Old Dundas Road Sewage Pumping Station (HC005)

2014 Wet Weather Relief Master Plan and Class Environmental Assessment
Background on Sewer Systems
2014 Study Purpose

Basement flooding occurs within the Old Dundas Road Sewage Pumping Station (HC005) catchment area during some wet weather and snowmelt events. The purpose of this study is to identify the causes of basement flooding and propose remedial measures to mitigate future basement flooding.
What was done in the previous study?

• Field work was undertaken to define potential sources of infiltration / inflow.

• Flow monitoring identified the magnitude of infiltration / inflow.

• Computer modelling was undertaken to define the extent of the problems.
What are the causes of infiltration / inflow?

• Age and condition of sanitary sewer system.

• Improper private property connections.
2014 Study Recommendations

1. Construct an underground storage facility to hold sewage that would normally surcharge into basements.
Sanitary Storage Tank

- 121 m in length
- 2100 mm diameter concrete sewer
- Under Montgomery Drive
Maximum Capacity from Pumping Station is 140 L/S

- **Average Day = 40 L/s**
- **1:5-year event = 140 L/s**
- **1:100-year event = 240 L/s**
Ancaster Pumping Station

Maximum Capacity from Pumping Station is 140 L/S

- Average Day = 40 L/s
- 1:5-year event = 140 L/s
- 1:100-year event = 240 L/s

Wastewater Storage Tank
Recommendations

2. Reduce Infiltration / Inflow in the public component of the sanitary sewer
Recommendations

3. Remove sources of private property inflow

Driveway catch basin
What does all of this mean?

Collectively, implementation of the Private and Public Property works together with Inline/Offline storage along Old Dundas Road will provide a 100 year level of flood protection against basement flooding for the study area. These works should form the core of the preferred alternative.
Why Consider an Emergency Overflow?

Implementation of an emergency overflow will provide relief to homeowners who would experience flooding during storms which exceed the 100 year level. For this reason this alternative has also been included as part of the preferred alternative solution. Implementation of this alternative will require completion of Phase 3 and 4 of the Environmental Assessment (Schedule ‘C’).
The Existing Project

Study Purpose
To address issues, and define an alternative for storms greater than the 1:100-year return period event.

An integral component of this study will be to define the potential environmental and social impact of the various alternatives.
Technical Components

• Floodplain mapping
• Water quality sampling program
• Fisheries and ecology program
Preliminary Alternatives

• Do Nothing
• Install emergency overflow without treatment
• Install emergency overflow with treatment
• Increase capacity of Old Dundas Sewage Pumping Station and Forcemain
• Others (as per CLC)
Alternative #2: Overland Flow to Creek without Treatment
Alternative #3: Overland Flow to Creek with Treatment
Alternative # 4: Upgraded Forcemain Capacity