

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

Dolton 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.....	11
Mitigation Strategies and Actions.....	12
New Mitigation Actions	16
Ongoing Mitigation Actions	25
Completed Mitigation Actions	33
Future Needs to Better Understand Risk/Vulnerability	34
Additional Comments.....	35
HAZUS-MH Risk Assessment Results	36
Hazard Mapping.....	39

Hazard Mitigation Point of Contact

Primary Point of Contact	Alternate Point of Contact
Elizabeth Scott, Village Administrator 14122 Chicago Rd. Dolton, IL 60419 Telephone: 708-201-3348 Email Address: escott@vodolton.org	Matthew Stacey, Public Works Superintendent 401 E 144th St. Dolton, IL 60419 Telephone: 708-201-3281 Email Address: mstacey@vodolton.org

Jurisdiction Profile

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

- **Date of Incorporation:** 1892
- **Current Population:** The US Census estimated the 2018 population to be 22,547.
- **Population Growth:** Since 2000, there has been around a 10 percent decrease in population of Dolton.
- **Location and Description:** Dolton is located in Cook County, approximately 21.9 miles directly south of the Chicago loop. The Village of Dolton bordered by Chicago to the north, Riverdale and Harvey to the west, South Holland to the south, and Calumet City to the east. I94 runs the along the eastern border of Dolton. Dolton has a total land area of 4.68 square miles.
- **Brief History:** Dolton and Riverdale were practically one community until each incorporated as a village in 1892. George Dolton settled where the old Indian trail (Lincoln Avenue) crossed the Little Calumet River in 1835 and operated a ferry with J. C. Matthews, who arrived in 1836. Dolton and Vincent Matthews operated the ferry until 1842, when a toll bridge was built that operated until 1856. This activity took place along Indiana Avenue in what is now the village of Riverdale and the Riverdale community of Chicago and was known as “Riverdale Crossing.” Dolton’s sons settled here, and it is for them that the town is named. A period of German immigration intensified in the late 1840s. The earliest industries were a distilling company and a lumber company located on the Calumet River. The coming of the railroads stimulated Dolton’s growth. The 1850s began a period of rail expansion that has characterized Dolton’s physical setting and brought in Irish Catholics who worked in constructing the railroads. From 1866 to 1910 the village was known as Dolton Station. Hay and grain were the earliest agricultural products. By the 1890s Dolton was a center for producing agricultural products for Chicago, such as potatoes, asparagus, cabbage, onions, sugar beets, eggplants, and lima beans. This early agricultural activity lead to the area’s packing and canning industries. In the 1960s the Calumet Expressway (now the Bishop Ford Freeway) improved automobile and truck access to Chicago by two interchanges serving Dolton. In recent years large numbers of African Americans have moved to Dolton. The 2000 census reported a population of 25,614 with 14 percent white, 82 percent black, and 3 percent Hispanic.
- **Climate:** The climate in Dolton is classified as humid continental, with all four seasons distinctly represented: wet springs; hot/often humid summers; pleasant autumns; and cold winters. Annual precipitation is average - reaching its lowest points in the months of January and February and peaks in the months of May and June. Snowfall in the Village has ranged from 9.8 inches (1920–21) up to 89.7 inches (1978–79). Winter conditions can persist well into April and even occasionally into May. Thunderstorms are especially prevalent in the spring as the Village’s proximity to Chicago’s lakeside location makes it a center of conflicts between large volumes of warmer and colder air, triggering many kinds of severe weather. In the summer humidity is usually moderately high and temperatures ordinarily reach anywhere between 78 and 92 °F (26 and 33 °C). Overnight temperatures in summer usually drop to around 65–70 °F (18–21 °C). Although in July and August, there are usually several nights where the temperature drops below 60 °F (16 °C). The community’s yearly precipitation is on average 36 inches; however,

during the summer, rain arises from short-lived, hit-or-miss rain rather than actual prolonged rainfalls as thunderstorms also occur with regularity at night. In a normal summer, temperatures exceed 90 °F (32 °C) on 23 days. Summer is both the rainiest and sunniest season. The extreme heat that Dolton is capable of experiencing during the height of the summer season can persist into the autumn season. Temperatures have reached 100 degrees as late as September 7 (with 99 °F or 37 °C occurring as late as September 29), and temperatures have reached the lower-to-mid 90s Fahrenheit (low 30s Celsius) as late as October 6. Conversely, temperatures have dropped below freezing overnight as early as September 23, and subzero temperatures (below -18 °C) have arrived as early as November 23. Therefore, Autumn, in some ways, is a calmer season than any of the other three in the Village of Dolton.

- **Governing Body Format:** The Village of Dolton operates under the Mayor/Trustee form of government. The legislative body consists of the Mayor, the Village Clerk, and a Board of six Trustees. The Mayor and Board of Trustees serve a term of four years. This body of Government will assume the responsibility for the adoption and implementation of this plan. Dolton operates 6 village departments including, Police Department, Fire Department, Department, Department of Revenue, Housing Department, Building Department, and Economic Development.
- **Development Trends:** The Village of Dolton offers a number of attractive incentives to help create a healthy business environment. New, as well as established businesses reap the benefits of the Village's economic development program. Our Village economic development programs include Community Development Block Grants, the City's State-certified Enterprise Zone, Tax Increment Financing, job training and other economic development incentives. For more than 100 years, Dolton has encouraged development and expansion of commercial and industrial enterprises.

Capability Assessment

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

TABLE: LEGAL AND REGULATORY CAPABILITY					
	Local Authority	State or Federal Prohibitions	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements					
Building Code	Yes	No	No	Yes	1971 Code Ch. 77, §20
Zonings	Yes	No	No	Yes	1987 Code
Subdivisions	Yes	No	No	No	1971 Code
Stormwater Management	Yes	No	Yes	Yes	State regulates industrial activity from Construction sites 1 acre or larger under section 402 CWA. 1987 Code
Post Disaster Recovery	No	No	No	No	
Real Estate Disclosure	No	No	Yes	Yes	(765 ILCS 77/) Residential Real Property Disclosure Act.
Growth Management	Yes	No	Yes	Yes	1971 Village Plan
Site Plan Review	Yes	No	No	No	1971 Code Ch. 142 §2
Public Health and Safety	Yes	No	No	No	Cook County Board of Health Ord. 85-12, 7-2-85

Environmental Protection	No	No	No	No	
Planning Documents					
General or Comprehensive Plan	Yes	No	No	No	Dolton Comprehensive Plan 2013
<i>Is the plan equipped to provide linkage 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>					N/A
<i>How often is the plan revised/updated?</i>					N/A
Habitat Conservation Plan	No	No	No	No	
Economic Development Plan	Yes	No	Yes	Yes	Within the Dolton Comprehensive Plan
Shoreline Management Plan	No	No	No	No	
Response/Recovery Planning					
Comprehensive Emergency Management Plan	No	No	Yes	Yes	Cook County DHSEM
Threat and Hazard Identification and Risk Assessment	No	No	Yes	No	Cook County DHSEM Preparing THIRA
Terrorism Plan	No	No	Yes	Yes	Cook County DHSEM
Post-Disaster Recovery Plan	No	No	No	No	
Continuity of Operations Plan	No	No	Yes	No	Cook County DHSEM
Public Health Plans	No	No	Yes	No	Cook County DPH

TABLE: FISCAL CAPABILITY

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	No
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

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	Engineering Consultant acting as Village Engineer, Economic Development and Public Works Dept.
Engineers or professionals trained in building or infrastructure construction practices	Yes	Engineering Consultant acting as Village Engineer, Economic Development and Public Works Dept.
Planners or engineers with an understanding of natural hazards	Yes	Engineering Consultant acting as Village Engineer, Economic Development and Public Works Dept.
Staff with training in benefit/cost analysis	Yes	Engineering Consultant acting as Village Engineer, Economic Development and Public Works Dept.
Surveyors	Yes	Engineering Consultant acting as Village Engineer, Economic Development
Personnel skilled or trained in GIS applications	Yes	Engineering Consultant acting as Village Engineer, Cook County GIS Consortium
Scientist familiar with natural hazards in local area	No	

Emergency manager	Yes	Village Fire Chief, Cook County DHSEM
Grant writers	Yes	Engineering Consultant acting as Village Engineer, Economic Development and Public Works Dept.

TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

What department is responsible for floodplain management in your jurisdiction?	Public Works Department
Who is your jurisdiction’s floodplain administrator? (department/position)	Public Works Department
Are any certified floodplain managers on staff in your jurisdiction?	Village Engineer
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?	1/30/2002
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? (If no, please state why)	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Yes
Does your jurisdiction participate in the Community Rating System (CRS)? If so, is your jurisdiction seeking to improve its CRS Classification? If not, is your jurisdiction interested in joining the CRS program?	No, Undecided

TABLE: COMMUNITY CLASSIFICATIONS

	Participating?	Classification	Date Classified
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	Yes	Unknown	Unknown
Public Protection/ISO	Yes	Unknown	Unknown
StormReady	Yes	Gold (Countywide)	2014
Tree City USA	No	N/A	N/A

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: 28
- Number of FEMA-Identified Severe Repetitive Loss Properties: 1
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0

TABLE: NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster Number (if applicable)	Date	Preliminary Damage Assessment
Severe Storms, Straight-Line Winds, Flooding	DR-4116	4/26/2013	-
Severe Winter Snowstorm	DR-1960	1/31/2011	-
Severe Storms and Flooding	DR-1935	7/19/2010	-
Severe Storms and Flooding	DR-1800	9/13/2008	-
Severe Storms and Flooding	DR-1729	8/20/2007	-

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.

Severe Weather: Thunderstorm winds have blown down trees and caused utility and residential damage in Dolton. No deaths have been recorded, to date.

Severe Winter Weather: These events can threaten life, property, and major utilities. Dolton continues to pursue mitigation actions to ensure utility service cannot be as easily impacted by things like high winds and ice accumulation.

Flood: The Village has experienced urban flooding along the Southern Corridor, Cornell area and 158th and Greenwood. In general, the entire neighborhood has experienced repetitive flooding, basement

flooding, and difficulty for EMS responders and transportation of school children. Other vulnerable areas within the Village include 138th and Indiana, S.E. quadrant, and 144th and Indiana Ave.

Epidemic/Pandemic: Although these events are not extremely likely, Dolton continues to mitigate and prepare for this hazard.

Secondary Impacts from Mass Influx of Evacuees: Although these events are not extremely likely, Dolton continues to mitigate and prepare for this hazard. If a mass influx of evacuees were to occur at a time when no preparations had been made, it is highly likely that local resources would be stretched and other hazards (like disease outbreaks or civil disturbances) could swiftly emerge.

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	Earthquake	32
4	Tornado	21
5	Flood	18
6	Drought	2
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 D5.1 —Increase the capacity of existing stormwater detention and retention basins.						
Ongoing	Flood, Severe Weather, Severe Winter Weather	1, 2, 9, 13	City, MWRD	High	General Revenue, MWRD-Phase II, Grants	Ongoing
Action D5.2 —Develop and maintain a database to track community vulnerability/exposure to identify hazard areas.						
Ongoing	Multi-hazard	1, 5, 6	City	Medium	General revenue	Short-term
Action D5.3 —Incorporate a GIS system/management plan for tracking permitting, land use patterns, tracking hazard data, and mapping risk for various hazards.						
Ongoing	Multi-hazard	3, 4, 10	City	Medium	General revenue	Short-term
Action D5.4 —Completing a stormwater drainage study for known problem areas.						

Ongoing	Flood, Severe Weather, Severe Winter Weather	1, 3, 10	City	Medium	Grant/General Revenue	Short-term
Action D5.5 —Protect infrastructure and critical facilities from damage by engineering and/or retrofitting roads to withstand hazards.						
Ongoing	Multi-hazard	1, 2, 9, 13	City	High	Grant/General Revenue	Long-term
Action D5.6 —Developing and implementing a multi-hazard public awareness program.						
Ongoing	Multi-hazard	6, 8	City	Low	Grant/General Revenue	Ongoing
Action D5.7 —Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.						
Ongoing	All	7, 13	City	High	FEMA Hazard Mitigation Grants, Local contributions	Long-term (depending on funding)
Action D5.8 —Continue to support the countywide actions identified in this plan						
Ongoing	All	All	City	Low	General Fund	Short-term and long-term
Action D5.9 —Actively participate in the plan maintenance strategy identified in this plan.						
Ongoing	All	3, 4, 6	DHSEM, City	Low	General Fund	Short-term
Action D5.10 —Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.						
Ongoing	All	3, 4, 5, 6, 7, 9, 10, 11, 13	City	Low	General Fund	Long-term
Action D5.11 —Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts.						
Ongoing	Flooding	4, 6, 9	City	Low	General Fund	Short-term and ongoing
Action D5.12 —Where feasible, implement a program to record high water marks following high-water events.						
Ongoing	Flooding, Severe Weather	3, 6, 9	City	Medium	General Fund; FEMA	Long-term

					Grant Funds (Public Assistance)	
Action D5.13 —Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.						
Ongoing	All	3, 4, 6, 10, 13	Engineering Consultant acting as Village Engineer, Economic Development and Public Works Departments	Low	General Fund	Short-term
Action D5.14 —Consider the development and implementation of a Capital Improvements Program (CIP) to increase the Village’s regulatory, financial and technical capability to implement mitigation actions.						
Ongoing	All	1, 2, 7	Public Works	High	CIP component of general fund (if implemented)	Long-term
Action D5.15 —Elevated Water Tank.						
New	Epidemic or pandemic, Secondary Impacts from Mass Influx of Evacuees	9	Village of Dolton	\$1,500,000; High	Grants, Cook County	2021
Action D5.16 —Urban Flooding						
New	Flood	9	Village of Dolton	\$5,000,000; High	Grants, In-Kind	2021
Action D5.17 —Flooding remediation for: 156th and Cornell, 158th and Greenwood, 138th and Indiana, 144th and Indiana.						
New	Flood	9	MWRD	\$4,000,000	MWRD	2022
Action D5.18 —Village of Dolton Cornell Avenue Green Infrastructure Project.						

New	Flood	13	MWRD	Unknown	Unknown	Unknown
-----	-------	----	------	---------	---------	---------

(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	4	High	High	Yes	Yes	No	High
2	3	Medium	Medium	Yes	Yes	No	Medium
3	3	Medium	High	Yes	Yes	No	High
4	3	Medium	Medium	Yes	Yes	No	Medium
5	4	High	High	Yes	Yes	No	High
6	2	Medium	Low	Yes	No	No	Medium
7	2	High	High	Yes	Yes	Yes	Medium
8	13	Medium	Low	Yes	Yes	Yes	High
9	3	Medium	Low	Yes	Yes	Yes	High
10	9	Medium	Low	Yes	No	Yes	Medium
11	3	Medium	Low	Yes	No	Yes	High
12	3	Medium	Medium	Yes	Yes	No	Medium
13	5	Medium	Low	Yes	No	Yes	High
14	3	High	High	Yes	No	No	Medium
15	1	Medium	High	No	Yes	No	High
16	1	High	High	Yes	Yes	No	High
17	1	Unknown	High	Unknown	Unknown	Unknown	High
18	1	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

(a) See Chapter 1 for explanation of priorities.

New Mitigation Actions

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

Action D - 5.15

Mitigation Action	Elevated Water Tank
Year Initiated	2019
Applicable Jurisdiction	Village of Dolton
Lead Agency/Organization	Village of Dolton
Supporting Agencies/Organizations	
Applicable Goal	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Provide or improve flood protection on a watershed basis with flood control structures and drainage maintenance plans.
Potential Funding Source	Grants, Cook County
Estimated Cost	1,500,000.00
Benefits (loss avoided)	Secure and protect our public water supply
Projected Completion Date	2021
Priority and Level of Importance (Low, Medium, High)	High Priority
Benefit Analysis (Low, Medium, High)	Medium—Project will have a long-term impact on the reduction of risk exposure for life and property, or project will provide an immediate reduction in the risk exposure for property.
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:	Steel elevated water tank that holds 3 million gallons of our water. Repairs to the interior and exterior of the tank. Patching and repairs to the cathodic protection.

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

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

Action D - 5.16

Mitigation Action	Urban Flooding
Year Initiated	2017
Applicable Jurisdiction	Cook County
Lead Agency/Organization	Village of Dolton
Supporting Agencies/Organizations	MWRD, Cook County, FEMA
Applicable Goal	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Provide or improve flood protection on a watershed basis with flood control structures and drainage maintenance plans.
Potential Funding Source	Grants, In-Kind
Estimated Cost	\$5,000,000
Benefits (loss avoided)	Population loss avoided, avoid property loss/damage, safety
Projected Completion Date	2021
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:	Retrofitting individual home with overhead sewer systems in order to mitigate individual homes from flooding, preventing loss/damage of property. We have approximately 500 homes in Dolton that currently experience flooding due to severe rain and urban flooding. Particularly when the sewer system backs up.

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
	Blizzard
	Extreme Cold
	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

Action D - 5.17

Mitigation Action	Flooding remediation for: 156th and Cornell, 158th and Greenwood, 138th and Indiana, 144th and Indiana
Year Initiated	2019
Applicable Jurisdiction	Dolton
Lead Agency/Organization	MWRD
Supporting Agencies/Organizations	MWRD/Cook County
Applicable Goal	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Provide or improve flood protection on a watershed basis with flood control structures and drainage maintenance plans.
Potential Funding Source	MWRD
Estimated Cost	4,000,000.00
Benefits (loss avoided)	Safely reduce flooding, EMS accessibility, response time, residential property stabilization, improved quality of life and maintain population
Projected Completion Date	2022
Priority and Level of Importance (Low, Medium, High)	High Priority
Benefit Analysis (Low, Medium, High)	
Cost Analysis (Low, Medium, High)	

Recommended Mitigation Action/Implementation Plan and Project Description	
Action/Implementation Plan and Project Description:	

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
	Blizzard
	Extreme Cold
	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

Action D - 5.18

Mitigation Action	Village of Dolton Cornell Avenue Green Infrastructure Project
Year Initiated	2019
Applicable Jurisdiction	City of Chicago
Lead Agency/Organization	MWRD
Supporting Agencies/Organizations	City of Chicago
Applicable Goal	<ul style="list-style-type: none"> Develop and implement sustainable, cost-effective, and environmentally sound risk-reduction (mitigation) projects.
Applicable Objective	<ul style="list-style-type: none"> Encourage hazard mitigation measures that result in the least adverse effect on the natural environment and that use natural processes.
Potential Funding Source	Unknown
Estimated Cost	Unknown
Benefits (loss avoided)	Unknown
Projected Completion Date	Unknown
Priority and Level of Importance (Low, Medium, High)	Unknown
Benefit Analysis (Low, Medium, High)	Unknown
Cost Analysis (Low, Medium, High)	Unknown
Actual Completion Date	

Recommended Mitigation Action/Implementation Plan and Project Description	
Action/Implementation Plan and Project Description:	

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
	Blizzard
	Extreme Cold
	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

The following are 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.

Action D - 5.1

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# D—5.1	Increase capacity of existing stormwater detention and retention basins.	
Status Description: Yes	Limited funding available.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action D - 5.2

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# D—5.2	Develop and maintain a database to track community vulnerability/exposure to identify exposure areas.	
Status Description: Yes	Limited funding available.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action D - 5.3

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# D—5.3	Incorporate a GIS system/management plan for tracking permitting, land use patterns, tracking hazard data, and mapping risk for various hazards.	
Status Description: No	Limited funding available.	X
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action D - 5.4

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# D—5.4	Completing a stormwater drainage study for known problem areas	
Status Description: Yes	Limited funding available.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action D - 5.5

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# D—5.5	Protect infrastructure and critical facilities from damage by engineering and/or retrofitting roads to withstand hazards.	
Status Description: No	Limited funding available.	X
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action D - 5.6

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# D— 5.6	Developing and implementing a multi-hazard public awareness program.	
Status Description: Yes	Action taken regarding website, notifications village wide, workshops, etc.; Ongoing activity	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action D - 5.7

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# D—5.7	Where appropriate, support retrofitting, purchase, or reallocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.	
Status Description: Yes	ngoing, per limited funding available, to address various issues.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action D - 5.8

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# D—5.8	Continue to support the county wide actions identified in this plan	
Status Description: Yes	Ongoing effort.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action D - 5.9

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# D—5.9	Actively participate in the plan maintenance strategy identified in this plan	
Status Description: Yes	Ongoing effort.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action D - 5.10

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# D—5.10	Consider participation in incentive-based programs such as CRS, Tree City, and StormReady.	
Status Description: Yes	This consideration is ongoing pending available staff and funding.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action D - 5.11

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# D—5.11	Maintain good standing under the National Flood Insurance Program program by implementing program that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts.	
Status Description: Yes	Ongoing effort pending limited staff and limited funding.	O
<p style="text-align: center;">Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken</p>		

Action D - 5.12

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# D—5.12	Where feasible, implement a program to record high water marks following high-water events.	
Status Description: No	Limited funding available.	X
<p style="text-align: center;">Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken</p>		

Action D - 5.13

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
#D—5.13	Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.	
Status Description: No	Limited funding available.	X
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action D - 5.14

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# D—5.14	Consider the development and implementation of a Capital Improvements Program (CIP) to increase the Village’s regulatory, financial and technical capability to implement mitigation actions.	
Status Description: Yes	Ongoing consideration pending professional staff availability and funding.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Completed Mitigation Actions

Dolton 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

DOLTON EXISTING CONDITIONS	
2010 Population	23,153
Total Assessed Value of Structures and Contents	\$6,675,476,812
Area in 100-Year Floodplain	155.09 acres
Area in 500-Year Floodplain	301.91 acres
Number of Critical Facilities	44

HAZARD EXPOSURE IN DOLTON						
	Number Exposed		Value Exposed to Hazard		Total	% of Total Assessed Value Exposed
	Population	Buildings	Structure	Contents		
Dam Failure						
Buffalo Creek	0	0	\$0	\$0	\$0	0.00%
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						
100-Year	33	10	\$1,900,698	\$965,805	\$2,866,503	0.04%

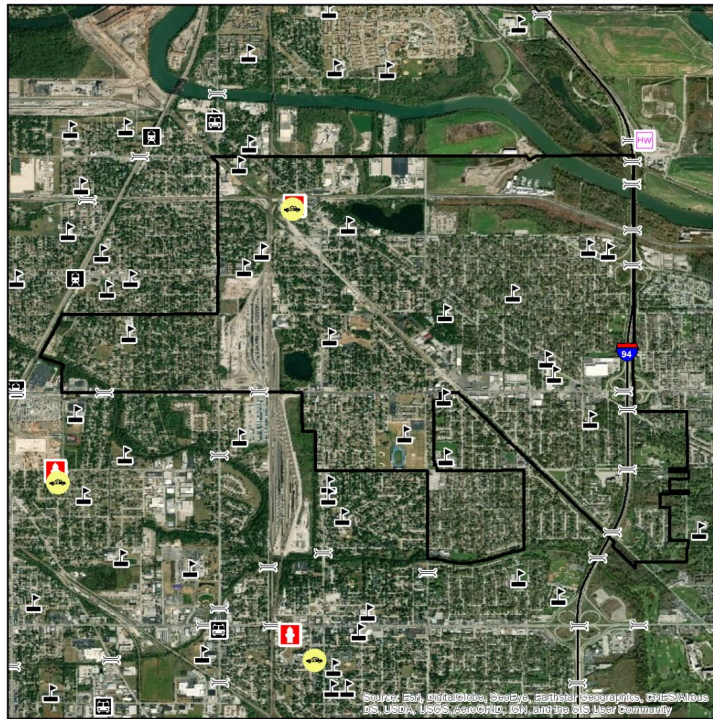
500-Year	1,414	435	\$125,697,713	\$73,862,232	\$199,599,946	2.99%
Tornado						
100-Year	—	—	\$61,885,468	\$38,248,600	\$100,134,068	1.50%
500-Year	—	—	\$1,152,022,956	\$894,510,574	\$2,046,533,530	30.66%

ESTIMATED PROPERTY DAMAGE VALUES IN DOLTON

	Estimated Damage Associated with Hazard			% of Total Assessed Value Damaged
	Building	Contents	Total	
Dam Failure				
Buffalo Creek	\$0	\$0	\$0	0.00%
U. Salt Cr. #2	\$0	\$0	\$0	0.00%
Touhy	\$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	\$32,993,354	\$8,695,625	\$41,688,978	0.62%
Flood				
10-Year	\$0	\$0	\$0	0.00%
100-Year	\$74,882	\$30,629	\$105,511	0.00%
500-Year	\$5,134,748	\$2,33,523	\$7,468,271	0.11%

Tornado				
100-Year	\$6,188,547	\$3,824,860	\$10,013,407	0.15%
500-Year	\$168,195,352	\$130,598,544	\$298,793,895	4.48%

Hazard Mapping

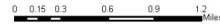


VILLAGE OF DOLTON

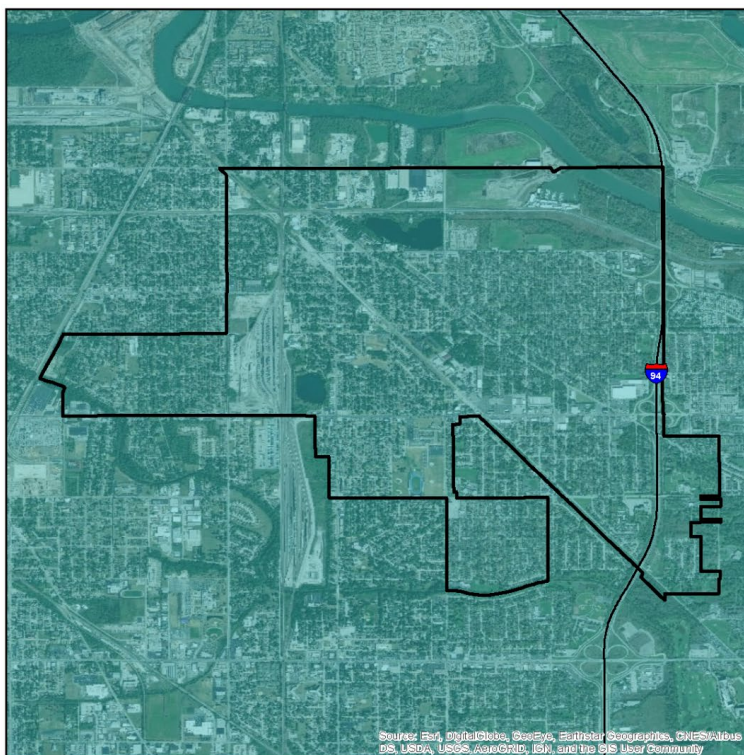
CRITICAL INFRASTRUCTURE

- 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



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



VILLAGE OF DOLTON

PEAK GROUND ACCELERATION FOR A 100 YEAR EARTHQUAKE EVENT

- Mercalli Scale, Potential Shaking
- II-III Weak

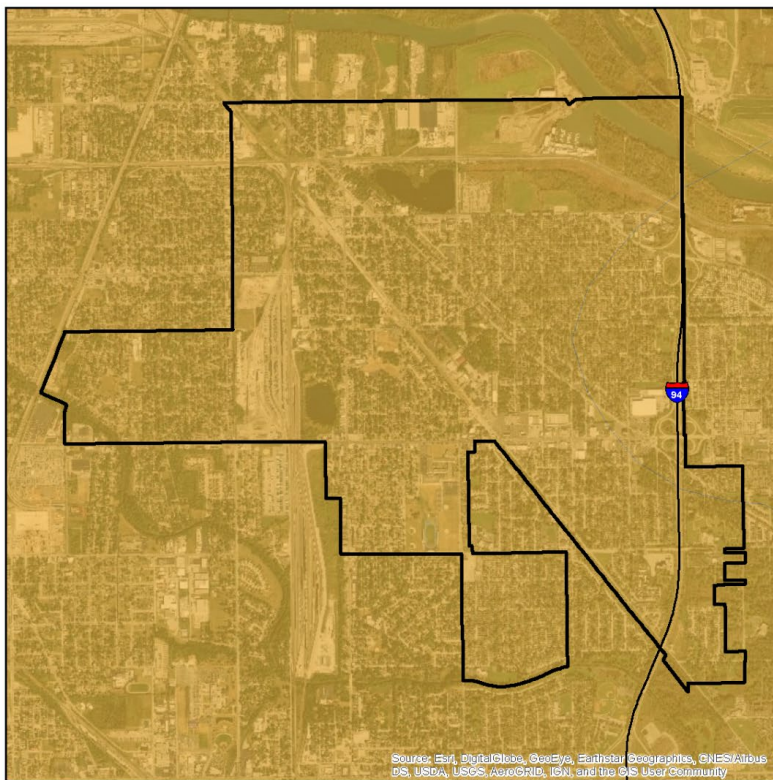
Data provided by the USGS Earthquake Hazards Program and Cook County.

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



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



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

VILLAGE OF DOLTON

NATIONAL EARTHQUAKE HAZARD REDUCTION PROGRAM (NEHRP) SOIL CLASSIFICATION

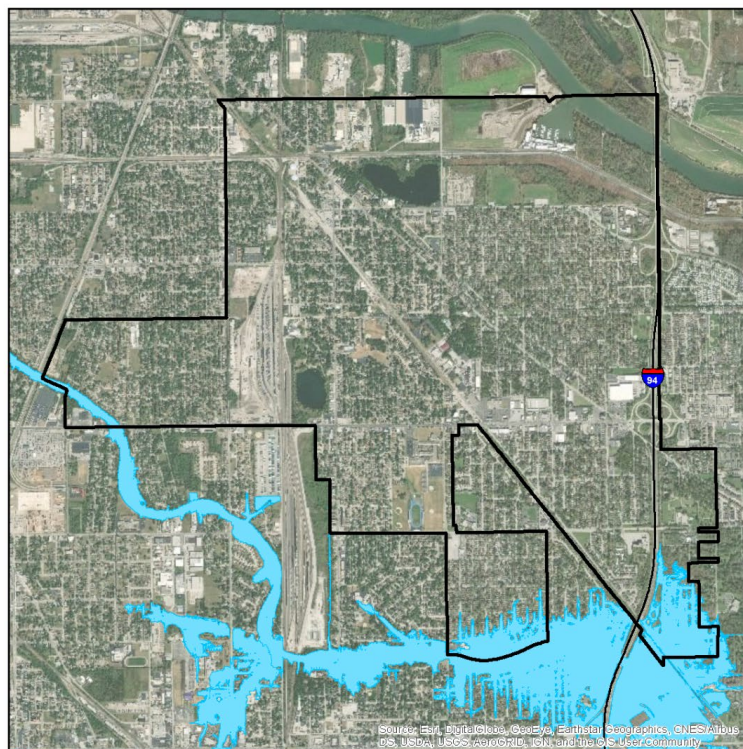
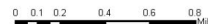
TYPE

- 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 produces 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 L-2750 Map of Surficial Deposits and Materials in the Eastern and Central United States (East of 102 degrees West Longitude) by David S. Fullerton, Charles A. Bush and Jean N. Pennell (2003) was the base map used for this work. Each State Geological Survey produced its own state map version of the Soil Site Class and Liquefaction Susceptibility maps. The procedures outlined in the NEHRP provisions (Building Seismic Safety Council, 2004) and the 2003 International Building Codes (International Code Council, 2002) were followed to produce the soil site class maps. CUSEC State Geologists used the entire column of soils material down to bedrock and did not include any bedrock in the calculation of the average shear wave velocity for the column, since it is the soil column and the difference in shear wave velocity of the soils in comparison to the bedrock which influences much of the amplification.

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



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

VILLAGE OF DOLTON

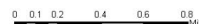
COOK COUNTY MWRDGC 100-YEAR INUNDATION AREA

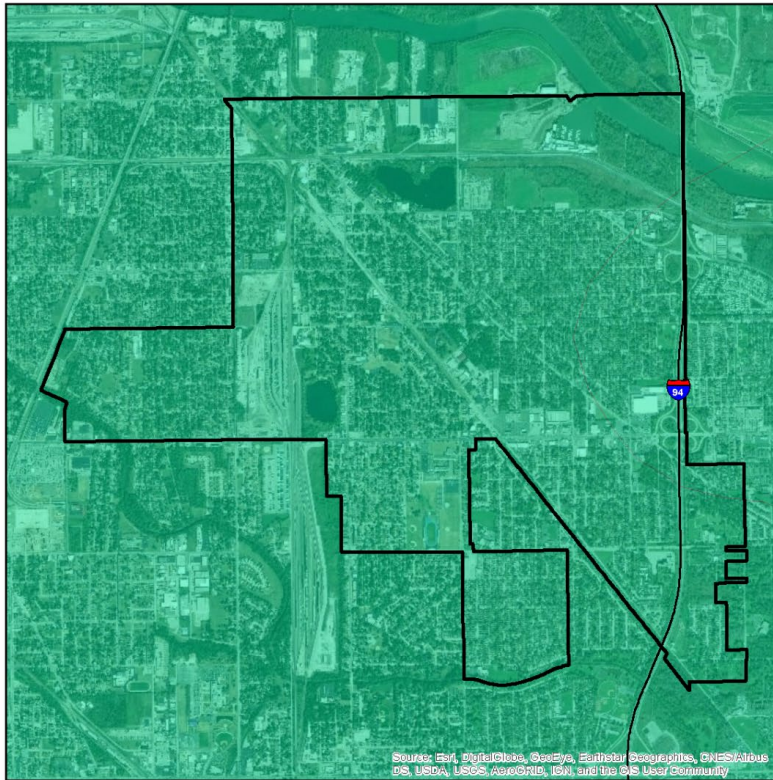
- 100-year Inundation Area

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

DISCLAIMER: The Cook County MWRDGC 100-year Inundation Map is provided to show general flood risk information regarding floodplains and inundation areas. This map is not regulatory. Official FEMA Flood Insurance Study information and regulatory maps can be obtained from <http://www.fema.gov>.





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

VILLAGE OF DOLTON

LIQUEFACTION SUSCEPTIBILITY

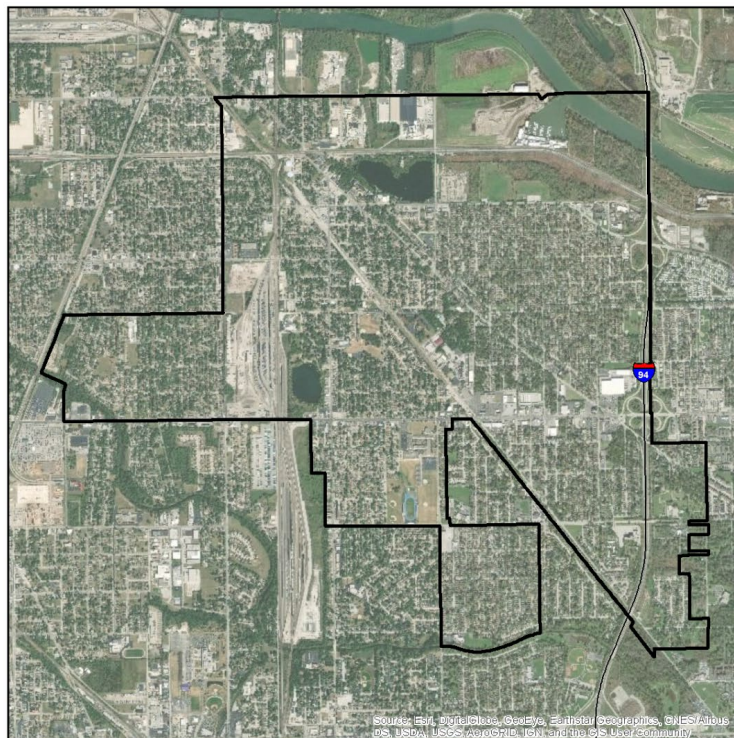
LIQUEFACTION SUSCEPTIBILITY

- 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 1-2789 Map of Surficial Deposits and Materials in the Eastern and Central United States (East of 102 degrees West Longitude) by David S. Fullerton, Charles A. Burn and Jean N. Pennell (2003) was the base map used for this work. Each State Geological Survey produced its own state map version of the Soil Site Class and Liquefaction Susceptibility maps. The procedures outlined in the NEHRP provisions (Building Seismic Safety Council, 2004) and the 2003 International Building Codes (International Code Council, 2002) were followed to produce the soil site class maps. CUSEC State Geologists used the entire column of soils material down to bedrock and did not include any bedrock in the calculation of the average shear wave velocity for the column, since it is the soil column and the difference in shear wave velocity of the soils in comparison to the bedrock which influences much of the amplification.

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



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

VILLAGE OF DOLTON

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.

