

Markham

Hazard Mitigation Plan Point of Contact

Primary Point of Contact	Alternate Point of Contact
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Jurisdiction Profile

The following is a summary of key information about the jurisdiction and its history:

Date of Incorporation: 1925

Current Population: The 2020 U.S. Census population was 11,661. The 2022 U.S. Census estimate indicated the population was 11,241.

Population Growth: The overall population has decreased by 9.48% between 2016 and 2022.

Location and Description: The City of Markham is in Cook County, 20 miles south of the Chicago Loop. Comprised of five square miles, Markham is bordered by Posen and Midlothian to the north, Harvey to the east, Hazel Crest and Country Club Hills to the south, and Oak Forest to the west. Markham shares a history with all these communities, especially Harvey, which contains the Markham Yards of the Illinois Central Railroad. Interstate 57 traverses the community, northeast to southwest, along a line that has both geological and historic significance. Markham is located on a lake plain formed by glacial Lake Chicago (12,000 BP). The Tinley Moraine follows the line of Interstate 57. Native Americans had long lived on the Tinley Moraine. Archaeologists have investigated the Oak Forest site, which was occupied in the 1600s.

Brief History: Yankee farmers arrived in the mid-1830s, followed in the 1840s and 1850s by German and Irish immigrants. The settlers bypassed the marshy areas which today are Markham's most celebrated natural features: the Old Indian Boundary Prairies. German immigrants planted 60 pine seedlings from the Black Forest, one of which survived until 1985 along the Old Indian Boundary Line, becoming the Lone Pine Tree symbol on Markham's city seal. Both the Illinois Central and the Rock Island Railroads run near Markham, enabling farmers to ship their produce by rail. In the early twentieth century, new residents were drawn by railroad and industrial jobs found in northern neighbor Harvey. They built houses and incorporated Markham in 1925, naming their town in honor of Charles H. Markham, then president of the Illinois Central Railroad. African Americans moved into Markham during the second half of the twentieth century, as they took up the industrial jobs which

European immigrants had held earlier in the century. By the 2000 census, 80 percent of Markham's population of 12,620 was African American, and 84 percent of homes were owner-occupied.

Climate: The climate in Markham is classified as humid continental, with all four seasons distinctly represented: wet springs; hot/often humid summers; pleasant autumns; and cold winters. Annual precipitation is average - reaching its lowest points in January and February and peaks in May and June. Snowfall in the City has ranged from 9.8 inches (1920–21) to 89.7 inches (1978–79). Winter conditions can persist well into April and even occasionally into May. Thunderstorms are especially prevalent in the spring as the City's proximity to Chicago's lakeside location makes it a center of conflicts between large volumes of warmer and colder air, triggering many kinds of severe weather. In the summer humidity is usually moderately high and temperatures ordinarily reach anywhere between 78 and 92 °F (26 and 33 °C). Overnight temperatures in summer usually drop to around 65–70 °F (18–21 °C). However, in July and August, there are usually several nights when the temperature drops below 60 °F (16 °C). The community's yearly precipitation is on average 36 inches; however, during the summer, rain arises from short-lived, hit-or-miss rain rather than actual prolonged rainfalls as thunderstorms also occur with regularity at night. In a normal summer, temperatures exceed 90 °F (32 °C) on 23 days. Summer is both the rainiest and sunniest season. The extreme heat that Markham can experience during the height of the summer season can persist into the autumn season. Temperatures have reached 100 degrees as late as September 7 (with 99 °F or 37 °C occurring as late as September 29), and temperatures have reached the lower-to-mid 90s Fahrenheit (low 30s Celsius) as late as October 6. Conversely, temperatures have dropped below freezing overnight as early as September 23, and subzero temperatures (below –18 °C) have arrived as early as November 23. Therefore, Autumn, in some ways, is a calmer season than any of the other three in the City of Markham.

Governing Body Format: The City of Markham is governed by a Mayor, a City Clerk, and a council of four aldermen. This body will assume responsibility for the adoption and implementation of this hazard mitigation plan. The City has several departments including: Police, Fire, Economic Development, Treasurer, Building and Housing, and Public Works.

Development Trends: Geographically, the City of Markham is a confluence point for large amounts of regional traffic along interstates 57 and 294. The one-mile segment of 159th Street that traverses the heart of the City is anchored by interstate interchanges with these interstates at either end, creating a major catchment area for all local traffic either bound for or coming from the interstates. This street therefore both collects and distributes significant amounts of interstate traffic beyond the traffic generated by City residents alone, which makes it a prime location for businesses with a regional trade area such as professional offices, destination retail, entertainment venues, and support services such as restaurants and hotels. The I-294/159th Street interchange and adjacent land are major economic development and redevelopment opportunities for the City. Annexation of unincorporated Cook County land would allow the City to capitalize on the development of the valuable commercial land that is adjacent to, and visible from, I-294, open up development opportunities near the City stormwater retention reservoir, and straighten the jagged eastern municipal boundary thereby simplifying redevelopment of the area for the City and its neighbor. The City of Markham adopted a Comprehensive Plan in 2014 and the following is an excerpt about the

goals for jobs and business "Markham will attract new, good paying jobs that can take advantage of the community's excellent location and access. The focus will be on creating a strong industrial/cargo-oriented development base between I-294 and Dixie Highway. From a retail perspective, Markham will capitalize on being home to new restaurants, big box retail, and perhaps a new truck stop. When the new I-294/I-57 interchange opens the City will attract new hospitality uses along 159th Street. The City will also work with representatives of the Illinois Nature Conservancy to explore potential tourism opportunities."

Changes in Community Priorities: The City of Markham was awarded the Cook County Climate and Resiliency Planning Grant- 1 of 5 communities receiving \$16 million over the next 4 years to improve climate resiliency.

Capability Assessment

The assessment of the jurisdiction's legal and regulatory capabilities is presented in the *Legal and Regulatory Capability Table* below. The assessment of the jurisdiction's fiscal capabilities is presented in the *Fiscal Capability Table* below. The assessment of the jurisdiction's administrative and technical capabilities is presented in the *Administrative and Technical Capability Table* below. Information on the community's National Flood Insurance Program (NFIP) compliance is presented in the *National Flood Insurance Program Compliance Table* below. Classifications under various community mitigation programs are presented in the *Community Classifications Table* below.

TABLE: LEGAL AND REGULATORY CAPABILITY					
	Local Authority	State or Federal Prohibitions	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements					
Building Code	Yes	No	No	Yes	Ord. 06-O-1870, passed 8-2-06
Zonings	Yes	No	No	Yes	(65 ILCS 5/) Illinois Municipal Code. CHAPTER 156: ZONING CODE - 1977
Subdivisions	Yes	No	No	No	Chapter 154: Subdivision Regulations - 1977
Stormwater Management	Yes	No	Yes	Yes	State regulates industrial activity from Construction sites 1 acre or larger under section 402 CWA.

					§ 52.076 STORM SEWERS -1977
Post Disaster Recovery	No	No	No	No	
Real Estate Disclosure	No	No	Yes	Yes	(765 ILCS 77/) Residential Real Property Disclosure Act.
Growth Management	No	No	No	No	
Site Plan Review	Yes	No	No	No	Ord. 93-O- 1472, passed 3- 3-93; Am. Ord. 95-O-1550, passed 9- 6-95; Am. Ord. 00-O- 1702, passed 10-18-00
Public Health and Safety	Yes	No	Yes	Yes	Cook County Board of Health.Ord. 541, passed - - 64
Environmental Protection	No	No	No	Yes	
Planning Documents					
General or Comprehensive Plan	No	No	No	No	City is in the process of developing a Comprehensive Plan
<i>Is the plan equipped to provide integration to this mitigation plan?</i>					Not at this time
Floodplain or Basin Plan	No	No	No	No	
Stormwater Plan	No	No	MWRD	No	Regional stormwater impacts are managed by MWRD. The City lies within the Little Calumet River watershed planning area of MWRD's comprehensive Stormwater Master Planning Program

Capital Improvement Plan	No	No	No	No	
<i>What types of capital facilities does the plan address?</i>					N/A
<i>How often is the plan revised/updated?</i>					N/A
Habitat Conservation Plan	No	No	No	No	
Economic Development Plan	No	No	Yes	Yes	The Economic Development Commission is charged with reviewing all economic development related programs and incentives including tax incentives offered through the Cook County 6b program.
Shoreline Management Plan	No	No	No	No	
Response/Recovery Planning					
Comprehensive Emergency Management Plan	No	No	Yes	Yes	Cook County EMRS
Threat and Hazard Identification and Risk Assessment	No	No	Yes	No	Cook County EMRS Preparing THIRA
Terrorism Plan	No	No	Yes	Yes	Cook County EMRS
Post-Disaster Recovery Plan	No	No	No	No	
Continuity of Operations Plan	No	No	Yes	No	Cook County EMRS
Public Health Plans	No	No	Yes	No	Cook County DPH

TABLE: FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	No

Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other	Yes

TABLE: ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Engineering Consultant acting as City Engineer, Economic Development and Public Works Dept.
Engineers or professionals trained in building or infrastructure construction practices	Yes	Engineering Consultant acting as City Engineer, Economic Development and Public Works Dept.
Planners or engineers with an understanding of natural hazards	Yes	Engineering Consultant acting as City Engineer, Economic Development and Public Works Dept.
Staff with training in benefit/cost analysis	Yes	Engineering Consultant acting as City Engineer, Economic Development and Public Works Dept.
Surveyors	Yes	Engineering Consultant acting as City Engineer
Personnel skilled or trained in GIS applications	Yes	Engineering Consultant acting as City Engineer, Cook County GIS Consortium
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	City Fire Chief, Cook County EMRS
Grant writers	Yes	Engineering Consultant acting as City Engineer, Economic Development and Public Works Dept.

TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE	
What department is responsible for floodplain management in your jurisdiction?	Public Works Department
Who is your jurisdiction's floodplain administrator? (department/position)	Public Works Department
Are any certified floodplain managers on staff in your jurisdiction?	City Engineer
What is the date of adoption of your flood damage prevention ordinance?	10/18/2000
When was the most recent Community Assistance Visit or Community Assistance Contact?	05/01/2012
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? (If no, please state why)	Yes

Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Yes, certified floodplain managers on staff would be advantageous for the City.
Does your jurisdiction participate in the Community Rating System (CRS)? If so, is your jurisdiction seeking to improve its CRS Classification? If not, is your jurisdiction interested in joining the CRS program?	No, Undecided

NFIP Participation Activities

Maintaining compliance under the NFIP is an important component of flood risk reduction. All planning partners that participate in the NFIP have identified actions to maintain their compliance and good standing. Cook County entered the NFIP on April 15, 1981. Structures permitted or built in the County before then are called “pre-FIRM” structures, and structures built afterwards are called “post-FIRM.” The insurance rate is different for the two types of structures. The effective date for the current countywide FIRM is August 19, 2008. This map is a DFIRM (digital flood insurance rate map). The communities in Cook County that participate in the NFIP are shown in **Table: NFIP Participating Communities in Cook County** in **Volume I** of the Cook County MJ-HMP.

The NFIP makes federally-backed flood insurance available to homeowners, renters, and business owners in participating communities. The communities in Cook County that participate in the NFIP and their "Policies in Force," "Total Coverage," and "Total Written Premiums" are shown in **Table: Cook County Flood Insurance Policies** in **Volume I** of the Cook County MJ-HMP.

Substantial Improvement Rule and the Substantial Damage Rule

The IDNR/OWR has developed a model ordinance for floodplain management, which has been adopted by most communities in Illinois. The ordinance includes the minimum requirements an NFIP participating jurisdiction must adopt and enforce, as well as additional higher regulatory requirements. The optional, higher regulatory standards include a minimum one foot of freeboard above the base flood elevation and cumulative tracking of damage repairs and improvements to establish substantial damage and substantial improvement compliance. Some jurisdictions have chosen to exceed the requirements of the model ordinance and have adopted more restrictive ordinances. This is most common in the communities in northeastern Illinois.

Existing Municipal Code:

157.02 Definitions

SUBSTANTIAL DAMAGE. Damage of any origin sustained by a structure whereby the cumulative percentage of damage subsequent to the adoption of this chapter equals or exceeds 50% of the market value of the structure before the damage occurred regardless of actual repair work performed. Volunteer labor and materials must be included in this determination. The term includes repetitive loss buildings. (See **REPETITIVE LOSS**.)

SUBSTANTIAL IMPROVEMENT.

(1) Any reconstruction, rehabilitation, addition or improvement of a structure taking place subsequent to the adoption of this chapter in which the cumulative percentage of improvements

equals or exceeds 50% of the market value of the structure before the improvement or repair is started.

(2) **SUBSTANTIAL IMPROVEMENT** is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the building. This term includes structures which have incurred repetitive loss or substantial damage, regardless of the actual work done.

(3) The term does not, however, include either:

(a) Any project for improvement of a structure to comply with existing state or local health, sanitary or safety code specifications which are solely necessary to assure safe living conditions; or

(b) Any alteration of a “historic structure” listed on the National Register of Historic Places or the state’s Register of Historic Places; provided that, the alteration will not preclude the structure’s continued designation as a historic structure.

157.04 Enforcement Official

The following are duties of the Director of Building and Housing:

(A) *Determining the floodplain designation.*

(1) Check all new development sites to determine whether they are in a special flood hazard area (SFHA);

(2) If they are in a SFHA, determine whether they are in a floodway, flood fringe or in a floodplain for which a detailed study has not been conducted and which drains more than one square mile; and

(3) Check whether the development is potentially within an extended SFHA (with a drainage area less than one square mile), indicating that the development would have adverse impacts regarding storage, conveyance or inundation which would be the basis for the applicant being required to delineate the floodplain and floodway and be subject to the remaining sections of this chapter.

(G) *Damage determinations.* Make damage determinations of all damaged buildings in the SFHA after a flood to determine substantially damaged structures which must comply with § 157.23(C) of this chapter;

157.23 Permitting Requirements Applicable to all Floodplain Areas and Protection of Buildings

In addition to the requirements found in §§ 157.20, 157.21 and 157.22 of this chapter for development in flood fringes, designated floodways and SFHA or floodplains where no floodways have been identified, the following requirements shall be met.

(C) *Protecting buildings.*

(1) All buildings located within a 100-year floodplain, also known as a SFHA, shall be protected from flood damage below the flood protection elevation. This building protection criteria applies to the following situations:

- (a) Construction or placement of a new building or alteration or addition to an existing building valued at more than \$1,000 or 70 square feet;
- (b) Substantial improvements or structural alterations to an existing building that increase the floor area by more than 20% or equal or exceed the market value by 50%. Alteration shall be figured cumulatively subsequent to filing the adoption of this chapter. If substantially improved, the existing structure and the addition must meet the flood protection standards of this section;
- (c) Repairs made to a substantially damaged building. These repairs shall be figured cumulatively subsequent to the adoption of this chapter. If substantially damaged, the entire structure must meet the flood protection standards of this section;
- (d) Installing a manufactured home on a new site or a new manufactured home on an existing site (the building protection requirements do not apply to returning a manufactured home to the same site it lawfully occupied before it was removed to avoid flood damage);
- (e) Installing a travel trailer or recreational vehicle on a site for more than 180 days per year; and
- (f) Repetitive loss to an existing building, as defined in § [157.02](#) of this chapter. This building protection requirement may be met by one of the following methods.

(3) A residential or non-residential building may be elevated in accordance with the following.

(f) Manufactured homes, and travel trailers to be installed on a site for more than 180 days, shall be elevated to or above the flood protection elevation; and, shall be anchored to resist flotation, collapse, or lateral movement by being tied down in accordance with the rules and regulations for the state's Mobile Home Tie-Down Act issued pursuant to 77 Ill. Adm. Code part 870. In addition, all manufactured homes shall meet the following elevation requirements:

1. In the case of manufactured homes placed or substantially improved:
 - a. Outside of a manufactured home park or subdivision;
 - b. In a new manufactured home park or subdivision;
 - c. In an expansion to an existing manufactured home park or subdivision;
 or
 - d. In an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage from a flood, the top of the lowest floor shall be elevated to or above the flood protection elevation.
2. In the case of manufactured homes placed or substantially improved in an existing manufactured home park or subdivision, the manufactured home shall be elevated so that either the top of the lowest floor is above the base flood elevation, or the chassis is at least 36 inches in height above grade and supported by reinforced piers or other foundations of equivalent strength, whichever is less.

(6) Construction of new or substantially improved critical facilities shall be located outside the limits of the floodplain. Construction of new critical facilities shall be permissible within the floodplain if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor (including the basement) elevated or structurally dry flood-proofed to the 500-year flood

frequency elevation or three feet above the level of the 100-year flood frequency elevation whichever is greater. Flood-proofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into flood waters. Access routes elevated to or above the level of the base flood elevation shall be provided to all critical facilities.

TABLE: COMMUNITY CLASSIFICATIONS			
	Participating?	Classification	Date Classified
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	Yes	Unknown	Unknown
Public Protection/ISO	Yes	Unknown	Unknown
StormReady	Yes	Gold (countywide)	2014
Tree City USA	No	N/A	N/A

Opportunities to Expand and Improve Capabilities

Opportunities to expand and improve capabilities include NOFOs for flood mitigation and grant writers. The Village is also developing its Comprehensive Plan.

Plan Integration

The capability assessment describes opportunities to "link" or integrate the mitigation plan into other planning mechanisms. The process and mechanism to identify opportunities to integrate the Cook County MJ-HMP into other planning mechanisms will occur during the Annual Update Process and be reflected in the Jurisdictional Annual Report each year. Specific plan integration opportunities will include:

- The hazards, goals, and actions of the Hazard Mitigation Plan will be considered in the next update of the jurisdiction's land use plans, zoning, and subdivision codes.

Emergency Plan Integration:

Cook County EMRS is supporting communities to develop and update their respective Emergency Operations Plans, Continuity of Operations Plans/Continuity of Government Plans, and Recovery Plans in 2024. This is an ongoing countywide initiative and is being implemented in all municipalities.

Emergency Operations Plan (EOP)

An EOP template was created for all municipalities. The 2019 Cook County MJ-HMP and the hazards in the mitigation plan have been integrated into the Situation and Assumptions section of the EOP. Within that section, the natural hazards based on the 2019 MJ-HMP were added in the Initial Analysis and Assessment and Identification of Hazards section of the EOP. The hazards in the 2019 plan and the 2024 MJ-HMP did not change apart from adding wildfires for the Forest Preserve and unincorporated areas of the County. Future updates of the EOP will take into consideration any additional new natural hazards that are added to subsequent updates to the MJ-HMP.

Continuity of Operations Plan (COOP)

The Continuity of Operations Plan (COOP) for the municipality includes a Situation section that is based on the 2019 Cook County MJ-HMP jurisdictional annex, and specifically the hazards identified

in the annex. The COOP-specific risk assessment is hazard-specific and based on the likelihood of occurrence and severity of impact.

Recovery Plan

The goals of the Recovery Plan were developed to align with the 2019 Cook County MJ-HMP, and specifically prioritize the responsibility of officials under this plan to save lives, protect property, relieve human suffering, sustain survivors, repair essential facilities, restore services, and protect the environment. The plan acknowledges that hazard mitigation is an important priority and consideration during the rebuilding process.

Jurisdiction-Specific Natural Hazard Event History

The information provided below was solicited from the jurisdiction and supported by NOAA and other relevant data sources.

The *Natural Hazard Events Table* lists all past occurrences of natural hazards within the jurisdiction. Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: 18 (18 Single Family)
- Number of FEMA-Identified Severe Repetitive Loss Properties: 1 (1 Other Nonresidential)
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0

Federal Disasters Declared

Disaster Declaration Number	Date Declared	Event
DR-227	4/25/1967	Tornado
DR-351	9/4/1972	Flood
DR-373	4/26/1973	Flood
DR-509	6/18/1976	Severe Storm(s)
DR-643	6/30/1981	Severe Storm(s)
DR-776	10/7/1986	Flood
DR-798	8/21/1987	Flood
DR-997	7/9/1993	Flood
DR-1129	7/25/1996	Severe Storm(s)
DR-1188	9/17/1997	Severe Storm(s)
DR-1729	9/25/2007	Severe Storm(s)
DR-1800	10/3/2008	Severe Storm(s)
DR-1935	8/19/2010	Severe Storm(s)
DR-1960	3/17/2011	Snow
EM-3068	1/16/1979	Snow
EM-3134	1/8/1999	Snow
EM-3161	1/17/2001	Snow
EM-3230	9/7/2005	Hurricane – Katrina Evacuation
EM-3435	3/13/2020	Biological
DR-4116	5/10/2013	Flood
DR-4489	3/26/2020	Biological
DR-4728	8/15/2023	Severe Storm(s)

DR-4749	11/20/2023	Flood
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State Disaster Declarations

Date Declared	Event
7/26/2010	Severe Storms, High Winds, Torrential Rain
1/31/2011	Winter Weather
4/25/2011 5/25/2011	High Wind, Tornadoes, Torrential Rain
4/18/2013 4/20/2013 4/21/2013 4/25/2013 4/30/2013	Severe Storms, Heavy Rainfall, Flooding, Straight-line Winds
1/6/2014	Heavy Snowfall, Frigid Temperatures
7/12/2017 7/14/2017	Thunderstorms, Heavy Rainfall, Flooding
1/29/2019	Winter Storm
2/6/2020	Severe Storms
3/12/2020 – present (reissued monthly)	COVID-19
2/16/2021	Winter Storms
2/1/2022	Winter Storms
8/1/2022 (reissued monthly through 10/28/2022)	Monkeypox

TABLE: NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster Number (if applicable)	Date	Preliminary Damage Assessment/ Event Narrative
DR-4116	4/26/2013	-	DR-4116
DR-1960	1/31/2011	-	DR-1960
DR-1935	7/19/2010	-	DR-1935
DR-1800	9/13/2008	-	DR-1800
DR-1729	8/20/2007	-	DR-1729
DR-1188	8/16/1997	-	DR-1188
DR-1129	7/17/1996	-	DR-1129

Jurisdiction-Specific Hazards: Vulnerabilities and Impacts

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2024 Cook County Multi-Jurisdictional Hazard Mitigation Plan Update. This section only addresses the hazards and their associated impacts that are **relevant** and **unique** to the municipality.

Flood: Bel Aire Subdivision and Country Aire Neighborhoods are vulnerable to flooding. In the town of Wilmette the McKenzie Elementary School's entire first floor was flooded when 2.75 inches of rain fell in a very short time. School was canceled the next day due to cleanup. In Berwyn very heavy rains caused urban flooding throughout the community with all major intersections under water for nearly four hours.

Severe Weather/Severe Winter Weather: Our Senior population is vulnerable to severe winter weather. A notable event was when these storms moved east-northeast at 40 to 45 MPH, with several communities reporting heavy rains, dangerous lightning, strong winds and widespread hail.

Widespread Power Outage: September 11, 2000 - The strong winds tore down many trees and power lines across northern Illinois during the afternoon, and by 5:00 PM the Winnebago County Authorities reported that nearly 35,000 ComEd customers were without power, with some not being restored until the following morning.

Indicator	Number	Percent
Families in poverty	867	15%
People with disabilities	3,103	12.3%
People over 65 years	3,146	12.4%
People under 5 years	2,035	8%
People of color	21,868	86.2%
Black	13,503	53.2%
Native American	112	0.4%
Hispanic	7,680	30.3%
Difficulty with English	1,099	4.7%
Households with no car	609	7.5%
Mobile homes	302	3.7%

Data are from the U.S. Census Bureau, American Community Survey. See methods for more information.

The community evaluated whether vulnerability, and subsequently the potential impacts, in hazard-prone areas had increased, decreased, or remained the same for each natural hazard identified in this Hazard Mitigation Plan. Climate change, infrastructure expansion, and economic shifts that can affect vulnerability were considered. For example, if planned development is in an identified hazard area or is not built to the updated building codes, it may increase the community's vulnerability to future hazards and disasters. On the other hand, if development occurred with mitigation practices in place, the vulnerability may have remained the same or decreased. Additionally, shifting demographics were taken into consideration when assessing development trends.

Jurisdiction-Specific Climate Change Vulnerability and Impacts

The table below outlines if climate change, as assessed by the local planning team, has increased or decreased the municipality's vulnerability/exposure, and thereby the potential impacts, to each natural hazard over the past five (5) years (**Current Vulnerability**), and the effect of climate change in the future probability of occurrence and impacts (**Future Vulnerability**) from each natural hazard.

Hazard	Vulnerability
Current Vulnerability	
Dam and Levee Failure	Not Applicable
Drought	Not Applicable
Earthquake	Not Applicable
Flood (Riverine, Urban, Shoreline)	Increased
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Winds)	Remained the Same
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	Not Applicable
Tornado	Not Applicable
Wildfire (Wildfire Smoke)	Not Applicable

Hazard	Vulnerability
Future Vulnerability	
Dam and Levee Failure	Not Applicable
Drought	Not Applicable
Earthquake	Not Applicable
Flood (Riverine, Urban, Shoreline)	Not Applicable
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Winds)	Not Applicable
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	Not Applicable
Tornado	Not Applicable
Wildfire (Wildfire Smoke)	Not Applicable

Jurisdiction-Specific Changes (or Expected Changes) in Development Trends in Hazard-Prone Areas

The table below outlines if development, as assessed by the local planning team, over the past five (5) years (**Current Vulnerability**) has increased or decreased the jurisdiction's vulnerability/exposure, and thereby the potential impacts, to these natural hazards, and the anticipated effects changes in development may have on the future probability of occurrence and impacts (**Future Vulnerability**) from these natural hazards.

Hazard	Vulnerability
Current Vulnerability	
Dam and Levee Failure	Not Applicable
Drought	Not Applicable
Earthquake	Not Applicable
Flood (Riverine, Urban, Shoreline)	Not Applicable
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Winds)	Not Applicable
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	Not Applicable
Tornado	Not Applicable
Wildfire (Wildfire Smoke)	Not Applicable

Hazard	Vulnerability
Future Vulnerability	
Dam and Levee Failure	Not Applicable
Drought	Not Applicable
Earthquake	Not Applicable
Flood (Riverine, Urban, Shoreline)	Not Applicable
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Winds)	Not Applicable
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	Not Applicable
Tornado	Not Applicable
Wildfire (Wildfire Smoke)	Not Applicable

Our community anticipate that the following future major assets may be exposed or vulnerable to any of the natural hazards identified in this Hazard Mitigation Plan:

- Amazon Robotics Fulfillment Center (IGQ1)

Hazard Risk Ranking

The *Hazard Risk Ranking Table* below presents the ranking of the hazards of concern. Hazard area extent and location maps are included at the end of this chapter. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes.

TABLE: HAZARD RISK RANKING	
Rank	Hazard Type
1	Severe Weather
2	Severe Winter Weather
3	Flood
4	Tornado
5	Earthquake
6	Drought
7	Dam Failure

New Mitigation Actions

The following are new mitigation actions created during the 2024 update.

Action M - 1.21

Mitigation Action #21:MWRD Stormwater Partnership Program Mitigate Flooding					
Lead Agency/Department Organization: IEPA	Supporting Agencies/ Organizations:	Estimated Cost: High	Potential Funding Source: IEPA Funding	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: Flood (Riverine, Urban, Coastal/Shoreline) Severe Winter Weather (Ice Storm, Heavy Snow, Blizzards, Extreme Cold)
Year Initiated		2024			
Applicable Jurisdiction		City of Markham			
Applicable Goal		1,2,3,4,5,6			
Applicable Objective		All			
Cost Analysis (Low, Medium, High)		High			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		High			
Action/Implementation Plan and Project Description:		MWRD Stormwater Partnership Program Mitigate Flooding			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project		N			

Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	
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Action M - 1.22

Mitigation Action #21:Awards: The City of Markham continues to stay proactive in seeking new funding opportunities to address our aging infrastructure (Water mains, storm sewers, sanitary sewer, and roadways). As you may already be aware, most of the infrastructure in the Southland region have reached their useful life.					
Lead Agency/Department Organization: MWRD	Supporting Agencies/ Organizations: IEPA	Estimated Cost: High	Potential Funding Source: General Fund Local or State Special Taxes Private/Non-Profit Funds State Special Funds Flood Mitigation Assistance (FMA) Program Community Development Block Grant (CDBG) FEMA Public Assistance (PA) Office of U.S. Senator	Estimated Projected Completion Date: Ongoing	Hazard(s) Mitigated: Flood (Riverine, Urban, Coastal/Shoreline)

			Tammy Duckworth (IL)		
Year Initiated	2024				
Applicable Jurisdiction	City of Markham				
Applicable Goal	1,2,3,4,5,6				
Applicable Objective	All				
Cost Analysis (Low, Medium, High)	High				
Priority and Level of Importance (Low, Medium, High)	High				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	High				
Action/Implementation Plan and Project Description:	<ol style="list-style-type: none"> 1. DCEO Grant- \$150,000 for Honore Road Resurfacing Project 2. IEPA Lead Service Line Inventory Program- \$80,000 (This program is to inventory all water service materials within City limits) 3. MWRD Forging Resilient Communities- \$500,000 (To assess the condition of the sanitary sewer collection system in the Country Aire Neighborhood and rehabilitate them). 4. Cook County Climate and Resiliency Planning Grant- 1 of 5 communities receiving \$16 million over the next 4 years to improve climate resiliency. 5. MWRD Stormwater Partnership Program- Planning study for flooding in Bel Aire Subdivision (Estimated at \$300,000 for planning phase) 6. Invest in Cook Grant Award- \$400,000 for the resurfacing of local streets within the City. 7. Smart Post Program- \$1,000,000 awarded to the City to install smart street light posts to enhance and provide safety for residents . 8. DCEO Grant-\$500,000 for street lighting in residential areas of the City 9. BUILD UP Cook- program offered by Cook County to assist the City with their aging infrastructure. 				
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed;	N				

R = Want Removed from Annex; X = No Action Taken/Delayed	
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Ongoing Mitigation Actions

The following are ongoing actions with no definitive end or that are still in progress. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended, as needed.

Action M - 1.1

Mitigation Action #1: Form partnerships between local, state, tollway, and regional entities to help expand resources and improve floodplain management coordination by developing a stormwater committee that meets regularly to discuss issues and recommend projects.					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: Low	Potential Funding Source: General Fund	Estimated Projected Completion Date: Ongoing	Hazard(s) Mitigated: Flooding, Severe Weather
Year Initiated	2014				
Applicable Jurisdiction	City of Markham				
Applicable Goal	2,3,4				
Applicable Objective	1, 3, 8				
Cost Analysis (Low, Medium, High)	Low				
Priority and Level of Importance (Low, Medium, High)	Medium				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium				
Action/Implementation Plan and Project Description:	Process of developing a stormwater committee that meets regularly to discuss issues and recommend projects.				
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed;	O				

R = Want Removed from Annex; **X** = No Action Taken/Delayed

Action M - 1.2

Mitigation Action #2: Develop and maintain a database to track community vulnerabilities/exposure to known hazard areas.					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: High	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: All Hazards
Year Initiated		2014			
Applicable Jurisdiction		City of Markham			
Applicable Goal		2			
Applicable Objective		1, 5, 6			
Cost Analysis (Low, Medium, High)		High			
Priority and Level of Importance (Low, Medium, High)		Medium			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Medium			
Action/Implementation Plan and Project Description:		A database that tracks exposures to know hazard areas			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed		O			

Action M - 1.3

Mitigation Action #3: Incorporate a GIS system					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: Medium	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: All Hazards
Year Initiated		2014			
Applicable Jurisdiction		City of Markham			
Applicable Goal		1,2			
Applicable Objective		3, 4,10			
Cost Analysis (Low, Medium, High)		Medium			
Priority and Level of Importance (Low, Medium, High)		Medium			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Medium			
Action/Implementation Plan and Project Description:					
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed		O			

Action M - 1.4

Mitigation Action #4: Improve sewer capacity for stormwater.					
Lead Agency/Department Organization:	Supporting Agencies/ Organizations:	Estimated Cost: \$1,500,000; Medium	Potential Funding Source:	Estimated Projected	Hazard(s) Mitigated:

Public Works			HMGP, BRIC, General Fund	Completion Date: Short-term	Flooding, Severe Weather
Year Initiated	2014				
Applicable Jurisdiction	City of Markham				
Applicable Goal	2,3				
Applicable Objective	1, 2, 9, 13				
Cost Analysis (Low, Medium, High)	Medium				
Priority and Level of Importance (Low, Medium, High)	Medium				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	High				
Action/Implementation Plan and Project Description:	Ongoing effort to increase sewer capacity for stormwater and snowmelt on the east side of Markham by separating the combined sewer system				
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O				

Action M - 1.5

Mitigation Action #5: Improve sewer capacity					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: \$10,000,000; Medium	Potential Funding Source: IEPA Grants	Estimated Projected Completion Date: Ongoing	Hazard(s) Mitigated: Flooding, Severe Weather, Severe

					Winter Weather
Year Initiated	2014				
Applicable Jurisdiction	City of Markham				
Applicable Goal	2,3				
Applicable Objective	1, 2, 9, 13				
Cost Analysis (Low, Medium, High)	Medium				
Priority and Level of Importance (Low, Medium, High)	Medium				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	High				
Action/Implementation Plan and Project Description:	Ongoing efforts to improve sewer capacity for stormwater and snow-melt on the east side of Markham				
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O				

Action M - 1.6

Mitigation Action #6: Increase the capacity of existing stormwater detention					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: High	Potential Funding Source: HMGP, BRIC	Estimated Projected Completion Date: Ongoing and Long-term	Hazard(s) Mitigated: Flooding, Severe Weather, Severe Winter Weather
Year Initiated	2014				

Applicable Jurisdiction	City of Markham
Applicable Goal	2,3
Applicable Objective	1, 2, 9, 13
Cost Analysis (Low, Medium, High)	High
Priority and Level of Importance (Low, Medium, High)	Medium
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	High
Action/Implementation Plan and Project Description:	Ongoing efforts to work with engineering consultants in this regard and implementing the city's comprehensive Hazardous Mitigation Plan
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O

Action M - 1.7

Mitigation Action #7: Complete Stormwater drainage study.					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: \$100,000; Low	Potential Funding Source: HMGP, BRIC, General Fund	Estimated Projected Completion Date: Ongoing	Hazard(s) Mitigated: Flooding, Severe Weather, Severe Winter Weather
Year Initiated	2014				
Applicable Jurisdiction	City of Markham				
Applicable Goal	2,3				
Applicable Objective	1, 3, 10				

Cost Analysis (Low, Medium, High)	Low
Priority and Level of Importance (Low, Medium, High)	Medium
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium
Action/Implementation Plan and Project Description:	Due to budget constraints, the City has not yet completed this study to identify known problem areas within the city
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O

Action M - 1.8

Mitigation Action #8: Emergency Preparedness Information.					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: \$25,000; Low	Potential Funding Source: General Fund	Estimated Projected Completion Date: Ongoing	Hazard(s) Mitigated: Severe Winter Weather
Year Initiated	2014				
Applicable Jurisdiction	City of Markham				
Applicable Goal	2,3				
Applicable Objective	1, 5, 8				
Cost Analysis (Low, Medium, High)	Low				
Priority and Level of Importance (Low, Medium, High)	Medium				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium				

Action/Implementation Plan and Project Description:	Ongoing process to regarding the development of emergency preparedness information about sever winter weather hazards. However, information posted on line
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O

Action M - 1.9

Mitigation Action #9: Relocation of Structures in hazard-prone areas					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: High	Potential Funding Source: BRIC, HMGP	Estimated Projected Completion Date: Long-term (depending on funding)	Hazard(s) Mitigated: All Hazards
Year Initiated	2014				
Applicable Jurisdiction	City of Markham				
Applicable Goal	3				
Applicable Objective	7, 13				
Cost Analysis (Low, Medium, High)	High				
Priority and Level of Importance (Low, Medium, High)	Medium				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	High				
Action/Implementation Plan and Project Description:	Although discussed, city has not yet performed relocation				
Actual Completion Date or Ongoing Indefinite					

Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O
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Action M - 1.10

Mitigation Action #10: Comprehensive Plan - Hazardous Mitigation					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: Low	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-and long-term	Hazard(s) Mitigated: All
Year Initiated	2014				
Applicable Jurisdiction	City of Markham				
Applicable Goal	1,2,3,4,5,6				
Applicable Objective	All				
Cost Analysis (Low, Medium, High)	Low				
Priority and Level of Importance (Low, Medium, High)	High				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium				
Action/Implementation Plan and Project Description:	Ongoing effort to continue to support the county wide actions identified in the county's plan				
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O				

Action M - 1.11

Mitigation Action #11: Plan Maintenance Strategy					
Lead Agency/Department Organization: ERMS Public Works	Supporting Agencies/ Organizations:	Estimated Cost: Low	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: All Hazards
Year Initiated	2014				
Applicable Jurisdiction	City of Markham				
Applicable Goal	5				
Applicable Objective	3, 4, 6				
Cost Analysis (Low, Medium, High)	Low				
Priority and Level of Importance (Low, Medium, High)	High				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium				
Action/Implementation Plan and Project Description:	Actively participate in plan maintenance strategy as identified within the plan.				
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O				

Action M - 1.12

Mitigation Action #12: Community Rating System (CRS) participation.					
Lead Agency/Department Organization:	Supporting Agencies/ Organizations:	Estimated Cost: Low	Potential Funding Source:	Estimated Projected	Hazard(s) Mitigated:

Public Works			General Fund	Completion Date: Long-term	All Hazards
Year Initiated	2014				
Applicable Jurisdiction	City of Markham				
Applicable Goal	2,3,4				
Applicable Objective	3, 4, 5, 6, 7, 9, 10, 11, 13				
Cost Analysis (Low, Medium, High)	Low				
Priority and Level of Importance (Low, Medium, High)	Medium				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium				
Action/Implementation Plan and Project Description:	Have not yet participated in the Community Rating System				
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O				

Action M - 1.13

Mitigation Action #13: NFIP - good standing					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: Low	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-term and ongoing	Hazard(s) Mitigated: Flooding
Year Initiated	2014				
Applicable Jurisdiction	City of Markham				

Applicable Goal	2
Applicable Objective	4, 6, 9
Cost Analysis (Low, Medium, High)	Low
Priority and Level of Importance (Low, Medium, High)	High
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium
Action/Implementation Plan and Project Description:	Maintain good standing with the National Flood Insurance Program by meeting and exceeding minimum NFIP standards. Enforcing and adopting flood damage prevention ordinances, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impact.
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O

Action M - 1.14

Mitigation Action #14: Record High Water Marks					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: Medium	Potential Funding Source: General Fund, FEMA Public Assistance (PA)	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: Flooding, Severe Weather
Year Initiated		2014			
Applicable Jurisdiction		City of Markham			

Applicable Goal	2,3
Applicable Objective	3, 6, 9
Cost Analysis (Low, Medium, High)	Medium
Priority and Level of Importance (Low, Medium, High)	Medium
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium
Action/Implementation Plan and Project Description:	Implement program to identify record high water marks following high-water events.
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O

Action M - 1.15

Mitigation Action #15: Integrate the Hazard Mitigation Plan					
Lead Agency/Department Organization: City Engineer, Economic Development, Public Works	Supporting Agencies/ Organizations:	Estimated Cost: Low	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: All Hazards
Year Initiated	2014				
Applicable Jurisdiction	City of Markham				
Applicable Goal	1,2,3				
Applicable Objective	3, 4, 6, 10, 13				
Cost Analysis (Low, Medium, High)	Low				

Priority and Level of Importance (Low, Medium, High)	High
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium
Action/Implementation Plan and Project Description:	Integrate hazard mitigation plan into other plans, programs, or resources. This process is just beginning.
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O

Action M - 1.16

Mitigation Action #16: Capital Improvements Program (CIP)					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: High	Potential Funding Source: CIP component of the general fund (if implemented)	Estimated Projected Completion Date: Long term	Hazard(s) Mitigated: All Hazards
Year Initiated	2014				
Applicable Jurisdiction	City of Markham				
Applicable Goal	3				
Applicable Objective	1, 2, 7				
Cost Analysis (Low, Medium, High)	High				
Priority and Level of Importance (Low, Medium, High)	Medium				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	High				

Action/Implementation Plan and Project Description:	Although there is a capital improvement effort, the city is considering the development and implementation into a CIP specifically to increase the City's regulatory, financial, and technical capacity to implement mitigation actions.
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O

Action M - 1.17

Mitigation Action #17: Provide onsite backup power sources for all Village lift stations					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations: MWRD and Cook County	Estimated Cost: \$800,000; High	Potential Funding Source: MWRD and Cook County grants, BRIC, HMGP	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: Flooding, Widespread Power Outage, Secondary Impacts from Mass Influx of Evacuees
Year Initiated	2019				
Applicable Jurisdiction	City of Markham				
Applicable Goal	1,2,3,4,5,6				
Applicable Objective	1, 2, 7				
Cost Analysis (Low, Medium, High)	High—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases)				
Priority and Level of Importance (Low, Medium, High)	High				

Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	High—Project will provide an immediate reduction of risk exposure for life and property. Provide relief from stormwater flooding, reduction and elimination of basement backups, improved health and safety of our residents, reduced damages associated with flooding, improved home values, and a more attractive neighborhood and community.
Action/Implementation Plan and Project Description:	Once the initial existing conditions stormwater analysis is completed, a detailed engineering solution, including construction documents, will be completed. This will result in construction documents, preliminary engineer's cost opinion, and a project phasing and sequencing schedule.
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O

Action M - 1.18

Mitigation Action #18: Streambank Stabilization along Calumet Union Drainage Ditch					
Lead Agency/Department Organization: MWRD	Supporting Agencies/ Organizations: Public Works	Estimated Cost: \$2,109,036	Potential Funding Source: MWRD	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: Flooding
Year Initiated	2019				
Applicable Jurisdiction	City of Markham				
Applicable Goal	1,2,3				
Applicable Objective	2, 9, 12, 13				
Cost Analysis (Low, Medium, High)	High				
Priority and Level of Importance (Low, Medium, High)	High				

Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	High
Action/Implementation Plan and Project Description:	ID: CUDD-G3 Contract: 10-882-BF Watershed: Little Cal River Location: Markham, IL Stabilize approximately 3,559 LF of Calumet Union Drainage Ditch, between Sunset and Central Park Avenues. Replaces sanitary sewer under the ditch with new sanitary sewer on each side with service connections to existing residences.
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O

Action M - 1.19

Mitigation Action #19: Flood MWRD Mitigation					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: \$40,000,000	Potential Funding Source: MWRD, HMGP, BRIC	Estimated Projected Completion Date: 2028	Hazard(s) Mitigated: Flooding
Year Initiated	2023				
Applicable Jurisdiction	City of Markham				
Applicable Goal	1,2,3,4,5,6				
Applicable Objective	13				
Cost Analysis (Low, Medium, High)	High				
Priority and Level of Importance (Low, Medium, High)	High				

Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	High; Better Quality of Life
Action/Implementation Plan and Project Description:	<p>1. The City was awarded a \$40,000 grant for a Lead Service Line Inventory Grant from the Illinois Environmental Protection Agency (IEPA).</p> <p>2. Applying for another \$40,000 grant for the Lead Service Line Inventory Program through the IEPA 2nd round of funding</p> <p>3. City working on \$23 million IEPA State Revolving Loan Fund for Water Main and Lead Service Line Replacement in the East Side Neighborhood-</p> <p>- This will be a multi-year phased project spanning several years to upgrade the water main and replace lead service lines.</p> <p>4. City working on \$16 million IEPA State Revolving Loan Fund for combined Sewer Rehabilitation in the East Side Neighborhood</p> <p>- This will be a multi-year phased project spanning several years to rehabilitate the sewers</p> <p>5. Bel-Aire Neighborhood Stormwater Flooding Program</p> <p>- City working on funding with MWRD to study causes of flooding and potential solutions in the Bel Aire Subdivision</p> <p>6. City working on \$1 million Army Corps Section 219 Grant through Congresswoman Kelly's office</p> <p>- Project will be to upsize all 4-inch water mains for safety.</p>
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O

Action M - 1.20

Mitigation Action #20: MWRD Stormwater Partnership Program- Planning study for flooding in Bel Aire Subdivision					
Lead Agency/Department Organization:	Supporting Agencies/Organizations:	Estimated Cost: \$500,000	Potential Funding Source:	Estimated Projected	Hazard(s) Mitigated: Flooding

Public Works			MWRD, BRIC, HMGP	Completion Date: 2024	
Year Initiated	2023				
Applicable Jurisdiction	City of Markham				
Applicable Goal	1,2,3,4,5,6				
Applicable Objective	13				
Cost Analysis (Low, Medium, High)	Medium—The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.				
Priority and Level of Importance (Low, Medium, High)	High				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Flood Mitigation Medium—Project will have a long-term impact on the reduction of risk exposure for life and property, or project will provide an immediate reduction in the risk exposure for property.				
Action/Implementation Plan and Project Description:	MWRD Stormwater Partnership Program- Planning study for flooding in Bel Aire Subdivision (Estimated at \$300,000 for planning phase) MWRD Forging Resilient Communities- \$500,000 (To assess the condition of the sanitary sewer collection system in the Country Aire Neighborhood and rehabilitate them).				
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O				

Completed Actions

Completed Mitigation Actions - An archive of all identified and completed projects, including completed actions since 2014.

Completed Action Items
No completed items at this time.

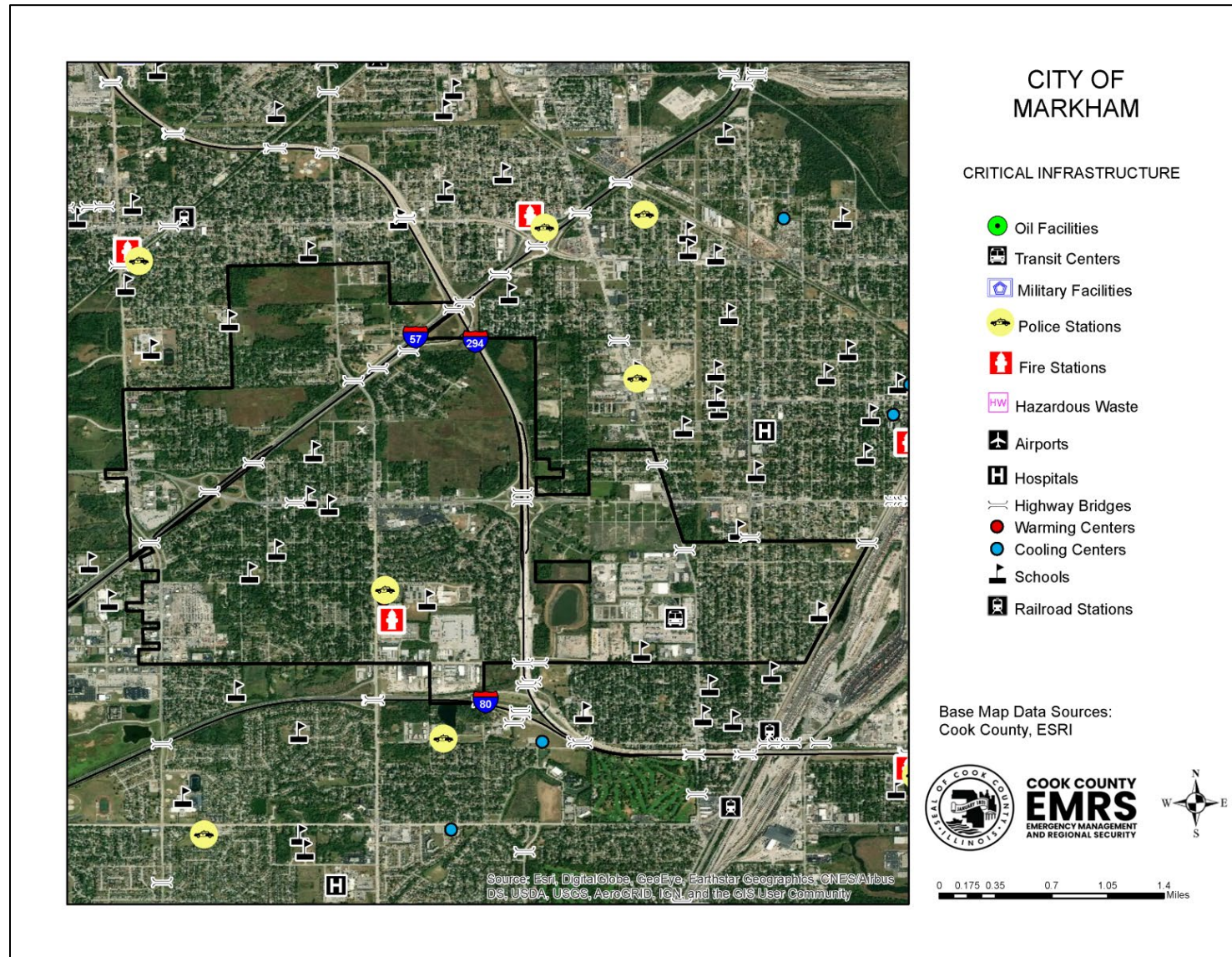
Future Needs to Better Understand Risk/Vulnerability

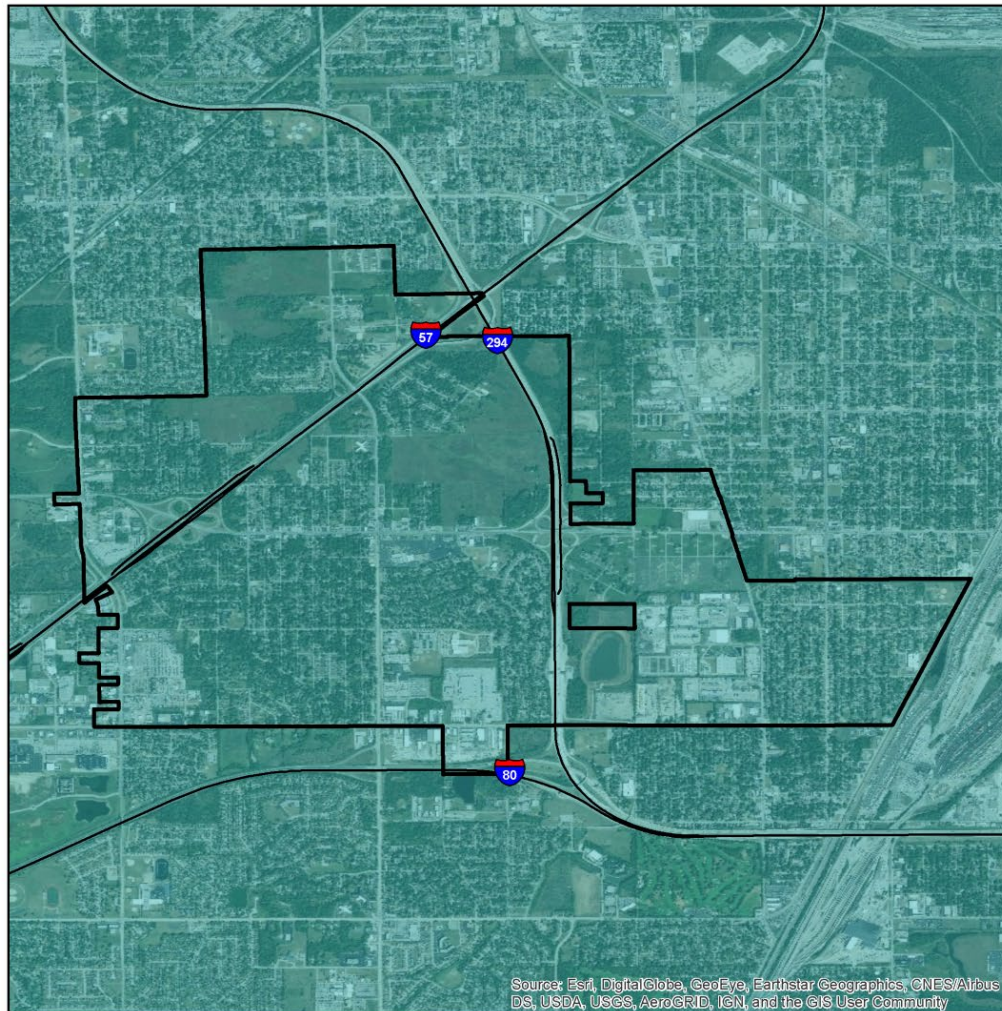
Additional training to better understand the mitigation grant application process better. Additionally, studies may be needed to realize hazards/risks better, to name a few.

Additional Comments

None at this time.

Hazard Mapping





CITY OF MARKHAM

PEAK GROUND ACCELERATION FOR A 100 YEAR EARTHQUAKE EVENT

Mercalli Scale, Potential Shaking

II-III Weak

Data provided by the USGS Earthquake Hazards Program and Cook County.

Probabilistic seismic-hazard maps were prepared for the conterminous United States for 2014 portraying peak horizontal acceleration and horizontal spectral response acceleration for 0.2- and 1.0-second periods with probabilities of exceedance of 10 percent in 50 years and 2 percent in 50 years. All of the maps were prepared by combining the hazard derived from spatially smoothed historical seismicity with the hazard from fault-specific sources. The acceleration values contoured are the random horizontal component. The reference site condition is firm rock, defined as having an average shear-wave velocity of 780 m/s in the top 30 meters corresponding to the boundary between NEHRP (National Earthquake Hazards Reduction program) site classes B and C.

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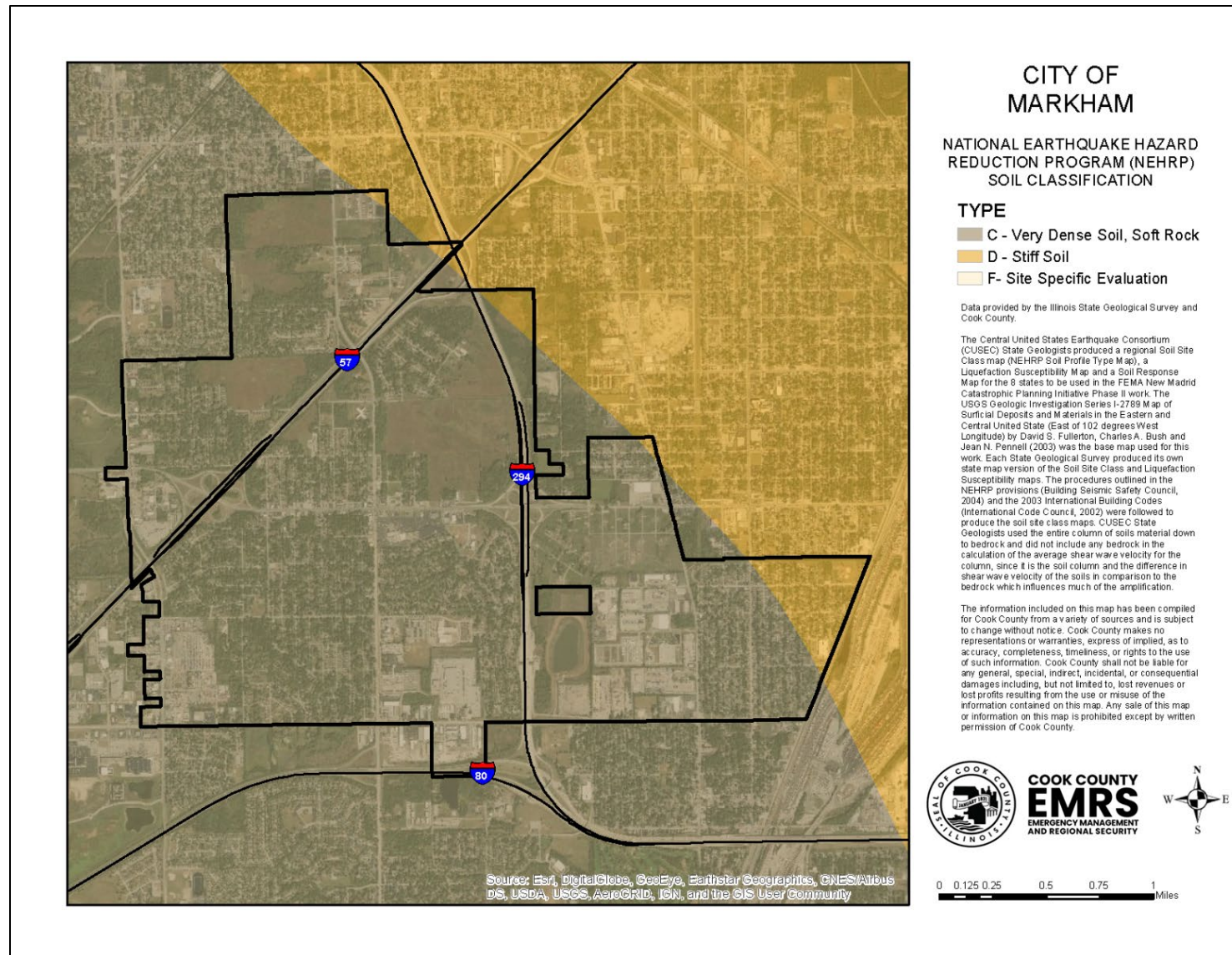


COOK COUNTY
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0 0.175 0.35 0.7 1.05 1.4 Miles

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



DISCLAIMER: The Cook County MWRDGC 100-year Inundation Map is provided to show general flood risk information regarding floodplains and inundation areas. This map is not regulatory. Official FEMA Flood Insurance Study information and regulatory maps can be obtained from <http://www.fema.gov>.

