

River Forest

Hazard Mitigation Plan Point of Contact

Primary Point of Contact	Alternate Point of Contact	Alternate Point of Contact
Tom Gaertner, Fire Chief 400 Park Avenue River Forest, Illinois 60305 Telephone: 708-714-3560 Email Address: tgaertner@vrf.us	Matt Walsh, Village Administrator 400 Park Avenue River Forest, Illinois 60305 Telephone: 708-714-3563 Email Address: mwalsh@vrf.us	Dave Bochenek Deputy Fire Chief 400 Park Ave River Forest, IL 60305 708-714-3546 Dbochenek@vrf.us

Jurisdiction Profile

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

Date of Incorporation: 1880

Current Population: The 2020 U.S. Census population was 11,717. The 2022 U.S. Census estimate indicated the population was 11,327.

Population Growth: The overall population has increased by 3.89% between 2018 and 2022.

Location and Description: River Forest is located on the west boundary of the City of Chicago, 12 miles from the Chicago Loop. The Village is landlocked in a 2.5 square mile area. The Village boundaries include the Des Plaines River on the west, North Avenue to the north, Harlem Avenue on the east and Madison Street to the south. Twenty-nine percent of the village is forest preserve and fifty percent of the village is tax exempt, including schools, churches, universities (Concordia & Dominican) and government properties (village, park district, library district etc.). River Forest is an affluent community with significant architectural structures, predominately designed by Frank Lloyd Wright. River Forest is in Mutual Aid Box Alarm System Division XI that encompasses 23.59 square miles, protecting a population of 234,560 from 13 stations, with 13 engines, 16 ambulances, 7 aeriels and 339 firefighter personnel, responding to 32,153 emergencies in 2012. The Village is also a member of WEDGE that investigates and handles major criminal activity involving drugs and or gangs, in a 10 town area, with approximately 200,000 population. The Village also is a member of the Illinois Public Works Mutual Aid Network with a mission to provide resources (Public Works equipment) in the event of a major disaster. River Forest is home to Cook County Forest Preserve Headquarters, Trailside Museum, Concordia University, Dominican University (formerly Rosary College) and Trinity High School.

Brief History: First non-native settler was Ashbelle Steele, who established a sawmill in 1836. He also built the first brick school house “Harlem School” at Lake and Park Avenues in 1859 (remains as

River Forest District 90 Administration Building). Mr. Steele served as Cook County Sheriff (1840), then coroner, and the postmaster of western Cook County.

Climate: The climate of River Forest and the Chicago area 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, and peaks in the months of May and June. Winter proves quite variable. Seasonal snowfall in the Village has ranged 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 unpredictable season. Winter like conditions can persist well into April and even occasionally into May. Thunderstorms are especially prevalent in the spring time as the areas lakeside location makes it a center of conflicts between large volumes of warmer and colder air, triggering many kinds of 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 the autumn season. 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 average first accumulating snow occurs around Nov 19.

Governing Body Format: The Village of River Forest operates with a President/Administrator form of government which includes six Trustees, one Clerk one President and five department heads (Fire, Police, Public Works, Finance and Administration). This body of Government will assume the responsibility for the adoption and implementation of this plan in conjunction with Cook County.

Development Trends: The North Avenue, Harlem Avenue, and Madison Street corridors, and Des Plaines River help form the Village's borders and Lake Street passes through the heart of River Forest’s historic “Village Center” and lays adjacent to Metra’s Union Pacific West line. The Village of River Forest is committed to fostering economic development and working with developers, potential business owners and current businesses to provide a flexible and predictable development environment. River Forest is predominantly a residential community with a mix of moderate and very high-end properties that see about 6 -10 renovations each year. Last major commercial development was Town Center I & II in the mid-1990s with several single developments since. Additions to both Universities, small developments on North Avenue, Madison Street and Lake Street are the extent of current development. Active development is consistent with regional trend. There are proposal's for residential and retail spaces within River Forest.

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 the *Administrative and Technical Capability Table* below.

Information on the community's National Flood Insurance Program (NFIP) compliance is presented in the *National Flood Insurance Program Compliance Table* below. Classifications under various community mitigation programs are presented in the *Community Classifications Table* below.

TABLE: LEGAL AND REGULATORY CAPABILITY					
	Local Authority	State or Federal Prohibitions	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements					
Building Code	Yes	No	No	No	River Forest Municipal Code Title 4, Chapter 1 Building Codes (4-1- 1-12). 1981
Zonings	Yes	No	No	Yes	River Forest Municipal Code Title 10, Chapter 1-24 Zoning. 1981
Subdivisions	Yes	No	No	No	River Forest Municipal Code Title 10, Chapter 6 Zoning Districts (10-6-1). 1981
Stormwater Management	Yes	No	Yes	Yes	State regulates industrial activity from Construction sites 1 acre or larger under section 402 CWA. Title 4, Chapter 13 River Forest Municipal Code (4-13-1). 7/14/1986
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	River Forest Municipal Code Title 10, Chapter 17 Site Plan Review (10-17-2). 5/23/1995

Public Health and Safety	Yes	No	Yes	Yes	Cook County Board of Health. River Forest Municipal Code Title 6, Chapters 1-9 Health & Sanitation, Title 7, Chapter 1-8 Fire Regulation
Environmental Protection	No	No	No	No	
Planning Documents					
General or Comprehensive Plan	Yes	No	No	No	2003
<i>Is the plan equipped to provide integration to this mitigation plan?</i>					Yes by amendment
Floodplain or Basin Plan	Yes	No	Village of River Forest	No	River Forest Municipal Code Title 4, Chapter 17 (4-12-1) Flood Plain Regulations. 2-10-1992 Amended 6/23/08
Stormwater Plan	Yes	No	MWRD & Village of Forest	No	Regional stormwater impacts are managed by MWRD. The Village lies within the Lower Des Plaines River watershed planning area of MWRD's comprehensive Stormwater Master Planning Program. River Forest works in conjunction with MWRD on permits. River Forest Municipal Code Title 4, Chapter 17 Grading Permits (4-17-1). 10/8/2012

Capital Improvement Plan	Yes	No	No	No	River Forest CIP to include Municipal facilities
What types of capital facilities does the plan address?					Municipal complex, Public Works bldg., Water facility (Pump Station & Water Tower), streets, Water mains & Sewer lines.
How often is the plan revised/updated?					Revised 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	
Response/Recovery Planning					
Comprehensive Emergency Management Plan	Yes	No	Yes	Yes	River Forest EOP
Threat and Hazard Identification and Risk Assessment	No	No	Yes	No	Cook County EMRS Preparing THIRA
Terrorism Plan	No	No	Yes	Yes	Cook County EMRS
Post-Disaster Recovery Plan	No	No	Yes	Yes	Cook County EMRS
Continuity of Operations Plan	No	No	Yes	No	Cook County EMRS

Public Health Plans	Yes	No	Yes	No	Tripcom Pharmaceutical Distribution & 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	Building & Zoning Inspector
Engineers or professionals trained in building or infrastructure construction practices	Yes	Village Engineer, Building Inspector & Public Works Superintendent
Planners or engineers with an understanding of natural hazards	Yes	Village Engineer
Staff with training in benefit/cost analysis	Yes	Finance Director
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	GIS Consultant
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	Fire Chief
Grant writers	No	

TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE	
What department is responsible for floodplain management in your jurisdiction?	Public Works
Who is your jurisdiction's floodplain administrator? (department/position)	Public Works- Village Engineer
Are any certified floodplain managers on staff in your jurisdiction?	Yes
What is the date of adoption of your flood damage prevention ordinance?	February 10, 1992, Flood Plain Regulations

When was the most recent Community Assistance Visit or Community Assistance Contact?	5/23/2001
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)	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?	Yes (7), not at this time.

NFIP Participation Activities

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

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

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

- Our staff provide the following services: permit reviews, GIS, inspections, engineering capability.
- Our community enforces local floodplain regulations and monitors compliance.
- Our floodplain development regulations meet or exceed Federal Emergency Management Agency (FEMA) or State minimum requirements.

Substantial Improvement Rule and the Substantial Damage Rule

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

Existing Municipal Code:

4-12-2 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 percent 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 (10)-year period, in which the cost of the repairs, on average, equals or exceeds twenty-five percent (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 taking place during a five (5)-year period 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 fifty percent (50%).

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 Buildings 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 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
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 Building's continued designation as a Historic Structure.

4-12-3 Administration

A. Floodplain Development Permit:

1. 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 of Public Works. No permit shall be issued by the Director of Public Works until the requirements of this Chapter have been met.

B. Duties of the Director of Public Works. It shall be the duty of the Director of Public Works to:

1. Check all new Development sites to determine whether they are in a Floodplain using criteria listed in Section 4-12-4 of this Chapter or for Critical Facilities, using the 0.2% annual chance flood elevation, if defined.
2. If the site is in a Floodplain, determine whether the site is in a Floodway, Flood Fringe or in a Floodplain for which a detailed study has not been conducted.
3. If the site is within a Flood Fringe, require that the minimum requirements of Sections 4-12-5 and 4-12-8 of this Chapter be met.
4. If the site is within a Floodway, require that the minimum requirements of Sections 4-12-6 and 4-12-8 of this Chapter be met.

5. If the site is located within a Floodplain for which no detailed study has been completed and approved, require that the minimum requirements of Sections 4-12-7 and 4-12-8 of this Chapter be met.

13. Establish procedures for administering and documenting determinations, as outlined below, of Substantial Improvement and Substantial Damage made pursuant this Chapter.

- a. 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.
- b. 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.
- c. Determine and document whether the proposed work constitutes Substantial Improvement or Substantial Damage.
- d. 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.

4-12-8 Permitting Requirements Applicable to all Floodplain Areas

In addition to the requirements found in Sections 4-12-5, 4-12-6 and 4-12-7 for Development in Flood Fringes, Designated Floodways, and Floodplains where no Floodways have been identified, the following requirements shall be met. Where an existing or proposed Building or other Development is affected by multiple flood zones, by multiple BFEs, or both, the Development activity must comply with the provisions of the Ordinance applicable to the most restrictive flood zone and the highest base flood elevation affecting any part of the existing or proposed Building, or for other developments, affecting any part of the Development area.

C. Protecting Buildings:

1. In addition to the damage prevention requirements in this Chapter, all Buildings located within a Floodplain, shall be protected from Flood damage below the FPE. This Building protection criteria applies to the following situations:
 - a. New Construction or placement of a new Building or alteration or addition to an existing Building.
 - b. Substantial Improvements, made to any existing Building. If substantially improved, both the existing Building and any addition must meet the Flood protection standards of this Section.
 - c. Substantially Damaged Building under repair. Substantial Damage shall be figured cumulatively during a ten (10)-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. If Substantially Damaged, the entire Building must meet the Flood Protection standards of this Section.

d. Installing a Manufactured Home on a new site or a Manufactured Home on an existing site.

2. Residential Buildings: In zones A, AO, AH, and AE, the lowest floor, including Basement, of New Construction of residential Buildings, and Substantially Improved residential Buildings, must be elevated to the FPE, and are subject to the more specific additional requirements below.

a. If fill, including grading to redistribute onsite material to alter existing topography, is used as a means of elevation:

- (1) The fill shall be placed in layers no greater than six inches before compaction and must extend at least twenty (20) feet beyond the foundation before sloping below the FPE in lieu of a geotechnical report.
- (2) The fill shall be protected against erosion and scour during flooding by vegetative cover, riprap, or other structural measure.
- (3) The fill shall be composed of clean rock or soil and not include debris or refuse material.
- (4) The fill shall not adversely affect the flow of surface drainage from or onto neighboring properties.

b. If the Building's lowest floor is elevated above ground level with an enclosed or unenclosed area below the lowest floor:

- (1) The Building shall be elevated on piles, walls, columns, or other foundation that is permanently open to floodwaters.
- (2) All enclosed areas below the FPE shall provide for equalization of hydrostatic pressures by allowing the automatic entry and exit of floodwaters. A minimum of two (2) permanent openings shall be provided on at least two walls located below the BFE and no more than one (1) foot above finished grade. The openings shall provide a total net area of not less than one (1) square inch for every one (1) square foot of enclosed area subject to flooding, or the design must be certified by a Registered P.E. as providing the equivalent performance in accordance with accepted standards of practice. Refer to FEMA TB1, Openings in Foundation Walls and Walls of Enclosures, for additional guidance.
- (3) All electrical lines, switches, receptacles, and fixtures must be located above the FPE except to the minimum extent required by applicable building or lifesafety codes. Any switches, receptacles, and/or fixtures required by applicable building or life-safety codes to extend below the FPE shall be rated, or located in enclosures rated, for prolonged submersion.
- (4) The Building, foundation, and supporting members shall be adequately anchored to prevent flotation, collapse, or lateral movement of the Building resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, and be designed so as to minimize exposure to current, waves, ice, and floating debris.
- (5) All Building components below the FPE shall be constructed of materials resistant to Flood damage.
- (6) Water and sewer pipes, electrical and telephone lines, submersible pumps, and other service facilities may be located below the FPE provided they are waterproofed.
- (7) The area below the FPE shall be used solely for parking, storage, or building access and not later modified or occupied as habitable space.

3. 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:

- a. Be elevated to or above the FPE, subject to the more specific additional requirements of Sections 4-12-8(C) above; or
- b. 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:
 - (1) 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.
 - (2) The Building design accounts for Flood velocities, duration, rate of rise, hydrostatic and hydrodynamic forces, the effects of buoyancy, and impact from debris and ice.
 - (3) Floodproofing measures will be incorporated into the Building design and operable without human intervention and without an outside source of electricity.
 - (4) The Building, utility, and sanitary facilities' design and construction will prevent the effect of sewer backup into the building.
 - (5) Levees, berms, floodwalls, and similar works are not considered Floodproofing for the purpose of this Chapter.

4. In zones A, AO, AH, and AE, all placement or substantial improvement of Manufactured Homes and permanent installation of travel trailers on site for more than one hundred and eighty (180) consecutive days, shall be:

- a. Elevated with the Lowest Floor at or above the FPE using a support and anchoring system, designed by a P.E. pursuant to 77 Ill. Adm. Code § 870.110.
- b. Anchored to resist flotation, collapse, or lateral movement by being tied down in accordance with the rules and regulations for the Illinois Mobile Home Tie-Down Act issued pursuant to 77 Ill. Adm. Code § 870.220

8. The repair, remodeling, or maintenance of existing Buildings located within a Designated Floodway, built before November 18, 1987, are exempt from 17 Ill. Adm. Code Part 3708, including the more restrictive Appropriate Use standards. Such Buildings are not exempt from Section 4-12-8(C)(1), including Substantial Damage and Substantial Improvement requirements, and if enlarged, replaced, or structurally altered must meet the requirements of 17 Ill. Adm. Code Part 3708.

9. New Construction or Substantial Improvement of Critical Facilities within the floodplain or the 0.2 percent annual chance flood elevation when defined, shall have the lowest floor (including basement) elevated or structurally dry floodproofed to the 0.2 percent annual chance flood elevation or three feet above the BFE, whichever is greater. Adequate parking shall be provided for staffing of the critical facilities at or above the BFE or 0.2 percent chance flood, when defined. Access routes to all critical facilities should be reviewed and considered when permitting. Access routes should be elevated to or above the level of the BFE.

Floodproofing and sealing measures may also be used to provide protection, as described in Section 4-12-6, and must be taken to ensure that toxic substances will not be displaced by or released into floodwaters.

Critical Facilities include emergency services facilities (such as fire and police stations), schools, hospitals, retirement homes, and senior care facilities.

TABLE: COMMUNITY CLASSIFICATIONS			
	Participating?	Classification	Date Classified
Community Rating System	Yes	7	6/15/2012
Building Code Effectiveness Grading Schedule	No	Unknown	-
Public Protection/ISO	Yes	(IOS)3	9/15/2009
StormReady	Yes	Gold (Countywide)	2014
Tree City USA	Yes		Annually since 1999

Opportunities to Expand and Improve Capabilities

Opportunities to expand and improve capabilities include grant writing and improved building codes.

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

Emergency Plan Integration:

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

Emergency Operations Plan (EOP)

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

Continuity of Operations Plan (COOP)

The Continuity of Operations Plan (COOP) for the municipality includes a Situation section that is based on the 2019 Cook County MJ-HMP jurisdictional annex, and specifically the hazards identified in the annex. The COOP-specific risk assessment is hazard-specific and based on likelihood of occurrence and severity of impact.

Recovery Plan

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

Other Residential)

- Number of FEMA-Identified Repetitive Loss Properties: None
- Number of FEMA-Identified Severe Repetitive Loss Properties: None
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: None

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
Severe Weather/Flood	-	6/15/2015	Both directions of I-290 were flooded and closed between Harlem Avenue and Desplaines Avenue.
Hail	-	8/1/2014	-
Flood	DR-4116	4/26/2013	-
Severe Winter Storm	DR-1960	1/31/2011	\$100,000
Flood	DR-1935	7/19/2010	\$500,000
Severe Weather/Flood		6/24/2009	Standing water was reported on right the side of Interstate 290 at Austin Blvd.
Flood	DR-1800	9/13/2008	\$2,000,000 - Many roads in River Forest were closed due to flooding
Flood	DR-1729	8/20/2007	\$1,250,000

Hail		6/28/2006	\$15,000 - Quarter size hail was reported in River Forest and lasted 10 minutes. The hail caused damage to cars and windows.
Flood	DR-1188	8/16/1997	-
Flood	DR-798	8/13/1987	-
Flood	DR-776	9/21/1986	-

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: Previously, heavy rain has caused flooding on Keystone Ave between Division St. and Thomas St. Des Plaines River overflows banks and floods neighborhoods along Chicago Ave. and Lake St. In 2008, Heavy rainfall caused major flooding of the Des Plaines River at Des Plaines and Riverside. The river crested at the second highest level on record at both locations. The crest was 10.00 feet at Des Plaines and 9.86 feet at Riverside. Officials in Des Plaines urged residents along the Des Plaines River to evacuate as waters rose to near record levels. Many roads in River Forest were closed. In 2015, both directions of I-290 were flooded and closed between Harlem Avenue and Desplaines Avenue due to urban flooding. In 2009, standing water was reported on right the side of Interstate 290 at Austin Blvd after severe thunderstorms and rain.

Extreme Heat: The Village is particularly susceptible to the impacts of extreme heat because of the large elderly population ([17.9% of the population are 62 or over](#)). While no recorded extreme heat events have occurred, the summers have continually become hotter.

High Winds: The heavy density of mature trees throughout the Village are susceptible to damage from high winds. In 2008, trees and large tree limbs were blown down along Wenonah Avenue. A large tree was uprooted along Clinton Avenue and fell onto a house causing damage to the roof and gutters. In 2011, a one-foot diameter branch was blown down with numerous smaller branches on Harvard Street between Clarence Avenue and East Avenue.

Extreme Cold: The Village's large elderly population is vulnerable to extreme cold.

Ice Storms: Large mature trees and overhead power lines throughout the Village are vulnerable to damage from the weight of ice from ice storms. In 2006, quarter size hail was reported in River Forest and lasted 10 minutes. The hail caused damage to cars and windows.

Earthquake: While no earthquake has hit the Village, the Village wants to be prepared given the potential widespread impact an earthquake can have.

Wildfire (Wildfire Smoke): We have a large Cook County Forest Preserve in our village which has seen some wildfires within it over the past few years.

Indicator	Number	Percent
Families in poverty	35	1.3%
People with disabilities	882	8.1%
People over 65 years	1,884	17.3%
People under 5 years	792	7.3%
People of color	2,151	19.8%
Black	724	6.7%
Native American	0	0%

Hispanic	707	6.5%
Difficulty with English	166	1.6%
Households with no car	179	4.4%
Mobile homes	0	0%

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	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
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 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
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 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
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 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.

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

New Mitigation Actions

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

Action R-3.22

Mitigation Action #22: Update to the current building codes from 2018 to 2024.					
Lead Agency/Department Organization: Village Administration	Supporting Agencies/ Organizations: Building Department	Estimated Cost: Medium	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: All
Year Initiated		2025			
Applicable Jurisdiction		River Forest			
Applicable Goal		1,2,3,6			
Applicable Objective		1,2,5,10			
Cost Analysis (Low, Medium, High)		Medium			
Priority and Level of Importance (Low, Medium, High)		Medium			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Medium			
Action/Implementation Plan and Project Description:		Update to the current building codes from 2018 to 2024.			
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 R-3.1

Mitigation Action #1: Property Protection – Acquire 5 parcels in a flood area along the 8200 block of Lake St., due to repetitive loss. Demolish and preserve for open space.					
Lead Agency/Department Organization: Village Administration	Supporting Agencies/ Organizations:	Estimated Cost: \$2.1 million; High	Potential Funding Source: FEMA Hazard Mitigation Grant, HMGP, BRIC, FMA	Estimated Projected Completion Date: Short-term Dependent upon funding	Hazard(s) Mitigated: Flooding
Year Initiated		2014			
Applicable Jurisdiction		River Forest			
Applicable Goal		1,2,3			
Applicable Objective		1,7			
Cost Analysis (Low, Medium, High)		High			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		High			
Action/Implementation Plan and Project Description:		Acquired one property at 8241 Lake Street. Structure was demolished and green space is used as a buffer at this time. Four more properties remain for acquisition.			
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		O			

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

Action R-3.2

Mitigation Action #2: Property Protection – Assist residents in flood prone areas with the cost of retro-fitting an overhead sewer system.					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: \$65,000; Low	Potential Funding Source: River Forest General Fund	Estimated Projected Completion Date: Annual, ongoing	Hazard(s) Mitigated: Flooding
Year Initiated	2014				
Applicable Jurisdiction	River Forest				
Applicable Goal	1,2,3				
Applicable Objective	1, 7, 11, 12				
Cost Analysis (Low, Medium, High)	Low				
Priority and Level of Importance (Low, Medium, High)	High				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	High				
Action/Implementation Plan and Project Description:	Expenditure of \$20,250 from Water/Sewer Fund to install 5 over-head sewer lines in residents homes.				
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 R-3.3

Mitigation Action #3: Public Education – Perform Community outreach through the use of mass notification. Alerting residents of potential natural hazards such as heavy snow events and floods, how to prepare, and steps to take to reduce loss of property through proper pre-event planning.					
Lead Agency/Department Organization: Admin, Fire, Police, Public Works	Supporting Agencies/ Organizations:	Estimated Cost: \$10,000	Potential Funding Source: River Forest General Fund	Estimated Projected Completion Date: Annual, ongoing	Hazard(s) Mitigated: All Hazards
Year Initiated		2014			
Applicable Jurisdiction		River Forest			
Applicable Goal		1,2,3			
Applicable Objective		6			
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:		Blackboard Connect utilized for notification to residents and business owners of potentially dangerous conditions.			
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 R-3.4

Mitigation Action #4: Structural Projects – Encourage use of permeable pavers for new driveways or parking lots.

Lead Agency/Department Organization: Planning	Supporting Agencies/ Organizations:	Estimated Cost: Low	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: Flooding, Severe Weather
Year Initiated	2014				
Applicable Jurisdiction	River Forest				
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)	High				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium				
Action/Implementation Plan and Project Description:	Encourage residents when building or replacing drives to use permeable paver. Used Village funds to install permeable paver in Gale Avenue Alley.				
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 R-3.5

Mitigation Action #5: Structural Projects – Increase the height & length of the earthen berm along Lake St. near Des Plaines River to reduce the overflow of the river and channel excess water away from homes in the area.					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: \$10,000; Low	Potential Funding Source: River Forest, General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: Flooding
Year Initiated	2014				

Applicable Jurisdiction	River Forest
Applicable Goal	1,2,3
Applicable Objective	1, 2, 9, 12
Cost Analysis (Low, Medium, High)	Low
Priority and Level of Importance (Low, Medium, High)	High
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	High
Action/Implementation Plan and Project Description:	Berm along Lake Street increased with only a small section remaining to improve.
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 R-3.8

Mitigation Action #8: Emergency Services – Conduct pre-event planning meeting including all village public safety entities, to plan for and mitigate significant natural hazard events. Perform function tests on essential equipment such as pumps, generators and other equipment. Advance preparation of artificial berms, sandbags and pre-placement of barricades, initiate call-out of volunteer groups.					
Lead Agency/Department Organization: Admin, Fire, Police, Public Works	Supporting Agencies/ Organizations:	Estimated Cost: Low	Potential Funding Source: River Forest CIP & General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: All
Year Initiated		2014			
Applicable Jurisdiction		River Forest			
Applicable Goal		1,2,3			
Applicable Objective		2.8			

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:	Regular testing of pumps, generators and other equipment. Procedures in place for preparation of artificial berms, sandbags and barricades. Regular communication with Citizens' Corps.
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 R-3.9

Mitigation Action #9: Prevention – Provide sandbags and plastic sheeting to residents in anticipation of heavy rains with Des Plaines River at high levels. Provide public information to residents on where and how to secure materials.					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: Low	Potential Funding Source: River Forest Emergency Plan, General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: Flooding
Year Initiated	2014				
Applicable Jurisdiction	River Forest				
Applicable Goal	1,2,3,5,6				
Applicable Objective	2, 9, 12				
Cost Analysis (Low, Medium, High)	Low				
Priority and Level of Importance (Low, Medium, High)	High				

Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	High
Action/Implementation Plan and Project Description:	Sandbags, plastic sheeting and de-watering pumps are available at the Village and information is sent out in newsletters, emergency notification system and direct public education sessions.
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 R-3.10

Mitigation Action #10: Emergency Services – Continue to participate in mutual aid agreement, but also in agreements with contiguous municipalities for cooperative response to all hazards and disasters.					
Lead Agency/Department Organization: Fire, Police, Public Works	Supporting Agencies/ Organizations:	Estimated Cost: Low	Potential Funding Source: River Forest CIP & General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: All
Year Initiated	2014				
Applicable Jurisdiction	River Forest				
Applicable Goal	1,2,3,4,5,6				
Applicable Objective	1,8				
Cost Analysis (Low, Medium, High)	Low				
Priority and Level of Importance (Low, Medium, High)	High				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	High				

Action/Implementation Plan and Project Description:	Mutual aid agreements are developed and signed for public safety (Fire - MABAS, Police - ILEAS and Public Works - IPWMAN). We remain working on agreements with contiguous municipalities on Public Works equipment.
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 R-3.11

Mitigation Action #11: Prevention – Develop and implement ‘Damage Assessment’ program and take structural inventory during assessment baseline to determine where unreinforced masonry buildings exist in our community.					
Lead Agency/Department Organization: Fire, Public Works	Supporting Agencies/ Organizations:	Estimated Cost: Low	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: Earthquake
Year Initiated	2014				
Applicable Jurisdiction	River Forest				
Applicable Goal	1,5				
Applicable Objective	2,6				
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:					
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority	O				

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	
--	--

Action R-3.13

Mitigation Action #13: Prevention – Maintain Village ‘Emergency Notification’ system (Blackboard Connect)					
Lead Agency/Department Organization: Village Administration	Supporting Agencies/ Organizations:	Estimated Cost: \$10,000; Low	Potential Funding Source: River Forest General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: All
Year Initiated	2014				
Applicable Jurisdiction	River Forest				
Applicable Goal	1,2,3				
Applicable Objective	5,6				
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)	High				
Action/Implementation Plan and Project Description:	The Village notification system is being upgraded from voice to voice, email & text messages. Further social media is in the process of review.				
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 R-3.15

Mitigation Action #15: Education – Public education program that teaches home and business owners how to ‘Harden’ structures by securing water heaters, furnaces and other fossil fuel appliances.					
Lead Agency/Department Organization: CERT	Supporting Agencies/ Organizations:	Estimated Cost: \$10,000; Low	Potential Funding Source: Grant (BRIC), General Fund	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: Earthquake
Year Initiated		2014			
Applicable Jurisdiction		River Forest			
Applicable Goal		1,2,3,4,5,6			
Applicable Objective		6			
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:		Working with our Emergency Operation Plan in securing appliance to walls. Using media outlets and our Citizen Corp. Council to bring information to our community. 'Central Great ShakeOut' campaign and the facts about the New Madrid Seismic Zone.			
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 R-3.16

Mitigation Action #16: Continue to support the countywide actions identified in this plan.

Lead Agency/Department Organization: Village Administration	Supporting Agencies/ Organizations:	Estimated Cost: Low	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short- and Long-term	Hazard(s) Mitigated: All
Year Initiated		2014			
Applicable Jurisdiction		River Forest			
Applicable Goal		1,5			
Applicable Objective		All			
Cost Analysis (Low, Medium, High)		Low			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Medium			
Action/Implementation Plan and Project Description:		We support the on-going county-wide plans for hazard mitigation.			
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 R-3.17

Mitigation Action #17: Actively participate in the plan maintenance strategy identified in this plan.					
Lead Agency/Department Organization: EMRS, 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	River Forest
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)	Low
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 R-3.18

Mitigation Action #18: Purchase properties on 8200 block of Lake St. and preserve as open space due to repetitive loss from flooding					
Lead Agency/Department Organization: Village Administration	Supporting Agencies/ Organizations:	Estimated Cost: \$1,500,000; Medium	Potential Funding Source: BRIC, HMGP	Estimated Projected Completion Date: 2025	Hazard(s) Mitigated: Flooding
Year Initiated		2018			
Applicable Jurisdiction		River Forest			
Applicable Goal		1,2,5,6			
Applicable Objective		3,7			

Cost Analysis (Low, Medium, High)	Medium—The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over
Priority and Level of Importance (Low, Medium, High)	Low
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Repetitive loss from flooding Medium—Project will have a long-term impact on the reduction of risk exposure for life and property, or project will provide an immediate reduction in the risk exposure for property.
Action/Implementation Plan and Project Description:	Long-term plan to purchase 5 properties on the south side of 8200 block of Lake Street. All 5 properties routinely incur flood damage when the Des Plaines River floods. The Project would convert properties to green space and provide a barrier to prevent flood damage to neighboring properties. One property already purchased and converted to green space. Remaining properties to be acquired as they become reasonably available.
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 R-3.21

Mitigation Action #21: Replace all alleys with permeable alleys.					
Lead Agency/Department Organization: Village Administration	Supporting Agencies/ Organizations:	Estimated Cost: \$4.5 million	Potential Funding Source: HMGP, BRIC	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: Flooding
Year Initiated	2021				
Applicable Jurisdiction	River Forest				
Applicable Goal	2,3				

Applicable Objective	2, 3
Cost Analysis (Low, Medium, High)	Medium—The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
Priority and Level of Importance (Low, Medium, High)	High
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Increase in combined sewer capacity due to infiltration. Reduction in yard/alley flooding during heavy rain events. Medium—Project will have a long-term impact on the reduction of risk exposure for life and property, or project will provide an immediate reduction in the risk exposure for property.
Action/Implementation Plan and Project Description:	All remaining alleys (14) that do not already include permeable elements will be reconstructed within the next 15 months. They will include permeable pavers and open-graded stone subbase to promote infiltration to alleviate the already over-burdened combined sewer system.
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	O

Completed Actions

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

Completed Action Items
Structural Projects—Construction of a new separate storm sewer system, North of Division Street, reducing potential for flooding by improving storm water drainage.
Prevention—Modify building code to include specific grading requirements to reduce storm water run-off onto adjacent properties.

Prevention – Acquire 4' X 10' concrete barriers to contain flood waters at Chicago Ave in an effort to prevent residential flooding in the Thatcher Woods area (Trailside Museum).
Prevention – Upgrade severe weather warning system
Implement the River Forest - Gale Avenue Green Alley Improvement
Complete the Stormwater Master Plan Study

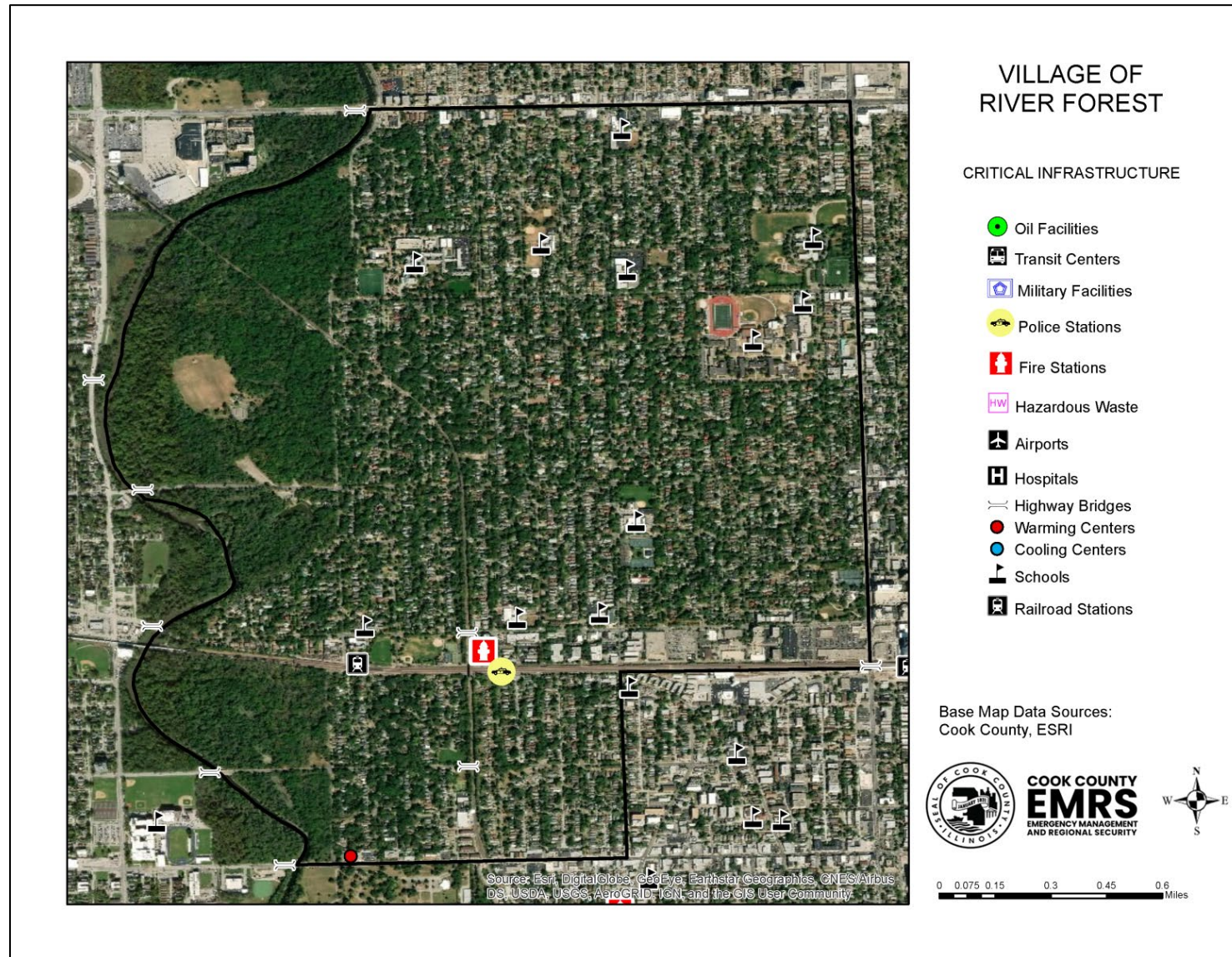
Future Needs to Better Understand Risk/Vulnerability

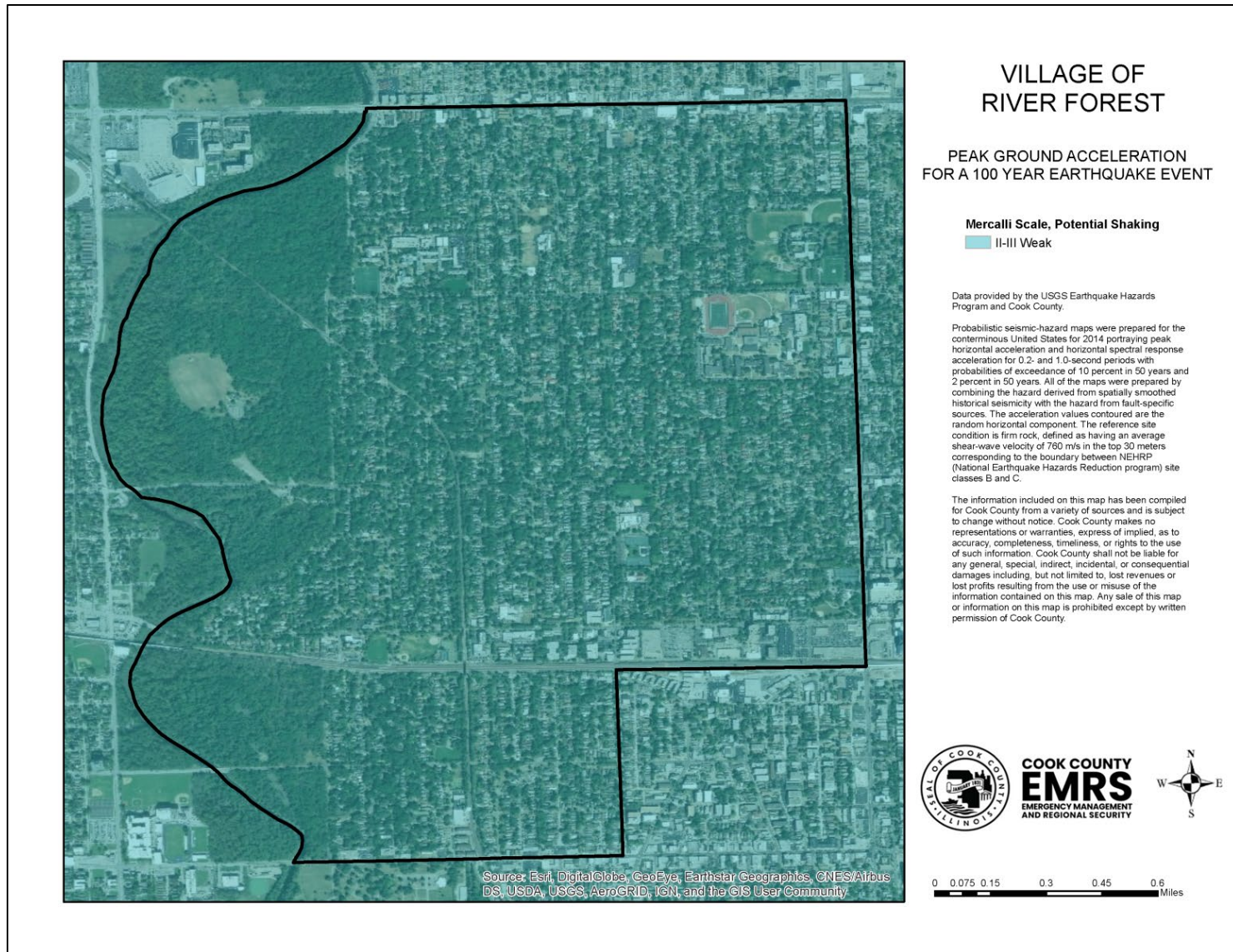
No future needs have been identified at this time.

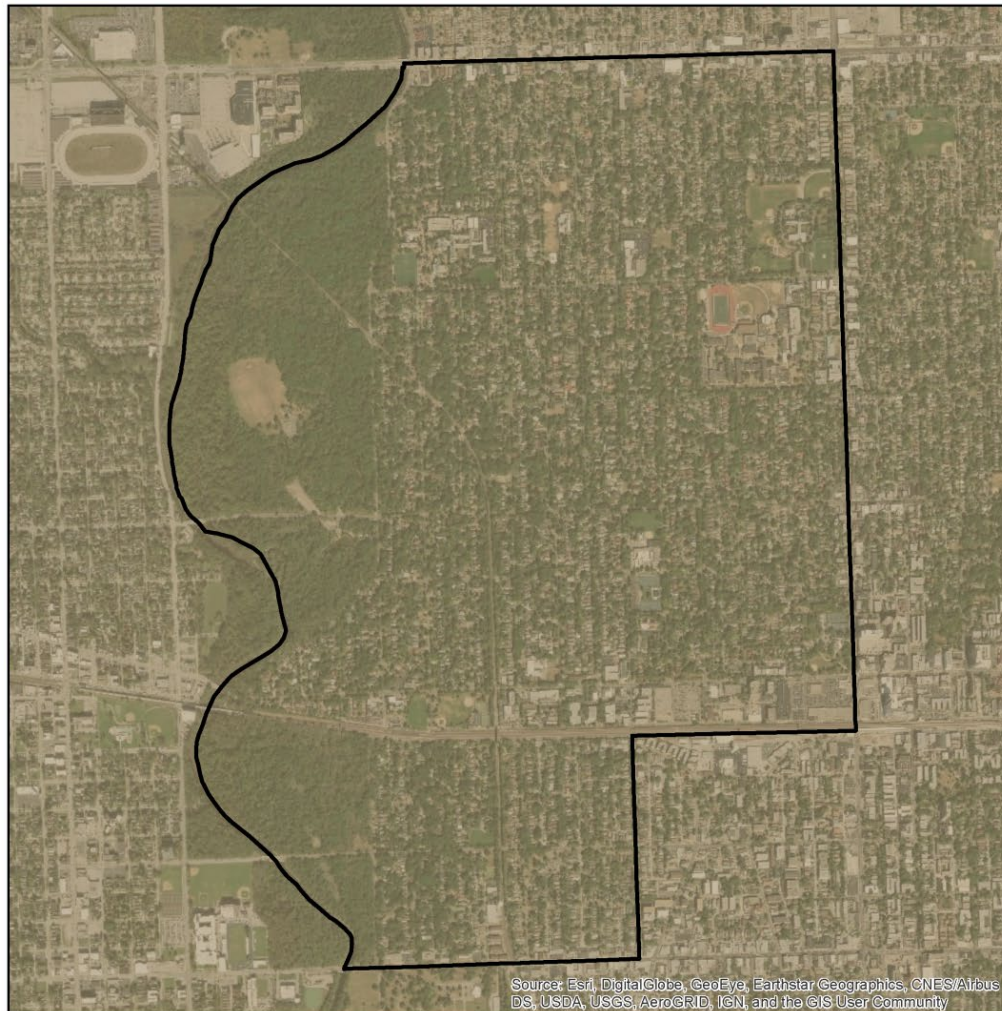
Additional Comments

None at this time.

Hazard Mapping







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

VILLAGE OF RIVER FOREST

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 State (East of 102 degrees West Longitude) by David S. Fullerton, Charles A. Bush and Jean N. Pennell (2003) was the base map used for this work. Each State Geological Survey produced its own state map version of the Soil Site Class and Liquefaction Susceptibility maps. The procedures outlined in the NEHRP provisions (Building Seismic Safety Council, 2004) and the 2003 International Building Codes (International Code Council, 2002) were followed to produce the soil site class maps. CUSEC State Geologists used the entire column of soils material down to bedrock and did not include any bedrock in the calculation of the average shear wave velocity for the column, since it is the soil column and the difference in shear wave velocity of the soils in comparison to the bedrock which influences much of the amplification.

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

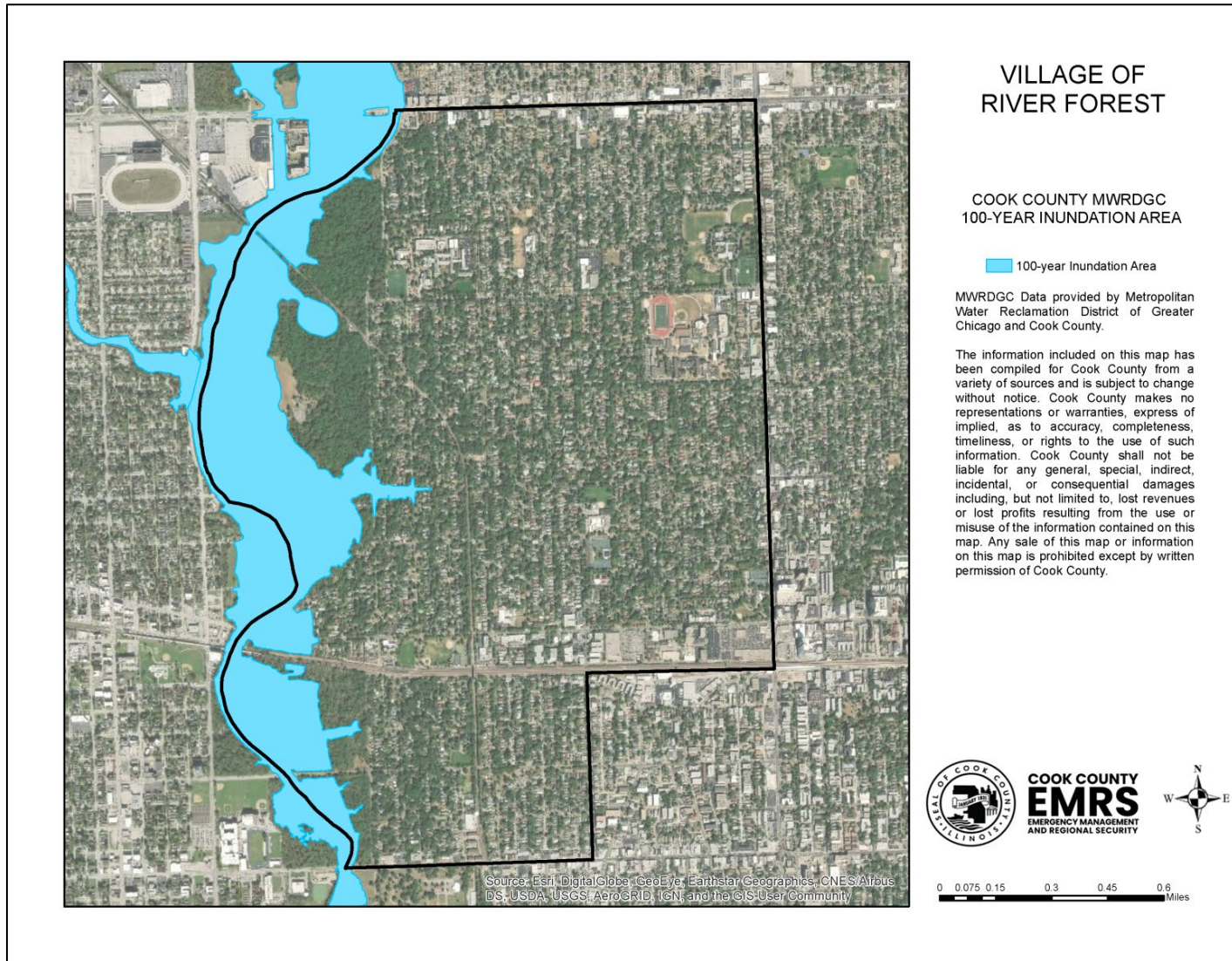


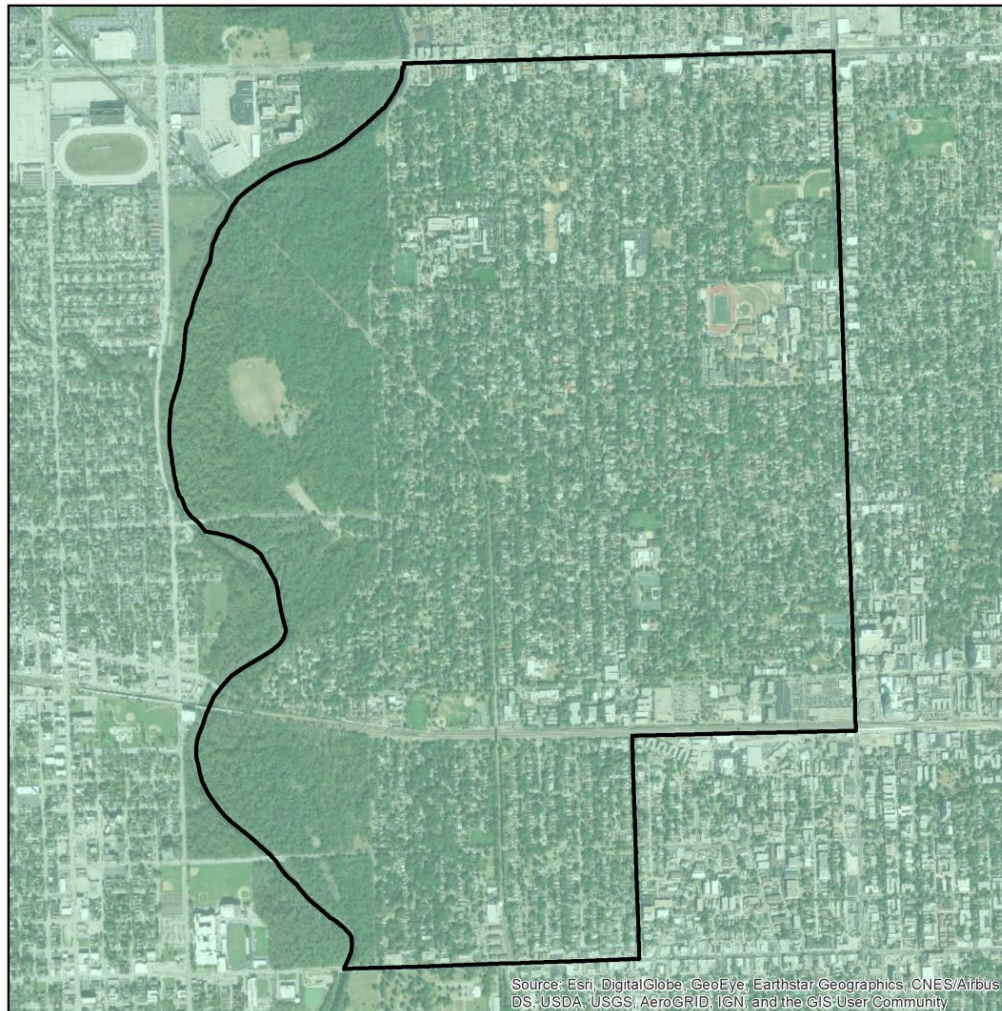
COOK COUNTY
EMRS
EMERGENCY MANAGEMENT
AND REGIONAL SECURITY



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>.





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

VILLAGE OF RIVER FOREST

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.

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



COOK COUNTY
EMRS
EMERGENCY MANAGEMENT
AND REGIONAL SECURITY



0 0.075 0.15 0.3 0.45 0.6 Miles

