

Property Address

# Flood Emergency Response Plan



**City of Markham** | Anthony Roman Centre  
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This is a sample outline of a Flood Emergency Response Plan for a typical commercial or industrial property at risk of flooding. It is being provided by the City of Markham as a guide to the content that would typically be included in a Flood Emergency Response Plan.

Each property has different characteristics, uses and flood risks, and a Flood Emergency Response Plan should be prepared by a qualified professional engineer and tailored to the property and associated flood risk.

# 1 Purpose

A Flood Emergency Response Plan (FERP) provides guidance for actions to be taken before, during and after a flood. A well planned and executed FERP can significantly reduce property damage and business interruption from a flood event.

The plan should be reviewed and updated at least annually to remain vigilant against the risk of flooding and reflect the latest available information regarding site specific flood risks and best practices for flood damage mitigation.

The FERP should be maintained on site at all times.

## 2 Flood Risk

This section should contain information on the risk of flooding over the property and into the building, and the anticipated flood depths associated with different potential future storm events. This could include:

- Source(s) of flooding (riverine and urban drainage)
- Types of weather events that can cause flooding
- Advanced warning / lead time for severe weather and flooding
- Potential duration of flooding over the site
- Potential flood depths within the property and along the roads leading to and from the property
- Potential flood depths in the building
- Description of critical areas and infrastructure at risk of flooding
- Assessment of business impacts during and following a flood

Much of the information on flood risk and flood depths was presented in Section 3 'Current Flood Risk and Potential for Flood Damages' of the concept design reports that were prepared for specific properties by the City of Markham.

For other properties, flood depth mapping can be found in the Project File Report (Final ESR Document) for the Don Mills Channel Flood Reduction Study (<https://www.markham.ca/wps/portal/home/about/city-hall/city-projects-initiatives/current/stormwater-management/don-mills-flood-reduction/don-mills-channel-flood-reduction>)

This FERP should also include flood depth maps for the property that were included with the concept design report or taken from the Project File Report.

## 3 Roles and Responsibilities

### 3.1 Authority to Activate the Plan

The authority to activate the plan is critical, as business operations may be temporarily halted, and public access to the site and building may be restricted to reduce the overall damage and potential business interruption. It may also require staff resources to be redirected to install active flood protection measures such as sand bags and flood shields.

This FERP should describe the person or people who have the ultimate authority to activate response actions. There should be one person with such authority on site at all times when the building is occupied.

**Table 3-1 Authorized Individuals**

Name	Primary Phone	Alternate Contact Method

### 3.2 Additional Contacts

**Table 3-2 Property Contacts**

Name	Primary Phone	Alternate Contact Method
General Manager		
Emergency Plan Co-ordinator		
Health and Safety Committee Chair		
Maintenance Manager		
Security		
Vendors, external service providers		

**Table 3-3 External Contacts**

Organization	Contact Person	Contact Information
Toronto and Region Conservation Authority		
York Region Police		
Markham Fire Department		



## 4 Severe Weather and Flood Warning Resources

The FERP should include information on who is responsible for monitoring for severe rainfall, sources for current and forecasted weather conditions, and frequency and methods for monitoring. There should be a person or people assigned responsibility for monitoring rainfall at all times, even when there are no staff in the building.

Potential sources of information for predicted and actual rainfall and flooding include:

- Local TV and radio stations
- The Weather Network
- Environment Canada's WeatherCAN App [www.canada.ca/en/environment-climate-change/services/weather-general-tools-resources/weathercan.html](http://www.canada.ca/en/environment-climate-change/services/weather-general-tools-resources/weathercan.html).
- Environment Canada weather radar
- Toronto and Region Conservation Authority (TRCA) Flood Forecasting and Warning (<https://trca.ca/conservation/flood-risk-management/sign-up-for-flood-messages/>)
- TRCA real time precipitation data <http://beta.trcagauging.ca/gauge/kennedy-pump-station-precip>
- Observations of water levels in the Don Mills Channel (where visible)
- Social media, ideally in the form of a community of people who work in the same flood prone areas

## 5 EMERGENCY RESPONSE PLAN

This critical section of the FERP must be completed by the property owner and/or business owner and tailored specifically to the conditions of the site, operation of the business and capabilities of staff.

It should include specific actions to be taken prior to, during and following a predicted or actual severe storm event. The plan will help prioritize actions to minimize damages to the extent feasible if a flood were to occur.

The content for this section could include activities such as the following, and should be prioritized based on effectiveness in protecting health and safety, and minimizing flood damages:

- Stopping incoming shipments, expediting outgoing shipments
- Relocating vulnerable and valuable goods, equipment, materials, etc. to higher elevations both inside and outside the building
- Alerting staff and directing them to move vehicles to areas of higher elevation on or off site
- Evacuating staff from the site before surrounding roads become impassable due to flooding
- Deploying active flood proofing measures (sand bags, flood shields, etc.)
- Filling or securing waste containers and other containers to prevent them from floating and leaving the site
- Shutting off power to the building
- Planning and securing supplies to quickly recover from flood damage
- Establishing agreements with vital contractors and suppliers (prior to flooding) such that equipment and services can be restored or replaced as quickly as possible

## 6 Recovery Plan

This critical section of the FERP must also be completed by the property owner and/or business owner and tailored specifically to the conditions of the site and operation of the business. The recovery plan should consider immediate actions to be taken following a flood to prevent further losses and damages and prioritize works to allow the building and business to reopen safely and quickly.

The content for this section could include activities such as the following:

- Safely restoring power to the building if shut off manually or automatically due to flooding
- Inspecting and testing all fire protection systems
- Repairing or replacing critical equipment
- Contingency planning for temporary relocation
- Initiating immediate recovery activities (removing water from the building, drying the building with fans and dehumidifiers, removing carpets and drywall, etc.)

## 7 Administration of the Plan

The Flood Emergency Response Plan should be maintained up to date and kept at both the subject building and the Property Manager's office (if not at the building).

A copy of this Emergency Management Plan should also be provided to all unit owners / tenants upon closure of lease / sale and/or move-in.

### 7.1 Inspections, Testing and Training

Annual or more frequent inspections should be completed to confirm that reasonable efforts continue to be made to raise vulnerable equipment and materials above the predicted flood depths in the building. Contact information for the FERP should also be regularly reviewed and updated.

Training should also happen at least once a year, which should involve staff implementing and following the FERP recommendations for a mock flood event.

### 7.2 Post Event Review

A review of the FERP should be completed after any flood event that impacts the site or building. The FERP should be updated if warranted to for any areas of improvement that could potentially further reduce flood damages and business impacts from future floods.

## 8 Disclaimer

This sample report has been prepared by the City of Markham to provide you with advice on how you can prepare a Flood Emergency Response Plan to minimize flooding and flood damages on your property during future severe storm events. The information and recommendations contained in this letter are based on information available to the City at the time of its issuance and are provided on an "as is" basis. The provision of information and recommendations herein is not in any way deemed, construed, interpreted or implied to be an admission on the part of the City of any liability or responsibility whatsoever for past or future flooding, whatsoever and howsoever caused, that impact your building or property. The City accepts no responsibilities for costs, liabilities or damages, if any, suffered by the recipient and/or any third party as a result of decisions made or actions taken on the basis of this sample report.