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

University Park Annex

FINAL

July 2019

Prepared for:

Cook County
Department of Homeland Security and Emergency Management
69 W. Washington St., Suite 2600
Chicago, Illinois 60602

Toni Preckwinkle
President
Cook County Board of Commissioners

William Barnes
Executive Director
Cook County Department of Homeland Security & Emergency Management

Table of Contents

Hazard Mitigation Point of Contact 2
Jurisdiction Profile 3
Capability Assessment 5
Jurisdiction-Specific Natural Hazard Event 9
Hazard Risk Ranking 10
Mitigation Strategies and Actions 11
New Mitigation Actions 13
Ongoing Mitigation Actions 17
Completed Mitigation Actions 18
Future Needs to Better Understand Risk/Vulnerability 19
Additional Comments 20
HAZUS-MH Risk Assessment Results 21
Hazard Mapping 24

Hazard Mitigation Point of Contact

Primary Point of Contact	Alternate Point of Contact
Deborah Wilson, Sergeant 708-235-4841 dwilson@university-park-il.com	Brian Chelios, Fire Chief 708-513-4079 bchellios@university-park-il.com

Jurisdiction Profile

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

- **Date of Incorporation:** 1967
- **Current Population:** The US Census 2016 estimate for population was 7,052.
- **Population Growth:** Based on the data tracked by the US Census Bureau, the Village's population decreased between 2010 to 2016 by -0.94 percent.
- **Location and Description:** University Park is located at Latitude: 41°26’22”N Longitude: 87°41’50”W. University Park is a village and a southern suburb of Chicago in Cook and Will counties within the State of Illinois. According to the 2010 census, University Park has a total area of 10.842 square miles (28.08 km2), of which 10.84 square miles (28.08 km2) (or 99.98%) is land and 0.002 square miles (0.01 km2) (or 0.02%) is water.
- **Brief History:** In the late 1950s, Woodhill Enterprises purchased land south of Park Forest for a large subdivision. Lewis Manilow formed New Community Enterprises (NCE) to build "a whole new town." Major partners included Illinois Central Industries and United States Gypsum Company. NCE supported the incorporation of Park Forest South in 1967 with projections for 100,000 residents. Under the federal New Communities Act of 1968, Park Forest South was designated as one of 15 such "new communities". Planning included space for residential, commercial, and industrial development and addressed the needs of education, recreation, and faith communities. Racial integration was a goal from the beginning. In 1970, the state of Illinois allocated $24 million for the GSU campus. In 1971, HUD guaranteed $30 million in loans to bring the vision to reality. However, difficulties arose, leading to suspended development in late 1974. However, new town planning remains evident. The industrial park next to Interstate 57 is integral to the Village, and residential areas continue to offer open space, bikeways, and additional development.
- **Climate:** In University Park, the average rainfall is 40.7 inches and snowfall is 27.9 inches. The average July annual high temperature is 85.5 °F and the January low is 15.6 °F.
- **Governing Body Format:** University Park is governed by a Mayor and six committee members that make up the Board of Trustees. The Village of University Park has established various other committees and commissions in order to assist and advise with various aspects within the community. Appointments to these roles vary based on the committee itself, Mayoral appointments, and the Board of Trustees' support for these appointments. The term of the committee/commission member is usually three years unless otherwise specified in the ordinance governing that particular body.
- **Development Trends:** Initially, based on the proposal given to HUD in the 1970s, University Park was intended for 100,000, adapted to a slow-growth plan anticipating an eventual 20,000 to 25,000 residents. While growth slowed in 1974 due to various issues, the Village has continued to focus on expansion projects. University Park, coined "the Village of Growth," has produced recent development opportunities and capital improvement projects. The Village is currently

seeking a big-box retailer to occupy approximately 35,000 sq. ft. former grocery store site. Additionally, University Park is updating its roadway project and bike paths and is in the planning stage for multiple solar-powered farms.

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				
Zonings	Yes				Ordinance 115
Subdivisions	Yes				Ord. 116
Stormwater Management	Yes				
Post Disaster Recovery	Uknown				
Real Estate Disclosure	Uknown				
Growth Management	Unkown				
Site Plan Review	Yes				
Public Health and Safety	Yes				Will County Department of PH
Environmental Protection	Yes				
Planning Documents					
General or Comprehensive Plan	Yes				amended 2014
Is the plan equipped to provide linkage to this mitigation plan?					
Floodplain or Basin Plan	Yes				
Stormwater Plan	Yes				

Capital Improvement Plan	Yes				
What types of capital facilities does the plan address?					
How often is the plan revised/updated?					
Habitat Conservation Plan	Unknown				
Economic Development Plan	Yes				
Shoreline Management Plan	No				
Response/Recovery Planning					
Comprehensive Emergency Management Plan	-				No current plan
Threat and Hazard Identification and Risk Assessment	-				County
Terrorism Plan	No				
Post-Disaster Recovery Plan	-				County
Continuity of Operations Plan	No				
Public Health Plans					Will County PH

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	Eligible
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	Unknown
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	Contract Staff - Robinson Eng
Engineers or professionals trained in building or infrastructure construction practices	Yes	Contract Staff - Robinson Eng
Planners or engineers with an understanding of natural hazards	Yes	Contract Staff - Robinson Eng
Staff with training in benefit/cost analysis	Yes	Village and Finance Mng
Surveyors	Yes	Contract Staff - Robinson Eng
Personnel skilled or trained in GIS applications	Yes	Contract Staff - Robinson Eng
Scientist familiar with natural hazards in local area	No	
Emergency manager	No	
Grant writers	Yes	Contract Staff - Robinson Eng

TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE	
What department is responsible for floodplain management in your jurisdiction?	Contract Staff - Robinson Eng
Who is your jurisdiction's floodplain administrator? (department/position)	Contract Staff - Robinson Eng
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date of adoption of your flood damage prevention ordinance?	
When was the most recent Community Assistance Visit or Community Assistance Contact?	Unknown

Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? (If no, please state why)	Yes (work with MWRD)
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?	UP contracts
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?	Interested in participating

TABLE: COMMUNITY CLASSIFICATIONS

	Participating?	Classification	Date Classified
Community Rating System	No		
Building Code Effectiveness Grading Schedule	Unknown		
Public Protection/ISO	Unknown		
StormReady	No		
Tree City USA	No		

Jurisdiction-Specific Natural Hazard Event

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

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: Stormwater sewer infrastructure is taxed impacting both residential and commercial properties/services, there is risk exposure for life and property. Governors State University is within the village limits/and a energy distribution power plant

Blizzard/Ice Storms: Same issue as above.

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	Risk Rating Score (Probability x Impact)
1	Severe Weather	54
2	Severe Winter Weather	54
3	Tornado	34
4	Flood	22
5	Earthquake	11
6	Drought	10
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.

TABLE: HAZARD MITIGATION ACTION PLAN MATRIX

Status	Hazards Mitigated	Objectives Met	Lead Agencies	Estimated Cost	Sources of Funding	Timeline/Projected Completion Date (a)
Action U1.1—Conduct a stormwater sewer capacity and infrastructure study						
New	Flood, Blizzard, Ice Storms	1, 2, 3	DPW	$1,000,000; High	No local funds currently exist	24 months post-award
(a) Ongoing indicates continuation of an action that is already in place. Short-term indicates implementation within five years. Long-term indicates implementation after five years.						

TABLE: MITIGATION STRATEGY PRIORITY SCHEDULE

Action Number	Number of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority (*a*)
1	3	High	High	Yes	Yes	Unknown	High

(a) See Chapter 1 for explanation of priorities.

New Mitigation Actions

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

Action U1.1

Mitigation Action	Conduct a stormwater sewer capacity and infrastructure study
Year Initiated	2019
Applicable Jurisdiction	University Park
Lead Agency/Organization	DPW
Supporting Agencies/Organizations	Public Safety
Applicable Goal	• Develop and implement sustainable, cost-effective, and environmentally sound risk-reduction (mitigation) projects. • Protect the lives, health, safety, and property of the citizens of Cook County from the impacts of natural hazards. • Protect public services and critical facilities, including infrastructure, from loss of use during natural hazard events. • Involve stakeholders to enhance the local capacity to mitigate, prepare for, and respond to the impacts of natural hazards. • Develop, promote, and integrate mitigation action plans. • Promote public understanding of and support for hazard mitigation.
Applicable Objective	• Eliminate or minimize disruption of local government operations caused by natural hazards through all phases of emergency management. • Increase the resilience of (or protect and maintain) infrastructure and critical facilities. • Consider the impacts of natural hazards on future land uses in the planning area, including possible impacts from climate change.
Potential Funding Source	No local funds currently exist
Estimated Cost	$1,000,000
Benefits (loss avoided)	Aging infrastructure is taxed requires study to complete and identify priorities
Projected Completion Date	24 months post-award
Priority and Level of Importance (Low, Medium, High)	High Priority

Benefit Analysis (Low, Medium, High)	High—Project will provide an immediate reduction of risk exposure for life and property.
Cost Analysis (Low, Medium, High)	High—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).
Actual Completion Date	

Recommended Mitigation Action/Implementation Plan and Project Description	
Action/Implementation Plan and Project Description:	We know the infrastructure is aged and taxed impacting both residential and commercial properties/services. Note: Governors State University is within the village limits/and a energy distribution power plant

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

Mitigated Hazards	
	All Hazards
	Dam/Levee Failure
	Drought
	Earthquake
X	Flood
	Extreme Heat
	Lightning
	Hail
	Fog
	High Wind
	Snow
X	Blizzard
	Extreme Cold
X	Ice Storms
	Tornado
	Epidemic or pandemic
	Nuclear Power Plant Incident

	Widespread Power Outage
	Coastal Erosion
	Secondary Impacts from Mass Influx of Evacuees
	Hazardous Materials Incident

Ongoing Mitigation Actions

University Park has no ongoing actions at this time.

Completed Mitigation Actions

University Park has no completed actions at this time.

Future Needs to Better Understand Risk/Vulnerability

No needs have been identified at this time.

Additional Comments

No additional comments at this time

HAZUS-MH Risk Assessment Results

UNIVERSITY PARK EXISTING CONDITIONS	
2010 Population	7,052
Total Assessed Value of Structures and Contents	$0
Area in 100-Year Floodplain	0 acres
Area in 500-Year Floodplain	0 acres
Number of Critical Facilities	18

HAZARD EXPOSURE IN UNIVERSITY PARK

	Number Exposed		Value Exposed to Hazard			% of Total Assessed Value Exposed
	Population	Buildings	Structure	Contents	**Total**	
Dam Failure						
Buffalo Creek	0	0	$0	$0	$0	%
Touhy	0	0	$0	$0	$0	0.00%
U. Salt Cr. #2	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						
100-Year	0	0	$0	$0	$0	0.00%

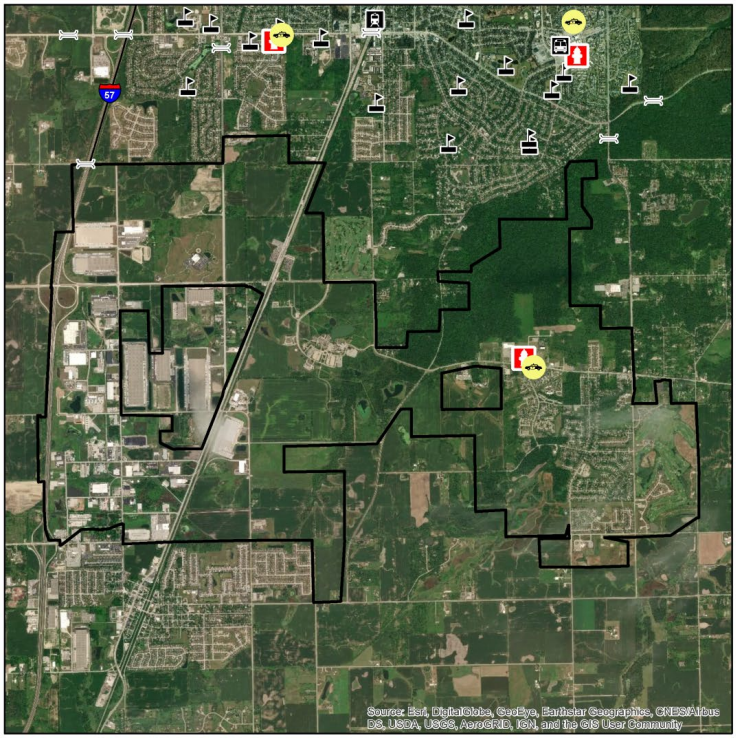
500-Year	0	0	$0	$0	$0	0.00%
Tornado						
100-Year	-	-	$40,183,070	$20,504,158	$60,687,228	
500-Year	-	-	$1,393,224,674	$1,334,918,845	$2,728,143,519	

ESTIMATED PROPERTY DAMAGE VALUES IN UNIVERSITY PARK

	Estimated Damage Associated with Hazard			% of Total Assessed Value Damaged
	Building	Contents	**Total**	
Dam Failure				
Buffalo Creek	$0	$0	$0	0.00%
Touhy	$0	$0	$0	0.00%
U. Salt Cr. #2	$0	$0	$0	0.00%
U. Salt Cr. #3	$0	$0	$0	0.00%
U. Salt Cr. #4	$0	$0	$0	0.00%
Earthquake				
1909 Historical Event	$793,035.05	$238,983.59	$1,032,018.64	
Flood				
10-Year	$0	$0	$0	0.00%
100-Year	$0	$0	$0	0.00%
500-Year	$0	$0	$0	0.00%

Tornado				
100-Year	$40,183,070	$20,504,158	$60,687,228	
500-Year	$1,393,224,674	$1,334,918,845	$2,728,143,519	

Hazard Mapping



VILLAGE OF UNIVERSITY PARK

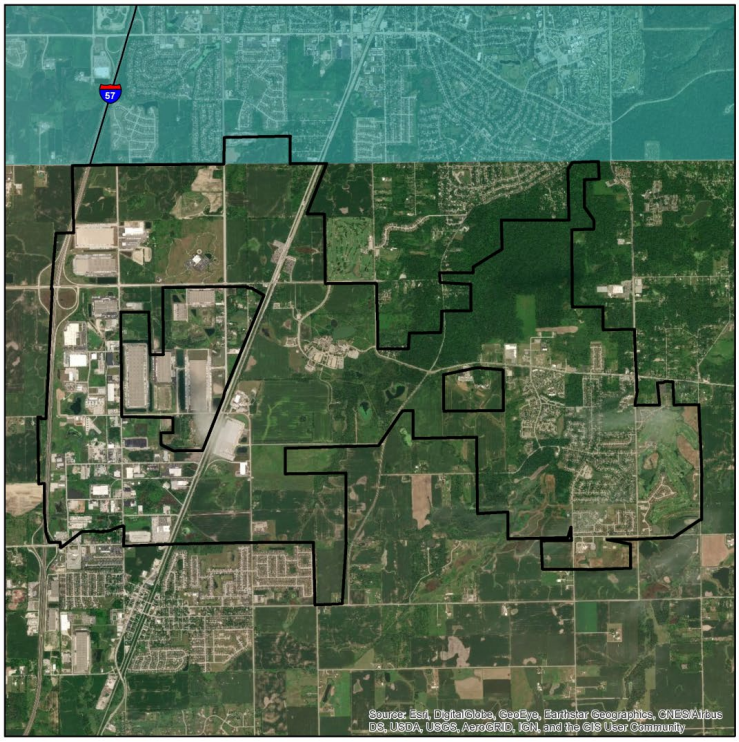
CRITICAL INFRASTRUCTURE

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

Base Map Data Sources:
Cook County, ESRI

N W E S

0 0.2 0.4 0.8 1.2 1.6 Miles



VILLAGE OF UNIVERSITY PARK

PEAK GROUND ACCELERATION FOR A 100 YEAR EARTHQUAKE EVENT

Mercalli Scale, Potential Shaking

II-III Weak

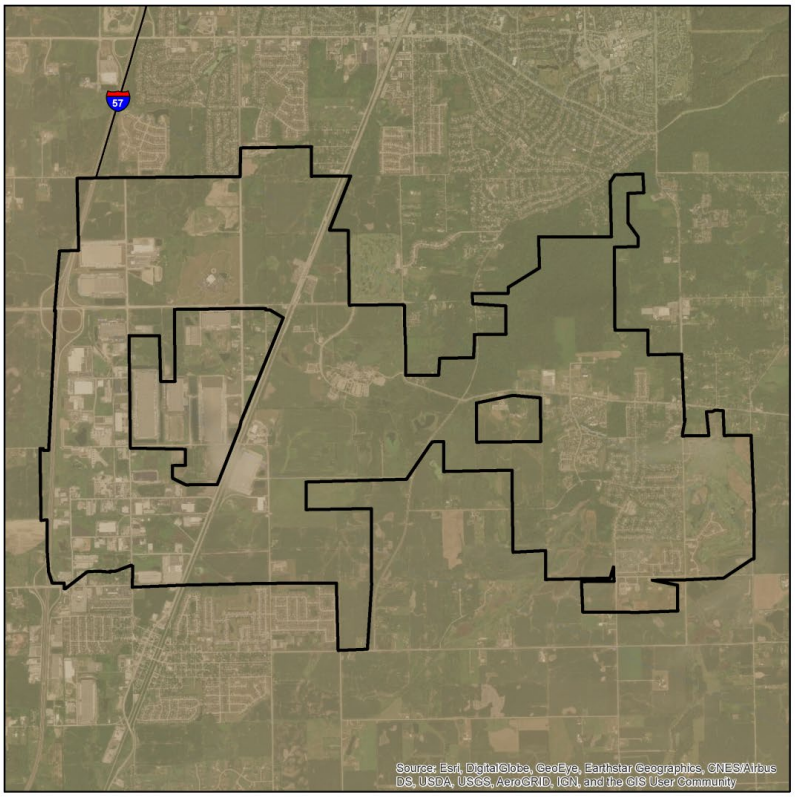
Data provided by the USGS Earthquake Hazards Program and Cook County.

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

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, timeliness, or rights to the use of such information. Cook County shall not be liable for any general, special, indirect, incidental, or consequential damages including, but not limited to, lost revenues or lost profits resulting from the use or misuse of the information contained on this map. Any sale of this map or information on this map is prohibited except by written permission of Cook County.

N W E S

0 0.2 0.4 0.8 1.2 1.6 Miles



VILLAGE OF UNIVERSITY PARK

NATIONAL EARTHQUAKE HAZARD REDUCTION PROGRAM (NEHRP) SOIL CLASSIFICATION

TYPE

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

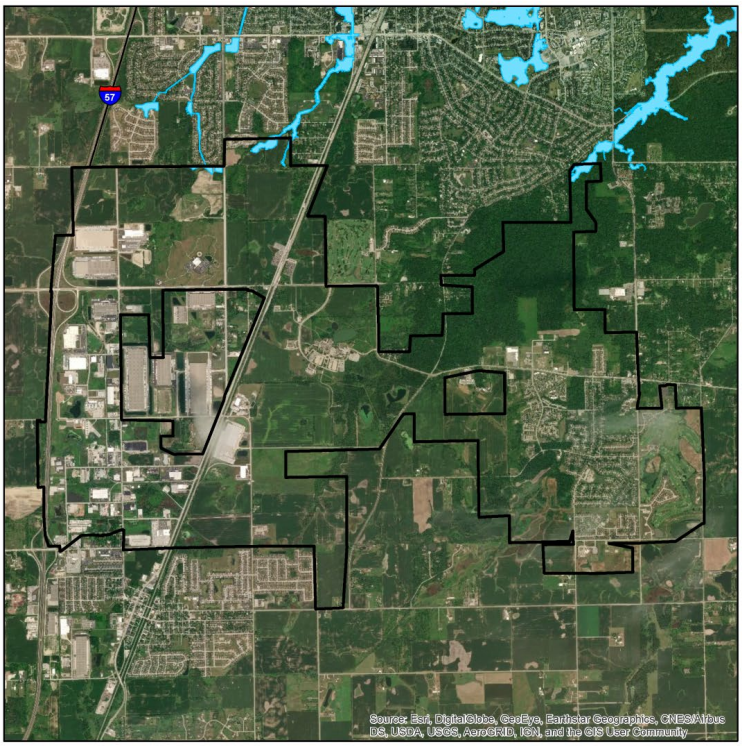
Data provided by the Illinois State Geological Survey and Cook County.

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-2789 Map of Surficial Deposits and Materials in the Eastern and Central United State (East of 102 degrees West Longitude) by David S. Fullerton, Charles A. Bush and Jean N. Pennell (2003) was the base map used for this work. Each State Geological Survey produced its own state map version of the Soil Site Class and Liquefaction Susceptibility maps. The procedures outlined in the NEHRP provisions (Building Seismic Safety Council, 2004) and the 2003 International Building Codes (International Code Council, 2002) were followed to produce the soil site class maps. CUSEC State Geologists used the entire column of soils material down to bedrock and did not include any bedrock in the calculation of the average shear wave velocity for the column, since it is the soil column and the difference in shear wave velocity of the soils in comparison to the bedrock which influences much of the amplification.

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

N
W E
S

0 0.2 0.4 0.8 1.2 1.6 Miles



VILLAGE OF UNIVERSITY PARK

COOK COUNTY MWRDGC 100-YEAR INUNDATION AREA

100-year Inundation Area

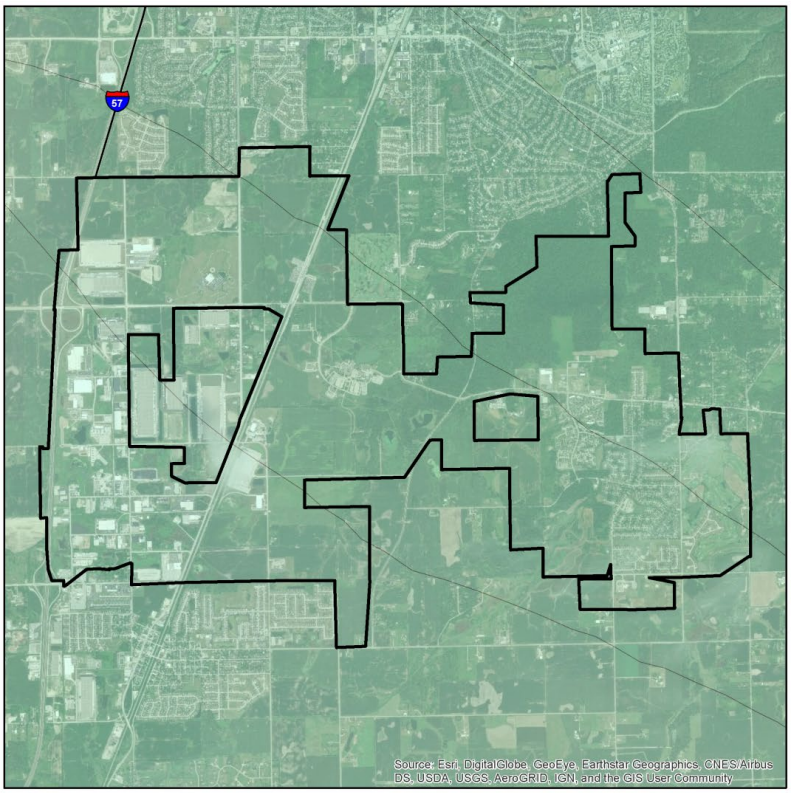
MWRDGC Data provided by Metropolitan Water Reclamation District of Greater Chicago and Cook County.

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, timeliness, or rights to the use of such information. Cook County shall not be liable for any general, special, indirect, incidental, or consequential damages including, but not limited to, lost revenues or lost profits resulting from the use or misuse of the information contained on this map. Any sale of this map or information on this map is prohibited except by written permission of Cook County.

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.

N
W E
S

0 0.2 0.4 0.8 1.2 1.6 Miles



VILLAGE OF UNIVERSITY PARK

LIQUEFACTION SUSCEPTIBILITY

LIQUEFACTION SUSCEPTIBILITY
- high
- low
- very low

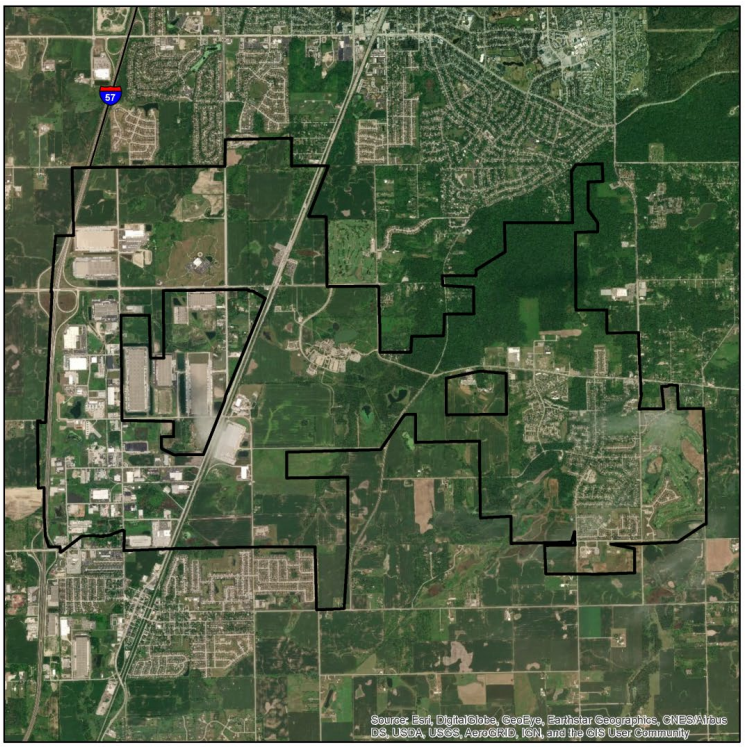
Data provided by the Illinois State Geological Survey and Cook County.

The Central United States Earthquake Consortium (CUSEC) State Geologists produced a regional Soil Site Class map (NEHRP Soil Profile Type Map), a Liquefaction Susceptibility Map and a Soil Response Map for the 8 states to be used in the FEMA New Madrid Catastrophic Planning Initiative Phase II work. The USGS Geologic Investigation Series I-2789 Map of Surficial Deposits and Materials in the Eastern and Central United State (East of 102 degrees West Longitude) by David S. Fullerton, Charles A. Bush and Jean N. Pennell (2003) was the base map used for this work. Each State Geological Survey produced its own state map version of the Soil Site Class and Liquefaction Susceptibility maps. The procedures outlined in the NEHRP provisions (Building Seismic Safety Council, 2004) and the 2003 International Building Codes (International Code Council, 2002) were followed to produce the soil site class maps. CUSEC State Geologists used the entire column of soils material down to bedrock and did not include any bedrock in the calculation of the average shear wave velocity for the column, since it is the soil column and the difference in shear wave velocity of the soils in comparison to the bedrock which influences much of the amplification.

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

N W E S

0 0.2 0.4 0.8 1.2 1.6 Miles



VILLAGE OF UNIVERSITY PARK

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.

N W E S

0 0.2 0.4 0.8 1.2 1.6 Miles