THREE (3) UNITS AND 300mm HIGH, WHERE EXCEEDED CAST-IN-PLACE OR PRE-CAST RISER SECTIONS SHALL BE PROVIDED.

2.9 ALL SAFETY GRATES AS PER OPSD 404.020 FOR MANHOLES WHERE DEPTHS EXCEED 5.0m.

2.10 ALL CATCH BASIN CONNECTIONS SHALL BE AS PER OPSD 708.010 (RIGID PIPE) AND OPSD 708.030 (FLEXIBLE PIPE).

2.11 ALL SEWER SERVICE CONNECTIONS FOR FLEXIBLE PIPE SHALL BE AS PER OPSD 1006.020.

2.12 ALL TESTING OF STORM SERVICES TO BE IN ACCORDANCE WITH ONTARIO PROVINCIAL STANDARD SPECIFICATIONS.

2.13 ALL CATCH BASIN LEADS TO BE 250mmø UNLESS NOTED OTHERWISE.

2.14 ALL CATCH BASIN LEADS TO BE INSULATED PER OPSD 1109.030.

2.15 MINIMUM DEPTH OF COVER OVER STORM SEWERS SHALL BE 1.2m, UNLESS OTHERWISE NOTED.

2.16 WHERE LESS COVER IS PROVIDED, CONTRACTOR TO PROVIDE INSULATION PER OPSD 1109.030.

2.17 IF AN AREA DRAIN/CATCH BASIN IS LOCATED WITHIN A LANDSCAPED AREA, THE FRAME AND GRATE SHALL BE AS PER S-176, IF IT IS APPROPRIATE FOR INSTALLATION ON THE AREA DRAIN AND IS CONFIRMED BY THE ENGINEER.

2.18 CATCH BASIN FRAMES AND COVERS SHALL BE AS PER OPSD 400.090 PER CITY OF BURLINGTON STORMWATER MANAGEMENT DESIGN GUIDELINES.

2.19 CONTRACTOR TO ENSURE THAT ALL STORM SEWERS ARE INSTALLED PER DESIGNED ELEVATIONS. AT NO POINT THE MINIMUM SLOPES INDICATED IN THE DESIGN SHALL BE REDUCED FURTHER. CONTRACTOR TO REPORT STORM SEWER INVERT ELEVATIONS TO THE ENGINEER IMMEDIATELY AFTER CONSTRUCTION OF EACH PIPE SO THAT THE CONSTRUCTED SLOPES CAN BE VERIFIED.

3.0 SANITARY SEWERS

3.1 SANITARY MANHOLES AS PER O.P.S.D 701.010 WITH FRAMES AND COVERS AS PER OPSD 401.010 TYPE 'A' UNLESS OTHERWISE NOTED ON THE DRAWINGS. COVERS TO BE EMBOSSED WITH THE WORD "SANITARY", LETTERS 75mm HIGH.

3.2 BENCHING IN MANHOLES TO BE AS PER OPSD 701.021 AS AMENDED BY THE REGION OF HALTON. BENCHING IN SANITARY MANHOLES TO BE TO THE OBVERT OF THE PIPE.

3.3 SAFETY PLATFORMS AS PER OPSD 404.020 TO BE INSTALLED ONLY IN MANHOLES WHERE DEPTHS EXCEED 10.0m AS DIRECTED BY THE REGION AND AS INDICATED ON THE PROFILE DRAWINGS.

3.4 ALL SANITARY SERVICES TO BUILDINGS TO BE PVC SDR 28 IN ACCORDANCE WITH CSA-B182.2, ASTM D-3034 OR LATEST REVISIONS, RUBBER GASKET.

3.5 ALL SANITARY SERVICES TO BUILDINGS SHALL BE AT A MINIMUM SLOPE OF 1.0% (UNLESS NOTED OTHERWISE). ALL SERVICES TO TERMINATE 1.0m FROM BUILDING AND PLUGGED AND CAPPED WITH MANUFACTURER'S APPROVED PRODUCT.

3.6 SERVICES TO BE MIN. 2.15m AND MAX. 2.75m DEEP AT PROPERTY LINE. RISERS SHALL BE USED WHERE NOTED AS PER OPSD 1006.01.

3.7 CLASS "B" BEDDING ON ALL SEWERS AND CONNECTIONS AS PER THE REGION OF HALTON, UNLESS NOTED OTHERWISE.

3.8 GRANULAR BACKFILL AROUND MANHOLES SHALL BE COMPACTED BY MECHANICAL MEANS TO A MINIMUM OF 95% SPD.

3.9 ALL TESTING OF SANITARY SERVICES TO BE IN ACCORDANCE WITH OPSS.

3.10 MINIMUM DEPTH OF COVER OVER SANITARY SEWERS SHALL BE 1.2m, UNLESS OTHERWISE NOTED.

3.11 WHERE LESS COVER IS PROVIDED, CONTRACTOR TO PROVIDE INSULATION.

HALTON REGION

3.12 ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.

3.13 ALL WATERMAIN AND SANITARY SEWER INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS) AS AMENDED BY THE REGIONAL MUNICIPALITY OF HALTON

3.14 THE LOCATION OF ALL EXISTING WATERMAIN, SANITARY SEWER, UTILITIES AND SERVICES ARE APPROXIMATE. THE CONTRACTOR MUST VERIFY THE LOCATION, VERIFY SIZE AND ELEVATION IN THE FIELD PRIOR TO CONSTRUCTION

3.15 DRIVEWAY MATERIAL IS ASPHALT UNLESS OTHERWISE SPECIFIED.

3.16 UNLESS OTHERWISE NOTED, ALL NEW SANITARY SEWERS ARE TO BE PVC SDR 35 ASTM D3034 WITH GRANULAR 'A' BEDDING AND COVER AS PER OPSD 802.010 WITH GRANULAR 'B' BACKFILL.

3.17 UNLESS OTHERWISE NOTED, ALL EXISTING SANITARY LATERALS ARE TO BE REPLACED WITH PVC SDR28, 125mm DIA. CONNECTIONS FOR SINGLE FAMILY AND SEMI-DETACHED DWELLINGS AND 150mm DIA. CONNECTIONS FOR ALL OTHERS, AND ARE TO BE REPLACED FROM THE NEW SEWER MAIN TO EXISTING LATERALS AT THE PROPERTY LINE.

3.18 UNLESS OTHERWISE NOTED, ALL THE EXISTING SANITARY MANHOLES ARE TO BE EITHER REMOVED OR BROKEN DOWN 1.0m BELOW ROAD GRADE AND BACKFILLED WITH NON-SHRINK BACKFILL TO SUBGRADE. THE AFFECTED AREA SHALL BE COMPLETELY RESTORED. FRAMES AND COVERS ARE TO BE SALVAGED AND RETURNED TO THE REGIONAL STORES, 1179 BRONTE RD., OAKVILLE.

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: ________________ DATED: ______________
BUSINESS & TECHNICAL SERVICES

The Applicant should be aware that the approval of water systems on private property is the responsibility of the Local Municipality. Regardless, the Applicant must ensure that the Region of Halton's standards and specifications are met *(The Water and Wastewater Linear Design Manual may be obtained thru the Data Management Group at 905-825-6032)* Furthermore, all water quality tests must be completed to the Region of Halton's satisfaction, before the water supply can be turned on.

4.0 WATERMAIN

4.1 WATERMAINS TO BE PVC CL150 (DR-18) WITH GASKETED JOINTS.

4.2 A MIN. HORIZONTAL SEPARATION OF 2.5m MUST BE MAINTAINED BETWEEN WATERMAINS AND SANITARY OR STORM SEWERS, INCLUDING SERVICE LATERALS.

4.3 A MIN. VERTICAL SEPARATION OF 0.5m BETWEEN WATERMAINS AND SEWERS MUST BE MAINTAINED.

4.4 CLASS "B" BEDDING ON ALL WATERMAINS AS PER THE REGION OF HALTON, UNLESS NOTED OTHERWISE.

4.5 ALL HYDRANTS AS PER OPSD 1105.01 TO HAVE STEAMER CONNECTIONS. HYDRANTS TO BE SUPPLIED WITH:
TWO (2) 63.5mm (2½") WITH CSA STANDARD THREAD, 63.5mm I.D., 79.4mm O.D., 5 THREADS PER 25mm, 31.75mm SQUARE OPERATING NUT; AND
ONE (1) 100mm (4") STORZ PUMPER CONNECTION AS PER CAN/ULC #S-520, 31.75mm SQUARE OPERATING NUT, AND STORZ CAP PAINTED GLOSS BLACK.

4.6 HYDRANTS SHALL BE INSTALLED SUCH THAT THE ROD STEM LENGTH SHALL NOT EXCEED 1.7m MEASURED FROM THE BREAK-OFF FLANGE. IF HYDRANT BARREL LENGTH EXCEEDS 1.7m THEN A HYDRANT THAT CAN BE RAISED FROM THE BOTTOM WITHOUT INCREASING ROD LENGTH IS TO BE USED.

4.7 THE INSTALLATION OF THE FIRE MAIN AND HYDRANT ARE TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE REGION OF HALTON AND THE CITY OF BURLINGTON ENGINEERING DEPARTMENT.

4.8 HYDRANTS SHALL BE POSITIONED WITH THE 4" STEAMER PORT FACING THE FIRE ACCESS ROUTE AND IS TO BE UNOBSTRUCTED BY ANY PROPOSED LANDSCAPING

4.9 SITE SERVICE CONTRACTOR RESPONSIBLE FOR HYDRANT INSTALLATION IS TO PROVIDE A LETTER CERTIFYING THAT THE HYDRANT HAS BEEN TESTED AND IS OPRATIONAL PRIOR TO OCCUPANCY OF BUILDING.

4.10 ALL METALLIC WATERMAINS, FITTINGS, HYDRANTS AND RESTRAINERS TO HAVE CATHODIC PROTECTION IN ACCORDANCE WITH REGION OF HALTON STANDARD DRAWINGS RH 420.010 AND RH 420.020.

4.11 ALL SACRIFICIAL ANODES SHALL CONFORM TO A.S.T.M. B-418 TYPE II AND SHALL BE MADE OF HIGH GRADE ELECTROLYTIC ZINC, 99.99% PURE.

4.12 ANODE INSTALLATION IS NOT REQUIRED WITHIN VALVE-CHAMBERS, DRAIN CHAMBERS OR AIR RELEASE CHAMBERS.

4.13 ALL WELD CONNECTIONS TO BE COATED WITH "TC MASTIC" OR APPROVED EQUIVALENT.

4.14 FOR ALL ANODES CONNECTED TO NEW PIPE, FITTINGS OR TO EXISTING METALLIC WATERMAINS, A CADWELDER AND CA-15 OR EQUIVALENT CARTRIDGE SHALL BE USED. ANODE INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

4.15 WHERE NEW PIPE IS TO BE CONNECTED TO EXISTING DUCTILE IRON OR CAST IRON PIPE A 14.5kg MAGNESIUM ANODE IS TO BE CONNECTED TO THE FIRST LENGTH OF EXISTING PIPE, AS PER REGION OF HALTON STANDARD DRAWING RH 420.010.

4.16 ALL VALVES TO OPEN LEFT (COUNTER-CLOCKWISE) AND SHALL HAVE 50mm SQUARE STANDARD AWWA OPERATING NUT.

4.17 ALL PLUGS, CAPS, TEES, AND BENDS SHALL BE MECHANICALLY RESTRAINED AS PER MANUFACTURER'S SPECIFICATIONS. RESTRAINTS SHALL MEET UNI-B-13-92.

4.18 WHERE WATERMAIN IS PLACED IN FILL OR IN PREVIOUSLY DISTURBED GROUND ALL JOINTS TO BE MECHANICALLY RESTRAINED.

4.19 MINIMUM DEPTH OF COVER OVER WATERMAIN SHALL BE 1.8m

4.20 THE DEPTH OF WATER SERVICES AT PROPERTY LINE SHOULD BE A MINIMUM OF 1.7m AND A MAXIMUM OF 2.0m. THE DISTANCE BETWEEN THE GROUND ELEVATION AND THE TOP OF THE ROD SHOULD BE BETWEEN 0.5m AND 1.0m.

4.21 WATER SERVICES CROSSING THE STORM SEWER TO HAVE MIN. 1.7m OF COVER. WHERE THIS CANNOT BE ACHIEVED, WATER SERVICE IS TO CROSS UNDER STORM SEWER.

4.22 GATE VALVES CONFORMING TO AWWA C500 STANDARDS ARE REQUIRED ON WATERMAINS 300mm AND UNDER. LINE GATE VALVES SHALL HAVE AUGER OF SCREW TYPE VALVE BOXES.

4.23 ALL WATERMAIN FITTINGS SHALL HAVE MECHANICAL JOINTS.

4.24 VERTICAL AND HORIZONTAL ALIGNMENT OF WATERMAIN TO BE ACHIEVED BY DEFLECTION OF JOINTS AS PER MANUFACTURER'S SPECIFICATIONS. DEFLECTION IN THE BARREL IS NOT PERMITTED.

4.25 TRACER WIRE IS TO BE INSTALLED ON ALL NEW INSTALLATIONS OF PVC WATERMAIN PIPE FOR LOCATING PURPOSES. A SOLID 10 GAUGE TWU COPPER WIRE IS TO BE INSTALLED ALONG THE PIPE, STRAPPED TO THE PIPE AT 6m INTERVALS. JOINTS IN THE WIRE BETWEEN VALVES ARE NOT PERMITTED.

4.26 THE INSPECTOR MAY TEST THE TRACING WIRE FOR CONDUCTIVITY. IF THE TRACING WIRE IS NOT CONTINUOUS FROM VALVE TO VALVE, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, REPLACE OR REPAIR THE WIRE.

4.27 ALL WATER CUSTOMERS SUPPLIED BY A WATERMAIN TO BE SHUT DOWN SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST 72 HOURS IN ADVANCE OF THE SHUT DOWN AS PER REGION OF HALTON SPECIFICATIONS. NOTIFICATION SHALL TAKE PLACE UNDER THE ENGINEER'S DIRECTION.

4.28 OPERATION OF EXISTING WATERMAINS SHALL BE BY REGION OF HALTON STAFF ONLY.

4.29 WATERMAIN TESTING PROCEDURES TO MEET CRITERIA OF REGION OF HALTON, UNLESS OTHERWISE SPECIFIED.

4.30 SERVICE CONNECTIONS FROM REGIONAL WATERMAIN TO BE ISOLATED DURING TESTING PROCEDURES, TO THE SATISFACTION OF THE REGION OF HALTON.

4.31 MODEL OF POST INDICATING VALVES TO MEET CRITERIA OF CITY OF BURLINGTON AND FIRE DESIGN CONSULTANT.

4.32 MODEL OF CHECK VALVES TO MEET CRITERIA OF REGION OF HALTON AND FIRE DESIGN CONSULTANT.

HALTON REGION

4.33 ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.

4.34 ALL WATERMAIN AND SANITARY SEWER INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND PECIFICATIONS (OPSS) AS AMENDED BY THE REGIONAL MUNICIPALITY OF HALTON.

4.35 THE LOCATION OF ALL EXISTING WATERMAIN, SANITARY SEWER, UTILITIES AND SERVICES ARE APPROXIMATE. THE CONTRACTOR MUST VERIFY THE LOCATION, VERIFY SIZE AND ELEVATION IN THE FIELD PRIOR TO CONSTRUCTION.

4.36 DRIVEWAY MATERIAL IS ASPHALT UNLESS OTHERWISE SPECIFIED.

4.37 WATERMAIN MATERIAL IS TO BE EITHER DUCTILE IRON PRESSURE CLASS 350 AS PER AWWA C-150 OR PVC SDR-18 CL-150 AS PER AWWA C-900.

4.38 UNLESS OTHERWISE NOTED, ALL EXISTING WATER SERVICES ARE TO BE REPLACED WITH A MIN. 25mm DIA. COPPER FOR RESIDENTIAL DWELLINGS AND 25mm DIA. COPPER FOR INDUSTRIAL AND COMMERCIAL PREMISES AS PER OPSD 1104.010. UNLESS OTHERWISE NOTED, SERVICES ARE TO BE EPLACED FROM THE MAIN TO THE PROPERTY LINE WITH A NEW CURB STOP AND SERVICE BOX AT THE PROPERTY LINE.

4.39 THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY CAPS, PLUGS AND BLOW OFFS REQUIRED FOR TESTING THE NEW WATERMAIN.

4.40 MAXIMUM ALLOWABLE PIPE JOINT DEFLECTION OF THE WATERMAIN SHALL BE 50% OF THE MANUFACTURER'S SPECIFICATIONS. PIPE BARREL DEFLECTION IS STRICTLY PROHIBITED.

4.41 CORROSION PROTECTION (ANODES OR PETROLATUM COATING) IS REQUIRED FOR ALL METALLIC PIPES, VALVES, FITTINGS, SERVICES AND HYDRANTS AS OUTLINED IN THE REGION OF HALTON WATER AND WASTEWATER LINEAR DESIGN MANUAL, SPECIAL PROVISIONS, AND STANDARD DRAWINGS & DETAILS SECTIONS OF THE CONTRACT.

4.42 AFTER REMOVING VALVE BOXES AND HYDRANTS, BACKFILL WITH COMPACTED GRANULAR 'A'. WHERE EXISTING VALVE CHAMBERS ARE TO BE ABANDONED, ALL VALVES WITHIN THE CHAMBER ARE TO BE LEFT IN PLACE AND THE CHAMBER IS TO BE BROKEN DOWN TO 1.0m BELOW FINAL GRADE AND BACKFILLED WITH NON-SHRINK BACKFILL TO SUBGRADE. THE AFFECTED AREA SHALL BE COMPLETELY RESTORED. ALL HYDRANTS SHOWN FOR REMOVAL SHALL BE RETURNED TO REGIONAL STORES AT 1179 BRONTE RD., OAKVILLE. UNLESS OTHERWISE NOTED, ALL VALVES WHICH ARE SHOWN FOR REMOVAL SHALL BE DISPOSED OF BY CONTRACTOR.

4.43 EXISTING WATERMAIN IS TO BE EITHER REMOVED OR PLUGGED AND ABANDONED AS REQUIRED

4.44 HYDRANTS ARE TO BE INSTALLED SUCH THAT THE LOWER ROD/STEM LENGTH SHALL NOT EXCEED 1.7m MEASURED FROM THE BREAK-OFF FLANGE.

4.45 REGIONAL MUNICIPALITY OF HALTON APPROVED MECHANICAL RESTRAINTS ARE TO BE USED ON ALL STANDARD BENDS, VALVES, FITTINGS AND HYDRANTS. REFER TO TABLE.

5.0 ROADWORKS

5.1 SUBGRADE TO BE PROOF ROLLED AND CERTIFIED PRIOR TO PLACING GRANULAR MATERIAL.

5.2 ASPHALTIC CONCRETE AND GRANULAR 'A' & 'B' BASE TO BE CONSTRUCTED PER PAVEMENT STRUCTURE DETAIL (DWG. C 107C).

5.3 HL3 AND HL8 TO BE COMPACTED TO 92% MARSHALL DENSITY, AS DIRECTED BY GEOTECHNICAL ENGINEER. ALL HOT MIX ASPHALT SHALL BE TO THE CITY OF BURLINGTON HOT MIX ASPHALT STANDARDS.

5.4 GRANULAR 'A' & 'B' BASE TO BE COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY, ASTM-D698, OR AS DIRECTED BY GEOTECHNICAL ENGINEER.

5.5 ALL GRANULAR AND ASPHALT MATERIAL PLACEMENT TO BE IN ACCORDANCE WITH OPSS 314 & OPSS 310.

5.6 ALL CONCRETE CURB AND SIDEWALK TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF BURLINGTON STANDARDS.

5.7 ALL CURB AND RETAINING WALL SUBDRAINS TO BE CONSTRUCTED TO CITY OF BURLINGTON STANDARDS, OR AS DIRECTED BY GEOTECHNICAL CONSULTANT.

5.8 SUBDRAINS TO BE PROVIDED IN ALL PARKING AREAS, EXTENDING FROM AND BETWEEN ALL CATCHBASINS. SUBDRAINS TO BE SPECIFIED BY GEOTECHNICAL ENGINEER. SUBDRAINS ARE ALSO TO BE INSTALLED UNDER THE BARRIER CURBS ALONG THE PRIVATE LANEWAY(S).

5.9 ALL PAVEMENT REINSTATEMENT WITHIN MUNICIPAL RIGHT OF WAY SHALL BE PER BURLINGTON CITY STANDARDS S-114, S-114A, & S-114B, FOR UTILITY CUTS AND BACKFILL WITHIN THE MUNICIPAL RIGHT OF WAY SHOULD BE DONE PER BURLINGTON CITY STANDARDS.

5.10 INITIAL RESTORATION OF DRURY LANE AND FAIRVIEW STREET SERVICING ROAD CUTS SHALL BE FULL DEPTH, LIMITS TO BE DETERMINED BY CITY INSPECTION STAFF, AS PER CITY STANDARDS, WITH BASE ASPHALT PLACED TO SURFACE ELEVATION, THEN MIN. ONE YEAR AFTER, MILL AND OVERLAY WITH SURFACE ASPHALT.

5.11 RESTORATION LIMITS FOR THE PUBLIC RIGHT OF WAY TO BE DETERMINED BY CITY INSPECTION STAFF, AND IT MAY BE REQUIRED TO MILL AND OVERLAY WITH SURFACE ASPHALT BOTH DRURY LANE AND FAIRVIEW STREET FROM CURB TO CURB FOR THE ENTIRE FRONTAGE OF THE PROPERTY AS PER S-114B.

5.12 HOT MIX ASPHALT USED IN THE MUNICIPAL RIGHT OF WAY SHALL BE PER THE CITY OF BURLINGTON STANDARD SPECIFICATIONS SECTION G.4, THE MIX DESIGN SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.

5.13 ALL CONCRETE USED IN THE MUNICIPAL RIGHT OF WAY (CURBS, SIDEWALKS, ETC.) SHALL BE PER THE CITY OF BURLINGTON STANDARD SPECIFICATIONS SECTION G.3, THE MIX DESIGN SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.

5.14 ENTRANCES TO THE MUNICIPAL RIGHT OF WAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH S-110 TYPE "A" AND S-112.

6.0 VIDEO & AS-CONSTRUCTED

6.1 CONTRACTOR SHALL FLUSH AND VIDEO STORM AND SANITARY SEWERS UPON INSTALLATION AND PROVIDE VIDEO TO ENGINEER. UPON COMPLETION OF LANDSCAPING, CONTRACTOR SHALL RE-FLUSH AND RE-VIDEO STORM AND SANITARY SEWERS AND PROVIDE SECOND VIDEO TO THE ENGINEER. VIDEOS SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 409 WITH A CERTIFIED OPERATOR

6.2 THE EXISTING 1200MM DIAMETER STORM SEWER IN FAIRVIEW STREET THAT THE SITE PROPOSES TO CONNECT TO SHALL BE CCTV VIDEOED TO OPSS 409 WITH A CERTIFIED OPERATOR, BEFORE SITE PLAN APPROVAL, AND A SECOND VIDEO AFTER CONSTRUCTION IS COMPLETE.

6.3 CONTRACTOR SHALL PROVIDE A DIGITAL CAD AS-BUILT SURVEY OF ALL UNDERGROUND AND ABOVEGROUND WORKS TO THE SATISFACTION OF THE ENGINEER. IT IS EXPECTED THAT THE CIVIL ENGINEERING CONSULTANT OR THEIR REPRESENTATIVE WILL BE ON SITE FULL TIME INSPECTING AND IS RESPONSIBLE FOR AS-CONSTRUCTED INFORMATION.

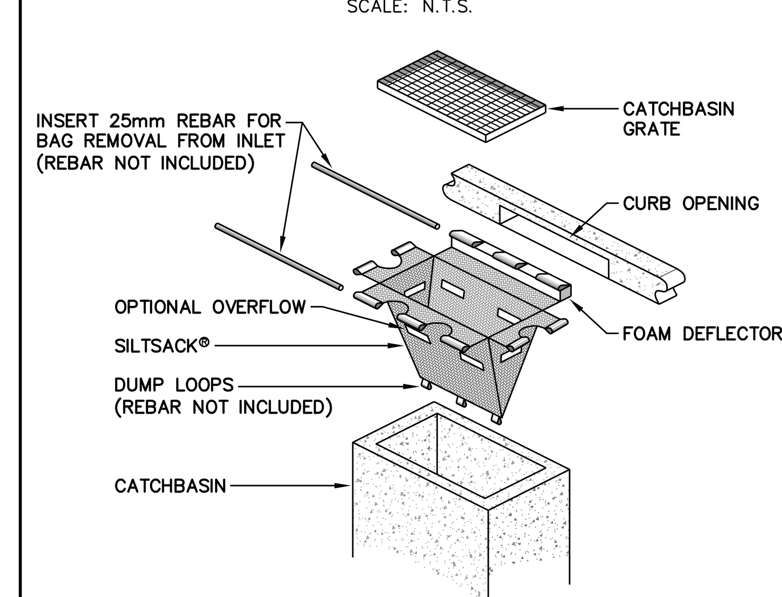
6.4 MANDREL TESTING IS REQUIRED FOR ALL PVC STORM SEWERS. FOR SANITARY SEWERS INQUIRE TO THE REGION OF HALTON IF MANDREL TESTING IS REQUIRED.

EROSION & SEDIMENT CONTROL NOTES:

1. ALL SILT FENCING AND EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO COMMENCEMENT OF ANY WORK AND REMAIN IN PLACE UNTIL THE SITE HAS STABILIZED (ie. PAVED, VEGETATION OR OTHER COVER) AND ANY ACCUMULATED SEDIMENT REMOVED.
2. CONTRACTOR SHALL ENDEAVOR TO PREVENT MUD TRACKING ONTO ADJACENT LANDS AND EXISTING ROADS AND SHALL PROVIDE FOR CLEANUP AT OWN EXPENSE AS DIRECTED BY THE CITY AND ENGINEER. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO CONTROL DUST ON THE PROJECT AND HE SHALL PROVIDE AT OWN EXPENSE DUST CONTROLLING MEASURES AS DIRECTED.
3. SEDIMENT CONTROL PROTECTION SHALL BE PLACED AS DETAILED AND TO BE PROVIDED AROUND ALL SANITARY AND STORM MAINTENANCE HOLES AND CATCHBASINS.
4. EROSION & SEDIMENT CONTROLS MUST BE INSPECTED ON A REGULAR BASIS AND AFTER EVERY RAIN FALL EVENT, AND MUST BE MAINTAINED AND REPAIRED IN A TIMELY MANNER TO PREVENT SEDIMENT FROM LEAVING THE SITE.
5. EXISTING AND PROPOSED CATCHBASINS ARE TO BE PROTECTED WITH SILTSACK OR EQUIVALENT DURING CONSTRUCTION.
6. IT IS REQUIRED TO STABILIZE ALL AREAS THAT WILL REMAIN DISTURBED FOR MORE THAN 30 DAYS, OR IF DIRECTED BY THE CITY OF BURLINGTON.
7. SEDIMENT MUST BE REMOVED FROM SILT FENCE WHEN ACCUMULATION REACHES 50% OF THE HEIGHT OF THE FENCE.
8. SILT REMOVAL MUST BE UNDERTAKEN WITH CARE TO MINIMIZE OFF-SITE SEDIMENTATION.
9. EROSION CONTROL MEASURES ARE TO BE MONITORED REGULARLY TO ENSURE FENCING IS INSTALLED AND MAINTENANCE IS PERFORMED TO TOWN REQUIREMENTS AND ANY DAMAGE TO THE MEASURES IS REPAIRED IMMEDIATELY.
10. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ANY ADJACENT MUNICIPAL ROADWAYS AND SIDEWALKS ARE CLEANED OF ALL MUD, DIRT AND DEBRIS AT ALL TIMES AND MUST BE CLEANED AT A MINIMUM OF TWO TIMES PER WEEK, AS REQUIRED OR AT THE DIRECTION OF CITY.
11. SEDIMENT AND EROSION CONTROL PLAN IS A DYNAMIC DOCUMENT, WHICH MAY BE SUBJECT TO CHANGE OR MODIFICATIONS AS A RESULT OF SITE DEVELOPMENTS OR CHANGES ON SITE.
12. ADDITIONAL SEDIMENT CONTROL MEASURES MAY BE REQUIRED AS DETERMINED BY CITY. THE CONTRACTOR IS TO PROVIDE ALL ADDITIONAL EROSION CONTROL MEASURES.
13. AN AFTER HOURS CONTACT NUMBER IS TO BE VISIBLY POSTED ON-SITE FOR EMERGENCIES.
14. IF SITE CONSTRUCTION ACTIVITIES ARE INTERRUPTED AND/OR INACTIVITY EXCEEDS 30 DAYS, ALL STRIPPED AND/OR BARE SOIL AREAS ARE TO BE STABILIZED BY SODDING/SEEDING/MULCHING OR OTHER APPROVED METHODS TO THE APPROVAL OF THE SITE ENGINEER.

'SILTSACK' DETAIL

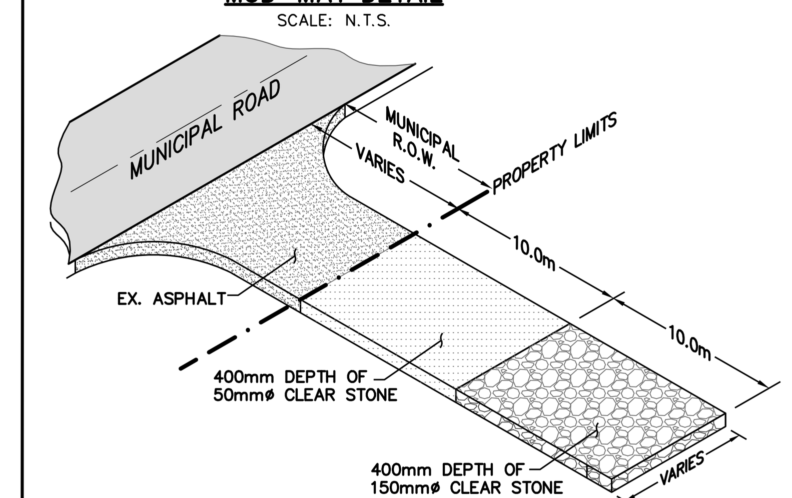
SCALE: N.T.S.



NOTES:
1. INSTALL TERRAFIX 'SILTSACK' IN ALL CATCHBASINS & CATCHBASIN MANHOLES AFFECTED BY CONSTRUCTION.
2. INSTALL TERRAFIX 'SILTSACK' IN ALL NEW CATCHBASINS & CATCHBASIN MANHOLES.

MUD-MAT DETAIL

SCALE: N.T.S.



NOTE:
GEOTEXTILE (TERRAFIX 270R OR APPROVED EQUAL) TO BE PLACED AS SEPARATION BARRIER BETWEEN EXISTING GROUND AND CLEAR STONE.

FILE#535-001/20

Stamp: LICENSED PROFESSIONAL ENGINEER — J. E. PETTIFER — 100505043 — JUL 20, 2022 — PROVINCE OF ONTARIO

Stamp: LICENSED PROFESSIONAL ENGINEER — PAVEL FILIPTSEV — 100146817 — JULY.20,2022 — PROVINCE OF ONTARIO

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/DEC/01
2	ISSUED FOR SECOND SPA SUBMISSION	2020/OCT/21
1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

ELEVATION NOTE:

ELEVATIONS SHOWN HEREON ARE REFERRED TO THE CITY OF BURLINGTON BENCHMARK No. 1045

ELEVATION = 93.477m

SURVEY NOTES:

SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141-0

BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS
UTM ZONE 17, NAD83 (GSRS) (2010.0)

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18-223

DRAWING NOTES:

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC. AND THE REPRODUCTION OF ANY PART OF IT WITHOUT PRIOR WRITTEN CONSENT OF THIS OFFICE IS STRICTLY PROHIBITED.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.

THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT. DO NOT SCALE THIS DRAWING.

ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

REFER TO SUE PREPARED BY PLANVIEW UTILITY SERVICES LTD. FOR EXISTING UNDERGROUND UTILITY LOCATIONS.

Developer
FAIRVIEW LIMITED PARTNERSHIP

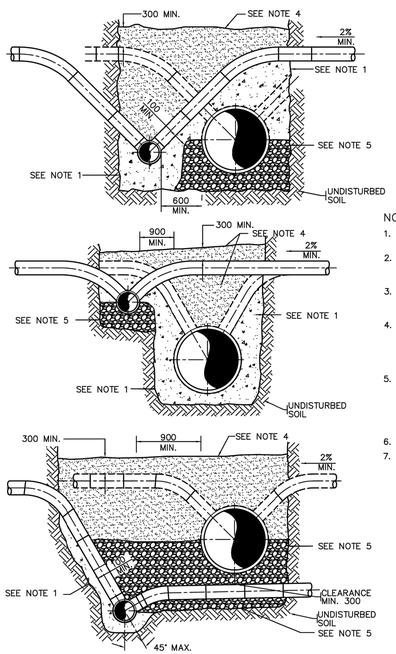
c/o BROOKFIELD PROPERTIES SERVICECO INC. 181 BAY ST. TORONTO, ON M5J 2T3	c/c CLV GROUP DEVELOPMENTS INC. 485 BANK ST., SUITE 200 OTTAWA, ON K2P 1Z2

Project
2243 FAIRVIEW ST., 2269 FAIRVIEW ST.,
864 DRURY LN
CITY OF BURLINGTON

Drawing
NOTES & DETAILS

CROZIER
CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	Design	Project No.	
S.T.T.	S.T.T./J.H.	1486-4809	
Check J.H.	Check K.J.F.	Scale N.T.S.	Dwg. C 107 A



NOTES:

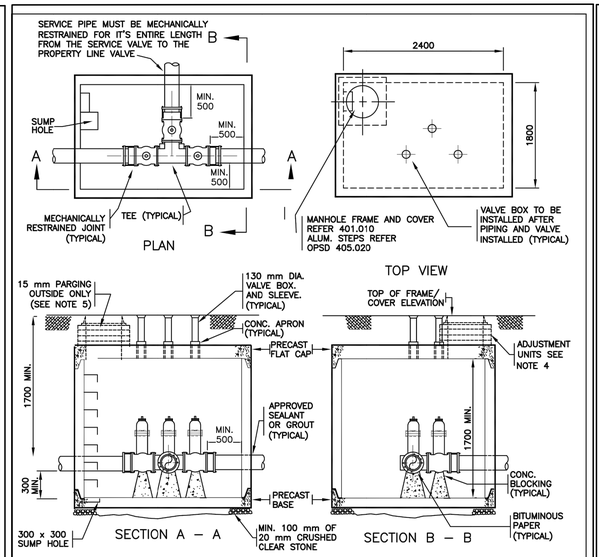
1. CONCRETE TO BE AT 20 MPa AT 28 DAYS.
2. USE FACTORY INSTALLED 'TEES' UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. THE USE AND LOCATION OF ELBOWS TO BE AS DIRECTED BY THE ENGINEER.
4. GRANULAR MATERIAL COMPACTED TO 95% STD. PROCTOR. STONE SIZE WITHIN 300mm OF SURFACE OF PIPE, SHALL NOT EXCEED 25 mm.
5. GRANULAR 'A' COMPACTED TO 95% STD. PROCTOR OR WITH THE ENGINEER'S APPROVAL. USE 16 mm CLEAR STONE AT LATERAL LOCATIONS. REFER TO RISER DETAIL OPSD–1006.010.
6. FOR BEDDING DETAILS SEE OPSD
7. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED.

THE REGIONAL MUNICIPALITY OF HALTON
PUBLIC WORKS DEPARTMENT

COMMON TRENCH FOR SEWER SERVICE CONNECTIONS FOR RIGID PIPE

Date: January 2014 | Rev. 2 | NTS

REGION STANDARD RH 302.01



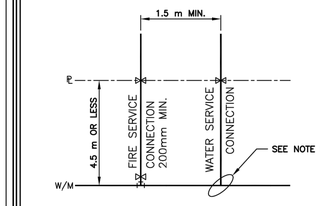
NOTES:

1. REINF. CONC. PRECAST CHAMBER TO MEET CURRENT OPSD.
2. STEPS: 1ST STEP TO BE 450 mm BELOW FINISHED ROAD GRADE, LAST STEP TO BE 300 mm ABOVE BASE.
3. VALVES TO BE FLANGED.
4. ADJUSTMENT UNITS TO BE MIN. 150 mm TO MAX. 300 mm.
5. PARGING MIX ON ALL BRICK WORK TO BE 1:3 MORTAR MIX AND BE APPLIED 15 mm THICK.
6. ALL JOINTS AND LIFTING HOLES IN CHAMBER SECTIONS TO BE COMPLETELY FILLED WITH 1:3 MORTAR MIX AND POINTED BEFORE BACKFILLING.
7. PRESS SEAL OR EQUIVALENT RUBBER GASKET BETWEEN ALL PRECAST SECTIONS (TYPICAL).
8. BOLTS AND RESTRAINING RODS HIGH STRENGTH, LOW ALLOY, ANSI/AWWA C111/A21.11.
9. FOR 300 mm AND 400 mm TEES, THE MAIN LINE CAN BE OFFSET FROM THE CENTRELINE OF CHAMBER UP TO 200 mm AS NEEDED.
10. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED.

PRECAST VALVE CHAMBERS FOR MAXIMUM 3 VALVES 150mm TO 300mm AND MULTI UNIT SERVICE

Date: July 2017 | Rev. 1 | NTS

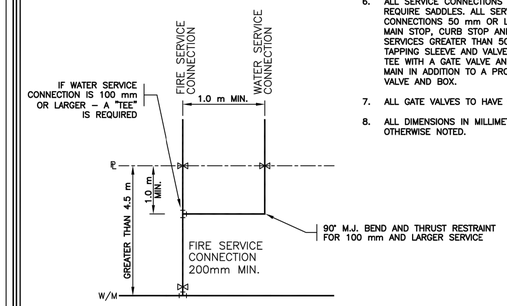
REGION STANDARD RH 402.050



4.5 m OR SHORTER SERVICE

NOTES

1. COMPRESSION TYPE FITTINGS ONLY. NO SOLDERED JOINTS ARE PERMITTED BEFORE THE WATER METER.
2. WATER SERVICE CONNECTION 25, 38, 50 TO BE TYPE 'K' SOFT COPPER, 100 AND LARGER TO BE PVC OR DI.
3. FIRE SERVICE CONNECTION TO BE MIN. 200 MM.
4. IF THE WATERMAIN IS 4.5 m OR LESS FROM THE PROPERTY LINE, THEN 2 SEPARATE CONNECTIONS ARE REQUIRED.
5. TAPPING SLEEVE TO BE PRESSURE TESTED BY CONTRACTOR BEFORE MAIN IS TAPPED.
6. ALL SERVICE CONNECTIONS TO PVC PIPE REQUIRE SADDLES. ALL SERVICE CONNECTIONS 50 mm OR LESS TO HAVE A MAIN STOP, CURB STOP AND BOX. ALL SERVICES GREATER THAN 50 mm REQUIRE A TAPPING SLEEVE AND VALVE OR AN ANCHOR TEE WITH A GATE VALVE AND BOX AT THE MAIN IN ADDITION TO A PROPERTY LINE GATE VALVE AND BOX.
7. ALL GATE VALVES TO HAVE VALVE BOXES.
8. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED.



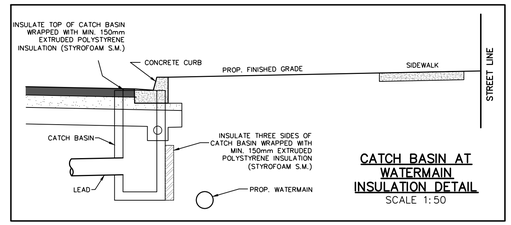
LONGER THAN 4.5 m

THE REGIONAL MUNICIPALITY OF HALTON
PUBLIC WORKS DEPARTMENT

WATER SERVICE AND FIRE SERVICE CONNECTION INSTALLATIONS

Date: January 2014 | Rev. 1 | NTS

REGION STANDARD RH 409.01



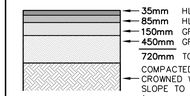
CATCH BASIN AT WATERMAIN INSULATION DETAIL

SCALE 1:50

INTERIM EMERGENCY ACCESS ROAD (SERVICING EASEMENT)

ASPHALT PAVEMENT (DURING PH1 CONSTRUCTION ONLY)

SCALE: N.T.S.



- 35mm HL3 SURFACE
- 85mm HL8 BINDER
- 150mm GRANULAR 'A'
- 450mm GRANULAR 'B'

720mm TOTAL
COMPACTED SUB-BASE CROWNED WITH 3% SLOPE TO SUBDRAIN (ALL TOPSOIL REMOVED)

NOTE:

REFER TO CONSTRUCTION NOTES FOR DETAILS ON COMPACTION. PAVEMENT STRUCTURE IS BASED ON GEOTECHNICAL CONSULTANT'S RECOMMENDATIONS PER "FINAL GEOTECHNICAL INVESTIGATION PHASE 1 CONSTRUCTION – BUILDINGS C1 AND C2" REPORT PREPARED BY PINCHIN LTD., DATED AUG.12.2021.

PHASE 1 ACCESS ROAD TURFSTONE

SCALE: N.T.S.



- UNILOCK TURFSTONE PERMEABLE PAVERS 32–14–13.19
- 25mm BEDDING SAND
- 150mm GRANULAR 'A'
- 450mm GRANULAR 'B'

625mm TOTAL
COMPACTED SUB-BASE CROWNED WITH 3% SLOPE TO SUBDRAIN (ALL TOPSOIL REMOVED)

NOTE:

REFER TO CONSTRUCTION NOTES FOR DETAILS ON COMPACTION. GRANULAR PAVEMENT STRUCTURE IS BASED ON GEOTECHNICAL CONSULTANT'S RECOMMENDATIONS PER "FINAL GEOTECHNICAL INVESTIGATION PHASE 1 CONSTRUCTION – BUILDINGS C1 AND C2" REPORT PREPARED BY PINCHIN LTD., DATED AUG.12.2021. FOR PAVER DETAILS–REFER TO LANDSCAPE ARCHITECT AND UNILOCK PERMEABLE PAVER DETAIL 32–14–13.19

NOTE: CONSTRUCTION JOINT AND ISOLATION JOINT DETAILS TO BE SPECIFIED FOR CONCRETE SURFACE FINISH

FILE#535–001/20

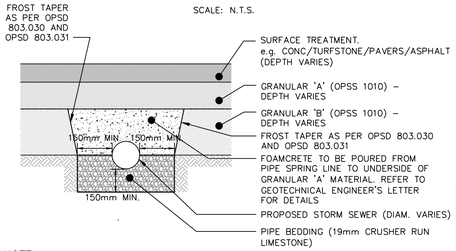
Stamp
LICENSED PROFESSIONAL ENGINEER
J. E. PETTIFER
100505043
JUL 20, 2022
PROVINCE OF ONTARIO

Stamp
LICENSED PROFESSIONAL ENGINEER
PAVEL FILIPTSEV
100146817
JULY.20,2022
PROVINCE OF ONTARIO

HEAVY DUTY (VEHICULAR PAVEMENT)

PIPE BEDDING AND INSULATION WITH FOAMCRETE DETAIL

SCALE: N.T.S.



NOTE:

REFER TO CONSTRUCTION NOTES FOR DETAILS ON COMPACTION. FOAMCRETE SPECIFICATION TO BE BASED ON GEOTECHNICAL CONSULTANT'S RECOMMENDATIONS PER "TECHNICAL ADDENDUM – GEOTECHNICAL RECOMMENDATIONS FOR PAVEMENT DESIGN, TRENCH BACKFILL AND SURFACE GRADES" REPORT PREPARED BY PINCHIN LTD., DATED JULY 28, 2022.

HEAVY DUTY ASPHALT PAVEMENT

SCALE: N.T.S.



- 35mm HL3 SURFACE
- 85mm HL8 BINDER
- 230mm GRANULAR 'A'
- 450mm GRANULAR 'B'

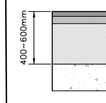
800mm TOTAL
COMPACTED SUB-BASE CROWNED WITH 3% SLOPE TO SUBDRAIN (ALL TOPSOIL REMOVED)

NOTE:

REFER TO CONSTRUCTION NOTES FOR DETAILS ON COMPACTION. PAVEMENT STRUCTURE IS BASED ON GEOTECHNICAL CONSULTANT'S RECOMMENDATIONS PER "FINAL GEOTECHNICAL INVESTIGATION PHASE 1 CONSTRUCTION – BUILDINGS C1 AND C2" REPORT PREPARED BY PINCHIN LTD., DATED AUG.12.2021.

HEAVY DUTY ASPHALT PAVEMENT OVER UNDERGROUND PARKING

SCALE: N.T.S.



- 35mm HL3 SURFACE
- 85mm HL8 BINDER
- 280mm–480mm GRANULAR 'A'

ROOF SLAB WATERPROOFED
UNDERGROUND PARKING ROOF SLAB

NOTE:

REFER TO CONSTRUCTION NOTES FOR DETAILS ON COMPACTION. PAVEMENT STRUCTURE IS BASED ON GEOTECHNICAL CONSULTANT'S RECOMMENDATIONS PER "FINAL GEOTECHNICAL INVESTIGATION PHASE 1 CONSTRUCTION – BUILDINGS C1 AND C2" REPORT PREPARED BY PINCHIN LTD., DATED AUG.12.2021.

HEAVY DUTY CONCRETE PAVEMENT

SCALE: N.T.S.



- 200mm C–2 32MPa CONCRETE
- 150mm GRANULAR 'A'
- 450mm GRANULAR 'B'

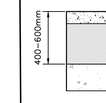
800mm TOTAL
COMPACTED SUB-BASE CROWNED WITH 3% SLOPE TO SUBDRAIN (ALL TOPSOIL REMOVED)

NOTE:

REFER TO CONSTRUCTION NOTES FOR DETAILS ON COMPACTION. PAVEMENT STRUCTURE IS BASED ON LANDSCAPE DETAIL DRAWING L–3 (DETAIL #7) PREPARED FEB 28, 2022 BY MHBC. CONCRETE PAVING TO BE C–2 32MPa COMPRESSIVE STRENGTH AT 28 DAYS WITH 5–7% AIR ENTRAINMENT.

HEAVY DUTY CONCRETE PAVEMENT OVER UNDERGROUND PARKING

SCALE: N.T.S.



- 200mm C–2 32MPa CONCRETE
- 280mm–480mm GRANULAR 'A'

ROOF SLAB WATERPROOFED
UNDERGROUND PARKING ROOF SLAB

NOTE:

REFER TO CONSTRUCTION NOTES FOR DETAILS ON COMPACTION. PAVEMENT STRUCTURE IS BASED ON LANDSCAPE DETAIL DRAWING L–3 (DETAIL #7) PREPARED FEB 28, 2022 BY MHBC. CONCRETE PAVING TO BE C–2 32MPa COMPRESSIVE STRENGTH AT 28 DAYS WITH 5–7% AIR ENTRAINMENT.

HEAVY DUTY CONCRETE BANDED PAVEMENT

SCALE: N.T.S.



- 200mm C–2 32MPa CONCRETE TO BE DETAILED
- 150mm GRANULAR 'A'
- 450mm GRANULAR 'B'

800mm TOTAL
COMPACTED SUB-BASE CROWNED WITH 3% SLOPE TO SUBDRAIN (ALL TOPSOIL REMOVED)

NOTE:

REFER TO CONSTRUCTION NOTES FOR DETAILS ON COMPACTION. PAVEMENT STRUCTURE IS BASED ON LANDSCAPE DETAIL DRAWING L–3 (DETAIL #7) PREPARED FEB 28, 2022 BY MHBC. CONCRETE PAVING TO BE C–2 32MPa COMPRESSIVE STRENGTH AT 28 DAYS WITH 5–7% AIR ENTRAINMENT.

PHASE 1 ULTIMATE

LIGHT DUTY (PEDESTRIAN PAVEMENT)

LIGHT DUTY CONCRETE PAVEMENT

SCALE: N.T.S.



- 150mm C–2 32MPa CONCRETE
- 150mm GRANULAR 'A'
- 350mm GRANULAR 'B'

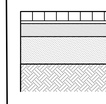
650mm TOTAL
COMPACTED SUB-BASE CROWNED WITH 3% SLOPE TO SUBDRAIN (ALL TOPSOIL REMOVED)

NOTE:

REFER TO CONSTRUCTION NOTES FOR DETAILS ON COMPACTION. PAVEMENT STRUCTURE IS BASED ON LANDSCAPE DETAIL DRAWING L–3 (DETAIL #7) PREPARED FEB 28, 2022 BY MHBC. CONCRETE PAVING TO BE C–2 32MPa COMPRESSIVE STRENGTH AT 28 DAYS WITH 5–7% AIR ENTRAINMENT.

LIGHT DUTY PAVERS PAVEMENT

SCALE: N.T.S.



- 100mm PAVERS (SPECIFIED BY MHBC)
- 50mm PERMIABLE SETTING BED AGGREGATE
- 150mm GRANULAR 'A'
- 350mm GRANULAR 'B'

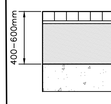
650mm TOTAL
COMPACTED SUB-BASE CROWNED WITH 3% SLOPE TO SUBDRAIN (ALL TOPSOIL REMOVED)

NOTE:

REFER TO CONSTRUCTION NOTES FOR DETAILS ON COMPACTION. PAVEMENT STRUCTURE IS BASED ON LANDSCAPE DETAIL DRAWING L–3 (DETAIL #7) PREPARED FEB 28, 2022 BY MHBC. CONCRETE PAVING TO BE C–2 32MPa COMPRESSIVE STRENGTH AT 28 DAYS WITH 5–7% AIR ENTRAINMENT.

LIGHT DUTY PAVERS PAVEMENT OVER UNDERGROUND PARKING

SCALE: N.T.S.



- 100mm PAVERS (SPECIFIED BY MHBC)
- 50mm PERMIABLE SETTING BED AGGREGATE
- 280mm–480mm GRANULAR 'A'

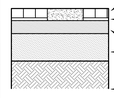
UNDERGROUND PARKING ROOF SLAB

NOTE:

REFER TO CONSTRUCTION NOTES FOR DETAILS ON COMPACTION. PAVEMENT STRUCTURE IS BASED ON LANDSCAPE DETAIL DRAWING L–3 (DETAIL #7) PREPARED FEB 28, 2022 BY MHBC. CONCRETE PAVING TO BE C–2 32MPa COMPRESSIVE STRENGTH AT 28 DAYS WITH 5–7% AIR ENTRAINMENT.

LIGHT DUTY PAVERS WITH CONC. STRIP PAVEMENT

SCALE: N.T.S.



- 100mm PAVERS (SPECIFIED BY MHBC)
- 50mm PERMIABLE SETTING BED AGGREGATE
- 150mm GRANULAR 'A'
- 350mm GRANULAR 'B'

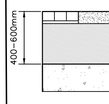
650mm TOTAL
COMPACTED SUB-BASE CROWNED WITH 3% SLOPE TO SUBDRAIN (ALL TOPSOIL REMOVED)

NOTE:

REFER TO CONSTRUCTION NOTES FOR DETAILS ON COMPACTION. PAVEMENT STRUCTURE IS BASED ON LANDSCAPE DETAIL DRAWING L–3 (DETAIL #7) PREPARED FEB 28, 2022 BY MHBC. CONCRETE PAVING TO BE C–2 32MPa COMPRESSIVE STRENGTH AT 28 DAYS WITH 5–7% AIR ENTRAINMENT.

LIGHT DUTY PAVERS WITH CONC. STRIP PAVEMENT OVER UNDERGROUND PARKING

SCALE: N.T.S.



- 100mm PAVERS (SPECIFIED BY MHBC)
- 50mm PERMIABLE SETTING BED AGGREGATE
- 280mm–480mm GRANULAR 'A'

UNDERGROUND PARKING ROOF SLAB

NOTE:

REFER TO CONSTRUCTION NOTES FOR DETAILS ON COMPACTION. PAVEMENT STRUCTURE IS BASED ON LANDSCAPE DETAIL DRAWING L–3 (DETAIL #7) PREPARED FEB 28, 2022 BY MHBC. CONCRETE PAVING TO BE C–2 32MPa COMPRESSIVE STRENGTH AT 28 DAYS WITH 5–7% AIR ENTRAINMENT.

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____

BUSINESS & TECHNICAL SERVICES

The Applicant should be aware that the approval of water systems on private property is the responsibility of the Local Municipality. Regardless, the Applicant must ensure that the Region of Halton's standards and specifications are met *(The Water and Wastewater Linear Design Manual may be obtained thru the Data Management Group at 905–825–6032)* Furthermore, all water quality tests must be completed to the Region of Halton's satisfaction, before the water supply can be turned on.

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/DEC/01
2	ISSUED FOR SECOND SPA SUBMISSION	2020/OCT/21
1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

ELEVATION NOTE:

ELEVATIONS SHOWN HEREON ARE REFERRED TO THE CITY OF BURLINGTON BENCHMARK No. 1045

ELEVATION = 93.477m

SURVEY NOTES:

SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141–0

BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS
UTM ZONE 17, NAD83 (GSRS) (2010.0)

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: A001 THROUGH A819, (2022/06/09)
PROJECT No.: 18–223

DRAWING NOTES:

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC. AND THE REPRODUCTION OF ANY PART OF IT WITHOUT PRIOR WRITTEN CONSENT OF THIS OFFICE IS STRICTLY PROHIBITED.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.

THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT. DO NOT SCALE THIS DRAWING.

ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

REFER TO SUE PREPARED BY PLANVIEW UTILITY SERVICES LTD. FOR EXISTING UNDERGROUND UTILITY LOCATIONS.

Developer

FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project

2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

Drawing

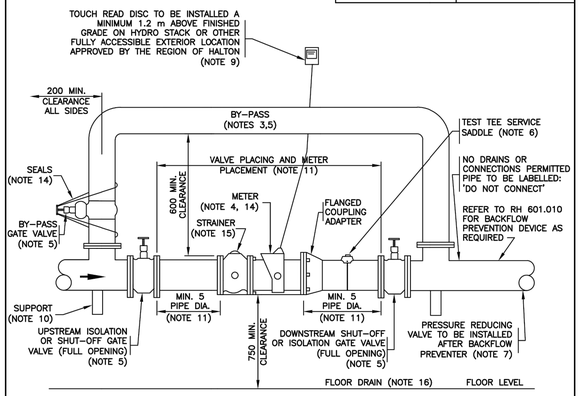
NOTES & DETAILS

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905 875 0026 T
905 875 4915 F
WWW.CFCROZIER.CA

Drawn	Design	Project No.	
S.V.N.	J.P.		1486–4809
Check	Check	Scale	Dwg.
J.P.	J.P.	N.T.S.	C 107 B

FOR 75–200 MM
NEW MULTI–RESIDENTIAL/
COMMERCIAL/ INDUSTRIAL
WATER METER INSTALLATION ONLY

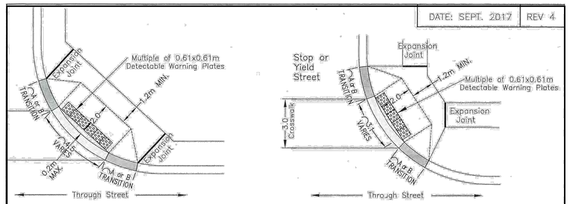
MATERIALS	
SUPPLIED BY REGION	SUPPLIED & INSTALLED BY OTHERS
75–200mm WATER METER C/W TOUCH READ DISC COMPANION FLANGES (AS REQUIRED FOR METER) GASKETS AND FASTENERS REMOTE WIRE 75–200MM STRAINER	ALL PIPE FITTINGS REQUIRED FOR INSTALLATION INCLUDING VALVES



THIS DRAWING SHALL BE
READ IN CONJUNCTION WITH
RH 504.011

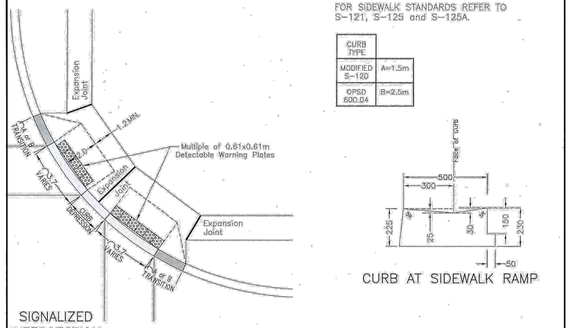
THE REGIONAL MUNICIPALITY OF HALTON PUBLIC WORKS DEPARTMENT	Date JULY 2017	Rev. 0	NTS
STANDARD 75–200 MM WATER METER INSTALLATION (NEW MULTI–RESIDENTIAL/ COMMERCIAL/INDUSTRIAL)			
	REGION STANDARD	RH	504.010

DATE: SEPT. 2017 REV 4



NOTES:
FOR SIDEWALK STANDARDS REFER TO S–121, S–125 and S–125A.

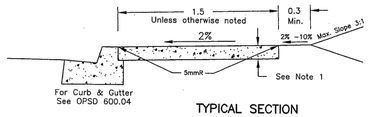
CURB TYPE	
MODIFIED S–120	A=1.5m
OPSD 600.04	B=2.5m

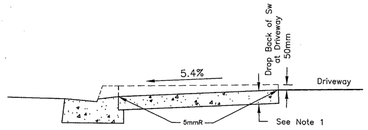


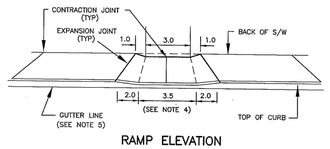
DIMENSIONS IN m EXCEPT AS NOTED

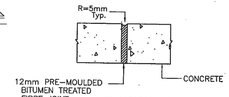
APPROVED MANAGER OF DESIGN & CONSTRUCTION DATE: Oct 19/17	CITY OF BURLINGTON CAPITAL WORKS	METRIC SCALE: N.T.S.
	CONCRETE SIDEWALK RAMPS AT INTERSECTIONS	DWG. NO. S-123

DATE: FEB. 2004 REV 2

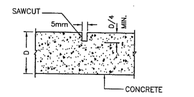








NOTES:
1) SIDEWALK THICKNESS – 125mm
RESIDENTIAL DRIVEWAYS and PEDESTRIAN RAMPS – 150mm
COMMERCIAL AND INDUSTRIAL DRIVEWAYS – 200mm
2) EXPANSION JOINTS TO BE 30.0m c/c MAX.
3) CONTRACTION JOINTS TO BE 2.5m c/c MAX.
4) SINGLE DRIVEWAY – 3.0m MIN. WIDTH FLARING TO 3.5m
DOUBLE DRIVEWAY – 5.5m MIN. WIDTH FLARING TO 6.0m
5) JOINTS IN S/W TO LINE UP WITH JOINTS IN CURB & GUTTER
6) ALL JOINTS TO BE PERPENDICULAR TO THE LINE OF THE SIDEWALK.
7) FOR SIDEWALK RAMP DETAIL REFER TO DRAWING S–123
8) WHERE SIDEWALKS ARE NARROWED TO LESS THAN 1.5m WIDTH, THE BACK OF THE SIDEWALK IS TO BE DROPPED AS DIRECTED BY THE ENGINEER



DIMENSIONS IN m EXCEPT AS NOTED

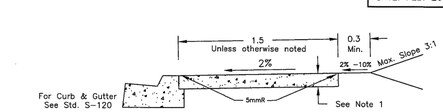
APPROVED DIRECTOR OF ENGINEERING DATE: Oct. 14/04	CITY OF BURLINGTON ENGINEERING DEPARTMENT	METRIC SCALE: N.T.S.
	SIDEWALK ADJACENT TO CURB and GUTTER (STANDARD HEIGHT CURB)	DWG. NO. S-125 A

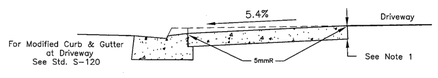
FILE#535–001/20

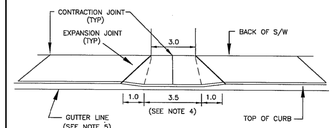
Stamp: LICENSED PROFESSIONAL ENGINEER J. E. PETTIFER 100505043 JUL 20, 2022 PROVINCE OF ONTARIO

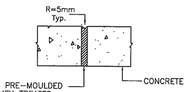
Stamp: LICENSED PROFESSIONAL ENGINEER PAVEL FILIPTSEV 100146817 JULY.20,2022 PROVINCE OF ONTARIO

DATE: FEB. 2004 REV 2

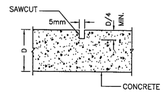








NOTES:
1) SIDEWALK THICKNESS – 125mm
RESIDENTIAL DRIVEWAYS and PEDESTRIAN RAMPS – 150mm
COMMERCIAL AND INDUSTRIAL DRIVEWAYS – 200mm
2) EXPANSION JOINTS TO BE 30.0m c/c MAX.
3) CONTRACTION JOINTS TO BE 2.5m c/c MAX.
4) SINGLE DRIVEWAY – 3.0m MIN. WIDTH FLARING TO 3.5m
DOUBLE DRIVEWAY – 5.5m MIN. WIDTH FLARING TO 6.0m
5) JOINTS IN S/W TO LINE UP WITH JOINTS IN CURB & GUTTER
6) ALL JOINTS TO BE PERPENDICULAR TO THE LINE OF THE SIDEWALK.
7) FOR SIDEWALK RAMP DETAIL REFER TO DRAWING S–123
8) WHERE SIDEWALKS ARE NARROWED TO LESS THAN 1.5m WIDTH, THE BACK OF THE SIDEWALK IS TO BE DROPPED AS DIRECTED BY THE ENGINEER



DIMENSIONS IN m EXCEPT AS NOTED

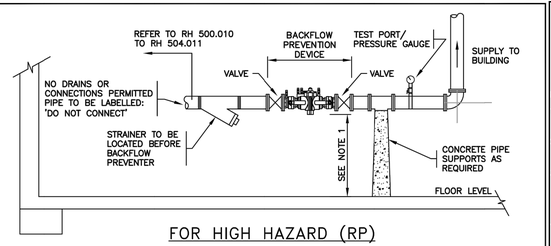
APPROVED DIRECTOR OF ENGINEERING DATE: Oct. 14/04	CITY OF BURLINGTON ENGINEERING DEPARTMENT	METRIC SCALE: N.T.S.
	SIDEWALK ADJACENT TO CURB and GUTTER (MODIFIED CURB HEIGHT)	DWG. NO. S-125 B

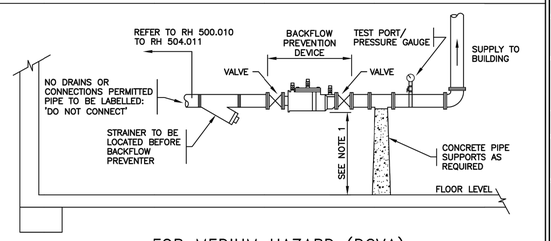
REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____
BUSINESS & TECHNICAL SERVICES

The Applicant should be aware that the approval of water systems on private property is the responsibility of the Local Municipality. Regardless, the Applicant must ensure that the Region of Halton's standards and specifications are met *(The Water and Wastewater Linear Design Manual may be obtained thru the Data Management Group at 905–825–6032)* Furthermore, all water quality tests must be completed to the Region of Halton's satisfaction, before the water supply can be turned on.





NOTES:
1. ALL INSTALLATIONS ARE TO BE AS PER THE ONTARIO BUILDING CODE ACT, S.O. 1992, C23, AS AMENDED, PART 7 CAN/CSA STANDARD B64.10, AS AMENDED.
2. THE BACKFLOW ASSEMBLY IS REQUIRED TO BE INSTALLED BY A CERTIFIED PLUMBER AND APPROVED PER HALTON REGION CROSS–CONNECTION BY–LAW 61–11, AS AMENDED.
3. BACKFLOW DEVICE IS TO BE TAGGED UPON INSTALLATION BY A HALTON REGION AUTHORIZED TESTER AND TEST AND INSPECTION REPORT SUBMITTED TO HALTON REGION CROSS–CONNECTION CONTROL PROGRAM UPON INSTALLATION AND ANNUALLY THEREAFTER.
4. PROVISIONS ARE TO BE MADE FOR DISPOSAL OF WATER USED FOR IN–PLACE TESTING EITHER THROUGH THE FLOOR DRAIN OR 125 mm FERRULE THROUGH THE WALL.
5. PROVISIONS FOR THERMAL EXPANSION TO BE PROVIDED AS PER OBC 7.6.1.16

THE REGIONAL MUNICIPALITY OF HALTON PUBLIC WORKS DEPARTMENT	Date JULY 2017	Rev. 0	NTS
BACKFLOW PREVENTION DEVICE (INDUSTRIAL, INSTITUTIONAL, COMMERCIAL)			
	REGION STANDARD	RH	601.010

STANDARD 75–200 MM NEW MULTI–RESIDENTIAL/
COMMERCIAL/INDUSTRIAL METER INSTALLATION ONLY
ALL NOTES AND SPECIFICATIONS SHALL BE READ
IN CONJUNCTION WITH RH 504.010

NOTES:
1. AS THE WATER PURVEYOR, HALTON REGION DOES NOT CONSENT TO ANY POTABLE WATER SYSTEM CONNECTING TO THE MUNICIPAL DRINKING WATER SYSTEM WITHOUT A WATER METER AND AN APPROPRIATE BACKFLOW PREVENTION DEVICE BEING INSTALLED, OR THE APPROVAL OF THE COMMISSIONER OF PUBLIC WORKS.
2. THE INSTALLATION OF THE METER, INCLUDING THE PIPING THAT IS PART OF THE METER INSTALLATION AND THE VALVING ARRANGEMENT FOR THE METER INSTALLATION, SHALL BE ACCORDING TO HALTON REGION'S REQUIREMENTS AND IN ACCORDANCE WITH THE ONTARIO BUILDING CODE.
3. THE WATER METER AND BACKFLOW PREVENTION DEVICE INSTALLATION AND SURROUNDING PIPING IS TO REMAIN FULLY ACCESSIBLE AT ALL TIMES WITH NO OBSTRUCTIONS PERMITTED. BYPASS PIPING MAY BE INSTALLED IN THE HORIZONTAL OR VERTICAL POSITION AND SHALL BE INSTALLED WITH A MINIMUM OF 600 MM CLEARANCE FROM THE OUTSIDE OF THE BYPASS PIPE TO THE NEAREST WALL OR CEILING. THE WATER METER SHALL BE INSTALLED AT A MINIMUM DISTANCE OF 600MM FROM BEHIND THE METER MAINCASE TO THE NEAREST WALL.
4. ALL WATER METERS ARE TO BE INSTALLED IN THE HORIZONTAL POSITION AND ACCORDING TO THE MANUFACTURERS INSTALLATION INSTRUCTIONS. THE TYPES OF METERS THAT WILL BE PROVIDED BY THE REGION CAN BE OF THE TURBINE, COMPOUND, ELECTROMAGNETIC OR ULTRASONIC TYPE. ALL BACKFLOW PREVENTION DEVICES ARE TO BE INSTALLED DOWNSTREAM OF THE WATER METER AND BY–PASS, WITH NO CONNECTIONS OR TEES AND SHALL BE INSTALLED AS PER CSA AND MANUFACTURERS INSTALLATION INSTRUCTIONS.
5. ALL PIPING, INCLUDING BY–PASS PIPE, TEES, BENDS AND VALVES WITH THE EXCEPTION OF THE TEST TEE SHALL BE THE SAME DIAMETER AS THE INCOMING WATER SERVICE PIPE. PIPE REDUCERS REQUIRED TO ACCOMADATE A SMALLER WATER METER THAN THE WATER SERVICE PIPE SHALL BE INSTALLED BETWEEN THE INLET AND OUTLET VALVES AND SHALL BE OF THE CONCENTRIC TYPE. ALL VALVES 75 MM AND GREATER SHALL BE OS&Y GATE VALVES CONFORMING TO AWWA C515–15.
6. THE TEST TEE/SERVICE SADDLE AND VALVE SHALL BE LOCATED DOWNSTREAM OF THE WATER METER AT LEAST 3 X PIPE DIAMETERS AFTER THE OUTLET OF THE WATER METER AND 2 X PIPE DIAMETER FROM THE OUTLET VALVE. THE VALVE MAY BE EITHER A THREADED BALL OR GATE VALVE AND A PLUG WILL BE INSTALLED IN THE OUTLET OF THE VALVE. A 50 MM (2") VALVE WILL BE INSTALLED FOR 75 AND 100 MM WATER METERS AND A 64MM (2 ½") VALVE WILL BE INSTALLED FOR 150 MM AND 200 MM WATER METERS.
7. THE CONTRACTOR/DESIGNER IS TO DETERMINE IF A PRESSURE REDUCING VALVE TO LIMIT THE STATIC MAXIMUM STATIC PRESSURE TO 550 KPA (80 PSI) IS REQUIRED, AND IF NEEDED, IS TO ENSURE IT IS INSTALLED AFTER THE BACKFLOW PREVENTER.
8. ALL PIPING SHALL BE TYPE "L" COPPER (CERTIFIED TO ASTM B88), CEMENT LINED DUCTILE IRON PIPE (CERTIFIED TO ANSI/AWWA C115/A21.15 OR C51/A21.51; CEMENT LINING CERTIFIED TO ANSI/AWWA C104/A21.4; FITTINGS CERTIFIED TO ANSI/AWWA C110/A21.10) OR STAINLESS STEEL PIPE RATED TO A MINIMUM WORKING PRESSURE OF 1100 KPA. ALL VALVES AND FITTINGS SHALL BE RATING WITH A MINIMUM WORKING PRESSURE OF 1100 KPA.
9. THE TOUCH READING PAD AND 3 CONDUCTOR 20 GAUGE WIRE ARE TO BE SECURED TO THE HYDRO STACK WITH PLASTIC BRACKET (HYDRO ONE APPROVED) OR FLUSH MOUNTED TO THE WALL IN A FULLY ACCESSIBLE EXTERIOR AREA, AND SHALL BE INSTALLED A MINIMUM OF 1.2 M ABOVE FINISHED GRADE AS APPROVED BY THE REGION OF HALTON. THE REMOTE TOUCHPAD WIRE SHALL BE CONNECTED TO THE WATER METER USING ALL 3 TERMINALS AND COLOUR MATCHED TO THE WATER METER TERMINAL I.E. RED – RED, GREEN – GREEN, BLACK – BLACK. THE WIRE SHALL BE RUN NEATLY AND FASTENED EVERY 600MM TO THE SURROUNDING PIPEWORK AND STRUCTURE USING APPROVED MATERIALS FOR WIRING SYSTEMS I.E. ZIP TIES, WIRING STAPLES.
10. MECHANICAL SUPPORTS WILL BE INSTALLED AS NECESSARY TO THE WATER SERVICE PIPE AND FLANGES AROUND THE WATER METER. THE WATER METER ITSELF IS NOT TO BE SUPPORTED TO PREVENT DAMAGE TO THE METER MAINCASE.
11. THE METER SHALL BE LOCATED 5 X PIPE DIAMETERS FROM THE INLET VALVE AND 3 X PIPE DIAMETERS FROM THE TEST TEE AND VALVE. THE OUTLET VALVE SHALL BE LOCATED AT LEAST 2 X PIPE DIAMETERS FROM THE TEST TEE AND VALVE.
12. THE MAIN DISTRIBUTION SHUT OFF VALVE MUST BE INSTALLED AND OPERATIONAL PRIOR TO INSTALLATION OF THE METER.
13. ALL DIMENSIONS IN MM UNLESS OTHERWISE NOTED.
14. THE METER AND BYPASS VALVE SHALL BE SEALED BY THE REGION.
15. AN APPROVED STRAINER WILL BE PROVIDED BY THE REGION AND WILL BE BOLTED DIRECTLY TO THE INLET SIDE OF THE WATER METER.
16. PROVISIONS ARE TO BE MADE FOR DISPOSAL OF WATER USED FOR IN–SITU TESTING EITHER THROUGH THE FLOOR DRAIN OR 125 MM FERRULE THROUGH THE WALL.
17. THE WATER SERVICE PIPE SHALL BE FLUSHED AFTER INSTALLATION OF BUILDING CONTROL VALVE AND PRIOR TO INSTALLATION OF METER IDLER (SPACER) OR WATER METER.

THE REGIONAL MUNICIPALITY OF HALTON PUBLIC WORKS DEPARTMENT	Date JULY 2017	Rev. 0	NTS
STANDARD 75–200 MM WATER METER INSTALLATION (NEW MULTI–RESIDENTIAL/ COMMERCIAL/INDUSTRIAL)			
	REGION STANDARD	RH	504.011

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/DEC/01
2	ISSUED FOR SECOND SPA SUBMISSION	2020/OCT/21
1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

ELEVATION NOTE:

ELEVATIONS SHOWN HEREON ARE REFERRED TO THE CITY OF BURLINGTON BENCHMARK No. 1045

ELEVATION = 93.477m

SURVEY NOTES:

SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141–0

BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS
UTM ZONE 17, NAD83 (CSRS) (2010.0)

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18–223

DRAWING NOTES:

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THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT. DO NOT SCALE THIS DRAWING.

ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

REFER TO SUE PREPARED BY PLANVIEW UTILITY SERVICES LTD. FOR EXISTING UNDERGROUND UTILITY LOCATIONS.

Developer
FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project
2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN CITY OF BURLINGTON

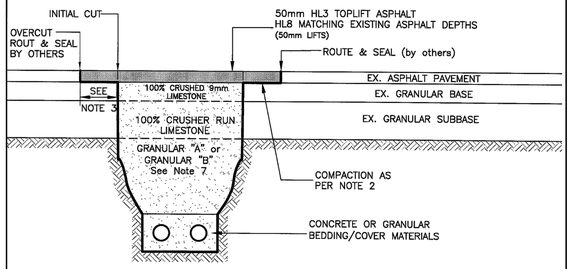
Drawing
NOTES & DETAILS

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905 875 0026 T
905 875 4915 F
WWW.CFCROZIER.CA

Drawn	S.T.T.	Design	S.T.T./J.H.	Project No.	1486–4809
Check	J.H.	Check	K.J.F.	Scale	N.T.S.
				Dwg.	C 107 C

I:\1400\1486-CLV Realty Corp\4809-2269 Fairview St & 84 Drury Ln\CAD\Civil\Sheets\4809_C107 NOTES.dwg, C 107 C, 2022-07-29 12:44:19 PM, mbowman

DATE: JAN 2002 | NEW

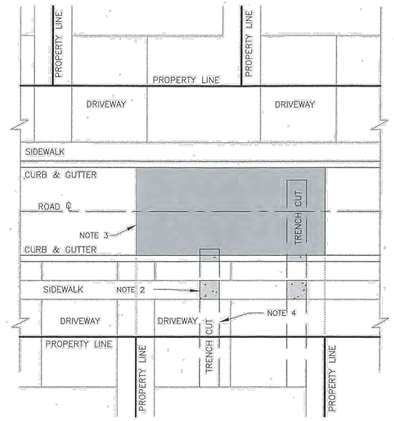


NOTES:

1. TACK COAT AND SEAL ALL VERTICAL ASPHALT SURFACES
2. COMPACT ALL GRANULAR MATERIAL TO AT LEAST 100% OF ITS STANDARD PROCTOR DENSITY.
3. MINIMUM STEP JOINT WIDTH FROM UNDISTURBED EDGE OF EXCAVATION
   300mm FOR EXCAVATIONS LESS THAN 1.5m DEPTH
   600mm FOR EXCAVATIONS GREATER THAN 1.5m DEPTH
4. OVERCUT AND PLACEMENT OF GRANULAR BASE/SUBBASE AND ASPHALT TO BE DONE AFTER PLACEMENT AND COMPACTION OF TRENCH BACKFILL.
5. ASPHALT OVERCUT AND RESTORATION TO BE COMPLETED BETWEEN APRIL 1 AND OCTOBER 31.
6. THIS DRAWING TO BE READ IN CONJUNCTION WITH CITY OF BURLINGTON AND OPSD STANDARD DRAWINGS AND SPECIFICATIONS
7. UNSHRINKABLE FILL SHALL BE USED WHERE DIRECTED BY THE CITY INSPECTOR.

APPROVED	CITY OF BURLINGTON	METRIC
DIRECTOR OF ENGINEERING DATE: Feb. 6/02	ENGINEERING DEPARTMENT	SCALE: N.T.S.
	FLEXIBLE PAVEMENT EXCAVATION REINSTATEMENT	DWG. NO. S-114A

DATE:

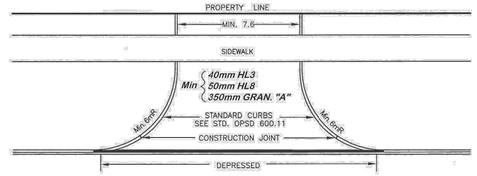


NOTES:

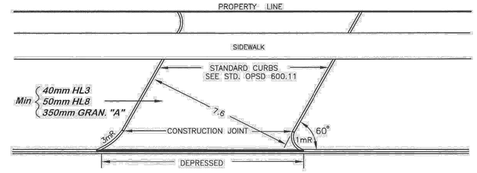
1. LIMIT OF TRENCH EXCAVATION
2. REPLACE CURB AND SIDEWALK TO NEAREST CONTROL JOINT.
3. SAW CUT PAVEMENT IN ACCORDANCE WITH THE STANDARD DRAWINGS AND SPECIFICATIONS. ALL EDGES TO BE SEALED WITH HOT RUBBERIZED ASPHALT JOINT SEALING COMPOUND.
4. THIS DRAWING TO BE READ IN CONJUNCTION WITH CITY OF BURLINGTON AND OPSD STANDARD DRAWINGS AND SPECIFICATIONS.
5. RATES ARE BASED ON CURRENT YEAR RATES & FEES AND CURRENT YEAR RESURFACING CONTRACT. THIS INCLUDES ROAD CUT/ SERVICE FEE, ASPHALT MILLING, CRACK SEALING, HL3 ASPHALT, TACK COAT, CURB & GUTTER (PROVISIONAL), SIDEWALK (PROVISIONAL).

APPROVED	CITY OF BURLINGTON	METRIC
DATE: July 12/17	CAPITAL WORKS DEPARTMENT	SCALE: N.T.S.
	PAVEMENT REINSTATEMENT POLICY OF TRENCH CUTS FOR UTILITY AND SERVICES ON LOCAL AND ARTERIAL ROADS (COLLECTOR ROADS WILL BE ON A SITE SPECIFIC REVIEW)	DWG. NO. S-114-B

DATE: MAY 2012 | REV. 7



ENTRANCE TYPE 'A'



ENTRANCE TYPE 'B'

FOR SIDEWALK and CURB TREATMENT AT DRIVEWAY SEE STD. S-112

DIMENSIONS IN m EXCEPT AS NOTED

APPROVED	CITY OF BURLINGTON	METRIC
DIRECTOR OF ENGINEERING DATE: JUNE 5/12	ENGINEERING DEPARTMENT	SCALE: N.T.S.
	COMMERCIAL, INDUSTRIAL DRIVEWAY STANDARD ENTRANCE	DWG. NO. S-110

FILE #535-001/20

Stamp: LICENSED PROFESSIONAL ENGINEER — J. E. PETTIFER — 100505043 — JUL 20, 2022 — PROVINCE OF ONTARIO

Stamp: LICENSED PROFESSIONAL ENGINEER — PAVEL FILIPTSEV — 100146817 — JULY.20,2022 — PROVINCE OF ONTARIO

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/DEC/01
2	ISSUED FOR SECOND SPA SUBMISSION	2020/OCT/21
1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

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ELEVATIONS SHOWN HEREON ARE REFERRED TO THE CITY OF BURLINGTON BENCHMARK No. 1045

ELEVATION = 93.477m

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SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141-0

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UTM ZONE 17, NAD83 (CSRS) (2010.0)

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18-223

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REFER TO SUE PREPARED BY PLANVIEW UTILITY SERVICES LTD. FOR EXISTING UNDERGROUND UTILITY LOCATIONS.

Developer

FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project

2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

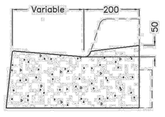
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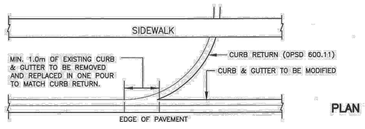
NOTES & DETAILS

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

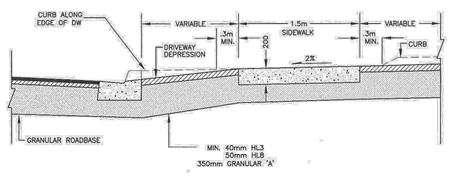
Drawn	Design	Project No.
S.T.T.	S.T.T./J.H.	1486-4809
Check	Check	Scale / Dwg.
J.H.	K.J.F.	N.T.S. / C 107 D

DATE: MAY/12 | REV 5





CURB RETURN TIE-IN



SIDEWALK TREATMENT ACROSS DRIVEWAY

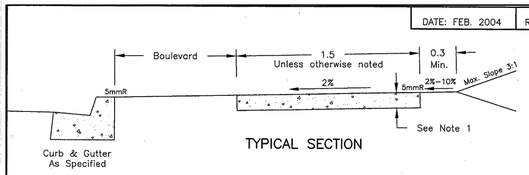
NOTES:

1) CONCRETE AS PER C-2(ITEM 11-CONCRETE) CITY OF BURLINGTON AMENDMENTS TO OPSS

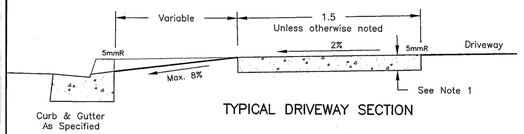
DIMENSIONS IN mm EXCEPT AS NOTED

APPROVED	CITY OF BURLINGTON	METRIC
DIRECTOR OF ENGINEERING DATE: JUNE 5/12	ENGINEERING DEPARTMENT	SCALE: N.T.S.
	COMMERCIAL, INDUSTRIAL, MULTI-RESIDENTIAL ENTRANCES	DWG. NO. S-112

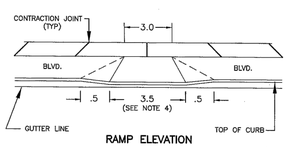
DATE: FEB. 2004 | REV. 8



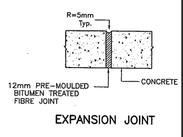
TYPICAL SECTION



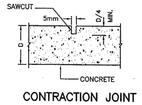
TYPICAL DRIVEWAY SECTION



RAMP ELEVATION (AT DRIVEWAY)



EXPANSION JOINT



CONTRACTION JOINT

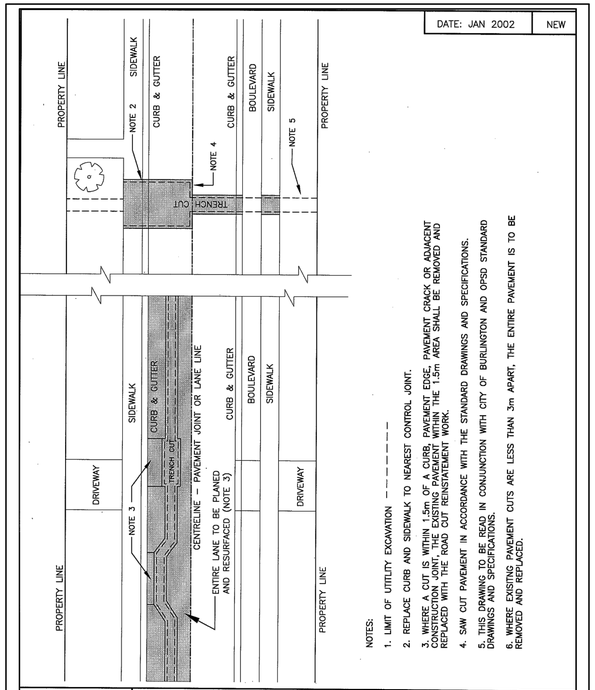
NOTES:

1) SIDEWALK THICKNESS - 125mm
   RESIDENTIAL DRIVEWAYS and PEDESTRIAN RAMPS - 150mm
   COMMERCIAL AND INDUSTRIAL DRIVEWAYS - 200mm
2) EXPANSION JOINTS TO BE 30.0m c/c MAX.
3) CONTRACTION JOINTS TO BE 2.5m c/c MAX.
4) SINGLE DRIVEWAY - 3.0m MIN. WIDTH FLARING TO 3.5
   DOUBLE DRIVEWAY - 5.5m MIN. WIDTH FLARING TO 6.0m
5) ALL JOINTS TO BE PERPENDICULAR TO THE LINE OF THE SIDEWALK
6) FOR SIDEWALK RAMP DETAIL REFER TO DRAWING S-123

DIMENSIONS IN m EXCEPT AS NOTED

APPROVED	CITY OF BURLINGTON	METRIC
DIRECTOR OF ENGINEERING DATE: Oct. 13/04	ENGINEERING DEPARTMENT	SCALE: N.T.S.
	SIDEWALK WITH BOULEVARD	DWG. NO. S-121

DATE: JAN 2002 | NEW



NOTES:
1. LIMIT OF UTILITY EXCAVATION - - - - - - - -
2. REPLACE CURB AND SIDEWALK TO NEAREST CONTROL JOINT.
3. WHERE A CUT IS WITHIN 1.5m OF A CURB, PAVEMENT EDGE, PAVEMENT CRACK OR ADJACENT CONSTRUCTION JOINT, THE ENTIRE LANE WITHIN THE 1.5m AREA SHALL BE REMOVED AND REPLACED WITH THE ROAD CUT REINSTATEMENT WORK.
4. SAW CUT PAVEMENT IN ACCORDANCE WITH THE STANDARD DRAWINGS AND SPECIFICATIONS.
5. THIS DRAWING TO BE READ IN CONJUNCTION WITH CITY OF BURLINGTON AND OPSD STANDARD DRAWINGS AND SPECIFICATIONS.
6. WHERE EXISTING PAVEMENT CUTS ARE LESS THAN 3m APART, THE ENTIRE PAVEMENT IS TO BE REMOVED AND REPLACED.

APPROVED	CITY OF BURLINGTON	METRIC
DIRECTOR OF ENGINEERING DATE: Jan. 14/02	ENGINEERING DEPARTMENT	SCALE: N.T.S.
	TRENCH CUT REINSTATEMENT OF FLEXIBLE PAVEMENT STRUCTURES	DWG. NO. S-114

REGIONAL APPROVAL

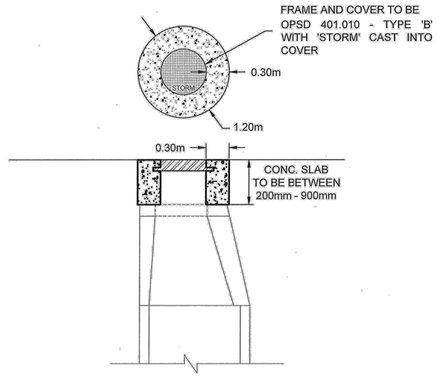
REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____
BUSINESS & TECHNICAL SERVICES

The Applicant should be aware that the approval of water systems on private property is the responsibility of the Local Municipality. Regardless, the Applicant must ensure that the Region of Halton's standards and specifications are met *(The Water and Wastewater Linear Design Manual may be obtained thru the Data Management Group at 905-825-6032)* Furthermore, all water quality tests must be completed to the Region of Halton's satisfaction, before the water supply can be turned on.

I:\1400\1486-CLV Realty Corp\4809-2269 Fairview St & 84 Drury Ln\CAD\Civil\Sheets\4809_C107 NOTES.dwg, C 107 D, 2022-07-29 12:44:25 PM, mbowman

DATE: MARCH 2020 | REV 1

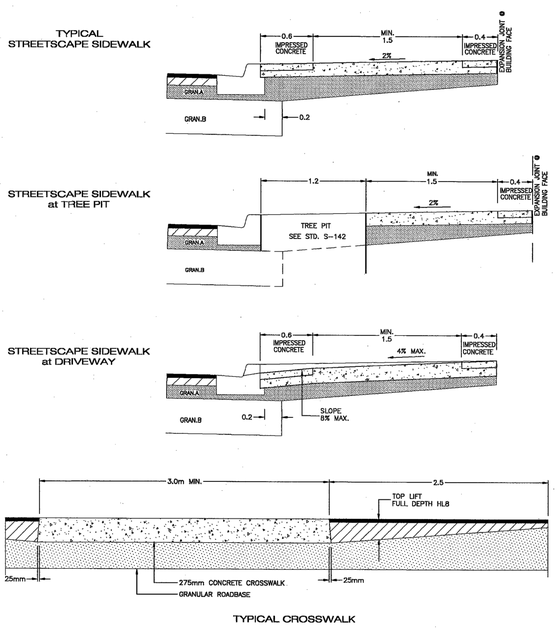


1. CONCRETE SHALL BE 30MPA HIGH EARLY STRENGTH (20MPA AT 24HRS). MIX DESIGN SHALL BE IN ACCORDANCE WITH COB STANDARD SPECIFICATIONS.
2. CONCRETE SHALL BE CURED WITH WHITE PIGMENTED CURING COMPOUND MEETING REQUIREMENTS OF OPSS 1315 AND APPLIED AT A RATE OF 0.2l/m²
4. STEPS ARE TO BE INSTALLED AS REQUIRED AS PER COB STRANDARD SPECIFICATIONS.
5. TRAFFIC CONTROL SHALL BE IN PLACE AND CONFORM TO MTO BOOK 7 AND TO CONTRACT CONDITIONS.
6. IF THE DISTANCE FROM THE TOP OF PRECAST STRUCTURE TO THE TOP OF PAVEMENT IS LESS THAN 200mm THE CITY SHALL BE NOTIFIED PRIOR TO FORMING.
4. IF THE DISTANCE FROM THE TOP OF PRECAST STRUCTURE TO THE TOP OF PAVEMENT IS GREATER THAN 900mm THE CITY SHALL BE NOTIFIED PRIOR TO FORMING.

APPROVED	CITY OF BURLINGTON	METRIC
MANAGER OF DESIGN AND CONSTRUCTION	CAPITAL WORKS DEPARTMENT	SCALE: N.T.S.
DATE: Mar 3/20	CORED MAINTENANCE HOLE ADJUSTMENT	DWG. NO. S-130

DATE: JUNE/98 | NEW

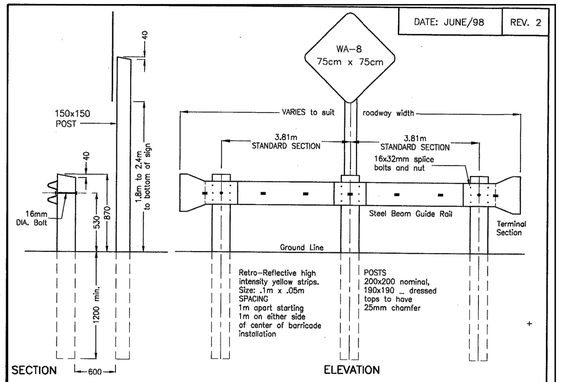
THIS STANDARD TO BE USED IN CONJUCTION WITH S-125



TYPICAL CROSSWALK

APPROVED	CITY OF BURLINGTON	METRIC
DIRECTOR OF ENGINEERING	ENGINEERING DEPARTMENT	SCALE: N.T.S.
DATE: Feb. 17/99	STREETSCAPE DETAILS SIDEWALK & CROSSWALK DETAILS	DWG. NO. S-141

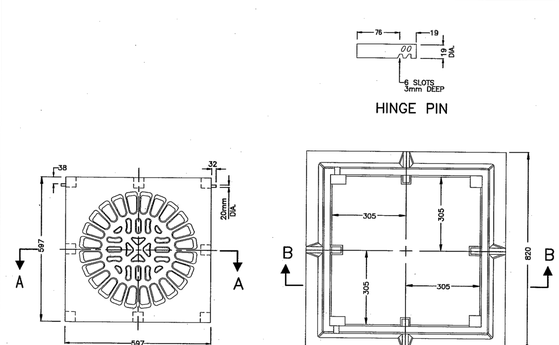
DATE: JUNE/98 | REV. 2



DIMENSIONS IN mm EXCEPT AS NOTED

APPROVED	CITY OF BURLINGTON	METRIC
DIRECTOR OF ENGINEERING	ENGINEERING DEPARTMENT	SCALE: N.T.S.
DATE: June 23/98	STREET BARRIER AND SIGNS	DWG. NO. S-328

DATE: JUNE/98 | REV 3



NOTES:

1) ALLOWABLE TOLERANCE: DIMENSIONS 300mm OR LESS + 3mm
   DIMENSIONS OVER 300mm UP TO AND INCLUDING 900mm +6mm
2) THE INITIALS OR MARK OF THE MANUFACTURER ARE TO BE DISTINCTLY CAST IN RAISED LETTERS ON BOTH FRAME AND COVER
3) STEEL FOR HINGE PINS TO BE AS PER ASTM DESIGNATION A-7 OR EQUIVALENT
4) CAST IRON TO CONFORM TO ASTM DESIGNATION A-48-74 CLASS 30-C

DIMENSIONS IN mm EXCEPT AS NOTED

APPROVED	CITY OF BURLINGTON	METRIC
DIRECTOR OF ENGINEERING	ENGINEERING DEPARTMENT	SCALE: N.T.S.
DATE: Feb. 17/99	BEEHIVE CATCHBASIN FRAME and COVER	DWG. NO. S-176

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____

BUSINESS & TECHNICAL SERVICES

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FILE #535-001/20

Stamp: LICENSED PROFESSIONAL ENGINEER — J. E. PETTIFER — 100505043 — JUL 20, 2022 — PROVINCE OF ONTARIO

Stamp: LICENSED PROFESSIONAL ENGINEER — PAVEL FILIPTSEV — 100146817 — JULY.20,2022 — PROVINCE OF ONTARIO

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/DEC/01
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ELEVATIONS SHOWN HEREON ARE REFERRED TO THE CITY OF BURLINGTON BENCHMARK No. 1045

ELEVATION = 93.477m

SURVEY NOTES:

SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141-0

BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS
UTM ZONE 17, NAD83 (CSRS) (2010.0)

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18-223

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REFER TO SUE PREPARED BY PLANVIEW UTILITY SERVICES LTD. FOR EXISTING UNDERGROUND UTILITY LOCATIONS.

Developer

FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project

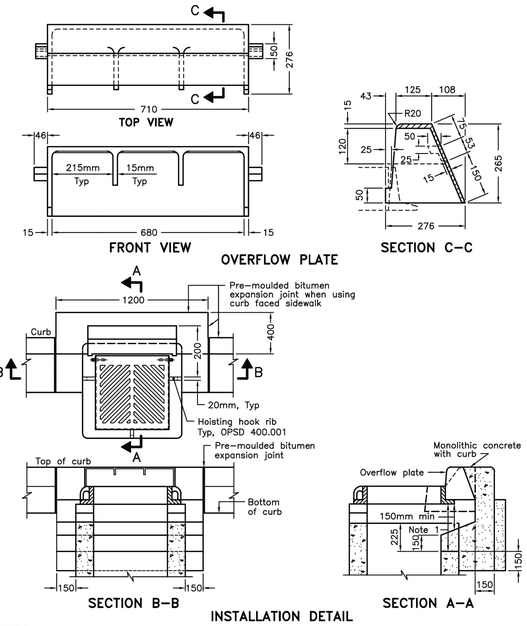
2243 FAIRVIEW ST., 2269 FAIRVIEW ST.,
864 DRURY LN
CITY OF BURLINGTON

Drawing

NOTES & DETAILS

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	Design	Project No.	
S.T.T.	S.T.T./J.H.	1486-4809	
Check	Check	Scale	Dwg.
J.H.	K.J.F.	N.T.S.	C 107 E



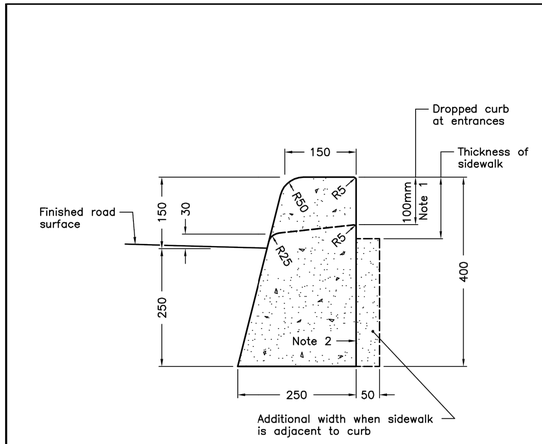
NOTES:

1 Temporary brick bulkhead prior to setting final grade of the frame with grate.

A Catch basin shall have 250mm diameter minimum lead.

B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 3
CAST IRON CURB INLET OVERFLOW FOR CATCH BASINS		OPSD 400.090



NOTES:

1 When sidewalk is continuously adjacent, the dropped curb at entrances shall be reduced to 75mm.

2 For slipforming procedure a 5% batter is acceptable.

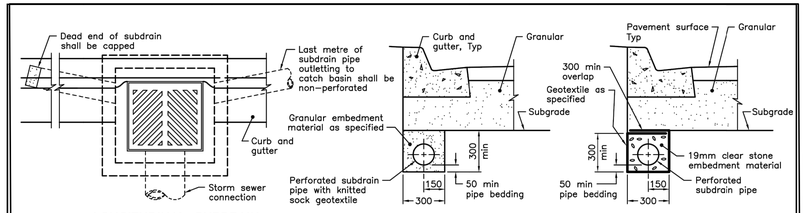
A Treatment at entrances shall be according to OPSD 351.010.

B Outlet treatment shall be according to the OPSD 610 Series.

C The transition from one curb type to another shall be a minimum length of 3.0m, except in conjunction with guide rail where it shall be according to the OPSD 900 Series.

D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
CONCRETE BARRIER CURB		OPSD 600.110



NOTES:

1 Core hole diameter to allow outlet pipe into structure.

2 Install outlet pipe flush with inside face of catch basin.

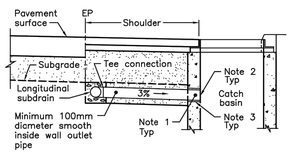
3 Annular space around pipe shall be filled with non–shrink grout.

A Use compatible manufactured fittings for all connectors, couplings, and caps.

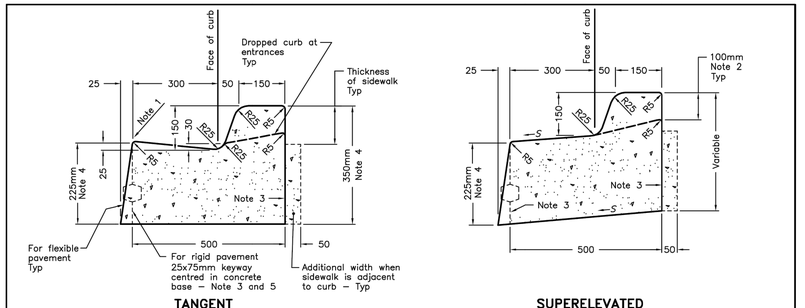
B Trench dimensions shown to accommodate 100 or 150mm diameter subdrain pipe.

C Longitudinal subdrain pipe shall be installed parallel to the grade of the gutter.

D All dimensions are in millimetres unless otherwise shown.



ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2017	Rev 3
SUBDRAIN PIPE CONNECTION AND OUTLET URBAN SECTION		OPSD 216.021



LEGEND:

S – Rate of pavement superelevation in percent, %.

NOTES:

1 Flexible and composite pavement shall be placed 5mm above the adjacent edge of gutter.

2 When sidewalk is continuously adjacent, the dropped curb at entrances shall be reduced to 75mm.

3 For slipforming procedure a 5% batter is acceptable.

4 For composite pavement the depth of concrete curb shall be adjusted to depth of concrete pavement.

5 When tie bars are specified, refer to OPSD 552.010 and 552.020 for details.

A Treatment at entrances shall be according to OPSD 351.010.

B Outlet treatment shall be according to the OPSD 610 Series.

C The transition from one curb type to another shall be a minimum length of 3.0m, except in conjunction with guide rail where it shall be according to the OPSD 900 Series.

D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
CONCRETE BARRIER CURB WITH STANDARD GUTTER		OPSD 600.040

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____

BUSINESS & TECHNICAL SERVICES

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FILE #535-001/20

Stamp

LICENSED PROFESSIONAL ENGINEER
J. E. PETTIFER
100505043
JUL 20, 2022
PROVINCE OF ONTARIO

Stamp

LICENSED PROFESSIONAL ENGINEER
PAVEL FILIPTSEV
100146817
JULY.20,2022
PROVINCE OF ONTARIO

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/DEC/01
2	ISSUED FOR SECOND SPA SUBMISSION	2020/OCT/21
1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

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Project

2243 FAIRVIEW ST., 2269 FAIRVIEW ST.,
864 DRURY LN
CITY OF BURLINGTON

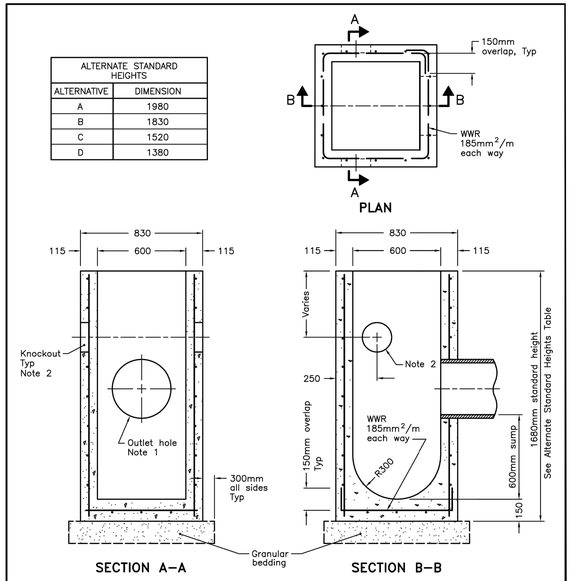
Drawing

NOTES & DETAILS

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905 875 0026 T
905 875 4915 F
WWW.CFCROZIER.CA

Drawn	Design	Project No.	
S.T.T.	S.T.T./J.H.		1486–4809
Check	Check	Scale	Dwg.
J.H.	K.J.F.	N.T.S.	C 107 F

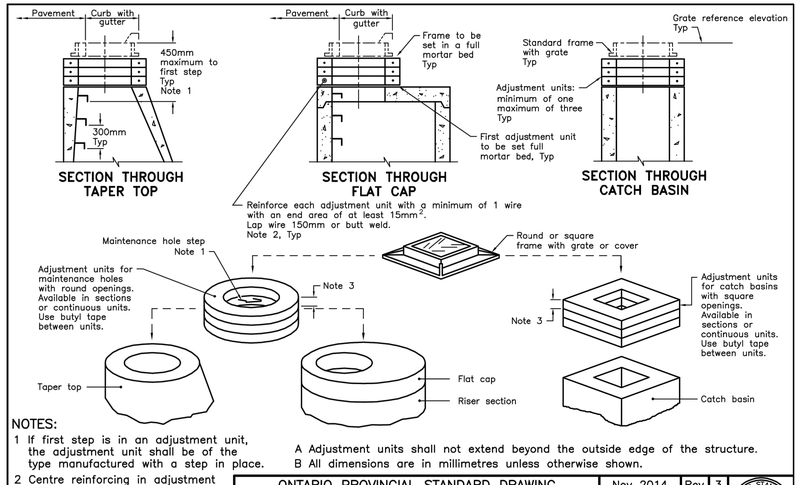
ALTERNATE STANDARD HEIGHTS	
ALTERNATIVE	DIMENSION
A	1980
B	1830
C	1520
D	1380



NOTES:

1 Outlet hole size 525mm diameter maximum, location as required.
2 200mm diameter knockout to accommodate subdrain. Knockout shall be 60mm deep.
A Centre reinforcing in base slab and walls ±20mm.
B Granular backfill shall be placed to a minimum thickness of 300mm all around the catch basin.
C Frame, grate, and adjustment units shall be installed according to OPSD 704.010.
D Pipe support shall be according to OPSD 708.020.
E All dimensions are nominal.
F All dimensions are in millimetres unless otherwise shown.

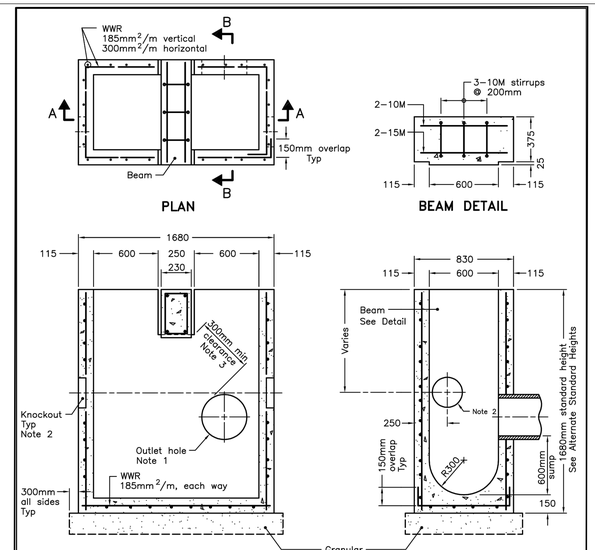
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2019	Rev	4
PRECAST CONCRETE CATCH BASIN 600x600mm			
	OPSD 705.010		



NOTES:

1 If first step is in an adjustment unit, the adjustment unit shall be of the type manufactured with a step in place.
2 Centre reinforcing in adjustment unit ±10mm.
3 Round and square adjustment units are available in sizes of 50, 75, 100, 150, and 300mm.
A Adjustment units shall not extend beyond the outside edge of the structure.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev	3
PRECAST CONCRETE ADJUSTMENT UNITS FOR MAINTENANCE HOLES, CATCH BASINS, AND VALVE CHAMBERS			
	OPSD 704.010		



NOTES:

1 Outlet hole size 525mm diameter maximum, location as required.
2 200mm diameter knockout to accommodate subdrain. Knockout shall be 60mm deep.
3 Minimum clearance between beam recess and hole for pipe shall be 300mm or minimum clearance can be 150mm with addition of two 15M size rebar on 45 degree diagonal.
A Centre reinforcing in base slab and walls ±20mm.
B Granular backfill shall be placed to a minimum thickness of 300mm all around the catch basin.
C Frame, grate, and adjustment units shall be installed according to OPSD 704.010.
D Pipe support shall be according to OPSD 708.020.
E All dimensions are nominal.
F All dimensions are in millimetres unless otherwise shown.

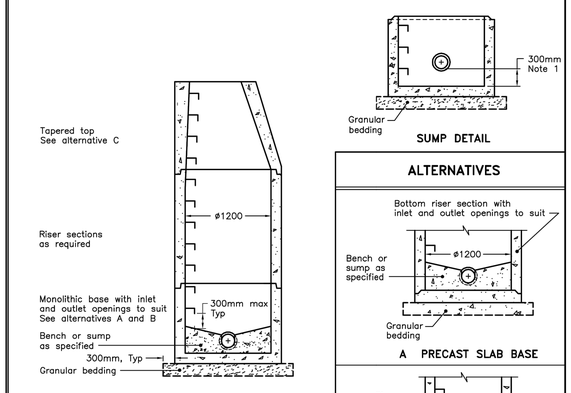
ALTERNATE STANDARD HEIGHTS	
ALTERNATIVE	DIMENSION
A	1980
B	1830
C	1680

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2019	Rev	4
PRECAST CONCRETE TWIN INLET CATCH BASIN 600 x 1450mm			
	OPSD 705.020		

FILE #535–001/20

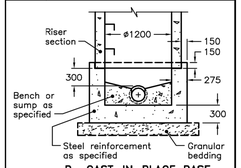
Stamp: LICENSED PROFESSIONAL ENGINEER J. E. PETTIFER 100505043 JUL 20, 2022 PROVINCE OF ONTARIO

Stamp: LICENSED PROFESSIONAL ENGINEER PAVEL FILIPTSEV 100146817 JULY.20,2022 PROVINCE OF ONTARIO

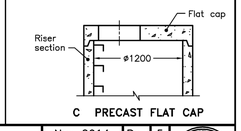


ALTERNATIVES

A PRECAST SLAB BASE



B CAST–IN–PLACE BASE

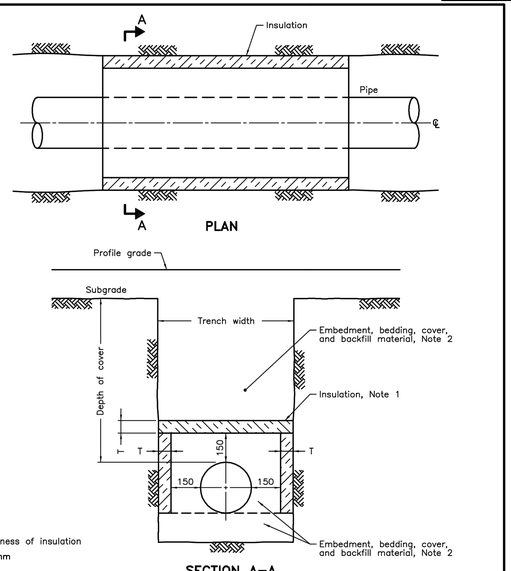


C PRECAST FLAT CAP

NOTES:

1 The sump is measured from the lowest invert.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, or 701.032.
C Structure exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.
D Pipe support according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev	5
PRECAST CONCRETE MAINTENANCE HOLE 1200mm DIAMETER			
	OPSD 701.010		



NOTES:

1 The insulation material shall be extruded polystyrene according to OPSS 1605 with a minimum compressive strength of 275 kPa.
2 Pipe embedment or bedding, cover, and backfill shall be according to:
a) Flexible OPSD 802.010, 802.013, 802.020, and 802.023.
b) Rigid – OPSD 802.030, 802.031, 802.032, 802.033, 802.050, 802.051, 802.052, and 802.053.
A Minimum insulation thickness shall be 50mm.
B Joints shall be staggered for multiple insulation sheets.
C All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev	0
INSULATION FOR SEWERS AND WATERMAINS IN SHALLOW TRENCHES			
	OPSD 1109.030		

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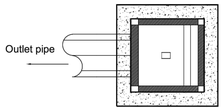
Project
2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

Drawing
NOTES & DETAILS

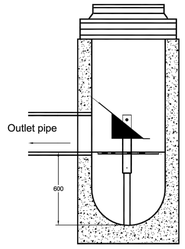
CROZIER CONSULTING ENGINEERS
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Drawn	Design	Project No.	
S.T.T.	S.T.T./J.H.		1486–4809
Check	Check	Scale	Dwg.
J.H.	K.J.F.	N.T.S.	C 107 G

Notes
1. CB Shield can be installed at any time. In a non frozen condition.
2. The frame and cover should be well aligned with the catchbasin for proper installation
3. The catchbasin sump must be clean before installation
4. The grate should be at the same level as the standing water in the sump.
5. Pipes must be cut flush with inside walls



Top view

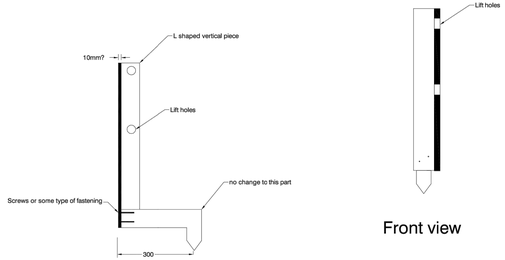


Profile view

CB Shield (600mm Sump)

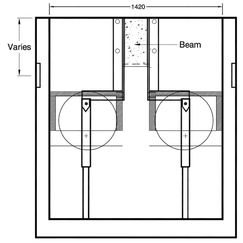


Top view



Side view

Front view



installed view

This spacer bars are to keep two single units standing upright inside a double catchbasin.

DCB c/w CB Shields

Z887-24-HD

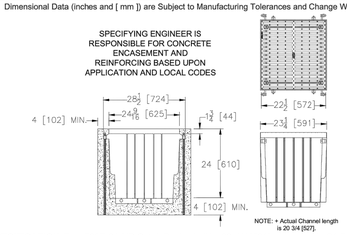
23-1/4 [591] WIDE REVEAL X 24-5/8 [625] LONG CATCH BASIN WITH HEAVY DUTY FRAME

SPECIFICATION SHEET

TAG _____

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice

SPECIFYING ENGINEER IS RESPONSIBLE FOR CONCRETE ENCASEMENT AND REINFORCING BASED UPON APPLICATION AND LOCAL CODES



NOTE: + Actual Channel length is 20 3/4 [527].

ENGINEERING SPECIFICATION Zurn Z887-24-HD Catch Basin shall be 23-1/4 [591] wide reveal x 24-5/8 [625] long and 24 [610] deep. Catch basin shall be made of 0% water absorbent High Density Polyethylene (HDPE). Shall mechanically lock into the concrete surround. Basin shall weigh less than 20.0 lbs. [9.1 kg]. Catch basin shall have rebar clips standard to secure basin in its final location. Shall be provided with standard DGC grates that lock down to frame. Zurn 22-1/4 [565] wide reveal Ductile Iron Slotted Grate conforming to ASTM specification A536-84, Grade 80-55-06. Ductile Iron grate is rated class C per the DIN EN1433 top load classifications. Supplied in 24 [608] nominal lengths with 11/16 [17] wide slots, and 2-1/2 [64] bearing depth. Grate has an open area of 164.00 sq. in per ft. The 1/4 [6] thick Heavy-Duty Frame Assembly conforms to either ASTM specification A36 or A536-84, with 4 - 4 [102] long concrete anchors per basin. The frame is supplied with a powder coated finish. All welds must be performed by a certified welder per ASTM AWS D1.1. Frames Shall be produced in the U.S.A.

PREFIX OPTIONS (Check/specify appropriate options)

___ Z High Density Polyethylene (HDPE) Catch Basin with Heavy-Duty Frame*

SUFFIX OPTIONS (Check/specify appropriate options)

Adapters

___ -E3/U3 3 [76] No-Hub End/Bottom Outlet Adapter
___ -E4/U4 4 [102] No-Hub End/Bottom Outlet Adapter
___ -E6/U6 6 [152] No-Hub End/Bottom Outlet Adapter
___ -IA Inlet Adapter (Z886)
___ -IA Inlet Adapter (Z882)

Grate Options (Load Classifications are per DIN EN1433)

___ -BDC Black Acid Resistant Epoxy Coated Ductile Grate – Class C
___ -BDF Black Acid Resistant Ductile Grate – Class F
___ -DGC Ductile Iron Slotted Grate – Class C *
___ -DGF Ductile Iron Slotted Grate – Class F
___ -GDC Galvanized Ductile Slotted Grate – Class C
___ -GDF Galvanized Ductile Grate – Class F
___ -GG Fiberglass Grate - Class A

MADE in the U.S.A. (Load Classifications are per DIN EN1433)

___ -FG Galvanized Steel Slotted Grate - Class A
___ -FS Stainless Steel Slotted Grate - Class A
___ -PG Galvanized Perforated Grate - Class A
___ -PS Stainless Steel Perforated Grate - Class A
___ -RFG Reinforced Galvanized Steel Slotted Grate - Class B
___ -RFS Reinforced Stainless Steel Slotted Grate - Class B
___ -RPG Reinforced Galvanized Perforated Grate - Class B
___ -RPS Reinforced Stainless Steel Perforated Grate - Class B
___ -RPGR Reinforced Stainless Steel Perforated Reverse Punch Anti-slip ADA Grate - Class B
___ -RPSR Reinforced Stainless Steel Perforated Reverse Punch Anti-slip ADA Grate - Class B

Miscellaneous Options

___ -EXT 12 [305] Body Extension
___ -Y Sediment Bucket
___ -CBF Black Acid Resistant Coated Frame
___ -GFA Galvanized Extra-Heavy-Duty Frame with Anchor Studs
___ -SF Type 304 Stainless Steel Top Frame

* Regularly furnished unless otherwise specified.

Zurn Industries, LLC | Specification Drainage Operation
1801 Pittsburgh Avenue, Erie, PA U.S.A. 16502 · Ph. 855-663-9876, Fax 814-454-7929
In Canada | **Zurn Industries Limited**
3544 Nashua Drive, Mississauga, Ontario L4V 1L2 · Ph. 905-405-8272, Fax 905-405-1292
www.zurn.com

Rev. C
Date: 01/28/14
C.N. No. 130486
Prod. | Dwg. No. Z887-24-HD

Z886-HD-SW2

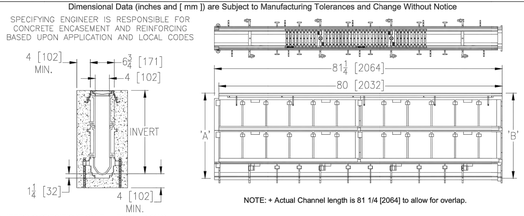
6-3/4 [171] WIDE REVEAL TRENCH DRAIN SYSTEM W/ HEAVY-DUTY FRAME AND TWO 9 [229] SIDEWALL EXTENSIONS

SPECIFICATION SHEET

TAG _____

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice

SPECIFYING ENGINEER IS RESPONSIBLE FOR CONCRETE ENCASEMENT AND REINFORCING BASED UPON APPLICATION AND LOCAL CODES



NOTE: + Actual Channel length is 81 1/4 [2064] to allow for overlap.

ENGINEERING SPECIFICATION: Zurn Z886-HD-SW2
Channels shall be 80 [2032] long, 6-3/4 [171] wide reveal and have a 4 [102] throat. Modular channel sections shall be made of 0% water absorbent High Density Polyethylene (HDPE). Shall have a positive mechanical connection between channel sections that will not separate during the installation and shall mechanically lock into the concrete surround every 10 [254]. Channels shall weigh less than 2.31 lbs.[1.05kg] per linear foot, have a smooth, 1-1/2 [38] radiused self cleaning bottom with a Manning's coefficient of 0.009 and 0.75% or neutral 0% built in slope. Channels shall have rebar clips standard to secure trench in its final location. Channels shall have HDPE SW Side Walls attached for an additional 18 [457] added to the standard channel invert for additional flow capability shown in chart below. Shall be provided with standard DGC grates that lock down to frame. Zurn 12 [305] wide reveal Ductile Iron Slotted Grate conforming to ASTM specification A536-84, Grade 80-55-06. Ductile Iron grate is rated class C per the DIN EN1433 top load classifications. Supplied in 20 [508] nominal lengths with 1/2 [13] wide slots, and 3/4 [19] bearing depth. Grate has an open area of 28.1 sq. in per ft. [60,308 sq. mm per meter]. The 0.105 [2.66] thick Heavy-Duty Carbon Steel Frame Assembly conforms to ASTM specification A36 with 10 - 4 [102] long concrete anchors per 80 [2032]. Grate lockdown bars are to be integral to the frame The frame is supplied with a powder coated finish. All welds must be performed by a certified welder per ASTM standard AWS D1.1. Frames Shall be produced in the U.S.A.

PREFIX OPTIONS (Check/specify appropriate options)

___ Z Six-foot, Eight-inch High Density Polyethylene (HDPE)*

SUFFIX OPTIONS (Check/specify appropriate options)

Outlet Adapters Add/Each

___ -E1 Closed End Cap
___ -E2 2 [51] No-Hub End Outlet
___ -E3 3 [76] No-Hub End Outlet
___ -E4 4 [102] No-Hub End Outlet
___ -E6 6 [152] No-Hub End Outlet
___ -U2 2 [51] No-Hub Bottom Outlet
___ -U3 3 [76] No-Hub Bottom Outlet
___ -U4 4 [102] No-Hub Bottom Outlet
___ -U6 6 [152] No-Hub Bottom Outlet

Frame Options

___ -CBF Black Acid Resistant Coated Top Frame
___ -LD Light Duty Grates on Heavy Duty Frame

Grate Options (Load Classifications are per DIN EN1433)

___ -BDC Black Acid Resistant Epoxy Coated Ductile Grate - Class C
___ -BDE Black Acid Resistant Epoxy Coated Ductile Grate - Class E
___ -BG Galvanized Ductile Iron Bar Grate - Class C
___ -DBG Ductile Iron Cast Bar Grate - Class C
___ -DC Ductile Iron Solid Cover - Class C
___ -DGC Ductile Iron Slotted Grate - Class C *
___ -DGE Ductile Iron Slotted Grate - Class E
___ -GDC Galvanized Ductile Slotted Grate - Class C
___ -GDE Galvanized Ductile Slotted Grate - Class E
___ -GHPD Galvanized Heel-Proof Ductile Grate - Class B
___ -GHPDE Galvanized Heel-Proof Ductile Grate - Class E
___ -HPD Heel-Proof Ductile Slotted Grate - Class B
___ -HPDE Heel-Proof Ductile Slotted Grate - Class E
___ -RFGC Reinforced Slotted Galvanized Grate - Class C
___ -RFSC Reinforced Slotted Stainless Steel Grate - Class C
___ -RPGC Reinforced Perforated Galvanized Grate - Class C
___ -RPGRC Reinforced Perforated Galvanized Reverse Punch Grate - Class C
___ -RPSC Reinforced Perforated Stainless Steel Grate - Class C
___ -RPSRC Reinforced Perforated Stainless Steel Reverse Punch Grate - Class C

Miscellaneous Options

___ -VP Vandal-Proof Lockdown
___ -JC Joint Connector

Decorative Grate Options (Load Classifications are per DIN EN1433)

___ -SBG Stainless Steel Bar Grate - Class E

Trench No.	'A' Shallow Inv.	'B' Deep Inv.	Flow (cfs)	Flow (gpm)	Flow (lps)
8601SW2	21.50 [546]	22.10 [561]	2.33	1045	66
8602SW2	22.10 [561]	22.70 [577]	2.40	1078	68
8603SW2	22.70 [577]	23.30 [592]	2.47	1110	70
8603NSW2	23.30 [592]	23.30 [592]	-	-	-
8604SW2	23.30 [592]	23.90 [607]	2.55	1142	72
8605SW2	23.90 [607]	24.50 [622]	2.62	1175	74
8606SW2	24.50 [622]	25.10 [638]	2.69	1207	76
8606NSW2	25.10 [638]	25.10 [638]	-	-	-
8607SW2	25.10 [638]	25.70 [653]	2.76	1239	78
8608SW2	25.70 [653]	26.30 [668]	2.83	1272	80
8609SW2	26.30 [668]	26.90 [683]	2.91	1304	82
8610SW2	26.90 [683]	27.50 [699]	2.98	1336	84
8611SW2	27.50 [699]	28.10 [714]	3.05	1359	86
8612SW2	28.10 [714]	28.70 [729]	3.12	1401	88
8612NSW2	28.70 [729]	28.70 [729]	-	-	-
8613SW2	28.70 [729]	29.30 [744]	3.19	1433	90
8614SW2	29.30 [744]	29.90 [759]	3.27	1466	92
8615SW2	29.90 [759]	30.50 [775]	3.34	1498	94

MADE in the U.S.A. (Load Classifications are per DIN EN1433)

___ -BDE-USA Black Acid Resistant Epoxy Coated Ductile Grate - Class E
___ -DGC-USA Ductile Iron Slotted Grate - Class C (Substitute DGE-USA)
___ -DGE-USA Ductile Iron Slotted Grate - Class E
___ -GDC-USA Galvanized Ductile Slotted Grate - Class C
___ -GDE-USA Galvanized Ductile Slotted Grate - Class E
___ -GHPDE-USA Galvanized Heel-Proof Ductile Grate - Class E
___ -HPDE-USA Heel-Proof Ductile Slotted Grate - Class E
___ -PPC Plastic Perforated Grate - Class C

USA Miscellaneous Options

___ -DB Bottom Dome Strainer

*REGULARLY FURNISHED UNLESS OTHERWISE SPECIFIED

REV. D DATE: 02/11/13 C.N. NO. 124326
DWG. NO. 302002 PRODUCT NO. Z886-HD-SW2

ZURN INDUSTRIES, LLC ♦ SPECIFICATION DRAINAGE OPERATION ♦ 1801 Pittsburgh Ave. ♦ Erie, PA 16514
Phone: 814/455-0921 ♦ Fax: 814/454-7929 ♦ World Wide Web: www.zurn.com
In Canada: ZURN INDUSTRIES LIMITED ♦ 3544 Nashua Drive ♦ Mississauga, Ontario L4V1L2 ♦ Phone: 905/405-8272 Fax: 905/405-1292

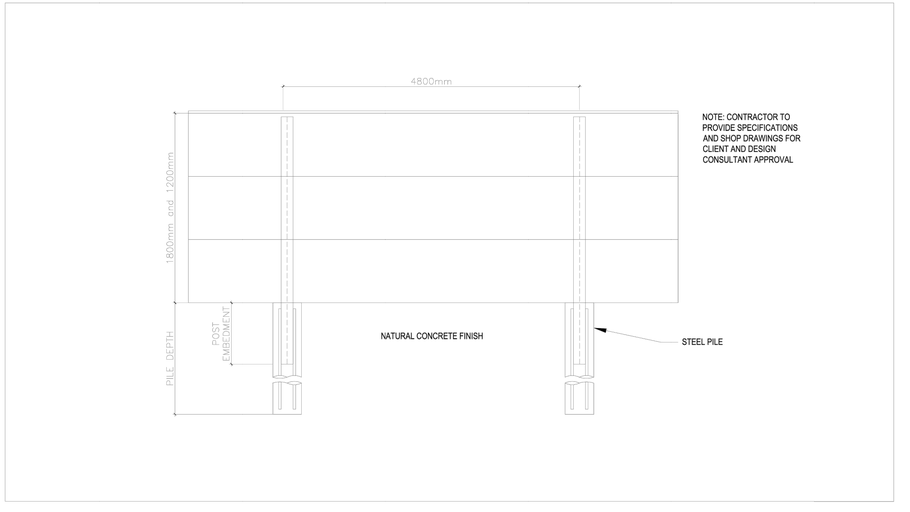
REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____

BUSINESS & TECHNICAL SERVICES

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2 / L-6

STONECRETE MASONRY WALL (OR EQUIVALENT)

n.t.s.

NOTE: STONECRETE MASONRY WALL DETAIL PER MHBC LANDSCAPE DRAWING L-6. REFER TO LANDSCAPE DRAWING SET FOR DETAILS.

FILE #535-001/20

Stamp: LICENSED PROFESSIONAL ENGINEER — J. E. PETTIFER — 100505043 — JUL 20, 2022 — PROVINCE OF ONTARIO

Stamp: LICENSED PROFESSIONAL ENGINEER — PAVEL FILIPTSEV — 100146817 — JULY.20,2022 — PROVINCE OF ONTARIO

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
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1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

ELEVATION NOTE:

ELEVATIONS SHOWN HEREON ARE REFERRED TO THE CITY OF BURLINGTON BENCHMARK No. 1045

ELEVATION = 93.477m

SURVEY NOTES:

SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141-0

BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS
UTM ZONE 17, NAD83 (CSRS) (2010.0)

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18-223

DRAWING NOTES:

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REFER TO SURVEY PREPARED BY PLANVIEW UTILITY SERVICES LTD. FOR EXISTING UNDERGROUND UTILITY LOCATIONS.

Developer

FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project

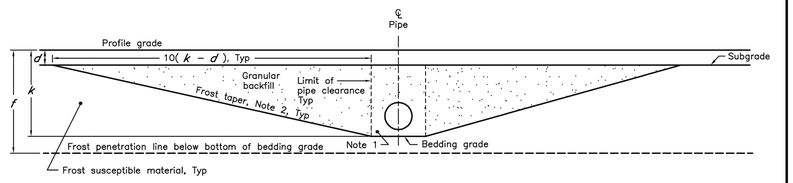
2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

Drawing

NOTES & DETAILS

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	S.T.T.	Design	S.T.T./J.H.	Project No.	1486-4809
Check	J.H.	Check	K.J.F.	Scale	N.T.S.
				Dwg.	C 107 H



FROST TREATMENT
RIGID AND FLEXIBLE PIPE

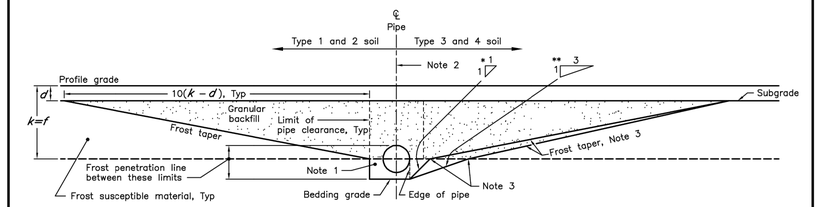
NOTES:

1 Pipe embedment or bedding, cover, and backfill shall be according to:
  a) Flexible OPSD 802.010, 802.013, 802.014, 802.020, 802.023, and 802.024.
  b) Rigid – OPSD 802.030, 802.031, 802.032, 802.033, 802.034, 802.050, 802.051, 802.052, 802.053, and 802.054.
2 Frost tapers shall start at bedding grade.

LEGEND:

d –depth of roadbed granular
k –depth of frost treatment below profile grade
f –depth of frost penetration below profile grade

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 3	
FROST TREATMENT – PIPE CULVERTS FROST PENETRATION LINE BELOW BEDDING GRADE			OPSD 803.030



FROST TREATMENT
RIGID AND FLEXIBLE PIPE

NOTES:

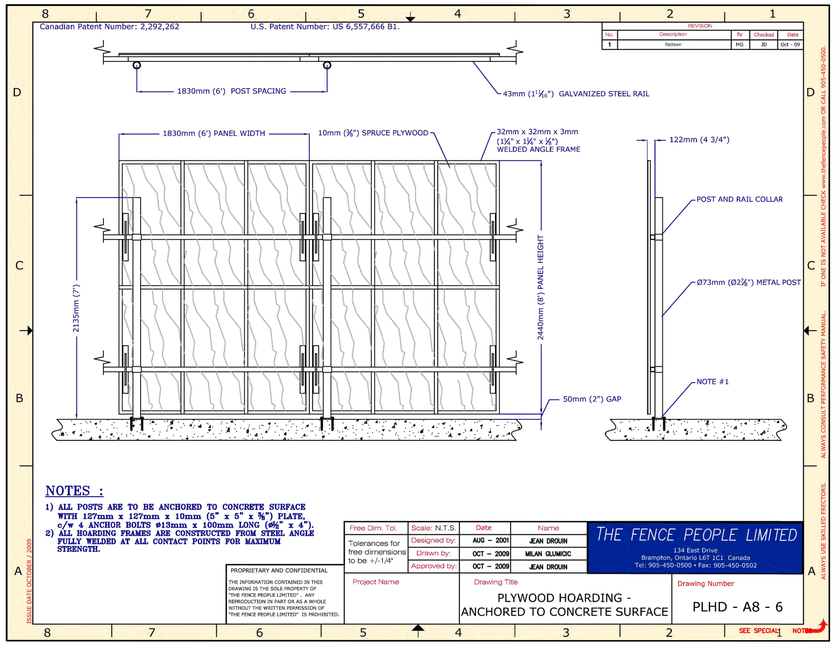
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  b) Rigid – OPSD 802.030, 802.031, 802.032, 802.033, 802.034, 802.050, 802.051, 802.052, 802.053, and 802.054.
2 Condition of frost treatment symmetrical about centreline of pipe.
3 Frost tapers shall start at the intersection of the 1H:1V or 3H:1V slope and the frost penetration line.

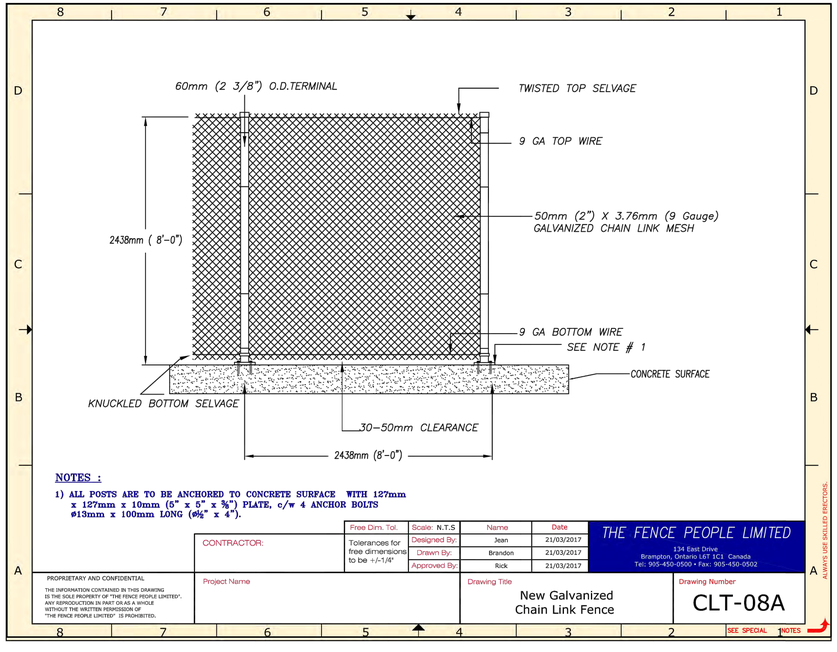
A Soil types as defined in the Occupational Health and Safety Act and Regulations for Construction Projects.

LEGEND:

d – depth of roadbed granular
k – depth of frost treatment below profile grade
f – depth of frost penetration below profile grade
* – Type 3 soil
** – Type 4 soil

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 4	
FROST TREATMENT – PIPE CULVERTS FROST PENETRATION LINE BETWEEN TOP OF PIPE AND BEDDING GRADE			OPSD 803.031





REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATE: _____
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FILE #535-001/20

Stamp: LICENSED PROFESSIONAL ENGINEER J. E. PETTIFER 100505043 JUL 20, 2022 PROVINCE OF ONTARIO

Stamp: LICENSED PROFESSIONAL ENGINEER PAVEL FILIPTSEV 100146817 JULY.20,2022 PROVINCE OF ONTARIO

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DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18–223

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Developer
FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
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c/c CLV GROUP DEVELOPMENTS INC.
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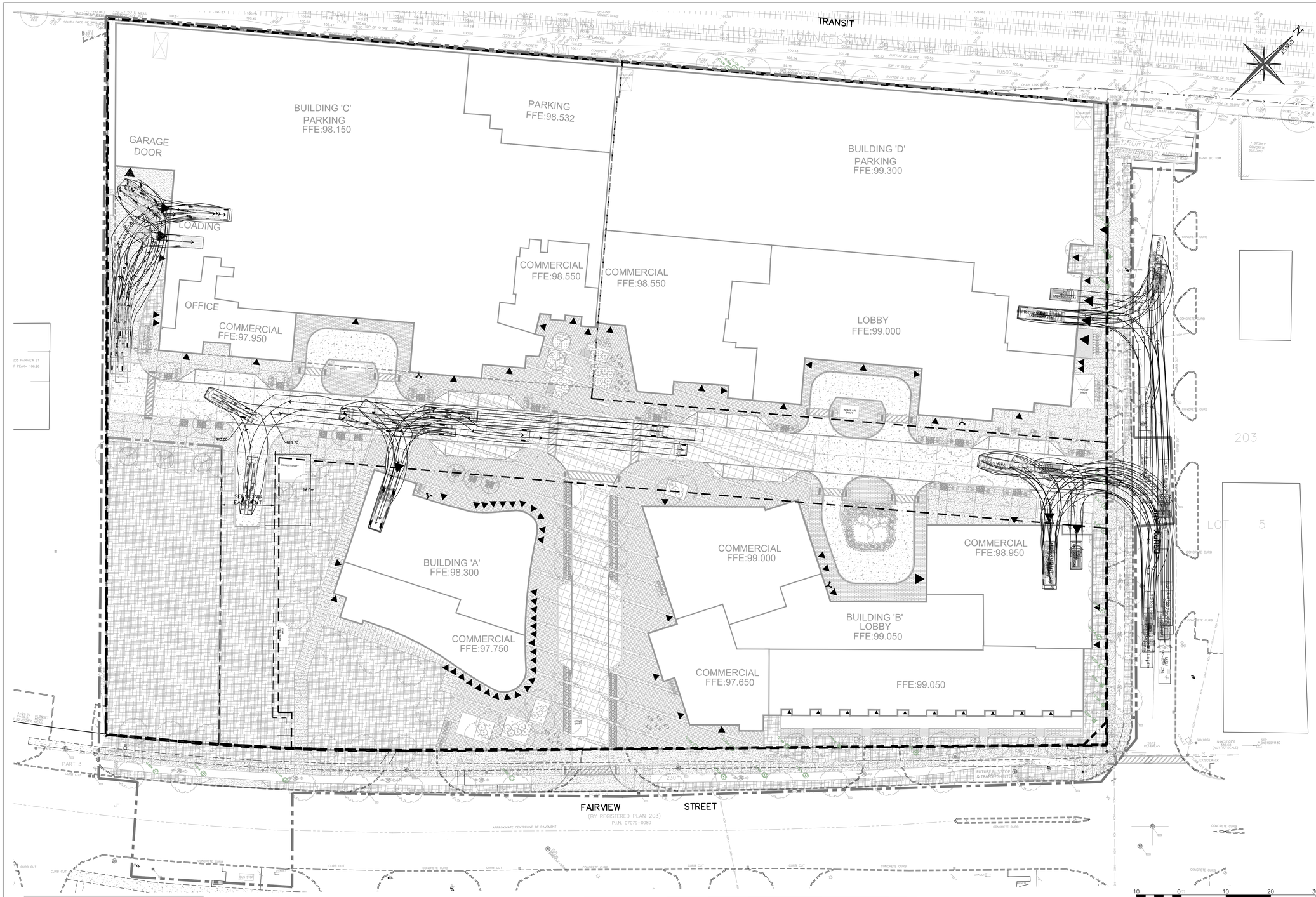
Project
2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN
CITY OF BURLINGTON

Drawing
NOTES & DETAILS

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905875-0026 T
905875-4915 F
WWW.CFCROZIER.CA

Drawn	S.T.T.	Design	S.T.T./J.H.	Project No.	1486–4809
Check	J.H.	Check	K.J.F.	Scale	N.T.S.
				Dwg.	C 107 I

I:\1400\1486-CLV Realty Corp\4809-2269 Fairview St & 84 Drury Ln\CAD\Civil\Sheets\4809_C107 NOTES.dwg, C 107 I, 2022-07-29 12:44:51 PM, mbowman



NOTE:

TRUCK TURNING & MOVEMENTS PREPARED BY WSP.

No.	ISSUE / REVISION	YYYY/MM/DD
4	ISSUED FOR FOURTH SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/NOV/22
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1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

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PROJECT No.: 18-223

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Developer

FAIRVIEW LIMITED PARTNERSHIP

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181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project

2243 FAIRVIEW ST., 2269 FAIRVIEW ST.,
864 DRURY LN
CITY OF BURLINGTON

Drawing

TRUCK TURNING & MOVEMENT PLAN

10 0m 10 20 30
SCALE: 1:400

FILE#535-001/20

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____
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LEGEND

- PROPERTY LINE
- LIMIT OF CONSTRUCTION
- EXISTING STORM MANHOLE
- EXISTING SINGLE / DOUBLE CATCHBASIN
- EXISTING SANITARY MANHOLE
- EXISTING OVERHEAD HYDRO LINE & HYDRO POLE
- EXISTING FENCE
- EXISTING CURB
- TRUCK 1 MODEL
- TRUCK 2 MODEL
- PROPOSED TRUCK TURNING AREA
- DEPRESSED CURB
- BARRIER CURB
- LIMIT OF UNDERGROUND PARKING
- PROPOSED TREE PIT
- PROPOSED SNOW STORAGE LOCATION
- PROPOSED VISITOR BIKE SPACE
- PROPOSED BUILDING ENTRANCE
- PROPOSED TACTILE PLATE
- PROPOSED SIAMESE (FIRE DEPT.) CONNECTION

LANDSCAPE

- PROPOSED LIGHT DUTY CONCRETE SURFACE
- PROPOSED HEAVY DUTY CONCRETE SURFACE
- PROPOSED HEAVY DUTY ASPHALT SURFACE
- PROPOSED GRASS SEED
- PROPOSED UNIT PAVERS
- PROPOSED SODDED AREA
- PROPOSED LANDSCAPE AREA
- PROPOSED CONCRETE BANDING SURFACE

Stamp

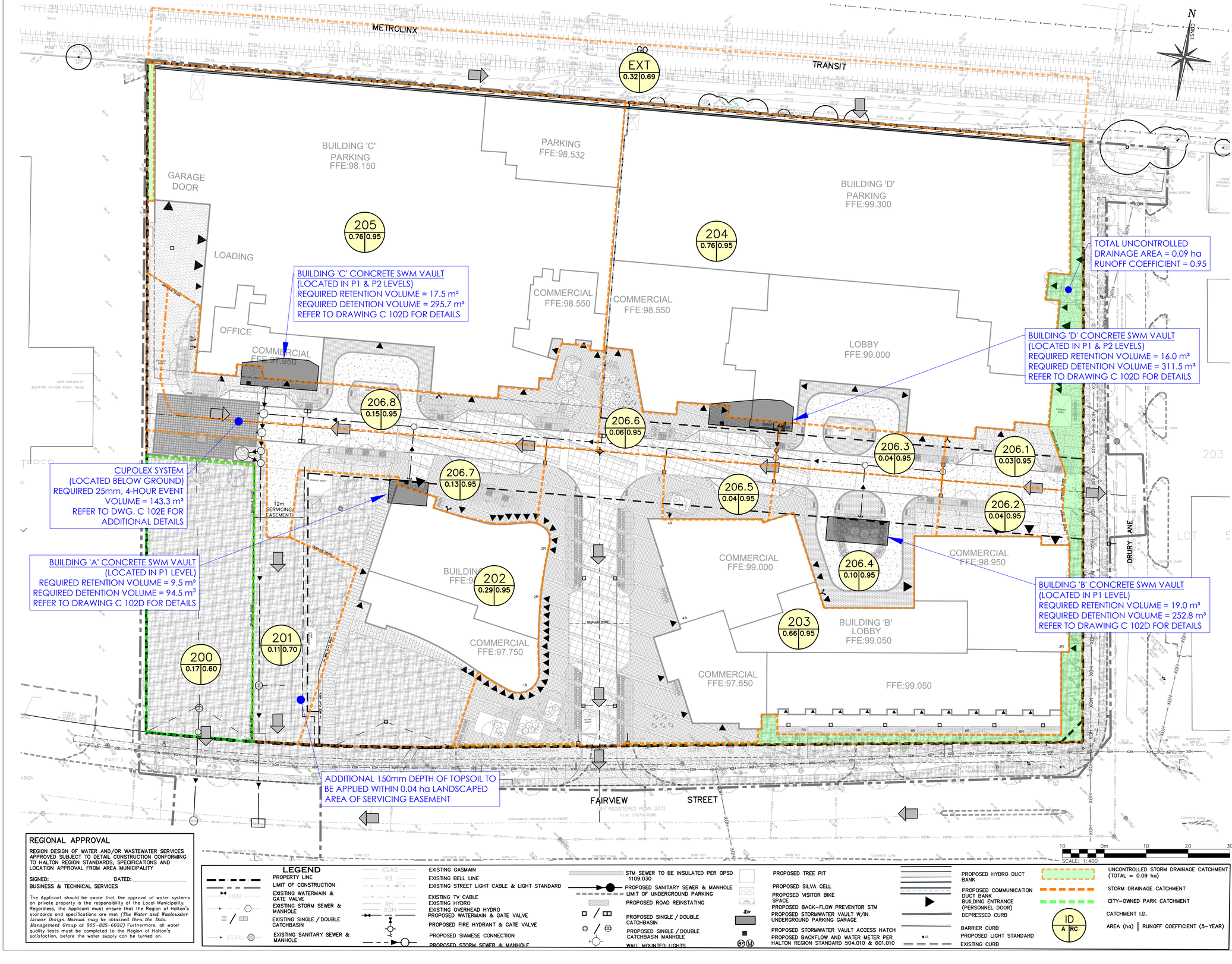
LICENSED PROFESSIONAL ENGINEER
J. E. PETTIFER
100505043
JUL 20, 2022
PROVINCE OF ONTARIO

Stamp

LICENSED PROFESSIONAL ENGINEER
PAVEL FILIPTSEV
100146817
JULY.20,2022
PROVINCE OF ONTARIO

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2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905875-0026 T
905875-4915 F
WWW.CFCROZIER.CA

Drawn	Design	Project No.	
M.P./N.C.	M.P./P.F.	1486-4809	
Check	Check	Scale	Dwg.
J.P.	P.F.	1:400	C 108



LANDSCAPE

- PROPOSED LIGHT DUTY PEDESTRIAN CONCRETE PAVING
- PROPOSED HEAVY DUTY VEHICULAR CONCRETE PAVING
- PROPOSED VEHICULAR ASPHALT PAVING
- PROPOSED GRASS SEED
- PROPOSED LANDSCAPE AREA
- PROPOSED UNIT PAVERS
- PROPOSED SODDED AREA
- PROPOSED TURF STONE

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS, SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY

SIGNED: _____ DATED: _____

BUSINESS & TECHNICAL SERVICES

The Applicant should be aware that the approval of water systems on private property is the responsibility of the Local Municipality. Regardless, the Applicant must ensure that the Region of Halton's standards and specifications are met *(The Water and Wastewater Linear Design Manual may be obtained thru the Data Management Group at 905-825-6032)* Furthermore, all water quality tests must be completed to the Region of Halton's satisfaction, before the water supply can be turned on.

FILE #535-001/20

Stamp: LICENSED PROFESSIONAL ENGINEER — J. E. PETTIFER — 100505043 — JUL 20, 2022 — PROVINCE OF ONTARIO

Stamp: LICENSED PROFESSIONAL ENGINEER — PAVEL FILIPTSEV — 100146817 — JULY 20,2022 — PROVINCE OF ONTARIO

No.	ISSUE / REVISION	YYYY/MMM/DD
4	ISSUED FOR FOURTH SPA SUBMISSION	2022/JUL/20
3	ISSUED FOR THIRD SPA SUBMISSION	2021/DEC/01
2	ISSUED FOR SECOND SPA SUBMISSION	2020/OCT/21
1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

ELEVATION NOTE:

ELEVATIONS SHOWN HEREON ARE REFERRED TO THE CITY OF BURLINGTON BENCHMARK No. 1045

ELEVATION = 93.477m

SURVEY NOTES:

SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141-0

BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS
UTM ZONE 17, NAD83 (CSRS) (2010.0)

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: A001 THROUGH A819, (2022/07/20)
PROJECT No.: 18-223

DRAWING NOTES:

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC. AND THE REPRODUCTION OF ANY PART OF IT WITHOUT PRIOR WRITTEN CONSENT OF THIS OFFICE IS STRICTLY PROHIBITED.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.

THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT. DO NOT SCALE THIS DRAWING.

ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

REFER TO SUE PREPARED BY PLANVIEW UTILITY SERVICES LTD. FOR EXISTING UNDERGROUND UTILITY LOCATIONS.

Developer

FAIRVIEW LIMITED PARTNERSHIP

c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/c CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project

2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 864 DRURY LN CITY OF BURLINGTON

Drawing

STORM SERVICING DRAINAGE PLAN

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905 875-0026 T
905 875-4915 F
WWW.CFCROZIER.CA

Drawn	Design	Project No.	
S.V.N./N.C.	M.P./P.F.	1486-4809	
Check	Check	Scale	Dwg.
J.P.	P.F.	1: 400	C 701