

River Grove

Hazard Mitigation Plan Point of Contact

Primary Point of Contact	Alternate Point of Contact
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Jurisdiction Profile

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

Date of Incorporation: 1888

Current Population: The 2020 U.S. Census population was 10,612. The 2022 U.S. Census estimate indicated the population was 10,391.

Population Growth: The overall population has increased by 4.13% between 2018 and 2022.

Location and Description: The Village of River Grove is a suburb of Chicago located approximately 2 miles west of Chicago with a residential population of approximately 10,227. Suburbs adjacent to River Grove include: Schiller Park and Dunning to the north, River Forest and Stone Park to the south, Elmwood Park to the east, and Franklin Park and Northlake to the west. River Grove is a 2 square mile urban area that includes 1 college, 2 high schools, 4 elementary schools and a variety of light industrial and commercial business. We define our community as suburban based on its relationship to the City of Chicago. The village of River Grove is a small community with a population of 10,227 people. Although we are a small community, we are located within a densely populated area. This area has many main transportation routes, which cut through our village. Also located within our village is the major rail that leads into one of the area's largest humps for the Canadian pacific Railroad. This facility has rail yards where freight trains are made up as well as the railroad's major repair shops. Amtrak rail service uses the main lines of the railroad as well as the local commuter rail service of Metra, which runs into downtown Chicago. Metra rail service has a station located within the village.

Brief History: River Grove's past remains visible in the open spaces that make up approximately 50 percent of the community. The river and forest land, once home to the Potawatomi, was not officially opened for sale in River Grove until 1833, although special exceptions were made in private purchases from Indians. One such instance was that of half- French, half-Indian Claude LaFramboise, who, in the 1829 Treaty of Prairie du Chien, received land along the Des Plaines River that encompassed most of what would become River Grove. In 1833 Framboise sold the northern half of his land to his sister and the other half to Jesse Walker. Walker's share eventually passed to

Walker's son-in-law, David Everett, who held Methodist services in his cabin. Triton College is now on the site of Everett's land. In 1834 Walker and Everett erected a bridge that crossed the Des Plaines River along an Indian trail, later Grand Avenue. A stagecoach line using the trail and bridge took passengers from Chicago to Galena. In the 1840s the Spencer brothers built a hotel at the crossing to cater to travelers. The hotel and the settlement were named Cazenovia after the brothers' hometown in New York. The area east of the river was later named Turner Park. In 1872 Richard Rhodes purchased land on the south side of Grand. He subdivided the 100 acres and put up six houses, calling the community Rhodes subdivision. A school and the First Presbyterian Church of River Park were established soon after. Both Rhodes and another subdivision west of the river, north of Grand near the railroad, were incorporated into River Grove in 1888. Altogether, this gave River Grove an estimated population of 200, four-fifths of whom were German. Until the 1920s most newcomers into the area were German, predominantly Lutheran. Almost all were blue-collar workers, the majority working for the Milwaukee Railroad yards in Franklin Park. In 1920 Volk Realty established the Chicago Home Gardens subdivision north of the Oak Park County Club and west of Elmwood Park. Village residents had electricity, gas lines, and telephone service; a bank, movie theater, and Catholic church all were erected within the decade. Population rose to 484 in 1920 and by 1930 was at 2,741. Triton College, on the village's southern border, opened in 1964. By 2000 River Grove's population had climbed to 10,668, with many of Irish, Polish, Croatian, and Italian heritage and a growing number of Hispanics. River Grove's vast amount of unoccupied space includes 350 acres of forest preserve, 290 acres of golf courses and cemeteries, 35 acres of public school property, and 6 acres of parkland.

Climate: The climate of Chicago is classified as humid continental with all four seasons distinctly represented: wet springs; hot and often 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.

Governing Body Format: The Village is run by a Village president and Village Clerk along with 6-Trustees that are voted on by the residents. This body of Government will assume the responsibility for the adoption and implementation of this plan. The Village offers full time service from Police, Fire, EMS, Public Works, Water Dept., recreation and human services.

Development Trends: The Village of River Grove has partnered with the Chicago Metropolitan Agency for Planning (CMAP) to create Reimagine River Grove, its first comprehensive plan and establish a vision and land use strategy for the village. The following information was outlined in the *River Grove Existing Conditions Report* (completed July 2023):

As noted, 72% of River Grove's current land uses are institutional, open space, or transportation. These land uses are tax-exempt, meaning the village and other taxing bodies do not receive any tax revenue from them. Revenues come from the remaining 28% of land uses, inclusive of all residences and business. Much of this is zoned for single family residences. Current land use patterns limit the amount of revenue that the village collects, and, in turn, the amount of services that can be provided. Stakeholders often note that River Grove is 'landlocked,' meaning there is not room to expand the community through new land. Strategies to promote infill development, meaning redevelopment of existing properties or sites within the village boundaries that are underutilized, can help make higher economic use of existing land.

Land uses in River Grove have not changed significantly over the past thirty years. This is somewhat expected – the village is established and there are few large, vacant parcels. A significant amount of new multi-family housing has been built or proposed in recent years. These developments add to the housing options available to current and potential residents and move vacant or tax-exempt properties onto the village tax rolls. Rhodes Elementary, one of the village’s two K-8 schools, completed a significant addition in 2022. However, River Grove School, which stakeholders have noted deals with issues from a lack of space, last expanded in 1999. Surrounding land uses have impacts on the feasibility of physical expansions. New distribution and warehousing space has come to the village’s southwest corner, taking advantage of connections to the freight rail line.

River Grove has 5 zoning classes, making up 12 total zoning districts. River Grove’s current zoning is reflective of existing land uses. Much of the community’s land is zoned for open space along with institutional uses (government and education district). Single family detached zoning (R1) is the predominant residential use, although roughly the same amount of households live in multi-family residences (apartments and condominiums) as single family homes. Zoning along major corridors, most notably along Grand Ave., is a mixture of commercial, residential, and government uses. Future changes to the zoning code will help implement plan recommendations for future land use changes.

The community is home to many locally-owned and operated businesses along with few national chains. Business owners noted the community’s tight-knit feel and easy access to regional transportation as reasons to locate within River Grove. The community is a part of the Grand Chamber By O’Hare, a merger of the Grand Corridor Chamber and the Chamber By O’Hare. Member communities include: Elmwood Park, Franklin Park, Leyden Township, Mont Clare neighborhood (Chicago), River Grove, and Schiller Park.

In addition to the above, the following River grove recent and Current Efforts were identified in the *River Grove Market Analysis* (completed February 2024):

- The redevelopment of Guerin Preparatory High School at the northeast corner of the village was approved and is under construction.
- In 2023, IDOT resurfaced Grand Avenue east of Thatcher and striped a lane for on-street parking. IDOT later determined that the striping was done by mistake and removed it. However, local businesses want on-street parking, and the Village is working with IDOT to re-stripe the lane.
- The Village recently purchased an auto-related use at the western end of Grand Avenue that will be turned into public parking. The Village is also building another public parking lot on a formerly single-family lot at Grand and Marwood, near the Village center.
- Starbucks was attracted through the Village’s economic development efforts 4-5 years ago to the main intersection of Grand and Thatcher. The location’s centrality and traffic counts would have been persuasive, and economic development incentives also helped.
- There is talk of Dollar Tree and an entertainment center for kids splitting the former banquet hall space at the Thatcher Woods shopping center. This would work alongside other discount retailers and would help fill a need for all-ages recreation.
- The River Grove Public Library plans to move to the former Ada’s European Market and Deli space on Grand just east of Thatcher in the village center. La Provincia, a Colombian restaurant, just opened in a formerly vacant space on Grand Avenue.
- The Village will consider combining the old library into the adjacent recreation center, adding another all-ages amenity.

- Go 2 Logistics opened in River Grove's industrial area south of Fullerton Road. This type of use is in line with an ongoing national and regional boom in logistics and warehousing serving online retail.
- The Village is working with multiple parties looking to redevelop vacant spaces on Grand, including a mix of uses in the former Palm Hardware building.

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	Yes	In accordance with Public Act 096-0704, Illinois has adopted the IBC as its state Building Code RGVC, Title 7, 6/21/2012
Zonings	Yes	No	No	Yes	(65 ILCS 5/) Illinois Municipal Code. RGVC, Title 6, 6/21/2013
Subdivisions	No	No	No	No	DNA
Stormwater Management	No	Yes	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	DNA
Site Plan Review	Yes	No	No	No	RGVC, Chapter 3,6-3-1, 6/21/2013
Public Health and Safety	No	No	Yes	Yes	Cook County Board of Health. RGVC, Title 4,6/21/2013
Environmental Protection	No	No	No	No	
Planning Documents					
General or Comprehensive Plan	Yes	No	No	No	Dec 2006
<i>Is the plan equipped to provide integration to this mitigation plan?</i>					Yes
Floodplain or Basin Plan	No	No	No	No	
Stormwater Plan	No	Yes	Yes	No	Regional stormwater impacts are managed by MWRD. The Village lies within the Lower Des Plaines watershed planning area of MWRD's comprehensive Stormwater Master Planning Program
Capital Improvement Plan	Yes	No	No	No	
<i>What types of capital facilities does the plan address?</i>					Water, Sewer, Infrastructure
<i>How often is the plan revised/updated?</i>					Yearly
Habitat Conservation Plan	No	No	No	No	

Economic Development Plan	Yes	No	Yes	Yes	Dec 2016
Shoreline Management Plan	No	No	No	No	
Response/Recovery Planning					
Comprehensive Emergency Management Plan	No	Yes	Yes	Yes	Cook County EMRS
Threat and Hazard Identification and Risk Assessment	No	No	Yes	No	Cook County EMRS Preparing THIRA
Terrorism Plan	No	No	Yes	Yes	Cook County EMRS
Post-Disaster Recovery Plan	No	No	Yes	Yes	Cook County EMRS
Continuity of Operations Plan	No	No	Yes	No	Cook County EMRS
Public Health Plans	No	No	No	No	Cook County DPH

TABLE: FISCAL CAPABILITY

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	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	Edwin Hancock Engineering
Engineers or professionals trained in building or infrastructure construction practices	Yes	Edwin Hancock Engineering
Planners or engineers with an understanding of natural hazards	Yes	Edwin Hancock Engineering

Staff with training in benefit/cost analysis	No	
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	
Grant writers	Yes	

TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE	
What department is responsible for floodplain management in your jurisdiction?	Building Department
Who is your jurisdiction's floodplain administrator? (department/position)	Village Engineer
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date of adoption of your flood damage prevention ordinance?	August 2008
When was the most recent Community Assistance Visit or Community Assistance Contact?	Have not received 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.	Unknown
Do your flood hazard maps adequately address the flood risk within your jurisdiction? (If no, please state why)	No extreme flooding April 2013
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Yes
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

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:

7-1-19 Floodplain Regulations

(B) Definitions: For the purposes of this section, the following definitions are adopted:

SUBSTANTIAL DAMAGE: Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damage condition would equal or exceed fifty percent (50%) of the market value of the structure before the damage occurred, regardless of the actual repair work performed. Volunteer labor and materials must be included in this determination. Damage of less than fifty percent (50%) of the fair market value will be applied to the repetitive loss calculations.

SUBSTANTIAL IMPROVEMENT:

1. Any reconstruction, rehabilitation, addition, or improvement of a structure, the cost of which equals or exceeds fifty percent (50%) of the market value of the structure before the "start of construction" of the improvement.
2. For the purposes of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the building.
3. The term does not, however, include either: a) any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions or b) any alteration of a "historic structure" listed on the national register of historic places or the Illinois register of historic places, provided that the alteration will not preclude the structure's continued designation as a historic structure.

(D) Duties Of the Enforcement Official(s):

The building commissioner shall be responsible for the general administration and enforcement of this section which shall include the following:

1. Determining The Floodplain Designation:

- (a) Check all new development sites to determine whether they are in a special flood hazard area (SFHA).
- (b) If they are in an SFHA, determine whether they are in a floodway, flood fringe or in a floodplain for which a detailed study has not been conducted and which drains more than one square mile.
- (c) Check whether the development is potentially within an extended SFHA (with a drainage area less than 1 square mile), indicating that the development would have

adverse impacts regarding storage, conveyance, or inundation which would be the basis for the applicant being required to delineate the floodplain and floodway and be subject to this section.

2. Professional Engineer Review:

(a) If the development site is within a floodway or in a floodplain for which a detailed study has not been conducted and which drains more than one square mile, the permit shall be referred to a registered professional engineer under the employ or contract of the village for review to ensure that the development meets the requirements of subsection (G) or (H) of this section.

(b) In the case of an appropriate use, the PE shall state in writing that the development meets the requirements of subsection (G) of this section.

7. Damage Determinations: Make damage determinations of all damaged buildings in the SFHA after a flood to determine substantially damaged structures which must comply with subsection (I)3(a)(3) of this section.

(I) Permitting Requirements Applicable To All Floodplain Areas: In addition to the requirements found in subsections (F), (G) and (H) of this section for development in flood fringes, designated floodways, and SFHA or floodplains where no floodways have been identified (zones A, AO, AH, AE, A1-A30, A99, VO, V1-30, VE, V, M, E, or D), the following requirements shall be met:

3. Protecting Buildings:

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

(1) Construction or placement of a new building valued at more than one thousand dollars (\$1,000.00) or seventy (70) square feet;

(2) "Substantial improvement" to an existing building as defined in subsection (B) of this section, including an increase to the first floor area by more than twenty percent (20%). This alteration shall be figured cumulatively beginning with any alteration which has taken place subsequent to April 1, 1990;

(3) "Substantial damage" to an existing building as defined in subsection (B) of this section. This alteration shall be figured cumulatively beginning with any alteration which has taken place subsequent to April 1, 1990;

(4) "Repetitive loss" to an existing building as defined in subsection (B) of this section;

(5) Installing a manufactured home on a new site or a new manufactured home on an existing site. This building protection requirement does not apply to returning a mobile home to the same site it lawfully occupied before it was removed to avoid flood damage; and

(6) Installing a travel trailer on a site for more than one hundred eighty (180) days per year.

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

(b) A residential or nonresidential building, when allowed, may be constructed on permanent landfill in accordance with the following:

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

(2) Fill Requirements:

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

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

C. The fill shall be protected against erosion and scour.

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

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

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

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

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

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

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

(4) The areas below the flood protection elevation may only be used for the parking of vehicles, building access or storage in an area other than a basement and not later modified or occupied as habitable space.

(5) Manufactured homes and travel trailers to be installed on a site for more than one hundred eighty (180) days, shall be elevated to or above the flood protection elevation; and, shall be anchored to resist flotation, collapse, or lateral

movement by being tied down in accordance with the rules and regulations for the Illinois mobile home tiedown act issued pursuant to 77 Illinois administrative code part 870. In addition, all manufactured homes shall meet the following elevation requirements:

A. In the case of manufactured homes placed or substantially improved: 1) outside of a manufactured home park or subdivision, 2) in a new manufactured home park or subdivision, 3) in an expansion to an existing manufactured home park or subdivision, or 4) in an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage from a flood, the top of the lowest floor shall be elevated to or above the flood protection elevation.

B. In the case of manufactured homes placed or substantially improved in an existing manufactured home park or subdivision, the manufactured home shall be elevated so that either the top of the lowest floor is above the base flood elevation or the chassis is at least thirty six inches (36") in height above grade and supported by reinforced piers or other foundations of equivalent strength, whichever is less.

TABLE: COMMUNITY CLASSIFICATIONS			
	Participating?	Classification	Date Classified
Community Rating System	N/A	N/A	N/A
Building Code Effectiveness Grading Schedule	Yes	Unknown	--
Public Protection/ISO	Yes	Unknown	--
StormReady	Yes	Gold (Countywide)	--
Tree City USA	Yes	Active	1995

Opportunities to Expand and Improve Capabilities

At this time, the Village of River Grove has not identified opportunities to expand or improve our current capabilities. Should such opportunities be identified in the future, this Capability Assessment will be updated accordingly.

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: 26 (23 Single Family, 2 Two-Four Family Residence, 1 Business - Nonresidential)
- Number of FEMA-Identified Severe Repetitive Loss Properties: 4 (2 Single Family, 1 Two-Four Family Residence, 1 Business Nonresidential)
- 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	High Wind, Tornadoes, Torrential Rain
5/25/2011	
4/18/2013	Severe Storms, Heavy Rainfall, Flooding, Straight-line Winds
4/20/2013	
4/21/2013	
4/25/2013	
4/30/2013	
1/6/2014	Heavy Snowfall, Frigid Temperatures
7/12/2017	Thunderstorms, Heavy Rainfall, Flooding
7/14/2017	
1/29/2019	Winter Storm
2/6/2020	Severe Storms
3/12/2020 – present (reissued monthly)	COVID-19
2/16/2021	Winter Storms
2/1/2022	Winter Storms
8/1/2022 (reissued monthly through 10/28/2022)	Monkeypox

TABLE: NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster Number (if applicable)	Date	Preliminary Damage Assessment/ Event Narrative
Flood	-	4/2013	-
Severe Weather/Wind		7/1/2012	Power outages lasted for several days
Flood	-	7/2011	-
Blizzard	1960-031-64343	2/2011	-

Flood	-	7/2010	-
Severe Weather/Wind		6/18/2010	Trees and limbs fell on houses and cars.
Flood	1800-03-6434	9/2008	-
Severe Weather/Hail		6/11/2001	Most damage was in the form of trees and limbs down, as well as power lines and utility poles down.
Flood	-	2/1997	-
Flood	-	1995	-
Flood	-	8/1987	-
Flood	-	10/1986	-

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: Previously, the community has experienced flooding at Grand and River Rd. and Fullerton and River Rd., making those areas impassable.

Severe Weather: In 1997, Strong thunderstorms produced hail, 1 inch in diameter, and strong winds which downed trees and power lines. In 2007, severe storms moved across northern Illinois during the afternoon hours of July 10th. A 20 foot long, 8 inch diameter tree limb was blown down at Triton College. Extended power outages are a prime concern.

Dam Failure: While no occurrences have happened, the location of the dam to the area makes it susceptible if a failure occurs.

Indicator	Number	Percent
Families in poverty	352	12.2%
People with disabilities	1,017	9%
People over 65 years	1,560	13.8%
People under 5 years	590	5.2%
People of color	3,864	34.1%
Black	3	0%
Native American	0	0%
Hispanic	3,671	32.4%
Difficulty with English	1,191	11.1%
Households with no car	288	6.9%
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	Not Applicable
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 Anticipated
Drought	Increase
Earthquake	Not Applicable
Flood (Riverine, Urban, Shoreline)	Increase
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Winds)	Increase
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	No Change Anticipated
Tornado	Increase
Wildfire (Wildfire Smoke)	Increase

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

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

Hazard	Vulnerability
Current Vulnerability	
Dam and Levee Failure	Unknown

Drought	Unknown
Earthquake	Increased
Flood (Riverine, Urban, Shoreline)	Increased
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Winds)	Increased
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	Increased
Tornado	Increased
Wildfire (Wildfire Smoke)	Not Applicable

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

We have added housing that can increase our population by about 10%, which may be exposed or vulnerable to any of the natural hazards identified in this Hazard Mitigation Plan. Future climate change impacts may also exacerbate flooding issues, such as flooding at Grand and River Rd. and Fullerton and River Rd. Severe weather and high winds may damage aging utilities. The intensity of these storms is anticipated to increase in severity due to climate change. These are conditions and trends the community will monitor closely.

Hazard Risk Ranking

The *Hazard Risk Ranking Table* below presents the ranking of the hazards of concern. Hazard area extent and location maps are included at the end of this chapter. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes.

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

New Mitigation Actions

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

Action R-4.12

Mitigation Action #12: Remove dead trees, Ash & Elm, near the riverbank.					
Lead Agency/Department Organization: RG Building Dept	Supporting Agencies/ Organizations: US Army Corp of Engineers	Estimated Cost: Medium	Potential Funding Source: Flood Mitigation Assistance (FMA) Program	Estimated Projected Completion Date: Ongoing	Hazard(s) Mitigated: All
Year Initiated		2024			
Applicable Jurisdiction		Village of River Grove			
Applicable Goal		1,2,3,4,5,6			
Applicable Objective		1,2,3,4,5,6,8,9,10,11,12,13			
Cost Analysis (Low, Medium, High)		Medium			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		High			
Action/Implementation Plan and Project Description:		Dredge near the river and plant water trees that could absorb some water.			
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-4.1

Mitigation Action #1: Swift Water Rescue equipment and training					
Lead Agency/Department Organization: Fire	Supporting Agencies/ Organizations:	Estimated Cost: \$250,000; High	Potential Funding Source: SHSP	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: Flooding, Severe Weather, Dam Failure
Year Initiated		2014			
Applicable Jurisdiction		Village of River Grove			
Applicable Goal		1,2,3,4			
Applicable Objective		1, 5, 8			
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:		Continuing to look for grants and various funding avenues for the equipment and training and hiring a grant writer			
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-4.2

Mitigation Action #2: Acquire flood-prone property on River Road.					
Lead Agency/Department Organization: Building Dept.	Supporting Agencies/ Organizations:	Estimated Cost: \$1,000,000; High	Potential Funding Source: BRIC, HMGP, FMA	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: Flooding
Year Initiated		2014			
Applicable Jurisdiction		Village of River Grove			
Applicable Goal		1,2,3			
Applicable Objective		7, 8			
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:		No current funding available and also in a village wide financial crisis.			
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-4.3

Mitigation Action #3: Install permanent street swing gate closure for easy deployment in flooding					
Lead Agency/Department Organization: Public Works	Supporting Agencies/ Organizations:	Estimated Cost: High	Potential Funding Source:	Estimated Projected Completion Date:	Hazard(s) Mitigated: Flooding

			BRIC, HMGP, FMA	Long-term	
Year Initiated	2014				
Applicable Jurisdiction	Village of River Grove				
Applicable Goal	1,2,3				
Applicable Objective	1, 2, 5, 13				
Cost Analysis (Low, Medium, High)	Medium				
Priority and Level of Importance (Low, Medium, High)	High				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	High				
Action/Implementation Plan and Project Description:	Continuing to look for grants and various funding avenues, No current funding available and also in a village wide financial crisis.				
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-4.4

Mitigation Action #4: 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	Village of River Grove				
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:	Continuing to support the plan
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-4.5

Mitigation Action #5: 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	Village of River Grove				
Applicable Goal	1,5				
Applicable Objective	3,4,6				
Cost Analysis (Low, Medium, High)	Low				
Priority and Level of Importance (Low, Medium, High)	High				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium				
Action/Implementation Plan and Project Description:	We are currently participating and completing the maint. of this plan for the Village.				

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-4.6

Mitigation Action #6: Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.					
Lead Agency/Department Organization: Village Administration	Supporting Agencies/ Organizations:	Estimated Cost: Low	Potential Funding Source: General Fund	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: All
Year Initiated	2014				
Applicable Jurisdiction	Village of River Grove				
Applicable Goal	1,2,3,5,6				
Applicable Objective	3, 4, 5, 6, 7, 9, 10, 11, 13				
Cost Analysis (Low, Medium, High)	Low				
Priority and Level of Importance (Low, Medium, High)	Medium				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium				
Action/Implementation Plan and Project Description:	The Village currently participates in Tree City and has for years, and is exploring the requirements and going to apply and attempt to participate in Storm Ready and exploring the requirements of the Community Rating 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;	O 2024 update: Approved Tree City Accreditation				

R = Want Removed from Annex; X = No Action Taken/Delayed	
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Action R-4.7

Mitigation Action #7: Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts.					
Lead Agency/Department Organization: Village Administration	Supporting Agencies/ Organizations:	Estimated Cost: Low	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-term and Ongoing	Hazard(s) Mitigated: Flooding
Year Initiated	2014				
Applicable Jurisdiction	Village of River Grove				
Applicable Goal	1,2,5				
Applicable Objective	4,6,9				
Cost Analysis (Low, Medium, High)	Low				
Priority and Level of Importance (Low, Medium, High)	High				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium				
Action/Implementation Plan and Project Description:	The village is currently working on this and is working with the village engineer to update the flood plan mapping and assisting residents as needed.				
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-4.8

Mitigation Action #8: Where feasible, implement a program to record high water marks following high-water events.					
Lead Agency/Department Organization: Village Administration	Supporting Agencies/ Organizations:	Estimated Cost: Medium	Potential Funding Source: General Fund: FEMA Grant Funds (Public Assistance)	Estimated Projected Completion Date: Long Term	Hazard(s) Mitigated: Flooding; Severe Weather
Year Initiated		2014			
Applicable Jurisdiction		Village of River Grove			
Applicable Goal		1,2,5			
Applicable Objective		3,6,9			
Cost Analysis (Low, Medium, High)		Medium			
Priority and Level of Importance (Low, Medium, High)		Medium			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Medium			
Action/Implementation Plan and Project Description:		Continuing to look for grants and various funding avenues. No current funding available and also in a village wide financial crisis.			
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-4.9

Mitigation Action #9: Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.
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Lead Agency/Department Organization: Village Administration	Supporting Agencies/ Organizations:	Estimated Cost: Medium	Potential Funding Source: General Fund	Estimated Projected Completion Date: Short-term and ongoing	Hazard(s) Mitigated: All
Year Initiated	2014				
Applicable Jurisdiction	Village of River Grove				
Applicable Goal	1,5				
Applicable Objective	3,4,6,10,13				
Cost Analysis (Low, Medium, High)	Low				
Priority and Level of Importance (Low, Medium, High)	High				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium				
Action/Implementation Plan and Project Description:	The village has it integrated into the building dept. through the village engineer inspectors and plan reviews. along with the zoning board				
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-4.10

Mitigation Action #10: Purchase and install a Generator for community center located near flood area.					
Lead Agency/Department Organization: Public Works/FD	Supporting Agencies/ Organizations:	Estimated Cost: \$15,000; Medium	Potential Funding Source: BRIC, HMGP	Estimated Projected Completion Date: 2020	Hazard(s) Mitigated: Flooding, High Wind, Hazardous

					Materials Incident
Year Initiated	2017				
Applicable Jurisdiction	Village of River Grove				
Applicable Goal	1,3,4,5,6				
Applicable Objective	2				
Cost Analysis (Low, Medium, High)	Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget amendment, or the cost of the project would have to be spread over multiple years.				
Priority and Level of Importance (Low, Medium, High)	Medium				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	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:					
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
Launch the 2018 FY Green Alleys Program

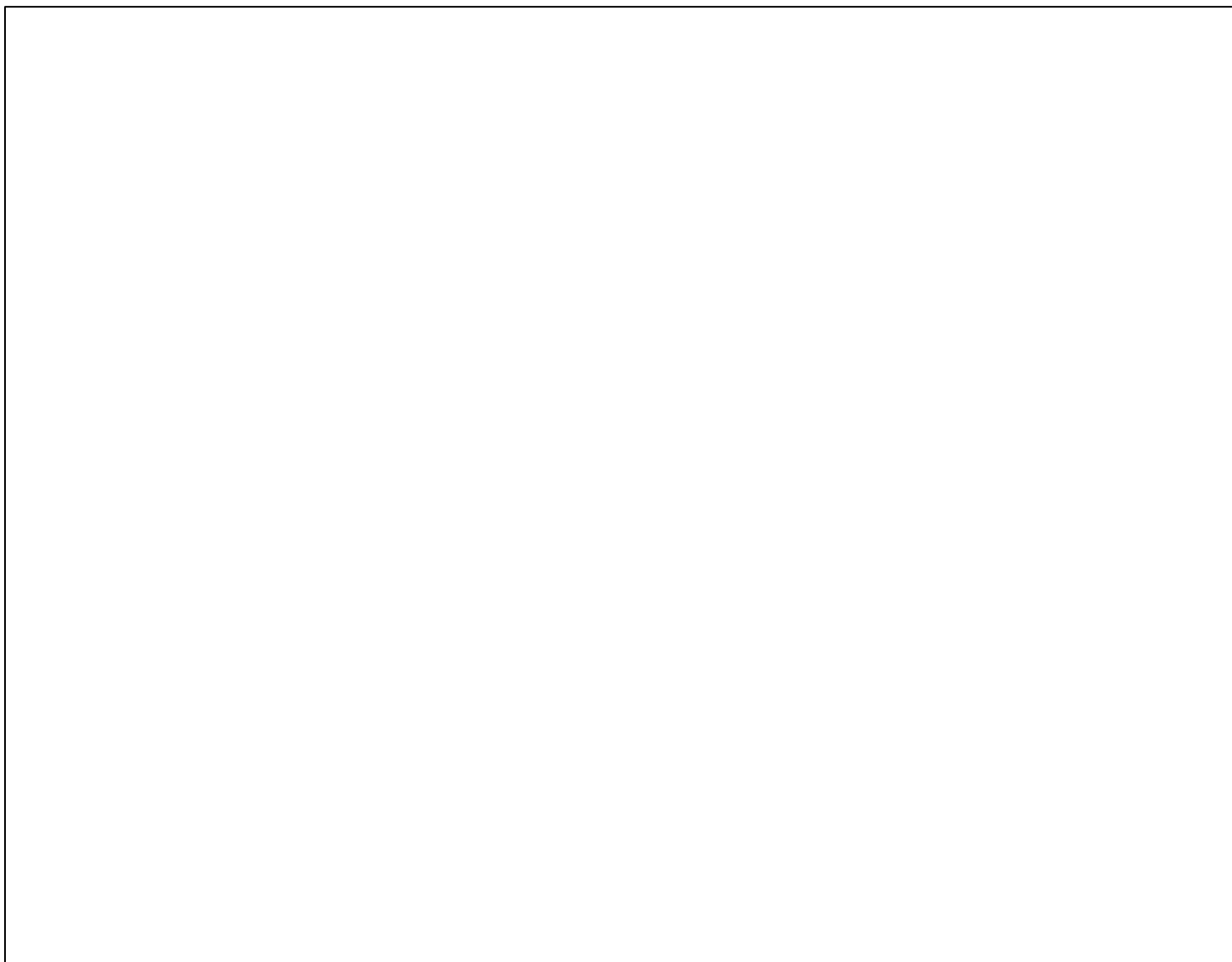
Future Needs to Better Understand Risk/Vulnerability

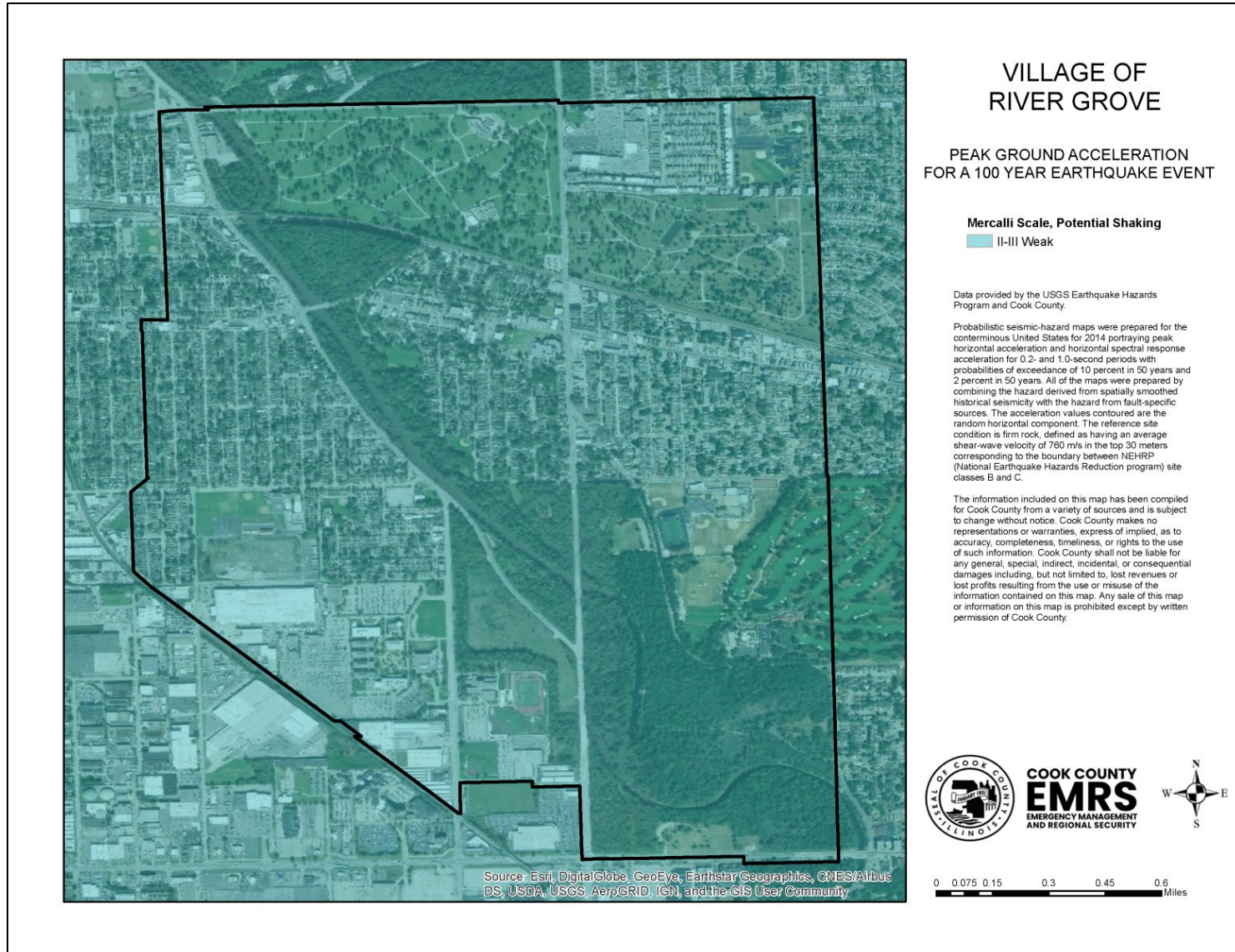
No needs have been identified at this time.

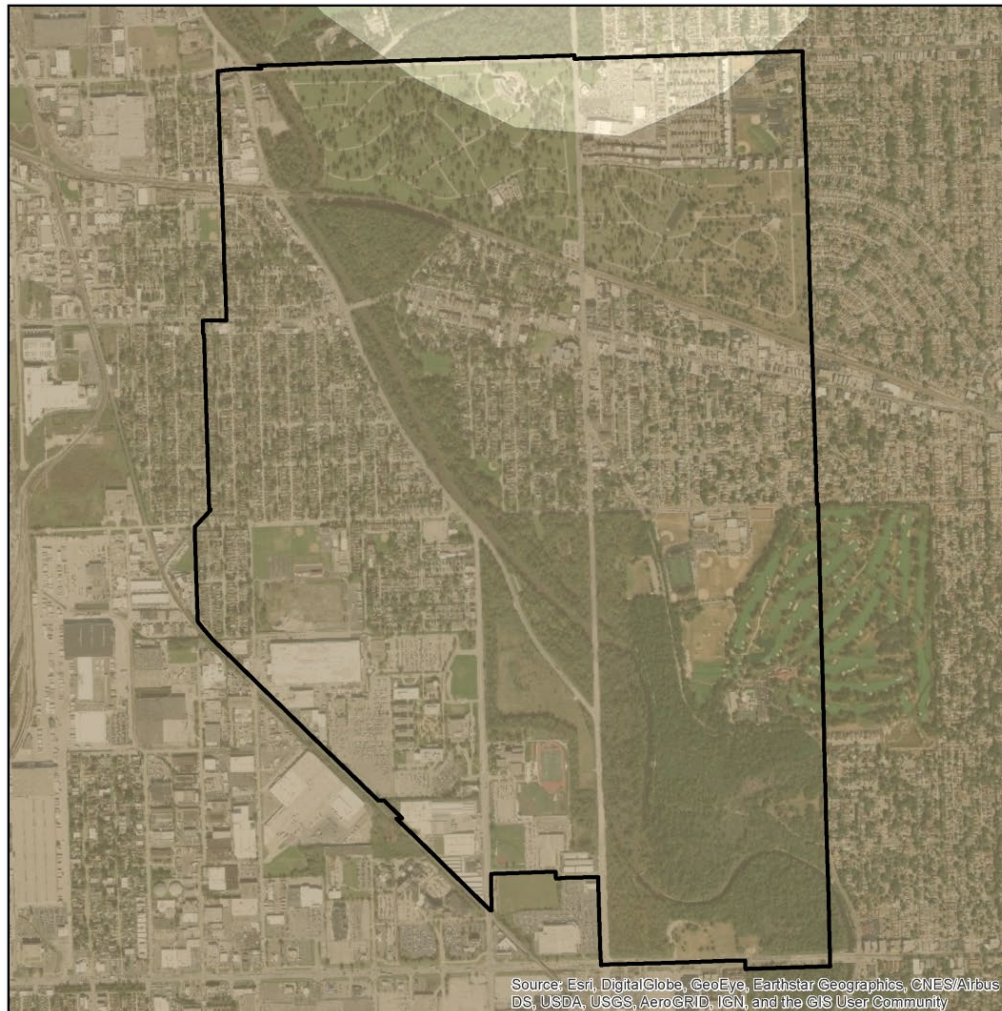
Additional Comments

No additional comments at this time.

Hazard Mapping







VILLAGE OF RIVER GROVE

NATIONAL EARTHQUAKE HAZARD REDUCTION PROGRAM (NEHRP) SOIL CLASSIFICATION

TYPE

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

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

The Central United States Earthquake Consortium (CUSEC) State Geologists produced a regional Soil Site Class map (NEHRP Soil Profile Type Map), a Liquefaction Susceptibility Map and a Soil Response Map for the 8 states to be used in the FEMA New Madrid Catastrophic Planning Initiative Phase II work. The USGS Geologic Investigation Series I-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.

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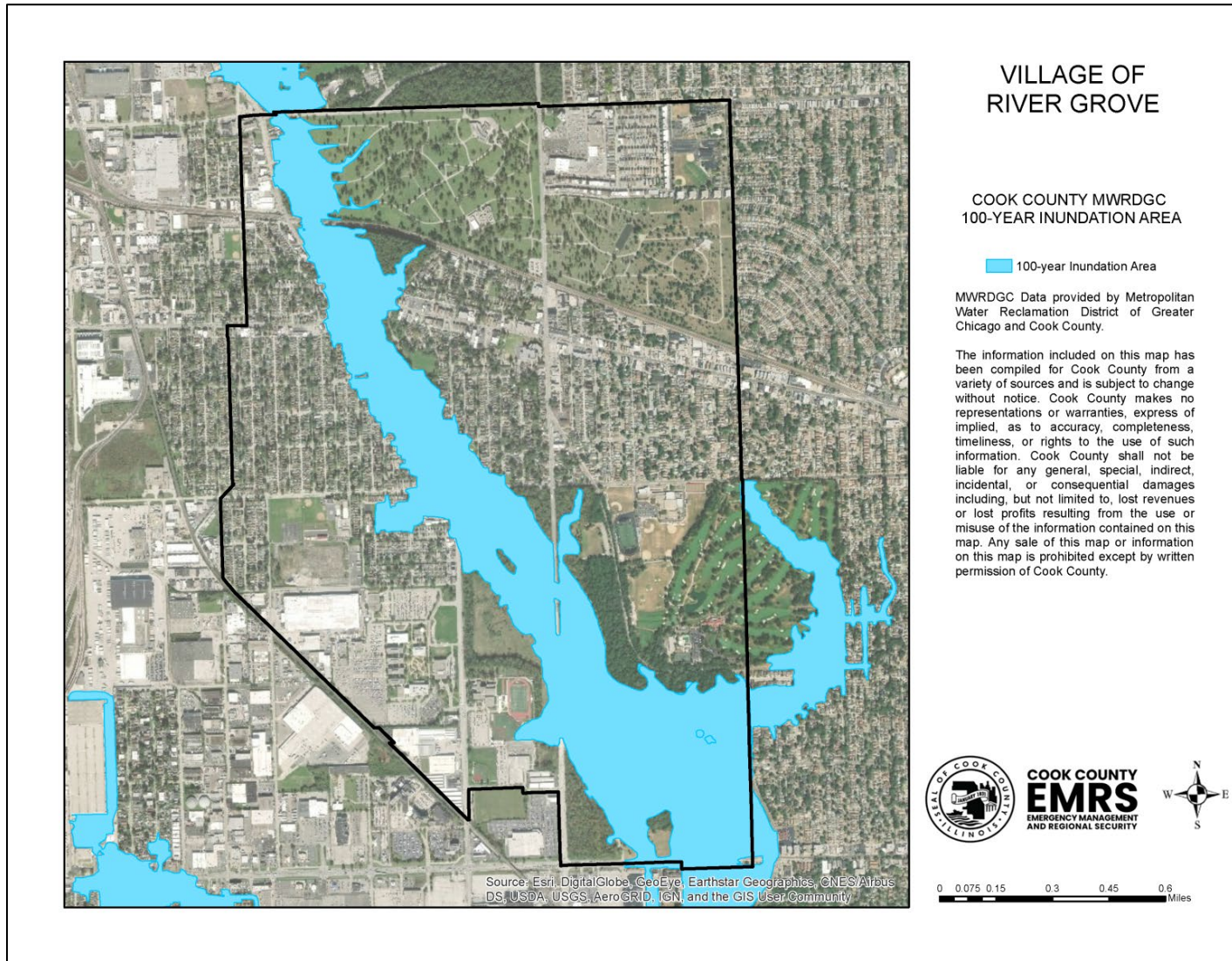


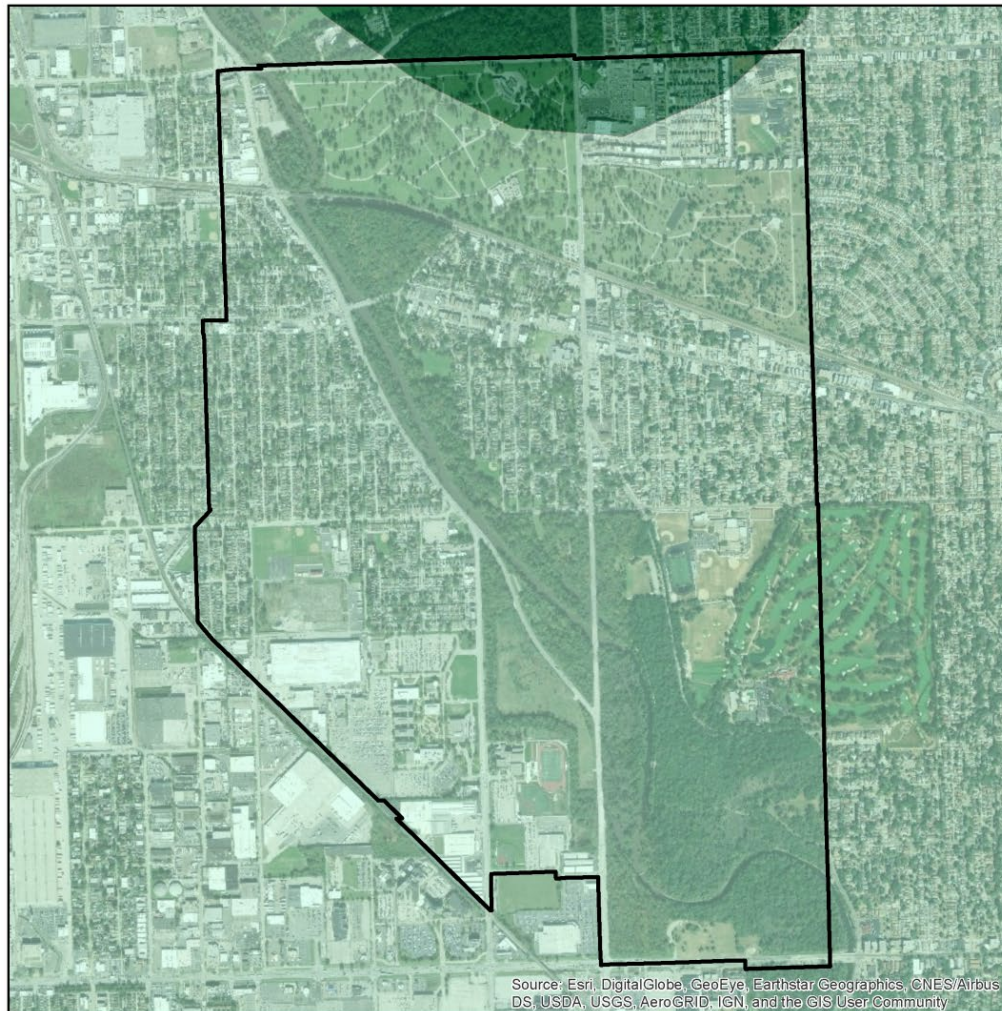
COOK COUNTY
EMRS
EMERGENCY MANAGEMENT
AND REGIONAL SECURITY



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 GROVE

LIQUEFACTION SUSCEPTIBILITY

LIQUEFACTION SUSCEPTIBILITY

- high
- low
- very low

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

The Central United States Earthquake Consortium (CUSEC) State Geologists produced a regional Soil Site Class map (NEHRP Soil Profile Type Map), a Liquefaction Susceptibility Map and a Soil Response Map for the 8 states to be used in the FEMA New Madrid Catastrophic Planning Initiative Phase II work. The USGS Geologic Investigation Series I-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.

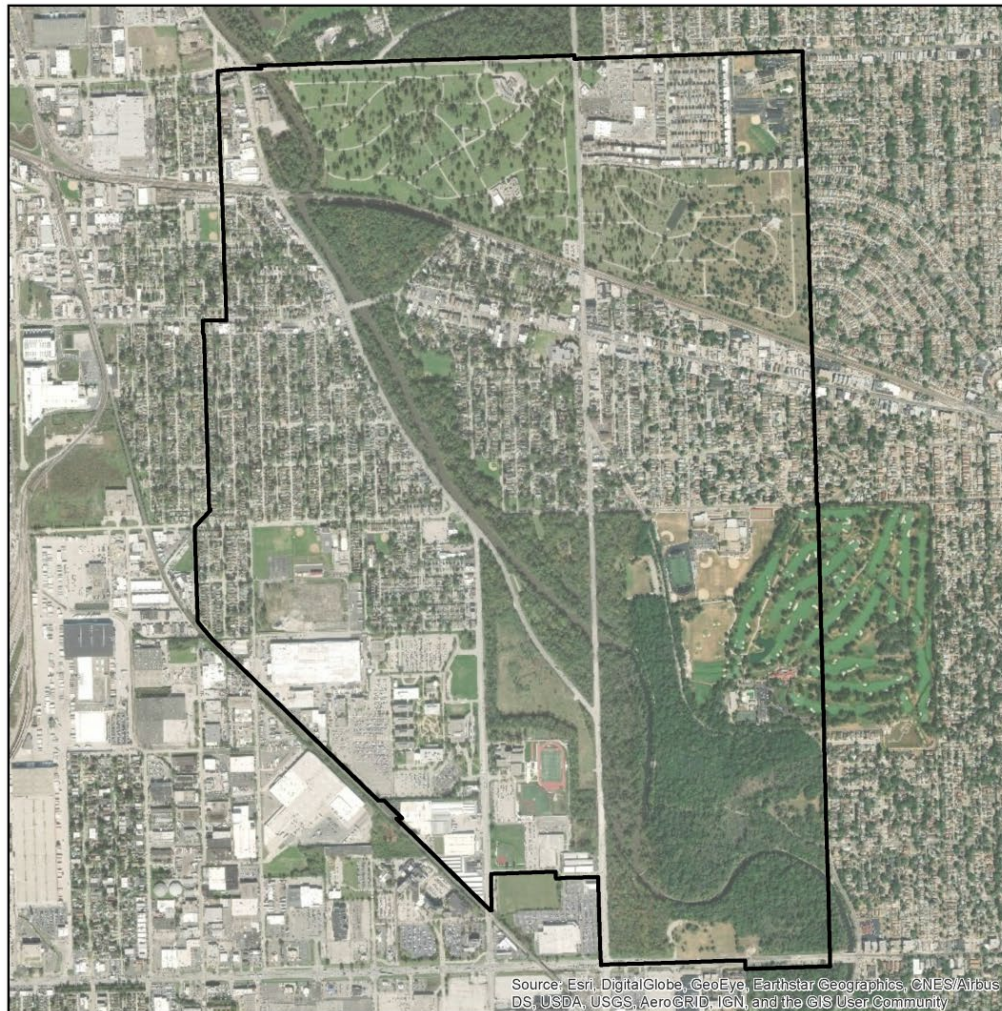
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0 0.075 0.15 0.3 0.45 0.6 Miles



VILLAGE OF RIVER GROVE

100- AND 500- YEAR
TORNADO EVENTS

Magnitude

- 4 (100 year event)
- 5 (500 year event)

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



COOK COUNTY
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EMERGENCY MANAGEMENT
AND REGIONAL SECURITY



0 0.075 0.15 0.3 0.45 0.6 Miles