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 Plotted By: richard.bartoio
 2022-11-24
 Plotted: richard.bartoio
 Last Saved: 2022-11-01


LEGEND	
	MUNICIPAL BOUNDARY
	STUDY AREA
	WATERCOURSE
	PARCEL FABRIC
	CULVERT LOCATION

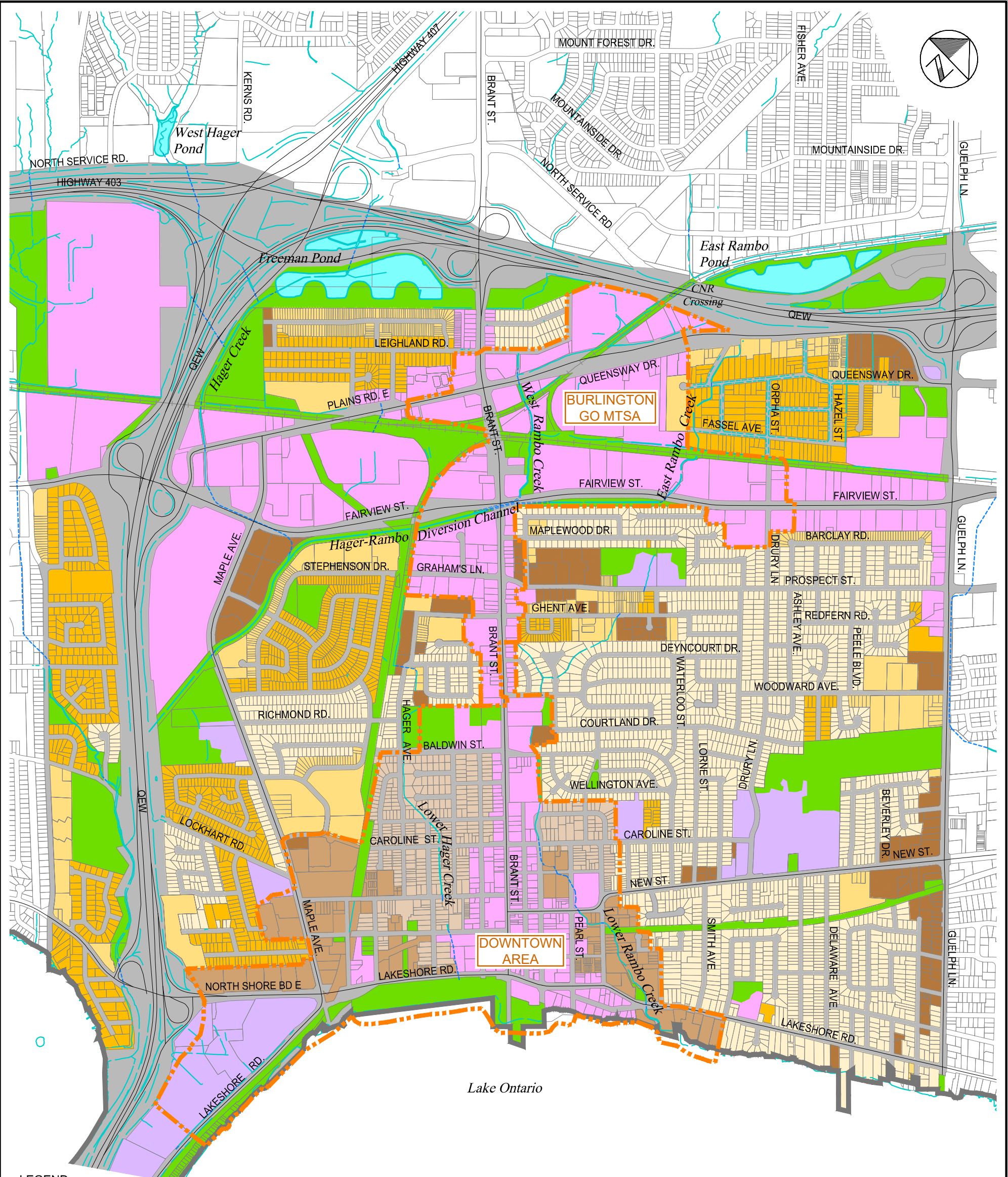
**MAJOR TRANSIT STATION AREA
 PLANNING STUDY**
 CITY OF BURLINGTON

**STUDY AREA
 PLAN**

SCALE VALID ONLY FOR
 24"x36" VERSION

 Scale 1:7500
 Consultant File No.
WW21011078
 Drawing No.
1





Path: I:\WW21011078 - MTA Phase 2\14 CAD\CAD\WRF\PROJ\2202-09\DWG2_LandUse.dwg
 Plotted By: richard.bortolo
 2022-11-24
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 Last Saved By: richard.bortolo
 Last Saved: 2022-11-01

LEGEND

- MUNICIPAL BOUNDARY
- STUDY AREA
- WATERCOURSE
- PRIMARY ROADWAY
- PARCEL FABRIC
- CULVERT LOCATION

LAND USE

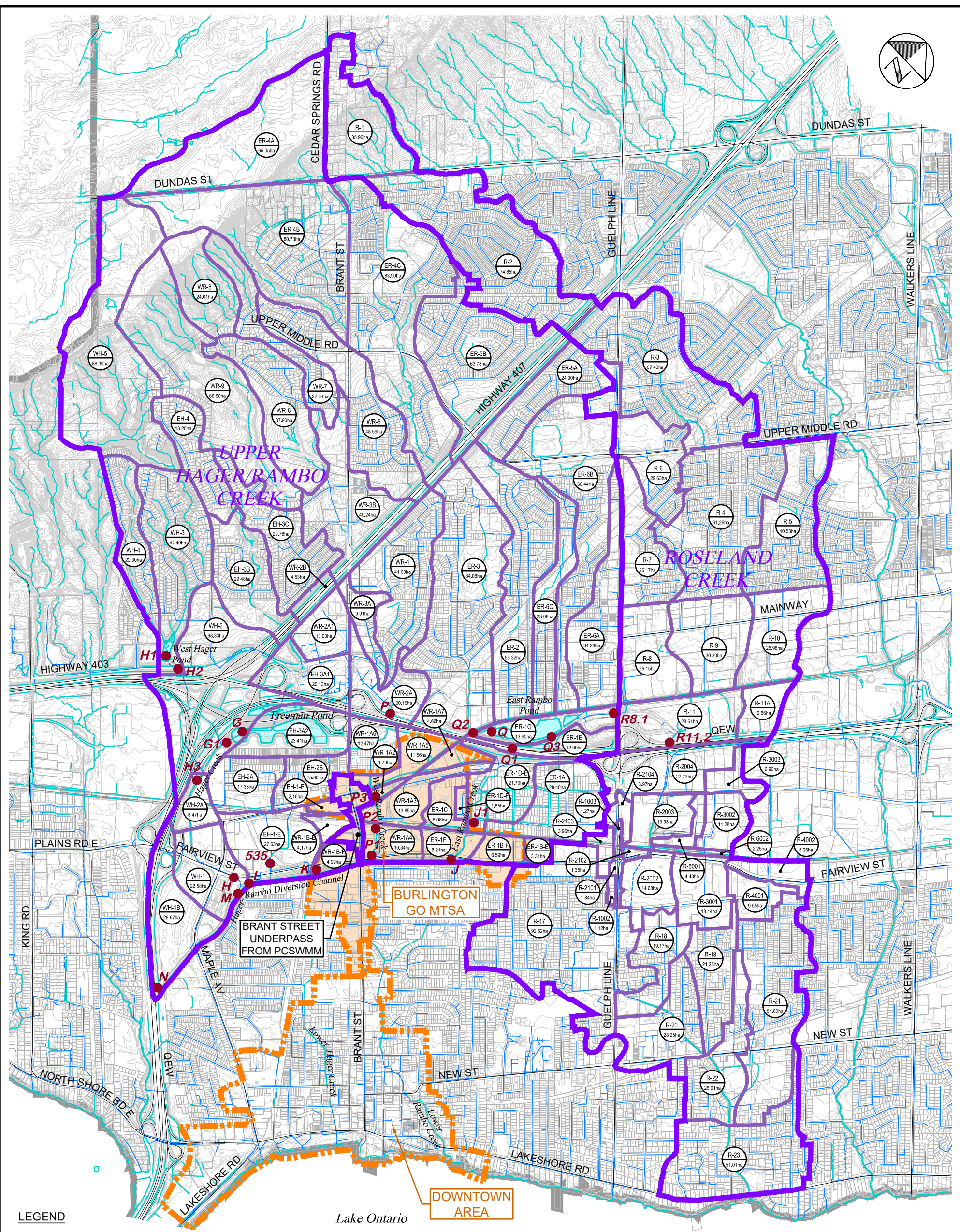
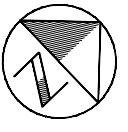
- INSTITUTIONAL
- APARTMENT BUILDINGS
- DOWNTOWN HIGH DENSITY
- DOWNTOWN LOW DENSITY RESIDENTIAL
- HIGH DENSITY DETACHED
- LOW DENSITY DETACHED
- SEMI-DETACHED AND TOWNHOMES
- HIGH IMPERVIOUS
- ROAD
- PARK

**MAJOR TRANSIT STATION AREA
 PLANNING STUDY
 CITY OF BURLINGTON**

**EXISTING LAND USE
 PLAN FOR
 HYDROLOGIC MODELLING**



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WW21011078
 Drawing No.
2



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- LEGEND**
- MUNICIPAL BOUNDARY
 - STUDY AREA
 - WATERCOURSE
 - CONTOUR (1m)
 - PRIMARY ROADWAY
 - PARCEL FABRIC
 - CULVERT LOCATION
 - STORM SEWER SYSTEM
 - WATERSHED BOUNDARY
 - SUBCATCHMENT BOUNDARY
 - SUBCATCHMENT ID#
 - SUBCATCHMENT AREA
 - FLOW NODE

**MAJOR TRANSIT STATION AREA
PLANNING STUDY
CITY OF BURLINGTON**

**SUBCATCHMENT
BOUNDARY PLAN
(EXTERNAL HAGER-RAMBO SYSTEM)**



SCALE VALID ONLY FOR
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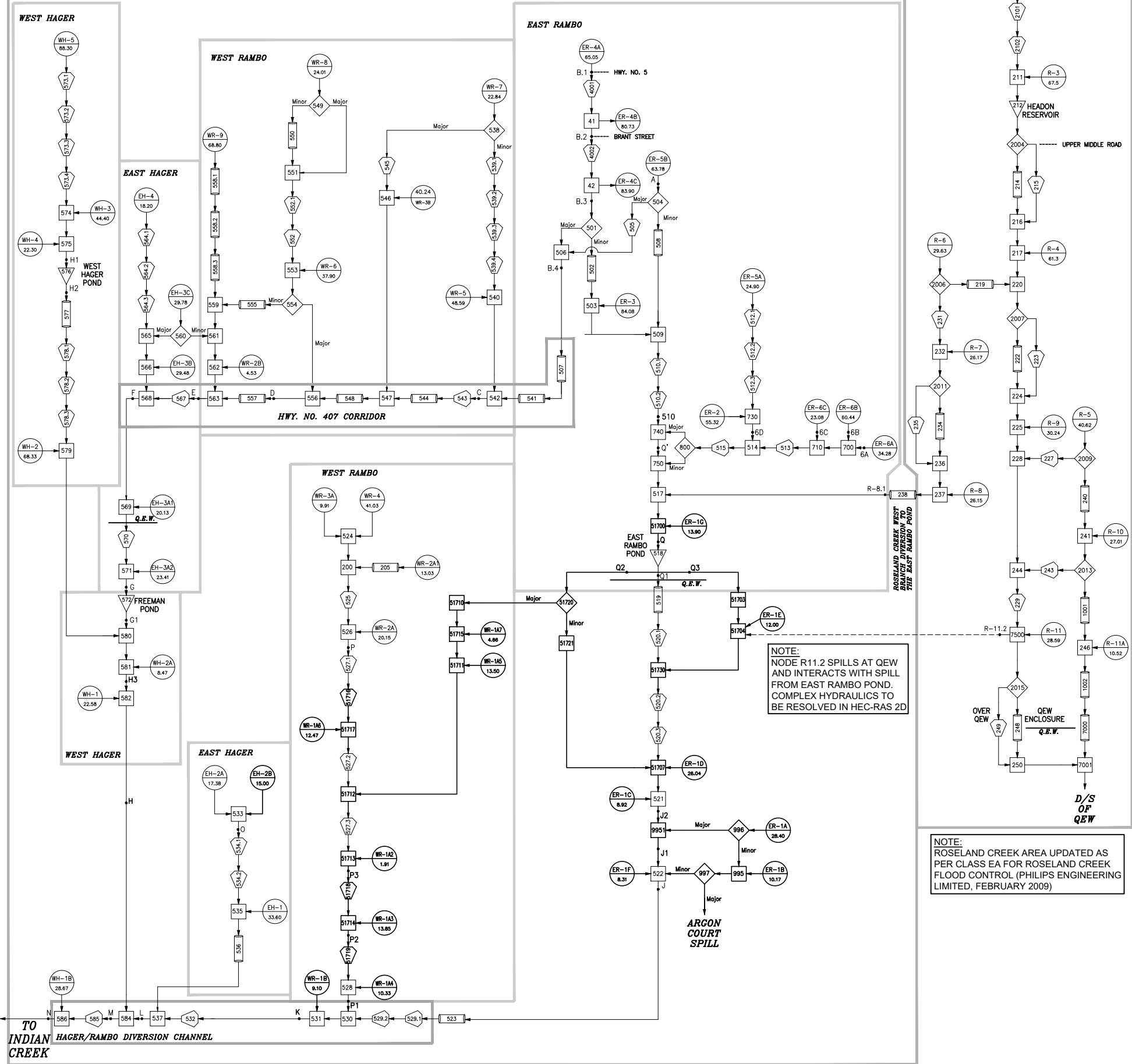
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Consultant File No.
WW21011078

Drawing No.
3

ROSELAND CREEK

HAGER/RAMBO SYSTEM



NOTE:
 NODE R11.2 SPILLS AT QEW AND INTERACTS WITH SPILL FROM EAST RAMBO POND. COMPLEX HYDRAULICS TO BE RESOLVED IN HEC-RAS 2D

NOTE:
 ROSELAND CREEK AREA UPDATED AS PER CLASS EA FOR ROSELAND CREEK FLOOD CONTROL (PHILIPS ENGINEERING LIMITED, FEBRUARY 2009)

- LEGEND**
- SUB-AREA NUMBER AREA (ha)
 - DUHYD (Hydrograph No.)
 - CHANNEL ROUTE (Reach Number)
 - PIPE ROUTE (Reach Number)
 - ADDHYD (Hydrograph No.)
 - RESERVOIR ROUTE (Hydrograph No.)
 - POTENTIAL FUTURE STORAGE (Hydrograph No.)
 - 3.1 NODE NO. (ROSELAND CREEK)
 - B NODE NO. (H-R SYSTEM)
 - 303B.1 NODE NO. (INDIAN CREEK)

NOTE:
 ORIGINAL SCHEMATIC FROM TECHNICAL SUMMARY, UPDATED HYDROLOGY, INDIAN CREEK, HAGER-RAMBO SYSTEM, ROSELAND CREEK (PHILIPS PLANNING AND ENGINEERING LIMITED, APRIL 1997)

• MODIFICATIONS TO MODEL SCHEMATIC MADE IN 2017, AS COMPARED TO ORIGINAL 1997 MODELLING, ARE SHOWN IN BOLD

NOTE:
 SWMHYMO MODEL WAS CONVERTED TO VISUAL OTTHYMO BY CONSERVATION HALTON IN 2022. CONVERSION INCLUDED SEPARATING OUT SUBCATCHMENTS IN MTSA AREA (EAST AND WEST RAMBO CREEKS) WHICH ARE ROUTED SEPARATELY BY THE HEC-RAS 2D MODEL DUE TO SPILLS. SCHEMATIC MAY THEREFORE NOT REPRESENT ALL CURRENT DETAILS IN THIS AREA. REFER TO REPORTING AND MODELLING FOR FURTHER DETAILS.

MAJOR TRANSIT STATION AREA
 PLANNING STUDY
 CITY OF BURLINGTON

HYDROLOGIC
 MODEL SCHEMATIC

Scale
 NOT TO SCALE

Consultant File No.
 WW21011078

Drawing No.
 4

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 Plotted By: richard.bartolo
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Plotted By: richard.bartolo
Last Saved: 2022-11-24
Last Saved By: richard.bartolo



LEGEND

- STUDY AREA
- WATERCOURSE
- CONTOUR (1m)
- PARCEL FABRIC
- CULVERT LOCATION
- STORM SEWER SYSTEM
- CROSS SECTION LOCATION AND REFERENCE ID#
- SPILL LOCATION
- 100 YEAR STORM INUNDATION LIMIT
- REGIONAL STORM INUNDATION LIMIT

NOTE:
ALL ELEVATIONS SHOWN
BASED ON CGVD:2013
VERTICAL DATUM

MAJOR TRANSIT STATION AREA
PLANNING STUDY
CITY OF BURLINGTON

FLOOD INUNDATION PLAN
(EAST RAMBO CREEK)

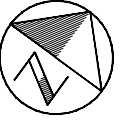


SCALE VALID ONLY FOR
24"x36" VERSION

Scale 1:2500
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Consultant File No.
WW21011078

Drawing No.
5A



FROM EAST RAMBO POND AT CNR CROSSING

SPILL PEAK FLOWS
REGIONAL STORM = 6.4m³/s
100 YEAR STORM = 0.4m³/s

SPILL PEAK FLOWS
REGIONAL STORM = 19.1m³/s
100 YEAR STORM = 0.0m³/s

INUNDATION LIMITS SOUTH OF FAIRVIEW STREET ARE RIVERINE SPILL FLOWS ONLY AND DO NOT INCLUDE ANY ADDITIONAL LOCAL FLOW CONTRIBUTIONS.

NOTE:
ALL ELEVATIONS SHOWN
BASED ON CGVD:2013
VERTICAL DATUM

- LEGEND**
- STUDY AREA
 - WATERCOURSE
 - CONTOUR (1m)
 - PARCEL FABRIC
 - CULVERT LOCATION
 - STORM SEWER SYSTEM
 - CROSS SECTION LOCATION AND REFERENCE ID#
 - SIMULATED 1D FLOOD LIMIT/TOP OF BANK
 - SPILL LOCATION
 - 100 YEAR STORM INUNDATION LIMIT
 - REGIONAL STORM INUNDATION LIMIT

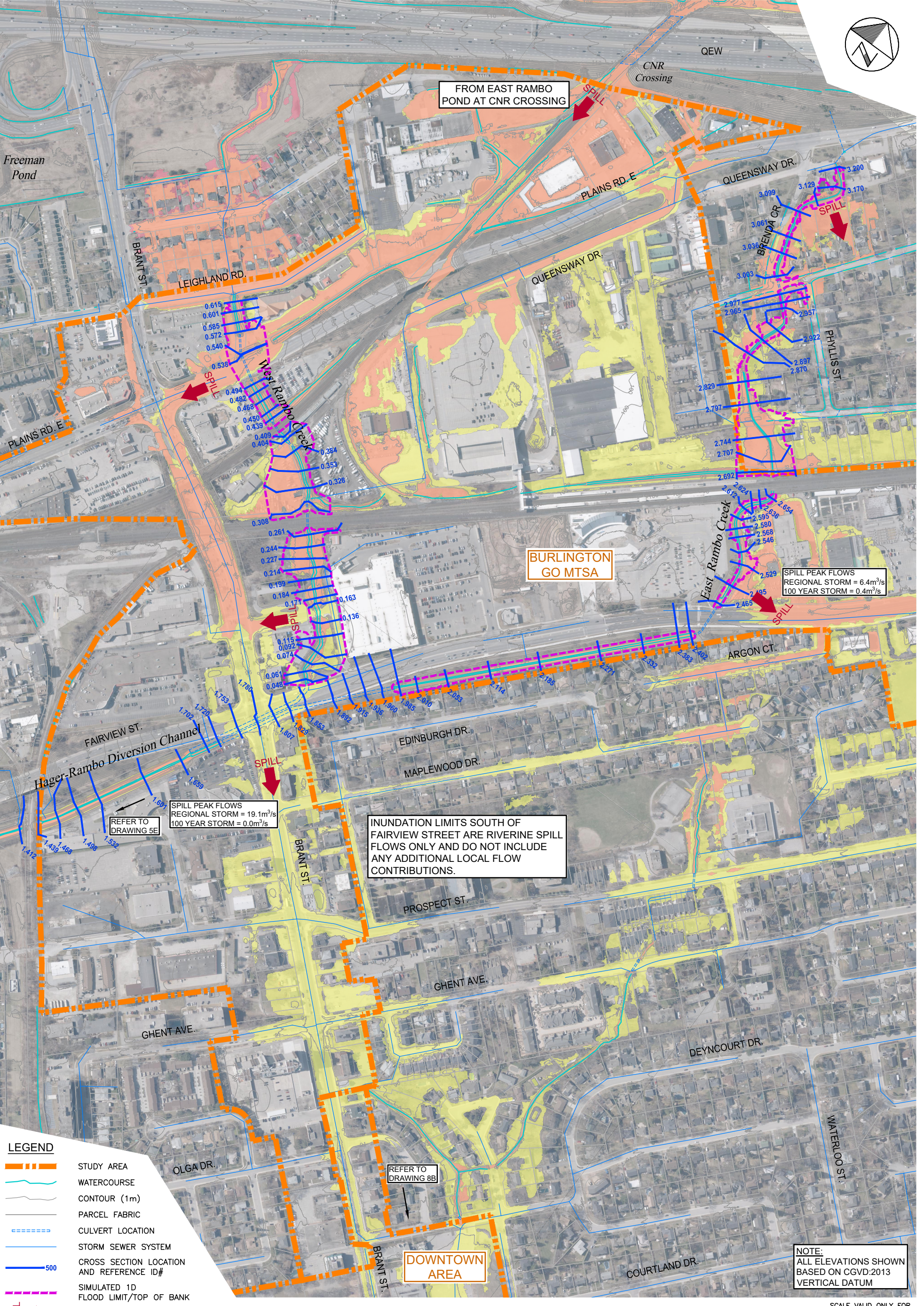
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Plotted By: richard.bartoilo
2022-11-24
Last Saved: 2022-11-23

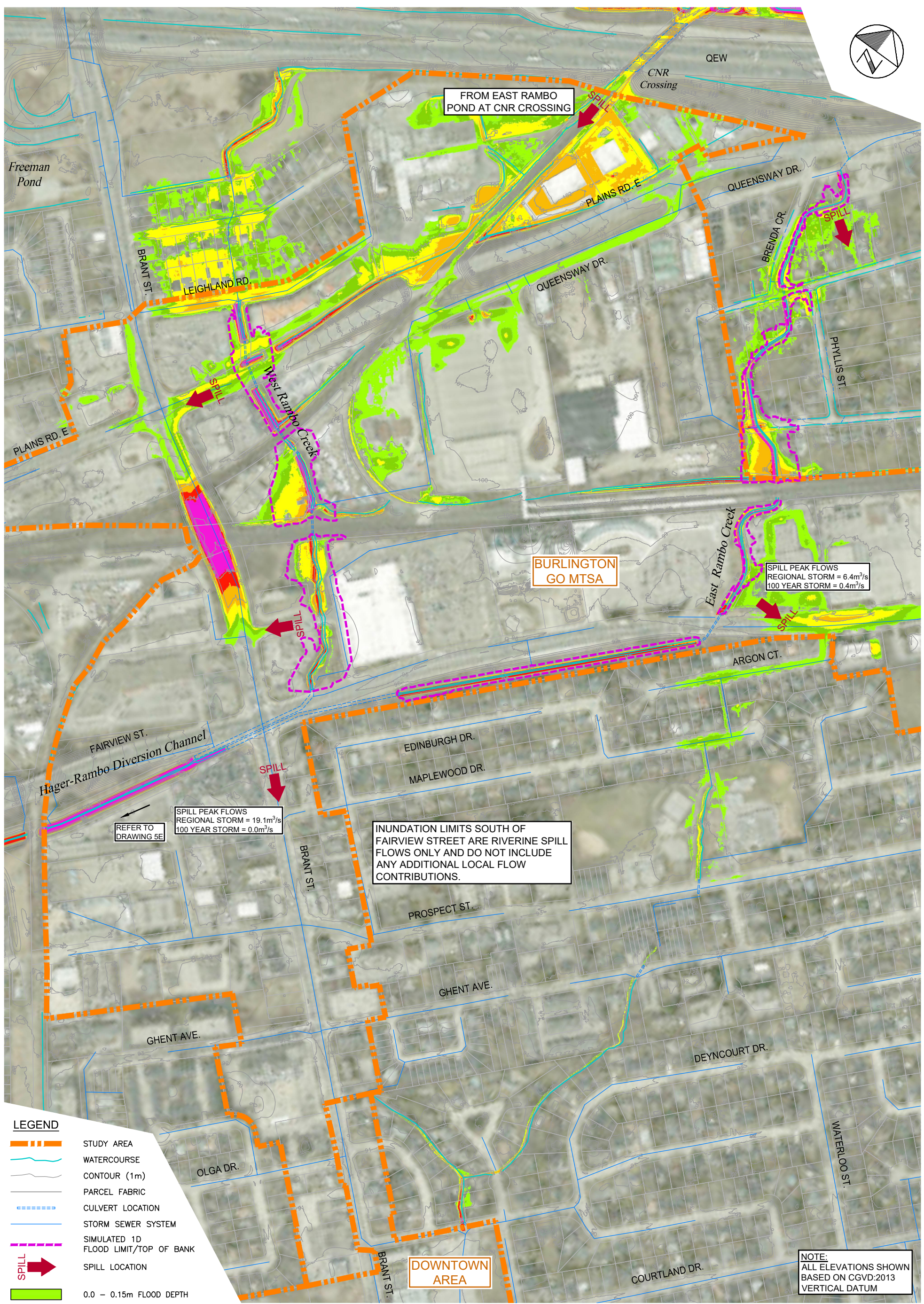
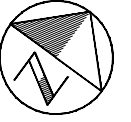
MAJOR TRANSIT STATION AREA
PLANNING STUDY
CITY OF BURLINGTON

FLOOD INUNDATION PLAN
(EAST & WEST RAMBO CREEKS)



Scale 1:2500
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Consultant File No.
WW21011078
Drawing No.
5B





FROM EAST RAMBO POND AT CNR CROSSING

SPILL PEAK FLOWS
REGIONAL STORM = 6.4m³/s
100 YEAR STORM = 0.4m³/s

SPILL PEAK FLOWS
REGIONAL STORM = 19.1m³/s
100 YEAR STORM = 0.0m³/s

INUNDATION LIMITS SOUTH OF FAIRVIEW STREET ARE RIVERINE SPILL FLOWS ONLY AND DO NOT INCLUDE ANY ADDITIONAL LOCAL FLOW CONTRIBUTIONS.

NOTE:
ALL ELEVATIONS SHOWN
BASED ON CGVD:2013
VERTICAL DATUM

LEGEND

- STUDY AREA
- WATERCOURSE
- CONTOUR (1m)
- PARCEL FABRIC
- CULVERT LOCATION
- STORM SEWER SYSTEM
- SIMULATED 1D FLOOD LIMIT/TOP OF BANK
- SPILL LOCATION
- 0.0 - 0.15m FLOOD DEPTH
- 0.15 - 0.3m FLOOD DEPTH
- 0.3 - 0.6m FLOOD DEPTH
- 0.6 - 1.2m FLOOD DEPTH
- 1.2 - 1.8m FLOOD DEPTH
- GREATER THAN 1.8m

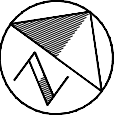
MAJOR TRANSIT STATION AREA
PLANNING STUDY
CITY OF BURLINGTON

FLOOD DEPTH PLAN
100 YEAR
(EAST & WEST RAMBO CREEKS)



Scale 1:2500
0 25 50 100
Consultant File No.
WW21011078
Drawing No.
5C

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Plotted By: richard.bartoio
2022-11-24
Plotted: richard.bartoio
Last Saved: 2022-11-23



FROM EAST RAMBO POND AT CNR CROSSING

SPILL PEAK FLOWS
REGIONAL STORM = 6.4m³/s
100 YEAR STORM = 0.4m³/s

SPILL PEAK FLOWS
REGIONAL STORM = 19.1m³/s
100 YEAR STORM = 0.0m³/s

INUNDATION LIMITS SOUTH OF FAIRVIEW STREET ARE RIVERINE SPILL FLOWS ONLY AND DO NOT INCLUDE ANY ADDITIONAL LOCAL FLOW CONTRIBUTIONS.

NOTE:
ALL ELEVATIONS SHOWN
BASED ON CGVD:2013
VERTICAL DATUM

LEGEND	
	STUDY AREA
	WATERCOURSE
	CONTOUR (1m)
	PARCEL FABRIC
	CULVERT LOCATION
	STORM SEWER SYSTEM
	SIMULATED 1D FLOOD LIMIT/TOP OF BANK
	SPILL LOCATION
	0.0 - 0.15m FLOOD DEPTH
	0.15 - 0.3m FLOOD DEPTH
	0.3 - 0.6m FLOOD DEPTH
	0.6 - 1.2m FLOOD DEPTH
	1.2 - 1.8m FLOOD DEPTH
	GREATER THAN 1.8m

REFER TO DRAWING 5E

REFER TO DRAWING 8C

DOWNTOWN AREA

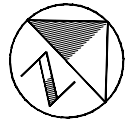
MAJOR TRANSIT STATION AREA
PLANNING STUDY
CITY OF BURLINGTON

FLOOD DEPTH PLAN
REGIONAL
(EAST & WEST RAMBO CREEKS)



SCALE VALID ONLY FOR
24"x36" VERSION
Scale 1:2500
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Consultant File No.
WW21011078
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5D

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Plotted By: richard.bartoio
2022-11-24
Last Saved: 2022-11-23



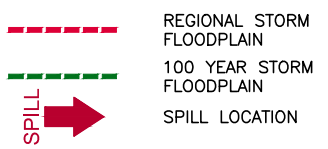
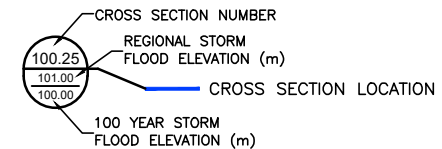
BURLINGTON
GO MTSA

PRESENTED FLOOD PLAIN MAPPING IS FOR AN AREA OUTSIDE OF THE PRIMARY STUDY LIMITS, AND IS PROVIDED FOR INFORMATION PURPOSES ONLY. FURTHER VALIDATION/STUDY IS REQUIRED.

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LEGEND

- STUDY AREA
- WATERCOURSE
- CONTOUR (1m)
- PARCEL FABRIC
- CULVERT LOCATION
- STORM SEWER SYSTEM



NOTE:
ALL ELEVATIONS SHOWN
BASED ON CGVD:2013
VERTICAL DATUM

MAJOR TRANSIT STATION AREA
PLANNING STUDY
CITY OF BURLINGTON

FLOODPLAIN MAPPING
100 YEAR AND REGIONAL
(HAGER-RAMBO DIVERSION CHANNEL)

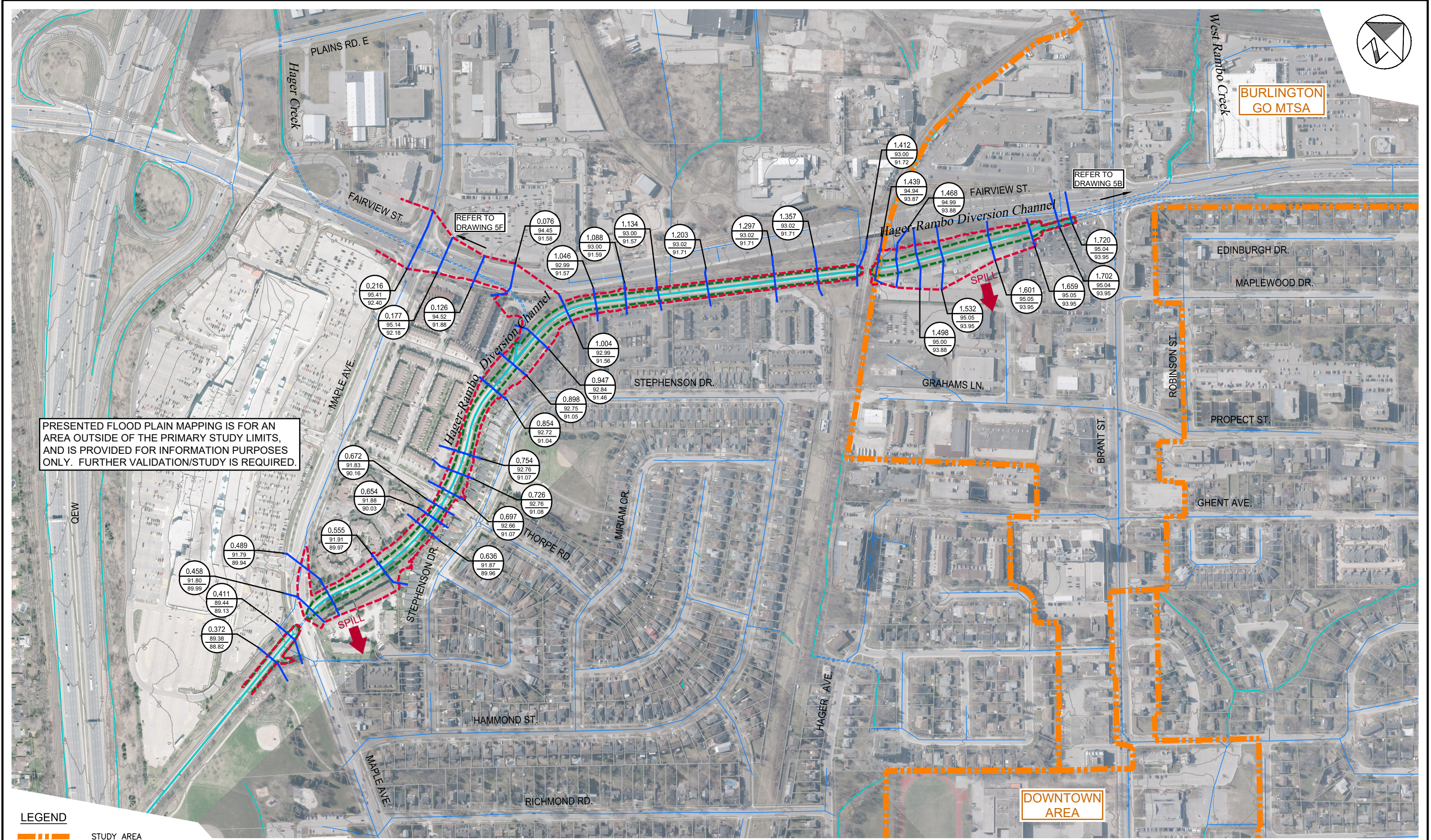


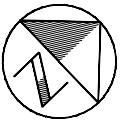
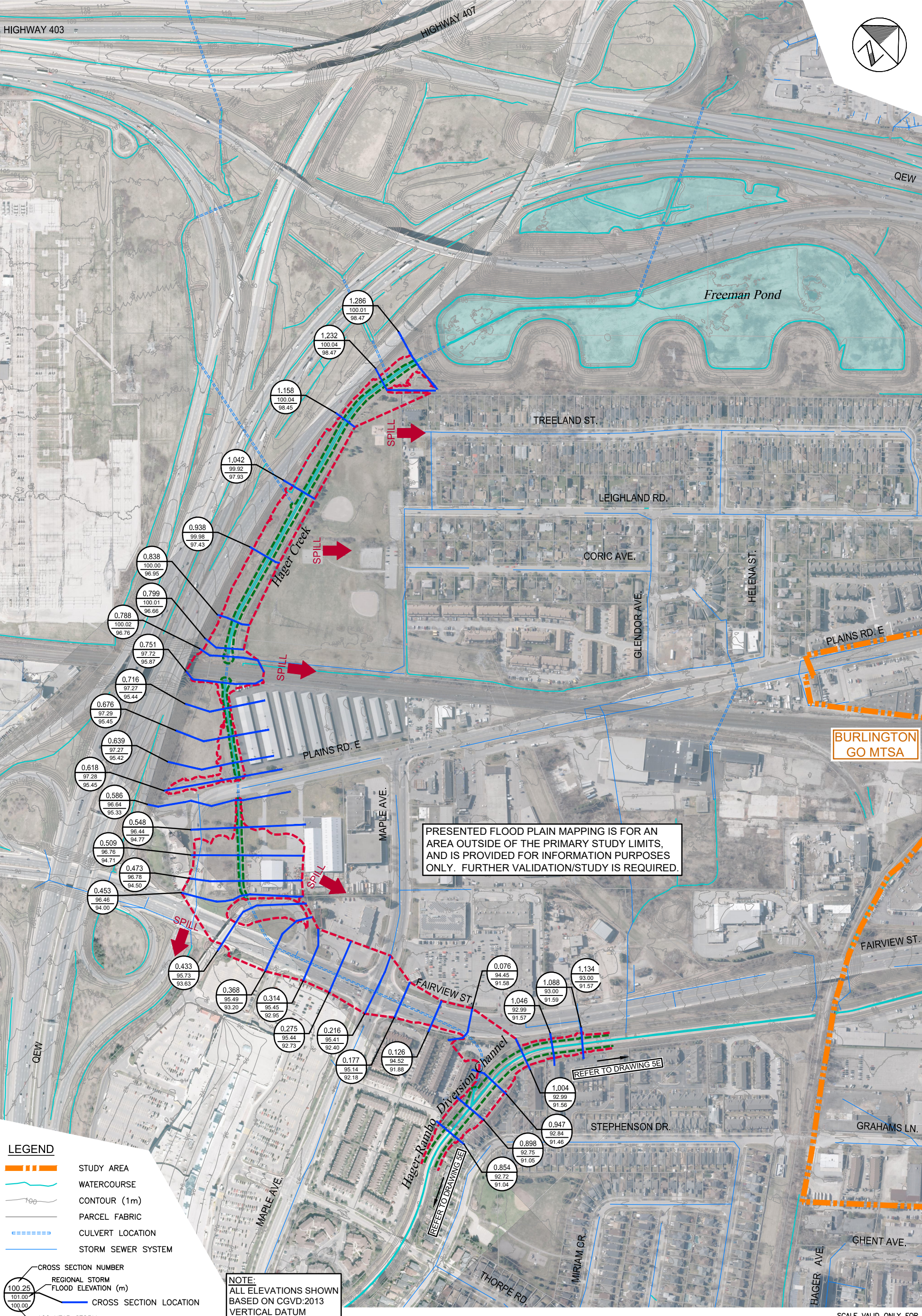
SCALE VALID ONLY FOR
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Scale 1:2500
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Consultant File No.
WW21011078

Drawing No.
5E





**BURLINGTON
GO MTA**

PRESENTED FLOOD PLAIN MAPPING IS FOR AN AREA OUTSIDE OF THE PRIMARY STUDY LIMITS, AND IS PROVIDED FOR INFORMATION PURPOSES ONLY. FURTHER VALIDATION/STUDY IS REQUIRED.

- LEGEND**
- STUDY AREA
 - WATERCOURSE
 - CONTOUR (1m)
 - PARCEL FABRIC
 - CULVERT LOCATION
 - STORM SEWER SYSTEM
- CROSS SECTION NUMBER
- REGIONAL STORM FLOOD ELEVATION (m)
- CROSS SECTION LOCATION
- 100 YEAR STORM FLOOD ELEVATION (m)
- REGIONAL STORM FLOODPLAIN
 - 100 YEAR STORM FLOODPLAIN
 - SPILL LOCATION

NOTE:
ALL ELEVATIONS SHOWN
BASED ON CGVD:2013
VERTICAL DATUM

REFER TO DRAWING 5E

REFER TO DRAWING 5E

SCALE VALID ONLY FOR
24"x36" VERSION

**MAJOR TRANSIT STATION AREA
PLANNING STUDY
CITY OF BURLINGTON**

**FLOODPLAIN MAPPING
100 YEAR AND REGIONAL
(HAGER CREEK)**

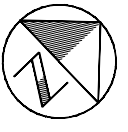
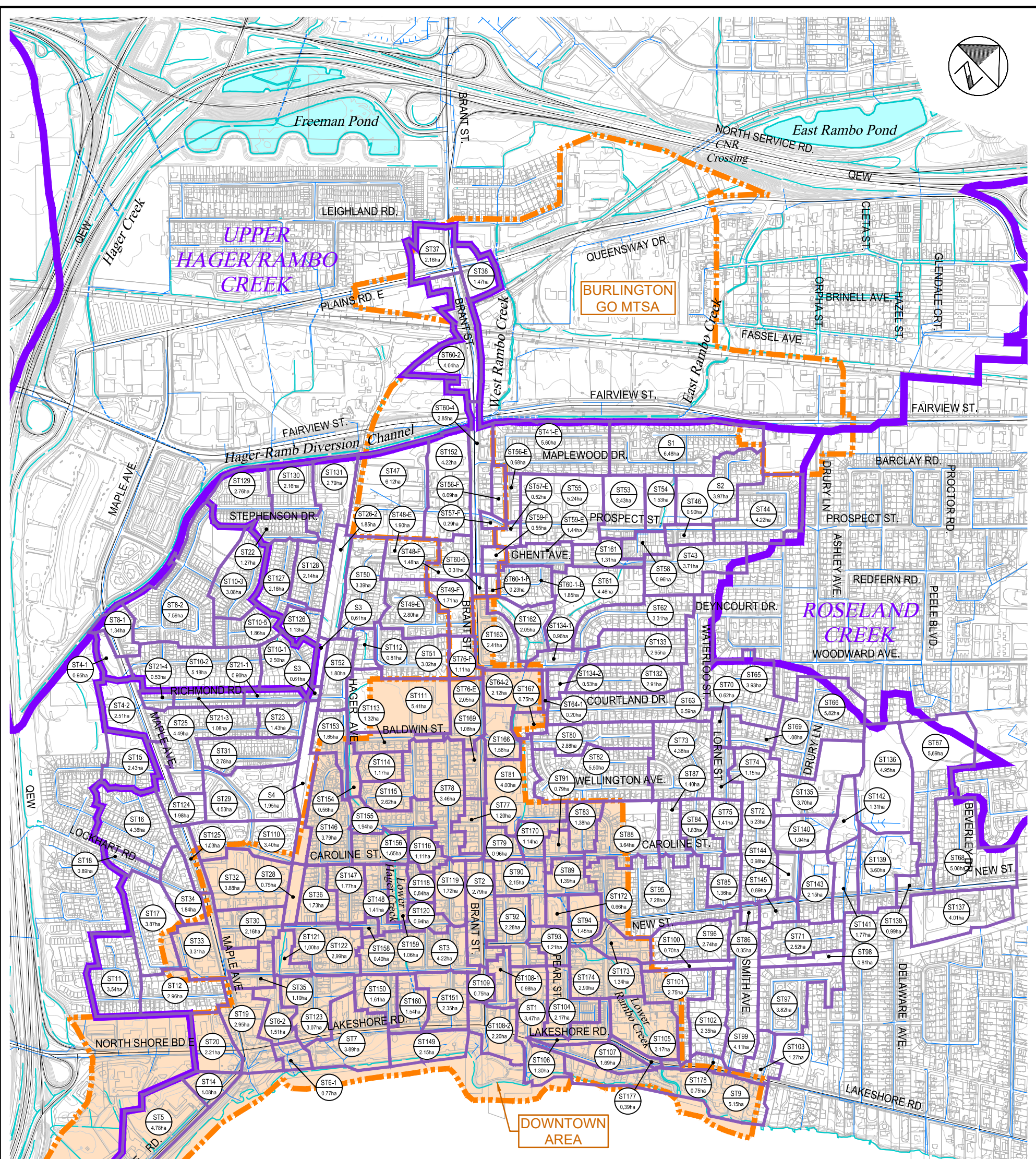


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 2022-11-24
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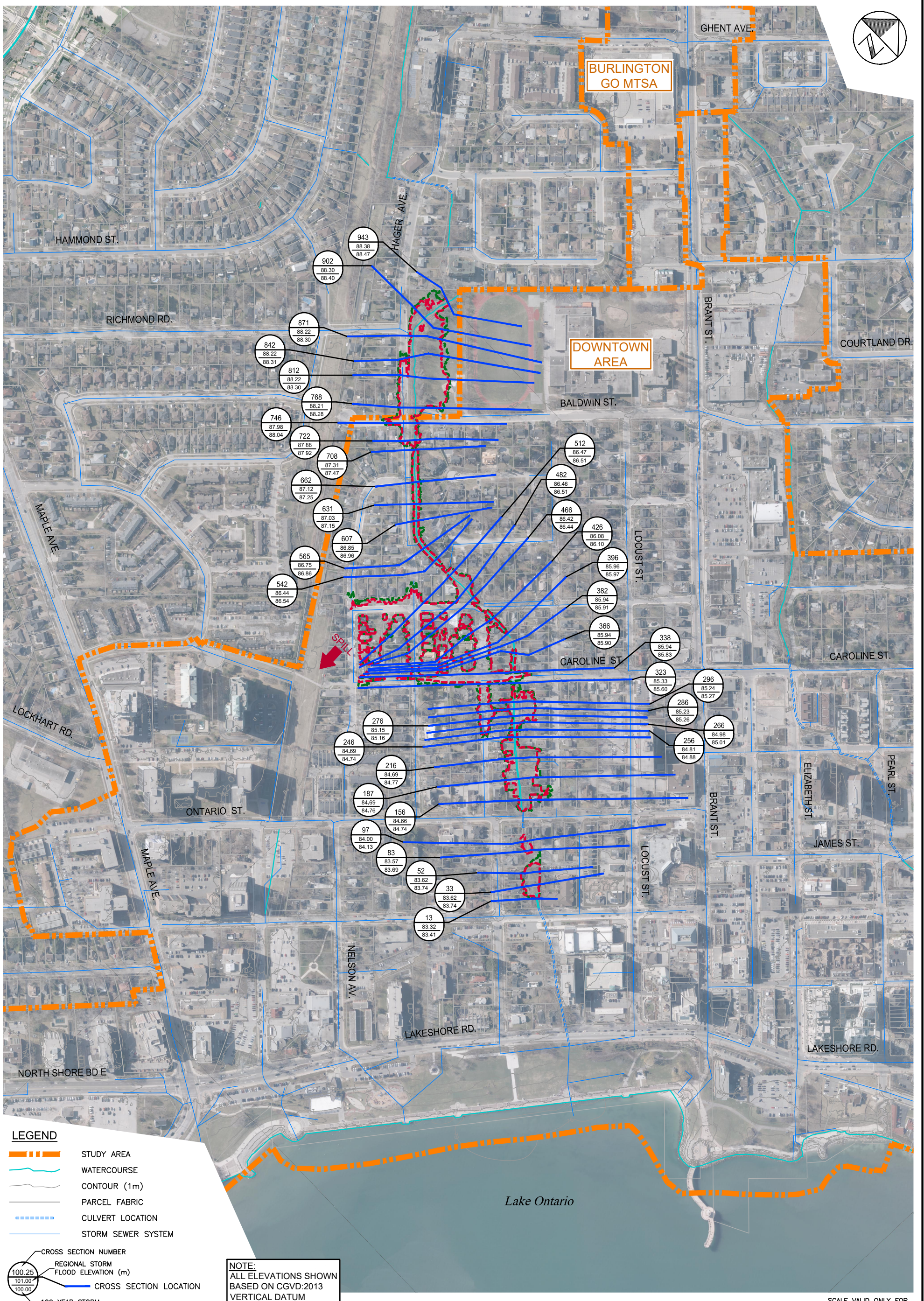
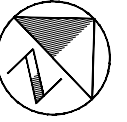
- LEGEND**
- STUDY AREA
 - WATERCOURSE
 - CONTOUR (1m)
 - PRIMARY ROADWAY
 - PARCEL FABRIC
 - - - - - CULVERT LOCATION
 - STORM SEWER SYSTEM
 - WATERSHED BOUNDARY
 - SUBCATCHMENT BOUNDARY
 - 100 SUBCATCHMENT ID#
 - 25.0ha SUBCATCHMENT AREA

**MAJOR TRANSIT STATION AREA
 PLANNING STUDY
 CITY OF BURLINGTON**

**SUBCATCHMENT
 BOUNDARY PLAN
 (DOWNTOWN AREA)**



SCALE VALID ONLY FOR
 24"x36" VERSION
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 Consultant File No.
TP178008S
 Drawing No.
6



LEGEND

- STUDY AREA
 - WATERCOURSE
 - CONTOUR (1m)
 - PARCEL FABRIC
 - CULVERT LOCATION
 - STORM SEWER SYSTEM
-
- CROSS SECTION NUMBER
 - REGIONAL STORM FLOOD ELEVATION (m)
 - 100 YEAR STORM FLOOD ELEVATION (m)
 - CROSS SECTION LOCATION
-
- SPILL LOCATION

NOTE:
ALL ELEVATIONS SHOWN
BASED ON CGVD:2013
VERTICAL DATUM

**MAJOR TRANSIT STATION AREA
PLANNING STUDY
CITY OF BURLINGTON**

**FLOODPLAIN MAPPING
(LOWER HAGER CREEK)**



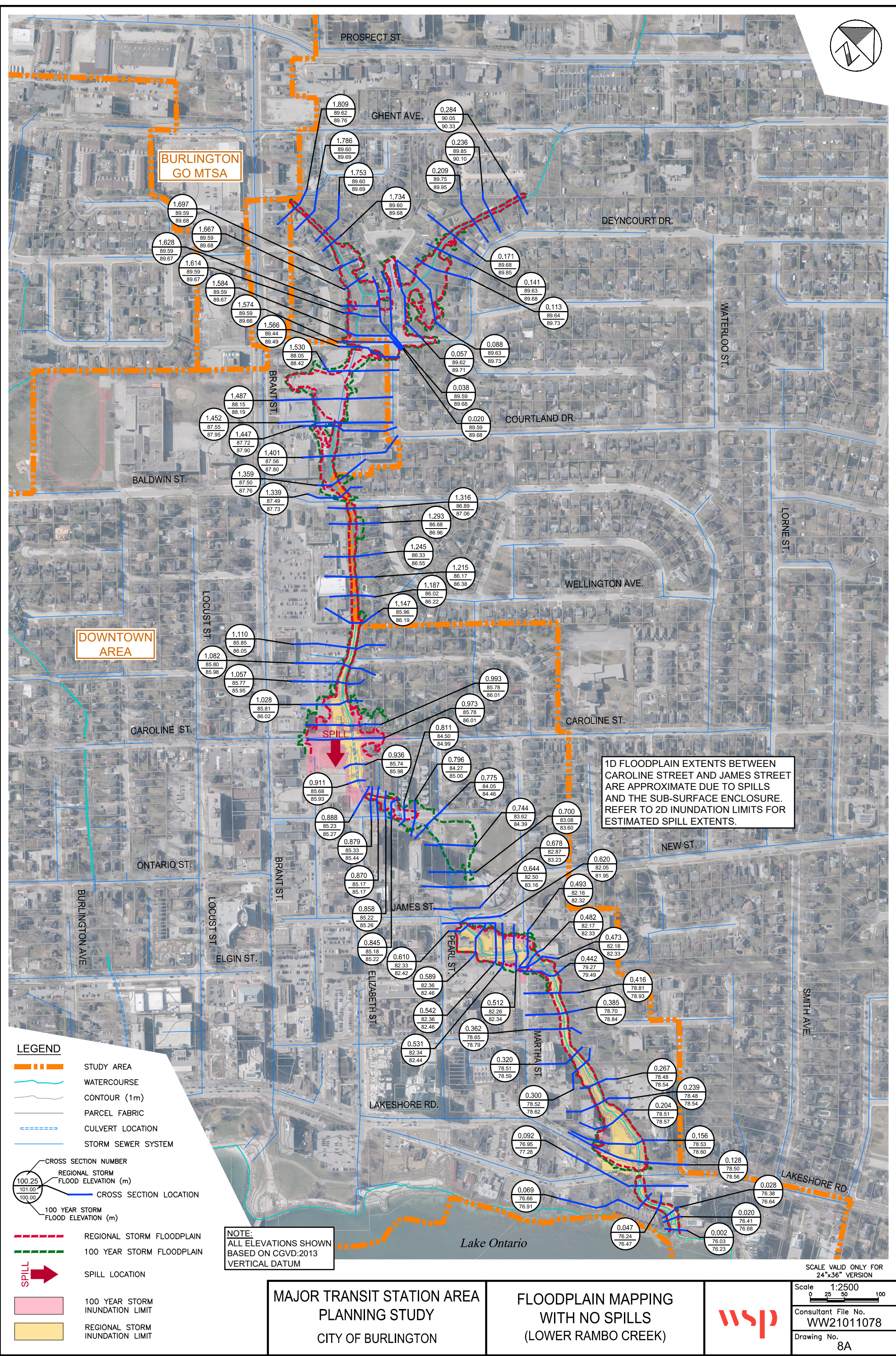
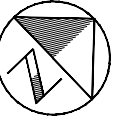
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Drawing No.
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2022-11-24
Plotted By: richard.bortolo
Last Saved: 2022-11-24

LEGEND

- STUDY AREA
- WATERCOURSE
- CONTOUR (1m)
- PARCEL FABRIC
- CULVERT LOCATION
- STORM SEWER SYSTEM

CROSS SECTION NUMBER
 REGIONAL STORM FLOOD ELEVATION (m)
 CROSS SECTION LOCATION

100 YEAR STORM FLOOD ELEVATION (m)
 REGIONAL STORM FLOODPLAIN
 100 YEAR STORM FLOODPLAIN

SPILL LOCATION
 SPILL LOCATION

100 YEAR STORM INUNDATION LIMIT
 100 YEAR STORM INUNDATION LIMIT
 REGIONAL STORM INUNDATION LIMIT

NOTE:
ALL ELEVATIONS SHOWN
BASED ON CGVD:2013
VERTICAL DATUM

1D FLOODPLAIN EXTENTS BETWEEN
CAROLINE STREET AND JAMES STREET
ARE APPROXIMATE DUE TO SPILLS
AND THE SUB-SURFACE ENCLOSURE.
REFER TO 2D INUNDATION LIMITS FOR
ESTIMATED SPILL EXTENTS.

MAJOR TRANSIT STATION AREA
PLANNING STUDY
CITY OF BURLINGTON

FLOODPLAIN MAPPING
WITH NO SPILLS
(LOWER RAMBO CREEK)

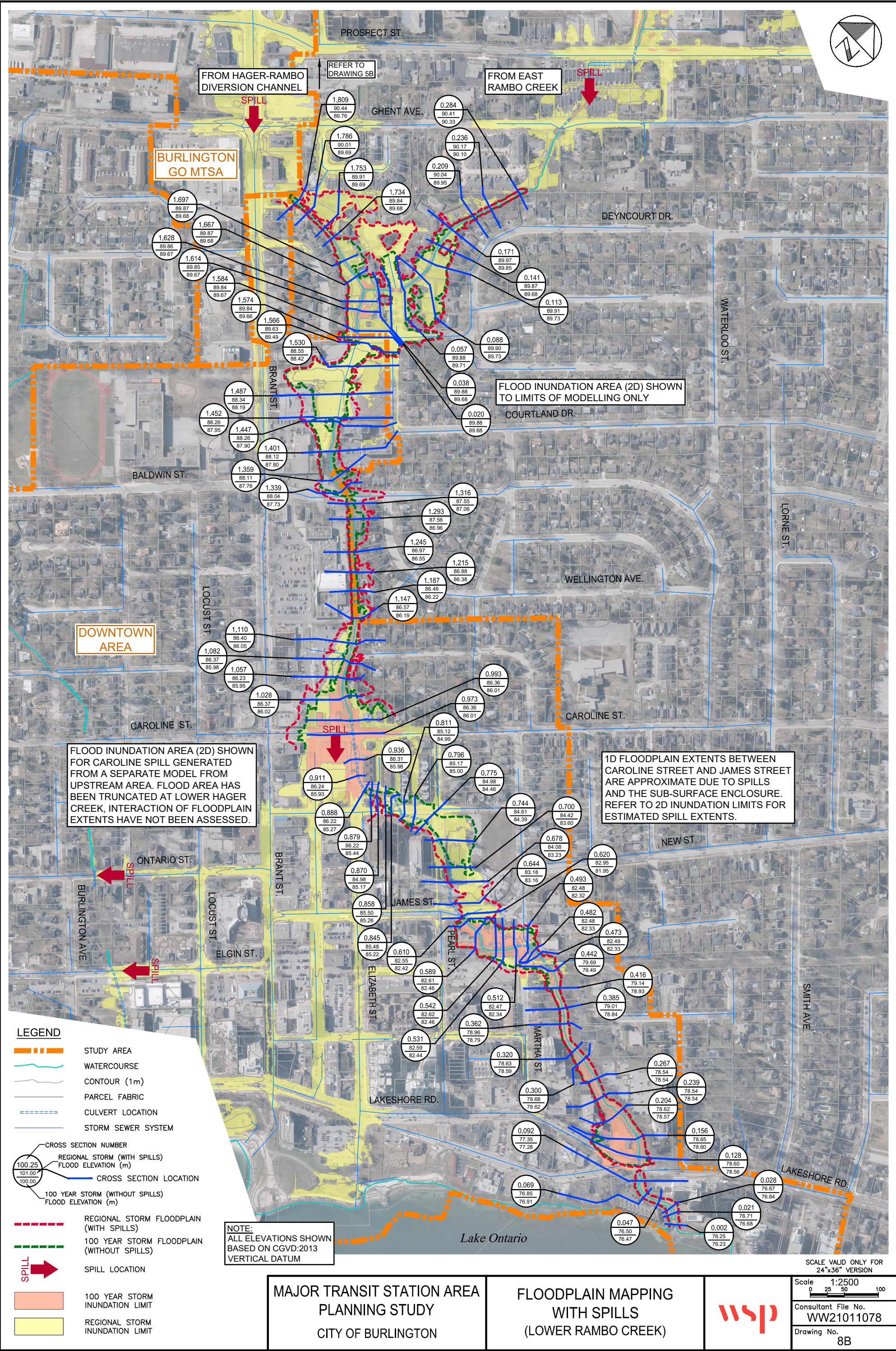
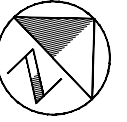


SCALE VALID ONLY FOR
24"x36" VERSION

Scale 1:2500
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Consultant File No.
WW21011078

Drawing No.
8A



FLOOD INUNDATION AREA (2D) SHOWN FOR CAROLINE SPILL GENERATED FROM A SEPARATE MODEL FROM UPSTREAM AREA. FLOOD AREA HAS BEEN TRUNCATED AT LOWER HAGER CREEK, INTERACTION OF FLOODPLAIN EXTENTS HAVE NOT BEEN ASSESSED.

1D FLOODPLAIN EXTENTS BETWEEN CAROLINE STREET AND JAMES STREET ARE APPROXIMATE DUE TO SPILLS AND THE SUB-SURFACE ENCLOSURE. REFER TO 2D INUNDATION LIMITS FOR ESTIMATED SPILL EXTENTS.

NOTE:
ALL ELEVATIONS SHOWN
BASED ON CGVD:2013
VERTICAL DATUM

- LEGEND**
- STUDY AREA
 - WATERCOURSE
 - CONTOUR (1m)
 - PARCEL FABRIC
 - CULVERT LOCATION
 - STORM SEWER SYSTEM
 - CROSS SECTION NUMBER
 - REGIONAL STORM (WITH SPILLS) FLOOD ELEVATION (m)
 - CROSS SECTION LOCATION
 - 100 YEAR STORM (WITHOUT SPILLS) FLOOD ELEVATION (m)
 - REGIONAL STORM FLOODPLAIN (WITH SPILLS)
 - 100 YEAR STORM FLOODPLAIN (WITHOUT SPILLS)
 - SPILL LOCATION
 - 100 YEAR STORM INUNDATION LIMIT
 - REGIONAL STORM INUNDATION LIMIT

MAJOR TRANSIT STATION AREA
PLANNING STUDY
CITY OF BURLINGTON

FLOODPLAIN MAPPING
WITH SPILLS
(LOWER RAMBO CREEK)



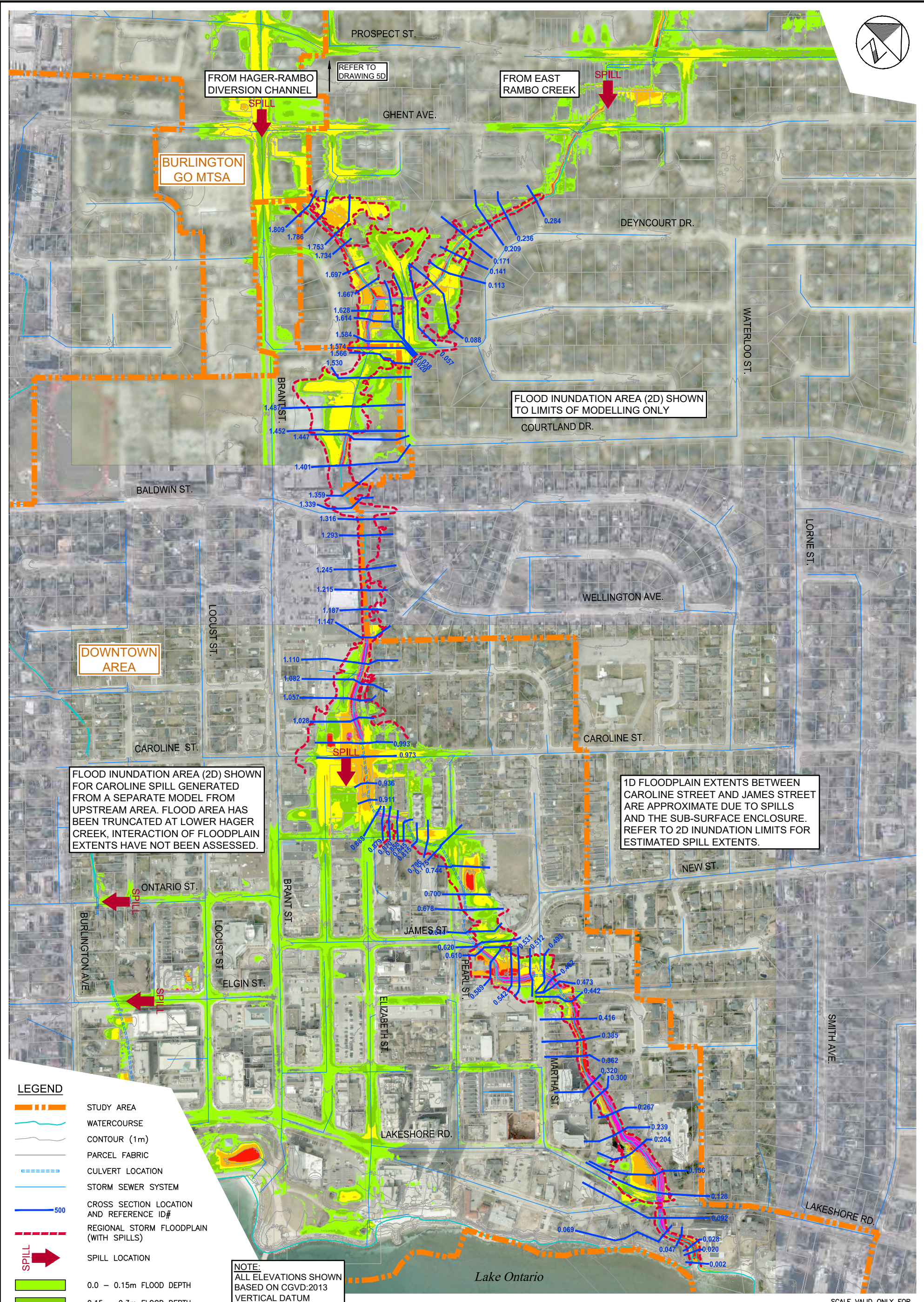
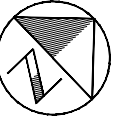
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24"x36" VERSION

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Consultant File No.
WW21011078

Drawing No.
8B

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2022-11-24
Plotted By: richard.bortolo
Plotted: richard.bortolo
Last Saved: 2022-11-24



Path: I:\WW21011078 - MTA Phase 2\14 CAD\CIV\WR\PROU\2202-09 Dwg6C FloodDepth(Downtown).dwg
 Plotted By: richard.bortolo
 2022-11-24
 Plotted: richard.bortolo
 Last Saved: 2022-11-24

LEGEND

- STUDY AREA
- WATERCOURSE
- CONTOUR (1m)
- PARCEL FABRIC
- CULVERT LOCATION
- STORM SEWER SYSTEM
- CROSS SECTION LOCATION AND REFERENCE ID#
- REGIONAL STORM FLOODPLAIN (WITH SPILLS)
- SPILL LOCATION
- 0.0 - 0.15m FLOOD DEPTH
- 0.15 - 0.3m FLOOD DEPTH
- 0.3 - 0.6m FLOOD DEPTH
- 0.6 - 1.2m FLOOD DEPTH
- 1.2 - 1.8m FLOOD DEPTH
- GREATER THAN 1.8m

NOTE:
 ALL ELEVATIONS SHOWN
 BASED ON CGVD:2013
 VERTICAL DATUM

SCALE VALID ONLY FOR
 24"x36" VERSION

MAJOR TRANSIT STATION AREA
 PLANNING STUDY
 CITY OF BURLINGTON

REGIONAL FLOODPLAIN
 MAPPING WITH FLOOD DEPTHS
 (LOWER RAMBO CREEK)



Scale 1:2500
 0 25 50 100
 Consultant File No.
 WW21011078
 Drawing No.
 8C