

**Town of Essex**

**Municipal Stormwater Management System**

**Significant Drinking Water Threat Assessment Report**

Prepared by Ontario Clean Water Agency for:

Town of Essex  
33 Talbot St South  
Essex, ON N8M 1A8



**Ontario Clean Water Agency**  
**Agence Ontarienne Des Eaux**

### Purpose

This report is prepared to satisfy the requirements of the Consolidated Linear Infrastructure Environmental Compliance Approval for the Essex Stormwater Management System ECA #029-S701.

A drinking water threat is a land-based activity that can impact the quality of a municipal drinking water source (due to a spill or leak). Significant drinking water threat activities can only occur in vulnerable areas such as Intake Protection Zone (IPZ), Well Head Protection Area (WHPA) and Issues Contributing Area (ICA).

***Figure 1: IPZ's for Harrow-Colchester South WTP***



Figure 1 is the Intake Protection Zone for the Harrow-Colchester South Water Treatment Plant as identified in the Essex Region Source Protection Plan which is downstream of the Town of Essex Stormwater Management System.

The orange area is considered a medium risk vulnerability area and the vulnerability score is rated at 6/10. The yellow area is considered a medium-low risk vulnerability area and the vulnerability score is rated at 4.8. These scores were obtained below in Figure 2.

None of the Stormwater Management System locations for the Town of Essex are within the intake protection zone for the Harrow-Colchester South Water Treatment Plant.

### Source Water Protection Areas in the Essex Region

The Town of Essex Stormwater Management System is located within the Essex Region Source Protection Area (ERSPA). Below are all the different intake protection zones within the Region.



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- Type A: Intakes located in a Great Lake – in the case of the ERSPA there are four WTPs with six intakes which draw water from Lake Erie. These are the Harrow-Colchester South WTP, Union WTP (primary and emergency intake), Pelee Island West Shore WTP and the Wheatley Water Treatment Plant (primary and emergency intake).
- Type B: Intake located in a connecting channel in the Great Lakes system – there are two WTPs with three intakes which take their water from the Detroit River. These are the A.H. Weeks WTP (Windsor - east and west intakes) and the Amherstburg WTP.
- Type C: Intake located in a river which is not part of the Great Lakes system, and neither the direction nor velocity of the flow of the water at the intake is affected by a water impoundment structure – none of these types are found in the ERSPA.
- Type D: If the intake is not a Type A, B or C – this type is characteristic of Lake St. Clair in the ERSPA and includes two WTPs and intakes, Lakeshore (Belle River) WTP and Stoney Point WTP.

***Figure 2 Vulnerability Scores Assigned to IPZ-1S, IPZ-2S and IPZ-3s in the ERSPA***

WTP	Intake Type	IPZ-1	IPZ-2	IPZ-3a	IPZ-3b	IPZ-3c
Stoney Point	D	9.0	6.3	6.3	5.4	4.5
Lakeshore (Belle River)	D	9.0	6.3	6.3	5.4	4.5
A.H. Weeks (Windsor) East Intake	B	9.0	8.1			
A.H. Weeks (Windsor) West Intake	B	9.0	8.1			
Amherstburg	B	9.0	7.2			
Harrow – Colchester South	A	6.0	4.8			
Union Primary Intake	A	5.0	4.0			
Union Emergency Intake	A	6.0	4.8			

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Pelee Island West Shore	A	6.0	4.2			
Wheatley Primary Intake	A	6.0	4.8			
Wheatley Emergency Intake	A	7.0	5.6			

### Overflow Areas in the Stormwater Management System

There are no designed overflow locations for the Town of Essex Stormwater Management System.

### Policy Requirements

Under the Clean Water Act, 2006, 19 Source Protection Regions (SPR) and stand-alone Source Protection Areas (SPA) were established. The SPR are groups of local SPA as well, and there are a total of 38 SPA based on Ontario's 36 Conservation Authorities.

Figures 1 and 2 were determined based on the vulnerability scores of the Well Head Protection Area, Issue Contributing Area and/or Intake Protection Zones as documented in the Essex Region Source Protection Plan (Essex Region Conservation Authority) 2015.

Based on the information above there are no source protection policies that apply in or around the Town of Essex Stormwater Management System.

### Proposed Alterations

Proposed alterations are documented annually in the Annual report and identified if they are considered a significant drinking water threat.

### Revision History

Date	Revision #	Reason for Revision	Revision By
11/28/2023	0	N/A	Stephan Hotz