

## Kenilworth

### Hazard Mitigation Plan Point of Contact

Primary Point of Contact	Alternate Point of Contact
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### Jurisdiction Profile

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

**Date of Incorporation:** 1889

**Current Population:** The 2021 U.S. Census estimate indicated the population was 2,451. ([City-Data](#))

**Population Growth:** The overall population has decreased 1.72 percent between 2018 and 2021.

**Location and Description:** The Village is about 0.61 square miles in size and approximately 15 miles north of downtown Chicago. It is bordered by Winnetka to the North, Lake Michigan to the East, Wilmette to the South and Southwest and a small portion of Unincorporated Cook County to the West. The main corridors through town are Sheridan Road-running North-South on the East, Green Bay Road running North-South dissecting the town, Ridge Road running North-South on the West end and Kenilworth Avenue being the main East-West thoroughfare.

**Brief History:** Kenilworth is a village in Cook County, Illinois. It is the newest of the nine suburban North Shore communities bordering Lake Michigan, and is the only one developed as a planned community. Kenilworth has a reputation as being the wealthiest and the most exclusive community in the Midwest. In January 2011, Forbes.com ranked Kenilworth as the second most affluent neighborhood in the United States, naming it “the most exclusive neighborhood in the Midwest, with estimated median household income of \$247,000. Kenilworth has its own public school district, with its only school being Joseph Sears School, named after the founder of the village. Kenilworth has its own Police Department and Public Works which includes Streets and Water. The Village contracts its Fire Service with the Winnetka Fire Department.

**Climate:** Kenilworth gets about 32 inches of rain per year, compared to the U.S. average of 37. Kenilworth’s snowfall is about 24 inches compared to a U.S. average of about 25. Kenilworth averages about 110 days of measurable precipitation and there are approximately 188 sunny days per year. The July high is about 82 degrees and the low in January is about 13 degrees.

**Governing Body Format:** The Village President and Board of Trustees are elected representatives of the citizens of Kenilworth. The Village President serves a four year term. Village Trustees serve four year overlapping terms. The Village Clerk is an elected official and is the official keeper and custodian of all Village records. The Clerk’s term of office is four years. Also working closely with the President

and Board of Trustees is the Village Treasure, who is appointed by the President and Board of Trustees. The Village Board of Trustees utilizes a committee structure as outlined in the Municipal Code of the Village of Kenilworth. Each Trustee serves as Chairman of one of six standing committees, and serves as a member of two other standing committees. A Village Manager handles the day to day operations of the Village.

**Development Trends:** The Village of Kenilworth is comprised mostly of residential properties. The Green Bay Road corridor, running North-South through the Village, is where the majority of businesses are located and consists of about 3 blocks. Park Drive also has smaller businesses consisting of doctors' offices, a travel agency and other small businesses, encompassing about 2 blocks.

**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
<b>Codes, Ordinances &amp; Requirements</b>					
Building Code	Yes	No	No	Yes	In accordance with Public Act 096-0704, Illinois has adopted the IBC as its state Building Code CH. 150
Zonings	Yes	No	No	Yes	(65 ILCS 5/) Illinois Municipal Code. CH. 153
Subdivisions	Yes	No	No	No	CH. 152
Stormwater Management	No	No	Yes	Yes	State regulates

					industrial activity from Construction sites 1 acre or larger under section 402 CWA.
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	CH. 150
Public Health and Safety	No	No	Yes	Yes	Cook County Board of Health.
Environmental Protection	No	No	No	No	
<b>Planning Documents</b>					
General or Comprehensive Plan	Yes	No	No	No	
<i>Is the plan equipped to provide integration to this mitigation plan?</i>					Yes, Plan includes a land use element.
Floodplain or Basin Plan	No	No	No	No	
Stormwater Plan	No	No	Yes	No	MWRD Detailed Watershed Plan
Capital Improvement Plan	Yes	No	No	No	
<i>What types of capital facilities does the plan address?</i>					All Village facilities
<i>How often is the plan revised/updated?</i>					Annually
Habitat Conservation Plan	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	
<b>Response/Recovery Planning</b>					
Comprehensive Emergency Management Plan	Yes	No	Yes	Yes	
Threat and Hazard Identification and Risk Assessment	No	No	Yes	No	Cook County EMRS Preparing THIRA
Terrorism Plan	Yes	No	Yes	Yes	Cook County EMRS
Post-Disaster Recovery Plan	Yes	No	No	No	
Continuity of Operations Plan	Yes	No	Yes	No	Cook County EMRS
Public Health Plans	No	No	Yes	No	Cook County DPH

<b>TABLE: FISCAL CAPABILITY</b>	
<b>Financial Resources</b>	<b>Accessible or Eligible to Use?</b>
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	No
Incur Debt through Special Tax Bonds	No
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	No
Other	Yes

<b>TABLE: ADMINISTRATIVE AND TECHNICAL CAPABILITY</b>		
<b>Staff/Personnel Resources</b>	<b>Available?</b>	<b>Department/Agency/Position</b>
Planners or engineers with knowledge of land development and land management practices	Yes	Engineering service is outsourced
Engineers or professionals trained in building or infrastructure construction practices	Yes	Partially Outsourced
Planners or engineers with an understanding of natural hazards	No	
Staff with training in benefit/cost analysis	Yes	
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	Cook County GIS Consortium
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	Cook County EMRS
Grant writers	No	

<b>TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE</b>	
What department is responsible for floodplain management in your jurisdiction?	Administrator
Who is your jurisdiction's floodplain administrator? (department/position)	Village Manager
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date of adoption of your flood damage prevention ordinance?	08/05/08 Amended, CH. 151
When was the most recent Community Assistance Visit or Community Assistance Contact?	Have not had a Community Assistance Visit
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? (If no, please state why)	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Does your jurisdiction participate in the Community Rating System (CRS)? If so, is your jurisdiction seeking to improve its CRS Classification? If not, is your jurisdiction interested in joining the CRS program?	No; 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:*

#### Sec. 151.01 Regulations of National Flood Insurance Program Adopted

The rules and regulations of the National Flood Insurance Program as codified in the Code of Federal Regulations, Title 44, Chapter 1, Subchapter B, Part 59, et seq., as amended, are adopted by reference and filed in the office of the Village Clerk.

(Ord. 1284, passed 8-16-2021)

#### Sec. 151-02 Definitions

**SUBSTANTIAL DAMAGE.** Damage of any origin sustained by a building whereby cost to repair the building to its before damaged condition equals or exceeds 50% of the market value of the building before the damage occurred, regardless of actual repair work performed. The term includes flood related damages sustained by a building on two separate occasions in a ten-year period, in which the cost of the repairs, on average, equals or exceeds 25% of the market value of the building at the time of each such flood event.

**SUBSTANTIAL IMPROVEMENT.** Any reconstruction, rehabilitation, addition, or improvement of a building, taken over a ten-year period in which the cost, as substantiated by an executed contract that outlines the entire scope of work, in which the percentage of improvements, figured (cumulatively) by dividing the cost of each improvement by the market value of the building prior to the start of construction of each improvement, equals or exceeds 50%.

(1) 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 buildings which have incurred repetitive loss or substantial damage, regardless of the actual work done.

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

(a) Any project for improvement of a building to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are solely necessary to assure safe living conditions; or

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

#### Sec 151-03 Administration and Enforcement

The administration and enforcement of this chapter shall be in accordance with this section.

(A) No person, firm, corporation, or governmental body shall commence any development activities, including new construction, substantial improvements, and alterations of a watercourse wholly within, partially within or in contact with the floodplains until a floodplain development permit is obtained from the Director. No permit shall be issued by the Director until the requirements of this code have been met.

#### Sec. 151-04 Duties of the Director

The Director shall be responsible for the general administration and enforcement of this chapter, which shall include the following duties and responsibilities.

(N) Establish procedures for administering and documenting determinations, as outlined below, of substantial improvement and substantial damage made pursuant to § 151.09.

(1) 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.

(2) 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, including the cost of volunteer labor and donated materials must be included.

(3) 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, including the cost of volunteer labor and donated materials must be included.

(4) Determine and document whether the proposed work constitutes substantial improvement or substantial damage.

(5) 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 code is required.

#### Sec. 151-09 Permitting Requirements Applicable to all Floodplain Areas

In addition to the requirements found in §§ 151.06, 151.07 and 151.08 of this chapter for development in flood fringes, regulatory floodways, and SFHA or floodplains where no floodways have been identified (Zones AO, AH, AE, A1--A30, A99, VO, V1-V30, VE, V, M, E or X), § 601 and § 602 of the WMO and the following requirements shall be met:

(F) *Protecting buildings.* All buildings located within the SFHA, shall be protected from flood damage below the FPE. However, existing buildings located within a regulatory floodway shall also meet the more restrictive appropriate use standards included in § 151.07. These building protection criteria apply to the following situations:

- (1) New construction or placement of a new building.
- (2) A substantial improvement to an existing building.
- (3) Installing a manufactured home on a new site or a new manufactured home on an existing site.
- (4) A substantially damaged building under repair, the entire building must meet the flood protection standards of this section. Substantial damage shall be figured cumulatively during a ten-year period by comparing the cost to repair the building to its pre-damage condition with the market value of the building immediately prior to the damage, for each event in which the building sustains damage, and adding the percentages of damage for each event.
- (5) Installing a travel trailer or recreational vehicle on a site for more than 180 consecutive days.

(G) *Building protection methods.* Building protection requirements may be met by one of the following methods.

(2) *Nonresidential buildings.* In zones A, AO, AH, and AE, the lowest floor (including basement) of new construction of nonresidential buildings, and substantial improvement of nonresidential buildings, must either (1) be elevated to or above the FPE, subject to the more specific additional requirements of §§ 151.09(G)(1)(a) through 151.09(G)(1)(b) above; or (2) be structurally dry-floodproofed, provided a Registered P.E. or architect has developed and/or reviewed the structural design, specifications, and plans for construction, and the Registered P.E. or architect submits a FEMA floodproofing certificate, certifying that the design and methods of construction are in accordance with accepted standards of practice for meeting the requirements of ASCE 24-14, and the following conditions:

- (a) Below the FPE, the building and attendant utility and sanitary facilities shall be watertight with walls substantially impermeable to the passage of water and structural components capable of resisting hydrostatic and hydraulic loads and the effects of buoyancy.
- (b) The building design shall take into account flood velocities, duration, rate of rise, hydrostatic and hydrodynamic forces, the effects of buoyancy and impacts from debris or ice.
- (c) Floodproofing measures shall be incorporated into the building design and shall be operable without human intervention and without an outside source of electricity.
- (d) The building, utility, and sanitary facilities' design and construction will prevent the effect of sewer backup into the building.



(e) For purposes of this division, levees, berms, floodwalls and similar works are not considered floodproofing.

(3) In a coastal high hazard area (Zone VE) and in any area of Zone AE designated as a moderate wave action area, the building protection requirements of this § 151.09(E) must be met according to the following criteria:

(a) All new construction and substantial improvements shall be elevated on pilings or columns so that the bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to or above the FPE, and the pile or column foundation and structure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.

1. Water loading values used shall be those associated with the base flood.

2. Wind loading values shall be those defined according to American Society of Civil Engineers 7-16 Minimum design loads and associated criteria for buildings and other structures, or other equivalent standard.

(b) A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction, and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of § 151.09(E)(4)(a).

(c) All new construction and substantial improvements shall have the space below the lowest floor either free of obstruction or constructed with non-supporting breakaway walls, open wood lattice-work, or insect screening intended to collapse without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system.

1. A breakaway wall shall have a design safe loading resistance of not less than ten and no more than 20 pounds per square foot.

2. Use of breakaway walls which exceed a design safe loading resistance of 20 pounds per square foot (either by design or where so required by local or state codes) may be permitted only if a registered professional engineer or architect certifies that the designs proposed meet all of the following conditions:

- a. Breakaway wall collapse shall result from a water load less than that which would occur during the base flood; and

- b. The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and non-structural). Water loading values shall be those associated with the base flood. Wind loading values shall be those defined according to American Society of Civil Engineers 7-16 Minimum design loads and associated criteria for buildings and other structures, or equivalent standard.

c. All space enclosed by breakaway walls, open wood lattice-work, or insect screening below the lowest floor shall be used solely for parking of vehicles, building access, or storage.

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

### **Opportunities to Expand and Improve Capabilities**

Grant writers would be helpful for a small community like ours. Having someone to assist the Village employees who may be in a better position to make the types of decisions that can be related to mitigation.

### **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.

#### **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
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**State Disaster Declarations**

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

TABLE: NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster Number (if applicable)	Date	Preliminary Damage Assessment/ Event Narrative
Flash Flood	-	7/23/2016	Numerous stranded cars at the viaduct at Wilson St and Winnetka Rd.
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	-
Flash Flood	-	7/23/2016	Numerous stranded cars at the viaduct at Wilson St and Winnetka Rd.
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.

**Flood:** We experience flooding at Green Bay Rd. between Wayland Ave. In addition to this jurisdiction-specific hazard impact, the debris build-up at the Skokie ditch can cause Roger Ave. to flood. It is important to note that several side streets in our southeast quadrant are currently prone to flooding. Our Village also borders Lake Michigan, so changes in lake levels can affect properties on the shore.

**Tornado and High Wind:** While no tornado has touched down in the area, high winds have been a major problem during severe weather events.

Indicator	Number	Percent
Families in poverty	52	2.4%
People with disabilities	239	3.1%
People over 65 years	1,196	15.6%
People under 5 years	620	8.1%
People of color	751	9.8%
Black	0	0%
Native American	1	0%
Hispanic	233	3%
Difficulty with English	79	1.1%
Households with no car	40	1.6%
Mobile homes	7	0.3%

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
<b>Current Vulnerability</b>	
Dam and Levee Failure	Not Applicable
Drought	Remained the Same
Earthquake	Remained the Same
Flood (Riverine, Urban, Shoreline)	Remained the Same
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Winds)	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
<b>Future Vulnerability</b>	
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 Winds)	No Change is Anticipated
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	No Change is Anticipated
Tornado	No Change is Anticipated
Wildfire (Wildfire Smoke)	No Change is Anticipated

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

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

Hazard	Vulnerability
<b>Current Vulnerability</b>	
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 Winds)	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
<b>Future Vulnerability</b>	
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 Winds)	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.

<b>TABLE: HAZARD RISK RANKING</b>	
Rank	Hazard Type
1	Flood

2	Severe Weather
3	Severe Winter Weather
4	Tornado
5	Earthquake
6	Drought



## New Mitigation Actions

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

### Action K-1.13

Mitigation Action #K - 1.13: Installation of permeable pavers on the West side of town.					
<b>Lead Agency/Department Organization:</b> Village of Kenilworth Public Works	<b>Supporting Agencies/ Organizations:</b>	<b>Estimated Cost:</b> Medium	<b>Potential Funding Source:</b> General Fund	<b>Estimated Projected Completion Date:</b> Short-term	<b>Hazard(s) Mitigated:</b> Flood (Riverine, Urban, Coastal/Shoreline)
<b>Year Initiated</b>		2022			
<b>Applicable Jurisdiction</b>		Village of Kenilworth / Police Department			
<b>Applicable Goal</b>		1, 2, 3			
<b>Applicable Objective</b>		2,3,7			
<b>Cost Analysis (Low, Medium, High)</b>		Medium			
<b>Priority and Level of Importance (Low, Medium, High)</b>		Medium			
<b>Benefits of the Mitigation Project</b> (Loss Avoided or Issue Being Mitigated)		Medium			
<b>Action/Implementation Plan and Project Description:</b>		Installation of permeable pavers on the West side of town.			
<b>Actual Completion Date or Ongoing Indefinite</b>					
<b>Project Status &amp; Changes in Priority</b> <b>Completion status legend:</b> <b>N</b> = New; <b>I</b> = In Progress Toward Completion; <b>O</b> = Ongoing Indefinitely; <b>C</b> = Project Completed; <b>R</b> = Want Removed from Annex; <b>X</b> = 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 K-1.1

Mitigation Action #K - 1.1: 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.					
<b>Lead Agency/Department Organization:</b> Public Works	<b>Supporting Agencies/ Organizations:</b>	<b>Estimated Cost:</b> High	<b>Potential Funding Source:</b> HMGP, BRIC	<b>Estimated Projected Completion Date:</b> Long-term (depending on funding)	<b>Hazard(s) Mitigated:</b> All
<b>Year Initiated</b>		2014			
<b>Applicable Jurisdiction</b>		Village of Kenilworth			
<b>Applicable Goal</b>		1, 4			
<b>Applicable Objective</b>		7, 13			
<b>Cost Analysis (Low, Medium, High)</b>		High			
<b>Priority and Level of Importance (Low, Medium, High)</b>		Medium			
<b>Benefits of the Mitigation Project</b> (Loss Avoided or Issue Being Mitigated)		High			
<b>Action/Implementation Plan and Project Description:</b>					
<b>Actual Completion Date or Ongoing Indefinite</b>					
<b>Project Status &amp; Changes in Priority</b> <b>Completion status legend:</b> <b>N</b> = New; <b>I</b> = In Progress Toward Completion; <b>O</b> = Ongoing Indefinitely; <b>C</b> = Project Completed; <b>R</b> = Want Removed from Annex; <b>X</b> = No Action Taken/Delayed		<b>I</b> <b>This is in progress. The Village has relocated some services on two Village streets.</b>			

## Action K-1.2

Mitigation Action #K - 1.2: Continue to support the countywide actions identified in this plan.					
<b>Lead Agency/Department Organization:</b> Village of Kenilworth Administration	<b>Supporting Agencies/ Organizations:</b>	<b>Estimated Cost:</b> Low	<b>Potential Funding Source:</b> General Fund	<b>Estimated Projected Completion Date:</b> Short- and long-term	<b>Hazard(s) Mitigated:</b> All
<b>Year Initiated</b>		2014			
<b>Applicable Jurisdiction</b>		Village of Kenilworth			
<b>Applicable Goal</b>		All			
<b>Applicable Objective</b>		All			
<b>Cost Analysis (Low, Medium, High)</b>		Low			
<b>Priority and Level of Importance (Low, Medium, High)</b>		High			
<b>Benefits of the Mitigation Project</b> (Loss Avoided or Issue Being Mitigated)		Medium			
<b>Action/Implementation Plan and Project Description:</b>					
<b>Actual Completion Date or Ongoing Indefinite</b>					
<b>Project Status &amp; Changes in Priority</b> <b>Completion status legend:</b> 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 K-1.3

Mitigation Action #K - 1.3: Actively participate in the plan maintenance strategy identified in this plan.					
<b>Lead Agency/Department Organization:</b> EMRS Village of Kenilworth	<b>Supporting Agencies/ Organizations:</b>	<b>Estimated Cost:</b> Low	<b>Potential Funding Source:</b> General Fund	<b>Estimated Projected Completion Date:</b> Short-term	<b>Hazard(s) Mitigated:</b> All
<b>Year Initiated</b>		2014			
<b>Applicable Jurisdiction</b>		Village of Kenilworth			
<b>Applicable Goal</b>		1, 2, 3, 5, 6			

<b>Applicable Objective</b>	3, 4, 6
<b>Cost Analysis (Low, Medium, High)</b>	Low
<b>Priority and Level of Importance (Low, Medium, High)</b>	High
<b>Benefits of the Mitigation Project</b> (Loss Avoided or Issue Being Mitigated)	Medium
<b>Action/Implementation Plan and Project Description:</b>	
<b>Actual Completion Date or Ongoing Indefinite</b>	
<b>Project Status &amp; Changes in Priority Completion status legend:</b> <b>N</b> = New; <b>I</b> = In Progress Toward Completion; <b>O</b> = Ongoing Indefinitely; <b>C</b> = Project Completed; <b>R</b> = Want Removed from Annex; <b>X</b> = No Action Taken/Delayed	<b>O</b>

#### Action K-1.4

<b>Mitigation Action #K - 1.4: Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.</b>					
<b>Lead Agency/Department Organization:</b> Village of Kenilworth Administration	<b>Supporting Agencies/ Organizations:</b>	<b>Estimated Cost:</b> Low	<b>Potential Funding Source:</b> General Fund	<b>Estimated Projected Completion Date:</b> Long-term	<b>Hazard(s) Mitigated:</b> All
<b>Year Initiated</b>	2014				
<b>Applicable Jurisdiction</b>	Village of Kenilworth				
<b>Applicable Goal</b>	All				
<b>Applicable Objective</b>	3, 4, 5, 6, 7, 9, 10, 11, 13				
<b>Cost Analysis (Low, Medium, High)</b>	Low				
<b>Priority and Level of Importance (Low, Medium, High)</b>	Medium				
<b>Benefits of the Mitigation Project</b> (Loss Avoided or Issue Being Mitigated)	Medium				
<b>Action/Implementation Plan and Project Description:</b>					
<b>Actual Completion Date or Ongoing Indefinite</b>					
<b>Project Status &amp; Changes in Priority Completion status legend:</b> <b>N</b> = New; <b>I</b> = In Progress Toward Completion;	<b>O</b>				

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

**Action K-1.5**

<b>Mitigation Action #K - 1.5: 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.</b>					
<b>Lead Agency/Department Organization:</b> Village of Kenilworth Administration	<b>Supporting Agencies/ Organizations:</b>	<b>Estimated Cost:</b> Low	<b>Potential Funding Source:</b> General Fund	<b>Estimated Projected Completion Date:</b> Short-term and ongoing	<b>Hazard(s) Mitigated:</b> Flooding
<b>Year Initiated</b>		2014			
<b>Applicable Jurisdiction</b>		Village of Kenilworth			
<b>Applicable Goal</b>		1, 5, 6			
<b>Applicable Objective</b>		4, 6, 9			
<b>Cost Analysis (Low, Medium, High)</b>		Low			
<b>Priority and Level of Importance (Low, Medium, High)</b>		High			
<b>Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)</b>		Medium			
<b>Action/Implementation Plan and Project Description:</b>					
<b>Actual Completion Date or Ongoing Indefinite</b>					
<b>Project Status &amp; Changes in Priority Completion status legend:</b> <b>N</b> = New; <b>I</b> = In Progress Toward Completion; <b>O</b> = Ongoing Indefinitely; <b>C</b> = Project Completed; <b>R</b> = Want Removed from Annex; <b>X</b> = No Action Taken/Delayed		<b>O</b>			

## Action K-1.6

Mitigation Action #K - 1.6: Where feasible, implement a program to record high water marks following high-water events.					
<b>Lead Agency/Department Organization:</b> Village of Kenilworth Public Works	<b>Supporting Agencies/ Organizations:</b>	<b>Estimated Cost:</b> Medium	<b>Potential Funding Source:</b> General Fund; FEMA Public Assistance (PA)	<b>Estimated Projected Completion Date:</b> Long-term	<b>Hazard(s) Mitigated:</b> Flooding, Severe Weather
<b>Year Initiated</b>		2014			
<b>Applicable Jurisdiction</b>		Village of Kenilworth			
<b>Applicable Goal</b>		1, 6			
<b>Applicable Objective</b>		3, 6, 9			
<b>Cost Analysis (Low, Medium, High)</b>		Medium			
<b>Priority and Level of Importance (Low, Medium, High)</b>		Medium			
<b>Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)</b>		Medium			
<b>Action/Implementation Plan and Project Description:</b>					
<b>Actual Completion Date or Ongoing Indefinite</b>					
<b>Project Status &amp; Changes in Priority Completion status legend:</b> <b>N</b> = New; <b>I</b> = In Progress Toward Completion; <b>O</b> = Ongoing Indefinitely; <b>C</b> = Project Completed; <b>R</b> = Want Removed from Annex; <b>X</b> = No Action Taken/Delayed		O			

## Action K-1.7

Mitigation Action #K - 1.7: Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.					
<b>Lead Agency/Department Organization:</b> Contracted Engineer	<b>Supporting Agencies/ Organizations:</b>	<b>Estimated Cost:</b> Low	<b>Potential Funding Source:</b> General Fund	<b>Estimated Projected Completion Date:</b> Short-term	<b>Hazard(s) Mitigated:</b> All
<b>Year Initiated</b>		2014			
<b>Applicable Jurisdiction</b>		Village of Kenilworth			
<b>Applicable Goal</b>		1, 2, 5, 6			
<b>Applicable Objective</b>		3, 4, 6, 10, 13			
<b>Cost Analysis (Low, Medium, High)</b>		Low			
<b>Priority and Level of Importance (Low, Medium, High)</b>		High			
<b>Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)</b>		Medium			
<b>Action/Implementation Plan and Project Description:</b>					
<b>Actual Completion Date or Ongoing Indefinite</b>					
<b>Project Status &amp; Changes in Priority Completion status legend:</b> <b>N</b> = New; <b>I</b> = In Progress Toward Completion; <b>O</b> = Ongoing Indefinitely; <b>C</b> = Project Completed; <b>R</b> = Want Removed from Annex; <b>X</b> = No Action Taken/Delayed		X			

## Action K-1.8

Mitigation Action #K - 1.8: Update the Village Comprehensive Emergency Management Plan to include relevant Regional Hazard Mitigation Plan data.					
<b>Lead Agency/Department Organization:</b> Emergency Manager	<b>Supporting Agencies/ Organizations:</b>	<b>Estimated Cost:</b> Medium	<b>Potential Funding Source:</b> General revenue, Grants	<b>Estimated Projected Completion Date:</b> Long-term	<b>Hazard(s) Mitigated:</b> All
<b>Year Initiated</b>		2014			
<b>Applicable Jurisdiction</b>		Village of Kenilworth			
<b>Applicable Goal</b>		1, 2, 3			
<b>Applicable Objective</b>		1, 2, 5			
<b>Cost Analysis (Low, Medium, High)</b>		Medium			
<b>Priority and Level of Importance (Low, Medium, High)</b>		Medium			
<b>Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)</b>		Medium			
<b>Action/Implementation Plan and Project Description:</b>					
<b>Actual Completion Date or Ongoing Indefinite</b>					
<b>Project Status &amp; Changes in Priority Completion status legend:</b> <b>N</b> = New; <b>I</b> = In Progress Toward Completion; <b>O</b> = Ongoing Indefinitely; <b>C</b> = Project Completed; <b>R</b> = Want Removed from Annex; <b>X</b> = No Action Taken/Delayed		O			



## Action K-1.9

Mitigation Action #K - 1.9: Clearing the Skokie ditch of debris to prevent urban flooding and allow the flow of stormwater through town into Lake Michigan.					
<b>Lead Agency/Department Organization:</b> Kenilworth Public Works	<b>Supporting Agencies/ Organizations:</b> Village of Kenilworth/Eagle Scouts	<b>Estimated Cost:</b> Low	<b>Potential Funding Source:</b> Village of Kenilworth General Fund, HMGP, BRIC	<b>Estimated Projected Completion Date:</b> Short-term	<b>Hazard(s) Mitigated:</b> Flood
<b>Year Initiated</b>		2019			
<b>Applicable Jurisdiction</b>		Village of Kenilworth			
<b>Applicable Goal</b>		2, 3, 6			
<b>Applicable Objective</b>		2, 3, 4, 13			
<b>Cost Analysis (Low, Medium, High)</b>		Low- The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program.			
<b>Priority and Level of Importance (Low, Medium, High)</b>		Medium Priority			
<b>Benefits of the Mitigation Project</b> (Loss Avoided or Issue Being Mitigated)		Reduces flooding of homes along Skokie ditch and flooding of urban streets. Project will have a long-term impact on the reduction of risk exposure for life and property, or project will provide an immediate reduction in the risk exposure for property.			
<b>Action/Implementation Plan and Project Description:</b>					
<b>Actual Completion Date or Ongoing Indefinite</b>					
<b>Project Status &amp; Changes in Priority Completion status legend:</b> <b>N</b> = New; <b>I</b> = In Progress Toward Completion; <b>O</b> = Ongoing Indefinitely; <b>C</b> = Project Completed; <b>R</b> = Want Removed from Annex; <b>X</b> = No Action Taken/Delayed		<b>O</b>			

## Action K-1.12

Mitigation Action #K - 1.12: Replace rainwater lines and install permeable pavers in streets on the Northwest quadrant of town.					
<b>Lead Agency/Department Organization:</b> Village of Kenilworth Public Works	<b>Supporting Agencies/ Organizations:</b>	<b>Estimated Cost:</b> Medium	<b>Potential Funding Source:</b> BRIC, HMGP	<b>Estimated Projected Completion Date:</b> Short-term	<b>Hazard(s) Mitigated:</b> Flood
<b>Year Initiated</b>		2022			
<b>Applicable Jurisdiction</b>		Village of Kenilworth			
<b>Applicable Goal</b>		1, 2, 3			
<b>Applicable Objective</b>		4,6,9			
<b>Cost Analysis (Low, Medium, High)</b>		Medium—The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.			
<b>Priority and Level of Importance (Low, Medium, High)</b>		Medium Priority			
<b>Benefits of the Mitigation Project</b> (Loss Avoided or Issue Being Mitigated)		This mitigation action will prevent homes and streets from being flooded. Project will have a long-term impact on the reduction of risk exposure for life and property, or project will provide an immediate reduction in the risk exposure for property.			
<b>Action/Implementation Plan and Project Description:</b>					
<b>Actual Completion Date or Ongoing Indefinite</b>					
<b>Project Status &amp; Changes in Priority Completion status legend:</b> <b>N</b> = New; <b>I</b> = In Progress Toward Completion; <b>O</b> = Ongoing Indefinitely; <b>C</b> = Project Completed; <b>R</b> = Want Removed from Annex; <b>X</b> = No Action Taken/Delayed		<b>O</b>			

## Completed Actions

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

Completed Action Items
Implementation of Infrastructure Plan for Urban Flooding Mitigation

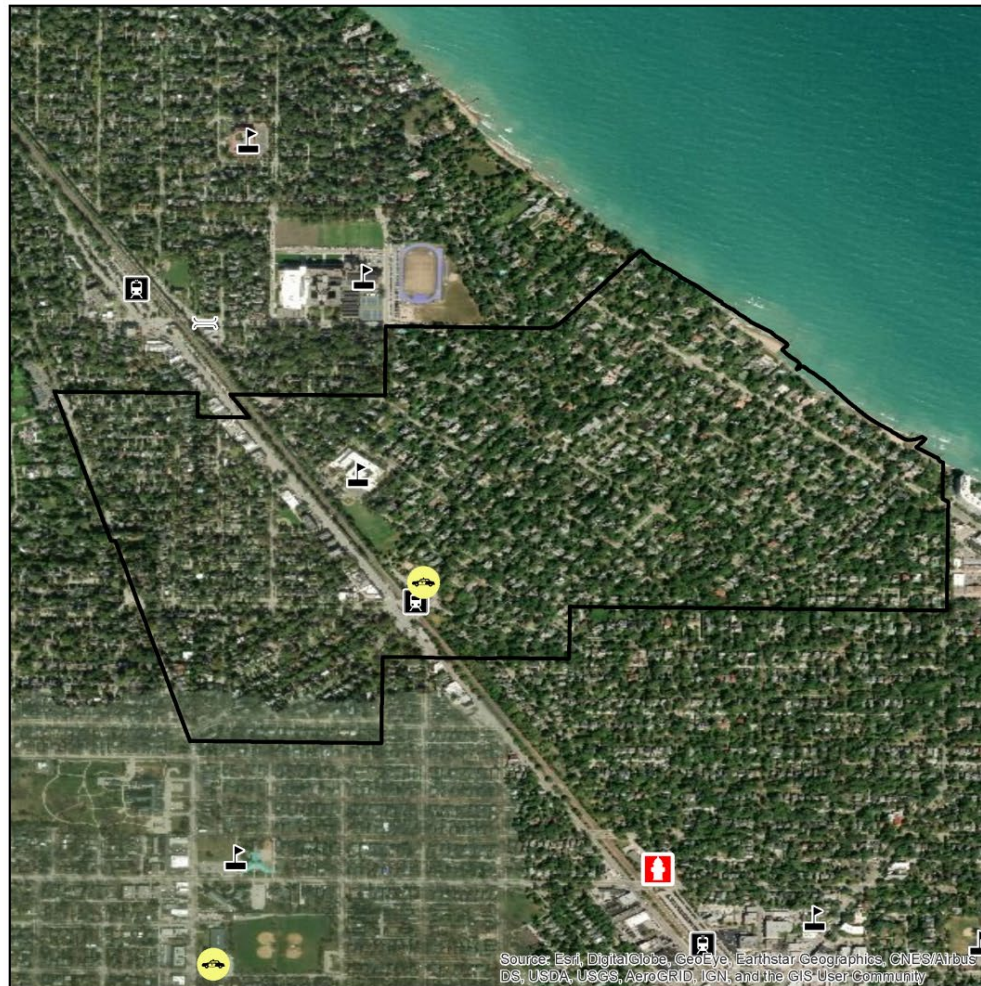
## Future Needs to Better Understand Risk/Vulnerability

No needs have been identified at this time.

## Additional Comments

No additional comments at this time.

## Hazard Mapping



### VILLAGE OF KENILWORTH

#### CRITICAL INFRASTRUCTURE

- Oil Facilities
- Transit Centers
- Military Facilities
- Police Stations
- Fire Stations
- Hazardous Waste
- Airports
- Hospitals
- Highway Bridges
- Warming Centers
- Cooling Centers
- Schools
- Railroad Stations

Base Map Data Sources:  
Cook County, ESRI

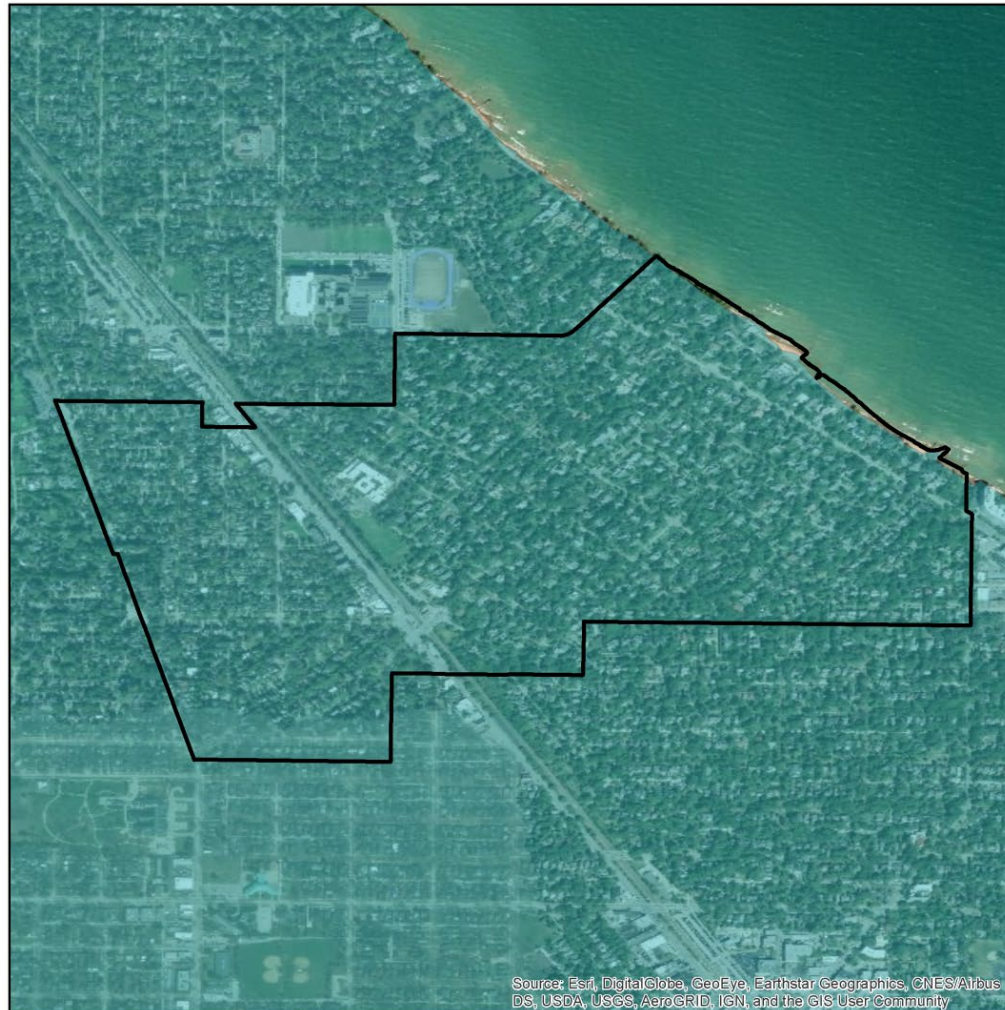


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0 0.05 0.1 0.2 0.3 0.4  
Miles





## VILLAGE OF KENILWORTH

### PEAK GROUND ACCELERATION FOR A 100 YEAR EARTHQUAKE EVENT

**Mercalli Scale, Potential Shaking**  
 II-III Weak

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

Probabilistic seismic-hazard maps were prepared for the conterminous United States for 2014 portraying peak horizontal acceleration and horizontal spectral response acceleration for 0.2- and 1.0-second periods with probabilities of exceedance of 10 percent in 50 years and 2 percent in 50 years. All of the maps were prepared by combining the hazard derived from spatially smoothed historical seismicity with the hazard from fault-specific sources. The acceleration values contoured are the random horizontal component. The reference site condition is firm rock, defined as having an average shear-wave velocity of 760 m/s in the top 30 meters corresponding to the boundary between NEHRP (National Earthquake Hazards Reduction Program) site classes B and C.

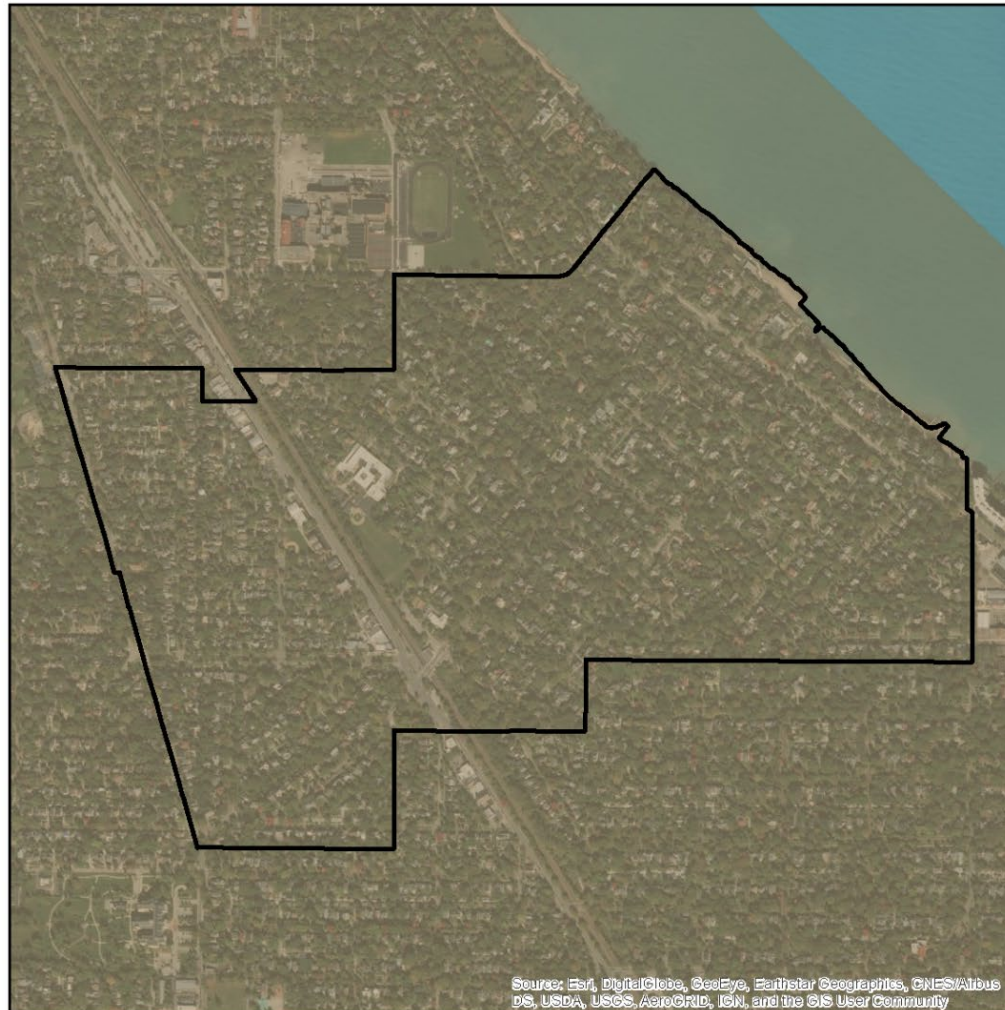
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0 0.05 0.1 0.2 0.3 0.4  
 Miles



## VILLAGE OF KENILWORTH

### 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-2769 Map of Surficial Deposits and Materials in the Eastern and Central United States (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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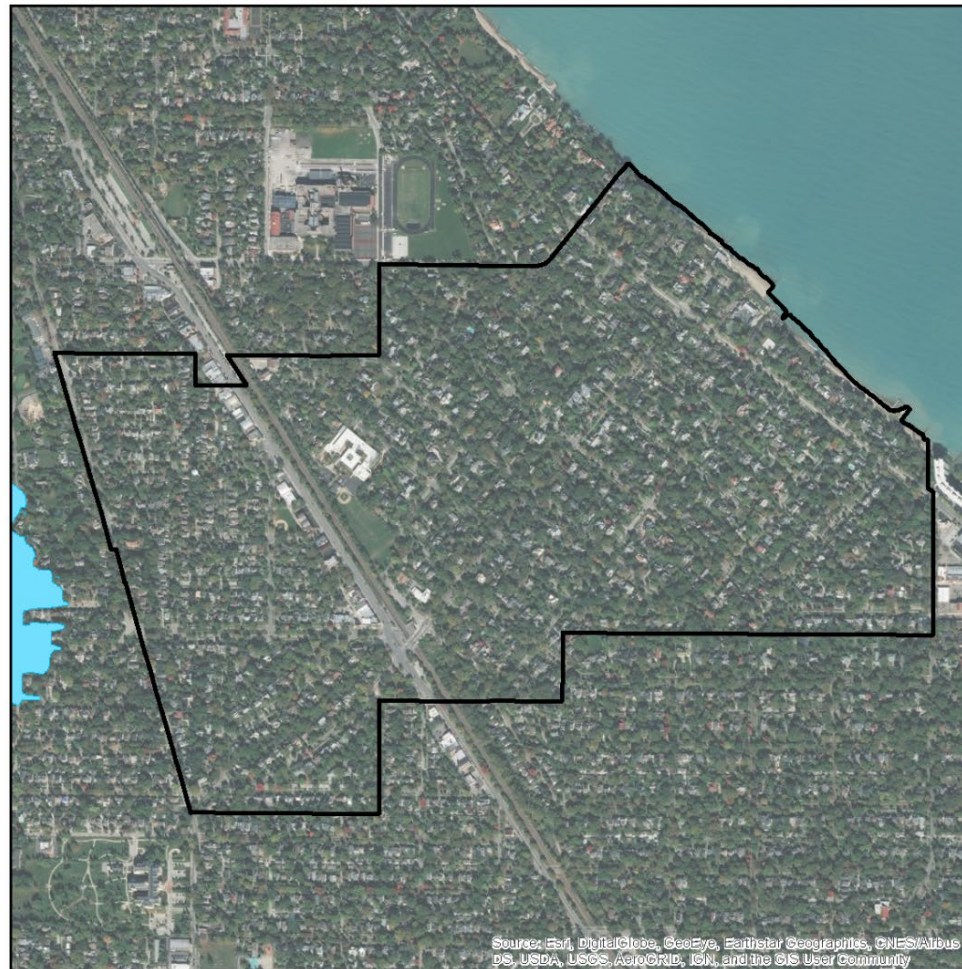
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0 0.045 0.09 0.18 0.27 0.36 Miles



**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 KENILWORTH

### COOK COUNTY MWRDGC 100-YEAR INUNDATION AREA

100-year Inundation Area

MWRDGC Data provided by Metropolitan Water Reclamation District of Greater Chicago and Cook County.

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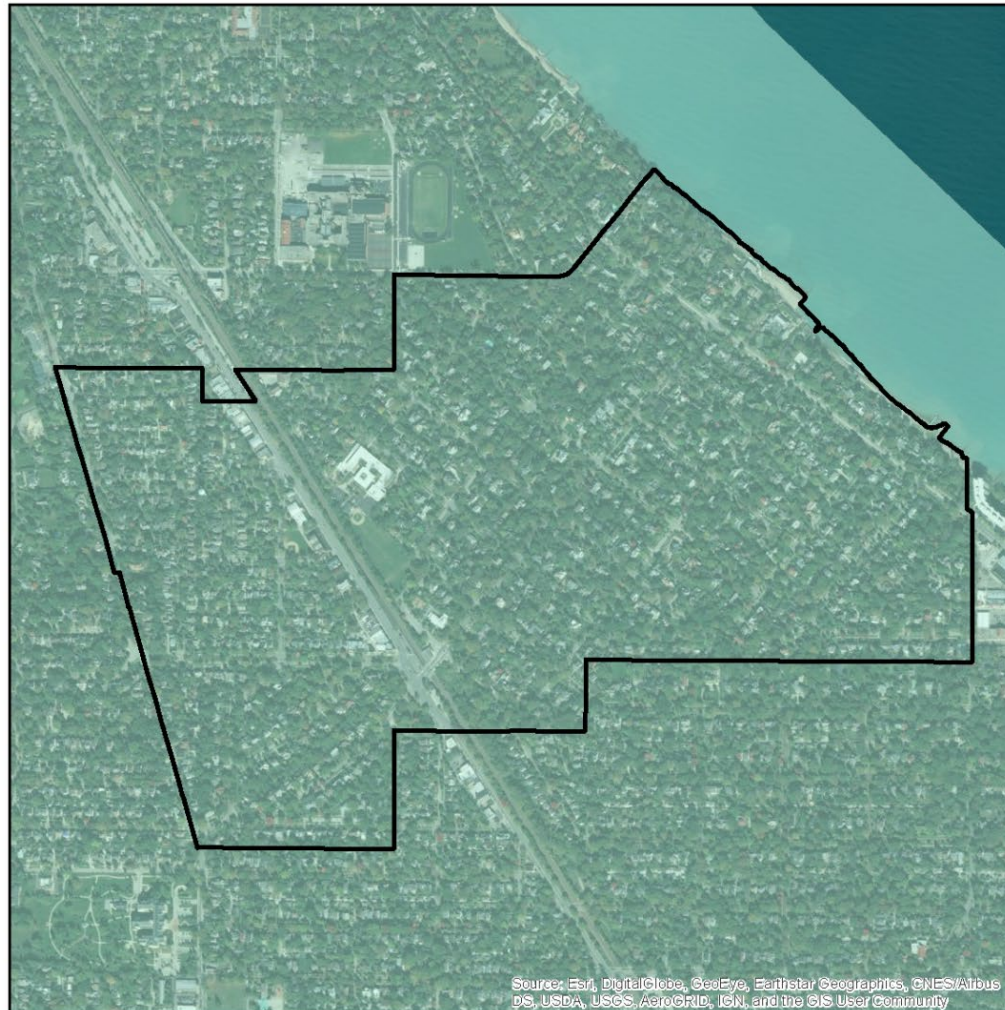
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus  
DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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0 0.045 0.09 0.18 0.27 0.36 Miles



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

## VILLAGE OF KENILWORTH

### 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-2769 Map of Surficial Deposits and Materials in the Eastern and Central United States (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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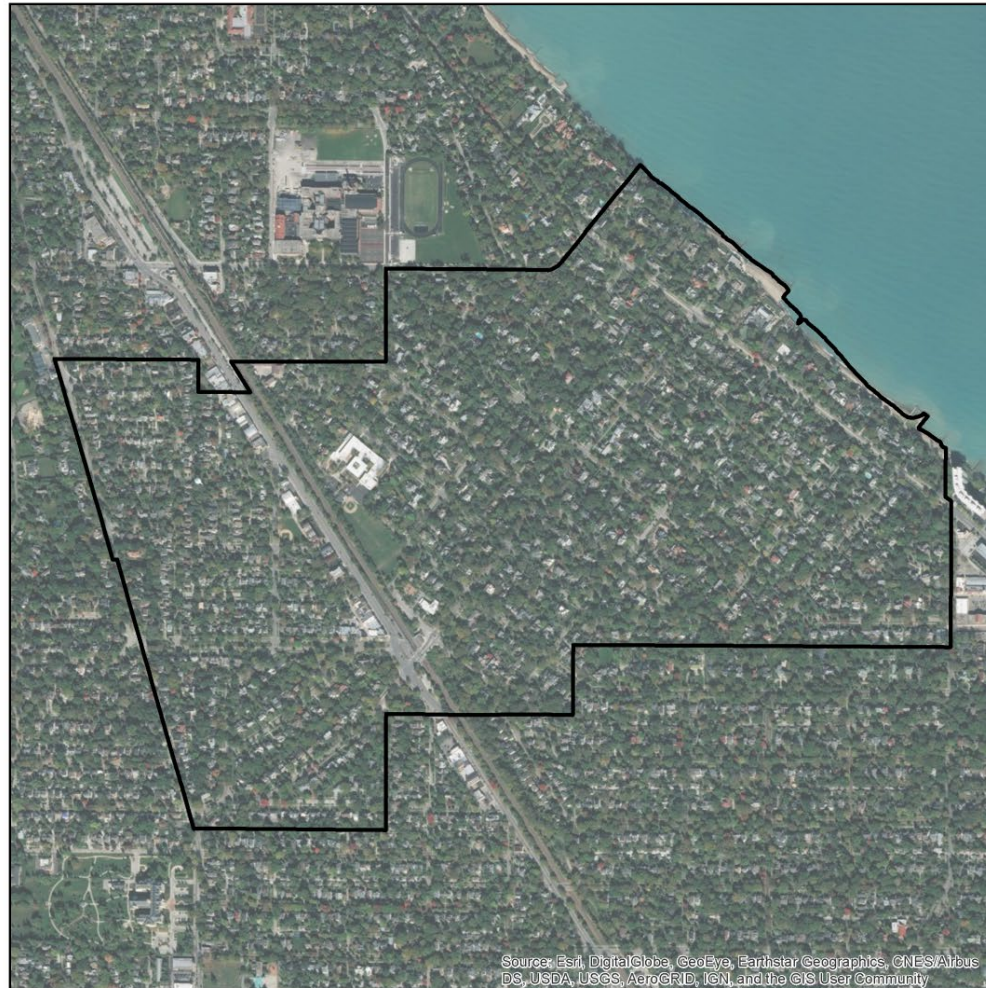


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0 0.045 0.09 0.18 0.27 0.36 Miles





## VILLAGE OF KENILWORTH

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.

