

Hazel Crest

Hazard Mitigation Plan Point of Contact

Primary Point of Contact	Alternate Point of Contact
Tyrone Jarrett, Sr., Fire Chief 2903 W. 175th St. Hazel Crest, Illinois 60429 Email: Tjarrett@villageofhazelcrest.com	Charles Dryer, Public Works Director 3000 W. 170th Pl. Hazel Crest, Illinois 60429 Telephone: 708-335-9620 Email: cdryer@villageofhazelcrest.com

Jurisdiction Profile

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

Date of Incorporation: 1911

Current Population: The 2020 U.S. Census population was 13,386. The 2022 U.S. Census estimate indicated the population was 12,897.

Population Growth: The overall population has decreased 5.82 percent between 2018 and 2022.

Location and Description: The village is bordered by Markham to the north, Harvey to the northeast, East Hazel Crest to the east, Homewood to the southeast, Flossmoor to the south and Country Club Hills to the west. Interstate 80 parallels the south border. According to the 2010 census, the village has a total area of 3.41 square miles (8.8 km²), of which 3.39 square miles (8.8 km²) (or 99.41%) is land and 0.02 square miles (0.052 km²) (or 0.59%) is water.

Brief History: William and Carrie McClintock arrived in the area in 1890, purchasing 80 acres between Homewood and Harvey. They were impressed by the activity along the Illinois Central Railroad, especially with the upcoming World's Columbian Exposition. McClintock platted and registered the land as South Harvey, anticipating benefits from the interest in and advertising for the planned industrial city of Harvey. However, South Harvey was fairly quickly annexed by the village of Homewood. By late 1895, residents organized a community church and led a successful campaign to de-annex from Homewood. Carrie McClintock led a petition drive to change the name from South Harvey to Hazel Crest, after the many thickets of hazelnut bushes there. In 1910 the area had 310 residents, who voted to incorporate as Hazel Crest in 1911. Residents soon began municipal services, a volunteer fire department, a public school, and St. Anne's Roman Catholic Church.

Climate: The climate in the Village of Hazel Crest 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 the months of January and February and peaks in the months of May and June. Snowfall in the City has ranged from 9.8 inches

(1920–21) up 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 Village’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). Although in July and August, there are usually several nights where 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 Hazel Crest is capable of experiencing 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 Village of Hazel Crest.

Governing Body Format: The Village of Hazel Crest operates under the Village President/Trustee form of government. The legislative body consists of the Village President, Board of six Trustees and Village Manager. The Village President and Board of Trustees serve a term of four years. This body of Government will assume the responsibility for the adoption and implementation of this plan. The Village Manager is responsible for day-to-day operation of the Village and oversees 8 departments including the Village Administrators Office, Finance Department, Building Department, Fire Department, Police Department, Public Works Department, Water Department, and Animal Department.

Development Trends: Early development occurred in the vicinity of 170th Street, between the Illinois Central Railroad and Dixie Highway. As the Village grew, this became the town center and more homes were built in the area west of Dixie Highway. This older section of the Village is now known as Hazel Crest Proper. In more recent times the old town center declined as government offices relocated and price conscious residents were attracted to new outlying commercial developments. The bigger portion of the Village, south of I -80/I-294 is comprised mostly of newer 1960s, 1970s and 1980s subdivisions with single-family homes arranged along winding curvilinear streets. Expansive open space areas, parks and creeks/floodways weave through the developed areas and, in combination with the undulating terrain, contribute to a “green” and pleasant overall appearance. Higher density residential developments are found at several locations. A variety of housing types are available and there is an adequate stock of affordable and special-need housing. South Suburban Hospital, a full service acute care facility, is located at 177th Street and Kedzie A venue. Roadside commercial developments are located along some of the main arterial streets. The largest concentrations of retail space are located along 183rd Street west of Kedzie A venue and at the 175th Street and Kedzie A venue intersection. Industrial development is very limited and mostly confined to the south side of 167th Street east of Kedzie Avenue. There are currently many properties available in Hazel Crest and can be viewed on the Village website for those interested.

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	Ord. No. 14-2012, § 3, 7-24-12
Zonings	Yes	No	No	Yes	Appendix C - Zoning : 2008
Subdivisions	Yes	No	No	No	Appendix A – Subdivision Regulations: 1958
Stormwater Management	Yes	No	Yes	Yes	Ord. No. 13-2008, § 1, 6-10-08
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. No. 23-2008, § 1, 10-14-08
Public Health and Safety	Yes	No	Yes	Yes	Cook County Board of Health. Code 1956, § 7.03
Environmental Protection	No	No	No	Yes	IEPA
Planning Documents					

General or Comprehensive Plan	Yes	No	No	No	Hazel Crest Comprehensive Plan March 2007
<i>Is the plan equipped to provide integration to this mitigation plan?</i>					Yes - Land Use
Floodplain or Basin Plan	No	No	No	No	
Stormwater Plan	No	No	Yes	No	MWRD Detailed Watershed Plan
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	

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, Economic Development, and Public Works
Engineers or professionals trained in building or infrastructure construction practices	Yes	Engineering Consultant and Public Works
Planners or engineers with an understanding of natural hazards	Yes	Engineering Consultant and Public Works
Staff with training in benefit/cost analysis	Yes	Engineering Consultant
Surveyors	Yes	Engineering Consultant
Personnel skilled or trained in GIS applications	Yes	Engineering Consultant and Cook County GIS Consortium
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	Fire Chief
Grant writers	Yes	Engineering Consultant

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?	Village appointed engineer
What is the date of adoption of your flood damage prevention ordinance?	Ord. No. 13-2008, § 1, 6-10-08

When was the most recent Community Assistance Visit or Community Assistance Contact?	10/18/1997. Community Assistance Visit was closed 7/21/2003
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 Management and more technical training opportunities
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, but the Village is interested in participating.

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:

Sec. 11-3 Definitions:

Substantial damage: A building is considered substantially damaged when it sustains damage from any cause (fire, flood, earthquake, etc.), whereby the cost of fully restoring the structure would equal

or exceed fifty (50) per cent of the pre-damage market value of the structure, regardless of the actual repair work performed.

Substantial improvement:

(1) Any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds fifty (50) per cent of the market value of the structure either, (1) before the improvement or repair is started, or (2) if the structure has been damaged, and is being restored, before the damage occurred.

(2) 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.

(3) The term does not, however, include either (1) 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 code specifications which are solely necessary to assure safe living conditions or (2) any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a historic structure.

Sec. 11-10 Permitting Requirements Applicable to all Floodplain Areas

In addition to the requirements found in sections 11-7, 11-8 and 11-9 for development in flood fringes, designated floodways, and SFHA or floodplains where no floodways have been identified (zone A, AO, AH, AE, AL—A30, A99, VO, V1—30, VE, V, M, E, D, or X), the following requirements shall be met:

(3) *Protecting buildings.*

a. All buildings located within 100-year floodplain also known as a SFHA, and all buildings located outside the 100-year floodplain but within the 500-year floodplain, shall be protected from *flood* damage below the *flood* protection elevation. This building protection criteria applies to the following situations:

1. Construction or placement of a new building;
2. A structural alteration to an existing building that either increases the first floor area by more than twenty (20) per cent or is a substantial improvement (exceeding the building's market value by more than fifty (50) per cent.) This alteration shall be figured cumulatively beginning with any alteration which has taken place subsequent to April 1, 1990;
3. Installing a manufactured home on a new site or a new manufactured home on an existing site. This building protection requirement does not apply to returning a mobile home to the same site it lawfully occupied before it was removed to avoid *flood* damage; and
4. Installing a travel trailer on a site for more than one hundred eighty (180) days.

This building protection requirement may be met by one (1) of the following methods:

b. A residential or nonresidential building, when allowed, may be constructed on permanent land fill in accordance with following:

1. The lowest floor (including basement) shall be at or above the *flood* protection elevation.

2. Fill requirements.

(i) The fill shall be placed in layers no greater than one (1) foot deep before compaction and should extend at least ten (10) feet beyond the foundation of the building before sloping below the *flood* protection elevation.

(ii) The top of the fill shall be above the *flood* protection elevation. However, the ten-foot minimum may be waived if a structural engineer certifies an alternative method to protect the building from damages due to hydrostatic pressures.

(iii) The fill shall be protected against erosion and scour.

(iv) The fill shall not adversely affect the flow or surface drainage from or onto neighboring properties.

c. A residential or nonresidential building may be elevated in accordance with the following:

1. The building or improvements shall be elevated on crawl space, stilts, piles, walls, or other foundation that is permanently open to floodwaters and not subject to damage by hydrostatic pressures of the base *flood* or 100-year frequency *flood*. The permanent openings shall be no more than one (1) foot above existing grade, and consists of a minimum of two (2) openings. The openings must have a total net area of not less than one (1) square inch for every one (1) square foot of enclosed area subject to *flooding* below the base *flood* elevation.

2. The foundation and supporting members shall be anchored and aligned in relation to flood flows and adjoining structures so as to minimize exposure to known hydrodynamic forces such as current, waves, ice and floating debris.

3. All areas below the *flood* protection elevation shall be constructed of materials resistant to *flood* damage.

(i) The lowest floor (including basement) and all electrical, heating, ventilating, plumbing, and air conditioning equipment and utility meters shall be located at or above the *flood* protection elevation.

(ii) Water and sewer pipes, electrical and telephone lines, submersible pumps, and other waterproofed service facilities may be located below the *flood* protection elevation.

4. The areas below the *flood* protection elevation may only be used for the parking of vehicles, building access or storage in an area other than a basement.

5. Manufactured homes, and travel trailers to be installed on a site for more than one hundred eighty (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 Illinois 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:

(i) In the case of manufactured homes placed or substantially improved (1) outside of a manufactured home park or subdivision, (2) in a new manufactured home park or subdivision, (3) in an expansion to an existing manufactured home park or subdivision, or (4) 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.

(ii) 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 thirty-six (36) inches in height above grade and supported by reinforced piers or other foundations of equivalent strength, whichever is less.

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	Yes	Recognized	1986

Opportunities to Expand and Improve Capabilities

Opportunities to expand and improve capabilities include updating the building codes. The building codes are outdated from 2012.

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 Comprehensive Plan.
- 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

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: 2
- 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

Type of Event	FEMA Disaster Number (if applicable)	Date	Preliminary Damage Assessment/ Event Narrative
Severe Weather	-	7/13/2016	-
Severe Storms, Straight-Line Winds, Flooding	DR-4116	4/26/2013	-
Severe Winter Snow Storms	DR-1960	1/31/2011	-
Severe Storms and Flooding	DR-1935	7/19/2010	-
Severe Storms and Flooding	DR-1800	9/13/2008	-
Severe Storms and Flooding	DR-1729	8/20/2007	-

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: The Village of Hazel Crest has a minimal effect with drought hazards. Although we are not uniquely affected, we do have a 60-acre parcel of prairie land and farm fields that may pose a hazard during a drought with a possible fire. The property is on the south side of 167 Street and west of Kedzie Ave.

Earthquake: Due to the aging community and structures, the Village of Hazel Crest is uniquely vulnerable to earthquake activity. On the east side of town, located off Park Ave. we have railroad tracks severing the Metra Electric, Canadian National, and Amtrak. The village also has a 5-story hospital located at 17800 Kedzie Ave that is not seismically reinforced. Furthermore, we have two (2), multistory nursing homes, Waterford Estates (17400 Kedzie Ave. and Pinecrest (3300 W 175 St.) that are not seismically reinforced.

Flood: Flooding occurs as a result of heavy rain in Pot Hills and Twin Creeks (these areas are East of Kedzie 178th -190th). In addition, the Village's over 100-year-old water mains could contribute to major flooding due to any kind of shift in-ground or eruption. The Village of Hazel Crest ranks Flooding as a priority #1 for our hazard mitigation plan. Over the past 15 years, citizens of Hazel Crest have requested help from major flooding. The basin and creeks are integral in mitigating flood water overflow causing major damage to nearby homes. The basin is located at 175 and Governors Highway and the creek is located on Mahoney Drive.

The intersection at 167th Street and Kedzie is situated near a low-lying area that is prone to water accumulation during heavy rainfalls. The stormwater drainage system at this intersection is inadequate, with old and undersized drains that are frequently overwhelmed during storms. The intersection is in a natural basin, making it a collection point for runoff from surrounding higher areas. Flooding at this busy intersection often leads to road closures, creating significant traffic congestion and delays for commuters. The accumulation of water can create hazardous driving conditions, increasing the risk of vehicular accidents. Pottawatomie Hills is located near Mahoney Creek which frequently overflows during heavy rain, causing repeated flooding in the subdivision. Many homes in this subdivision are built on low ground, which increases their susceptibility to floodwaters. The area has a high percentage of clay soil, which does not absorb water well, leading to rapid runoff and accumulation in residential areas. Homes in Pottawatomie Hills often experience basement flooding, foundation damage, and other water-related issues, leading to costly repairs and insurance claims.

High Winds: In the case of high winds, the Village will determine what trees and damage materials are needed for disposal.

Extreme Cold: The Village is susceptible to flooding as a result of extreme cold, in that the temperature could cause water main breaks.

Extreme Heat: June 15th 2018 - Highs could push past 95 degrees, residents who do not have access to air conditioning, are encouraged to utilize cooling centers open throughout Cook County.

Severe Weather: July 13th 2016 - A well-organized complex of thunderstorms progressed from west to east across northern Illinois and northwest Indiana, bringing scattered wind damage to mainly areas along and south of the I-80 corridor. Some of the more pronounced wind damage occurred in Kankakee County based on reports. In addition, heavy rainfall occurred causing patchy minor flooding. Large tree over one foot in diameter downed. The Village of Hazel Crest's Emergency Operations Center is located at 2903 W 175 Street (Hazel Crest Fire Department). The Operations Center is not supported by a backup generator if there is a power failure. We also have an antiquated Police Department structure (3000 W 170 Street) that does not have a battery backup system during power outages. Additionally, both buildings are not protected by any lightning rods to deter lightning strikes. Furthermore, the Village of Hazel Crest has two (2) Nursing Homes and 5-schools that will be impacted by severe weather. These facilities do not all have battery back

- Waterford Estates (Nursing Home)- 17400 S Kedzie Ave.
- Pinecrest Nursing Home (3300 W 175 Street)
- Mae Jemison- 3450 W 177 Street
- Chateaux School- 3600 Chambord
- Jesse White Learning Academy- 16910 S Western.
- Highland School- 3420 Laurel Lane
- Warren Palm- 1910 W 170 Street

During severe weather, the Village of Hazel Crest experiences infrastructure vulnerabilities. Storms and high winds have damaged power lines and substations leading to widespread power outages that affect homes, businesses, and critical services.

Our local hospital (South Suburban) and nursing homes (Waterford Estates, Citadel, and Pine Crest) are compromised without reliable backup power systems and are at risk during severe weather events, potentially compromising patient care. The two (2) main cooling centers are located at the Hazel Crest Fire and Police Departments. These centers have experienced several power outages during severe weather causing us to rely on the antiquated, underpowered battery backup systems. Furthermore, heavy rainfall and flooding in the Potawatomi, Pacesetter, and Hazel Crest Proper subdivisions can cause disruptions in emergency services due to high water and impassable intersections. The high water also overwhelms the village's sewage systems, leading to backups and contamination of drinking water supplies.

Tornado: Due to climate change, tornados are now appearing more frequently and closer to areas with dense populations. The Village of Hazel Crest has over 13,500 residents in a 3.1 square mile radius with over 5300 residential homes. The population demographics and infrastructure characteristics are just a few factors that make the Village of Hazel Crest vulnerable to tornadoes. The Village of Hazel Crest's Emergency Operations Center is located at 2903 W 175 Street (Hazel Crest Fire Department). The Operations Center is not supported by a backup generator if there is a power failure. We also have an antiquated Police Department structure (3000 W 170 Street) that does not have a battery backup system during power outages. Additionally, both buildings are not protected by any lightning rods to deter lightning strikes. Furthermore, the Village of Hazel Crest has two (2) Nursing Homes and 5-schools that will be impacted by severe weather. These facilities do not all have battery backup systems in the event of power outages.

- Waterford Estates (Nursing Home)- 17400 S Kedzie Ave.
- Pinecrest Nursing Home (3300 W 175 Street)
- Mae Jemison- 3450 W 177 Street
- Chateaux School- 3600 Chambord
- Jesse White Learning Academy- 16910 S Western.
- Highland School- 3420 Laurel Lane
- Warren Palm- 1910 W 170 Street

Due to climate change, tornados are now appearing more frequently and closer to areas with dense populations. The Village of Hazel Crest has over 13,500 residents in a 3.1 square mile radius with over 5300 residential homes. The population demographics and infrastructure characteristics are just a few factors that make the Village of Hazel Crest vulnerable to tornadoes.

Population Demographics:

On the east side of town resides a small mobile home park with ten mobile homes. Mobile homes are particularly vulnerable to tornadoes due to their lightweight construction and lack of secure foundations. They provide minimal protection against high winds and flying debris. A portion of the

residents that live in the mobile home park are elderly and disabled. Elderly and disabled individuals may have difficulty reaching safe shelters quickly during tornado warnings, putting them at a higher risk factor. Additionally, critical facilities vulnerabilities include the South Suburban Hospital and three (3) nursing/adult care facilities. These facilities are older healthcare facilities that may not be built to withstand tornado-level winds, risking considerable damage and disruption of services. The hospital and nursing homes also lack adequate backup power systems to maintain operations during and after a tornado. Many of our schools and daycare centers do not have designated safe rooms or storm shelters, putting children and staff at risk.

Infrastructure Vulnerabilities:

The Village of Hazel Crest's electrical infrastructure consists of 90% overhead powerlines. Overhead power lines are highly susceptible to damage from tornadoes, leading to widespread power outages that can last for days or weeks. The process of restoring power can be slow, particularly if the utility infrastructure is severely damaged. Furthermore, the police and fire departments rely heavily on communications. Tornadoes can damage our cell towers and other communication infrastructure, hindering emergency response and public communication efforts.

Widespread Power Outage: Hazel Crest assesses the need for identifying community shelters (generator(s), cots, blankets, and portable communication devices, i.e. radios.) in the event of a natural disaster.

Severe Winter Weather: The Village of Hazel Crest has a large senior population. We have two (2) nursing homes Waterford Estates (Nursing Home)-17400 S Kedzie Ave, and Pinecrest Nursing Home (3300 W 175 Street) that will be impacted by severe winter weather with frozen pipes.

Severe winter weather poses a unique vulnerability to the Village of Hazel Crest's elderly and disabled population. Over 10 percent of our residents under sixty-five suffer from a disability and 15 percent of our overall residents are seniors. Snow and ice can significantly impede mobility for elderly and disabled individuals, making it difficult for them to leave their homes for essential supplies or medical appointments. Furthermore, exposure to extreme cold can exacerbate existing health conditions, such as cardiovascular and respiratory diseases, and increase the risk of hypothermia and frostbite. Additionally, the Village of Hazel Crest has an average per capita income of \$29,372. That puts approximately 19 percent of our residents below the poverty line. During severe winter weather, these residents struggle to afford adequate heating, leading to unsafe heating practices like using space heaters or ovens, which can pose fire and carbon monoxide risks. Subsequently, inadequate heating also causes frozen pipes that can disrupt the water supply, causing shortages and damage to residential and municipal plumbing systems.

Indicator	Number	Percent
Families in poverty	890	12.9%
People with disabilities	3,155	11.1%
People over 65 years	3,929	13.8%
People under 5 years	1,853	6.5%
People of color	24,170	84.6%
Black	22,549	78.9%
Native American	66	0.2%
Hispanic	1,098	3.8%
Difficulty with English	286	1.1%
Households with no car	1,029	9.8%
Mobile homes	6	0.1%

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

Hazard	Vulnerability
Future Vulnerability	
Dam and Levee Failure	
Drought	
Earthquake	
Flood (Riverine, Urban, Shoreline)	
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Winds)	Increase
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	Increase
Tornado	Increase
Wildfire (Wildfire Smoke)	

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

Hazard	Vulnerability
Future Vulnerability	
Dam and Levee Failure	
Drought	
Earthquake	
Flood (Riverine, Urban, Shoreline)	
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Winds)	Increase
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	Increase
Tornado	Increase
Wildfire (Wildfire Smoke)	

On the southeast section of town, located off 183 Street, there is an unincorporated section that occupies two blocks long. This area is a response area for Hazel Crest Fire and Police which is in a flood zone. The Village of Hazel Crest has expressed interest in annexing this section on land.

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.

Rank	Hazard Type
1	Severe Weather
2	Severe Winter Weather
3	Tornado
4	Earthquake
5	Flood
6	Drought
7	Dam Failure

New Mitigation Actions

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

Action H - 4.22

Mitigation Action #H - 4.22: Public Health and Safety					
Lead Agency/Department Organization: Village of Hazel Crest Fire Department	Supporting Agencies/Organizations: Village of Hazel Crest Community Relations, Homeland Security	Estimated Cost: Medium	Potential Funding Source: General Fund Hazard Mitigation Grant Program (HMGP) FEMA Public Assistance (PA) Implement with existing funds and align future budgets to support plan.	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: 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 Hazel Crest				
Applicable Goal	1,2,3,4,5,6				
Applicable Objective	1,2,3,5,8,10,11,12,13				
Cost Analysis (Low, Medium, High)	Medium				
Priority and Level of Importance (Low, Medium, High)	High				

<p>Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)</p>	<p>High</p>
<p>Action/Implementation Plan and Project Description:</p>	<p>A. Public Awareness and Education Campaigns Goal: Educate residents about the risks associated with extreme temperatures and provide tips on how to stay safe. Actions:</p> <ul style="list-style-type: none"> • Develop and distribute educational materials (flyers, brochures, website content) on recognizing heat and cold-related illnesses and preventative measures. • Conduct community workshops and seminars on staying safe during extreme temperatures. • Utilize the Village of Hazel Crest's website local media, social media, and community events to disseminate information on extreme temperature preparedness and response. <p>B. Cooling and Warming Centers Goal: Provide safe spaces for residents to escape extreme temperatures. Actions:</p> <ul style="list-style-type: none"> • Identify and designate public buildings (Fire Department, Police Department, and libraries) as cooling centers during extreme heat and warming centers during extreme cold. • Ensure these centers are equipped with necessary amenities, such as air conditioning, heating, water, and basic medical supplies. • Promote the availability and locations of these centers through public awareness campaigns. <p>C. Vulnerable Population Outreach Goal: Ensure that vulnerable populations, such as the elderly, young children, and individuals with health conditions, are protected during extreme temperature events. Actions:</p> <ul style="list-style-type: none"> • Create a registry of vulnerable individuals who may need assistance during extreme temperature events.

	<ul style="list-style-type: none"> Develop a communication plan to keep vulnerable populations informed and connected to resources during extreme temperature 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	N

Action H - 4.23

Mitigation Action #H - 4.23: Infrastructure Resilience					
Lead Agency/Department Organization: Village of Hazel Crest Fire Department	Supporting Agencies/Organizations: Police Department/Village of Hazel Crest Public Works Department Homeland Security	Estimated Cost: Medium	Potential Funding Source: General Fund Hazard Mitigation Grant Program (HMGP) FEMA Public Assistance (PA) Other - Projected budget in FYE 2026 can support this plan Homeland	Estimated Projected Completion Date: Ongoing	Hazard(s) Mitigated: Severe Winter Weather (Ice Storm, Heavy Snow, Blizzards, Extreme Cold)

			Securities		
Year Initiated	2025				
Applicable Jurisdiction	Village of Hazel Crest				
Applicable Goal	1,2,3,4,5,6				
Applicable Objective	1,2,3,5,8,10,11,12,13				
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:	<p>A. Roadway Maintenance and Safety Goal: Ensure roads are safe and passable during and after severe winter weather. Actions:</p> <ul style="list-style-type: none"> • Enhance snow removal and de-icing operations by investing in additional equipment and materials. • Prioritize the clearance of major roads, emergency routes, and access to critical facilities. • Implement a communication system to update residents on road conditions, closures, and snow removal progress (Rave Mobile) <p>B. Utility Infrastructure Upgrades Goal: Ensure the reliability of utilities during severe winter weather. Actions:</p> <ul style="list-style-type: none"> • Implement backup power solutions for critical facilities, such as hospitals, schools, and emergency services. • Develop contingency plans for power outages, including the distribution of portable generators and emergency supplies through Homeland Securities. 				
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion;	N				

<p>O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed</p>	
---	--

Action H - 4.24

Mitigation Action #H - 4.24: Emergency Preparedness and Response					
<p>Lead Agency/Department Organization: Hazel Crest Inspectional Services</p>	<p>Supporting Agencies/Organizations: Hazel Crest Fire Department, Police Department, and Public Works Homeland Securities and FEMA</p>	<p>Estimated Cost: High</p>	<p>Potential Funding Source: Hazard Mitigation Grant Program (HMGP) Hazard Mitigation Grant Program (HMGP) - Post Fire Building Resilient Infrastructure and Communities (BRIC) FEMA Public Assistance (PA) Other-Homeland Securities</p>	<p>Estimated Projected Completion Date: Ongoing</p>	<p>Hazard(s) Mitigated: Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Winds) Tornado</p>
Year Initiated		2026			
Applicable Jurisdiction		Village of Hazel Crest			
Applicable Goal		1,2,3,4,5,6			
Applicable Objective		2,3,5,6,8,10,12			
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:	<p>A. Emergency Response Plans Goal: Develop comprehensive plans to manage tornado emergencies effectively. Actions:</p> <ul style="list-style-type: none"> • Establish a tornado response team composed of local officials, emergency services, and public works departments. • Create protocols for monitoring weather conditions and triggering different levels of response based on tornado warnings. • Conduct training and drills for emergency responders and community volunteers to ensure readiness. <p>B. Resource Distribution Goal: Ensure that residents have access to essential resources during and after a tornado. Actions:</p> <ul style="list-style-type: none"> • Establish partnerships with local businesses and non-profits to facilitate the distribution of resources.
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 H - 4.25

Mitigation Action #H - 4.25: Tree and Debris Management					
Lead Agency/Department Organization: Hazel Crest Inspectional Services	Supporting Agencies/Organizations:	Estimated Cost: High	Potential Funding Source: Hazard Mitigation Grant Program	Estimated Projected Completion Date:	Hazard(s) Mitigated: Severe Weather

	Hazel Crest Fire Department, Police Department, and Public Works Homeland Securities and FEMA		(HMGP) Hazard Mitigation Grant Program (HMGP) - Post Fire Building Resilient Infrastructure and Communities (BRIC) FEMA Public Assistance (PA) Other-Homeland Securities	Ongoing	(Extreme Heat, Lightning, Hail, Fog, High Winds) Tornado
Year Initiated	2026				
Applicable Jurisdiction	Village of Hazel Crest				
Applicable Goal	1,2,3,4,5,6				
Applicable Objective	2,3,5,6,8,10,12				
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:	<p>A. Tree and Debris Management Goal: Reduce the risk of damage and injury from falling trees and flying debris. Actions:</p> <ul style="list-style-type: none"> Implement a regular tree maintenance program to remove dead or weakened trees and trim branches near power lines and buildings. 				

	<ul style="list-style-type: none"> • Develop a plan for the prompt removal of debris following a tornado to facilitate emergency response and recovery efforts. • Encourage residents to secure outdoor items that could become projectiles during a tornado.
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 H - 4.26

Mitigation Action #H - 4.26: Policy and Regulatory Measures					
Lead Agency/Department Organization: Hazel Crest Inspectional Services	Supporting Agencies/Organizations: Hazel Crest Fire Department, Police Department, and Public Works Homeland Securities and FEMA	Estimated Cost: High	Potential Funding Source: Hazard Mitigation Grant Program (HMGP) Hazard Mitigation Grant Program (HMGP) - Post Fire Building Resilient Infrastructure and Communities (BRIC) FEMA Public Assistance (PA) Other-Homeland	Estimated Projected Completion Date: Ongoing	Hazard(s) Mitigated: Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Winds) Tornado

			Securities		
Year Initiated	2026				
Applicable Jurisdiction	Village of Hazel Crest				
Applicable Goal	1,2,3,4,5,6				
Applicable Objective	2,3,5,6,8,10,12				
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:	<p>A. Land Use Planning Goal: Incorporate tornado resilience into land use planning and development. Actions:</p> <ul style="list-style-type: none"> • Review and update local ordinances to ensure that new developments consider tornado risks and incorporate appropriate mitigation measures. • Establish setback requirements and zoning regulations to minimize the impact of tornadoes on residential and commercial areas. <p>B. Collaboration and Funding Goal: Foster collaboration and secure funding for tornado resilience initiatives. Actions:</p> <ul style="list-style-type: none"> • Engage with regional, state, and federal agencies to align local strategies with broader resilience efforts and secure funding. • Participate in regional partnerships to share resources, knowledge, and best practices. • Apply for grants and other financial assistance programs to support infrastructure upgrades, public education campaigns, and emergency response initiatives. <p>By implementing this Hazard Mitigation Action Plan, the Village of Hazel Crest can enhance its resilience to tornadoes, ensuring the safety and well-being of its residents, protecting critical infrastructure,</p>				

	and fostering a more prepared and resilient community. These strategies, which include public education, infrastructure improvements, emergency preparedness, environmental management, and policy updates, will help mitigate the adverse impacts of tornadoes on the community.
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

Ongoing Mitigation Actions

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

Action H - 4.1

Mitigation Action #H - 4.1: Improve Storm water drainage system capacity by cleaning and clearing existing ditches of debris and any other obstructions that would impede drainage.					
Lead Agency/Department Organization: City of Hazel Crest Public Works	Supporting Agencies/Organizations:	Estimated Cost: Low	Potential Funding Source: IEPA, HMGP, BRIC	Estimated Projected Completion Date: Ongoing	Hazard(s) Mitigated: Flooding, Severe Weather, Severe Winter Weather
Year Initiated		2014			
Applicable Jurisdiction		City of Hazel Crest			
Applicable Goal		1, 2, 3			
Applicable Objective		1, 2, 9, 13			
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:	Ongoing activity. Clearing roots and debris in lines at a cost of \$77,000 average.
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 H - 4.2

Mitigation Action #H - 4.2: Protect infrastructure and critical facilities from damage by engineering and/or retrofitting facilities to withstand hazards.					
Lead Agency/Department Organization: City of Hazel Crest Administration	Supporting Agencies/Organizations:	Estimated Cost: High	Potential Funding Source: General Fund, HMGP, BRIC	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: All
Year Initiated		2014			
Applicable Jurisdiction		City of Hazel Crest			
Applicable Goal		1, 2, 3			
Applicable Objective		1, 2, 9, 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:	Ongoing activity.
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 H - 4.3

Mitigation Action #H - 4.3: Improve stormwater drainage capacity by increasing the capacity of the City’s storm sewer drainage system.					
Lead Agency/Department Organization: City of Hazel Crest Administration	Supporting Agencies/Organizations:	Estimated Cost: High	Potential Funding Source: General Fund, HMGP, BRIC	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: Flooding, Severe Weather
Year Initiated	2014				
Applicable Jurisdiction	City of Hazel Crest				
Applicable Goal	1, 2, 3				
Applicable Objective	1, 2, 9, 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:	Limited funding available. Repaired three (3) points in sewer line breakage. 17002 POE, Edgewater and 17317 Kedzie cost \$60,000.				
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority	O				

<p>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</p>	
--	--

Action H - 4.4

Mitigation Action #H - 4.4: Produce and distribute family and traveler emergency preparedness information about severe winter weather hazards.					
Lead Agency/Department Organization: City of Hazel Crest Administration	Supporting Agencies/Organizations:	Estimated Cost: Low	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: Severe Winter Weather
Year Initiated		2014			
Applicable Jurisdiction		City of Hazel Crest			
Applicable Goal		1, 3, 4			
Applicable Objective		1, 5, 8			
Cost Analysis (Low, Medium, High)		Low			
Priority and Level of Importance (Low, Medium, High)		Low			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Medium			
Action/Implementation Plan and Project Description:		Per Village's website and other outreach activities.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority					
<p>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</p>		O			

Action H - 4.5

Mitigation Action #5: The televising and repairing of all sanitary sewer lines and the rehabilitation/sealing of all sanitary structures throughout the Village to eliminate infiltration and stop sewer backups.					
Lead Agency/Department Organization: City of Hazel Crest Administration	Supporting Agencies/Organizations:	Estimated Cost: High	Potential Funding Source: General Fund	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: Flooding, Severe Weather
Year Initiated		2014			
Applicable Jurisdiction		City of Hazel Crest			
Applicable Goal		1, 2, 3			
Applicable Objective		1, 2, 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:		Limited funding available at this time. Clearing all lines to line the sewer lines in phases.			
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 H - 4.6

Mitigation Action #H - 4.6: Participate in the Community Rating System.
--

Lead Agency/Department Organization: City of Hazel Crest Administration	Supporting Agencies/Organizations:	Estimated Cost: Low	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: Flooding
Year Initiated	2014				
Applicable Jurisdiction	City of Hazel Crest				
Applicable Goal	All				
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:	Limited staffing available to begin the process; however, will soon be allocating staff to begin this task.				
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 H - 4.7

Mitigation Action #H - 4.7: Develop and maintain a GIS database to track community vulnerability and exposure in known hazard areas.					
Lead Agency/Department Organization: City of Hazel Crest Administration	Supporting Agencies/Organizations:	Estimated Cost: High	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-term and Ongoing	Hazard(s) Mitigated: Multi-Hazard

Year Initiated	2014
Applicable Jurisdiction	City of Hazel Crest
Applicable Goal	1, 2, 3, 6
Applicable Objective	1, 2, 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:	Limited funding available. Had GIS system updated and built to suit village estimated cost of \$20,000.
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 H - 4.8

Mitigation Action #H - 4.8: Completing a stormwater drainage study for known problem areas.					
Lead Agency/Department Organization: City of Hazel Crest Administration	Supporting Agencies/Organizations:	Estimated Cost: Medium	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: Flooding, Severe Weather
Year Initiated	2014				
Applicable Jurisdiction	City of Hazel Crest				
Applicable Goal	1				
Applicable Objective	3, 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)	Medium
Action/Implementation Plan and Project Description:	Ongoing activity. Had engineering firm outline problem areas and come up with estimates to repair.
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 H - 4.9

Mitigation Action #H - 4.9: 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.					
Lead Agency/Department Organization: City of Hazel Crest Administration	Supporting Agencies/Organizations:	Estimated Cost: High	Potential Funding Source: BRIC, HMGP	Estimated Projected Completion Date: Long-term (depending on funding)	Hazard(s) Mitigated: All
Year Initiated	2014				
Applicable Jurisdiction	City of Hazel Crest				
Applicable Goal	1, 3				
Applicable Objective	7, 13				
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:	Limited funding available at this time.
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/X

Action H - 4.10

Mitigation Action #H - 4.10: Continue to support the county-wide actions identified in this plan.					
Lead Agency/Department Organization: City of Hazel Crest Administration	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 Hazel Crest				
Applicable Goal	All				
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 activity.				
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority	O				

<p>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</p>	
--	--

Action H - 4.11

Mitigation Action #H - 4.11: Actively participate in the plan maintenance strategy identified in this plan.					
Lead Agency/Department Organization: EMRS, City of Hazel Crest Administration	Supporting Agencies/Organizations:	Estimated Cost: Low	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: All
Year Initiated		2014			
Applicable Jurisdiction		City of Hazel Crest			
Applicable Goal		1, 3, 6			
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:		Ongoing activity.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority					
<p>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</p>		<p>O</p>			

Action H - 4.12

Mitigation Action #H - 4.12: Consider participation in incentive-based programs such as Tree City and Storm Ready.					
Lead Agency/Department Organization: City of Hazel Crest Administration	Supporting Agencies/Organizations:	Estimated Cost: Low	Potential Funding Source: General Fund	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: All
Year Initiated		2014			
Applicable Jurisdiction		City of Hazel Crest			
Applicable Goal		All			
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:		This consideration is ongoing. Will participate in 2017, if funding permits.			
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 H - 4.13

Mitigation Action #H - 4.13: 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: City of Hazel Crest Administration	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 Hazel Crest			
Applicable Goal		5, 6			
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:		Ongoing activity.			
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 H - 4.14

Mitigation Action #H - 4.14: Where feasible, implement a program to record high water marks following high-water events.					
Lead Agency/Department Organization: City of Hazel Crest Administration	Supporting Agencies/Organizations:	Estimated Cost: Medium	Potential Funding Source: General Fund: FEMA Public	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: Flooding, Severe Weather

			Assistance (PA)		
Year Initiated	2014				
Applicable Jurisdiction	City of Hazel Crest				
Applicable Goal	1, 6				
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:	Limited funding to begin this program. But will begin the process if funding permits in 2017.				
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 H - 4.15

Mitigation Action #H - 4.15: Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.					
Lead Agency/Department Organization: Engineering Consultant, 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
Year Initiated	2014				
Applicable Jurisdiction	City of Hazel Crest				
Applicable Goal	1, 3, 5, 6				

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:	Ongoing effort as the Village has existing up to date comprehensive plans and TODs in place.
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 H - 4.16

Mitigation Action #H - 4.16: Consider developing and implementing a Capital Improvements Program (CIP) to increase the Village's regulatory, financial, and technical capability to implement mitigation actions.					
Lead Agency/Department Organization: Public Works	Supporting Agencies/Organizations:	Estimated Cost: High	Potential Funding Source: CIP component of General Fund (if implemented)	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: All
Year Initiated	2014				
Applicable Jurisdiction	City of Hazel Crest				
Applicable Goal	1, 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:	The Village has a current CIP and will continue its ongoing efforts to increase the Village'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 H - 4.17

Mitigation Action #H - 4.17: Identify community shelters - generator(s), cots, blankets, and portable communication devices, i.e. radios.					
Lead Agency/Department Organization: Fire Department	Supporting Agencies/Organizations: Police Department	Estimated Cost: High	Potential Funding Source: HMGP, BRIC	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: Extreme Heat, Extreme Cold, Widespread Power Outage
Year Initiated	2019				
Applicable Jurisdiction	City of Hazel Crest				
Applicable Goal	1, 2				
Applicable Objective	2, 6, 12				
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 Priority				
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.				

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 H - 4.18

Mitigation Action #B H - 4.18: Aggressively start replacing sewer lines in phases over four year period to help prevent further sanitary sewer backup in residents' homes. Start replacing water mains and lines in phases as well.					
Lead Agency/Department Organization: Public Works	Supporting Agencies/Organizations:	Estimated Cost: High	Potential Funding Source: BRIC, HMGP	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: Flooding, High Wind, Snow, Extreme Cold
Year Initiated	2019				
Applicable Jurisdiction	City of Hazel Crest				
Applicable Goal	2, 3, 5, 6				
Applicable Objective	9				
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)	TBD				
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.				
Action/Implementation Plan and Project Description:					
Actual Completion Date or Ongoing Indefinite					

<p>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</p>	<p>O</p>
---	-----------------

Action H - 4.20

<p>Mitigation Action #H - 4.20: Village Flooding Replacement of Storm and Sanitary Lines in Flooding Area</p>					
<p>Lead Agency/Department Organization: Village of Hazel Crest Administration</p>	<p>Supporting Agencies/Organizations:</p>	<p>Estimated Cost: 4 million; High</p>	<p>Potential Funding Source: BRIC, HMGP</p>	<p>Estimated Projected Completion Date: Long-term</p>	<p>Hazard(s) Mitigated: Flooding</p>
<p>Year Initiated</p>		<p>2019</p>			
<p>Applicable Jurisdiction</p>		<p>Village of Hazel Crest</p>			
<p>Applicable Goal</p>		<p>2, 3, 5, 6</p>			
<p>Applicable Objective</p>		<p>1, 2, 3, 7</p>			
<p>Cost Analysis (Low, Medium, High)</p>		<p>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).</p>			
<p>Priority and Level of Importance (Low, Medium, High)</p>		<p>High Priority</p>			
<p>Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)</p>		<p>Project will provide an immediate reduction of risk exposure for life and property.</p>			
<p>Action/Implementation Plan and Project Description:</p>					
<p>Actual Completion Date or Ongoing Indefinite</p>					
<p>Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed;</p>	<p>O</p>				

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

Action H - 4.21

Mitigation Action #H - 4.21: Repair culverts to prevent flooding and erosion					
Lead Agency/Department Organization: Village of Hazel Crest Public Works	Supporting Agencies/Organizations: Village of Hazel Crest Public Works	Estimated Cost: \$500.000	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: Flooding, Snow, Extreme Heat, Extreme Cold, Ice Storms, Widespread Power Outage
Year Initiated		2021			
Applicable Jurisdiction		Village of Hazel Crest			
Applicable Goal		All			
Applicable Objective		1, 2, 3, 4, 5			
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 Priority			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		The benefits this will add is awareness to our community and an action plan as to what to do in case of an emergency. Project will provide an immediate reduction of risk exposure for life and property.			
Action/Implementation Plan and Project Description:		We are implementing the Code Red system in our community as many other communities all ready has one. To notify the community in the case of any disasters via email or text or phone call. We are also lining sewer lines and replacing them on an on going basis to prevent further flooding and damage to properties			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority		O			

<p>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</p>	
--	--

Completed Actions

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

<p>Completed Action Items</p>
<p>Replacing water main lines on Maple Ave and 177th Street.</p>

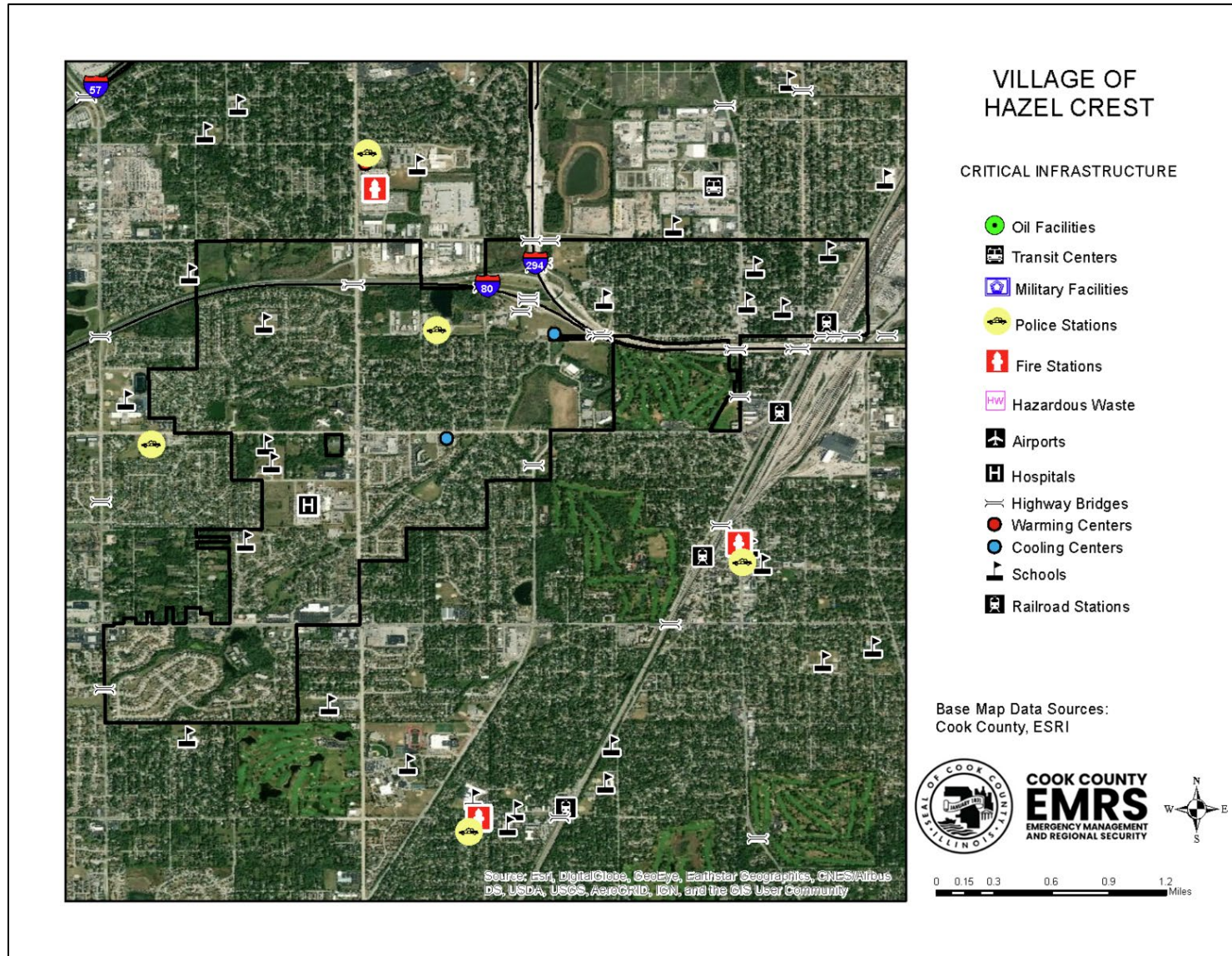
Future Needs to Better Understand Risk/Vulnerability

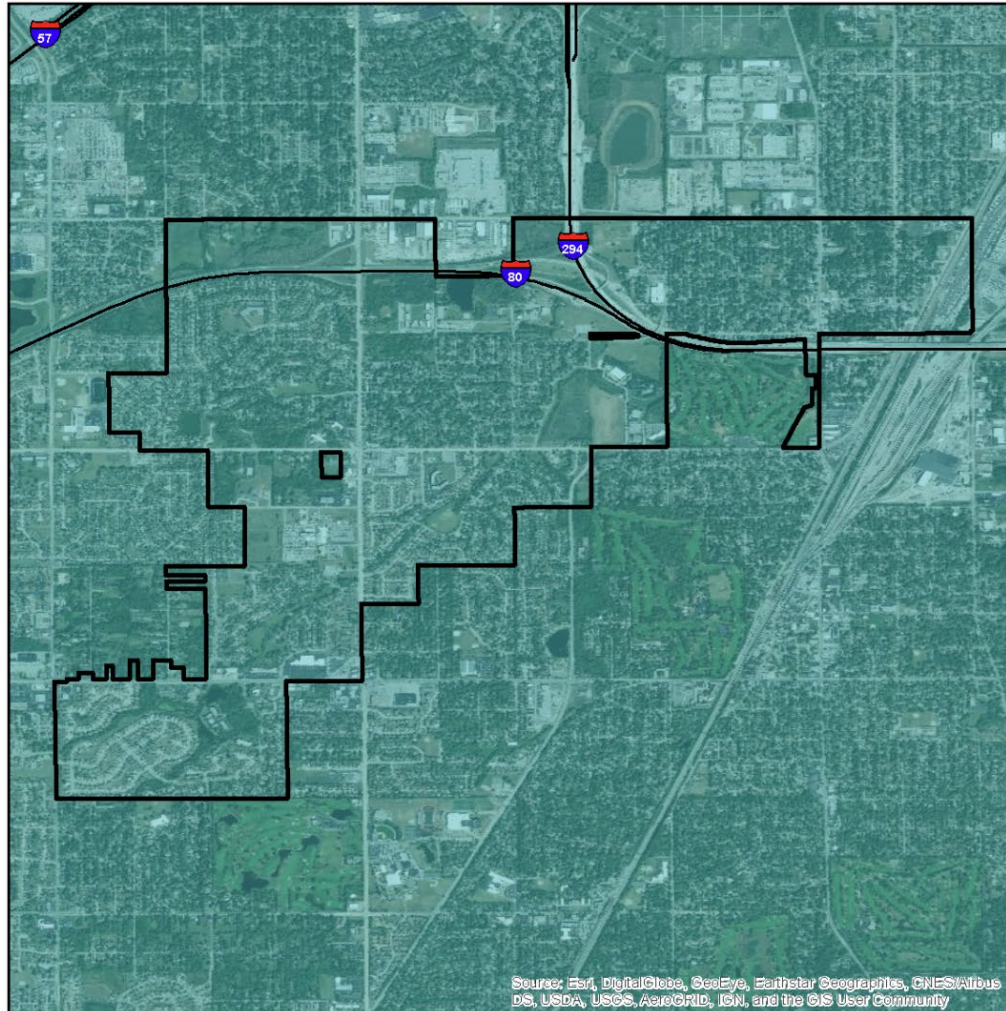
No needs have been identified at this time.

Additional Comments

No additional comments at this time.

Hazard Mapping





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

VILLAGE OF HAZEL CREST

PEAK GROUND ACCELERATION FOR A 100 YEAR EARTHQUAKE EVENT

Mercalli Scale, Potential Shaking

II-III Weak

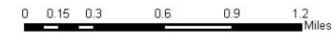
Data provided by the USGS Earthquake Hazards Program and Cook County.

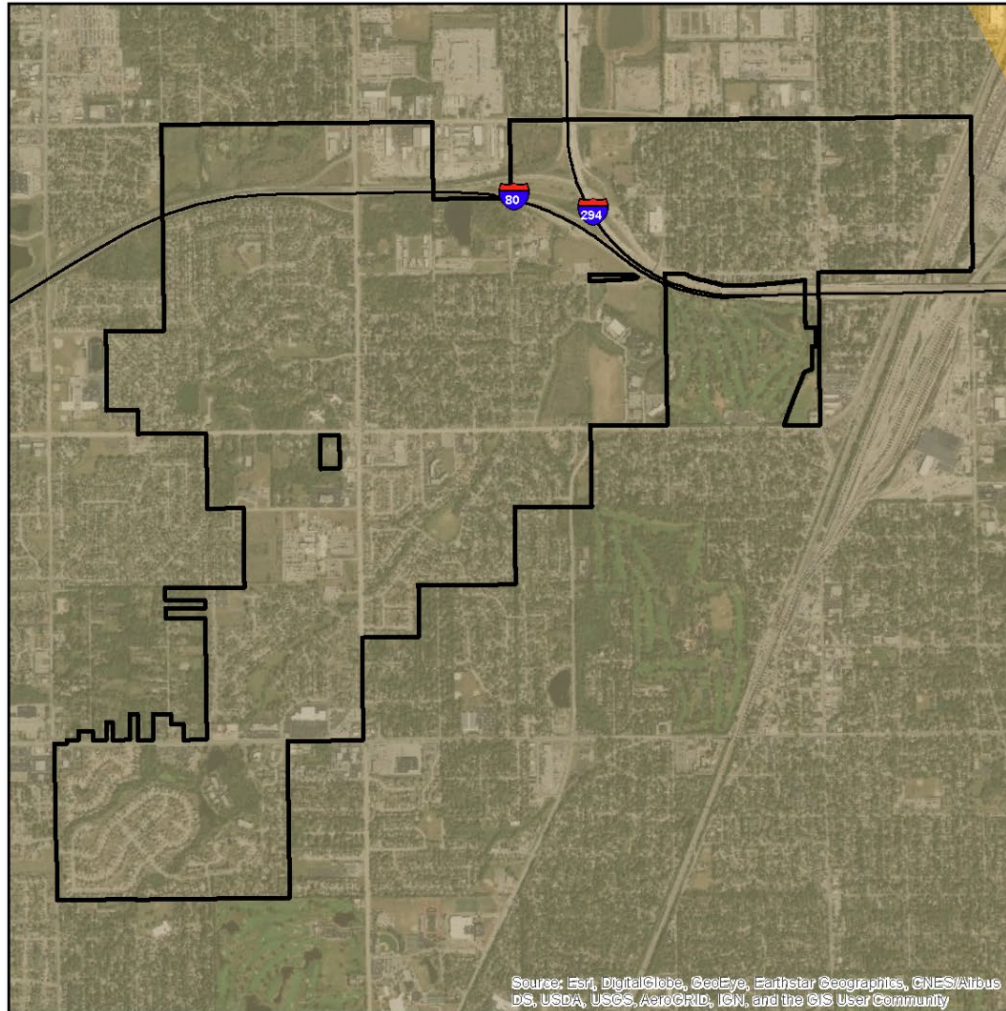
Probabilistic seismic-hazard maps were prepared for the conterminous United States for 2014 portraying peak horizontal acceleration and horizontal spectral response acceleration for 0.2- and 1.0-second periods with probabilities of exceedance of 10 percent in 50 years and 2 percent in 50 years. All of 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.

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 or 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.



COOK COUNTY
EMRS
EMERGENCY MANAGEMENT
AND REGIONAL SECURITY





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

VILLAGE OF HAZEL CREST

NATIONAL EARTHQUAKE HAZARD REDUCTION PROGRAM (NEHRP) SOIL CLASSIFICATION

TYPE

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

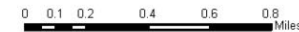
Data provided by the Illinois State Geological Survey and Cook County.

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. Pernell (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.

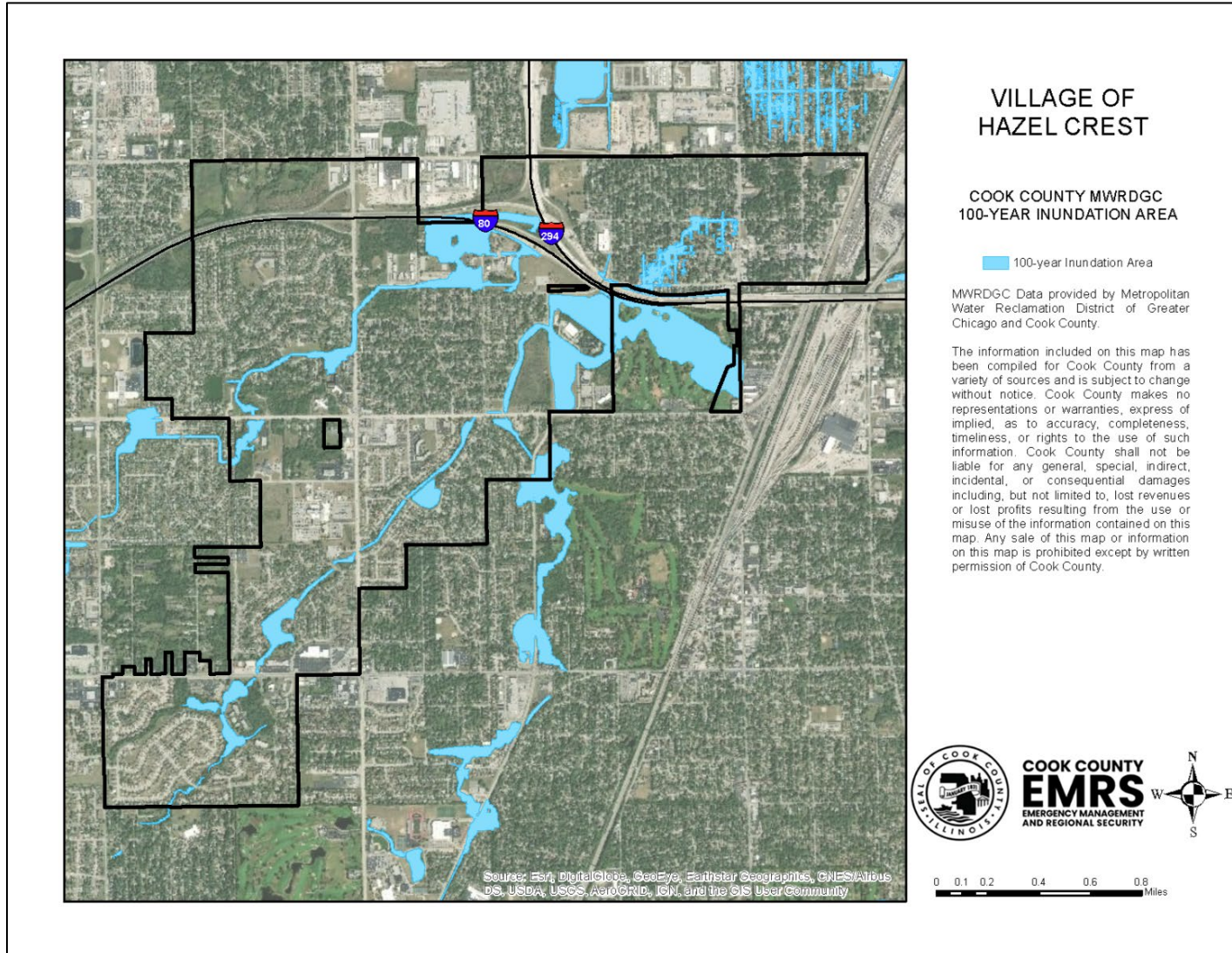
The information included on this map has been compiled for Cook County from a variety of sources and is subject to change without notice. Cook County makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. Cook County 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.

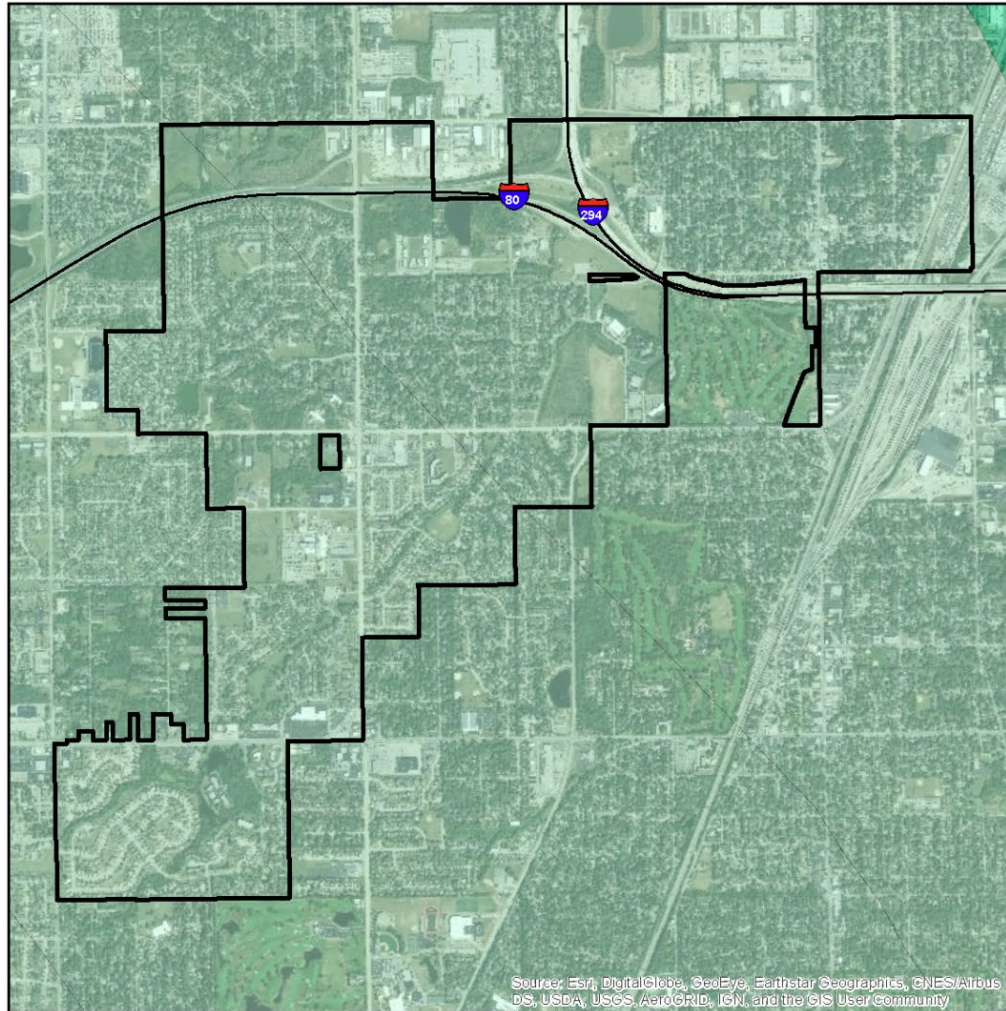


COOK COUNTY
EMRS
EMERGENCY MANAGEMENT
AND REGIONAL SECURITY



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>.





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

VILLAGE OF HAZEL CREST

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. Pernell (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 or 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.



COOK COUNTY
EMRS
EMERGENCY MANAGEMENT
AND REGIONAL SECURITY

