

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

Midlothian Annex

FINAL

July 2019

Prepared for:



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Hazard Mitigation Point of Contact

| Primary Point of Contact | Alternate Point of Contact |
|--|---|
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Jurisdiction Profile

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

- **Date of Incorporation:** 1927
- **Current Population:** 14,476 according to the 2018 US Census population estimate.
- **Population Growth:** Based on Census Data the Village of Midlothian population has been relatively stable with a less than 1 percent decrease from 2010 to 2016.
- **Location and Description:** The Village of Midlothian is located in suburban Cook County approximately 22 miles southwest of downtown Chicago. Midlothian is very accessible through nearby expressways including I-57 and I-294. Towns that are adjacent to Midlothian include: Robbins to the north, Oak Forest to the south, Orland Park to the west, Posen and Dixmoor to the east, and Orland Park to the west. Major arteries include Cicero Ave., Kedzie Ave., and Pulaski Rd. Midlothian is also home to historic Midlothian Country Club site of many national golf tournaments including the 1914 U.S. Open. According to the 2010 U.S. Census Bureau, the total area of Midlothian is 2.82 square miles.
- **Brief History:** Until the turn of the century, the area now known as the Village of Midlothian named for an ancient borough in Scotland, was little more than a milk stop along the Rock Island Railroad serving a few area farmers. In 1900, a group of wealthy Chicago industrialists, looking for respite and retreat from the crowded city, discovered the green knolls and rolling fairways of the new Midlothian Country Club and golf course. Deciding they needed faster transportation, they petitioned the Rock Island to build a spur track, and soon passenger trains were speeding people from Chicago to the quiet little village. By 1927, there were so many people living in the area that community leaders decided it was time to formally organize the community and incorporate it. On March 17, it was incorporated as the Village of Midlothian, taking its name from the golf club around which the community had grown and prospered. In 1949 Midlothian's present Village Hall was built at 148th and Pulaski. It provided a permanent home for the village staff. The facilities have been expanded and recently renovated. Today the Village is a diverse, family orientated community with pride in its past and a bright outlook for the future.
- **Climate:** The climate of Midlothian and the Chicago area is classified as humid continental, with all four seasons distinctly represented: wet springs; hot and humid summers; pleasant autumns; and cold winters. Annual precipitation is average, and reaches its lowest points in the months of January and February, and peaks in the months of May and June. Winter proves quite variable. Seasonal snowfall in the city has ranged from 9 – 90 inches. The daily average temperature in January at Midway Airport is 24.8 °F (-4.0 °C), and temperatures often stay below freezing for several consecutive days or even weeks in January and February. Temperatures drop to or below 0 °F (-18 °C) on 5.5 nights annually at Midway and 8.2 nights at O'Hare. Spring in the Chicago area is perhaps the city's wettest and unpredictable season. Winter like conditions can persist well into April and even occasionally into May. Thunderstorms are especially prevalent in the spring time as the city's lakeside location makes it a center of conflicts between large volumes of warmer and colder air, triggering many kinds of severe weather. Temperatures vary tremendously in the springtime; March is the month with the greatest span between the record highs and lows. On a typical summer day, humidity is usually moderately high and temperatures

ordinarily reach anywhere between 78 and 92 °F (26 and 33 °C). The extreme heat that the Chicago area is capable of experiencing during the height of the summer season can persist into the autumn season. Temperatures have reached 100 degrees high and subzero lows below -18 °C. Fall can bring heavy thunderstorms, many of which are capable of producing flooding. The average first accumulating snow occurs around Nov 19.

- **Governing Body Format:** The Village is governed by a Mayor and a 6 member Board of Trustees. This body of Government will assume the responsibility for the adoption and implementation of this plan. It includes full service Police, Fire, Public Works and Building departments. The Village has 13 active committees and commissions, each with a chairman and trustee liaison to the Village Board.
- **Development Trends:** Due to the present slow economic recovery, development is low. Midlothian is a land locked community so future growth expectations are limited. Vacant storefronts are slowly being filled as the economy recovers and foreclosed residential property is now being bought and occupied. The Village has a valuable 15 acre parcel along Cicero Ave. it will develop in the near future insuring increased sales tax revenue and bolstering the local economy. The Village has an up to date comprehensive plan in place that was based on input from many stakeholders including the community at large. The plan includes a path to future growth by identifying items such as land use, zoning, site review and transportation. The Village of Midlothian has a Rapid Response Team, comprised of elected officials and economic development staff is available to meet to provide an overview of incentive programs, assist with the application process, and arrange to meet with the government officials and staff who determine eligibility and approve requests for prospective business opportunities.

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 2018 IBC | Yes | No | No | Yes | #2019 3/27/19 |
| Zonings | Yes | No | No | Yes | #1650 10/10/07 |
| Subdivisions | Yes | No | No | No | #1136 6/24/87 |
| Stormwater Management | Yes | No | Yes | Yes | MWRD regulates industrial activity from Construction sites 1 acre or larger under section 402 CWA. #1671 8/13/08 |
| Post Disaster Recovery | No | No | No | No | |
| Real Estate Disclosure | No | No | Yes | Yes | (765 ILCS 77/) Residential Real Property Disclosure Act. |
| Growth Management | No | No | No | No | |
| Site Plan Review | Yes | No | No | No | #11-2-14 10/15/07 |
| Public Health and Safety | Yes | No | Yes | Yes | #744 6/14/72 |

| | | | | | |
|---|-----|----|------|-----|---|
| Environmental Protection | Yes | No | No | No | NPDES Phase II |
| Planning Documents | | | | | |
| General or Comprehensive Plan | Yes | No | No | No | Midlothian Comp. Plan 5/23/01 |
| <i>Is the plan equipped to provide linkage to this mitigation plan?</i> | | | | | Yes, Land Use |
| Floodplain or Basin Plan | Yes | No | No | Yes | #1671 8/13/08 |
| Stormwater Plan | No | No | MWRD | No | Regional storm water impacts are managed by MWRD. The Village lies within the Little Calumet River watershed planning area of MWRD's comprehensive Stormwater Master Planning Program |
| Capital Improvement Plan | Yes | No | No | No | Midlothian CIP 3/2014 |
| <i>What types of capital facilities does the plan address?</i> | | | | | Municipal Buildings, Water & Sewer |
| <i>How often is the plan revised/updated?</i> | | | | | Bi-Annually |
| Habitat Conservation Plan | No | No | No | No | |
| Economic Development Plan | No | No | Yes | Yes | The Economic Development Commission is charged with reviewing all economic development related programs and incentives including tax incentives offered through the Cook |

| | | | | | |
|--|----|----|-----|-----|-----------------------------------|
| 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 | Yes |
| Authority to Levy Taxes for Specific Purposes | Yes |
| User Fees for Water, Sewer, Gas or Electric Service | Yes |
| Incur Debt through General Obligation Bonds | Yes |
| Incur Debt through Special Tax Bonds | Yes |
| Incur Debt through Private Activity Bonds | Yes |
| Withhold Public Expenditures in Hazard-Prone Areas | No |
| State Sponsored Grant Programs | Yes |
| Development Impact Fees for Homebuyers or Developers | Yes |
| Other | State Revolving Loan Program |

| 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 | South Suburban Mayors and Managers Association GIS Consortium/Village Engineer |
| Engineers or professionals trained in building or infrastructure construction practices | Yes | Village Engineer/Public Works Supt. |
| Planners or engineers with an understanding of natural hazards | Yes | Village Engineer/Public Works Dept. |
| Staff with training in benefit/cost analysis | Yes | Current Public Works Superintendent |
| Surveyors | Yes | Private Contractor |
| Personnel skilled or trained in GIS applications | Yes | Cook County GIS Consortium |
| Scientist familiar with natural hazards in local area | No | |
| Emergency manager | Yes | Fire Chief |
| Grant writers | Yes | Village Trustees, Public Works Superintendent |

| TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE | |
|--|-----------------------|
| What department is responsible for floodplain management in your jurisdiction? | Building Dept. |
| Who is your jurisdiction’s floodplain administrator? (department/position) | Building Commissioner |
| Are any certified floodplain managers on staff in your jurisdiction? | Village Engineer |
| What is the date of adoption of your flood damage prevention ordinance? | 8/13/08 |
| When was the most recent Community Assistance Visit or Community Assistance Contact? | 6/12/1997 |
| Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are. | Unknown |

| | |
|---|---|
| Do your flood hazard maps adequately address the flood risk within your jurisdiction? (If no, please state why) | No. Some parts of the map do not accurately reflect flood events. |
| 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. Building Commissioner is new to his position and is not fully trained relative to issuing appropriate permits in floodplain. The municipality now uses services from the vendor, Robinson Engineering. |
| 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? | Yes |

TABLE: COMMUNITY CLASSIFICATIONS

| | Participating? | Classification | Date Classified |
|--|----------------|-------------------|-----------------|
| Community Rating System | Yes | 7 | 5/1/18 |
| Building Code Effectiveness Grading Schedule | Yes | 4 | 4/4/19 |
| Public Protection/ISO | No | N/A | N/A |
| 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: 7
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 2

| TABLE: NATURAL HAZARD EVENTS | | | |
|-------------------------------------|---|-----------------------|--------------------------------------|
| Type of Event | FEMA Disaster Number (if applicable) | Date | Preliminary Damage Assessment |
| Severe Weather | - | 6/30/2014 | - |
| Flooding | DR-1800 | 4/17/2013 - 4/18/2013 | - |
| Severe Weather | DR-4116 | 4/16/2013 | - |
| Drought | - | 2012 | - |
| Flooding | DR-1991 | 7/23/2011 | - |
| Flooding | - | 5/25/2011 | - |
| Severe Winter | - | 2/1/2011 - 2/2/2011 | - |
| Flooding | - | 8/3/2010 | - |
| Severe Weather | DR-1935 | 7/19/2010 | - |
| Flooding | - | 7/19/2010 | - |
| Severe Weather | - | 8/24/2009 | - |
| Flooding | - | 3/9/2009 | - |
| Flooding | - | 9/15/2008 | - |
| Flooding | DR-1800 | 9/13/2008 | - |
| Severe Weather | DR-1800 | 9/13/2008 | - |
| Severe Weather | DR-1729 | 8/20/2007 | - |

| | | | |
|----------------|---------|--------------------------|---|
| Flooding | - | 11/29/2006 | - |
| Flooding | - | 8/28/2006 | - |
| Flooding | - | 1/12/2005 | - |
| Severe Weather | - | 11/14/2003 | - |
| Drought | - | 2002 | - |
| Flooding | - | 8/1/2001 | - |
| Severe Weather | - | 6/11/2001 | - |
| Flooding | - | 9/11/2000 | - |
| Flooding | - | 6/13/2000 | - |
| Flooding | - | 4/28/1999 | - |
| Severe Winter | - | 1/1/1999 - 1/2/1999 | - |
| Flooding | - | 5/11/1998 | - |
| Flooding | - | 8/16/1997 - 17/1997 | - |
| Flooding | - | 2/18/1997 | - |
| Flooding | DR-1129 | 7/17/1996 | - |
| Flooding | - | 5/28/1996 | - |
| Severe Weather | DR-997 | 7/9/1993 | - |
| Flooding | DR-798 | 8/13/1987 - 8/14/1987 | - |
| Severe Weather | DR-997 | 8/13/1987 | - |
| Severe Weather | DR-798 | 9/21/1986 | - |
| Flooding | DR-643 | 6/30/1981 | - |
| Severe Weather | - | 6/30/1981 | - |
| Severe Winter | - | 1/13/1979 - 1/14/1979 | - |
| Severe Winter | - | 3/25/1970 - 3/26/1970 | - |

| | | | |
|---------------|---|--------------------------|---|
| Severe Winter | - | 1/26/1967 - 1/27/1967 | - |
|---------------|---|--------------------------|---|

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: Areas in the Village that are prone to flooding include the following: Natalie Creek (147th to 149th), Cicero. Midlothian Creek (149th to Waverly Ave, Keeler Ave. to Kenton Ave), Tributary Creek (LaVergn to Central, from 145th to Midlothian Turnpike). and Jolly Homes (150th to 154th, Pulaski to Central Park).

High Winds: In particular, the Village's older community is vulnerable to the impacts of high winds due to their proximity to a large tree canopy. Moreover, the community is at risk of experiencing power outages as a result of high winds causing tree limbs to fall.

Snow: The Village has experienced winter flooding due to snow and rain and quick snowmelt. Recently, in Feb 2017 and Feb 2018, Midlothian suffered significant flooding due to snow and rain and snowmelt.

Extreme Cold: The Village is vulnerable to the impacts of extreme cold due to its old water main infrastructure. The Village has also experienced disruptions in local services due to extreme cold.

Tornado: All of Cook County are at high risks of tornadoes. The village has implemented a CODE RED early warning communications system to alert our residents of hazardous incidents. The Army Core of engineers funded the installation of a Stream & Rain Gauge in 2015 with the ability to set up early warning notifications.

Severe Weather: Extensive damage was sustained from two separate lines of thunderstorms on Monday, June 30th 2014 which was officially determined to be from two separate derecho events. During these two events, 80 to 110 MPH straight line winds along with several tornadoes of up to EF-1 intensity produced wind damage from Central Iowa east into Michigan and Ohio.

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 | 54 |
| 3 | Flood (Over-ride matrix) | 21 |
| 4 | Tornado | 42 |
| 5 | Earthquake | 12 |
| 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 M7.1 —Ensure that new development be designed to reduce or eliminate flood damage by requiring lots and rights-of-way to be laid out for the provisions of approved sewer and drainage facilities, providing on- site detention facilities. | | | | | | |
| Ongoing | Flood | 3, 4, 9, 12, 13 | Village Engineer | Low | Developer | Long-term |
| Action M7.2 —Adopt Cook County Watershed Ordinance to control release rates and ensure a region wide approach to new development designed to reduce the impacts of flooding. | | | | | | |
| Ongoing | Flood | 3, 4, 8, 9, 12, 13 | Village Board | Low | Developer | Short-term |
| Action M7.3 —Partner with the City of Oak Forest and MWRD to find upstream detention and enlarge storm water capacity and conveyance to relieve breakout flooding on Natalie Creek at 149th & Kilpatrick which leads to much downstream residential damage. | | | | | | |
| Ongoing | Flood | 3, 4, 8, 9, 12, 13 | Public Works | High | MWRD | Short-term |
| Action M7.4 —Partner with MWRD to resolve breakout flooding on Natalie Creek at 149th & Kilpatrick with installation of upstream detention and storm sewer diversion from Kilpatrick to Pulaski. | | | | | | |

| | | | | | | |
|---|-------------|-----------------|---------------------|------------|-------------|------------|
| Ongoing | Flood | 3, 4, 9, 12, 13 | MWRD/PW | High | MWRD | Long-term |
| Action M7.5 —In the absence of flooding resolve the Village may consider property acquisition in areas that experience repetitive flooding damage. | | | | | | |
| Ongoing | Flood | 3, 4, 9, 12, 13 | Admin | High | FEMA Grant | Long-term |
| Action M7.6 —Relieve Flooding on 151st St. Springfield to Lawndale by finding a new outfall, detention or conveyance for an overtaxed storm sewer system. | | | | | | |
| Ongoing | Flood | 3, 4, 9, 12, 13 | PW/Village Engineer | High | FEMA Grant | Long-term |
| Action M7.7 —Enhance Village website to improve communication with residents about issues relative to weather related emergencies and Hazard Mitigation. | | | | | | |
| Ongoing | All Hazard | 5, 6 | Admin | Low | General | Short-term |
| Action M7.8 —Pursue engineering to remove of a portion of the Northeast quadrant from the Floodplain that never floods. | | | | | | |
| Ongoing | Flood | 3, 4, 6 | Admin/PW | Low | MWRD | Long-term |
| Action M7.9 —Initiate both public and private sector Long Term Operations & Maintenance plans for sanitary sewer prevention of inflow and infiltration, including but not limited to sewer televising, lining, and manhole rehabilitation. | | | | | | |
| Ongoing | All Hazards | 3, 4, 9, 12, 13 | PW/Village Engineer | Medium | Sewer Fund | Short-term |
| Action M7.10 —Install early warning system for Natalie Creek flood levels that would alert PW supervisors the creek has risen to levels that need immediate attention. | | | | | | |
| Completed | Flood | 3, 4, 9, 12, 13 | PW | Medium | General/CIP | Completed |
| Action M7.11 —Replace emergency generator at Midlothian PW Garage to enable ongoing uninterrupted operations in the event of loss of power. | | | | | | |
| Completed | All Hazards | 1, 2, 5 | PW | Medium | General/CIP | Completed |
| Action M7.12 —Village will continue to support Green Infrastructure as a means to control both the quantity and quality of our storm water. | | | | | | |
| Ongoing | Flood | 3, 4, 9, 10, 13 | Bldg./Pw | Low | General | Ongoing |
| Action M7.13 —Village will consider entering the Community Rating System Program. | | | | | | |
| Ongoing | All Hazards | 6, 8, 10, 11 | Bldg./Engineer | Medium/Low | General | Short-term |

| | | | | | | |
|---|----------------|--------------|--------------------------|---------------------------|----------------------|------------|
| Action M7.14 —Incorporate Hazard Mitigation Plan in to General Plan or Comprehensive Plan. | | | | | | |
| Ongoing | All Hazards | 3, 4, 10 | Admin | Low | General | Short-term |
| Action M7.15 —Continue to support Mutual Aid across all Police, Fire and Public Works. | | | | | | |
| Ongoing | All Hazards | 1, 8 | Police/Fire/Public Works | Low | General | Short-term |
| Action M7.16 —Continue to support the implementation, monitoring, maintenance, and updating of this Plan | | | | | | |
| Ongoing | All Hazards | All | PW | Low | General | Ongoing |
| Action M7.17 —Initiate an Early Warning System for residents such as Reverse 911 | | | | | | |
| Ongoing | Tornado | 1, 5 | Fire,Police | Medium | FEMA | Long-term |
| Action M7.18 —Public Works will lower water services to avoid disruption of service from severe cold weather. | | | | | | |
| Ongoing | Winter | 2, 12 | PW | Low | General | Short-term |
| Action M7.19 —Village will consider a Tree Ordinance with intention of becoming qualified for Tree City USA status | | | | | | |
| Ongoing | Severe Weather | 11, 12, 13 | PW | Low | General | Short-term |
| Action M7.20 —Flood mitigation project for the Tributary C water shed. This area is from Central Ave to Lavergne Ave from 145th St to the Midlothian Turnpike. | | | | | | |
| New | Flood | 2, 3, 12, 13 | MWRD | 4-5 million dollars; High | MWRD Phase 2 Program | Ongoing |
| Action M7.21 —Flood Control along Natalie Creek | | | | | | |
| New | Flood | 2, 3, 12, 13 | MWRD | \$7,629,000; High | MWRD | Long-term |
| Action M7.22 —Flood Control on Calumet-Sag Tributary C | | | | | | |
| New | Flood | 2, 3, 12, 13 | MWRD | TBD | MWRD | Long-term |
| Action M7.23 —Keystone Ave. Permeable Parking Lot | | | | | | |
| New | Flood | 13 | MWRD | TBD | MWRD | Long-term |
| Action M7.24 —Jolly Homes 151st St flood mitigation | | | | | | |

| | | | | | | |
|---|-------|--------------|-----------------------|-----------------|---------------------|-----|
| New | Flood | 2, 3, 12, 13 | Village of Midlothian | 6,022,000; High | Grants, Local Funds | TBD |
| Action M7.25 —Belly Button Hill/Kostner Park flood mitigation | | | | | | |
| New | Flood | 2, 3, 12, 13 | Village of Midlothian | 5,560,000; High | Grants, Local Funds | TBD |
| Action M7.26 —Bremen Heights flood mitigation. | | | | | | |
| New | Flood | 2, 3, 12, 13 | Village of Midlothian | 2,370,000; High | Grants, Local Funds | TBD |
| (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 | 5 | High | Low | Yes | No | Yes | High |
| 2 | 6 | High | Low | Yes | No | Yes | High |
| 3 | 6 | High | High | Unknown | Yes | No | High |
| 4 | 5 | High | High | No | Yes | No | Medium |
| 5 | 5 | High | Medium | Yes | Yes | No | High |
| 6 | 5 | High | Medium | Yes | Yes | No | Medium |
| 7 | 2 | High | Low | Yes | No | Yes | High |
| 8 | 3 | High | Medium | Unknown | Yes | No | Medium |
| 9 | 5 | High | Low | Yes | No | Yes | High |
| 10 | 5 | High | Medium | Yes | Yes | Yes | Medium |
| 11 | 3 | High | Medium | Yes | Yes | Yes | High |
| 12 | 5 | High | Low | Yes | No | Yes | High |
| 13 | 4 | High | Low | Yes | No | Yes | High |
| 14 | 2 | High | Low | Yes | No | Yes | High |
| 15 | 2 | High | Low | Yes | No | Yes | High |

| | | | | | | | |
|----|---|--------|---------|---------|-----|-----|---------|
| 16 | 5 | High | Low | Yes | No | Yes | High |
| 17 | 2 | High | Medium | Yes | Yes | No | High |
| 18 | 2 | High | Low | Yes | No | Yes | High |
| 19 | 3 | High | Low | Yes | No | Yes | High |
| 20 | 4 | High | High | Yes | Yes | Yes | High |
| 21 | 4 | High | High | Yes | Yes | Yes | High |
| 22 | 4 | High | Unknown | Unknown | Yes | Yes | Unknown |
| 23 | 1 | Medium | Unknown | Unknown | Yes | Yes | Unknown |
| 24 | 4 | High | High | Yes | Yes | Yes | High |
| 25 | 4 | High | High | Yes | Yes | Yes | High |
| 26 | 4 | High | High | Yes | Yes | Yes | High |

(a) See Chapter 1 for explanation of priorities.

New Mitigation Actions

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

Action M7.20

| | |
|--|---|
| Mitigation Action | Flood mitigation project for the Tributary C water shed. This area is from Central Ave to Lavergne Ave from 145th St to the Midlothian Turnpike. |
| Year Initiated | 2019 |
| Applicable Jurisdiction | Village of Midlothian |
| Lead Agency/Organization | MWRD |
| Supporting Agencies/Organizations | Village of Midlothian, Crestwood, Bremen Township |
| 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"> • 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. • Reduce natural hazard-related risks and vulnerability to potentially isolated populations within the planning area. • Encourage hazard mitigation measures that result in the least adverse effect on the natural environment and that use natural processes. |
| Potential Funding Source | MWRD Phase 2 Program |
| Estimated Cost | 4-5 million dollars |

| | |
|---|---|
| Benefits (loss avoided) | It will help prevent flooding in various homes and streets in the area. It will prevent ongoing road closures blocking emergency vehicles. |
| Projected Completion Date | N/A - ongoing |
| 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 al 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: | |
|--|--|

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 M7.21

| | |
|---|---|
| Mitigation Action | Flood Control along Natalie Creek |
| Year Initiated | 2019 |
| Applicable Jurisdiction | Village of Midlothian |
| Lead Agency/Organization | MWRD |
| Supporting Agencies/Organizations | Village of Midlothian |
| 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 and potential damage from such activities. |
| Applicable Objective | <ul style="list-style-type: none"> • 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. • Reduce natural hazard-related risks and vulnerability to potentially isolated populations within the planning area. • Encourage hazard mitigation measures that result in the least adverse effect on the natural environment and that use natural processes. |
| Potential Funding Source | MWRD |
| Estimated Cost | \$7,629,000 |
| Benefits (loss avoided) | TBD |
| Projected Completion Date | TBD |
| Priority and Level of Importance (Low, Medium, High) | High |
| Benefit Analysis (Low, Medium, High) | High |
| Cost Analysis (Low, Medium, High) | High |
| Actual Completion Date | |

Recommended Mitigation Action/Implementation Plan and Project Description

| | |
|--|---|
| Action/Implementation Plan and Project Description: | ID: Midlothian 1 Contract: 14-252-5F Watershed: Little Cal River Location: Oak Forest; Midlothian, IL Installation of flood control measures for an estimated 15,800 linear feet along Natalie Creek from 157th and Central Park in Oak Forest to 146th and Pulaski in Midlothian. Flood control measures involve the upsizing of restrictive culverts, improving the channel at several locations and the installation of a stormwater detention basin. The project will reduce flood damages for over 230 structures. |
|--|---|

| Mitigation Action and Project Maintenance | | |
|---|--------|----------------------------|
| Year | Status | Comments |
| 2019 | New | Project under construction |
| 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 M7.22

| | |
|---|---|
| Mitigation Action | Flood Control on Calumet-Sag Tributary C |
| Year Initiated | 2019 |
| Applicable Jurisdiction | Village of Midlothian |
| Lead Agency/Organization | MWRD |
| Supporting Agencies/Organizations | Village of Midlothian |
| 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 and potential damage from such activities. |
| Applicable Objective | <ul style="list-style-type: none"> • 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. • Reduce natural hazard-related risks and vulnerability to potentially isolated populations within the planning area. • Encourage hazard mitigation measures that result in the least adverse effect on the natural environment and that use natural processes. |
| Potential Funding Source | MWRD |
| Estimated Cost | N/A |
| Benefits (loss avoided) | TBD |
| Projected Completion Date | TBD |
| Priority and Level of Importance (Low, Medium, High) | Unknown |
| Benefit Analysis (Low, Medium, High) | High |
| Cost Analysis (Low, Medium, High) | Unknown |
| Actual Completion Date | |

Recommended Mitigation Action/Implementation Plan and Project Description

| | |
|--|--|
| Action/Implementation Plan and Project Description: | ID: Bremen Twp 1 Contract: 14-257-5C Watershed: Cal-Sag Channel Location: Bremen Township & Midlothian, IL Preliminary engineering alternatives developed to address flooding along Calumet-Sag Tributary Channel in the vicinity of 143rd Street and Linder Avenue. |
|--|--|

| Mitigation Action and Project Maintenance | | |
|---|--------|--------------------|
| Year | Status | Comments |
| 2019 | New | Preliminary design |
| 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 M7.23

| | |
|---|--|
| Mitigation Action | Keystone Ave. Permeable Parking Lot |
| Year Initiated | 2019 |
| Applicable Jurisdiction | Village of Midlothian |
| Lead Agency/Organization | MWRD |
| Supporting Agencies/Organizations | Village of Midlothian |
| 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 and potential damage from such activities. |
| 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 | MWRD |
| Estimated Cost | TBD |
| Benefits (loss avoided) | TBD |
| Projected Completion Date | TBD |
| Priority and Level of Importance (Low, Medium, High) | Low |
| Benefit Analysis (Low, Medium, High) | Medium |
| 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 |

Action M7.24

| | |
|---|---|
| Mitigation Action | Jolly Homes 151st St flood mitigation |
| Year Initiated | 2019 |
| Applicable Jurisdiction | Village of Midlothian |
| Lead Agency/Organization | Village of Midlothian |
| Supporting Agencies/Organizations | Chicago Metropolitan Agency for Planning |
| 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. • Promote public understanding of and support for hazard mitigation. |
| Applicable Objective | <ul style="list-style-type: none"> • 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. • Reduce natural hazard-related risks and vulnerability to potentially isolated populations within the planning area. • Encourage hazard mitigation measures that result in the least adverse effect on the natural environment and that use natural processes. |
| Potential Funding Source | Grants and local funds |
| Estimated Cost | 6,022,000 |
| Benefits (loss avoided) | Reduce flooding on 151st Street at Central Park Elementary and adjacent yards and structures |
| Projected Completion Date | TBD |
| 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: | This project includes three components: stormwater detention at Central Park Elementary; conveyance upgrades on 151st Street, Avers Avenue, Hamlin Avenue, Ridgeway Avenue, and Lawndale Avenue; and green infrastructure (vegetated swales) on 151st Street. |
|--|---|

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 M7.25

| | |
|--|---|
| Mitigation Action | Belly Button Hill/Kostner Park flood mitigation |
| Year Initiated | 2019 (preliminary engineering) |
| Applicable Jurisdiction | Village of Midlothian |
| Lead Agency/Organization | Village of Midlothian |
| Supporting Agencies/Organizations | Chicago Metropolitan Agency for Planning |
| 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"> • 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. • Reduce natural hazard-related risks and vulnerability to potentially isolated populations within the planning area. • Encourage hazard mitigation measures that result in the least adverse effect on the natural environment and that use natural processes. |
| Potential Funding Source | Grants, Local Funds |
| Estimated Cost | 5,560,000 |
| Benefits (loss avoided) | Reduce flooding on 150th Street, 151st Street, Kilbourn Avenue, Kostner Avenue, and impacted yards and structures. |
| Projected Completion Date | TBD |

| | |
|---|---|
| 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: | This project includes three components: stormwater detention at Kostner Park; conveyance upgrades along Kilbourn Avenue and 151st Street; and bioretention in Kostner Park. |

| 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 M7.26

| | |
|---|---|
| Mitigation Action | Bremen Heights flood mitigation. |
| Year Initiated | 2019 (conceptual planning) |
| Applicable Jurisdiction | Village of Midlothian |
| Lead Agency/Organization | Village of Midlothian |
| Supporting Agencies/Organizations | Chicago Metropolitan Agency for Planning |
| 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. • Promote public understanding of and support for hazard mitigation. |
| Applicable Objective | <ul style="list-style-type: none"> • 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. • Reduce natural hazard-related risks and vulnerability to potentially isolated populations within the planning area. • Encourage hazard mitigation measures that result in the least adverse effect on the natural environment and that use natural processes. |
| Potential Funding Source | Grants, Local Funds |
| Estimated Cost | 5,560,000 |
| Benefits (loss avoided) | Mitigate flooding on 145th Street, Kenneth Avenue, and adjacent yards/structures |
| Projected Completion Date | TBD |
| 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: | This project includes green infrastructure at three locations: unimproved right-of-way at Kolmar Avenue and 145th Street; Kenneth Avenue at Bremen Heights Park, and on the north side of Bremen Heights Park. |
|--|--|

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 M7.1

| TABLE: ACTION PLAN MATRIX | | |
|--|---|------------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| Midlothian #1 | Ensure that new development be designed to reduce or eliminate flood damage by requiring lots and rights-of-way to be laid out for the provisions of approved sewer and drainage facilities, providing on- site detention facilities. | |
| Status Description: Yes | This is an ongoing plan that the village will continue to enforce/Implement | O |
| <p 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 M7.2

| TABLE: ACTION PLAN MATRIX | | |
|--|---|------------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #2 | Adopt Cook County Watershed Ordinance to control release rates and ensure a region wide approach to new development designed to reduce the impacts of flooding. | |
| Status Description: Yes | Because the village of midlothian falls in MWRD's servise area, we are under their WMO. Also the Village's requirements for detention are more stringent than MWRD's. | O |
| <p 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 M7.3

| TABLE: ACTION PLAN MATRIX | | |
|---|---|------------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #3 | Partner with the City of Oak Forest and MWRD to find upstream detention and enlarge storm water capacity and conveyance to relieve breakout flooding on Natalie Creek at 149th & Kilpatrick which leads to much downstream residential damage. | |
| Status Description: Yes | Construction on a \$8.3 million dollar Phase 2 project on Natalie Creek is scheduled to begin in the fall of 2018/spring of 2019 This project consist of new detention and conveyance improvements that will take it from a 2year to a 25 year level of protection. | O |
| <p 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 M7.4

| TABLE: ACTION PLAN MATRIX | | |
|---|---|------------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #4 | Partner with MWRD to resolve breakout flooding on Natalie Creek at 149th & Kilpatrick with installation of upstream detention and storm sewer diversion from Kilpatrick to Pulaski. | |
| Status Description: Yes | Construction on a \$8.3 million dollar Phase 2 project on Natalie Creek is scheduled to begin in the fall of 2018/spring of 2019 This project consist of new detention and conveyance improvements that will take it from a 2year to a 25 year level of protection. | O |
| <p 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 M7.5

| TABLE: ACTION PLAN MATRIX | | |
|---|---|------------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #5 | In the absence of flooding resolve the Village may consider property acquisition in areas that experience repetitive flooding damage. | |
| Status Description: Yes | MWRD is handling all property acquisitions in order to complete their Phase 2 project along Natalie Creek. | O |
| <p 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 M7.6

| TABLE: ACTION PLAN MATRIX | | |
|---|--|------------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #6 | Relieve Flooding on 151st St. Springfield to Lawndale by finding a new outfall, detention or conveyance for an overtaxed storm sewer system. | |
| Status Description: Yes | The Village's engineering firm performed a preliminary engineering study to investigate possible improvements that would mitigate the flooding that occurs in this area. We are currently seeking funding for design engineering for a flood mitigation project. | O |
| <p 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 M7.7

| TABLE: ACTION PLAN MATRIX | | |
|--|---|------------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #7 | Enhance Village website to improve communication with residents about issues relative to weather related emergencies and Hazard Mitigation. | |
| Status Description: Yes | The Village is constantly updating and improving their website to make sure the residents are aware of any improvements that are made to mitigate hazardous situations or conditions. The Village has implemented a Code Red system to alert our residents of emergency weather events. | O |
| <p 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 M7.8

| TABLE: ACTION PLAN MATRIX | | |
|--|--|------------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #8 | Pursue engineering to remove of a portion of the Northeast quadrant from the Floodplain that never floods. | |
| Status Description: Yes | The Village is currently working on a LOMA to remove various properties from the flood plain. | O |
| <p 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 M7.9

| TABLE: ACTION PLAN MATRIX | | |
|---|---|------------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #9 | Initiate both public and private sector Long Term Operations & Maintenance plans for sanitary sewer prevention of inflow and infiltration, including but not limited to sewer televising, lining, and manhole rehabilitation. | |
| Status Description: Yes | The Village is currently in compliance with MWRD's I/I Control program. We have recently completed smoke testing, cleaning, televising and lining, the sewer mains in the worst area of our system. Manhole rehabilitation is scheduled for fall 2008/spring 2019 | O |
| <p 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 M7.12

| TABLE: ACTION PLAN MATRIX | | |
|---|---|------------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #12 | Village will continue to support Green Infrastructure as a means to control both the quantity and quality of our storm water. | |
| Status Description: Yes | The Village was awarded a CDBG grant for street improvements that will incorporate a \$40,000 rain garden. | O |
| <p 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 M7.13

| TABLE: ACTION PLAN MATRIX | | |
|---|---|---------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #13 | Village will consider entering the Community Rating System Program. | |
| Status Description: Yes | The Village was successful in meeting the minimum criteria for a CRS class 7 rating on May 1, 2018. | O |
| <p>Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken</p> | | |

Action M7.14

| TABLE: ACTION PLAN MATRIX | | |
|---|---|---------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #14 | Incorporate Hazard Mitigation Plan in to General Plan or Comprehensive Plan. | |
| Status Description: Yes | The Village has incorporated the Hazard Mitigation Plan in to all of it's current and future plans. | O |
| <p>Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken</p> | | |

Action M7.15

| TABLE: ACTION PLAN MATRIX | | |
|---|---|------------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #15 | Continue to support Mutual Aid across all Police, Fire and Public Works. | |
| Status Description: Yes | The Village continues to support mutual aid across all Police, Fire and Public Works. | O |
| <p 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 M7.16

| TABLE: ACTION PLAN MATRIX | | |
|---|---|---------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #16 | Continue to support the implementation, monitoring, maintenance, and updating of this Plan | |
| Status Description: Yes | The Village will continue to support the implementation, monitoring, maintenance and updating of this plan. | O |
| <p 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 M7.17

| TABLE: ACTION PLAN MATRIX | | |
|---|--|---------------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #17 | Initiate an Early Warning System for residents such as Reverse 911 | |
| Status Description: Yes | The village has implemented a CODE RED early warning communications system to alert our residents of hazardous incidents. The Army Core of engineers funded the installation of a Stream & Rain Gauge in 2015 with the ability to set up early warning notifications. Residents have the ability to sign up for early warning notifications VIA text messages or emails when Natalie Creek reaches certain water levels. | O |
| <p 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 M7.18

| TABLE: ACTION PLAN MATRIX | | |
|---|---|------------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #18 | Public Works will lower water services to avoid disruption of service from severe cold weather. | |
| Status Description: Yes | Public Works has lowered the majority of the water services in town that have been prone to freezing in extreme cold temperatures. We will continue to address any other problem services that arise in the future. | O |
| <p 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 M7.19

| TABLE: ACTION PLAN MATRIX | | |
|--|--|------------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #19 | Village will consider a Tree Ordinance with intention of becoming qualified for Tree City USA status | |
| Status Description: Yes | The Village implemented a tree ordinance in 2015 and we are currently working with Morton Arboretum to compile an inventory of all the trees in Midlothian. Once this tree inventory is complete, we hope to integrate it into our GIS system. | O |
| <p style="text-align: center;">Completion status legend:</p> <p style="text-align: center;"> N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken </p> | | |

Completed Mitigation Actions

The following section represents completed mitigation actions, and serves as an archive of identified and completed projects.

Action M7.10

| TABLE: ACTION PLAN MATRIX | | |
|---|---|------------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #10 | Install early warning system for Natalie Creek flood levels that would alert PW supervisors the creek has risen to levels that need immediate attention. | |
| Status Description: Yes | The Army Core of engineers funded the installation of a Stream & Rain Gauge in 2015 with the ability to set up early warning notifications. The village staff is currently taking advantage of this feature. The village will continue to look for ways to utilize and improve this technology. | C |
| <p 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 M7.11

| TABLE: ACTION PLAN MATRIX | | |
|---|---|------------------------------|
| Action Number Action Taken Y/N | Action Item Description | Status (X, O, C, R, N) |
| # Midlothian #11 | Replace emergency generator at Midlothian PW Garage to enable ongoing uninterrupted operations in the event of loss of power. | |
| Status Description: Yes | The Village Had a new generator installed at the public Works Garage in 2014 | C |
| <p 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> | | |

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

| MIDLOTHIAN EXISTING CONDITIONS | |
|---|-----------------|
| 2010 Population | 14,819 |
| Total Assessed Value of Structures and Contents | \$4,222,849,008 |
| Area in 100-Year Floodplain | 203.46 acres |
| Area in 500-Year Floodplain | 346.88 acres |
| Number of Critical Facilities | 39 |

| HAZARD EXPOSURE IN MIDLOTHIAN | | | | | | |
|-------------------------------|----------------|-----------|-------------------------|---------------|---------------|-----------------------------------|
| | 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 | 1,333 | 410 | \$187,407,297 | \$145,854,680 | \$333,261,977 | 7.89% |

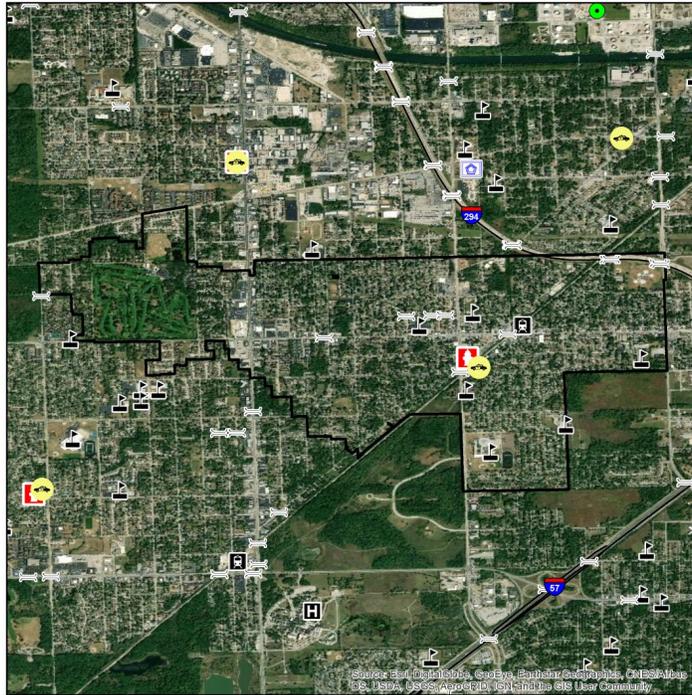
| | | | | | | |
|----------------|-------|-----|-----------------|---------------|------------------------|--------|
| 500-Year | 2,725 | 838 | \$817,877,148 | \$733,202,066 | \$1,551,079,214 | 36.73% |
| Tornado | | | | | | |
| 100-Year | — | — | \$327,581,093 | \$240,695,025 | \$568,276,118 | 13.46% |
| 500-Year | — | — | \$1,095,020,391 | \$923,587,165 | \$2,018,607,556 | 47.80% |

ESTIMATED PROPERTY DAMAGE VALUES IN MIDLOTHIAN

| | 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 | \$25,996,683 | \$7,697,957 | \$33,694,639 | 0.80% |
| Flood | | | | |
| 10-Year | \$1,326,268 | \$544,196 | 1,870,464 | 0.04% |
| 100-Year | \$7,533,062 | \$4,108,652 | \$11,641,714 | 0.28% |
| 500-Year | \$27,599,596 | \$33,830,695 | \$61,430,291 | 1.45% |

| Tornado | | | | |
|----------------|---------------|---------------|----------------------|-------|
| 100-Year | \$32,758,109 | \$24,069,502 | \$56,827,612 | 1.35% |
| 500-Year | \$159,872,977 | \$134,843,726 | \$294,716,703 | 6.98% |

Hazard Mapping

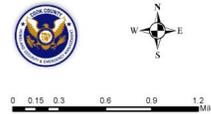


VILLAGE OF MIDLOTHIAN

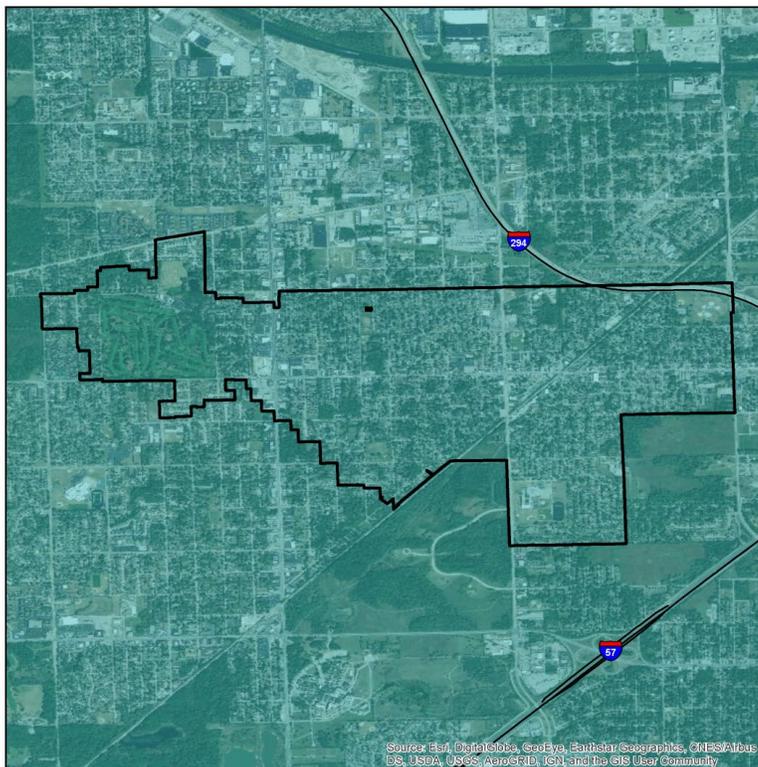
CRITICAL INFRASTRUCTURE

- 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 MIDLOTHIAN

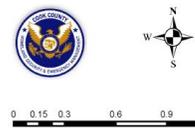
PEAK GROUND ACCELERATION FOR A 100 YEAR EARTHQUAKE EVENT

- Mercalli Scale, Potential Shaking**
- II-III Weak

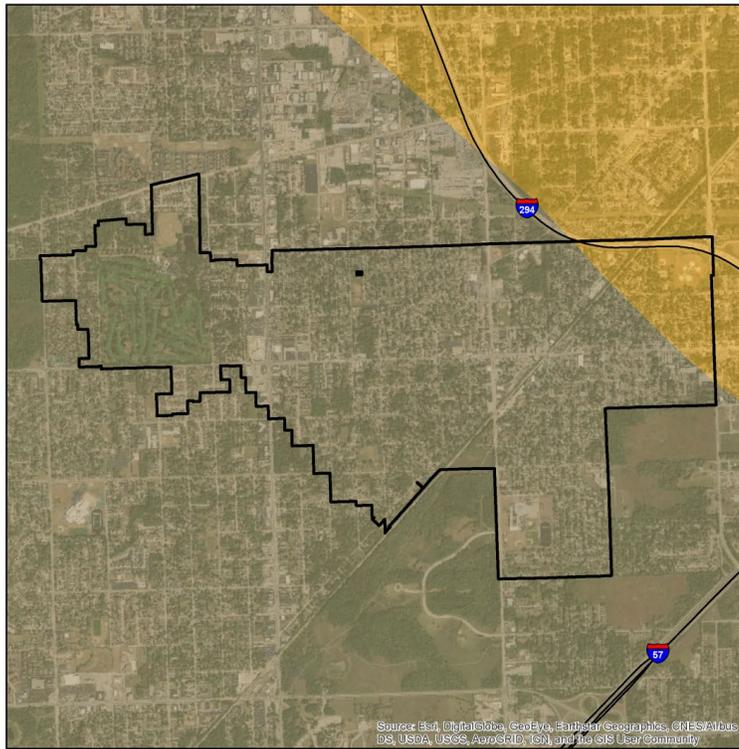
Data provided by the USGS Earthquake Hazards Program and Cook County.

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.

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



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VILLAGE OF MIDLOTHEON

NATIONAL EARTHQUAKE HAZARD REDUCTION PROGRAM (NEHRP) SOIL CLASSIFICATION

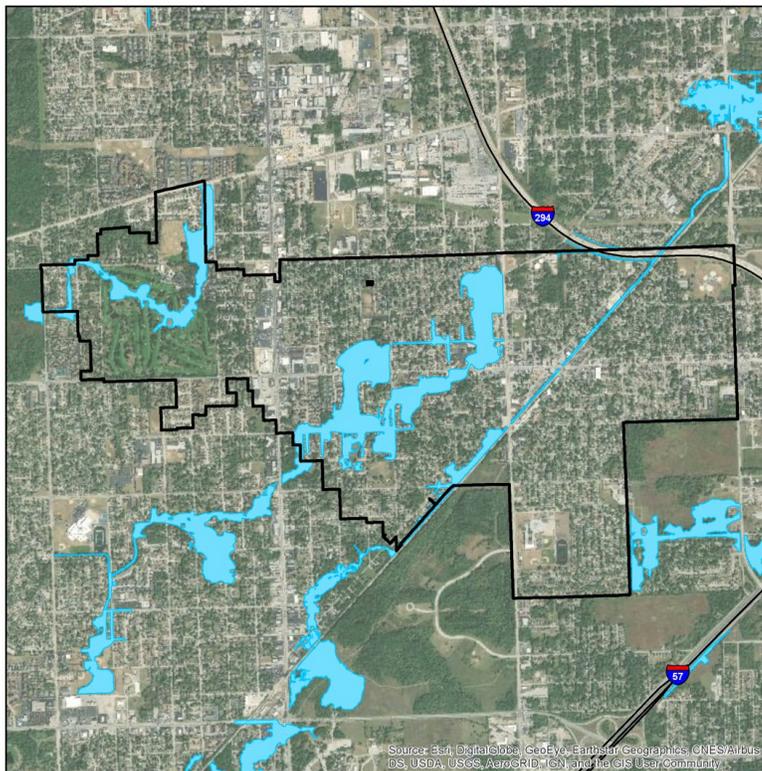
TYPE

- 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 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 States (East of 102 degrees West Longitude) by David S. Fullerton, Charles A. Bush and Jean H. Pennell (2003) was the base map used for this work. Each State Geological Survey prepared 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, 2003) were followed to produce the soil site class maps. CUSEC State Geologists used the entire column of soils material down to bedrock and did not include any bedrock in the calculation of the average shear wave velocity for the column, since it is the soil column and the difference in shear wave velocity of the soils in comparison to the bedrock which influences much of the amplification.

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VILLAGE OF MIDLOTHEON

COOK COUNTY MWRDGC 100-YEAR INUNDATION AREA

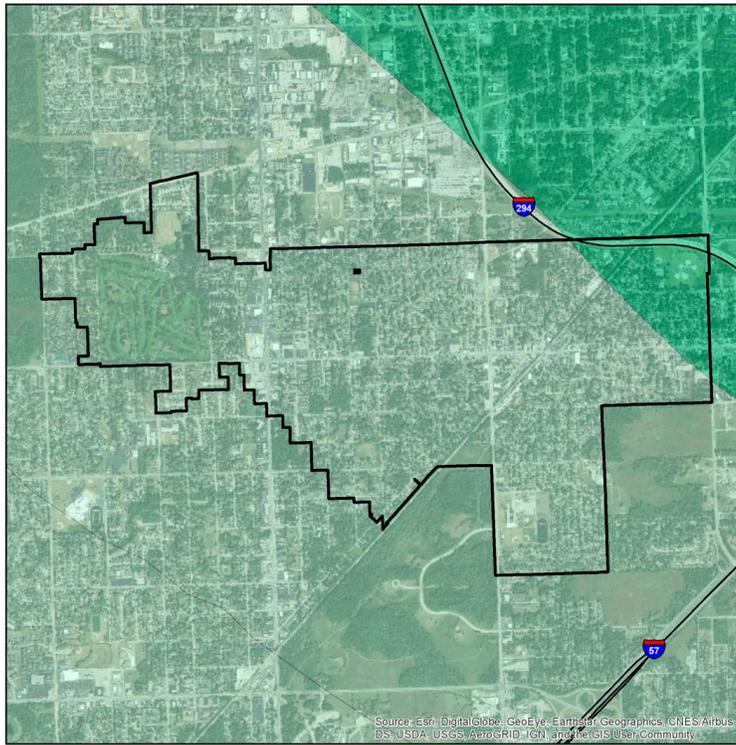
- 100-year Inundation Area

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

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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>.





VILLAGE OF MIDLOTHEON

LIQUEFACTION SUSCEPTIBILITY

LIQUEFACTION SUSCEPTIBILITY

- high
- low
- very low

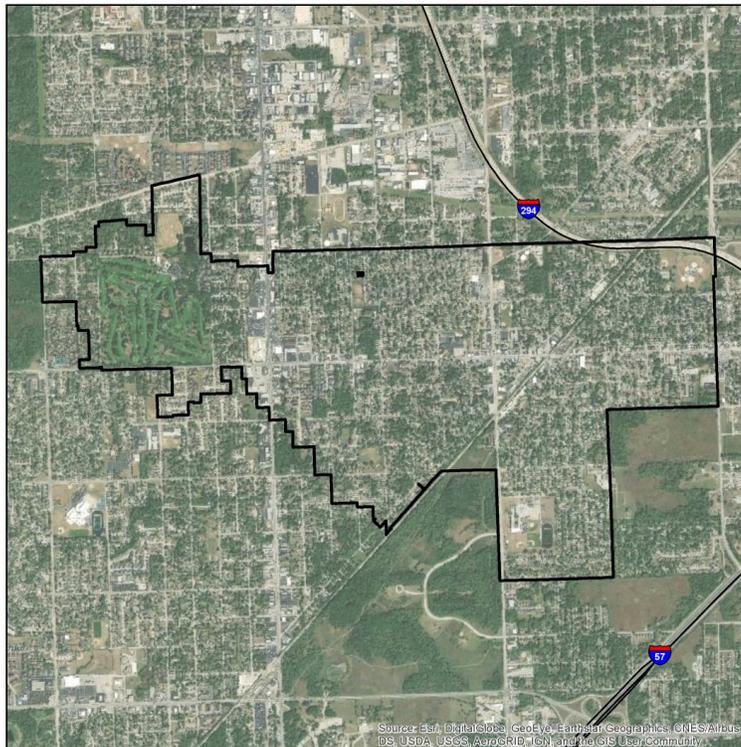
Data provided by the Illinois State Geological Survey and Cook County.

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 12789 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. Bault 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 Susceptibility maps (Building Seismic Safety Council, 2004) and the 2003 International Building Codes (International Code Council, 2003) were followed to produce the soil site class maps. CUSEC State Geologists used the entire column of soils material down to bedrock and did not include any bedrock in the calculation of the average shear wave velocity for the column, since it is the soil column and the difference in shear wave velocity of the soils in comparison to the bedrock which influences much of the amplification.

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VILLAGE OF MIDLOTHEON

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.



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