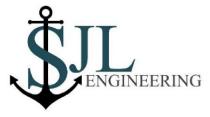
Lower Trent Conservat	ion Authority (LTRCA)
LEGEND:	DEFINITIONS:
Hazard Mapping: 100 Year Flood Level Flood Hazard Limit	<u>100 Year Flood Level</u> The 100 Year Combined Flood Level considers both static lake level storm surge, having a combined probability of being equalled or exceeded during any year of 1% (i.e., probability, P =0.01). The 10 Year Combined Flood Level elevation for LTRCA is +76.03 m IGI (+75.62 m CGVD2013).
<ul> <li>Erosion Hazard Limit</li> <li>Dynamic Beach Setback</li> </ul>	<u>Flood Hazard Limit</u> The Flood Hazard Limit is defined as the 100-Year Flood Level pla allowance for wave runup and uprush. For the exposed shoreline, effects are calculated based on localized nearshore conditions and waves. For embayments, the standardized 15 m setback is applied Refer to the Lake Ontario Shoreline Management Plan for addition details.
<ul> <li>Base Mapping:</li> <li>Geographical Names</li> <li>Dynamic Beach (Start Pt)</li> <li>Dynamic Beach (End Pt)</li> </ul>	Toe of BluffThe Toe of Bluff is the transition from the gently sloping beach to steep portion of the bank or bluff slope.Stable Slope AllowanceThe Stable Slope Allowance is defined as a horizontal setback equivalent to 3.0 times the height of the bank or bluff.Erosion Hazard Limit The landward extent of the Erosion Hazard is the sum of the 100 y
$\sim$ Road Network	erosion rate plus the Stable Slope Allowance, measured horizontal from the toe of the bank or bluff.
<ul> <li>LTRCA Administrative Boundary</li> <li>INTERPRETATION OF THE HAZARD MAPS:</li> </ul>	The Erosion Hazard Limit is not mapped in sheltered waters, howe localized shoreline/riverine erosion may occur and is subject to rev by the Conservation Authority.
The hazard maps were prepared to support the Lake Ontario Shoreline Management Plan. The hazard limits are not the official regulatory limits of the Conservation Authority. Please contact the Conservation Authority for additional details on the regulatory limit and implications for new development.	Dynamic Beach Hazard Limit The Dynamic Beach Hazard Limit is defined as the sum of the Flor Hazard plus 30 metres measured horizontally. Local conditions ma require a modified mapping approach if the beach is eroding or a b beach. Refer to the Lake Ontario Shoreline Management Plan repo- additional details.
DATA SOURCES:         2018 Orthophotography and Digital Surface Model (DSM) provided by the Ministry of Natural Resources and Forestry         2017 LiDAR Digital Terrain Model obtained from the Ministry of Natural Resources and Forestry. Contains information licensed under the Open Government Licence – Ontario.         2009/10 Topographic data near Prince Edward Estates provided by LTRCA.         Geographical Names obtained from Natural Resources Canada Road Network File, 2016 Census. Statistics Canada Catalogue no. 92-500-X         Inset Map: © OpenStreetMap contributors	Datums:       Datum Conversion:         Horizontal: UTM 18N NAD1983, metres.       IGLD1985 - CGVD2013 = 0.41 m (average To convert from IGLD85 to CGVD2013, st 0.41 m.         Vertical: CGVD2013, metres       Note: There are local variations along the to within LTRCA. Refer to the Lake Ontario S additional details.         0       50       100       200
PREPARED BY:	S. J. LOGAN 100189144



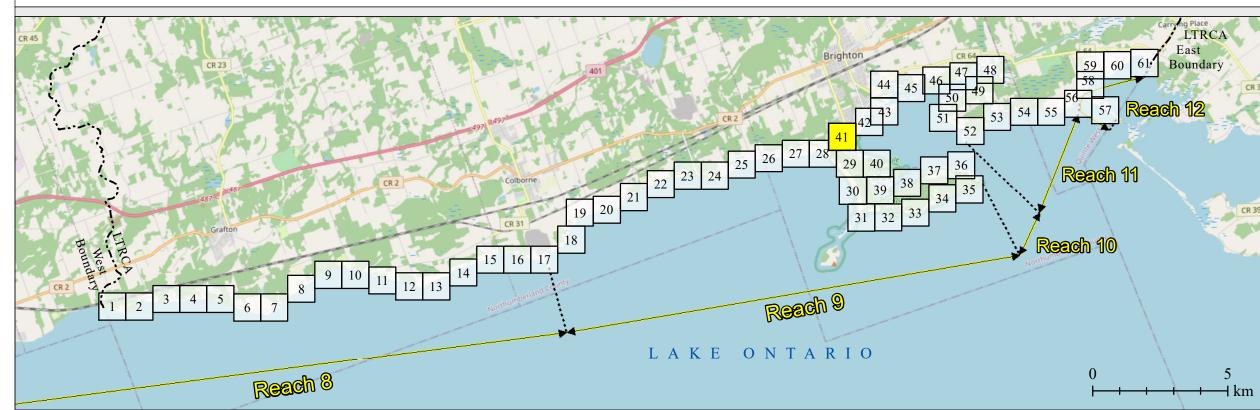






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FLOOD HAZARD LIMIT DOES

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Mapping prepared by Zuzek Inc. for the Lower Trent Region Conservation Authority. 280200

LOOD HAZARD LIMIT DOES

NOT INCLUDE 15 M

LOWANCE FOR WAVE RUN-UP

280400



MAP PUBLISHED MARCH 2020



### Presqu'ile Provincial Park

AREA NOT REGULATED BY CONSERVATION AUTHORITY

280600

Lower Trent Region Conservation Authority 714 Murray Street, R.R. 1 Trenton, Ontario, K8V 5P4 Phone: 613-394-4829 Web: www.ltc.on.ca

280800

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LTRCA Map 41 of 61

Lower Trent Conservat	ion Authority (LTRCA)
LEGEND:	DEFINITIONS:
Hazard Mapping:100 Year Flood LevelFlood Hazard Limit	<u>100 Year Flood Level</u> The 100 Year Combined Flood Level considers both static lake level and storm surge, having a combined probability of being equalled or exceeded during any year of 1% (i.e., probability, P =0.01). The 100 Year Combined Flood Level elevation for LTRCA is +76.03 m IGLD85 (+75.62 m CGVD2013).
<ul> <li>Erosion Hazard Limit</li> <li>Dynamic Beach Setback</li> </ul>	<u>Flood Hazard Limit</u> The Flood Hazard Limit is defined as the 100-Year Flood Level plus an allowance for wave runup and uprush. For the exposed shoreline, wave effects are calculated based on localized nearshore conditions and waves. For embayments, the standardized 15 m setback is applied. Refer to the Lake Ontario Shoreline Management Plan for additional details.
Base Mapping:	<u>Toe of Bluff</u> The Toe of Bluff is the transition from the gently sloping beach to the steep portion of the bank or bluff slope.
<ul> <li>Geographical Names</li> </ul>	<u>Stable Slope Allowance</u> The Stable Slope Allowance is defined as a horizontal setback equivalent to 3.0 times the height of the bank or bluff.
	Erosion Hazard Limit
Dynamic Beach (End Pt)	The landward extent of the Erosion Hazard is the sum of the 100 year erosion rate plus the Stable Slope Allowance, measured horizontally
Road Network	from the toe of the bank or bluff.
LTRCA Administrative Boundary INTERPRETATION OF THE HAZARD MARS.	The Erosion Hazard Limit is not mapped in sheltered waters, however, localized shoreline/riverine erosion may occur and is subject to review by the Conservation Authority.
INTERPRETATION OF THE HAZARD MAPS: The hazard maps were prepared to support the Lake Ontario Shoreline Management Plan. The hazard limits are not the official regulatory limits of the Conservation Authority. Please contact the Conservation Authority for additional details on the regulatory limit and implications for new development.	Dynamic Beach Hazard Limit The Dynamic Beach Hazard Limit is defined as the sum of the Flood Hazard plus 30 metres measured horizontally. Local conditions may require a modified mapping approach if the beach is eroding or a barrier beach. Refer to the Lake Ontario Shoreline Management Plan report for additional details.
DATA SOURCES:         2018 Orthophotography and Digital Surface Model (DSM) provided by the Ministry of Natural Resources and Forestry         2017 LiDAR Digital Terrain Model obtained from the Ministry of Natural Resources and Forestry. Contains information licensed under the Open Government Licence – Ontario.         2009/10 Topographic data near Prince Edward Estates provided by LTRCA.         Geographical Names obtained from Natural Resources Canada Road Network File, 2016 Census. Statistics Canada Catalogue no. 92-500-X         Inset Map: © OpenStreetMap contributors	Datums:       Datum Conversion:         Horizontal: UTM 18N NAD1983, metres.       IGLD1985 - CGVD2013 = 0.41 m (average)         Vertical: CGVD2013, metres       To convert from IGLD85 to CGVD2013, subtract 0.41 m.         Note: There are local variations along the reaches within LTRCA. Refer to the Lake Ontario SMP for additional details.         0       50         100       200         Note: There are local variations along the reaches within LTRCA. Refer to the Lake Ontario SMP for additional details.         0       50         100       200         S
PREPARED BY:	S. J. LOGAN 100189144



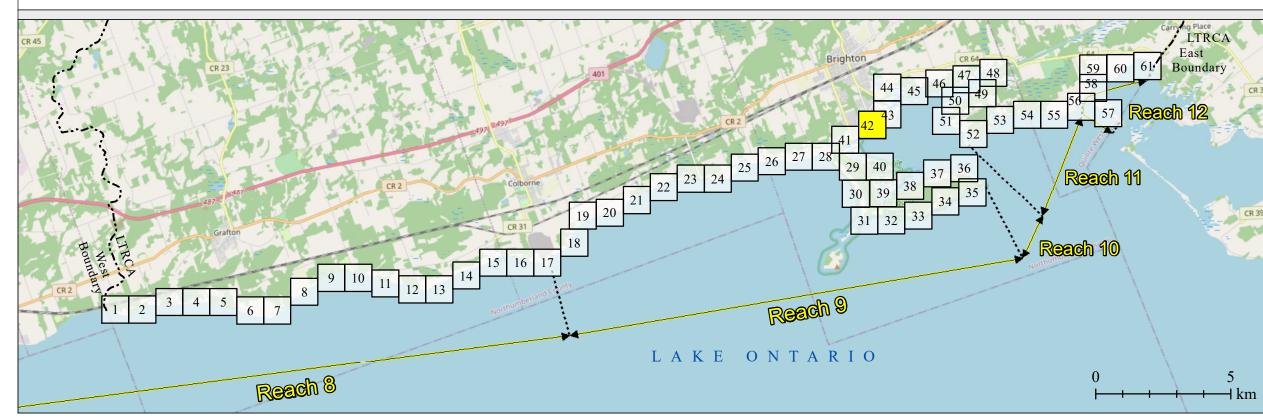






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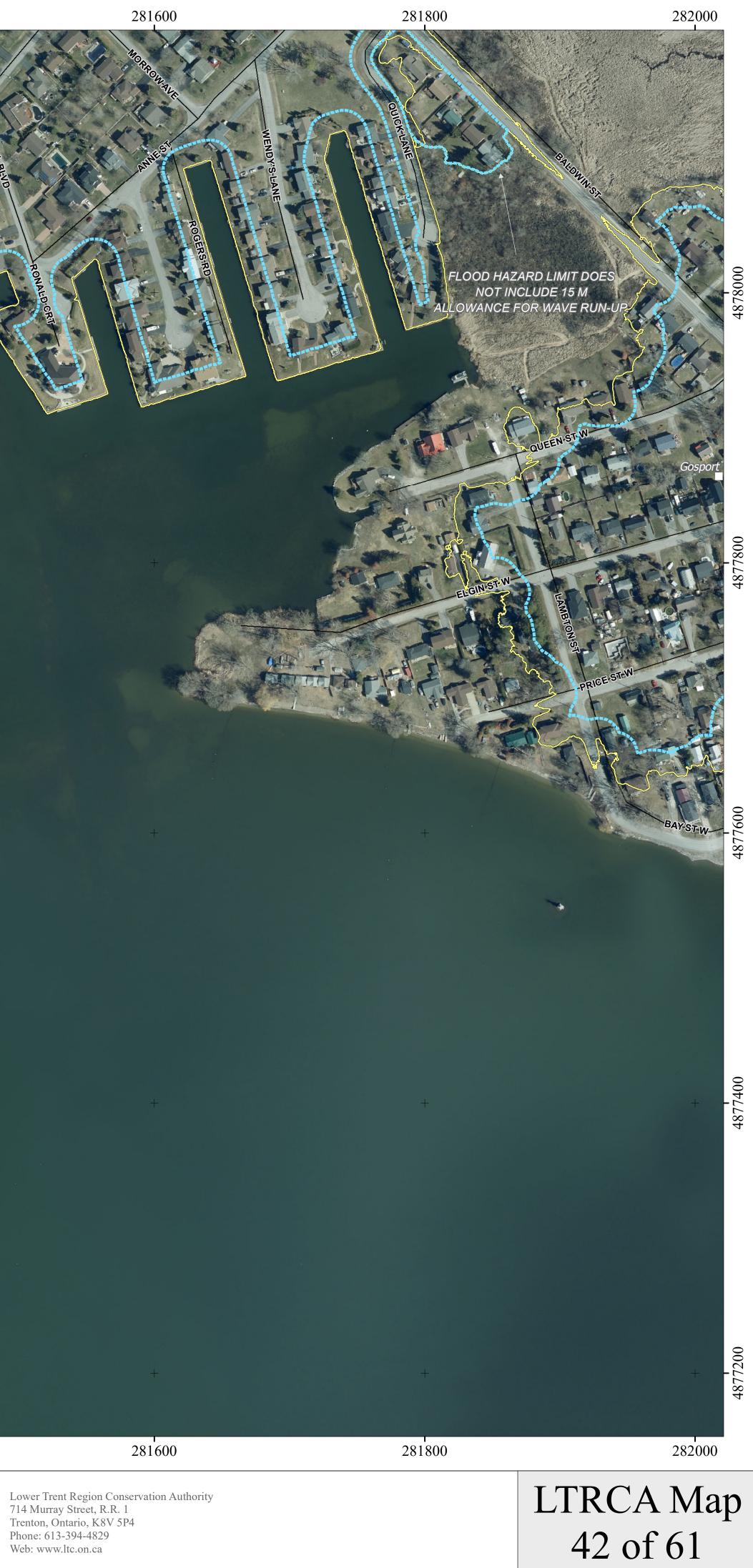
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MAP PUBLISHED MARCH 2020

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Lower Trent Conservat	ion Authority (LTRCA)
LEGEND:	DEFINITIONS:
Hazard Mapping:	<u>100 Year Flood Level</u> The 100 Year Combined Flood Level considers both static lake level and storm surge, having a combined probability of being equalled or
✓ 100 Year Flood Level	exceeded during any year of 1% (i.e., probability, $P = 0.01$ ). The 100 Year Combined Flood Level elevation for LTRCA is +76.03 m IGLD85
Flood Hazard Limit	(+75.62  m CGVD2013).
Frosion Hazard Limit	Flood Hazard Limit
Dynamic Beach Setback	The Flood Hazard Limit is defined as the 100-Year Flood Level plus an allowance for wave runup and uprush. For the exposed shoreline, wave effects are calculated based on localized nearshore conditions and waves. For embayments, the standardized 15 m setback is applied. Refer to the Lake Ontario Shoreline Management Plan for additional details.
	<u>Toe of Bluff</u> The Toe of Bluff is the transition from the gently sloping beach to the steep portion of the bank or bluff slope.
Base Mapping:	Stable Slope Allowance
<ul> <li>Geographical Names</li> </ul>	The Stable Slope Allowance is defined as a horizontal setback equivalent to 3.0 times the height of the bank or bluff.
• Dynamic Beach (Start Pt)	Erosion Hazard Limit
• Dynamic Beach (End Pt)	The landward extent of the Erosion Hazard is the sum of the 100 year erosion rate plus the Stable Slope Allowance, measured horizontally
✓ Road Network	from the toe of the bank or bluff.
<ul> <li>LTRCA Administrative Boundary</li> </ul>	The Erosion Hazard Limit is not mapped in sheltered waters, however, localized shoreline/riverine erosion may occur and is subject to review by the Conservation Authority.
INTERPRETATION OF THE HAZARD MAPS:	Dynamic Beach Hazard Limit
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DATA SOURCES: 2018 Orthophotography and Digital Surface Model (DSM) provided by the Ministry of Natural Resources and Forestry	Datums: Horizontal: UTM 18N NAD1983, metres. Vertical: CGVD2013, metresDatum Conversion: IGLD1985 - CGVD2013 = 0.41 m (average) To convert from IGLD85 to CGVD2013, subtract
2017 LiDAR Digital Terrain Model obtained from the Ministry of Natural Resources and Forestry. Contains information licensed under the Open Government Licence – Ontario.	0.41 m. Note: There are local variations along the reaches within LTRCA. Refer to the Lake Ontario SMP for additional details.
2009/10 Topographic data near Prince Edward Estates provided by LTRCA.	N
Geographical Names obtained from Natural Resources Canada Road Network File, 2016 Census. Statistics Canada Catalogue no. 92-500-X	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$
Inset Map: © OpenStreetMap contributors	S
PREPARED BY:	S.J. LOGAN



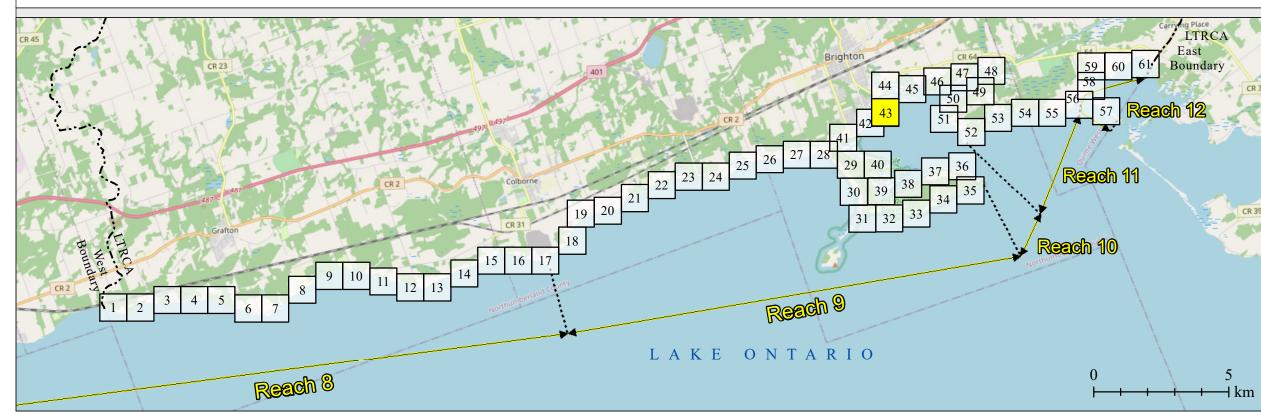






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Mapping prepared by Zuzek Inc. for the Lower Trent Region Conservation Authority.



LOOD HAZARD LIMIT DOES

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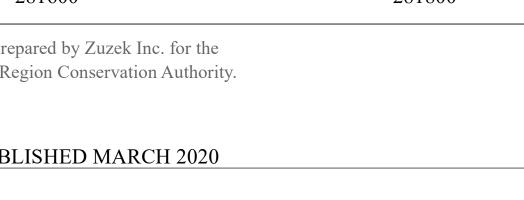
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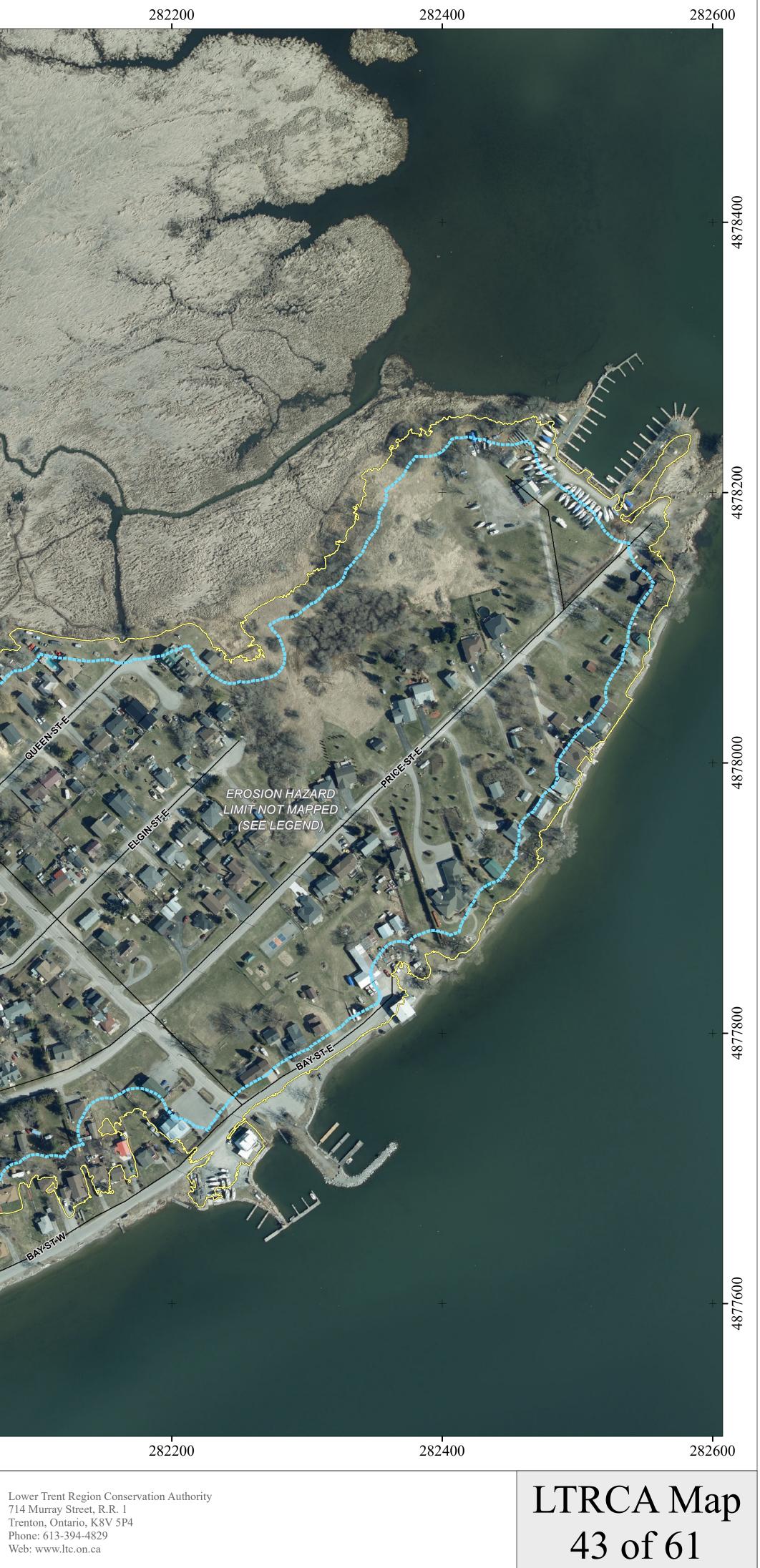
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# LAKE ONTARIO SHORELINE

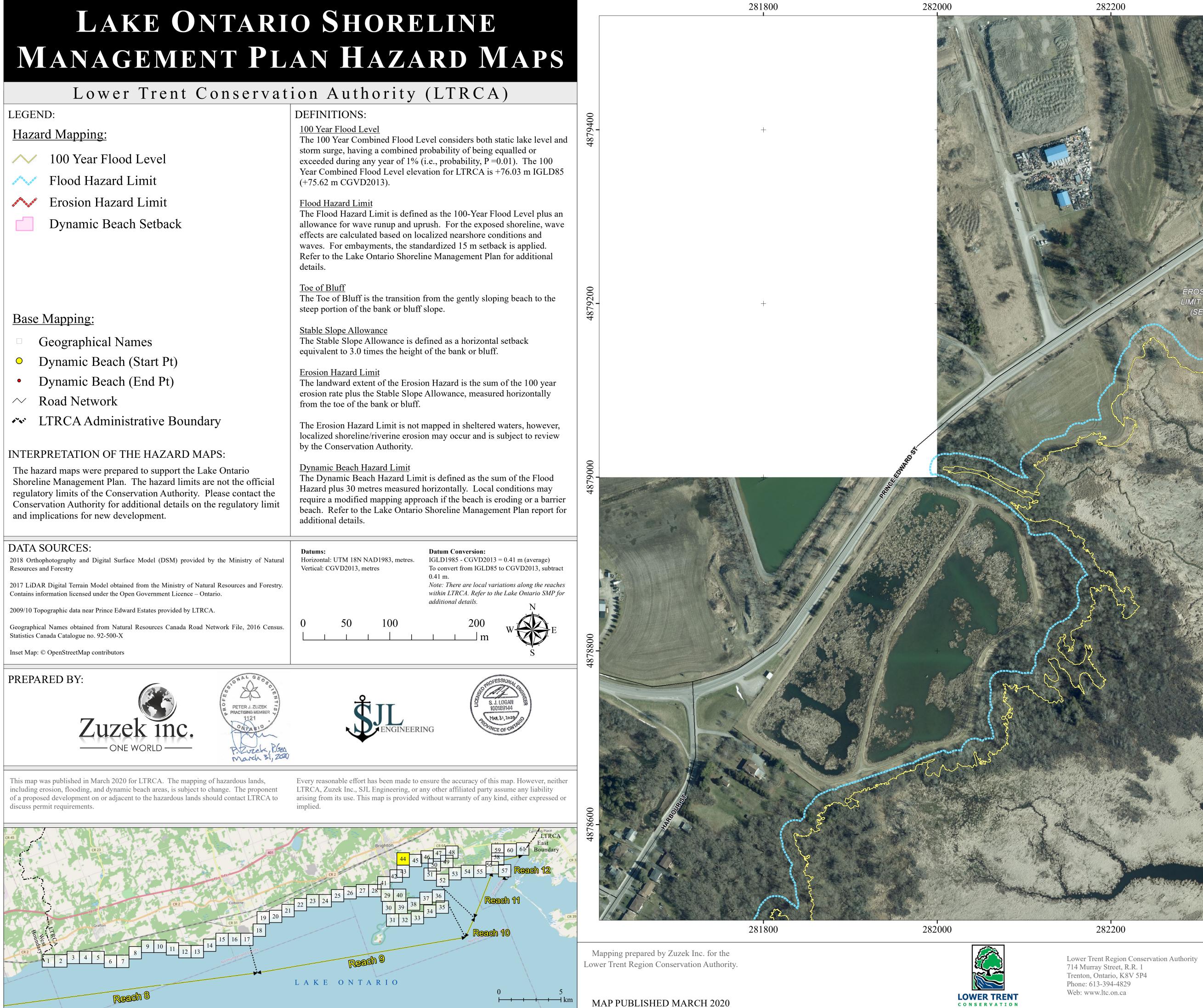
Lower Trent Conservat	ion Authority (LTRCA)
LEGEND:	DEFINITIONS:
Hazard Mapping: 100 Year Flood Level Flood Hazard Limit	<u>100 Year Flood Level</u> The 100 Year Combined Flood Level considers both static lake level storm surge, having a combined probability of being equalled or exceeded during any year of 1% (i.e., probability, P =0.01). The 10 Year Combined Flood Level elevation for LTRCA is +76.03 m IGI (+75.62 m CGVD2013).
<ul> <li>Erosion Hazard Limit</li> <li>Dynamic Beach Setback</li> </ul>	<u>Flood Hazard Limit</u> The Flood Hazard Limit is defined as the 100-Year Flood Level pl allowance for wave runup and uprush. For the exposed shoreline, effects are calculated based on localized nearshore conditions and waves. For embayments, the standardized 15 m setback is applied Refer to the Lake Ontario Shoreline Management Plan for addition details.
Base Mapping:         □       Geographical Names         □       Dynamic Beach (Start Pt)         □       Dynamic Beach (End Pt)         ~       Road Network         ~       LTRCA Administrative Boundary         INTERPRETATION OF THE HAZARD MAPS:         The hazard maps were prepared to support the Lake Ontario Shoreline Management Plan. The hazard limits are not the official regulatory limits of the Conservation Authority. Please contact the Conservation Authority for additional details on the regulatory limit and implications for new development.	<ul> <li><u>Toe of Bluff</u> The Toe of Bluff is the transition from the gently sloping beach to steep portion of the bank or bluff slope.</li> <li><u>Stable Slope Allowance</u> The Stable Slope Allowance is defined as a horizontal setback equivalent to 3.0 times the height of the bank or bluff.</li> <li><u>Erosion Hazard Limit</u> The landward extent of the Erosion Hazard is the sum of the 100 y erosion rate plus the Stable Slope Allowance, measured horizontall from the toe of the bank or bluff.</li> <li>The Erosion Hazard Limit is not mapped in sheltered waters, howe localized shoreline/riverine erosion may occur and is subject to rev by the Conservation Authority.</li> <li><u>Dynamic Beach Hazard Limit</u> The Dynamic Beach Hazard Limit is defined as the sum of the Flo Hazard plus 30 metres measured horizontally. Local conditions marequire a modified mapping approach if the beach is eroding or a b beach. Refer to the Lake Ontario Shoreline Management Plan report additional details.</li> </ul>
<ul> <li>DATA SOURCES:</li> <li>2018 Orthophotography and Digital Surface Model (DSM) provided by the Ministry of Natural Resources and Forestry</li> <li>2017 LiDAR Digital Terrain Model obtained from the Ministry of Natural Resources and Forestry. Contains information licensed under the Open Government Licence – Ontario.</li> <li>2009/10 Topographic data near Prince Edward Estates provided by LTRCA.</li> <li>Geographical Names obtained from Natural Resources Canada Road Network File, 2016 Census. Statistics Canada Catalogue no. 92-500-X</li> <li>Inset Map: © OpenStreetMap contributors</li> </ul>	Datums:       Datum Conversion:         Horizontal: UTM 18N NAD1983, metres.       IGLD1985 - CGVD2013 = 0.41 m (averag To convert from IGLD85 to CGVD2013, st 0.41 m.         Vertical: CGVD2013, metres       To convert from IGLD85 to CGVD2013, st 0.41 m.         Note: There are local variations along the st within LTRCA. Refer to the Lake Ontario S additional details.         0       50         100       200         1       m         S
PREPARED BY:	S. J. LOGAN 100189144













LTRCA Map 44 of 61

Lower Trent Conservat	ion Authority (LTRCA)
LEGEND:	DEFINITIONS:
Hazard Mapping:100 Year Flood LevelFlood Hazard Limit	<u>100 Year Flood Level</u> The 100 Year Combined Flood Level considers both static lake level and storm surge, having a combined probability of being equalled or exceeded during any year of 1% (i.e., probability, P =0.01). The 100 Year Combined Flood Level elevation for LTRCA is +76.03 m IGLD85 (+75.62 m CGVD2013).
<ul> <li>Erosion Hazard Limit</li> <li>Dynamic Beach Setback</li> </ul>	<u>Flood Hazard Limit</u> The Flood Hazard Limit is defined as the 100-Year Flood Level plus an allowance for wave runup and uprush. For the exposed shoreline, wave effects are calculated based on localized nearshore conditions and waves. For embayments, the standardized 15 m setback is applied. Refer to the Lake Ontario Shoreline Management Plan for additional details.
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<ul> <li>Geographical Names</li> </ul>	<u>Stable Slope Allowance</u> The Stable Slope Allowance is defined as a horizontal setback equivalent to 3.0 times the height of the bank or bluff.
	Erosion Hazard Limit
Dynamic Beach (End Pt)	The landward extent of the Erosion Hazard is the sum of the 100 year erosion rate plus the Stable Slope Allowance, measured horizontally
Road Network	from the toe of the bank or bluff.
LTRCA Administrative Boundary INTERPRETATION OF THE HAZARD MARS.	The Erosion Hazard Limit is not mapped in sheltered waters, however, localized shoreline/riverine erosion may occur and is subject to review by the Conservation Authority.
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PREPARED BY:	S. J. LOGAN 100189144



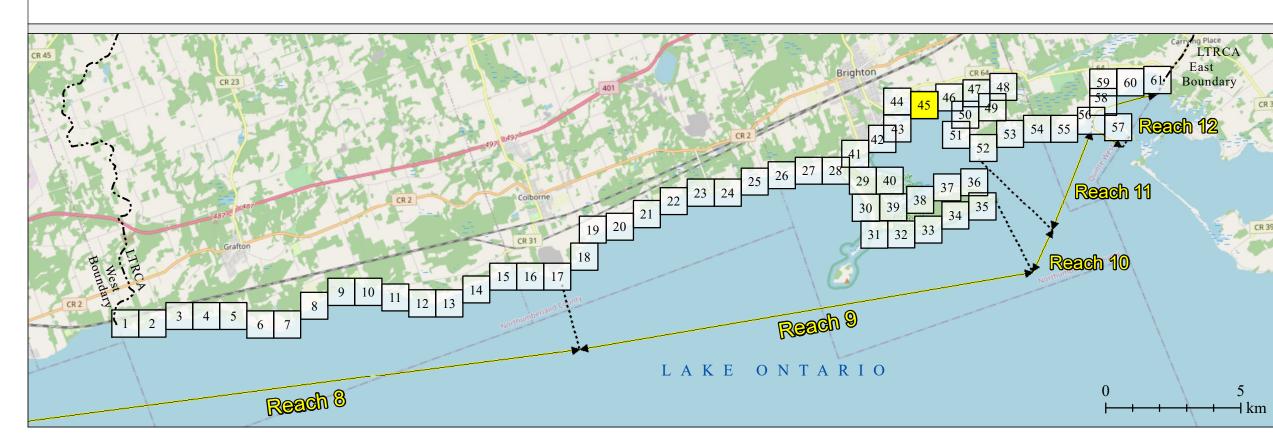






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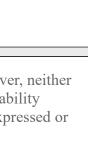
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Mapping prepared by Zuzek Inc. for the Lower Trent Region Conservation Authority.



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EROSION HAZARD

LIMIT NOT MAPPED (SEE LEGEND)



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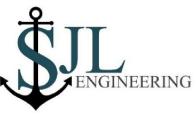


Lower Trent Region Conservation Authority 714 Murray Street, R.R. 1 Trenton, Ontario, K8V 5P4 Phone: 613-394-4829 Web: www.ltc.on.ca

Lower Trent Conservat	ion Authority (LTRCA)
LEGEND:	DEFINITIONS:
Hazard Mapping:	<u>100 Year Flood Level</u> The 100 Year Combined Flood Level considers both static lake level and storm surge, having a combined probability of being equalled or
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Erosion Hazard Limit	Flood Hazard Limit
Dynamic Beach Setback	The Flood Hazard Limit is defined as the 100-Year Flood Level plus an allowance for wave runup and uprush. For the exposed shoreline, wave effects are calculated based on localized nearshore conditions and waves. For embayments, the standardized 15 m setback is applied. Refer to the Lake Ontario Shoreline Management Plan for additional details.
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Base Mapping:	Stable Slope Allowance
Geographical Names	The Stable Slope Allowance is defined as a horizontal setback equivalent to 3.0 times the height of the bank or bluff.
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<ul> <li>LTRCA Administrative Boundary</li> </ul>	The Erosion Hazard Limit is not mapped in sheltered waters, however, localized shoreline/riverine erosion may occur and is subject to review by the Conservation Authority.
INTERPRETATION OF THE HAZARD MAPS:	Dynamic Beach Hazard Limit
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DATA SOURCES: 2018 Orthophotography and Digital Surface Model (DSM) provided by the Ministry of Natural	Datums: Horizontal: UTM 18N NAD1983, metres.Datum Conversion: IGLD1985 - CGVD2013 = 0.41 m (average)
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Contains information licensed under the Open Government Licence – Ontario.	within LTRCA. Refer to the Lake Ontario SMP for additional details.
2009/10 Topographic data near Prince Edward Estates provided by LTRCA.	0 50 100 200
Geographical Names obtained from Natural Resources Canada Road Network File, 2016 Census. Statistics Canada Catalogue no. 92-500-X	$\begin{bmatrix} 0 & 30 & 100 & 200 \\ \Box & \Box & \Box & \Box & m \end{bmatrix} = \begin{bmatrix} 0 & 0 & 0 \\ W & 0 & C \\ W & 0$
Inset Map: © OpenStreetMap contributors	S
PREPARED BY:	S. J. LOGAN



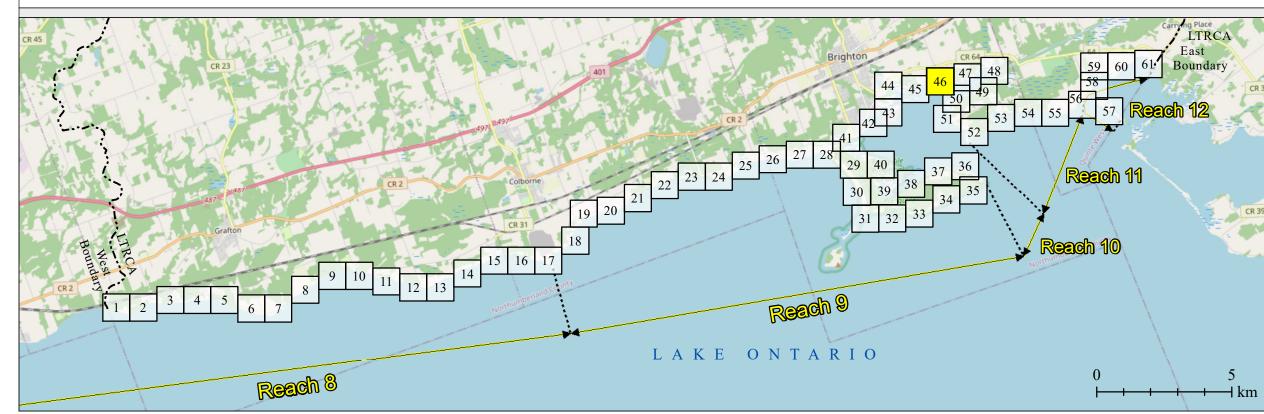






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Mapping prepared by Zuzek Inc. for the Lower Trent Region Conservation Authority.

MAP PUBLISHED MARCH 2020

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Web: www.ltc.on.ca

Lower Trent Conservat	ion Authority (LTRCA)
LEGEND:	DEFINITIONS:
Hazard Mapping: 100 Year Flood Level Flood Hazard Limit	<u>100 Year Flood Level</u> The 100 Year Combined Flood Level considers both static lake level storm surge, having a combined probability of being equalled or exceeded during any year of 1% (i.e., probability, P =0.01). The 10 Year Combined Flood Level elevation for LTRCA is +76.03 m IGI (+75.62 m CGVD2013).
<ul> <li>Erosion Hazard Limit</li> <li>Dynamic Beach Setback</li> </ul>	<u>Flood Hazard Limit</u> The Flood Hazard Limit is defined as the 100-Year Flood Level pla allowance for wave runup and uprush. For the exposed shoreline, effects are calculated based on localized nearshore conditions and waves. For embayments, the standardized 15 m setback is applied Refer to the Lake Ontario Shoreline Management Plan for addition details.
<ul> <li>Base Mapping:</li> <li>Geographical Names</li> <li>Dynamic Beach (Start Pt)</li> <li>Dynamic Beach (End Pt)</li> </ul>	Toe of BluffThe Toe of Bluff is the transition from the gently sloping beach to steep portion of the bank or bluff slope.Stable Slope AllowanceThe Stable Slope Allowance is defined as a horizontal setback equivalent to 3.0 times the height of the bank or bluff.Erosion Hazard Limit The landward extent of the Erosion Hazard is the sum of the 100 y
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<ul> <li>LTRCA Administrative Boundary</li> <li>INTERPRETATION OF THE HAZARD MAPS:</li> </ul>	The Erosion Hazard Limit is not mapped in sheltered waters, howe localized shoreline/riverine erosion may occur and is subject to rev by the Conservation Authority.
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PREPARED BY:	S. J. LOGAN 100189144



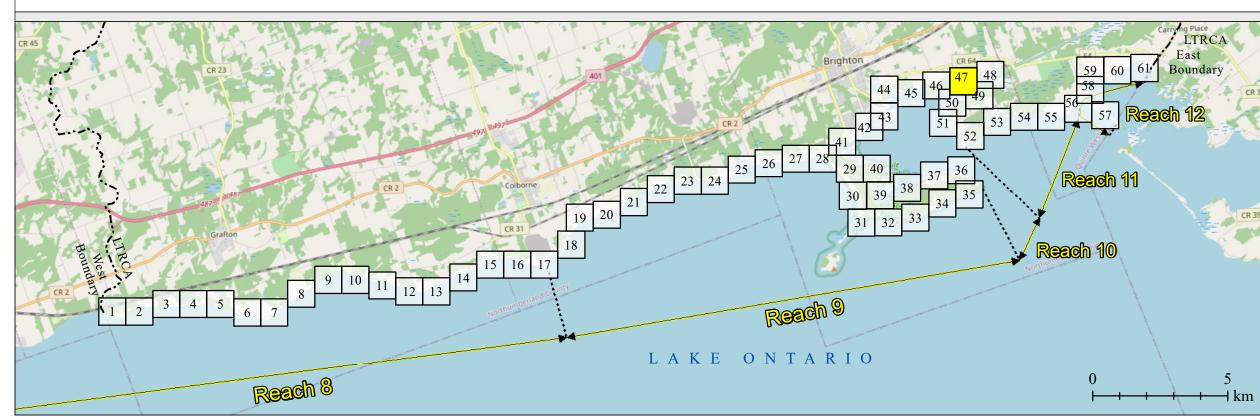






This map was published in March 2020 for LTRCA. The mapping of hazardous lands, including erosion, flooding, and dynamic beach areas, is subject to change. The proponent of a proposed development on or adjacent to the hazardous lands should contact LTRCA to discuss permit requirements.

Every reasonable effort has been made to ensure the accuracy of this map. However, neither LTRCA, Zuzek Inc., SJL Engineering, or any other affiliated party assume any liability arising from its use. This map is provided without warranty of any kind, either expressed or implied.





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Mapping prepared by Zuzek Inc. for the Lower Trent Region Conservation Authority. 284800

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Lower Trent Region Conservation Authority 714 Murray Street, R.R. 1 Trenton, Ontario, K8V 5P4 Phone: 613-394-4829 Web: www.ltc.on.ca

LTRCA Map 47 of 61