

Buffalo Grove

Hazard Mitigation Plan Point of Contact

Primary Point of Contact	Alternate Point of Contact
Kyle Johnson, Deputy Director of Public Works/Village Engineer Village of Buffalo Grove 50 Raupp Boulevard, Buffalo Grove 847-459-2500 kjohnson@vbg.org	Andrea Larson, Civil Engineer Village of Buffalo Grove 50 Raupp Boulevard, Buffalo Grove 847-459-2500 alarson@vbg.org

Jurisdiction Profile

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

Date of Incorporation: 1958

Current Population: The 2020 U.S. Census population was 43,197. The 2022 U.S. Census estimate indicated the population was 42,569

Population Growth: The overall population has decreased by 1.5% between 2020 and 2022.

Location and Description: Buffalo Grove is a village in Lake and Cook Counties in the U.S. state of Illinois. A suburb of Chicago, it lies about 30 miles (50 km) northwest of Downtown Chicago and 20 miles (32 km) north of O'Hare International Airport. It totals 9.6 square miles (25 km²) of land, with the top three-quarters in Lake County and the bottom quarter in Cook County. Roads in the village such as Lake Cook Road and Illinois Route 83 converge on I-294. It is part of the Chicago Metropolitan Area.

Brief History: Incorporated in 1958 with a population of 164 and an area of 58 acres at the north edge of Cook County, Buffalo Grove has matured into a community of 43,000 residents covering an area of 9.3 square miles in Cook County and Lake County. The Village commemorated its 50th anniversary in 2008, and there is much for the citizens of the community to celebrate and take pride in: livable residential neighborhoods, abundant parks and open space areas, a solid business base, a comprehensive set of municipal services, and institutions and organizations providing a full range of community services.

Climate: Buffalo Grove, Illinois has a humid continental climate with hot, humid summers and cool to cold winters. The average annual temperature ranges from 48°F in the north to 58°F in the south, with highs ranging from 57°F in the north to 67°F in the south. Average winter highs range from the 30s in the north to the mid-40s in the south, while average lows range from the teens in the north to the upper 20s in the south.

Governing Body Format: The Village of Buffalo Grove was incorporated in the State of Illinois on March 7, 1958. The Village is a Home Rule Unit by virtue of the provisions of the Constitution of the State of Illinois of 1970. Home Rule allows a community to take actions not specifically prohibited by

the state statutes. Conversely, a nonhome rule community can only undertake those actions specifically allowed for in the state statutes. Home rule enables a municipality or county to establish its own system of self-governance without receiving a charter from the state. Home rule shifts much of the responsibility for local government from the state legislature to the local community. The most significant powers granted to a home rule community include the ability to enact its own police powers (health, safety, morals and general welfare) and to issue bonds without referendum and exemption from property tax caps under the Property Tax Extension Law Limit (PTELL). The Village operates under a council-manager form of government. The council-manager form is the system of local government that combines the strong political leadership of elected officials in the form of a council or board, with the strong managerial experience of an appointed local government manager. Policy making and legislative authority are vested with the Village Board, which consists of a President and a six-member Board of Trustees. The Village Board is responsible for passing ordinances and resolutions, adopting the annual budget, appointing committees, and hiring the Village Manager and Attorney. The Village Manager is responsible for carrying out the policies, ordinances, and resolutions of the Village Board, developing and presenting an annual budget, overseeing the day-to-day operations of the Village, and appointing department directors. All Village Board positions are elected to a four-year term and are elected at large. Board meetings are generally held on the first and third Monday of the month.

Development Trends: The Village's commercial base includes several corporate business parks, a diverse retail sector, and a wide range of professional services, including medical facilities. The Village's residential areas include single-family neighborhoods, townhomes, condominiums, and apartments. The housing stock is very diverse, with units of different sizes and designs available at various price points to serve the community's population. The Village is served by four elementary school districts and two high school districts, all of which consistently receive acknowledgement for providing high quality education for children and young adults in the community. Buffalo Grove is served by two library districts and two park districts.

Changes in Community Priorities: There have been no significant changes in priority regarding the hazards that could potentially impact the community or changes in priority regarding resilience.

Capability Assessment

The assessment of the jurisdiction's legal and regulatory capabilities is presented in the *Legal and Regulatory Capability Table* below. The assessment of the jurisdiction's fiscal capabilities is presented in the *Fiscal Capability Table* below. The assessment of the jurisdiction's administrative and technical capabilities is presented in *Administrative and Technical Capability Table* below. Information on the community's National Flood Insurance Program (NFIP) compliance is presented in the *National Flood Insurance Program Compliance Table* below. Classifications under various community mitigation programs are presented in the *Community Classifications Table* below.

TABLE: LEGAL AND REGULATORY CAPABILITY					
	Local Authority	State or Federal Prohibitions	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements					

Building Code	Yes	No	No	Yes	In accordance with Public Act 096-0704, Illinois has adopted the IBC as its state Building Code 2018 International Building Code, as amended* - 2018 International Residential Code, as amended* - 2018 Property Maintenance Code, as amended* - 2018 International Fire Code, as amended* - 2018 International Mechanical Code, as amended* - 2018 International Existing Building Code, as amended* - 2018 International Fuel Gas Code, as amended*
Zonings	Yes	No	No	Yes	Buffalo Grove Municipal Code (Title 17) - Zoning Ordinance
Subdivisions	Yes	No	No	No	§ 151.03 SUBDIVISION PLATS

Stormwater Management	Yes	No	Yes	Yes	State regulates industrial activity from Construction sites 1 acre or larger under section 402 CWA.
Post Disaster Recovery	No	No	No	No	
Real Estate Disclosure	No	No	Yes	Yes	(765 ILCS 77/) Residential Real Property Disclosure Act.
Growth Management	No	No	No	No	
Site Plan Review	No	No	No	No	
Public Health and Safety	Yes	No	Yes	Yes	Cook County Board of Health.
Environmental Protection	No	No	No	No	
Planning Documents					
General or Comprehensive Plan	Yes	No	No	No	MARCH 23, 2009 Approved by Ordinance No. 2009-15
<i>Is the plan equipped to provide integration to this mitigation plan?</i>					Yes- Land Use
Floodplain or Basin Plan	No	No	No	No	
Stormwater Plan	No	No	MWRD	No	
Capital Improvement Plan	No	No	No	No	
<i>What types of capital facilities does the plan address?</i>					
<i>How often is the plan revised/updated?</i>					
Habitat Conservation Plan	No	No	No	No	
Economic Development Plan	No	No	Yes	Yes	The Economic Development Commission is charged with

					reviewing all economic development related programs and incentives including tax incentives offered through the Cook County 6b program.
Shoreline Management Plan	No	No	No	No	
Response/Recovery Planning					
Comprehensive Emergency Management Plan	Yes	No	Yes	Yes	Cook County EMRS, Lake County EMA
Threat and Hazard Identification and Risk Assessment	Yes	No	Yes	No	Cook County EMRS Preparing THIRA, Lake County EMA
Terrorism Plan	Yes	No	Yes	Yes	Cook County EMRS, Lake County
Post-Disaster Recovery Plan	No	No	No	No	
Continuity of Operations Plan	Yes	No	Yes	No	Cook County EMRS, Lake County EMA
Public Health Plans	No	No	Yes	No	Cook County DPH, Lake County DPH

TABLE: FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
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	Yes
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other	No

TABLE: ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Public Works and Community Development Departments
Engineers or professionals trained in building or infrastructure construction practices	Yes	Public Works Dept.
Planners or engineers with an understanding of natural hazards	Yes	Public Works Dept.
Staff with training in benefit/cost analysis	No	N/A
Surveyors	Yes	Consultant - Department of Public Works
Personnel skilled or trained in GIS applications	Yes	Public Works Dept.
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	Fire Department
Grant writers	Yes	Public Works Dept. Fire Dept. Police Dept.

TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE	
What department is responsible for floodplain management in your jurisdiction?	Public Works Dept. (Engineering)
Who is your jurisdiction's floodplain administrator? (department/position)	Public Works Dept. (Dept. Dir. of PW/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?	(Ord. 2007-8 § 1 (part), 2007).
When was the most recent Community Assistance Visit or Community Assistance Contact?	9/12/2023
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? (If no, please state why)	NO – With climate change-driven storms, there are locations which suffer flood risk due to outdated infrastructure and mapping techniques. We believe the current FIRMs do not appropriately
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?	Generally, FP management is sufficiently covered by multiple staff. Training in

	benefit/cost analysis would greatly improve the Village's abilities to implement engineered hazard mitigation solutions.
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?	Buffalo Grove received its CRS rating 7 in October, 2021. We do not currently have plans to improve a rating, but would consider it in future years.

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.
- My community's Floodplain Administrator is a Certified Floodplain Manager (CFM).
- My community teaches property owners or other stakeholders about the importance of flood insurance through public outreach events, workshops, and/or seminars.
- 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.

In Oct. 2021, we received our CRS level 7 designation. Since that time, we have improved our monitoring of Substantial Improvements in high flood risk areas, stepped up our outreach materials, adopted enhanced floodplain ordinances in Lake County, and are currently developing a program for flood prone property acquisition. These are all improvements and also include ongoing activities such as maintaining any received elevation certs, and drainage area maintenance.

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:

18.04.650 - Substantial damage.
 "Substantial damage" means damage of any origin sustained by a structure whereby the cumulative percentage of damage during a ten-year period equals or exceeds fifty percent of the market value of the structure before the damage occurred regardless of actual repair work performed. Volunteer labor and materials must be included in this determination. The term includes repetitive loss buildings. See Section 18.04.560 "Repetitive loss."

(Ord. 2007-8 § 1 (part), 2007).

18.04.660 - Substantial improvement.
 "Substantial improvement" means any reconstruction, rehabilitation, addition or improvement of a structure taking place during a ten-year period in which the cumulative percentage of improvements equals or exceeds fifty percent of the market value of the structure before the improvement or repair is started.

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

B. The term does not, however, include either:

1. Any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions; or
2. Any alteration of a "historic structure" listed on the National Register of Historic Places or the Illinois Register of Historic Places, provided that the alteration will not preclude the structure's continued designation as a historic structure.

(Ord. 2007-8 § 1 (part), 2007).

18-08-010 Duties of the Village Engineer

Duties of the Village Engineer are as follows:

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

B. Professional Engineer Review. 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, then the permit shall be referred to the Village Engineer for review to ensure that the development meets the requirements of Chapter 18.14. In the case of an appropriate use, the P.E. shall state in writing that the development meets the requirements of Chapter 18.14.

G. Damage Determinations. Make damage determinations of all damaged buildings in the SFHA after a *flood* to determine substantially damaged structures which must comply with Section 18.18.040B of this Title.

18-18 Permitting requirements Applicable to all Floodplain Areas and Protection of Buildings

18-18-030 Protecting Buildings

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

- A. Construction or placement of a new building or alteration or addition to an existing building valued at more than one thousand dollars or seventy square feet;
- B. Substantial improvements or structural alterations made to an existing building that increase the floor area by more than twenty percent or equal or exceed the market value by fifty percent. Alteration shall be figured cumulatively during a ten-year period. If substantially improved, the existing structure and the addition must meet the *flood* protection standards of this section;
- C. Repairs made to a substantially damaged building. These repairs shall be figured cumulatively during a ten-year period. If substantially damaged, the entire structure must meet the *flood* protection standards of this section;

18-18-040 Methods of Building Protection

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

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

- 6. Manufactured homes, and travel trailers to be installed on a site for more than one hundred eighty days, shall be elevated to or above the *flood* protection elevation; and, shall be anchored to resist flotation, collapse, or lateral movement by being tied down in accordance with the rules and regulations for the Illinois Mobile Home Tie-Down Act

issued pursuant to 77 Ill. Adm. Code Part 870. In addition, all manufactured homes shall meet the following elevation requirements:

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 in height above grade and supported by reinforced piers or other foundations of equivalent strength, whichever is less.

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

TABLE: COMMUNITY CLASSIFICATIONS			
	Participating?	Classification	Date Classified
Community Rating System	Yes	CRS Class 7	10/1/2021
Building Code Effectiveness Grading Schedule	Yes	Unknown	Unknown
Public Protection/ISO	Yes	Class 2	1993
StormReady	Yes	Gold (Countywide)	2014
Tree City USA	No	NA	NA

Opportunities to Expand and Improve Capabilities

At this time, the municipality did not include or identify any opportunities to expand and improve capabilities. Plans will be updated in the future should this change.

Plan Integration

The capability assessment describes opportunities to "link" or integrate the mitigation plan into other planning mechanisms. The process and mechanism to identify opportunities to integrate the Cook County MJ-HMP into other planning mechanisms will occur during the Annual Update Process and

be reflected in the Jurisdictional Annual Report each year. Specific plan integration opportunities will include:

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

Emergency Plan Integration:

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

Emergency Operations Plan (EOP)

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

Continuity of Operations Plan (COOP)

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

Recovery Plan

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

Many of the Plan's goals are similar to those in Lake County's HMP. These goals have already been incorporated to the most recent planning mechanisms since Buffalo Grove has been a participating member since at least 2017.

The goals of this Plan will be compared with the Lake County ANHMP Buffalo Grove is also participating in and will be applied as noted above

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: 1 (Single Family)
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0

Federal Disasters Declared

Disaster Declaration Number	Date Declared	Event
DR-227	4/25/1967	Tornado
DR-351	9/4/1972	Flood
DR-373	4/26/1973	Flood
DR-509	6/18/1976	Severe Storm(s)
DR-643	6/30/1981	Severe Storm(s)
DR-776	10/7/1986	Flood
DR-798	8/21/1987	Flood
DR-997	7/9/1993	Flood
DR-1129	7/25/1996	Severe Storm(s)
DR-1188	9/17/1997	Severe Storm(s)
DR-1729	9/25/2007	Severe Storm(s)
DR-1800	10/3/2008	Severe Storm(s)
DR-1935	8/19/2010	Severe Storm(s)
DR-1960	3/17/2011	Snow
EM-3068	1/16/1979	Snow
EM-3134	1/8/1999	Snow
EM-3161	1/17/2001	Snow
EM-3230	9/7/2005	Hurricane – Katrina Evacuation
EM-3435	3/13/2020	Biological
DR-4116	5/10/2013	Flood
DR-4489	3/26/2020	Biological
DR-4728	8/15/2023	Severe Storm(s)
DR-4749	11/20/2023	Flood

State Disaster Declarations

Date Declared	Event
7/26/2010	Severe Storms, High Winds, Torrential Rain
1/31/2011	Winter Weather
4/25/2011 5/25/2011	High Wind, Tornadoes, Torrential Rain
4/18/2013 4/20/2013 4/21/2013 4/25/2013 4/30/2013	Severe Storms, Heavy Rainfall, Flooding, Straight-line Winds
1/6/2014	Heavy Snowfall, Frigid Temperatures
7/12/2017	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
Extreme Heat	-	7/14/2022	No fatalities or injuries
Extreme Cold	-	1/29/2022	No fatalities or injuries
Extreme Cold	-	2/14/2021	No fatalities or injuries
Extreme Heat	-	7/19/2019	No fatalities or injuries
Extreme Cold	-	1/29/2019	No fatalities or injuries

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.

Dam and Levee Failure: Buffalo Grove is immediately downstream of the Buffalo Creek Dam, the only class I dam in all Lake County. Included in the inundation area (last updated by Hey & Associates in May, 2023) is the Village Hall (including the basement EOC), several Village streets (1 major and 1 minor collector), key County routes, and homes. Inundation is in both Cook and Lake Counties.

Flood: In Cook County, Buffalo Creek is the single greatest cause of flooding to homes and roads. There are also several areas included in our Stormwater Master Plan which are affected by urban flooding (per the Stormwater Master Plan)

Indicator	Number	Percent
Families in poverty	950	4.5%
People with disabilities	6,047	7.9%
People over 65 years	13,269	17.3%
People under 5 years	4,435	5.8%
People of color	26,425	34.4%
Black	1,714	2.2%
Native American	401	0.5%
Hispanic	7,292	9.5%
Difficulty with English	4,070	5.6%
Households with no car	1,506	5%
Mobile homes	493	1.6%

Data are from the U.S. Census Bureau, American Community Survey. See methods for more information.

The community evaluated whether vulnerability, and subsequently the potential impacts, in hazard-prone areas had increased, decreased, or remained the same for each natural hazard identified in this Hazard Mitigation Plan. Climate change, infrastructure expansion, and economic shifts that can affect vulnerability were considered. For example, if planned development is in an identified hazard area or is not built to the updated building codes, it may increase the community's vulnerability to future hazards and disasters. On the other hand, if development occurred with mitigation practices in place, the vulnerability may have remained the same or decreased. Additionally, shifting demographics were taken into consideration when assessing development trends.

Jurisdiction-Specific Climate Change Vulnerability and Impacts

The table below outlines if climate change, as assessed by the local planning team, has increased or decreased the municipality's vulnerability/exposure, and thereby the potential impacts, to each natural hazard over the past five (5) years (**Current Vulnerability**), and the effect of climate change in the future probability of occurrence and impacts (**Future Vulnerability**) from each natural hazard.

Hazard	Vulnerability
Current Vulnerability	
Dam and Levee Failure	Increased
Drought	Remained the Same
Earthquake	Remained the Same
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)	Unknown
Tornado	Unknown
Wildfire (Wildfire Smoke)	Unknown

Hazard	Vulnerability
Future Vulnerability	
Dam and Levee Failure	Not Applicable
Drought	Unknown
Earthquake	No Change is Anticipated
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)	Unknown
Tornado	Unknown
Wildfire (Wildfire Smoke)	Unknown

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

New buildings will generally be exposed to the same non-geographical hazards found throughout Cook County. These infill redevelopments tend to be multi-story, mixed use therefore exposing additional residents and businesses and the assets they rely on to typical hazards.

Hazard Risk Ranking

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

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

New Mitigation Actions

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

Action 4

Mitigation Action #4: Flood-Prone Property Acquisition - Buffalo Creek surrounding neighborhood.					
Lead Agency/Department Organization: Administration	Supporting Agencies/Organizations: MWRD, FEMA	Estimated Cost: High	Potential Funding Source: General Fund Local or State Special Taxes Hazard Mitigation Grant Program (HMGP) Building Resilient Infrastructure and Communities (BRIC) MWRD FPPA	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: Dam and Levee Failure Flood (Riverine, Urban, Coastal/Shoreline)
Year Initiated		2024			
Applicable Jurisdiction		Village of Buffalo Grove			
Applicable Goal		1,2,4,6			
Applicable Objective		2,3,4,6,7,8,9,11,13			
Cost Analysis (Low, Medium, High)		High			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		High			
Action/Implementation Plan and Project Description:		Flood-Prone Property Acquisition - Buffalo Creek surrounding neighborhood.			
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 =		N			

Want Removed from Annex; X = No Action Taken/Delayed	
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Action 5

Mitigation Action #5: Siren Upgrades					
Lead Agency/Department Organization: Administration	Supporting Agencies/ Organizations:	Estimated Cost: Low	Potential Funding Source: General Fund, CPF-FEMA	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: All
Year Initiated	2025				
Applicable Jurisdiction	Village of Buffalo Grove				
Applicable Goal	1,2				
Applicable Objective	2,5				
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:	Siren Upgrades				
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed	N				

Action 6

Mitigation Action #6: Buffalo Creek mitigation work (Cook County) from Lake Cook Road to Buffalo Grove Road					
Lead Agency/Department Organization: Administration	Supporting Agencies/ Organizations: MWRD, FEMA	Estimated Cost: High	Potential Funding Source: General Fund Local or State Special Taxes	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: Dam and Levee Failure Flood (Riverine, Urban, Coastal/Shoreline) Severe Weather

			Hazard Mitigation Grant Program (HMGP) Building Resilient Infrastructure and Communities (BRIC) Flood Mitigation Assistance (FMA) Program CPF, DNR, EPA, DOT		(Extreme Heat, Lightning, Hail, Fog, High Winds) Severe Winter Weather (Ice Storm, Heavy Snow, Blizzards, Extreme Cold)
Year Initiated		2024			
Applicable Jurisdiction		Village of Buffalo Grove			
Applicable Goal		1,2,4,5,6			
Applicable Objective		1,2,3,4,6,7,9,10,13			
Cost Analysis (Low, Medium, High)		High			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		High			
Action/Implementation Plan and Project Description:		Buffalo Creek mitigation work (Cook County) from Lake Cook Road to Buffalo Grove Road - property acquisitions, grading and stream improvements, utility & lift station relocation, Raupp Blvd bridge widening.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed		N			

Action 7

Mitigation Action #7: Village Hall Roof Reconstruction					
Lead Agency/Department Organization: Administration	Supporting Agencies/ Organizations:	Estimated Cost: Medium	Potential Funding Source: General Fund Building Resilient Infrastructure and Communities (BRIC) FEMA Public Assistance (PA)	Estimated Projected Completion Date: Short-term	Hazard(s) Mitigated: All
Year Initiated		2025			
Applicable Jurisdiction		Village of Buffalo Grove			
Applicable Goal		3,5			
Applicable Objective		1,2			
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:		Village Hall Roof Reconstruction - The current Village Hall, has had years of equipment being added to it for use by the EOC. The roof now needs to be replaced as it is questionable what levels of snow load and heavy rain it can withstand without impacting operations. The roof is not just a replacement, but a reconstruction which takes into account decades of additions and space need requirements.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed		N			

Action 8

Mitigation Action #8: Lake-Cook Road bridge over Buffalo Creek reconstruction					
Lead Agency/Department Organization: Cook County DOTD	Supporting Agencies/ Organizations: Village of Buffalo Grove	Estimated Cost: High	Potential Funding Source: General Fund State/Federal DOT, Cook County DOTD	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: All
Year Initiated		2023			
Applicable Jurisdiction		Village of Buffalo Grove			
Applicable Goal		1,2,3,4,6			
Applicable Objective		1,2,3,6,8,9,13			
Cost Analysis (Low, Medium, High)		High			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		High			
Action/Implementation Plan and Project Description:		Lake-Cook Road bridge over Buffalo Creek reconstruction - bridge widening to pass anticipated higher flows along Buffalo Creek and to meet traffic demands as a critical E/W route in the region.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed		N			

Action 9

Mitigation Action #9: Stormwater Upgrades					
Lead Agency/Department Organization: Administration	Supporting Agencies/ Organizations:	Estimated Cost: Medium	Potential Funding Source: General Fund Local or State	Estimated Projected Completion Date:	Hazard(s) Mitigated: Flood (Riverine, Urban, Coastal/Shoreline) Severe Weather

			Special Taxes Hazard Mitigation Grant Program (HMGP) Building Resilient Infrastructure and Communities (BRIC) "Special Tax" is stormwater utility fee	Long-term	(Extreme Heat, Lightning. Hail, Fog, High Winds) Severe Winter Weather (Ice Storm, Heavy Snow, Blizzards, Extreme Cold)
Year Initiated		2024			
Applicable Jurisdiction		Village of Buffalo Grove			
Applicable Goal		1,2,3,4,5,6			
Applicable Objective		1,2,3,4,8,9,11,13			
Cost Analysis (Low, Medium, High)		Medium			
Priority and Level of Importance (Low, Medium, High)		Medium			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Medium			
Action/Implementation Plan and Project Description:		Cook County Stormwater Upgrades - fully developed projects will follow up on recommendations by the Village's 2021 Master Storm Water Plan by ERA.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed		N			

Action 10

Mitigation Action #10: Mill Creek Utility & Street Sustainability Improvements

Lead Agency/Department Organization: Administration / Public Works	Supporting Agencies/ Organizations:	Estimated Cost: High	Potential Funding Source: General Fund Local or State Special Taxes "Special Tax" is stormwater utility fee CPF - EPA	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: Flood (Riverine, Urban, Coastal/Shoreline) Severe Winter Weather (Ice Storm, Heavy Snow, Blizzards, Extreme Cold)
Year Initiated		2025			
Applicable Jurisdiction		Village of Buffalo Grove / Public Works			
Applicable Goal		1,2,3,5			
Applicable Objective		1,2,3,13			
Cost Analysis (Low, Medium, High)		High			
Priority and Level of Importance (Low, Medium, High)		Medium			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		High			
Action/Implementation Plan and Project Description:		Mill Creek Utility & Street Sustainability Improvements - utility and street improvements aimed at flood mitigation based on recommendations from the 2021 Stormwater Master Plan. improvements include upgrades to sewer and water utilities as well as street regrading to limit flooding due to capacity and conveyance within the Mill Creek neighborhood.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed		N			

Action 11

Mitigation Action #11: Lake Cook Road Widening and Safety Upgrades					
Lead Agency/Department Organization: Cook County DOTH	Supporting Agencies/ Organizations: Village of Buffalo Grove, IDOT	Estimated Cost: High	Potential Funding Source: General Fund VBG is currently supporting this project with Phase I engineering CC DOTH, US DOT	Estimated Projected Completion Date: Long-term	Hazard(s) Mitigated: All
Year Initiated		2023 - indicated as new 2024			
Applicable Jurisdiction		Village of Buffalo Grove / Public Works			
Applicable Goal		1,2,3			
Applicable Objective		1,2,8,12,13			
Cost Analysis (Low, Medium, High)		High			
Priority and Level of Importance (Low, Medium, High)		Medium			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		High			
Action/Implementation Plan and Project Description:		Lake Cook Road widening and safety upgrades - Lake Cook Rd is a principle arterial and forms a major east-west link vital for any necessary evacuations at a regional level. Widening the road west of Raupp Blvd through Buffalo Grove is a key strategic importance.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: N = New; I = In Progress Toward Completion; O = Ongoing Indefinitely; C = Project Completed; R = Want Removed from Annex; X = No Action Taken/Delayed		N			

Ongoing Mitigation Actions

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

Continued Implementation of the WDO and NFIP Requirements

Mitigation Action #1: Continued Implementation of the WDO and NFIP Requirements					
Lead Agency/Department Organization: Administration	Supporting Agencies/ Organizations:	Estimated Cost: High	Potential Funding Source: General Fund Local or State Special Taxes Hazard Mitigation Grant Program (HMGP) Building Resilient Infrastructure and Communities (BRIC) MWRD FPPA	Estimated Projected Completion Date: Ongoing	Hazard(s) Mitigated: Flooding
Year Initiated		2024			
Applicable Jurisdiction		Village of Buffalo Grove			
Applicable Goal		1,2			
Applicable Objective					
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:		<p>No update: Improve Natural Hazards Public Information Efforts with focus on the Promotion of Flood Insurance and How People Can Protect Themselves and Their Property.</p> <p>The Village has improved their communications outreach to the community. We are continuing to improve our outreach including information about the NFIP and how residents and businesses can protect themselves and their properties.</p>			

	<p>Identify Needs and Obtain Alternate Power Sources for Critical Facilities and Shelters: Ongoing: No update Review of Critical Facilities and Implement of Appropriate Mitigation Measures Ongoing - Critical facilities are assessed during regular maintenance cycles.</p> <p>The Police Department maintains a list of critical infrastructure in Appendix A of General Order O-05 (updated 8/1/2023) and in the Village's EOP, updated in 2023. A annual reviews of these plans are completed by various department staff annually.</p> <p>Improve Capacity of Drainage Systems and/or Provide Additional Storage of Flood Waters: Ongoing: multiple projects at different stages (grant requests, design engineering of Northwood subdivision projects) Implement Maintenance Programs for Drainage Systems, Including Streambank and Ravine Stabilization Efforts Ongoing: maintenance programs ongoing. Larger-scale projects submitted for funding opportunities (Arboretum Shoreline stabilization submitted to DPRW Workgroup)</p>
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

Implement Property Protection Projects for Flooding

Mitigation Action #2: Implement Property Protection Projects for Flooding					
Lead Agency/Department Organization: Administration	Supporting Agencies/ Organizations:	Estimated Cost: High	Potential Funding Source: General Fund Local or State Special Taxes Hazard Mitigation Grant Program (HMGP) Building Resilient Infrastructure and Communities	Estimated Projected Completion Date: Ongoing	Hazard(s) Mitigated: Flooding

			(BRIC) MWRD FPPA		
Year Initiated	2024				
Applicable Jurisdiction	Village of Buffalo Grove				
Applicable Goal	1,2				
Applicable Objective					
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:	<p>Flood Mitigation Staff is aware of the need to mitigate flood risks with at-risk properties and is constantly reviewing opportunities to reduce this risk. This year, staff applied for over \$3 M in grant funding in 2023 for flood mitigation and green infrastructure/drainage improvement projects and studies.</p> <p>Identify Wind Mitigation Opportunities for the Protection of Buildings, and to Provide Safe Rooms and Sheltering: Ongoing: 15 facilities listed in GO O-5 for public sheltering. Part of the EMA public education includes safe shelter identification.</p> <p>Continue Work for NIMS Compliance: Ongoing: No update Seek Mitigation Grant Funding for Additional Mitigation Planning and Cost Beneficial Projects "IEMA accepted pre-application for BRIC funding Submitted IEMA sub-application for BRIC funding for C&CB activities: Engineering for the Farrington Ditch Confluence relocation project."</p> <p>Continue Participation or Consider Participation in StormReady: Ongoing: EMA just Recertified the Village in October 2023 as a Storm Ready Community. EMA has a representative as a Storm Ready Ambassador.</p> <p>The CERT Team also has at least 10 Storm Spotters Emergency Response: Ongoing : No update Response & Recovery Information Response staff from multiple departments completed various NIMS training modules applicable to their response needs. Applicable staff train in EOC Interface G191 and G2300 and attend a multi-day Enhanced All-Hazards Incident Management/Unified Command training by FEMA.</p>				
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 =	O				

Want Removed from Annex; X = No Action Taken/Delayed	
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Develop or Enhance the Community's Snow Removal Plan

Mitigation Action #3: Develop or Enhance the Community's Snow Removal Plan					
Lead Agency/Department Organization: Administration	Supporting Agencies/ Organizations:	Estimated Cost: High	Potential Funding Source: General Fund Local or State Special Taxes Hazard Mitigation Grant Program (HMGP) Building Resilient Infrastructure and Communities (BRIC) MWRD FPPA	Estimated Projected Completion Date: Ongoing	Hazard(s) Mitigated: Severe Winter Weather
Year Initiated		2024			
Applicable Jurisdiction		Village of Buffalo Grove			
Applicable Goal		1,2,5			
Applicable Objective					
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:		<p>Ongoing per BG's Annual Snow and Ice Plan (updated annually, last update Oct. 2023)</p> <p>Utility tree trimming: Ongoing per BG's Urban Forestry Maintenance Plan</p> <p>Sump Pump Disconnects: Ongoing: No update Conduct Local Drainage Studies</p> <p>"Ongoing Initiated Buffalo Creek Engineering Study in 2023"</p> <p>Increase Stormwater Detention Capacity: Ongoing: No update Investigate Countywide Warning System</p> <p>"Authorized staff can initiate, record, and send a village-wide Everbridge notification for various threats. Additional, more targeted measures are currently being</p>			

	investigated locally to better inform our residents and businesses of potential hazards and developing issues affecting their properties."
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
No completed actions at this time.

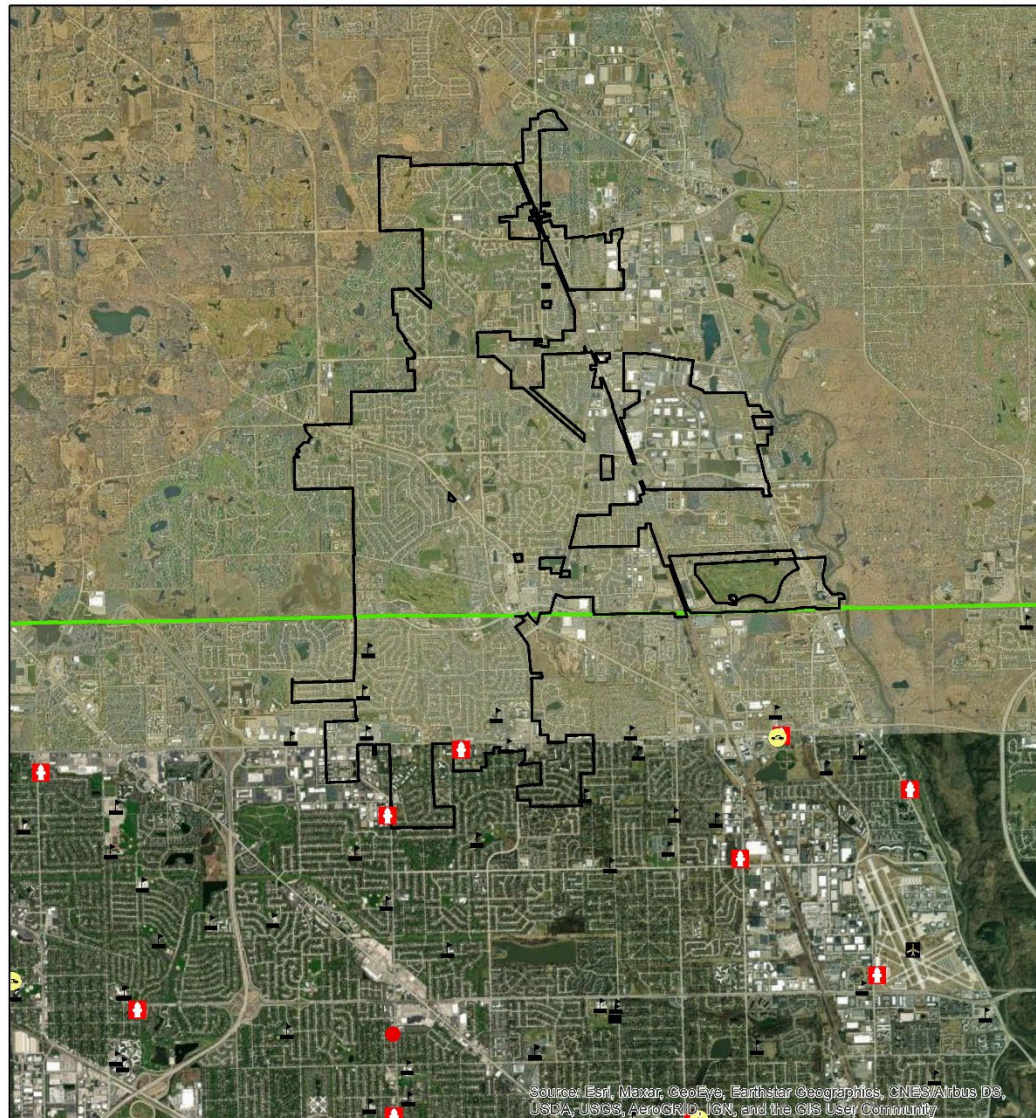
Future Needs to Better Understand Risk/Vulnerability

No future needs indicated.

Additional Comments

Buffalo Grove is participating in the 2022 Lake County All-Natural Hazards MP: <https://www.lakecountyil.gov/4946/All-Natural-Hazards-Mitigation-Plan-ANHM> This is the most updated version.

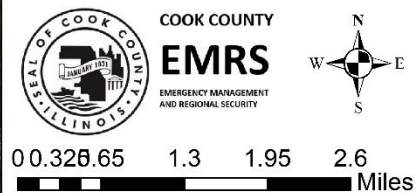
Hazard Mapping

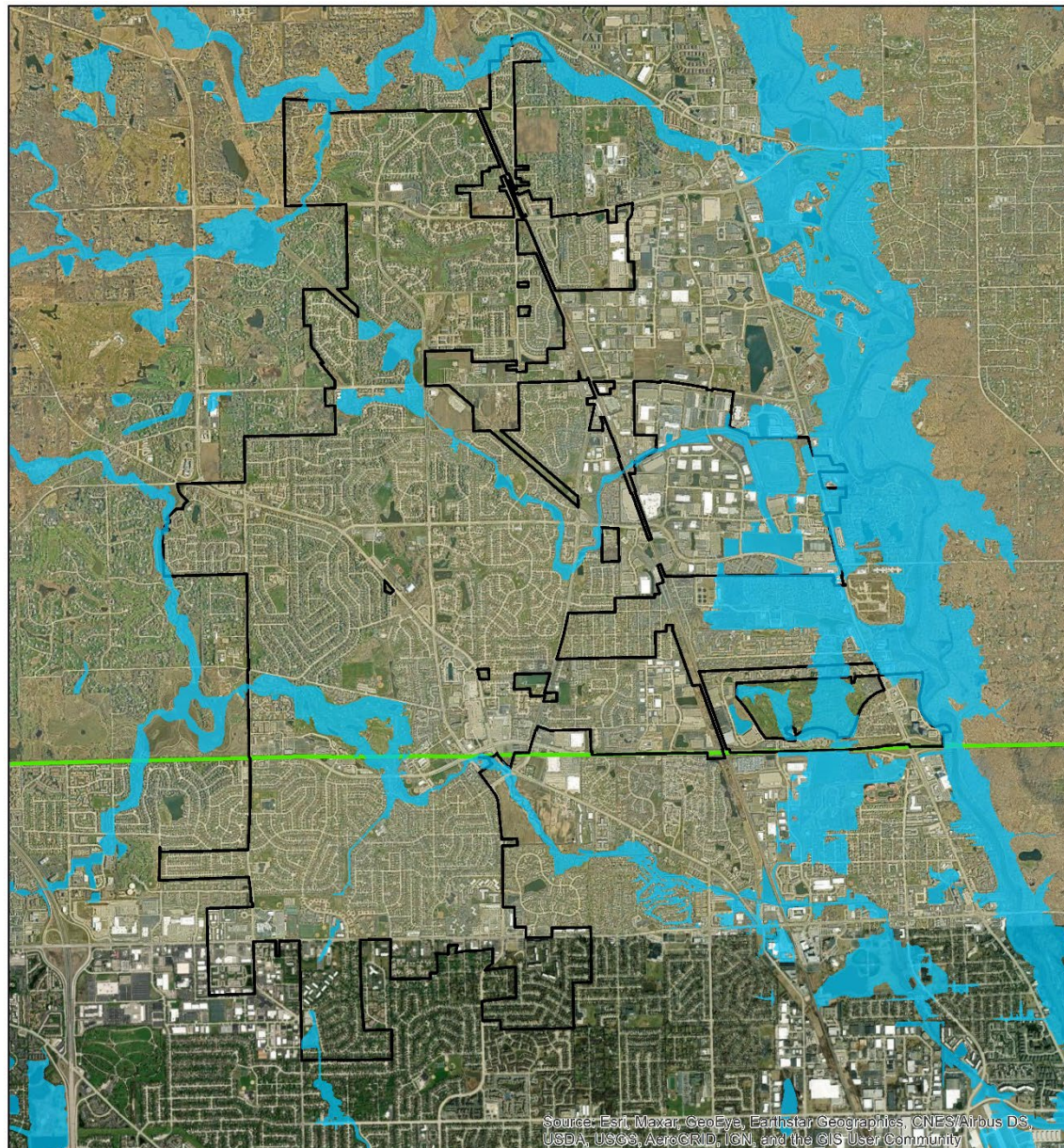


Village of Buffalo Grove

Critical Facilities

- Oil Facilities
- Police Station
- Fire Station
- Airport
- Hospital
- School
- Warming Center
- Cooling Center
- BuffaloGrove
- Cook County Boundary





Village of Buffalo Grove

Special Flood Hazard Area

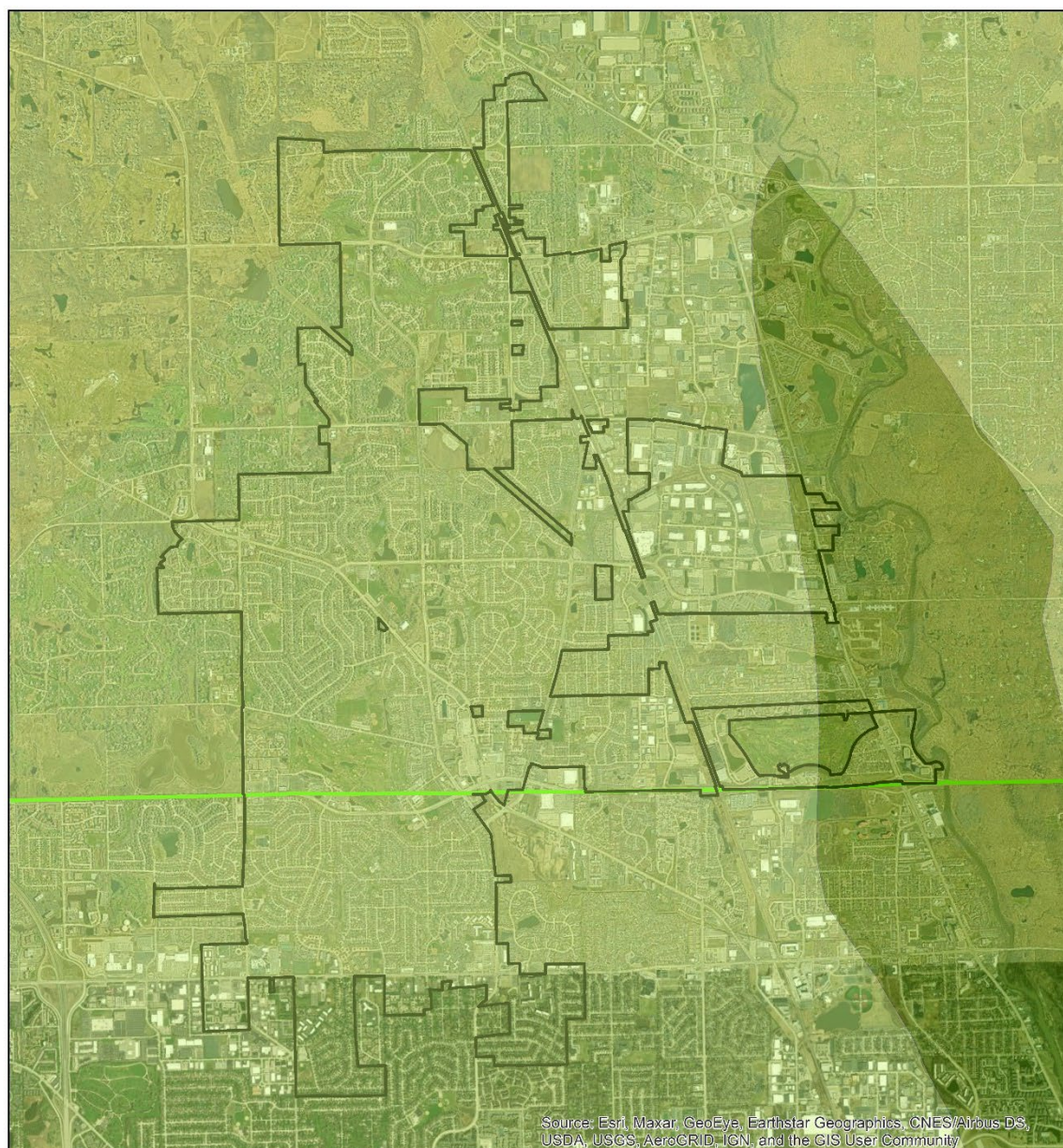
- 100-year flood zone
- Buffalo Grove
- Cook County Boundary



COOK COUNTY
EMRS
EMERGENCY MANAGEMENT
AND REGIONAL SECURITY



0.226.45 0.9 1.35 1.8
Miles



Village of Buffalo Grove

Liquefaction Suceptibility

Liquefaction Suceptibility

- Very High
- Low
- Very Low
- BuffaloGrove
- Cook County Boundary

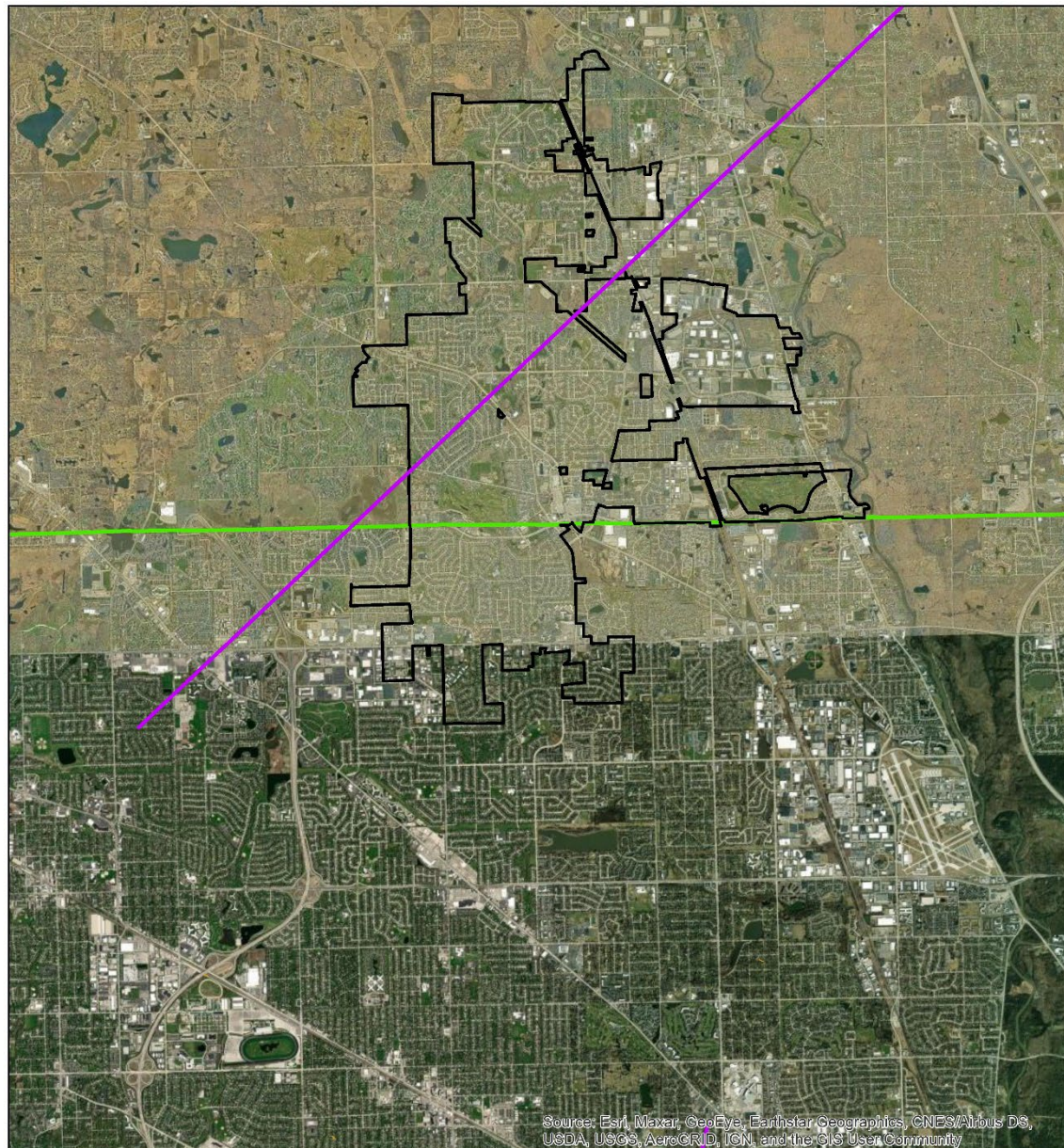


COOK COUNTY
EMRS
EMERGENCY MANAGEMENT
AND REGIONAL SECURITY



00.226.45 0.9 1.35 1.8
Miles

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



Village of Buffalo Grove

Tornado History 1950-2023

Magnitude

- EF-0
- EF-1
- EF-2
- EF-3
- EF-4
- BuffaloGrove
- Cook County Boundary

Source: Data derived from Nation
Weather Service (NWS)



COOK COUNTY
EMRS
EMERGENCY MANAGEMENT
AND REGIONAL SECURITY



0 0.350.7 1.4 2.1 2.8
Miles