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REPORT
Meeting Date: 2024-09-12
Regional Council

For Information

REPORT TITLE: **Peel Region Response to July 2024 Severe Weather Event**

FROM: Kealy Dedman, Commissioner of Public Works

OBJECTIVE

The objective of this report is to provide Regional Council with an update on severe weather event of July 16, 2024, Peel Region's response to the event, and the work that has been underway to improve the wastewater system resilience. This report also includes information on the August 17, 2024, storm event that was available at the time it was written.

REPORT HIGHLIGHTS

- On July 16, 2024, Peel experienced one of the most intense and disruptive severe weather events in its history followed by another significant storm on August 17.
- Heavy rainfall contributed to riverine flooding, urban flooding, and basement flooding causing widespread damage to businesses, homes, vehicles, parks, and recreational trails.
- Staff promptly addressed hundreds of incoming calls, offering immediate assistance and guidance to residents and business owners, managed over one hundred property damage claims, disseminated important public health information, initiated additional flood-related waste collection, provided essential support and referrals to shelters, and distributed clothes, shoes, and food.
- Paramedic Services from Peel, Halton, York, and Toronto combined forces to facilitate the relocation of residents from a private long-term care facility.
- Several sanitary sewer system improvement opportunities identified after the major storm event in 2013 have been completed or are underway including enhanced wastewater flow monitoring, sewer diversions, maintenance hole upgrades, East Trunk Wastewater Storage Facility, East-West Diversion Trunk Sewer, Lakeshore Relief Sewer, and Real-time (Sanitary Flow) Control Systems.
- The Region's Inflow and Infiltration (I&I) Program is ahead of schedule and has surveyed over 82,000 downspouts and disconnected over 2,500 confirmed to be directing stormwater into the sanitary sewer system.
- Staff continue to collaborate with the local area municipalities and conservation authorities on initiatives that will help reduce the impact of future storms.
- Without continued leadership, resources, and continued collaborative efforts dedicated to climate change action, there is considerable risk to Peel residents' health and wellbeing, and the ability for Region of Peel to effectively deliver services.

Peel Region Response to July 2024 Severe Weather Event

DISCUSSION

1. Background

On July 16, 2024, Peel experienced one of the most intense and disruptive severe weather events in its history. The community was battered by a powerful storm system that brought extreme levels of rainfall within a short period, leading to widespread flooding, damage to homes and businesses. This was followed by another significant storm, in a narrower area, on August 17, 2024, that resulted in the highest recorded single-day rainfall of 128.4mm at Pearson Airport. While it is challenging to attribute any single weather event directly to climate change, the increasing frequency and intensity of such storms are consistent with climate change predictions. Warmer temperatures can lead to more moisture in the atmosphere, which can result in heavier rainfall and more severe storms.

Wastewater systems are not immune from impacts from overland flooding which results in inflow and infiltration (I&I) of stormwater into wastewater systems. Inflow occurs from directly connected sources including sump pump and drainage systems connected to wastewater systems. Infiltration into wastewater systems originates from groundwater entering defects in infrastructure.

Increased monitoring, planning, capital investment, remediation measures, and emergency preparedness, have allowed Peel Region to come through the extreme storm events of 2024, with far less sanitary sewer system flooding resulting from I&I issues than the severe weather event that occurred on July 8, 2013.

2024 Storm Events

The July 16, 2024 storm event was more intense across Peel, with a larger volume of rainfall than in 2013, and over a broader area than the August 17, 2024 storm. More areas in Peel were impacted by storms so large that historically it would only be expected to happen once every 100 years (or 1 per cent chance per year). In addition, the total volume of rain that fell on July 16, 2024, was greater than on July 8, 2013. Please refer to the table below and the rainfall maps on Appendices I to III inclusive for more details.

Storm Rainfall Comparison Data

	2013 Storm	**2024 July Storm**	**2024 August Storm**	**1954 Hurricane Hazel****
Ave Monthly Rainfall - July	75mm to 85mm			--
Max 1-hour Storm Rainfall	69mm	65mm	94mm	--
Max 2-hour Storm Rainfall	83mm	98mm	125mm	--
Max 3-hour Storm Rainfall	87mm	122mm	132mm	90mm
Total 24-hour Storm Rainfall	101mm	143mm	143mm	137mm
Total 48-hour Storm Rainfall	137mm	156mm	180mm	214mm
Week prior + Storm Rainfall	170mm	220mm	180mm	> 214mm
Rainiest Day at Pearson Airport	126mm	98mm*	128mm	121mm

** While the July event rainfall totaled 97.8mm at Pearson Airport south and central sections of the City of Mississauga experienced rainfall of upwards of 143mm*

***Please note that Hurricane Hazel may have been more intense. The data available was collected using limited rain gauge data 70 years ago. All other storms above were evaluated using GARR.*

It is worth noting the volume of rainfall that occurred during the week prior to the July 2024 storm was also greater than the week prior to the 2013 storm in most locations across Peel. Saturated ground conditions prior to a storm prevents the rain during the storm from infiltrating the soil resulting in greater runoff and flooding. The total rainfall from the July 2024 storm combined with the rainfall from the week before the storm was 220 millimetres. This rainfall represents approximately three times the average total rainfall for the whole month of July. In comparison, the highest rainfall intensity during Hurricane Hazel on October 15-16, 1954 was experienced in Brampton with a 48-hour storm rainfall of 214mm, preceded by two weeks of rain. As of the August 17, 2024 storm, 2024 now represents the wettest summer ever recorded at Pearson Airport with a rainfall of 475.8mm, breaking the previous record of 396mm recorded in 2008. The average summer rainfall at Pearson Airport (1991-2020) is 222mm.

Impacts of Severe Weather

The heavy rainfall of these severe weather events contributed to riverine flooding, urban flooding, and basement flooding. Riverine flooding occurs when prolonged or excessive precipitation causes rivers and creeks to overflow their banks, flooding adjacent property. The volume of water exceeding the river's capacity can result in widespread damage to businesses, homes, parks, and recreational trails situated along the river's course. This type of flooding is often exacerbated by saturated soil conditions, where the ground can no longer absorb additional water, leading to rapid runoff and elevated water levels.

Urban flooding, on the other hand, is primarily a consequence of heavy rainfall overwhelming stormwater drainage systems in populated residential and commercial areas. In cities, impervious surfaces like roads and pavements prevent water from being absorbed into the ground. If intense rainfall exceeds the capacity of the stormwater drainage system it will runoff and accumulate in parks, yards, parking lots, streets, and low-lying areas. This flooding can lead to significant disruptions, including traffic delays, road closures, property damage, and public health risks.

Basement flooding, a subset of urban flooding, often occurs when heavy rainfall causes storm water to enter homes and businesses through windows and doors or seep through foundation walls, floors or floor drains and plumbing fixtures, especially in areas with poor drainage or where groundwater levels are high. Basement flooding is a key contributor to inflows into wastewater systems as floor drains and submersible pumping systems are typically connected to the wastewater system.

Storm water entering the sanitary sewer system can cause the system to reach or exceed its capacity, resulting in treatment plant overflows, backflows, and surcharges. This surcharge effect can lead to untreated or partially treated sewage being pushed back into residential and commercial buildings, causing basement flooding, health risks, and property damage.

2. Peel Region’s Response to the Storm Event

On the evening of July 16, 2024, the Public Works Commissioner provided council a summary of Peel Region’s response to the severe weather event. The information below provides a follow up, expanding on the key points discussed and outlining the efforts by the Region.

Peel Region Response to July 2024 Severe Weather Event

Water and Wastewater Response

Water and Wastewater Operations promptly addressed hundreds of incoming calls, offering immediate assistance and guidance to residents and business owners, particularly concerning sewer backup issues. Operators conducted thorough site assessment surveys to evaluate the extent of the flooding.

The table below summarizes the number of flooding-related calls the Region received during the recent storm events, compared with the calls received from the major storm event in 2013. Please refer to Appendix IV for a map of the locations of the flooding-related calls received. As of August 14, 2024, there have been 105 property damage claims received by the Region's Loss Management team.

Number of Flooding-related Customer Calls Received

	2013 Storm	2024 (July) Storm	2024 (Aug) Storm
Caledon	0	2	1
Brampton	537	170	22
Mississauga	1612	302	77
Unknown	9	0	0
TOTAL	2158	474	100

Flooding-related customer calls, property damage claim information, and mapping data was requested by the Mississauga Fire Chief and was provided through the Regional Emergency Management and Corporate Security office. This information will help support the City of Mississauga's effort to seek disaster recovery assistance from Ministry of Municipal Affairs and Housing.

The Environmental Control team responded to environmental spills resulting from system overflows and facility overflows caused by the storm, taking prompt action to minimize the impact. Throughout the event, there was regular communication with the Ministry of the Environment, Conservation and Parks (MECP) and Peel Public Health, ensuring that all necessary regulatory reporting was completed.

In addition to the direct community support efforts, staff also monitored, collected, and analyzed rainfall data and sanitary sewer system performance information which will be used to calibrate the hydraulic model, identify improvement opportunities, and support Loss Management effectively manage property damage claims.

Peel Public Health Response

Peel Public Health collaborated with Communications to disseminate important public health information on topics such as food safety and mold and worked with Operations staff to issue a media release addressing the secondary treatment bypass at GE Booth Water Resource Recovery Facility advising against the use of Lake Ontario beaches. Public Health also posted warnings for beaches, including Professor's Lake, declaring them unfit for recreational use until bacterial levels were deemed acceptable through subsequent sampling. In addition, Public Health supported the Public Works team in handling media inquiries in the days following the flooding.

Public Health Inspectors also supported the flooded Tyndall long-term care facility, closely monitoring the situation, with residents relocated to facilities in Toronto and Peel. Public Health is in ongoing communication with the operator of Tyndall and will ensure that a compliance inspection is completed before the premises are reopened. The Peel facilities, Erin Mills Lodge and Wellbrook Place are inspected by Public Health. Public Health staff also provided information and follow up support to residents and four child care facilities who were flooded as a result of the July 16th storm.

Human Services Response

The Human Services outreach team was fully engaged in responding to the impacts of the severe weather including addressing the immediate needs of individuals affected by washed out encampments by providing essential support, referrals to shelters, and distributing clothes, shoes, and food. The Brampton Queen Street Youth Shelter's male dormitory experienced significant flooding, necessitating the relocation of all male residents to a nearby hotel until the damages caused by the flooding are repaired.

Peel Transportation Response

The Region is responsible for the installation, maintenance and operation of all public stormwater infrastructure located within Peel Regional Roads. Each of the local municipalities is responsible for the conveyance and control of stormwater within the local road network, associated private/public connections, and drainage to their respective stormwater management and conveyance systems.

The Region's stormwater system is made up of the minor and major systems. The minor system consists of ditches, the underground storm sewer system, and Low Impact Development (LID) Best Management Practices, which provide the first response level of protection by conveying flows from the more frequent, lower intensity storm events. Flow to the minor system is restricted to the capacity of the pipes, LIDs, and associated appurtenances. The major system consists of specially engineered overland flow routes along the road network, ditches, swales, and high-capacity water courses. It is designed to convey runoff from the less frequent, higher intensity storm events that are in excess of the minor system design capacity.

Throughout the day on July 16, staff received numerous reports of roadway flooding. The following areas were impacted most significantly:

- Dixie Road and Blundell Road underpass was severely flooded, trapping a vehicle which required police and tow truck intervention,
- Winston Churchill Boulevard south of Bovaird Drive (from Bovaird Drive to 10th Sideroad), shoulder washouts on both northbound and southbound lanes,
- Britannia Road and Ninth Line, water overflow caused catch basin lids to open, crews blocked lanes to prevent vehicle entry,
- Dixie Road & Orenda Road underpass flooding,
- Dixie Road and Dundas Street intersection flooding.

By 3:00 PM on July 16, all locations had reopened except for the Dixie-Dundas intersection and the Dixie Road underpass between Dundas Street and The Queensway. Staff, in coordination with the Police, remained on site to ensure safety while the water was receding and to remove vehicles before reopening these areas. Follow-up inspections will be conducted to address any necessary repairs, with all locations having been reopened by 8:00 PM.

Waste Management Response

Peel's Waste Management staff quickly implemented its flood response plan (similar to those used for past flood events) to collect flood-related waste while maintaining regular waste collection services.

Waste collection staff received 442 calls from Customer Contact Centre requesting the removal of flood-related waste. Curbside staff worked closely with collection contractors and residents to ensure that all flood-related materials were collected promptly. Staff also checked unreported addresses with set-out materials and verified that items were not part of ongoing insurance claims.

Due to the high volume of waste set out curbside and insurance claim delays, two collection days for flood-related materials were scheduled for Friday, July 26 and Friday, August 2, 2024. Five collection vehicles were used on each additional collection day. Following the first two weeks after the flood, the number of calls and tonnage dropped and contractors were able to collect flood-related material on regular collection days.

A total of 97 tonnes of flood-related waste was collected curbside since the July 16 event. An additional 99 tonnes of flood related waste were accepted at Peel's Community Recycling centres from 494 residents since the July 16 event.

Peel's Waste Transfer Station Network was able to receive and transfer the 196 tonnes of flood-related waste from both the curbside collection contracts and the CRCs with no additional staff or shifts.

A second spike in flood-related waste is expected following the August 17 event.

Paramedics Response

Peel Regional Paramedic Services responded to this event with the appropriate resources to ensure safe evacuation and transportation of the residents to their temporary locations. Paramedics work collaboratively with many agencies throughout this response: Peel Regional Police, Mississauga Fire and Emergency Services, Region of Peel Emergency Management, Transhelp, and local municipal transit. Paramedics also leveraged assistance from Halton Region Paramedic Services, Toronto Paramedic Services and York Region Paramedic Services. The success of the event, including the rescue, evacuation, and transportation of 114 residents, was enabled by the strong working relationship and communication between all services involved.

3. Progress Since the Previous Major Storm in 2013

a) Monitoring Capabilities

Sanitary Sewer Flow Monitoring

Since 2013, the Region has dramatically increased its ability to monitor and understand the performance of the sanitary sewer system. The Region has increased the number of flow meters in the sewer system from approximately one hundred and thirty in 2013, to over four hundred in 2024. Flow meters are used to study high risk areas, inform programs such as the downspout disconnection program to reduce storm water getting into the sanitary sewer, improve the accuracy of the hydraulic model, predict population growth needs, and identify opportunities to improve the resilience of the sanitary sewage system. Flow monitoring also assists staff in directing primary response needs including dispatching of equipment to alleviate surcharging, where it is occurring.

Rainfall Monitoring

The Region has the most advanced rainfall data gathering network available in the Greater Toronto Area through a successful partnership. The data from over one hundred rain gauges from Peel, Halton Region, City of Mississauga, and the regional conservation authorities is paired with radar rainfall data, to produce gauge adjusted radar rainfall (GARR). The GARR data is available online and updated in real-time every 15 minutes. In conjunction with the real-time GARR data, a high accuracy short term forecast system (2 Hour NowCast) is in operation, which sends alarms to Operations staff and other groups at the Region, to allow for advanced preparation for predicted extreme weather.

Transportation Maintenance staff further monitor the weather and when heavy rainfall is expected, staff are deployed to Regional roads where there is known flooding to address issues quickly.

b) Capital Works Projects Improving Sanitary System Resilience

Real-time (Sanitary Flow) Control Systems (RTC)

The implementation of Real Time Control (RTC) strategy on the Region's trunk sanitary sewage system is in development. RTC will optimize the operation of the system and make better use of both existing and planned infrastructure. It will also provide a foundation for continual improvement as well as serve as a catalyst for software integration and digital transformation within the wastewater system. The Region is currently engaged in two pilot research projects, which seek to leverage artificial intelligence and machine learning, in conjunction with real time flow monitoring, NowCast, and GARR data, to facilitate real-time advanced sewer flow prediction.

New East Trunk Wastewater Storage Facility

The Region conducted a feasibility study followed by a Class Environmental Assessment to determine if a new wastewater storage facility could be used for storage of peak flows during wet weather events. Sewage would be temporarily diverted from the East Trunk Sewer system to the storage facility reducing the risk of bypassing at the GE Booth Water Resource Recovery Facility.

The East Trunk Wastewater Storage Facility is currently in the late stages of construction with a target completion of 2025. This facility has a capacity of 15 million litres and will form part of the Region's RTC strategy. The project is partially funded through the Government of Canada's Investing in Canada Infrastructure Program which delivers funding through the Investing in Canada Plan.

New East to West Trunk Sewer

Construction of a 2400mm diameter trunk sewer along Derry Road from east of Bramalea Road to Creditview Road. The new trunk sewer, along with the RTC strategy, will enable wastewater to move across from the east trunk system to the west trunk system providing flexibility to balance wastewater flow in the overall system, including during wet weather events. The new sewer also has the ability to store flows during high inflow events. Construction is currently underway and expected to be in service in 2027.

New Lakeshore Relief Sewer

Construction of a new 2400mm diameter sanitary sewer along Lakeshore Road from Jack Darling Park to Elmwood Drive will divert sanitary sewage flows away from the G.E.

Booth Water Resource Recovery Facility to the Clarkson Water Resource Recovery Facility. The new trunk sewer will support planned growth, eliminate several wastewater pumping stations along with their operational costs, and provide wet weather storage capacity for peak flow attenuation and emergency containment. The relief sewer also provides for dissipation of high flows in the local sanitary system by diverting high flows to a deep sewer. Construction is expected to commence early 2025.

Sanitary Sewer Pipe Replacement and Rehabilitation

Over the past 10 years Peel Region has renewed approximately 113.5 km of local sanitary sewer infrastructure, investing $181.5 million. Each pipe is evaluated for its capacity to meet storm event and ultimate population growth requirements prior to replacement or rehabilitation. If the existing pipe capacity does not meet these requirements, a larger capacity pipe is chosen to replace the exiting sanitary sewer pipe.

Sanitary Sewer Diversions

After the 2013 major storm event, staff completed a comprehensive analysis of sanitary sewer system performance under the extreme conditions. Several improvement opportunities were identified, to divert wastewater flows away from neighbourhoods to the sanitary trunk system more efficiently. Some examples of these sanitary sewer diversion capital projects include:

- Haig Boulevard, Dixie Road, Aviation Road, Beechwood Avenue diversions
- Rathburn Road East and Golden Orchard Drive along The Little Etobicoke Creek
- Cawthra Road Relief sewer between Burnhamthorpe and Dundas. This work was integrated with growth-related needs resulting in a new trunk sewer constructed along Cawthra. Future extension of the relief sewer is proposed in future budget years.

Maintenance Hole Upgrades

Maintenance holes are a source of groundwater inflow and infiltration (I&I) to the sanitary sewer system. Winter freeze/thaw effects make maintenance holes more susceptible to I&I. The most effective way to reduce the I&I around maintenance holes is to wrap a membrane product around the outside of the maintenance hole “chimney”. However, this requires excavation which makes the exercise cost prohibitive. In 2016, staff identified a successful and cost-effective opportunity in collaboration with the City of Mississauga to integrate maintenance hole chimney wrapping with their road resurfacing program. Wrapping new maintenance holes is included in the Region’s new design standards.

c) Inflow and Infiltration (I&I) Program

To combat the negative impacts of I&I, Region staff developed a comprehensive multiyear “I&I Reduction and Mitigation Strategy” (Strategy) approved by Regional Council (Resolution 2019-522). The Strategy applies an optimal blend of reduction, mitigation, and prevention to effectively address inflow and infiltration.

The Downspout Disconnection Program helps reduce excess rainwater from entering the sanitary sewage system which reduces the risk of basement flooding through the removal of downspouts which are confirmed to be directly connected to the wastewater system. The Region surveys properties and only disconnects downspouts that are confirmed to be connected to the sanitary system. This is done by Region forces, free of cost to property owners. To date, all connected downspouts have been addressed in highest priority areas including Park Royal (Mississauga), Avonhead (Brampton), and

Bolton (Town of Caledon). Work is underway in Downtown Brampton and South-East Mississauga. To date, over 82,000 downspouts have been surveyed and over 2,500 downspouts have required to be disconnected.

Several prevention-related projects, in collaboration with local area municipalities, conservation authorities and the development industry, have been completed or well underway.

- Residential Guide to Flood Prevention and Recovery
- Sanitary Backwater Valve Rebate Program (Region prioritizes addressing I&I issues and considers a backwater valve as a last resort due to inherent installation and maintenance challenges)
- Collaborating with local area municipalities on connectivity between storm and sanitary systems
- Collaboration with TRCA successfully receiving funding to deal with climate change impacts on creeks and sanitary sewer network.
- Collaborating with Building Industry and Land Development (BILD) to improve design and construction standards. Peel's new standards related to the wastewater system include numerous design improvements to reduce and/or eliminate the potential for inflow and infiltration and are amongst the most comprehensive standards in the industry.

Please refer to Appendix V for flood prevention information resources.

d) Stormwater Management Program

The Region has a maintenance program for storm assets, inspections, condition assessments and maintenance that follows approved levels of service. Staff are regularly deployed to low-lying areas to monitor and clear catch basins, ditches, culverts, and inlets to ensure optimal drainage once rain begins. These programs have been prepared and implemented to ensure proper working condition of the storm sewer system and have been revised and improved based on localized areas more susceptible to flooding. The Stormwater Management program helps ensure that the current stormwater network has sufficient capacity to drain runoff from Regional roadways.

4. Next Steps

a) Wastewater System Performance Under Extreme Conditions Analysis

The Region has retained Stantec Engineering to analyze flood-related call information, on-site flooding surveys, wastewater facility performance data, GARR, and wastewater flow data to evaluate the sanitary sewer system response to the July 16, 2024, and August 17, 2024, severe weather events. This study will help identify opportunities for improvement of flow monitoring locations, wastewater conveyance, and RTC strategy. The study is expected to be completed before the end of 2024.

b) Collaborate with Local Municipalities and Conservation Authorities

The Region will continue to collaborate with local area municipalities and conservation authorities, including debriefing on lessons learned from the storm event, coordinating any capital projects to improve stormwater management, and educating property owners on flood prevention.

The Region is also partnering with the Toronto and Region Conservation Authority (TRCA) on a Road Flood Vulnerability Study. The Study will identify Region of Peel watercourse crossings (culverts and bridges) that meet and do not meet Level of Service performance target(s) based on Ministry of Transportation Ontario (MTO) criteria for both current and projected future climate, as well as identify road segments, that meet and do not meet Level of Service performance target(s) based on current and projected future climate. This study will enable the Region to better understand risks to regional roads and watercourse crossings associated with climate change, provide information and insights that can be used as part of capital planning decision making, and help the Region minimize disruption to the public, emergency vehicles, and increase resilience to climate change.

The Region continues to adapt storm infrastructure for the increased flows expected from climate change. Peel is a leader in right-of-way stormwater management methods and design standards, and chairs the Municipal Stormwater Discussion Group, a group of more than 80 municipalities across Ontario, committed to improving stormwater management practices and sharing their knowledge and experience.

c) Manage Damage Claims Received from Property Owners

As of August 14, 2024, approximately 105 property owners, their home insurers and motorists have provided the Region with their notice of an intention to claim for damage sustained to their homes, property, or vehicles as the result of flooded basements, properties, or roads. Most of the claims stem from flooded basements.

Staff have acknowledged such notices of the intention to claim by providing suggested guidance as to how to deal with the damage, either through their insurance or through proper restoration, and indicated that while the Region investigates and reviews the performance of the wastewater and Region Road systems, in response to the intensity of the rain and the local and private property stormwater systems, the Region does not acknowledge or admit liability. The Region's wastewater ex gratia grant of up to $1,500 specifically excludes application for damage caused by rainfall, flood or other natural occurrence.

Staff have undertaken to provide a follow-up communication following its review of the performance of its systems, indicating that follow-up may take several weeks to months. Staff also provide guidance for property owners to consider in trying to make their own property more resilient to the impact of intense rain events.

BILL 112 RISKS AND IMPLICATIONS

On June 8, 2023, the Province passed Bill 112, the *Hazel McCallion Act (Peel Dissolution), 2023*, which was initially intended to dissolve the Region of Peel and provided for a Transition Board to make recommendations to the province on how to implement the restructuring. On June 6, 2024, Bill 185 took effect, amending Bill 112 and reversing the decision to dissolve the Region of Peel. Bill 185 changed the name of the legislation to the *Hazel McCallion Act (Peel Restructuring), 2023* and recalibrated the Transition Board's mandate to focus on making recommendations on land use planning; water and wastewater; storm water; highways; and waste management. Final details of the Transition Board's recommendations, any associated provincial decision and impacts on Peel services are not known at this time and will be addressed in future reporting to Regional Council.

FINANCIAL IMPLICATIONS

There are no immediate financial implications resulting from this report. The costs incurred, summarized below, will be funded from the current budget. There are potential financial implications for future capital budgets once the severe weather event wastewater system performance study has been completed and recommendations are considered for future budget.

Human Services

Youth Shelter Relocation

The youth who were temporarily relocated from a flooded shelter to a hotel were accommodated by using the existing youth overflow rooms.

Water and Wastewater

Operational Costs Incurred To Date

	Cost
Front line operations	$142,620
Supervisor/Foreperson	$44,000
Spills Staff	$4,050
Spill Clean up	$20,000
TOTAL	$210,670

Waste Management

Total Tonnage and Financial Impact To Date

	Tonnage	Cost
Waste Collection	97	$22,657
CRCs	99	$13,049
Haulage and Disposal	196	$15,680
TOTAL		$51,386

Transportation

Operational Costs Incurred To Date

	Cost
Labour	$33,389
Vehicles	$18,288
Equipment	$617
Materials	$5,189
Contractors	$3,599
TOTAL	$61,082

Property Damage Claims

At this time, it is not possible to quantify the financial exposure of any possible litigation that may be commenced against the Peel Region and given the notice of claims and potential for litigation.

CONCLUSION

Peel recently faced some of the most severe weather events in its history, and thanks to the dedicated efforts of staff, working closely with local area municipalities, conservation authorities, and other external agencies, the community was well-supported. Improvements to the infrastructure and operations under the Region's responsibility identified after the last major storm have been implemented or are in progress, which led to significantly fewer flooding issues compared to the storm event in 2013. Moving forward, staff will continue to review lessons learned and enhance stormwater drainage systems on Regional roads and wastewater systems to better protect and serve the communities in Peel.

Climate change is and will continue to affect our communities. Extreme weather impacts extend from impacts to infrastructure to health, social structures, and our economy. Climate change action has been a Region of Peel priority for over a decade, and continued advocacy and leadership from all sectors within Peel is needed to build a community that is resilient to the impacts of climate change. Without continued leadership, resources, and continued collaborative efforts dedicated to action, there is considerable risk to Peel residents' health and wellbeing, and the ability for Region of Peel to effectively deliver services.

APPENDICES

Appendix I – Rainfall Maps of the July 2024 Severe Weather Event
Appendix II – Rainfall Maps of the August 2024 Severe Weather Event
Appendix III – Rainfall Maps of the July 2013 Severe Weather Event
Appendix IV – Map – Flooding-related Customer Calls
Appendix V – Flooding-related Resources for Property Owners

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