Morton Grove

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: 1895

Current Population: The 2020 U.S. Census population was 25,297. The 2022 U.S. Census estimate indicated the population was 24,371.

Population Growth: The overall population has increased by 6.22% between 2018 and 2022.

Location and Description: The Village of Morton Grove is located approximately 13 miles northwest of downtown Chicago. The Village borders Niles to the west and south, Skokie to the east, and Glenview to the north. Morton Grove is approximately 5.2 square miles. The Village of Morton Grove is predominantly a residential community with some light industrial areas, mercantile, and a large forest preserve located in the center of the Village. The Village is served by a Metra rail line. The Edens expressway also runs along the eastern edge of the Village.

Brief History: The earliest settlement of Morton Grove is recorded during the 1830s. The land was primarily settled for farming and logging use. The village is named after former United States Vice President Levi Parsons Morton, who was the driving force behind allowing the old Miller's Mill road (now Lincoln Avenue) to pass through the upstart neighborhood, and provide goods to trade and sell. Morton Grove was incorporated in December 1895. In 1841 a sawmill was erected on the north branch of the Chicago River south of Dempster. The railway linking Chicago to Milwaukee was laid in 1872. The Village was incorporated in 1895. Morton Grove grew steadily through the 1930s. The population in 1940 was 2,010. In 1960 the population had grown to 20,533.

Climate: Morton Grove, IL, gets an average of 32 inches of rain and 24 inches of snowfall per year. The US average is 37 and 25 inches, respectively. The number of days with any measurable precipitation is 109 and. on average, there are 188 sunny days per year in Morton Grove, IL. The July high is around 83 degrees and the January low is 11. Morton Grove's comfort index, which is based

on humidity during the hot months, is a 46 out of 100, where higher is more comfortable. The US average on the comfort index is 44.

Governing Body Format: The Village of Morton Grove is represented by a governing board consisting of a Village President and six Village Trustees. The President and Trustees are elected to four-year terms. The Village President is the presiding officer of Village Board meetings. The President is also the chief executive officer of the Village. The Village Board is the governing body of the Village and exercises all powers entrusted to it under Illinois statutes. These include police powers related to the health, safety and welfare of the community. The Village Board is responsible for the adoption of an annual budget and associated tax levies, municipal land use decisions, adoption of ordinances related to the health, safety and welfare of the community, and other legislative decisions related to the governance and operations of the Village of Morton Grove. This body of Government will assume the responsibility for the adoption and implementation of this plan. The Village is managed by a Village Administrator who oversees 6 departments: Building, Economic Development, Finance, Fire, Police, and Public Works.

Development Trends: In 1999, the Village adopted its current comprehensive development plan. Morton Grove continues efforts to attract a diverse blend of business and residential development. In 2013, the Village has contracted with a third party vendor to develop a new comprehensive strategic plan. Development priorities are focused within our main commercial corridors: Dempster St. and Waukegan Rd. As a result, a total of 3 Tax Increment Financing (TIF) areas have been designated. The Waukegan Road TIF has seen commercial development since the 1990s. The Lehigh/Ferris TIF was established in 2000 and has seen both residential and limited commercial redevelopment. The Dempster/ Waukegan TIF was recently established in 2010. Our Village is anticipating significant commercial redevelopment in the future. Additionally, In October 2008, the Village Trustees approved a strategic plan to guide the future economic development efforts of the Village. This long-term Strategic Plan recognizes that local economic development requires ongoing efforts and flexibility to adapt and respond to regional, national, and global changes. The Plan seeks to build upon the Village's existing strengths and to improve upon areas of opportunity in an effort to continue the outstanding quality of life for residents and to retain an environment where businesses can prosper.

Changes in Community Priorities: There have been no significant changes in priority regarding the hazards that could potentially impact the community or changes in priority regarding resilience.

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 *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	In accordance with Public Act 096-0704, Illinois has adopted the IBC as its state Building Code Ord. 10-1-1 05/14/12
Zonings	Yes	No	No	Yes	Title 12, 03/26/07
Subdivisions	Yes	No	No	No	12-8-1, 03/26/07
Stormwater Management	Yes	No	Yes	Yes	State regulates industrial activity from Construction sites 1 acre or larger under section 402 CWA. 12-14 , 08/11/08 Also MWRD authority
Post Disaster Recovery	No	No	No	No	
Real Estate Disclosure	No	No	No	No	(765 ILCS 77/) Residential Real Property Disclosure Act.
Growth Management	No	No	No	No	
Site Plan Review	No	No	No	No	
Public Health and Safety	Yes	No	Yes	No	Cook County Board of Health. Title 8 01/25/85

Environmental Protection	No	No	No	No	
Planning Documents					
General or Comprehensive Plan	Yes	No	No	No	1997, updated 1999, updated in 2013
Is the plan equipped to provide integration to this mitigation plan?					Yes - Land Use
Floodplain or Basin Plan	No	No	No	No	
Stormwater Plan	No	No	No	No	
Capital Improvement Plan	No	No	No	No	
What types of capital facilities does the plan address?					N/A
How often is the plan revised/updated?					N/A
Habitat Conservation Plan	No	No	No	No	
Economic Development Plan	Yes	No	No	Yes	2008
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	Yes
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	No
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other	

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	Village Engineer – Public Works Director of Economic Development
Engineers or professionals trained in building or infrastructure construction practices	Yes	Economic Development- Building Inspectors
Planners or engineers with an understanding of natural hazards	Yes	Village Engineer - PW
Staff with training in benefit/cost analysis	Yes	Village Administrator Director of Finance
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	GIS Consortium
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	Fire Department – Fire Chief
Grant writers	Yes	3rd Party Vendor

TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE	
What department is responsible for floodplain management in your jurisdiction?	Public Works
Who is your jurisdiction's floodplain administrator? (department/position)	Building Commissioner & Village Engineer
Are any certified floodplain managers on staff in your jurisdiction?	Yes
What is the date of adoption of your flood damage prevention ordinance?	Title 12 08/11/08
When was the most recent Community Assistance Visit or Community Assistance Contact?	07/29/2005
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?	No

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 Maybe

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.

The following are NFIP-related activities completed by our community:

- Our staff provide the following services: permit reviews, GIS, inspections, engineering capability.
- My community's Floodplain Administrator is a Certified Floodplain Manager (CFM).
- My community teaches property owners or other stakeholders about the importance of flood insurance through public outreach events, workshops, and/or seminars.
- Our community enforces local floodplain regulations and monitors compliance.
- Our floodplain development regulations meet or exceed Federal Emergency Management Agency (FEMA) or State minimum requirements.

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:

12-14-3 Definitions

SUBSTANTIAL IMPROVEMENT: Any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds fifty percent (50%) of the market value of the structure either: a) before the improvement or repair is started, or b) if the structure has been damaged, and is being restored,

before the damage occurred. For the purposes of this definition "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 structure. 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 structure listed on the National Register of Historic Places or a state inventory of historic places.

Their ordinance did not include substantial improvement / substantial damage rule provisions; future updates will consider inclusion of these rules as applicable and as appropriate.

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	Unknown	Unknown	Unknown
StormReady	Yes	Gold (Countywide)	2014
Tree City USA	Yes	--	2001

Opportunities to Expand and Improve Capabilities

Opportunities to expand and improve capabilities include developing a strategy to identify and set aside municipal funds to assist with the 25% cost match for FEMA HMA mitigation grants. Due to the technical expertise needed to develop grant applications and benefit cost analyses for FEMA HMA grants, the municipality has a need for qualified grant writers to assist in the development and management of these grants.

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 Plan/Continuity of Government Plan, and Recovery Plan 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 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 prioritizes 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: 3 (3 Single Family)
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- 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

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**
Flood	-	6/22/2018	-
Hail	-	7/7/2017	-
Severe Weather	-	7/23/2016	-
Severe Winter Storm	-	1/1/2014	13.8 inches of snow
Severe Storm	-	7/24/2013	3.74 inches of rain/street and basement flooding
Severe Storm	-	6/26/2013	3.75 inches of rain/street and basement flooding
Severe Storm	DR-4116	4/18/2013	4.8 inches of rain/street and basement flooding

Hail		5/3/2012	Multiple reports of half dollar size hail were received between Niles and Morton Grove.
Severe Storm	9325782	7/22/2011	4.25 inches of rain/street and basement flooding
Severe Storm	-	6/21/2011	Severe storm with wind damage to trees
Severe Storm/Thunder Storm Wind	9322464	6/21/2011	-
Illinois Severe Winter Storm and Snowstorm	DR-1960	1/31/2011	Heavy snow
Severe Storm/Thunder Storm Wind	9240525	9/21/2010	-
Illinois Severe Storms and Flooding	DR-1935	7/19/2010	-
Severe Storm	9322464	3/7/2009	2.91 inches of rain/street and basement flooding
Severe Storm	DR-1800	9/4/2008	3.05 inches of rain/street and basement flooding
Wind, Winter Weather	8867633	1/22/2008	snow removal
Severe Storm/Thunder Storm Wind	8832682	8/23/2007	Severe storm with wind damage to trees
Flooding	8827885	6/26/2007	-
Flooding	8810172	9/13/2006	4.44 inches of rain/street and basement flooding
Severe Storm/Flooding		10/13/2001	In addition to the flooding, several trees and limbs were blown down in Niles and Morton Grove in Cook county.
Illinois Severe Winter Storm	EM-3161	12/11/2000	-
Illinois Winter Snow Storm	EM-3134	1/1/1999	21.6 inches of snow
Illinois Flooding	DR-1188	8/16/1997	-
Illinois Flooding, Severe Storms	DR-997	4/13/1993	-
Severe Storm/Thunder Storm Wind	9277194	6/29/1990	-
Illinois Severe Storms, Flooding	DR-798	8/13/1987	-
Illinois Severe Storms, Flooding	DR-776	9/21/1986	-
Illinois Severe Storms, Flooding, Tornadoes	DR-643	6/30/1981	-
Illinois Blizzards and Snowstorms	EM-3068	1/16/1979	18.8 inches of snow
Illinois Severe Storms, Flooding, Tornadoes	DR-509	6/18/1976	-
Illinois Severe Storms, Flooding	DR-373	4/26/1973	-

Illinois Severe Storms, Flooding	DR-351	9/4/1972	-
Severe Storm/Thunder Storm Wind	8935123	8/16/1968	-

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.

Drought: We protect forest preserve areas which could realize an increased fire hazard.
Flood: The following areas in the Village of Morton Grove are susceptible to flooding: the Sayer/Foster intersection, the National Park and Emerson/Capri neighborhoods, Oak Park cul-de-sac, as well as Dempster: Olcot- Harlem, and Dempster: N. Branch/Chicago River. Additional areas susceptible to flooding also incldue Dempster St. near the forest preserve and the north branch of the Chicago River and Dempster near Harlem.
Extreme Heat: The Concrete pavement on Lincoln Ave, nursing homes, and assisted living facilities are vulnerable to extreme heat.
Lightning: Our parks and golf course are vulnerable to the impacts of lightning.
High Winds: In our Village, high winds pose a relatively higher threat to trees, blocking access for our citizens.
Extreme Cold: Extreme cold poses a high risk to our elderly population (21% of the population - with 63% of the elderly population receiving food stamps), possibly causing power outages in assisted living facilities and nursing homes.
Ice Storms: Our power lines are vulnerable to the impacts of ice storms, potentially eliminating the Village's power.
Tornado: Because our tornado sheltering is often in heavily populated buildings and complexes such as Saw Mill Station, condo complexes, assisted living facilities, and nursing homes, we are particularly vulnerable to tornadoes. Critical facilities and older apartment buildings that don't have back-up power.
Severe Weather: The village has critical infrastructure that can be impacted by severe weather. Major transportation could be impacted.
Severe Winter Weather: Heavy winter snow and cold can impact all departments operations.

Indicator	Number	Percent
Families in poverty	448	6.2%
People with disabilities	2,986	11.3%
People over 65 years	6,789	25.5%
People under 5 years	1,325	5%
People of color	10,405	39.1%
Black	329	1.2%
Native American	130	0.5%
Hispanic	1,613	6.1%
Difficulty with English	1,733	6.9%
Households with no car	570	5.6%
Mobile homes	53	0.5%

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.

Future studies are needed to better understand the impact of climate change on the community's assets.

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

Hazard	Vulnerability
Future Vulnerability	
Dam and Levee Failure	No Change is Anticipated
Drought	No Change is Anticipated
Earthquake	No Change is Anticipated
Flood (Riverine, Urban, Shoreline)	No Change is Anticipated
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings)	No Change is Anticipated
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	No Change is Anticipated
Tornado	No Change is Anticipated
Wildfire (Wildfire Smoke)	No Change is Anticipated

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	Remained the Same
Drought	Remained the Same
Earthquake	Remained the Same
Flood (Riverine, Urban, Shoreline)	Remained the Same
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings)	Remained the Same
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	Remained the Same
Tornado	Remained the Same
Wildfire (Wildfire Smoke)	Remained the Same

Hazard	Vulnerability
Future Vulnerability	
Dam and Levee Failure	No Change is Anticipated
Drought	No Change is Anticipated
Earthquake	No Change is Anticipated
Flood (Riverine, Urban, Shoreline)	Increase
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings)	No Change is Anticipated
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	No Change is Anticipated
Tornado	No Change is Anticipated
Wildfire (Wildfire Smoke)	No Change is Anticipated

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:

The village has gone vertical with taller structures, increasing population density. As of right now it hasn't impacted the socioeconomic status of the village.

New construction and increases in population contribute to the potential of being affected by severe weather.

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	Flood
3	Tornado
4	Severe Winter Weather
5	Earthquake
6	Dam Failure
7	Drought

New Mitigation Actions

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

Action M-8.19

Mitigation Action #19: Flooding and the ability to increase water detention and water movement through increased storm water projects.					
Lead Agency/Department Organization: Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** High	**Potential Funding Source:** BRIC, HMGP, FMA	**Estimated Projected Completion Date:** Long-term	**Hazard(s) Mitigated:** Flooding
Year Initiated		2024			
Applicable Jurisdiction		Village of Morton Grove			
Applicable Goal		1,2,3,5			
Applicable Objective		4,6,9			
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:		Flooding and the ability to increase water detention and water movement through increased storm water 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; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		N			

Action M-8.20

Mitigation Action #20: Installing, re-routing, or increasing the capacity of a storm drainage system.					
Lead Agency/Department Organization: Public Works	**Supporting Agencies/ Organizations:** Fire Police	**Estimated Cost:** Medium	**Potential Funding Source:** General Fund Local or State Special Taxes Flood Mitigation Assistance (FMA) Program State Special Funds	**Estimated Projected Completion Date:** Ongoing	**Hazard(s) Mitigated:** Flood (Riverine, Urban, Coastal/Shoreline) Severe Weather (Extreme Heat, Lightning. Hail, Fog, High Winds) Severe Winter Weather (Ice Storm, Heavy Snow, Blizzards, Extreme Cold)
Year Initiated		2025			
Applicable Jurisdiction		Village of Morton Grove			
Applicable Goal		1,2,3,4,5,6			
Applicable Objective		All			
Cost Analysis (Low, Medium, High)		Medium			
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:		Installing, re-routing, or increasing the capacity of a storm drainage system. Performing regular drainage system maintenance, such as sediment and debris clearance, as well as detection and prevention of discharges into stormwater and sewer systems from home footing drains, downspouts, or sewer pumps.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority		N			

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	

Ongoing Mitigation Actions

During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended, as needed.

Action M-8.1

Mitigation Action #1: Northeast neighborhood sewer separation project					
Lead Agency/Department Organization: Public Works	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $7,260,000	**Potential Funding Source:** Enterprise fund	**Estimated Projected Completion Date:** Long-term	**Hazard(s) Mitigated:** Flooding
Year Initiated		2014			
Applicable Jurisdiction		Village of Morton Grove			
Applicable Goal		2,3			
Applicable Objective		1, 2, 3, 7, 9			
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:		The project would separate the remaining combined sewer system north of Church Street. Storm water would be conveyed to an existing Outfall #17B through the Church Street Storm sewer. An engineering study, along with the design, was completed in 1988. However, a redesign would be needed to modernize specifications. The project would reduce stormwater entering the			

	combined sewer system, reducing the number of combined sewer overflows. The project would also reduce surface water flooding that leads to street and overland flooding and reduce the number of basement backups in the area. Preliminary engineering is anticipated to be completed by the end of 2019.
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	X

Action M-8.2

Mitigation Action #2: North Central neighborhood sewer separation project					
Lead Agency/Department Organization: Public Works	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $11,000,000	**Potential Funding Source:** Enterprise Fund	**Estimated Projected Completion Date:** Long-term	**Hazard(s) Mitigated:** Flooding
Year Initiated		2014			
Applicable Jurisdiction		Village of Morton Grove			
Applicable Goal		2,3			
Applicable Objective		1, 2, 3, 7, 9			
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:		The project would separate the combined sewer system from Austin Avenue to Linder Avenue and Dempster Street to Church Street. Storm water would be conveyed to two existing outfalls, #13 and #14. All engineering and design work would also need to be completed for the project. The project would reduce stormwater entering the combined sewer system, reducing the number of			

	combined sewer overflows. The project would also reduce surface water flooding that leads to street and overland flooding and reduce the number of basement backups in the area.
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	X

Action M-8.3

Mitigation Action #3: South Central neighborhood sewer separation project					
Lead Agency/Department Organization: Public Works	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $10,000,000; Medium	**Potential Funding Source:** Enterprise Fund	**Estimated Projected Completion Date:** Long-term	**Hazard(s) Mitigated:** Flooding
Year Initiated		2014			
Applicable Jurisdiction		Village of Morton Grove			
Applicable Goal		2,3			
Applicable Objective		1, 2, 3, 7, 9			
Cost Analysis (Low, Medium, High)		Medium			
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:		The project would separate the combined sewer system from Austin Ave to Frontage Road and Main Street to Dempster Street. Storm water would be conveyed to an existing outfall #11. All engineering and design work would also need to be completed for the project. The project would reduce stormwater entering the combined sewer system, reducing the number of combined sewer			

	overflows. The project would also reduce surface water flooding that leads to street and overland flooding and reduce the number of basement backups in the area.
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	X

Action M-8.4

Mitigation Action #4: Oak Park Avenue underground stormwater detention					
Lead Agency/Department Organization: Public Works	**Supporting Agencies/ Organizations:**	**Estimated Cost:** 1,100,000; Low	**Potential Funding Source:** Enterprise Fund	**Estimated Projected Completion Date:** Long-term	**Hazard(s) Mitigated:** Flooding
Year Initiated		2014			
Applicable Jurisdiction		Village of Morton Grove			
Applicable Goal		2,3			
Applicable Objective		1, 2, 3, 7, 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)		High			
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;		X			

O = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed	

Action M-8.5

Mitigation Action #5: Stormwater storage feasibility study					
Lead Agency/Department Organization: Public Works	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $45,000; Low	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Long-term	**Hazard(s) Mitigated:** Flooding
Year Initiated		2014			
Applicable Jurisdiction		Village of Morton Grove			
Applicable Goal		1,2,3			
Applicable Objective		1, 2, 3, 7, 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)		High			
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		X			

Action M-8.6

Mitigation Action #6: Dempster Street relief sewer					
Lead Agency/Department Organization: IDOT	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $5,000,000	**Potential Funding Source:** Capital Project Fund	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Flooding
Year Initiated		2014			
Applicable Jurisdiction		Village of Morton Grove			
Applicable Goal		2,3			
Applicable Objective		1, 2, 3, 7, 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)		High			
Action/Implementation Plan and Project Description:		The project would add additional stormwater storage capacity to the Dempster Street Illinois Department of Transportation (IDOT) storm sewer running from Ozark Avenue to Waukegan Road. IDOT, the Village of Niles, and the Village of Morton Grove could share the project funding. The project would reduce or eliminate the number of Street closures on US Route 58 caused by street flooding, which in turn causes overland flooding that causes basement flooding in the area.			
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		I			

Action M-8.7

Mitigation Action #7: Sewer Lining Project					
Lead Agency/Department Organization: Public Works	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $1,000,000; Medium	**Potential Funding Source:** Enterprise Fund	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Flooding
Year Initiated		2014			
Applicable Jurisdiction		Village of Morton Grove			
Applicable Goal		2,3			
Applicable Objective		1, 2, 3, 7, 9			
Cost Analysis (Low, Medium, High)		Medium			
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:		The project would consist of lining Village sanitary sewers throughout the Village of Morton Grove throughout a four-year program. The project would reduce the amount of stormwater infiltration that occurs in older sanitary sewers. Reducing the amount of stormwater infiltration will help reduce the amount of basement flooding and the number of combined sewer overflows. ($250,000 per year)			
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-8.11

<table>
<tr><td colspan="6">Mitigation Action #11: Where appropriate, support retrofitting, purchasing, or relocating structures in hazard-prone areas to prevent future damage. Give priority to properties with exposure to repetitive losses.</td></tr>
<tr><td>Lead Agency/Department Organization:
Village of Morton Grove Administration</td><td>Supporting Agencies/ Organizations:</td><td>Estimated Cost:
High</td><td>Potential Funding Source:
BRIC, HMGP, FMA</td><td>Estimated Projected Completion Date:
Long-term (depending on funding)</td><td>Hazard(s) Mitigated:
All Hazards</td></tr>
<tr><td colspan="2">Year Initiated</td><td colspan="4">2014</td></tr>
<tr><td colspan="2">Applicable Jurisdiction</td><td colspan="4">Village of Morton Grove</td></tr>
<tr><td colspan="2">Applicable Goal</td><td colspan="4">3</td></tr>
<tr><td colspan="2">Applicable Objective</td><td colspan="4">7, 13</td></tr>
<tr><td colspan="2">Cost Analysis (Low, Medium, High)</td><td colspan="4">High</td></tr>
<tr><td colspan="2">Priority and Level of Importance (Low, Medium, High)</td><td colspan="4">Medium</td></tr>
<tr><td colspan="2">Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)</td><td colspan="4">High</td></tr>
<tr><td colspan="2">Action/Implementation Plan and Project Description:</td><td colspan="4"></td></tr>
<tr><td colspan="2">Actual Completion Date or Ongoing Indefinite</td><td colspan="4"></td></tr>
<tr><td colspan="2">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</td><td colspan="4">O</td></tr>
</table>

Action M-8.14

<table>
<tr><th colspan="6">Mitigation Action #14: Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.</th></tr>
<tr><td>Lead Agency/Department Organization:
Village of Morton Grove Administration</td><td>Supporting Agencies/ Organizations:</td><td>Estimated Cost:
Low</td><td>Potential Funding Source:
General Fund</td><td>Estimated Projected Completion Date:
Long-term</td><td>Hazard(s) Mitigated:
All Hazards</td></tr>
<tr><td colspan="2">Year Initiated</td><td colspan="4">2014</td></tr>
<tr><td colspan="2">Applicable Jurisdiction</td><td colspan="4">Village of Morton Grove</td></tr>
<tr><td colspan="2">Applicable Goal</td><td colspan="4">2,4,6</td></tr>
<tr><td colspan="2">Applicable Objective</td><td colspan="4">3, 4, 5, 6, 7, 9, 10, 11, 13</td></tr>
<tr><td colspan="2">Cost Analysis (Low, Medium, High)</td><td colspan="4">Low</td></tr>
<tr><td colspan="2">Priority and Level of Importance (Low, Medium, High)</td><td colspan="4">Medium</td></tr>
<tr><td colspan="2">Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)</td><td colspan="4">Medium</td></tr>
<tr><td colspan="2">Action/Implementation Plan and Project Description:</td><td colspan="4"></td></tr>
<tr><td colspan="2">Actual Completion Date or Ongoing Indefinite</td><td colspan="4"></td></tr>
<tr><td colspan="2">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</td><td colspan="4">O</td></tr>
</table>

Action M-8.15

Mitigation Action #15: Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts.					
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	Village of Morton Grove				
Applicable Goal	2,3				
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:					
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-8.16

Mitigation Action #16: Where feasible, implement a program to record high water marks following high-water events.					
Lead Agency/Department Organization: Village of Morton Grove Administration	**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		Village of Morton Grove			
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:					
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		X			

Action M-8.17

Mitigation Action #17: Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.					
Lead Agency/Department Organization: Village of Morton Grove Administration	**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		Village of Morton Grove			
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:					
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-8.18

<table>
<tr><td colspan="6">Mitigation Action #18: Install Multiple backup generators on trailers to power areas designated as areas of refuge and areas/buildings with large populations—contract with companies with extensive power supply capabilities, such as ComEd.</td></tr>
<tr><td>Lead Agency/Department Organization:
Public Works</td><td>Supporting Agencies/ Organizations:</td><td>Estimated Cost:
$500,000; Medium</td><td>Potential Funding Source:
PDM, BRIC, HMGP</td><td>Estimated Projected Completion Date:
Short-term</td><td>Hazard(s) Mitigated:
Extreme Heat, Lightning, High Wind, Blizzard, Extreme Cold, Tornado, Widespread Power Outage</td></tr>
<tr><td colspan="2">Year Initiated</td><td colspan="4">2019</td></tr>
<tr><td colspan="2">Applicable Jurisdiction</td><td colspan="4">Village of Morton Grove</td></tr>
<tr><td colspan="2">Applicable Goal</td><td colspan="4">1,2,3,4</td></tr>
<tr><td colspan="2">Applicable Objective</td><td colspan="4">1, 2, 12, 13</td></tr>
<tr><td colspan="2">Cost Analysis (Low, Medium, High)</td><td colspan="4">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.</td></tr>
<tr><td colspan="2">Priority and Level of Importance (Low, Medium, High)</td><td colspan="4">Medium</td></tr>
<tr><td colspan="2">Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)</td><td colspan="4">Allows shelter in place of powering community shelter. Allows powering water supply service.
Medium–Project will have 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.</td></tr>
<tr><td colspan="2">Action/Implementation Plan and Project Description:</td><td colspan="4"></td></tr>
<tr><td colspan="2">Actual Completion Date or Ongoing Indefinite</td><td colspan="4"></td></tr>
<tr><td colspan="2">Project Status & Changes in Priority
Completion status legend:
N = New; I = In Progress Toward Completion;
O = Ongoing Indefinitely; C = Project Completed;</td><td colspan="4">I</td></tr>
</table>

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

Completed Actions

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

Completed Action Items
Description Rain barrel project
Generator - we are in need of back-up generation at both our South Pumping Station and at PW itself. This project would be valued at $400,000 and take 1 yr. New All Hazards 1, 2, 13 Public Works 400,000, Medium General Fund Short term

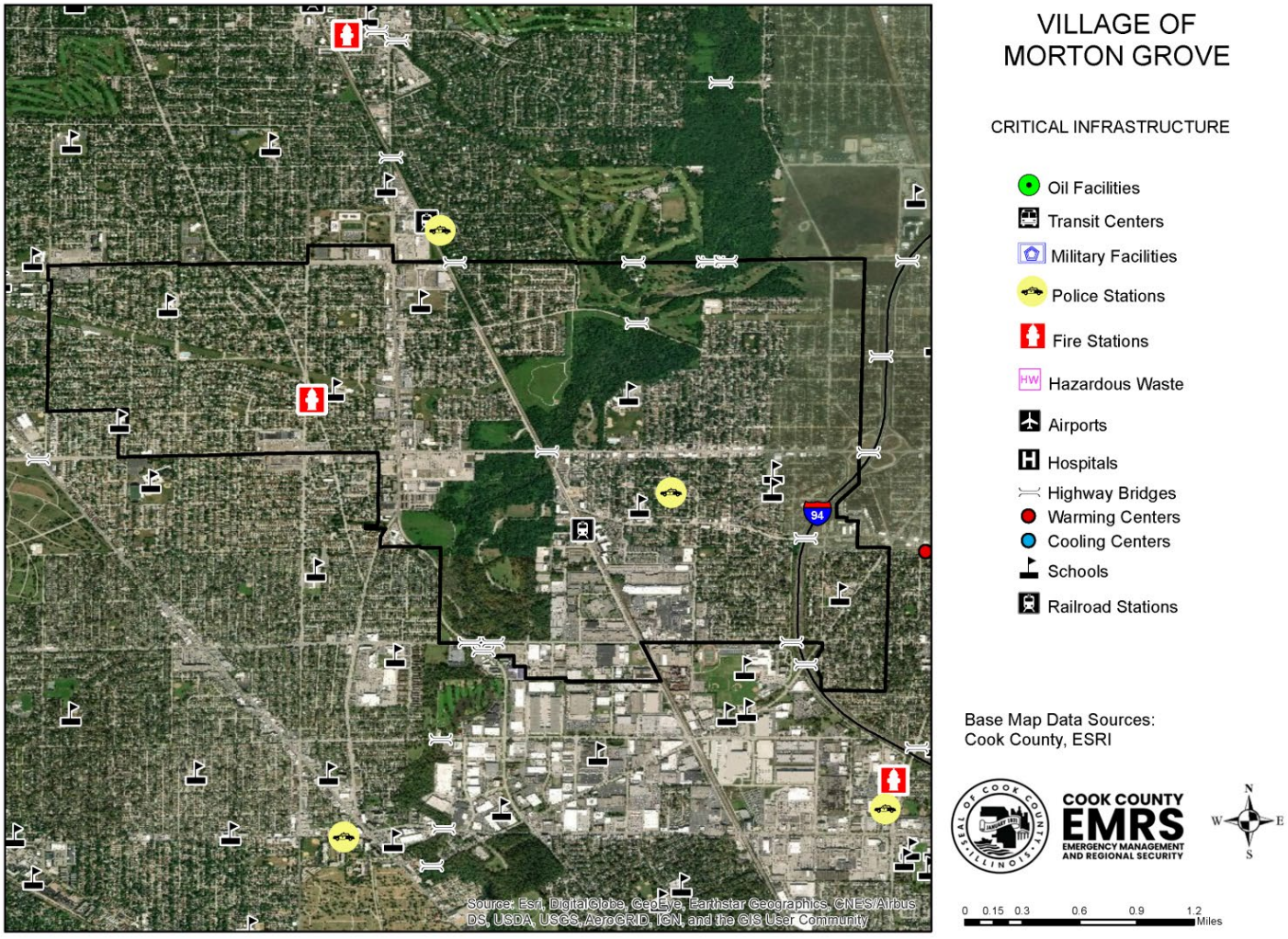
Future Needs to Better Understand Risk/Vulnerability

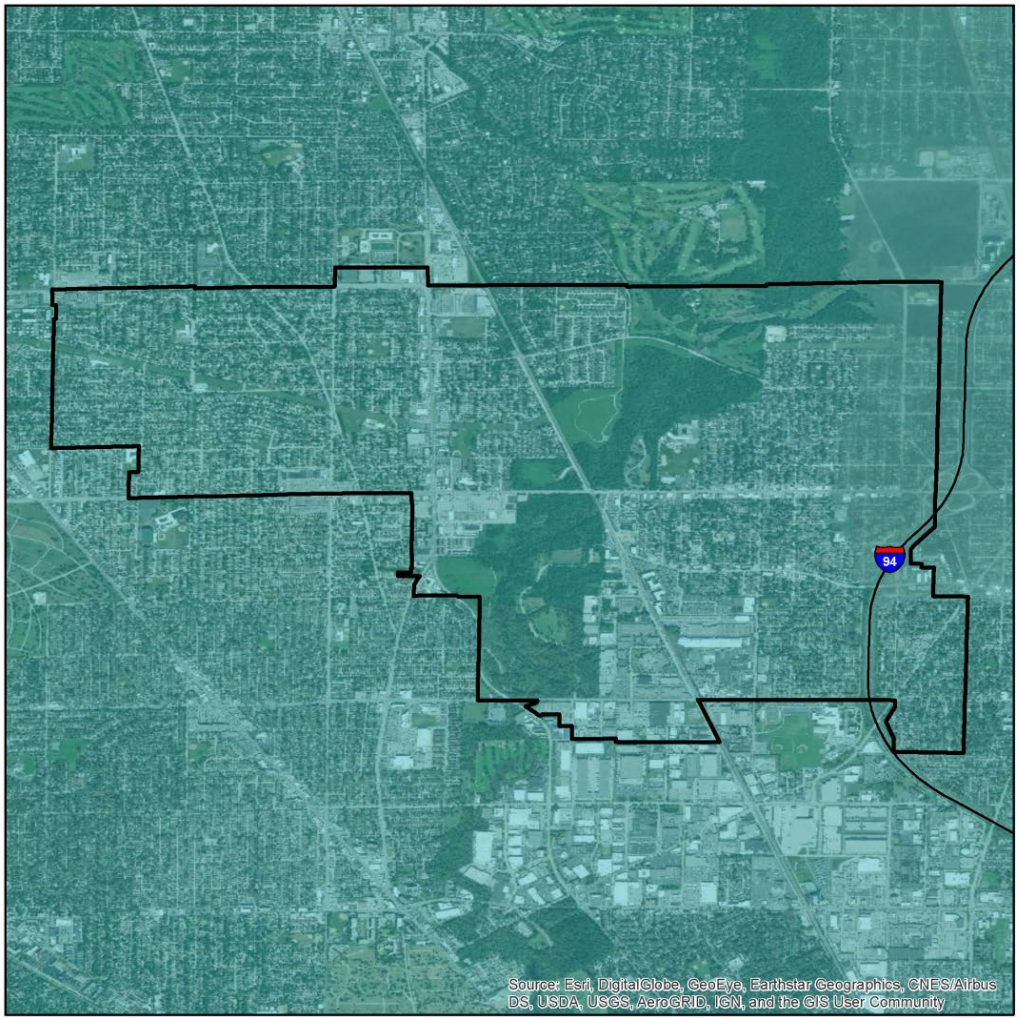
No future needs have been identified at this time.

Additional Comments

There are no additional comments at this time.

Hazard Mapping





VILLAGE OF MORTON GROVE

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 760 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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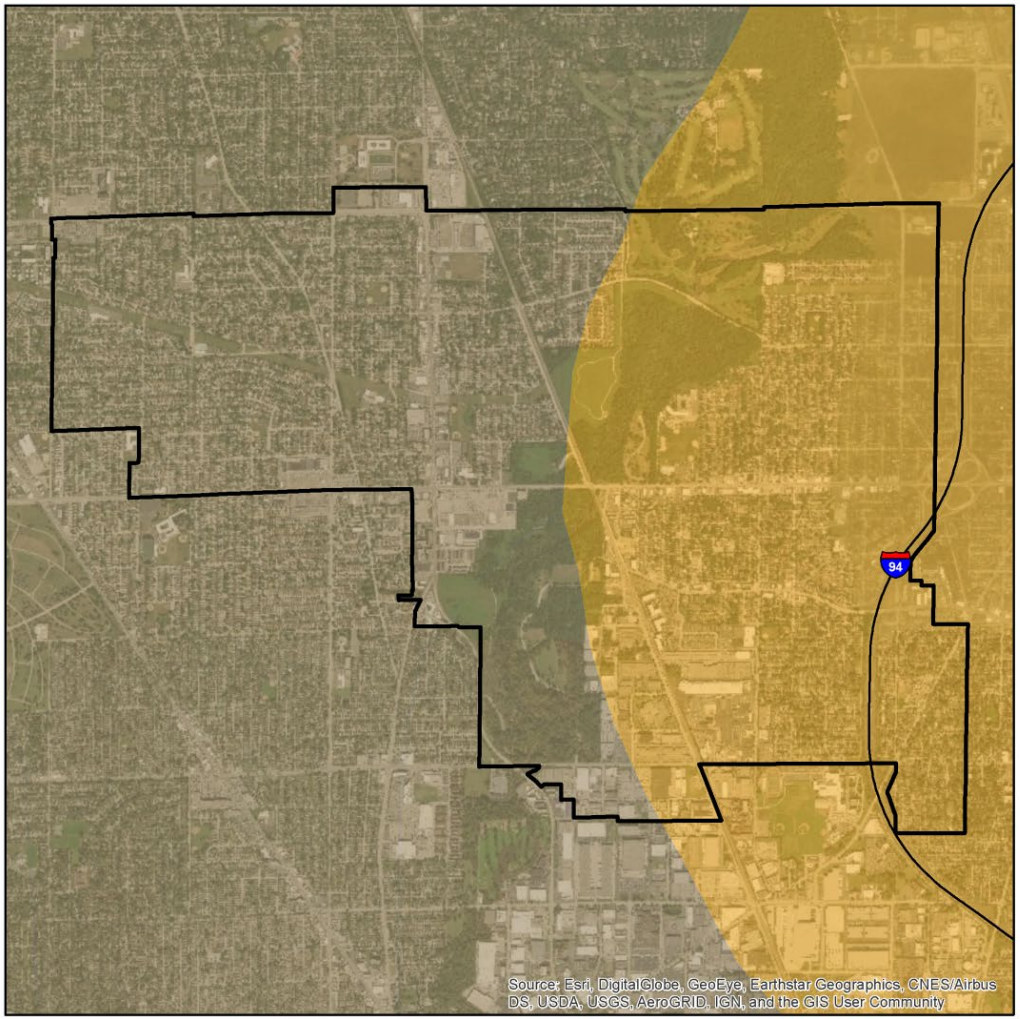
N W E S

0 0.15 0.3 0.6 0.9 1.2 Miles



VILLAGE OF MORTON GROVE

NATIONAL EARTHQUAKE HAZARD REDUCTION PROGRAM (NEHRP) SOIL CLASSIFICATION

TYPE

- C - Very Dense Soil, Soft Rock
- D - Stiff Soil
- F- Site Specific Evaluation

Data provided by the Illinois State Geological Survey and Cook County.

The Central United States Earthquake Consortium (CUSEC) State Geologists produced a regional Soil Site Class map (NEHRP Soil Profile Type Map), a Liquefaction Susceptibility Map and a Soil Response Map for the 8 states to be used in the FEMA New Madrid Catastrophic Planning Initiative Phase II work. The USGS Geologic Investigation Series I-2789 Map of Surficial Deposits and Materials in the Eastern and Central United State (East of 102 degrees West Longitude) by David S. Fullerton, Charles A. Bush and Jean N. Pennell (2003) was the base map used for this work. Each State Geological Survey produced its own state map version of the Soil Site Class and Liquefaction Susceptibility maps. The procedures outlined in the NEHRP provisions (Building Seismic Safety Council, 2004) and the 2003 International Building Codes (International Code Council, 2002) were followed to produce the soil site class maps. CUSEC State Geologists used the entire column of soils material down to bedrock and did not include any bedrock in the calculation of the average shear wave velocity for the column, since it is the soil column and the difference in shear wave velocity of the soils in comparison to the bedrock which influences much of the amplification.

The information included on this map has been compiled for Cook County from a variety of sources and is subject to change without notice. Cook County makes no representations or warranties, express of implied, as to accuracy, completeness, timeliness, or rights to the use of such information. Cook County shall not be liable for any general, special, indirect, incidental, or consequential damages including, but not limited to, lost revenues or lost profits resulting from the use or misuse of the information contained on this map. Any sale of this map or information on this map is prohibited except by written permission of Cook County.

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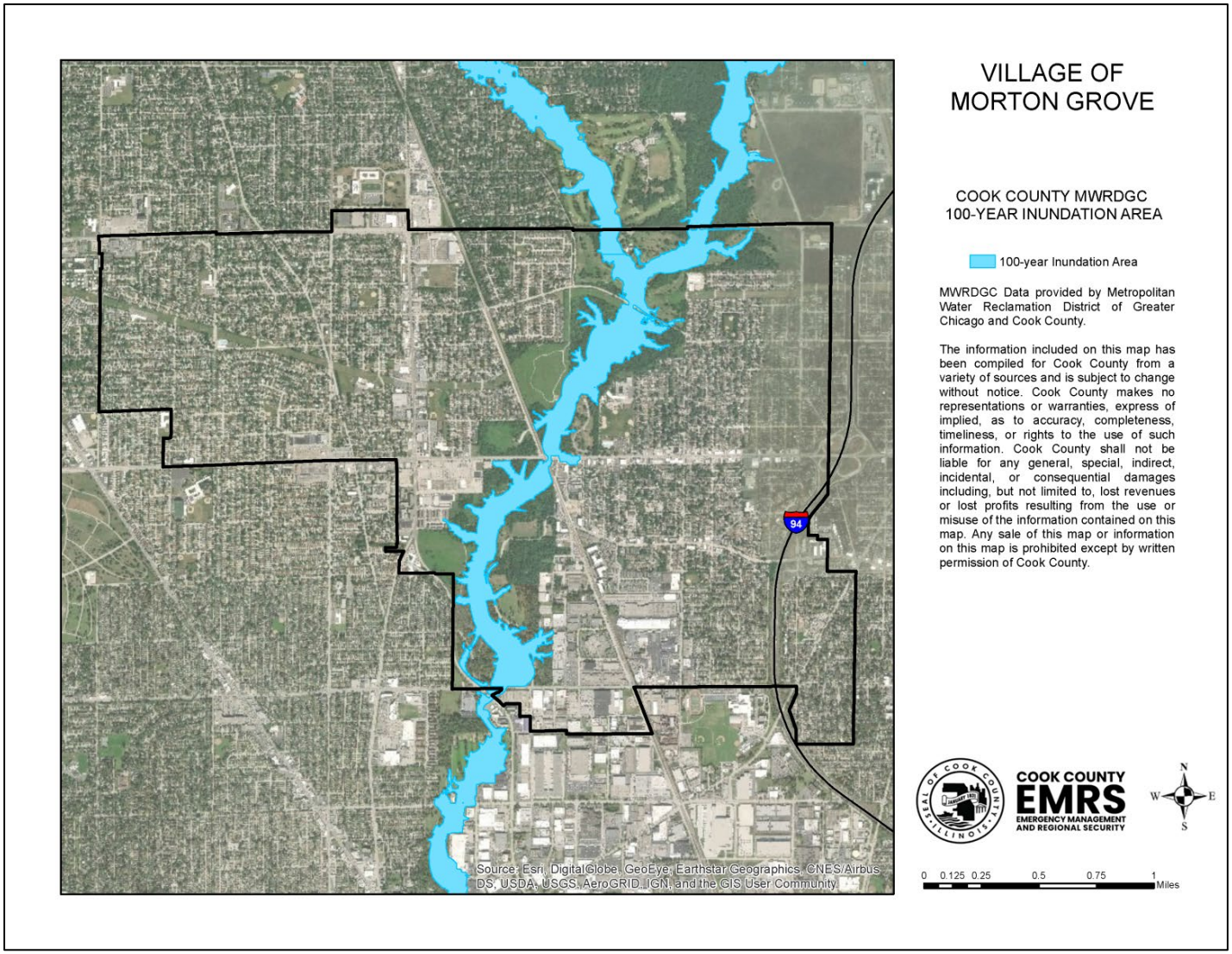
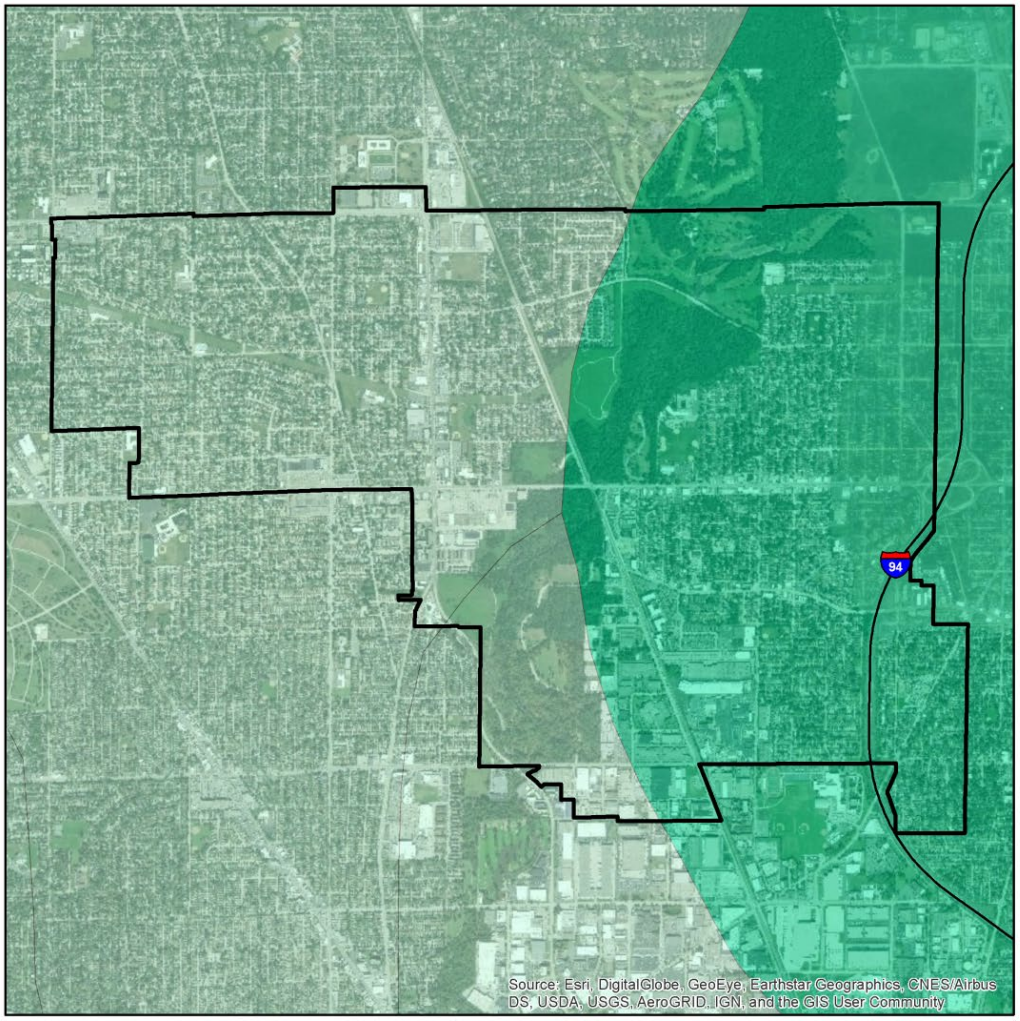
N W E S

0 0.125 0.25 0.5 0.75 1 Miles

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.





VILLAGE OF MORTON GROVE

LIQUEFACTION SUSCEPTIBILITY

LIQUEFACTION SUSCEPTIBILITY

- high
- low
- very low

Data provided by the Illinois State Geological Survey and Cook County.

The Central United States Earthquake Consortium (CUSEC) State Geologists produced a regional Soil Site Class map (NEHRP Soil Profile Type Map), a Liquefaction Susceptibility Map and a Soil Response Map for the 8 states to be used in the FEMA New Madrid Catastrophic Planning Initiative Phase II work. The USGS Geologic Investigation Series I-2789 Map of Surficial Deposits and Materials in the Eastern and Central United State (East of 102 degrees West Longitude) by David S. Fullerton, Charles A. Bush and Jean N. Pennell (2003) was the base map used for this work. Each State Geological Survey produced its own state map version of the Soil Site Class and Liquefaction Susceptibility maps. The procedures outlined in the NEHRP provisions (Building Seismic Safety Council, 2004) and the 2003 International Building Codes (International Code Council, 2002) were followed to produce the soil site class maps. CUSEC State Geologists used the entire column of soils material down to bedrock and did not include any bedrock in the calculation of the average shear wave velocity for the column, since it is the soil column and the difference in shear wave velocity of the soils in comparison to the bedrock which influences much of the amplification.

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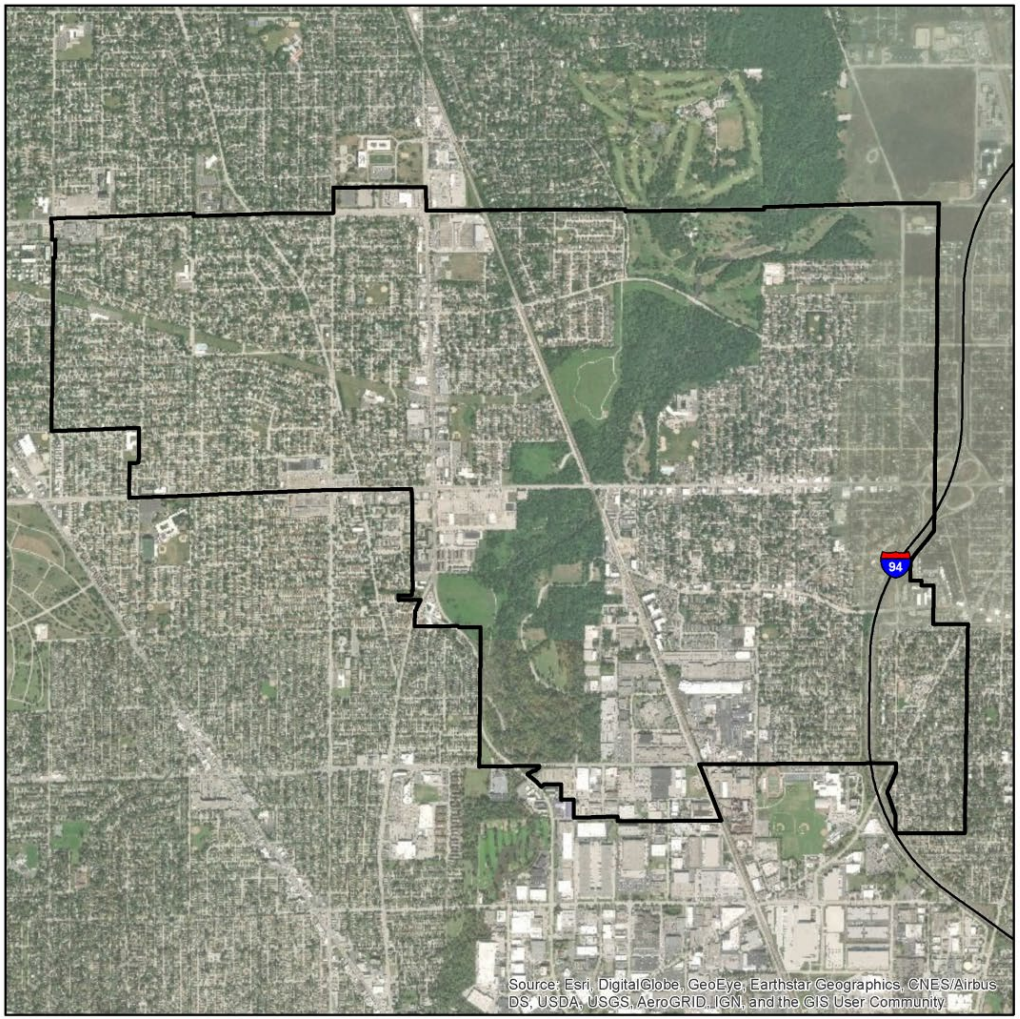
COOK COUNTY EMRS
EMERGENCY MANAGEMENT AND REGIONAL SECURITY

N
W E
S

0 0.125 0.25 0.5 0.75 1 Miles



VILLAGE OF MORTON GROVE

100- AND 500- YEAR TORNADO EVENTS

Magnitude

4 (100 year event)

5 (500 year event)

Historic tornado data provided by NOAA/NWS showing the initial points and paths of all F4 and F5 events observed from 1950 to 2017.

COOK COUNTY EMRS
EMERGENCY MANAGEMENT AND REGIONAL SECURITY

N
W E
S

0 0.125 0.25 0.5 0.75 1 Miles