Worth

Hazard Mitigation Plan Point of Contact

Primary Point of Contact	Alternate 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: 1914

Current Population: The 2020 U.S. Census population was 10,970. The 2022 U.S. Census estimate indicated the population was 10,590.

Population Growth: The overall population has increased by 0.26% between 2018 and 2022.

Location and Description: The Village of Worth is a southwest suburb of Chicago in Cook County located 20 miles from the Chicago Loop. Worth is 3 miles west of Chicago's south side. Suburbs adjacent to Worth include Palos Hills and Chicago Ridge to the north and east, Palos Heights to the south, and Palos Hills to the west. Worth is a generally a blue-collar residential community with a modest business district. Interstate 294 runs along the east side of Worth. Worth has boat launch access to the Calumet Sag Canal which runs along the southern border. According to the US Census Bureau, the Village of Worth has a total land area of 2.37 square miles.

Brief History: In 1858 John Crandall built the first home in town on 111th Street, 31 additional homes soon followed. The Wabash Railroad was eventually built across from the Crandall farm. The railroad provided the real beginning to the community by establishing the Worth Train Station in 1880. The motivated Crandall sold portions of his land and encouraged establishing settlements. Following his efforts, the Calumet Sag Canal construction began in 1911 and was completed in 1922. The Village of Worth was officially founded In 1914, with a population of about 300. The Village is named after General William Jenkins Worth who served in both the War of 1812 and the Mexican War. The Village is surrounded by historic waterways and its northern border touches Stony Creek, a 14,000-year-old waterway.

Climate: The Village of Worth and City of Chicago's weather is classified as humid continental, with all four seasons distinctly represented: wet springs; hot and humid summers; pleasant autumns; and cold winters. Annual precipitation is average and reaches its lowest points in the months of January and February, with peaks in the months of May and June. Winter weather is variable, with seasonal snowfall ranging from 9 – 90 inches. The daily average temperature in January at Midway Airport is 24.8 °F (−4.0 °C), and temperatures often stay below freezing for several consecutive days or even weeks in January and February. Temperatures drop to or below 0 °F (−18 °C) on 5.5 nights annually at Midway and 8.2 nights at O'Hare. Spring in the Chicago area is perhaps the areas wettest and most unpredictable season. Winter-like conditions can persist well into April and occasionally into May. Thunderstorms are especially prevalent in the springtime as the area's lakeside location makes it a center of conflicts between large volumes of warmer and colder air, triggering severe weather. Temperatures vary tremendously in the springtime; March is the month with the greatest span between the record highs and lows. On a typical summer day, humidity is usually moderately high and temperatures ordinarily reach anywhere between 78 and 92 °F (26 and 33 °C). The extreme heat that the Chicago area is capable of experiencing during the height of the summer season can persist into autumn. Temperatures have reached 100 degrees high and subzero lows below −18 °C. Fall can bring heavy thunderstorms, many of which are capable of producing flooding. The first average accumulating snow occurs around November 19.

Governing Body Format: The Village of Worth operates under a President-Trustee form of government with a Village President and a Board of Trustees elected at large. This body of Government will assume the responsibility for the adoption and implementation of this plan. In addition, the Village has a full-time police department, a Department of Public Works and Fire and EMS are contracted to the North Palos Fire Protection District.

Development Trends: Anticipated development trends for Worth are low to moderate, consisting of residential and retail. Residentially, there has been a focus on remodeling, demolition, and new home construction. Worth recently hired an economic development consultant. The economic development committee has started the preliminary planning process with the Chicago Metropolitan Agency for Planning. Worth is currently reviewing Ordinances and Code Enforcement that regulate business. There is also a TIF district and information on the Village of Worth's website with additional information.

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	Yes	Yes	2006 International Building Code; 2006 International Residential Code; 2006 International Existing Building Code; 2006 International Property Maintenance Code; 2006 International Mechanical Code 2006 International Energy Conversation Code; 2006 International Fuel Gas Code; 2007 Chicago Plumbing Code; 2007 Chicago Electrical Code; Americans with Disabilities Act. (Ord. 87-11, 4-21-1987, eff. 7-1- 1987; amd. 1995 Code
Zonings	Yes	No	No	No	Ordinance 12-15-1964;
Subdivisions	Yes	No	No	No	1970 Code §35.1
Stormwater Management	Yes	No	MWRD	Yes	§6-4 of the MWRD Manual of Procedures

Post Disaster Recovery	No	No	No	No	
Real Estate Disclosure	Yes	No	Yes	Yes	(765 ILCS 77/) Residential Real Property Disclosure Act. 1970 Code §2.37; amd. 1995 Code
Growth Management	Yes	No	No	No	REAL ESTATE DEVELOPMENT BOARD (Ord. 04-30, 5-18-2004, eff. 7-1-2004)
Site Plan Review	Yes	No	No	No	Building Regulations
Public Health and Safety	Yes	No	Yes	Yes	1991 Illinois Department of Public Health Food Service Sanitation Code
Environmental Protection	No	No	No	No	
Planning Documents					
General or Comprehensive Plan	Yes	No	No	No	Village of Worth Comprehensive Retail Plan, September 2004 Comprehensive Emergency Response Plan, 2/1/2022
Is the plan equipped to provide integration to this mitigation plan?					N/A
Floodplain or Basin Plan	Yes	No	Yes	Yes	Title 12 – Flood Regulation, Village Code
Stormwater Plan	No	No	MWRD	No	Regional stormwater impacts are managed by MWRD. The Village lies within the Calumet Sag Channel watershed planning area of MWRD's comprehensive

					Stormwater Master Planning Program §6-4 of the MWRD Manual of Procedures
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	Yes	No	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. Village Economic Development Commission
Shoreline Management Plan	No	No	No	No	
Response/Recovery Planning					
Comprehensive Emergency Management Plan	No	No	Yes	Yes	2/1/2022
Threat and Hazard Identification and Risk Assessment	No	No	Yes	Yes	Cook County EMRS Preparing THIRA
Terrorism Plan	Yes	No	Yes	Yes	Partial plan for Village Infrastructure protection.

Post-Disaster Recovery Plan	No	No	No	No	
Continuity of Operations Plan	Yes	No	Yes	Yes	Village Emergency Operation Plan
Public Health Plans	No	No	Yes	Yes	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	No
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	Public Works Department / Village Engineer
Engineers or professionals trained in building or infrastructure construction practices	Yes	Public Works Department / Village Engineer
Planners or engineers with an understanding of natural hazards	Yes	Public Works Department / Village Engineer
Staff with training in benefit/cost analysis	Yes	Finance Department
Surveyors	Yes	Public Works Department / Village Engineer
Personnel skilled or trained in GIS applications	Yes	Cook County GIS Consortium
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	Village President
Grant writers	Yes	Public Works Department / Village Engineer

TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE	
What department is responsible for floodplain management in your jurisdiction?	Building Department
Who is your jurisdiction's floodplain administrator? (department/position)	Building Commissioner
Are any certified floodplain managers on staff in your jurisdiction?	Yes, Village Engineer
What is the date of adoption of your flood damage prevention ordinance?	3/18/2008, Ordinance 08-06

When was the most recent Community Assistance Visit or Community Assistance Contact?	04/18/2001
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)	No – Local flooding caused by undersized sewers and culverts.
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. Technical Training and Equipment
Does your jurisdiction participate in the Community Rating System (CRS)? If so, is your jurisdiction seeking to improve its CRS Classification? If not, is your jurisdiction interested in joining the CRS program?	No; Undecided

NFIP Participation Activities

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

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

Substantial Improvement Rule and the Substantial Damage Rule

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

Existing Municipal Code:

12-1-2 Definitions

SUBSTANTIAL DAMAGE: Damage of any origin sustained by a structure whereby the cumulative percentage of damage during the life of the building equals or exceeds fifty percent (50%) of the market value of the structure before the damage occurred regardless of actual repair work performed. Volunteer labor and materials must be included in this determination. The term includes repetitive loss buildings. See definition of Repetitive Loss.

SUBSTANTIAL IMPROVEMENT: Any reconstruction, rehabilitation, addition, or improvement of a structure taking place during the life of the building in which the cumulative percentage of improvements equals or exceeds fifty percent (50%) of the market value of the structure before the improvement or repair is started.

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

B. 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 living conditions, or

2. Any alteration of a "historic structure" listed on the National Register of Historic Places or the Illinois Register of Historic Places, provided that the alteration will not preclude the structure's continued designation as a historic structure.

12-1-4 Duties of the Building Commissioner

A. Determining The Floodplain Designation:

1. Check all new development sites to determine whether they are in a special flood hazard area (SFHA).
2. If they are in an SFHA, determine whether they are in a floodway, flood fringe or in a floodplain for which a detailed study has not been conducted and which drains more than one square mile.
3. Check whether the development is potentially within an extended SFHA (with a drainage area less than 1 square mile), indicating that the development would have adverse impacts regarding storage, conveyance, or inundation which would be the basis for the applicant being required to delineate the floodplain and floodway and be subject to the remaining sections of this chapter.

B. Professional Engineer Review:

1. If the development site is within a floodway or in a floodplain for which a detailed study has not been conducted and which drains more than one square mile, the permit shall be referred to a licensed professional engineer (PE) under the employ or contract of the village for review to ensure that the development meets section 12-1-7 or 12-1-8 of this chapter.
2. In the case of an appropriate use, the PE shall state in writing that the development meets the requirements of section 12-1-7 of this chapter.

G. Damage Determinations: Make damage determinations of all damaged buildings in the SFHA after a flood to determine substantially damaged structures which must comply with subsection 12-1-9C3 of this chapter.

M. Substantial Damage and Substantial Improvement Determinations: Establish procedures for administering and documenting determinations, as outlined below, of substantial improvement and substantial damage made pursuant to Section 12-1-9.

Determine the market value or require the applicant to obtain an appraisal of the market value prepared by a qualified independent appraiser, of the building before the start of construction of the proposed work. In the case of repair, the market value of the building shall be the market value before the damage occurred and before any repairs are made.

1. Compare the cost to perform the improvement, the cost to repair a damaged building to its pre-damaged condition, or the combined costs of improvements and repairs, if applicable, to the market value of the building.

2. Determine and document whether the proposed work constitutes substantial improvement or substantial damage.

3. Notify the applicant if it is determined that the work constitutes substantial improvement or repair of substantial damage and that compliance with the flood resistant construction requirements of the village and this chapter is required.

12-1-7 Occupation and Use of Designated Floodways

This section applies to proposed development, redevelopment, site modification or building modification within a designated floodway. The designated floodway for all rivers or streams with identified floodway shall be as delineated on the countywide flood insurance rate map of Cook County and referenced in section 12-1-2 of this chapter. Only those uses and structures will be permitted which meet the criteria in this section. All floodway modifications shall be the minimum necessary to accomplish the purpose of the project. The development shall also meet the requirements of section 12-1-9 of this chapter.

B. Preventing Increased Damages And A List Of Appropriate Uses:

1. Appropriate Uses: The only development in a floodway which will be allowed are appropriate uses, which will not cause a rise in the base flood elevation, and which will not create a damaging or potentially damaging increase in flood heights or velocity or be a threat to public health and safety and welfare or impair the natural hydrologic and hydraulic functions of the floodway or channel, or permanently impair existing water quality or aquatic habitat. Construction impacts shall be minimized by appropriate mitigation methods as called for in this chapter. Only those appropriate uses listed in 17 Illinois administrative code part 3708 will be allowed. The approved appropriate uses are as follows:

l. Modifications to an existing building that would not increase the enclosed floor area of the building below the 100-year frequency flood elevation, and which will not block flood flows including, but not limited to, fireplaces, bay windows, decks, patios, and second story additions. If the building is improved to fifty percent (50%) or more of the market value before the modification occurred (i.e., a substantial improvement), the building will be protected from flooding to the flood protection elevation.

12-1-9 Permitting Requirements Applicable to all Floodplain Areas

In addition to the requirements found in sections 12-1-6, 12-1-7 and 12-1-8 of this chapter for development in flood fringes, designated floodways, and SFHAs or floodplains where no floodways have been identified, the following requirements shall be met:

C. Protecting Buildings:

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

a. Construction or placement of a new building or alteration or addition to an existing building valued at more than one thousand dollars ($1,000.00) or seventy (70) square feet;

b. Substantial improvements or structural alterations made to an existing building that increase the floor area by more than twenty percent (20%) or equal or exceed the market value by fifty percent (50%). Alteration shall be figured cumulatively during the life of the building. If substantially improved, the existing structure and the addition must meet the flood protection standards of this section;

c. Repairs made to a substantially damaged building. These repairs shall be figured cumulatively during the life of the building. If substantially damaged the entire structure must meet the flood protection standards of this section;

d. Installing a manufactured home on a new site or a new manufactured home on an existing site (the building protection requirements do not apply to returning a manufactured home to the same site it lawfully occupied before it was removed to avoid flood damage);

e. Installing a travel trailer or recreational vehicle on a site for more than one hundred eighty (180) days per year; and

f. "Repetitive loss" to an existing building as defined in section 12-1-2 of this chapter.

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

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

a. Lowest Floor: The lowest floor (including basement) shall be at or above the flood protection elevation; and

b. Fill Requirements:

(1) The fill shall be placed in layers no greater than six inches (6") deep before compaction and should extend at least ten feet (10') beyond the foundation of the building before sloping below the flood protection elevation; and

(2) The top of the fill shall be above the flood protection elevation. However, the ten foot (10') minimum may be waived if a structural engineer certifies an alternative method to protect the building from damages due to hydrostatic pressures; and

(3) The fill shall be protected against erosion and scour during flooding by vegetative cover, riprap or other structural measure; and

(4) The fill shall be composed of rock or soil and not incorporate debris or refuse materials; and

(5) The fill shall not adversely affect the flow or surface drainage from or onto neighboring properties, and when necessary, storm water management techniques such as swales or basins shall be incorporated.

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

a. 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. Designs must either be certified by a licensed professional engineer or architect or the permanent openings, one on each wall, shall be no more than one foot (1') 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 square inch for every one square foot of enclosed area subject to flooding below the base flood elevation; and

b. 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; and

c. All areas below the flood protection elevation shall be constructed of materials resistant to flood damage; and

(1) 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; and

(2) Water and sewer pipes, electrical and telephone lines, submersible pumps and other waterproofed service facilities may be located below the flood protection elevation provided they are waterproofed; and

d. 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 and not later modified or occupied as habitable space; and

e. In lieu of the above criteria, the design methods to comply with these requirements may be certified by licensed professional engineer or architect.

f. 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 tiedown act, issued pursuant to 77 Illinois administrative code part 870. In addition, all manufactured homes shall meet the following elevation requirements:

(1) In the case of manufactured homes placed or substantially improved: a) outside of a manufactured home park or subdivision, b) in a new manufactured home park or subdivision, c) in an expansion to an existing manufactured home park or subdivision, or d) in an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage from a flood, the top of the lowest floor shall be elevated to or above the flood protection elevation.

(2) In the case of manufactured homes placed or substantially improved in an existing manufactured home park or subdivision, the manufactured home shall be elevated so that either the top of the lowest floor is above the base flood

elevation or the chassis is at least thirty six inches (36") in height above grade and supported by reinforced piers or other foundations of equivalent strength, whichever is less.

6. Construction of new or substantially improved critical facilities shall be located outside the limits of the floodplain. Construction of new critical facilities shall be permissible within the floodplain if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor (including basement) elevated or structurally dry floodproofed to the 500-year flood frequency elevation or three feet (3') above the level of the 100-year flood frequency elevation, whichever is greater. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood elevation shall be provided to all critical facilities.

TABLE: COMMUNITY CLASSIFICATIONS			
	Participating?	**Classification**	**Date Classified**
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	Yes	Unknown	Unknown
Public Protection/ISO	Yes	ISO Rating—Level 2/2X	2024, North Palos Fire Protection District
StormReady	Yes	Gold (Countywide)	2014
Tree City USA	No	N/A	N/A

Opportunities to Expand and Improve Capabilities

Opportunities to expand and improve capabilities include developing a strategy to identify and set aside municipal funds to assist with the 25% cost match for FEMA HMA mitigation 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.

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: 0
- 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**
Hail	-	5/20/2014	-
Hail	-	5/20/2014	-
Severe Storms	DR-4116	2013	-
Severe Winter Storms	DR-1960	2011	-
Severe Storms/Flooding	DR-1935	2010	-
Severe Storms/Flooding	DR-1800	2008	-
Severe Storms/Flooding	DR-1729	2007	-
Severe Winter Storm	EM-3161	2000	-
Winter Snow Storm	EM-3134	1999	-
Flooding	DR-1188	1997	-
Flooding	DR-1129	1996	-

Severe Storms/Flooding	DR-997	1993	-
Severe Storms/Flooding	DR-798	1987	-
Severe Storms/Flooding	DR-776	1986	-

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.

Flooding: In 2006, Flash/Urban Flooding occurred on 114th Street east of Harlem Avenue and New England Avenue between 113th and 114th Streets. The streets were impassible. Additional flooding locations include Worthwoods at 109 St Oketo / Beloit., and 76th Ave at Autullo Drive, which is adjacent to Stony Creek.

Severe Weather: In 2003, a two-foot diameter tree limb was blown down and destroyed a camper because of Severe Winds. Southwest Highway 76th Ave. to Harlem Ave. primary electric lines (aerial) are subject to high winds. Areas of vulnerability include Worth Schools; Worth Junior High, Worth Elementary, Worthwoods, do not have back up generator power.

Drought: Although no loss of life, livestock, crops, or property has ever been officially recorded within Cook County, on average, the nationwide annual impacts of drought are greater than the impacts of any other natural hazard. They are estimated to be between $6 billion and $8 billion annually in the United States and occur primarily in the agriculture, transportation, recreation and tourism, forestry, and energy sectors. Social and environmental impacts are also significant, although it is difficult to put a precise cost on these impacts.

Extreme Heat/Extreme Cold: Water mains infrastructures is 60 years old, there is risk that water mains breaks during the winter and summer season (when the fire department opens fire hydrant's to flush mains out).

Tornado: The village has two large mobile home parks. One small mobile home park. The three schools in town listed under severe do not have back up power.

Severe Winter Weather: The village has areas of town west of Harlem Ave. between 115th St. North to 76th Ave. that has inclines susceptible to ice and snow travel. We have residential areas in town that have inclines that travel is very susceptible ice and snow during heavy Octavia -115 to 112 St. Octavia and Oketo 111 to SW Highway. 109 Pl off of Oketo. 76th Ave off of SW Highway.

Indicator	Number	Percent
Families in poverty	307	9.9%
People with disabilities	1,849	15.5%
People over 65 years	1,879	15.7%
People under 5 years	613	5.1%
People of color	2,824	23.7%
Black	257	2.2%
Native American	14	0.1%
Hispanic	1,890	15.8%
Difficulty with English	675	6%
Households with no car	391	8.4%

Mobile homes	164	3.5%

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	Not Applicable
Flood (Riverine, Urban, Shoreline)	Unknown
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)	Increased

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)	Increase

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)	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

Our community does not anticipate future major assets may be exposed or vulnerable to any of the natural hazards identified in this Hazard Mitigation Plan. Any new assets (e.g., new construction in hazard prone areas) will be constructed to adhere to the latest building codes and standards, and mitigation to protect them from identified and anticipated hazards, especially those that are expected to increase due to climate change.

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

New Mitigation Actions

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

Action W-8.12

Mitigation Action #12: Storm sewer line installation / Beloit Ave					
Lead Agency/Department Organization: MWRD	**Supporting Agencies/ Organizations:**	**Estimated Cost:** Low	**Potential Funding Source:** MWRD	**Estimated Projected Completion Date:** Long-term	**Hazard(s) Mitigated:** Flood (Riverine, Urban, Coastal/Shoreline)
Year Initiated		2024			
Applicable Jurisdiction		Village of Worth			
Applicable Goal		1,2			
Applicable Objective		1,2,9,11			
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:		Storm sewer line installation / Beloit Ave			
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 W-8.13

Mitigation Action #13: Sewer Line Installment

Lead Agency/Department Organization: MWRD	**Supporting Agencies/ Organizations:**	**Estimated Cost:** High	**Potential Funding Source:** MWRD	**Estimated Projected Completion Date:** Ongoing	**Hazard(s) Mitigated:** Flood (Riverine, Urban, Coastal/Shoreline)
Year Initiated		Long-term			
Applicable Jurisdiction		Village of Worth			
Applicable Goal		1,2			
Applicable Objective		3,9			
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:		Storm sewer line to be installed by the Metropolitan Water Rec. Dist. of Greater Chicago. The storm line will be installed from 109 St. / Beloit Ave to the south side of 111th St north of 76th Ave. This will eliminate flooding at 109 Beloit and also at the far south end of Beloit, south of 109th Pl.			
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 W-8.14

Mitigation Action #14: Worth Ave storm sewer construction.					
Lead Agency/Department Organization:	**Supporting Agencies/ Organizations:**	**Estimated Cost:** Low	**Potential Funding Source:**	**Estimated Projected**	**Hazard(s) Mitigated:** Flood (Riverine, Urban, Coastal/Shoreline)

Administration	Developer		REBUILD ILLINOIS FUNDS	**Completion Date:** Short-term	
Year Initiated		2024			
Applicable Jurisdiction		Village of Worth			
Applicable Goal		1,2,3			
Applicable Objective		3,4,9,13			
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:		Worth Ave storm sewer construction. The length of Worth Ave, Plahm Ct at south / 107Th St at the north			
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 W-8.15

Mitigation Action #15: Installation of storm line at 111th pl / Columbus Dr.					
Lead Agency/Department Organization: Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** Low	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Ongoing	**Hazard(s) Mitigated:** Flood (Riverine, Urban, Coastal/Shoreline)
Year Initiated		2020			
Applicable Jurisdiction		Village of Worth			
Applicable Goal		1,2			
Applicable Objective		2,9			

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)	High
Action/Implementation Plan and Project Description:	Installation of storm line at 111th pl / Columbus Dr.
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 W-8.16

Mitigation Action #16: Install / replace new watermain Preller Avenue. Watermain is deteriorating, breaks cause flooding, as well have increased risk for use for fire protection					
Lead Agency/Department Organization: Administration	**Supporting Agencies/ Organizations:** Robinson Engineering	**Estimated Cost:** Low	**Potential Funding Source:** ARPA	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Flood (Riverine, Urban, Coastal/Shoreline)
Year Initiated		2024			
Applicable Jurisdiction		Village of Worth			
Applicable Goal		1,2,3			
Applicable Objective		1,2			
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)		High			

Action/Implementation Plan and Project Description:	Install / replace new watermain Preller Avenue. Watermain is deteriorating, breaks cause flooding, as well have increased risk for use for fire protection
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

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

Action W-8.3

Mitigation Action #3: Actively participate in the plan maintenance strategy identified in this plan.					
Lead Agency/Department Organization: EMRS, Public Works, Village 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		Village of Worth			
Applicable Goal		1,5			
Applicable Objective		3,4,6			
Cost Analysis (Low, Medium, High)		Low			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Medium			

Action/Implementation Plan and Project Description:	
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 W-8.4

Mitigation Action #4: Consider participation in incentive-based programs such as the Community Rating System and StormReady.					
Lead Agency/Department Organization: Village 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		Village of Worth			
Applicable Goal		1,2,3,5,6			
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:					
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: **N** = New; **I** = In Progress Toward Completion;		O			

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

Action W-8.7

Mitigation Action #7: Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.					
Lead Agency/Department Organization: Public Works, Village Engineer	**Supporting Agencies/ Organizations:**	**Estimated Cost:** Low	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Short-term and ongoing	**Hazard(s) Mitigated:** All
Year Initiated		2014			
Applicable Jurisdiction		Village of Worth			
Applicable Goal		1,5			
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 W-8.8

Mitigation Action #8: Consider the development and implementation of 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 and Ongoing	**Hazard(s) Mitigated:** All
Year Initiated	2014				
Applicable Jurisdiction	Village of Worth				
Applicable Goal	1,5				
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:					
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 W-8.9

Mitigation Action #: Update water mains

Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** 2 million; high	**Potential Funding Source:** BRIC, HMGP, FMA	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Drought, Extreme Heat, Extreme Cold
Year Initiated		2019			
Applicable Jurisdiction		Village of Worth			
Applicable Goal		1,2,3,4,5,6			
Applicable Objective		1,2,7			
Cost Analysis (Low, Medium, High)		High—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Infrastructure is 60 years old and this project would benefit our fire department and the health and welfare of our community High—Project will provide an immediate reduction of risk exposure for life and property.			
Action/Implementation Plan and Project Description:		New water main infrastructure would decrease water main breaks during winter season,and during summer season of having a water main break when the fire department opens fire hydrant's to flush mains out			
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 W-8.10

Mitigation Action #10: Improved 116th Street Ditch

Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $100,000	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Flood
Year Initiated		2022			
Applicable Jurisdiction		Village of Worth			
Applicable Goal		1,2,3			
Applicable Objective		1, 9			
Cost Analysis (Low, Medium, High)		Low—The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program.			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Property Damage from storm flooding High—Project will provide an immediate reduction of risk exposure for life and property.			
Action/Implementation Plan and Project Description:		Regrading the 116th Street Ditch from Oak Park Avenue to Harlem Avenue. Existing ditch condition was difficult to maintain which caused non-native vegetation to grow within the ditch. The improvement reestablished the sides of the ditch and a flowable grade for the ditch.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		O			

Completed Actions

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

Completed Action Items
Continue to support the countywide actions identified in this plan.
Storm sewer construction 111th St. to 115th St. Culverts, HDPE pipe were installed to mitigate flooding on this block. Years 2021-2022 Storm Sewer construction for 111th / Columbus was constructed with SDR 35 and catch basins to eliminate flooding and property damage. Year 2020
Maintenance on the tornado / warning siren

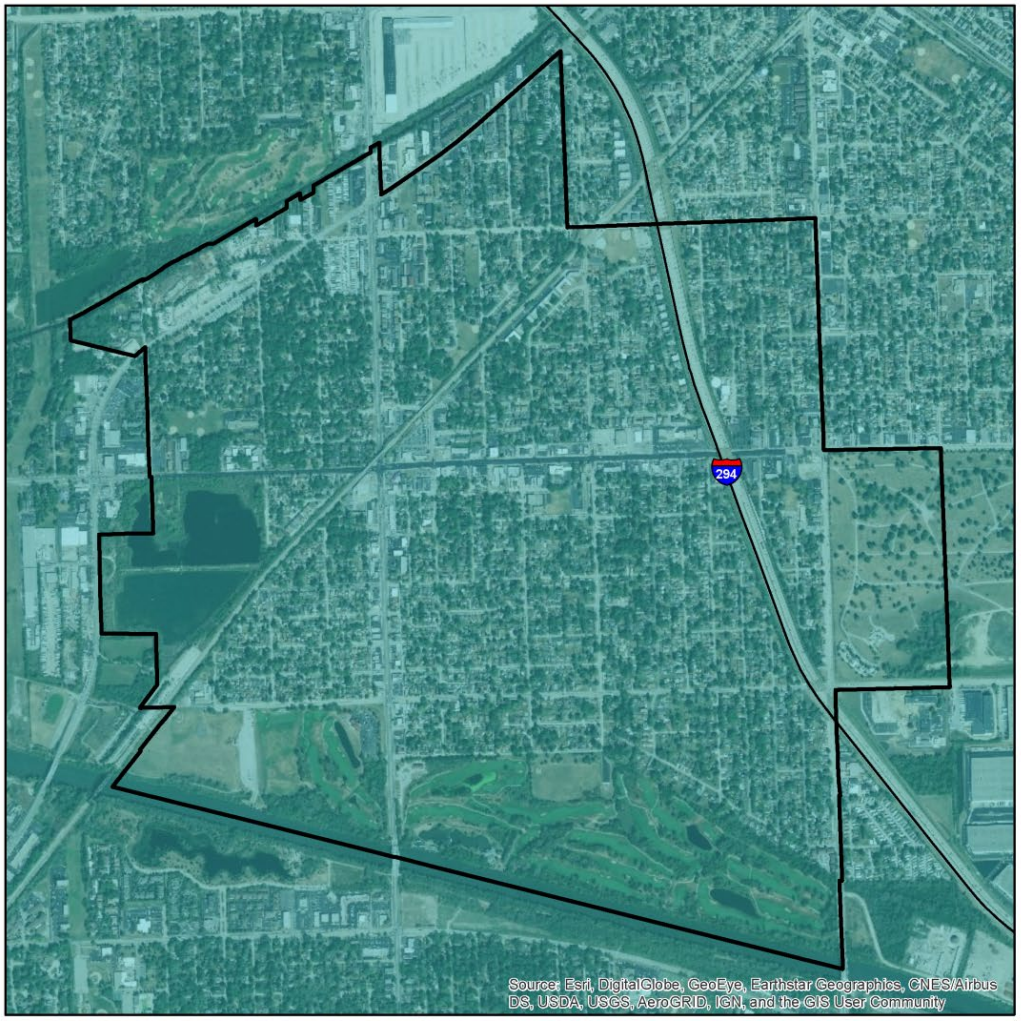
Future Needs to Better Understand Risk/Vulnerability

Interested in receiving training to better understand the mitigation grant application process.

Additional Comments

The village building department is in the process of reviewing and updating building codes.

Hazard Mapping



VILLAGE OF WORTH

PEAK GROUND ACCELERATION FOR A 100 YEAR EARTHQUAKE EVENT

Mercalli Scale, Potential Shaking

II-III Weak

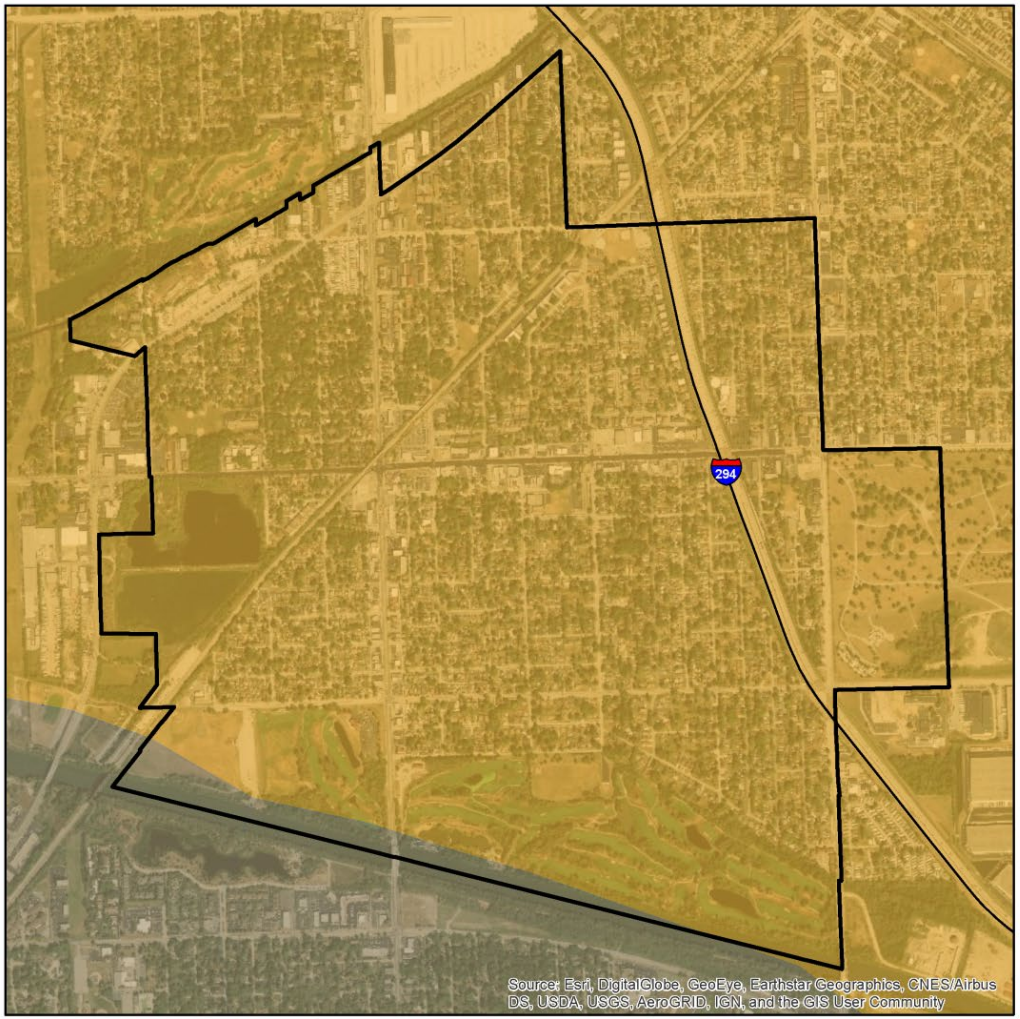
Data provided by the USGS Earthquake Hazards Program and Cook County.

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.

COOK COUNTY EMRS
EMERGENCY MANAGEMENT AND REGIONAL SECURITY

N W E S

0 0.075 0.15 0.3 0.45 0.6 Miles



VILLAGE OF WORTH

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.

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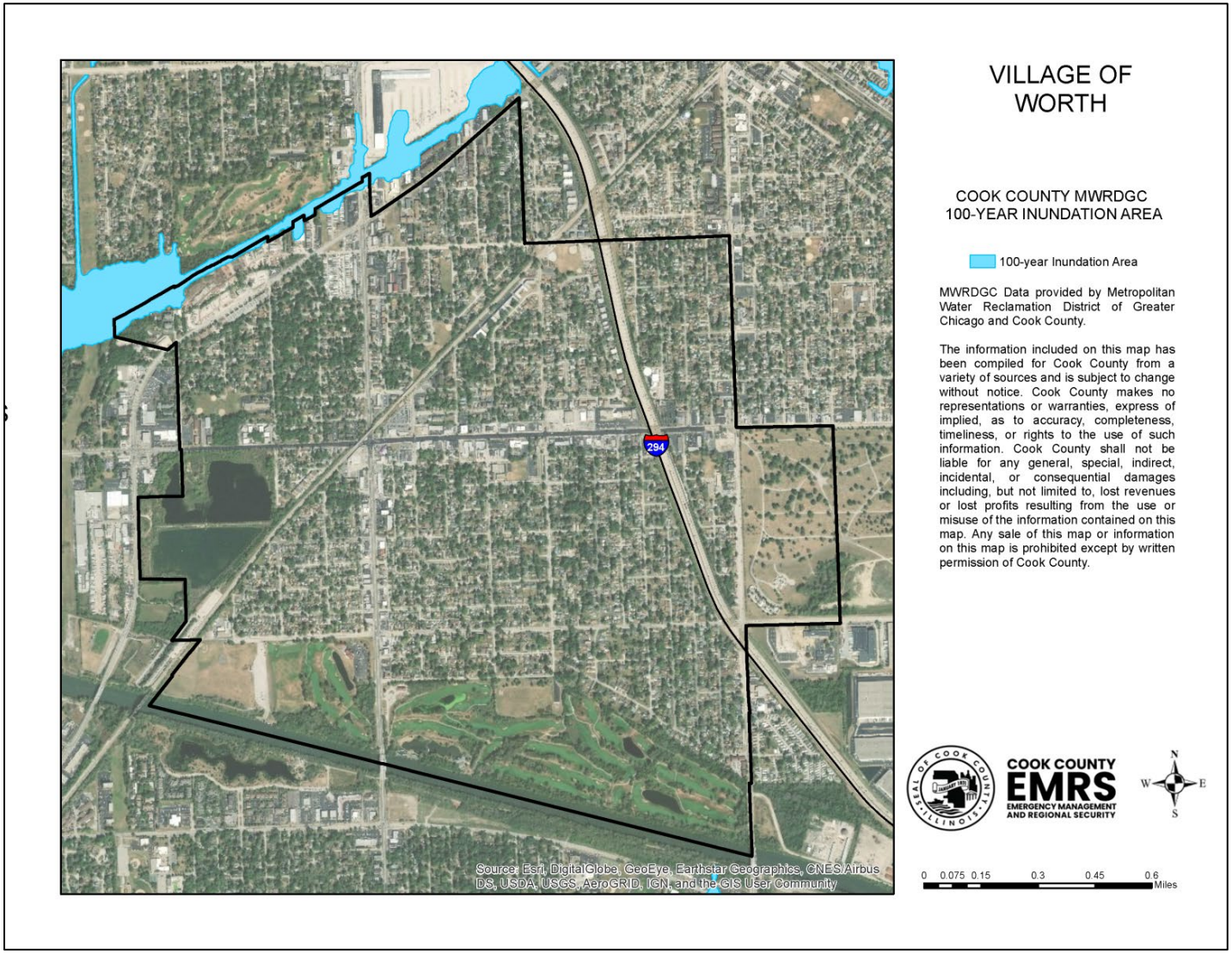
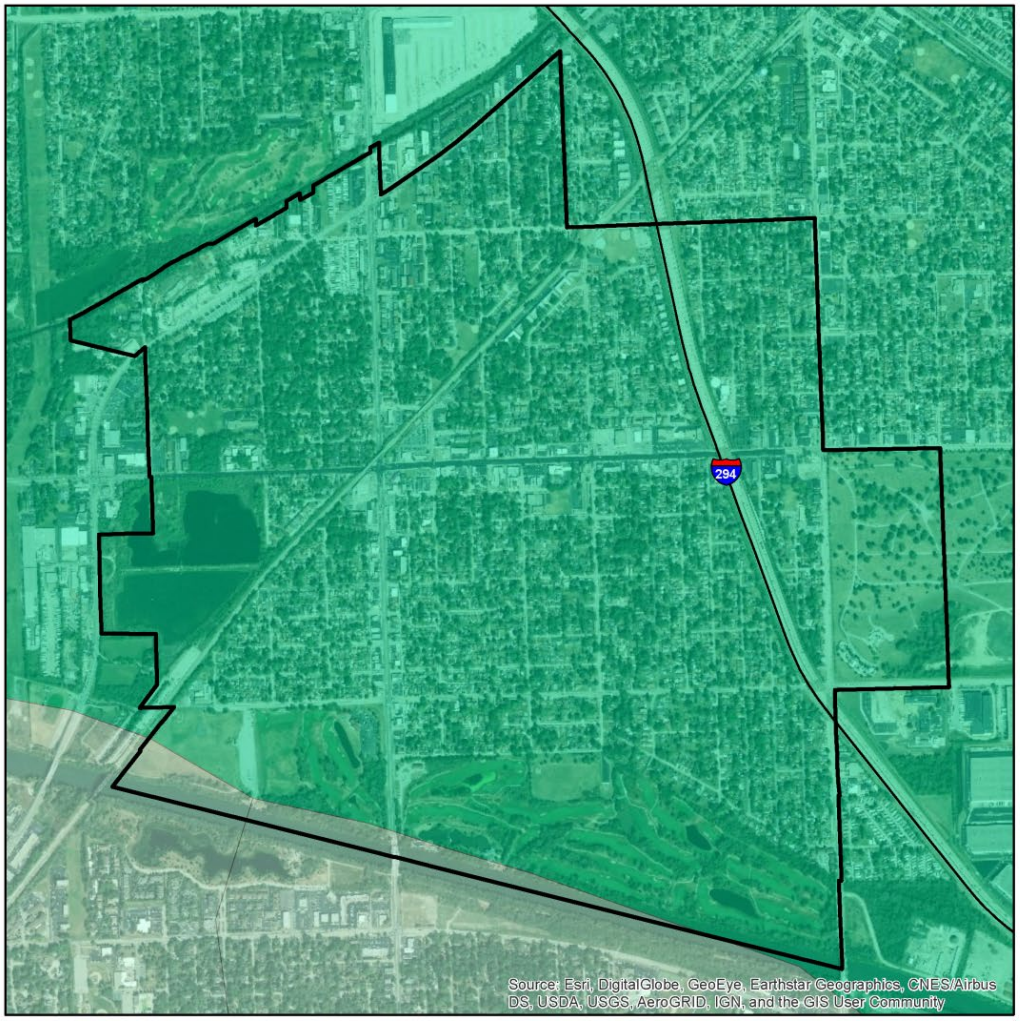
COOK COUNTY EMRS
EMERGENCY MANAGEMENT AND REGIONAL SECURITY

N
W E
S

0 0.075 0.15 0.3 0.45 0.6
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 WORTH

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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EMERGENCY MANAGEMENT AND REGIONAL SECURITY

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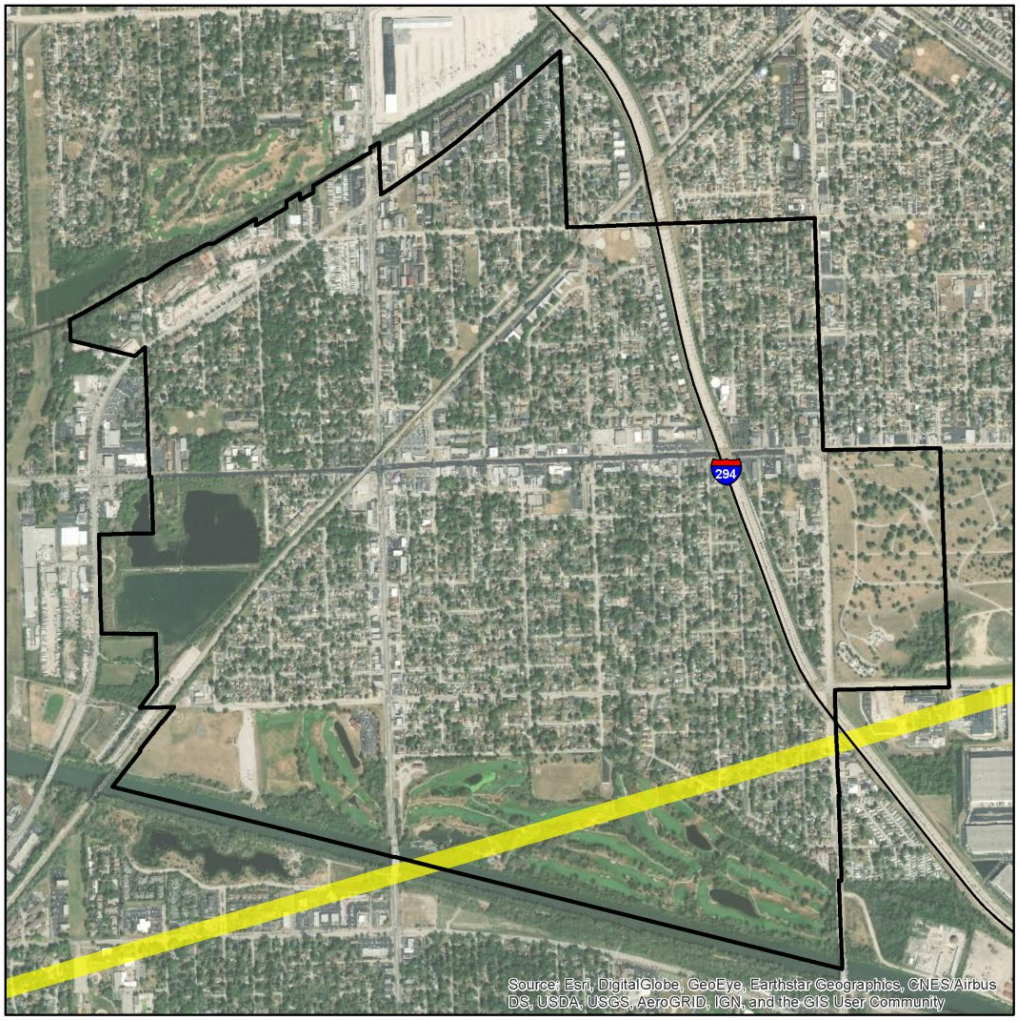

VILLAGE OF WORTH

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.

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EMERGENCY MANAGEMENT AND REGIONAL SECURITY

N W E S

0 0.075 0.15 0.3 0.45 0.6 Miles