



Pelham Severe Weather Incident July 20, 2022

Background

On July 20 2022, a line of severe thunderstorms moved west to east through Niagara Region. While most of the line resulted in minor damage, Pelham reported significant damage to electrical infrastructure, some buildings, and trees. The initial damage was believed to be from Balfour between Memorial and Canboro Road, east to South Pelham Road, and then between Hurricane and Canboro Road in Pelham. Damage varied significantly within this area ranging from light wind damage (e.g., small branches down) to significant damage (e.g., electrical poles snapped in half).

Purpose

The purpose of this document is to provide a summary of this severe weather event for Regional Emergency Management records. It will be shared with partners including the Town of Pelham, Environment and Climate Change Canada (ECCC), and the Northern Tornadoes Project (NTP).

Scope

This document focuses on the observations and actions by Niagara Region Emergency Management. Partners such as the Town of Pelham may have their own reports and summaries.

Timeline

July 18 2022 : Niagara Region Emergency Management noted the potential for severe weather on July 20, 2022.

July 19 2022: Niagara Region Emergency Management notified the Regional Emergency Operations Centre (REOC) regarding the potential for severe weather on July 20, 2022.

July 20 2022: 08:00 – Niagara Region Emergency Management begins enhanced monitoring for potential severe weather expected later in the day.

12:45 – Niagara Region Emergency Management distributed an email to the Local Area Municipal (LAM) Community Emergency Management Coordinators (CEMCs) and the REOC members. The email stated “Severe weather is expected today in southern Ontario. Based on the current forecast models, while Niagara could see severe thunderstorm activity later this evening, the tornado risk remains in south central and southwestern Ontario. Niagara is more likely to experience a line of storms than a tornado, however, it is important to remain alert as the risk isn’t zero and some of the storms may still be capable of producing damaging winds and heavy rain. Please monitor weather watches and warnings as the situation develops.”

14:19 – ECCC issues a severe thunderstorm watch for Niagara.

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21:38 – Regional CEMC noted thunderstorm activity in Niagara with very frequently lightning. Monitors for damage reports.

21:42 – ECCC issues a severe thunderstorm warning for northern Niagara Region. Warning noted the potential for 90 km/h winds and that severe thunderstorms can produce tornadoes.

22:03 – ECCC adds southern Niagara to the severe thunderstorm warning. Some reports of damage start being shared on social media but the full extent is not known until the following morning.

July 21 2022

09:15 – Pelham CEMC alerts Niagara Region CEMC that significant damage occurred in Pelham.

10:00 – Regional CEMC surveys damage. Notes that cleanup is already underway in many areas.

Site Survey

The following provides an overview of some of the damages that were observed on the morning of July 21 2022. It should be noted that Pelham includes diverse properties that are used for residential, commercial, agricultural, and natural purposes. Some areas were not accessible due to the road network, being private property, or natural spaces (e.g., forest). This was not intended to be a full description of the damages but was intended to provide a rough overview.

Balfour St. (between Metler and Sixteen)

Multiple large branches down facing N. Top of tree torn off. Damage continued NE across the road where the property of 1957 Balfour is located.



1957 Balfour St.

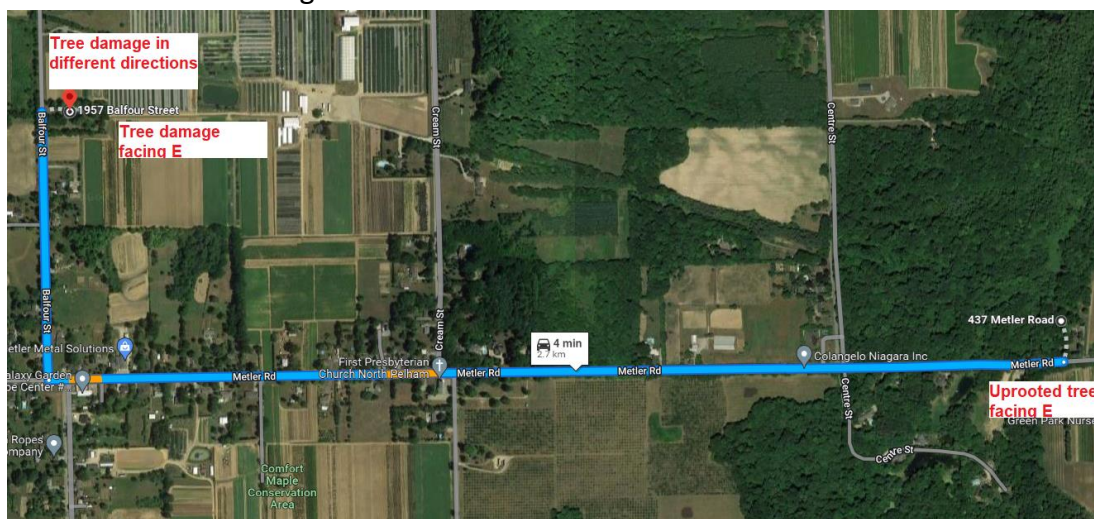
Damage was observed across the road at the residential property of 1957 Balfour St. The homeowner was home at the time of the storm. He reported watching the storm and hearing a loud continuous roar like a jet or freight train after a period of very heavy rain and possible hail. This caused him to immediately seek shelter in the interior of the house as the sound increased and the branches started to fall. Immediately following this, the wind died down significantly. The homeowner had past experiences with tornadoes and stated that the roaring sound was what motivated him to seek shelter. A healthy walnut tree was damaged on the north-side of the property with the top twisted and large branches down on the fence. The broken top of the tree faced north while other branches faced in different directions. A gazebo with patio furniture and cushions several meters away remained untouched.

Several other large branches were down approximately 60 m away on the east side of the property. These branches faced different directions. The homeowner confirmed that they had not been moved.



Across from 437 Metler

An uprooted tree was observed. The tree appeared to have been shallow rooted on a steep incline. A damaged road sign was also noted but damage appeared to have been caused by the falling tree. The tree was facing east.



Haist and Overholt

Large branch observed down by the golf course among smaller branches. The large branch was facing east.

1796 Pelham

Damage to trees and power lines was observed around Pelham and Hollow. Power lines were sagging to the ground. Large branch on roof of the house but no damage to shingles observed. Stick embedded in ground near mile marker to the right of the house. Branches were primarily facing north but some were facing other directions.



Merrittville and Holland

Tree down facing east on Merrittville and Holland. No damage that could be directly attributed to the storm aside from smaller branches was noted in the St. Johns Conservation Area between Pelham and Hollow and Merrittville and Holland.

Hurricane and Chestnut

This was one of two areas observed with significant damage. Multiple large trees and branches down in a residential area, some down on top of vehicles. Power lines were down in this area and there was some damage to streetlights. Some building damage was observed. However, most building damage aligned with where trees had fallen so damage may have been caused by the trees rather than the wind. A bent antenna was observed on one roof.

Clean up was underway but crews reported that tree damage was facing the same direction when they arrived.

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Haist and Highway 20

Another area of significant damage was observed in the neighborhoods around Haist and Highway 20. The hardest hit area appeared to be on Haist north of Highway 20 along damage was noted south as well. Significant damage to electrical infrastructure was observed including multiple electrical poles were snapped and downed power lines. Large trees and large branches had fallen on some vehicles. Several homeowners reported being at home during the storm. They said that they were watching the trees bend and break during strong winds. Wind gusts increased until the strongest gust caused transformer explosions and the poles to snap. Unlike the homeowner at 1957 Balfour, they reported not hearing a roaring sound. Crews on site reported that damage was facing the same direction when they arrived.



280 Pancake Lane

Storm damage was found as far south as Pancake Lane. The homeowners were not present at the time of the storm. This was another site like 1957 Balfour in which tree damage was not in one direction. A tree in the front yard had its top (approximately 12 feet long) taken off and was lying facing E. Additional large branches were down in the front yard facing different directions.



Multiple trees were down in the backyard and appeared to have been snapped near the base of the tree or near their tops for those that were in denser vegetation. The tree shown in the image with the Muskoka chairs was facing east. The chairs were not moved at all. Large branches were down in multiple directions.



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Several meters away from the tree in the image with the chairs was another tree that had been snapped near its base. This tree was facing south along with the top of another tree that was also facing south.



Summary

The July 20, 2022 severe weather incident resulted in damages over a large area in Pelham, Ontario with pockets of more severe damages occurring around Hurricane and Chestnut, and Haist and Highway 20. The observed damage was primarily to trees and electrical infrastructure, however property damage to both buildings and vehicles was observed. Cleanup was ongoing at the time of the site visit so it was not possible to see all damages caused by the storm. The areas noted in this report are visible on the map below for reference. The site visit was not intended to be a full damage survey so there are other areas that experienced damage likely from this event, although attempts were made to capture the areas with the most severe damage.

