

Saltfleet Conservation Area

Wetland Restoration Program

Program Overview

Latonnell Conservation Symposium

November 20, 2019



A Healthy Watershed for Everyone

Presentation Outline

- 2011 Stoney/Battlefield Creek Environmental Assessment
- Stoney and Battlefield Creeks Watershed Overview
- Saltfleet Conservation Area Wetland Restoration Program Overview
- Environmental Assessment Outcomes – Detailed Design
- Next Steps

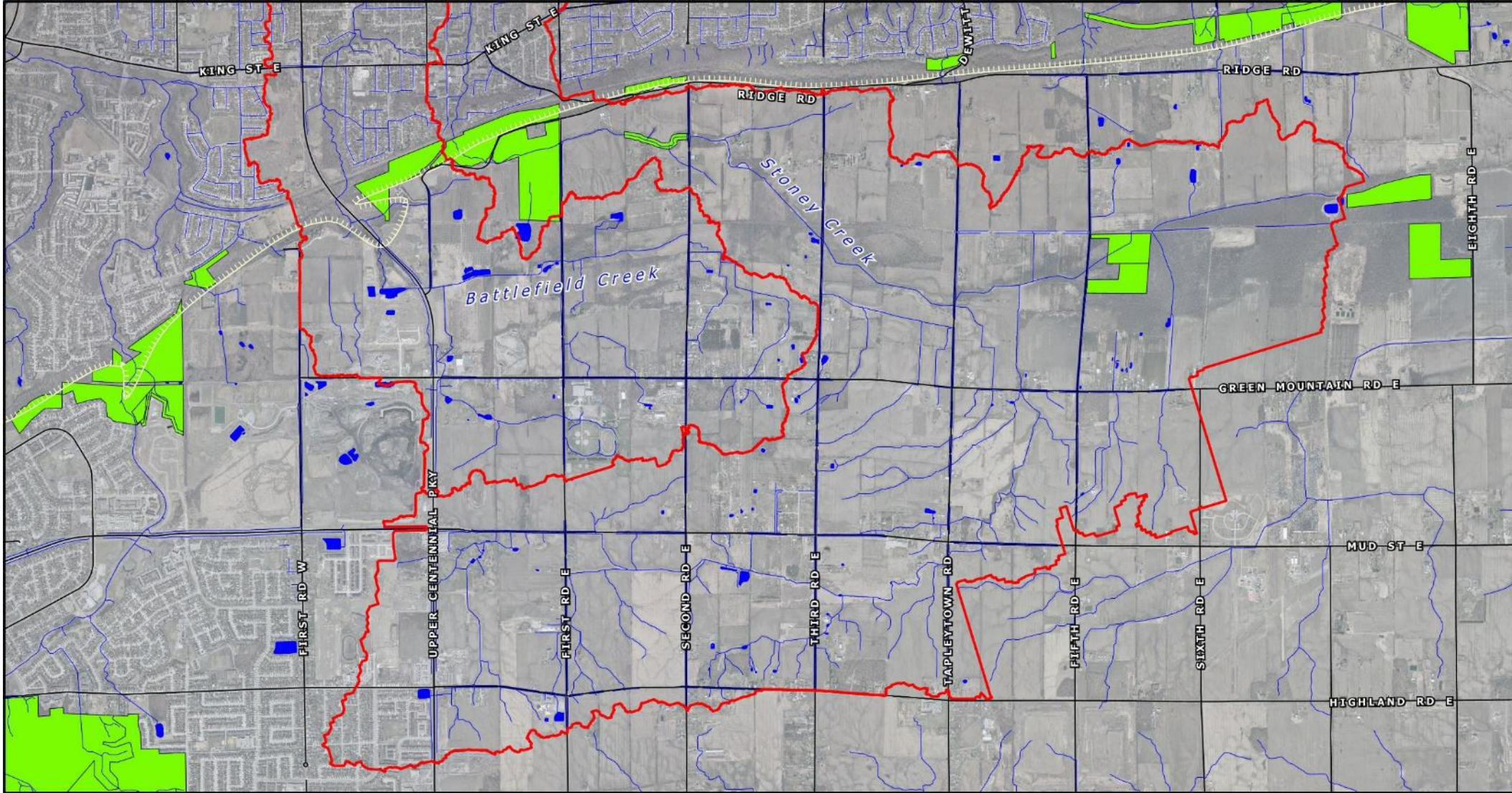
2011 Stoney/Battlefield Creek Environmental Assessment

Priority Sequence	Rating	Reach	Specific Site of Works	Short-term Erosion Control Remedial Works	Erosion Control Additional Notes	Short-term Flood Mitigation Works	Flood Mitigation Additional Notes	Proponency/Additional Study Requirements/ Permitting
1	High	SC-7	North side of King Street West to CNR Rail Line	<ul style="list-style-type: none"> Replacement of existing bank protection along both banks (with regrading if constraints allow). Creation of pool features for fisheries benefit. Preliminary cost estimate of \$770,000. 	<p>Feasibility dependant on landowner buy-in</p> <p>Incorporates conceptual design for Priority Erosion Sites ES20, ES21, ES22 and ES23.</p>	Localized flood protection berm to Regional Storm standard. Preliminary cost estimate of \$110,000 to \$220,000	Most of the creek is privately owned within this reach, therefore flood protection may be difficult to implement successfully	<ul style="list-style-type: none"> City of Hamilton or Hamilton Conservation Authority. Detail Design Approvals required from Hamilton Conservation Authority, City, NEC and potentially DFO and MNR
2	High	SC-5	Mid-reach adjacent to Donn Avenue / Dale Avenue intersection.	<ul style="list-style-type: none"> Localized realignment and bank protection to protect property line on east bank. Regrading of area of slope instability on east bank. Creation of pool features for fisheries benefit. Preliminary cost estimate of \$450,000 	Incorporates conceptual design for Priority Erosion Sites ES9.	Localized flood protection berm to Regional Storm standard. Preliminary cost estimate of \$290,000 to \$580,000.	Most of the creek is privately owned within this reach, therefore flood protection may be difficult to implement successfully. Land management or easements required.	<ul style="list-style-type: none"> City of Hamilton or Hamilton Conservation Authority. Detail Design Approvals required from Hamilton Conservation Authority, City and potentially DFO and MNR
			Downstream of Collegiate Avenue	<ul style="list-style-type: none"> Replacement of existing bank protection along both banks (with regrading if constraints allow). Creation of pool features for fisheries benefit. Preliminary cost estimate of \$165,000. 	Incorporates conceptual design for Priority Erosion Sites ES13 and ES14.			
3	High	SC-6	Collegiate Avenue to north side of King Street West	<ul style="list-style-type: none"> Replacement of existing bank protection along both banks (with regrading if constraints allow). Creation of pool features for fisheries benefit. Preliminary cost estimate of \$979,000. 	<p>Feasibility dependant on landowner buy-in</p> <p>Incorporates conceptual design for Priority Erosion Sites ES15, ES16, ES18 and ES19.</p>	Localized flood protection berm to Regional Storm standard. Preliminary cost estimate of \$160,000 to \$320,000.	Most of the creek is privately owned within this reach, therefore flood protection may be difficult to implement successfully.	<ul style="list-style-type: none"> City of Hamilton or Hamilton Conservation Authority. Detail Design Approvals required from Hamilton Conservation Authority, City and potentially DFO and MNR

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Watershed Restoration Program

- Stoney Creek from source to Lake Ontario has an area of 2,070 hectares (5,116 acres). 1,619 hectares (4,000 acres) is located above the Niagara Escarpment.
- Battlefield Creek has a total area of 784 hectares (1,936 acres) with 500 hectares (1,236 acres) of this area located above the Niagara Escarpment.
- The total area of both watersheds above the Niagara Escarpment is 2,119 hectares (5,236 acres).
- Historically, the HCA has completed technical studies in this area pertaining to floodplain information and in the 1970's consideration was given and reports completed in support of the construction of reservoirs in this area to address downstream flooding concerns. While these studies were completed, the program was not implemented and the reservoirs were never constructed.
- There is a history of flooding and erosion issues below the Niagara Escarpment within the urban area of Stoney Creek



	Watershed Boundary		Watercourse
	Major Road		Water Body
	Niagara Escarpment		Existing HCA Land



EAST ESCARPMENT CONSERVATION AREA - Figure 1



Base Mapping supplied by the City of Hamilton, and the Ministry of Natural Resources.
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Wetland Restoration Program

Program Goal and Objectives

Goal

- To create a new conservation area in the east end of the City of Hamilton, specifically the Upper Stoney Creek and Upper Battlefield Creek watersheds above the Niagara Escarpment to provide natural hazard attenuation, natural heritage enhancements and recreation opportunities.

Objectives

- To utilize the floodplain areas of Upper Battlefield and Upper Stoney Creeks to retain water to provide flood attenuation both above and below the Niagara Escarpment within these watershed areas.
- To enhance and enlarge existing wetland areas and to create new wetland areas to provide enhanced wetland hydrologic function to reduce the impacts of high water events and provide water to area watercourses during low flow periods.
- To restore the natural features and functions of the watercourses in the area.
- To restore, enhance and enlarge the natural heritage features associated with the floodplains, wetlands and watercourses of the area.
- To provide linkages within and between conservation area lands by utilizing the DoFasco Trail
- To enhance and create passive recreational opportunities along the DoFasco Trail.

Saltfleet Conservation Area

Wetland Restoration Program

Consolidation of Core Conservation Area

- This first stage involves securing lands immediately adjacent and contiguous to the existing Devil's Punch Bowl Conservation Area. This will provide for a larger core conservation area with lands containing both Stoney Creek and Battlefield Creek. The core area provides the Hamilton Conservation Authority presence in this area and provides opportunities for initial restoration work and passive recreation opportunities.
- Funding for land acquisition has been secured in the amount of \$4.75 million over a 5 year period beginning in 2015. Land acquisition will always be on a willing buyer/willing seller basis. This funding has been made available from the Heritage Green Community Trust, the City of Hamilton, the Hamilton Conservation Authority and the Hamilton Conservation Foundation.

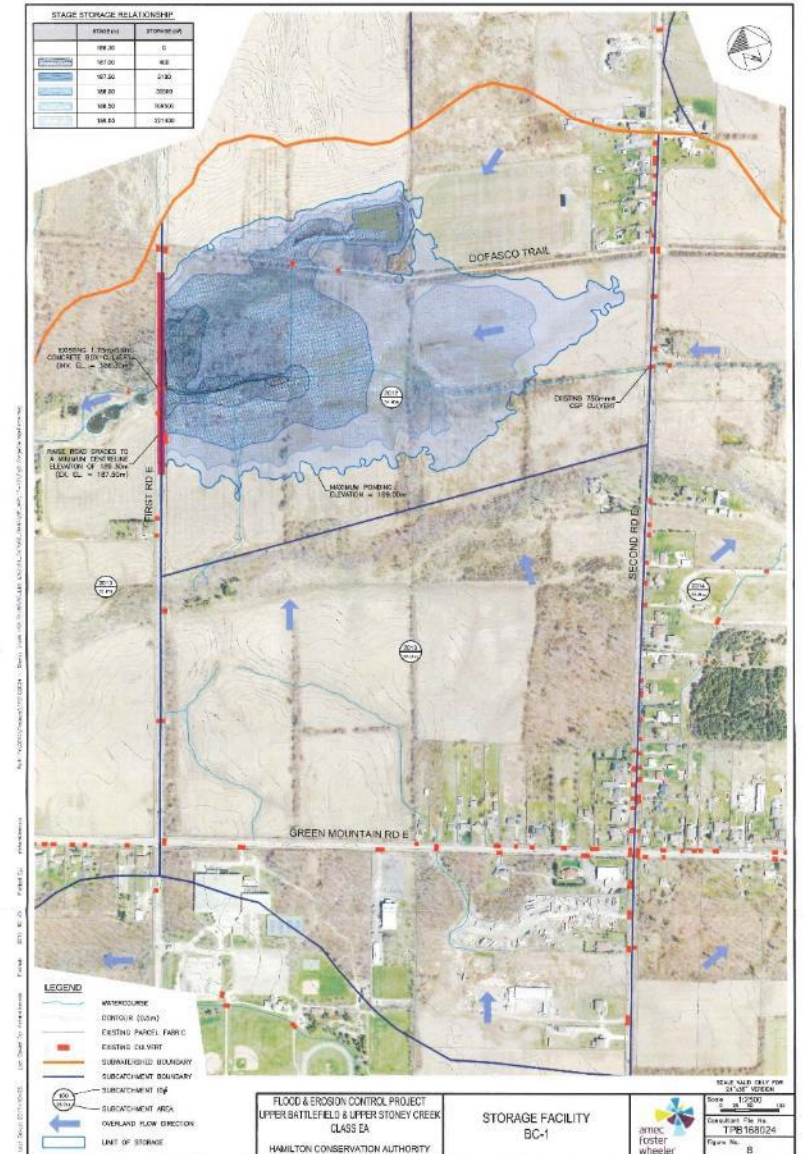
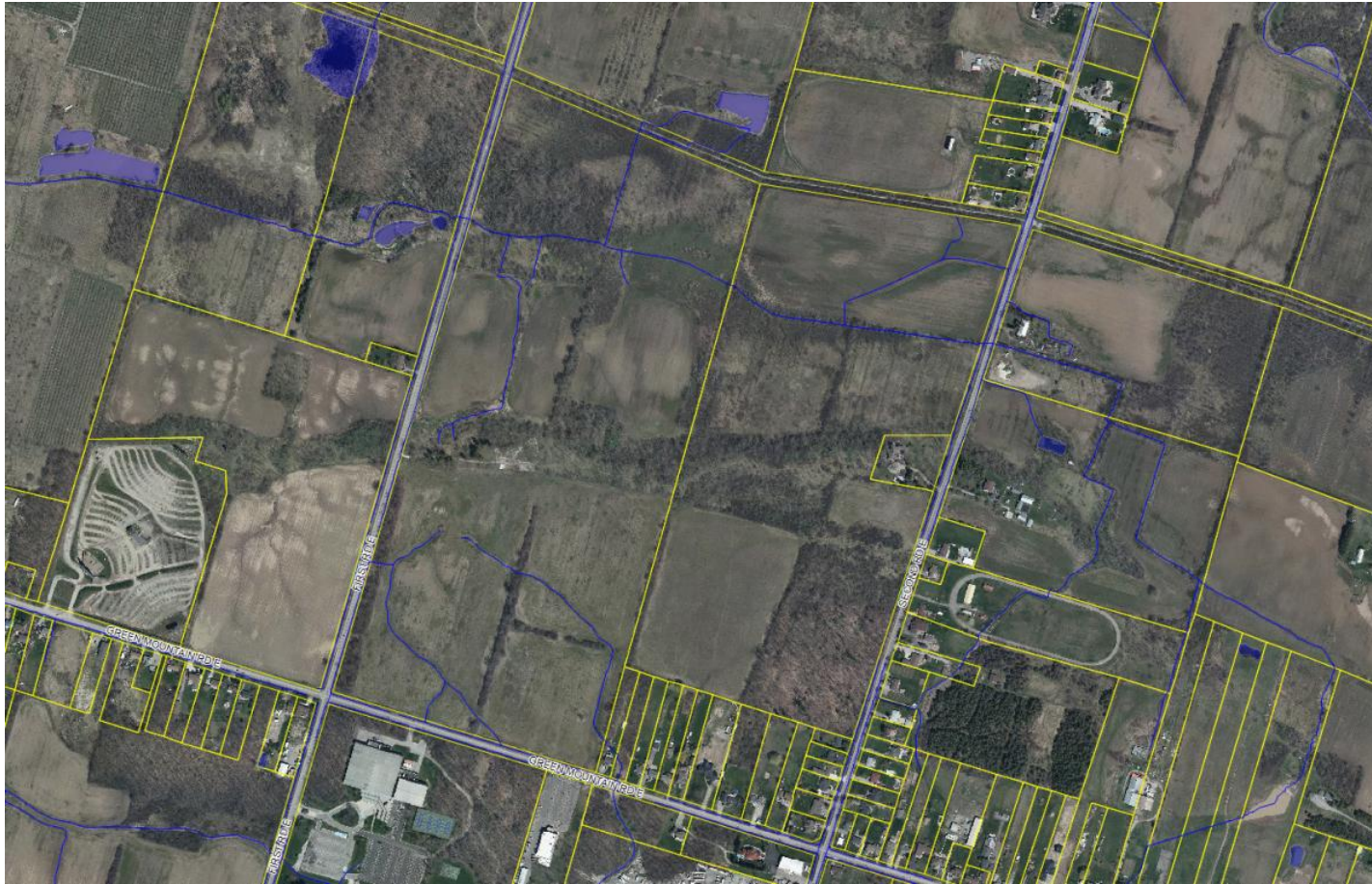
Natural Heritage Conservation and Restoration

- This involves continuing to secure lands as required and to complete studies, complete restoration design for wetlands, creek restoration and reforestation and to implement the completed design and restoration plans. The timing for this work is dependent on funding and securing partners and will commence upon securing funding.

Natural Hazard Attenuation

- This stage involves the completion of required studies to determine how natural hazards (flooding and low flow augmentation) can be addressed through creek restoration, wetland restoration and through holding water on the landscape during storm and runoff events as examples. Securing the required lands for these features will be dependent on the recommendations of the required studies. The timing for this work is dependent on funding and securing partners and will commence upon securing funding.

Environmental Assessment Process/Outcomes

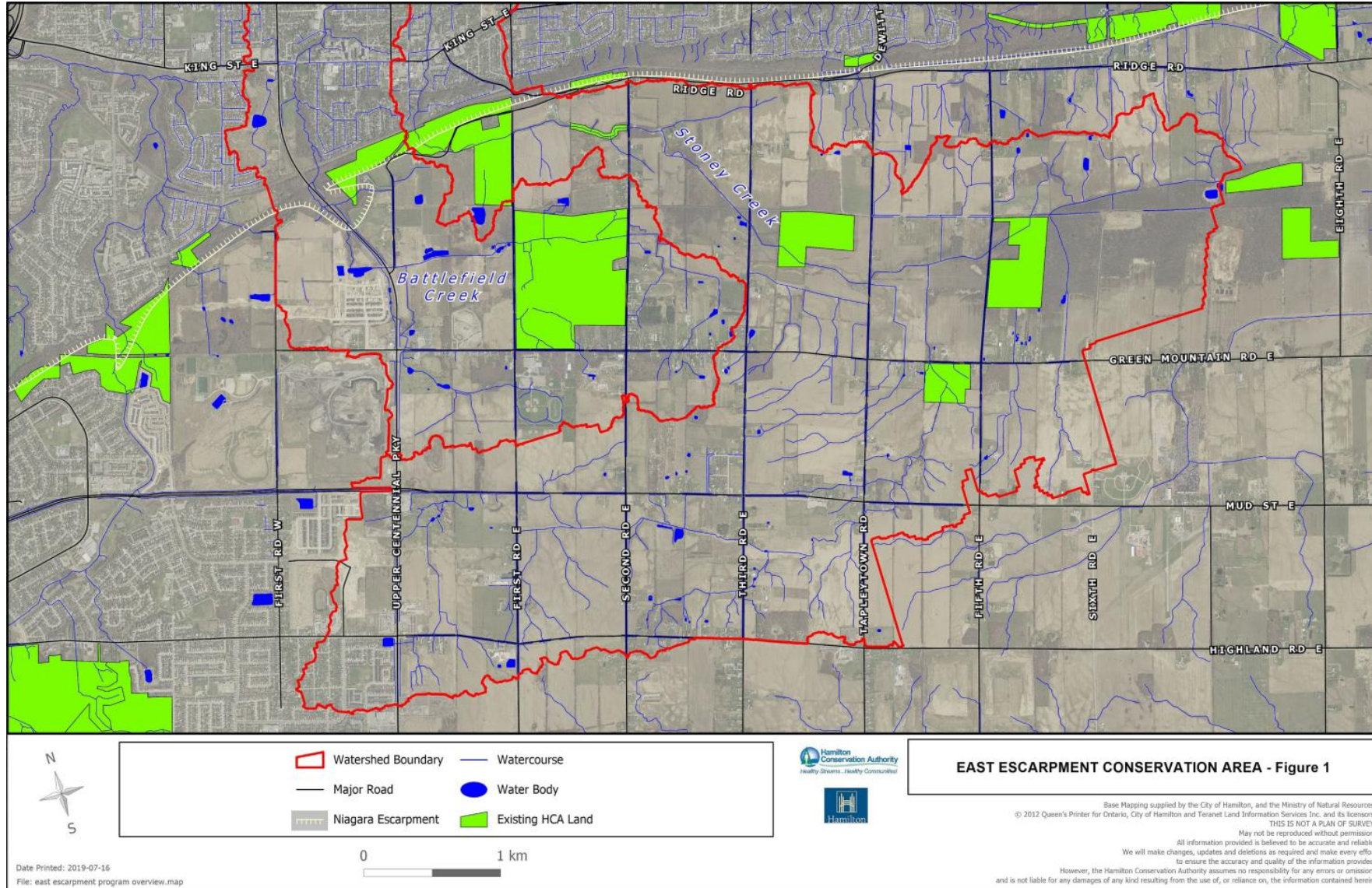


Environmental Assessment Process/Outcomes

Table 3.22. Lower Battlefield Creek and Stoney Creek – Total Properties and Buildings at Risk

Scenario	Storm Event:	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	Regional	Comments
Existing Battlefield Creek ³	Property	1	7	9	10	10	16	52	
	Buildings		1	1	1	1	9	31	
Storage Area BC-1 ¹	Property	1	7	8	9	10	14	52	Negligible impact on flooding numbers within Battlefield Creek.
	Buildings		1	1	1	1	8	31	
Existing Stoney Creek ³	Property		7	24	52	68	86	142	
	Buildings		1	1	6	10	37	85	
Existing Combined Battlefield Creek and Stoney Creek	Property	1	14	33	62	78	102	194	Sum of Existing Battlefield Creek & Existing Stoney Creek.
	Buildings		2	2	7	11	46	116	
Storage Area SC-1 ² (Phase 1 Feasibility Study)	Property				8	21	38	142	Reduces 100 year flooding numbers to less than 25 year flooding numbers within Stoney Creek.
	Buildings				1	1	2	85	
Optimized Flood Storage Scenario (Stoney Creek Only)	Property		2	11	29	31	38	142	Reduces 100 year flooding numbers to less than 25 year flooding numbers within Stoney Creek.
	Buildings			1	1	1	2	85	
Optimized Flood Storage Scenario (Combined Stoney Creek and BC-1)	Property		9	19	38	41	52	194	Reduces 100 year property flooding numbers to less than 25 year flooding numbers. Reduces 100 year building flooding numbers to less than 50 year flooding numbers.
	Buildings		1	2	2	2	10	116	

Land Acquisition



Next Steps

- Continued Land Acquisition
- Detailed Design Work
- Funding
- Construction



Thank you.

