# COOK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN VOLUME 2 - Municipal Annexes

# **Barrington Annex**

**FINAL** July 2019

Prepared for:



Cook County
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# Table of Contents

Hazard Mitigation Point of Contact	3
Jurisdiction Profile	Z
Capability Assessment	θ
Jurisdiction-Specific Natural Hazard Event History	10
Hazard Risk Ranking	11
Mitigation Strategies and Actions	12
New Mitigation Actions	13
Ongoing Mitigation Actions	16
Completed Mitigation Actions	17
Future Needs to Understand Risk and Vulnerability	18
Additional Comments	19
HAZUS-MH Risk Assessment Results	20
Hazard Mapping	22

# Hazard Mitigation Point of Contact

Primary Point of Contact	Alternate Point of Contact
James Arie, Fire Chief 400 N Northwest Hwy, Barrington, IL 60010 Telephone: 847-304-3600 Email Address: jarie@barrington-il.gov	David Dorn, Police Chief 400 N. Northwest Highway Barrington, IL 60010 Telephone: 847-304-3300 Email Address: ddorn@barrington-il.gov

#### Jurisdiction Profile

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

- Date of Incorporation: 1865
- Current Population: 10,373 as of 2014 (100% urban, 0% rural). (City-Data)
- **Population Growth:** Based on the data tracked by the U.S. Census Bureau, population change from 2000 to 2014 is 2.0%.
- Location and Description: Barrington is located at Latitude: 42.15° N, Longitude 88.14° W.
  Barrington is 32 miles (51 km) northwest of Chicago. The area features wetlands, forest
  preserves, parks, and horse trails in a country-suburban setting. Barrington is part of the Chicago
  metropolitan area and serves as the hub of activity for the surrounding 90-square-mile (230
  km2) region which consists of six independent villages including North Barrington, South
  Barrington, Barrington Hills, Lake Barrington and Tower Lakes, as well as small portions of
  Carpentersville, Deer Park, Hoffman Estates, and Inverness.
- Brief History: The Village was incorporated in 1865, but the Barrington area was settled by pioneers in the 1830s. The Village began as a farming community and quickly turned into a transportation hub as Barrington was platted along the Chicago & North Western Railway. In the early 1900s, the area became a countryside retreat for wealthy Chicago businessmen, and its equestrian tradition, small-town charm, and wide open spaces remain today. Much of the history of Barrington parallels the development of railroad lines from the port facilities in Chicago. Barrington serves as the hub of activity for the 90-square-mile Barrington area, which consists of 7 independent villages and more than 43,000 residents. The Metra train stops right in the village center, easily connecting Barrington to the City of Chicago. Barrington has the infamous honor of being the site of the 1934 "Battle at Barrington" that killed two FBI agents as well as notorious gangster Babyface Nelson. The Barrington area is unique in Chicago in that it lies so close to one of the world's finest cities, and yet it is better known for its vast open spaces, equestrian heritage, and as a "jumping-off" point from the city for outdoor recreation of all kinds.
- Climate: Barrington has a continental climate with summers generally wetter than the winters. The highest recorded temperature was 103 °F (39 °C) in July 1974 and July 1988; the lowest recorded temperature was −27 °F (−33 °C) in January 1982. Historical tornado activity for the Barrington area is slightly below Illinois state average. On April 11, 1965, an F4 tornado approximately 9.4 miles (15.1 km) away from downtown Barrington killed 6 people and injured 75. On April 21, 1967, a category 4 tornado approximately 5.1 miles (8.2 km) away from the village center killed one person, injured approximately 100 people and caused hundreds of thousands of dollars in damage.
- Governing Body Format: The Village of Barrington is a non-home rule municipality which functions under the council-manager form of government with a Village President and a six-member board of trustees, all of whom are elected at large to staggered four-year terms. Numerous departments and teams report to the village manager, including the departments of Human Resources and Risk Management, Community and Financial Services, Economic and Community Development, and Engineering & Building. Barrington's Emergency Management team, composed of the Public Works Department, Police Department, and Fire Department, also reports to the village manager. The village president is also responsible for the administration of many appointed boards and commissions, including the village's Ethics Board,

- Plan Commission, Zoning Board of Appeals, Architectural Review Commission, Electrical Commission, Fire & Police Commission, Police Pension Board, Fire Pension Board, and the Cultural Commission. The current Police Chief is David Dorn, and the current Fire Chief is Jim Arie.
- **Development Trends:** Since 1970, growth in the area has been monitored by the Barrington Area Council of Governments (BACOG), which includes representatives of the villages of Barrington, Barrington Hills, Deer Park, Lake Barrington, North Barrington, South Barrington, and Tower Lakes, and local townships who strive to balance the needs of residents for expansion against environmental and aesthetic concerns.

#### 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.

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TABLE: LEGAL AND REGULAT	ORY CAPA	ABILITY			
		State or	Other		
		Federal	Jurisdictional		Comments
	Authority	Prohibitions	Authority	Mandated	
Codes, Ordinances & Require	ements				
Building Code	Yes				
Zonings	Yes				
Subdivisions	Yes				
Stormwater Management	Yes				
Post Disaster Recovery	Yes				
Real Estate Disclosure					N/A
Growth Management	Yes				
Site Plan Review	Yes				
Public Health and Safety	Yes				
Environmental Protection	Yes				
Planning Documents					
General or Comprehensive	Yes				
Plan					
Is the plan equipped to provi	de linkage	to this mitigo	ation plan?		
Floodplain or Basin Plan	Yes				
Stormwater Plan	Yes				
Capital Improvement Plan	Yes				
What types of capital facilitie	es does the	plan addres.	s?		
How often is the plan revised	/updated?				
Habitat Conservation Plan	Yes				
Economic Development Plan	Yes				

Shoreline Management Plan					N/A
Response/Recovery Planning					
Comprehensive Emergency Management Plan	Yes				
Threat and Hazard Identification and Risk Assessment	Yes				
Terrorism Plan	Yes				
Post-Disaster Recovery Plan	Yes				
Continuity of Operations Plan	Yes				
Public Health Plans	Yes				

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	No
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	Dept. of Development Services		
Engineers or professionals trained in building or infrastructure construction practices	Yes	Dept. of Development Services		
Planners or engineers with an understanding of natural hazards	Yes	Dept. of Development Services		
Staff with training in benefit/cost analysis	Yes	Dept. of Development Services		
Surveyors	Yes	Dept. of Development Services		
Personnel skilled or trained in GIS applications	Yes	Dept. of Development Services		
Scientist familiar with natural hazards in local area	Yes	private consultants		
Emergency manager	Yes	Emergency Management Coordinator		
Grant writers	Yes	Dept. of Development Services		

TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE	
What department is responsible for floodplain management in your jurisdiction?	N/A
Who is your jurisdiction's floodplain administrator? (department/position)	N/A
Are any certified floodplain managers on staff in your jurisdiction?	N/A
What is the date of adoption of your flood damage prevention ordinance?	N/A
When was the most recent Community Assistance Visit or Community Assistance Contact?	N/A
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	N/A
Do your flood hazard maps adequately address the flood risk within your jurisdiction? (If no, please state why)	N/A
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?	N/A
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

TABLE: COMMUNITY CLASSIFICATIONS			
	Participating?	Classification	Date Classified
Community Rating System	No		

Building Code Effectiveness Grading Schedule	Yes	Bldg Code	Elect Code
		2018	2017
Public Protection/ISO	Yes	2	2019
StormReady	No		
Tree City USA	Yes	Certified Tree	1986
		City	

#### Jurisdiction-Specific Natural Hazard Event History

The information provided below was solicited from the jurisdiction and supported by NOAA and other relevant data sources.

The Natural Hazard Events Table lists all past occurrences of natural hazards within the jurisdiction.

- Repetitive flood loss records are as follows: Number of FEMA-Identified Repetitive Loss Properties: 0
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0

Type of Event	FEMA Disaster Number (if	Date	Preliminary Damage		
	applicable)		Assessment		
Flash Flood	-	5/30/2018	50,000 property damage.		
Hail	-	8/2/2015	-		
Hail	-	4/12/2014	-		
Severe Weather	-	6/18/2010	-		
Lightning	-	5/26/2010	200,000 property damage.		
Hail	-	6/19/2009	-		
Severe Weather	-	8/22/2007	3,000 property damage.		
Severe Weather	-	7/20/2006	-		
Severe Weather	-	9/22/2005	-		
Hail	-	9/22/2005	-		
Hail	-	5/19/2005	-		
Severe Weather		8/9/2001	-		
Severe Weather	-	7/22/2001	-		
Severe Weather	-	6/11/2001	-		

#### **Jurisdiction-Specific Hazards and Impacts**

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2019 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/Severe Weather:** Severe weather has caused damage to properties in Barrington on multiple occasions.

*Hail:* This event occurs during thunderstorms, which often cause flooding and severe wind events. Power line, structures, and trees are frequently damaged.

## 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:	ABLE: HAZARD RISK RANKING  Risk Rating Score (Probability x Im					
Rank	Hazard Type	The realing seeds (1.10000001) x milpust,				
1	Severe Weather	54				
2	Severe Winter Weather	54				
3	Tornado	45				
4	Flood	18				
5	Earthquake	16				
6	Drought	3				
7	Dam Failure	0				

#### Mitigation Strategies and Actions

The heart of the mitigation plan is the mitigation strategy, which serves as the long-term blueprint for reducing the potential losses identified in the risk assessment. The mitigation strategy describes how the community will accomplish the overall purpose, or mission, of the planning process. In this section, mitigation actions/projects were updated/amended, identified, evaluated, and prioritized. This section is organized as follows:

- New Mitigation Actions New actions identified during this 2019 update process
- Ongoing Mitigation Actions Ongoing actions with no definitive end or that are still in progress.
   During the 2019 update, these "ongoing" mitigation actions and projects were modified and/or amended, as needed.
- Completed Mitigation Actions An archive of all identified and completed projects, including completed actions since 2014.

The Hazard Mitigation Action Plan Matrix Table below lists the actions that make up the jurisdiction's hazard mitigation plan. The Mitigation Strategy Priority Schedule Table identifies the priority for each action.

Status	Hazards Mitigated	Objectives Met	_		Sources of Funding	Timeline/Projected Completion Date (a)
	1—Increase pu and installing e			redness an	d notification th	nrough public
New	All		•		Grants, Local Funds	2021
(a) Ongoi	ng indicates con				e. Short-term in	

## **New Mitigation Actions**

The following are new mitigation actions created during the 2019 update.

#### Action B1.1

Mitigation Action	Increase public awareness of disaster preparedness and notification through					
	public education and installing early notification systems.					
Year Initiated	2015					
Applicable Jurisdiction						
Lead	Village of Barrington					
Agency/Organization						
Supporting	Village of Barrington					
Agencies/Organizations						
Applicable Goal Promote public understanding of and support for hazard mitigation.						
Applicable Objective	Develop, improve, and protect systems that provide early warnings, emergency response communications, and evacuation procedures.  Use the best available data, science and technologies to educate the public and to improve understanding of the location and potential impacts of natural hazards, the vulnerability of building types and community development patterns, and the measures needed to protect life safety.					
Potential Funding Grants, Local Funds						
Source						
Estimated Cost	\$10,000					
Benefits (loss avoided)	Heightened awareness of hazardous conditions and appropriate actions to take to save lives					
Projected Completion Date	2021					
Priority and Level of						
Importance (Low,	High Priority					
Medium, High)						
Benefit Analysis (Low,	High—Project will provide an immediate reduction of risk exposure for life and					
Medium, High)	property.					
Cost Analysis (Low,	Medium—The project could be implemented with existing funding but would					
Medium, High)	require a re-apportionment of the budget or a budget					
	amendment, or the cost of the project would have to be spread over multiple					
	years.					
Actual Completion						
Date						

Recommended Mitigation Action/Implementation Plan and Project Description					
Action/Implementation	In order to enhance disaster survivability, we will provide a combination of				
Plan and Project	public education to increase public awareness of preparedness for hazardous				
Description:	events and install systems to provide early notification in the event of a disaster				
	and/or weather emergency.				

Mitigation Action and Project Maintenance					
Year	Status	Comments			
2019	New				
2020					
2021					
2022					
2023					

Mitig	gated Hazards
Х	All Hazards
	Dam/Levee Failure
X	Drought
	Earthquake
X	Flood
X	Extreme Heat
Х	Lightning
X	Hail
	Fog
Χ	High Wind
Х	Snow
Х	Blizzard
Х	Extreme Cold
Х	Ice Storms
Х	Tornado
	Epidemic or pandemic
	Nuclear Power Plant Incident
Х	Widespread Power Outage
	Coastal Erosion
	Secondary Impacts from Mass Influx of Evacuees
X	Hazardous Materials Incident

## Ongoing Mitigation Actions

Barrington has no ongoing actions at this time.

# Completed Mitigation Actions

Barrington has no completed actions at this time.

# Future Needs to Understand Risk and Vulnerability

None at this time.

# Additional Comments

None at this time.

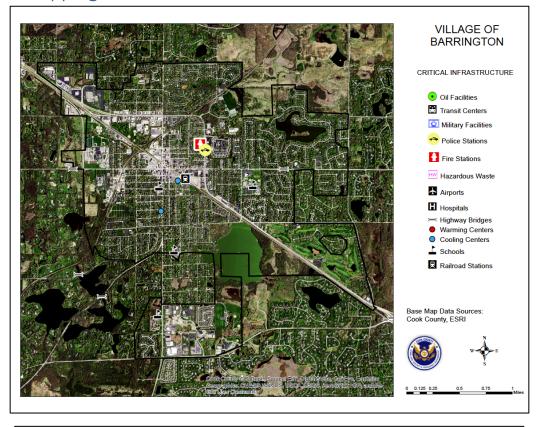
# HAZUS-MH Risk Assessment Results

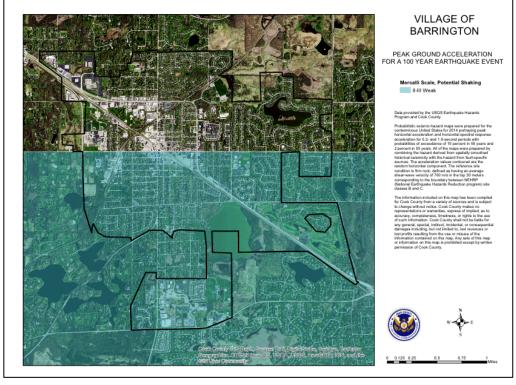
BARRINGTON EXISTING CONDITIONS					
2010 Population	10,327				
Total Assessed Value of Structures and Contents	\$2,896,000,000				
Area in 100-Year Floodplain	56.24 acres				
Area in 500-Year Floodplain	224.210 acres				
Number of Critical Facilities	28				

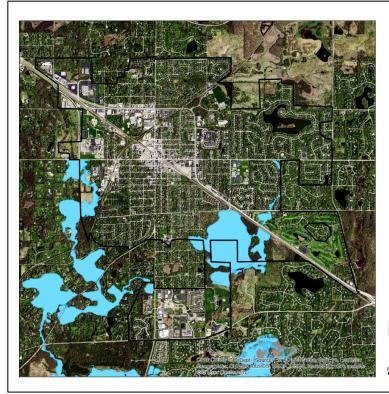
HAZARD EXPOSURE IN BARRINGTON							
	Number Exposed		Value Exposed to Hazard			% of Total Assessed	
	Population	Buildings	Structure	Contents	Total	Value Exposed	
Dam Failure							
Buffalo	0	0	\$0	\$0	\$0	0.00%	
Creek							
U. Salt Cr #2	0	0	\$0	\$0	\$0	0.00%	
Touhy	0	0	\$0	\$0	\$0	0.00%	
U. Salt Cr #3	0	0	\$0	\$0	\$0	0.00%	
U. Salt Cr #4	0	0	\$0	\$0	\$0	0.00%	
Flood	Flood						
100-year	563	2	\$5,775,000	\$2,576,000	\$8,351,000`	0.29%	
500-year	563	3	\$6,462,810	\$1,230,319	\$7,693,129	0.27%	
Tornado							
100-Year	-	-	\$516,611,391	\$467,697,282	\$984,308,673	33.99%	
500-Year	-	-	\$1,054,644,816	\$650,751,279	\$1,705,396,095	58.89%	

<b>ESTIMATED PROP</b>	PERTY DAMAGE VALU	ES IN BARRINGTON			
	Estimated Damage	% of Total Assessed			
	Building Contents <b>Total</b>		Total	Value Damaged	
Dam Failure					
Buffalo Creek	\$0	\$0	<b>\$0</b>	0.00%	
Touhy	\$0	\$0	<b>\$0</b>	0.00%	
U. Salt Cr. #2	\$0	\$0	<b>\$0</b>	0.00%	
U. Salt Cr. #3	\$0	\$0	<b>\$0</b>	0.00%	
U. Salt Cr. #4	\$0	\$0	<b>\$0</b>	0.00%	
Earthquake					
1909 Historical	\$509,586.54	\$142,837.80	\$652,424.34	0.02%	
Event					
Flood					
100-Year	\$5,775,000	\$2,576,000	\$8,351,000	0.28%	
500-Year	\$6,462,810	\$1,230,319	\$7,693,129	0.27%	
Tornado					
100-Year	\$516,611,391	\$467,697,242	\$984,308,673	33.99%	
500-Year	\$1,054,644,816	\$650,751,279	\$1,705,396,095	58.89%	

# Hazard Mapping







#### VILLAGE OF **BARRINGTON**

COOK COUNTY MWRDGC 100-YEAR INUNDATION AREA

100-year Inundation Area

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

Chicago and Cook County.

The information included on this map has been compiled for Cook County from a variety of sources and is subject to change without notice. Cook County makes no representations or warranties, express of implied, as to accuracy, completeness, the control of the contro

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 apps can be obtained from http://www.fema.gov.









#### VILLAGE OF **BARRINGTON**

LIQUEFACTION SUSCEPTIBILITY

LIQUEFACTION SUSCEPTIBILITY

high low very low

Data produced by the litrois State Guatogical Survey and Cook Coastly.

The Certral United States Earthquake Consostitum.

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#### VILLAGE OF BARRINGTON

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.









#### VILLAGE OF **BARRINGTON**

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.



