# CHAPTER 3.
# VILLAGE OF ARLINGTON HEIGHTS ANNEX

## 3.1 HAZARD MITIGATION PLAN POINT OF CONTACT

**Primary Point of Contact**

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## 3.2 JURISDICTION PROFILE

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

- **Date of Incorporation** 1887
- **Current Population:** 75,101 as of 2010 census
- **Population Growth:** Based on the data available Arlington Heights has experienced a relatively flat rate of growth over the past 13 years. The overall population has decreased 4.21 percent since 2000.
- **Location and Description:** The Village of Arlington Heights is located approximately 25 miles northwest of Chicago and is the 12$^{th}$ largest municipality in Illinois. The geographical area is 16.6 square miles and is located in Northwest Cook County in Wheeling Township. Within the boundaries are numerous highways including two major expressways I-90 and Route 53. The village is essentially divided in half by the Union Pacific Railroad and lies in close proximity to O'Hare International and Chicago Executive Airports. It is bordered by Long Grover to the north, Elk Grover Village to the south, Palatine to the west, and Prospect Heights to the east. The Village of Arlington Heights is primarily an upscale residential community; however within its boundaries are two major industrial complexes, numerous commercial establishments and a major sports complex.
- **Brief History:** Arlington Heights was founded in the mid-1800s by Asa Dunton. Asa's son William Dunton was the first landowner in this small farming community. In 1853 William Dunton persuaded the Illinois & Wisconsin Railroad to make a stop and a depot in the area and he laid out a town called Dunton in the surrounding area. In 1887 the community was incorporated as the Village of Arlington Heights with a population of 1,000.
- **Climate:** The climate in Arlington Heights is typical for the mid-west. Average rainfall is 32 inches and the average snowfall is 24 inches annually. The July high temperature is 83 degrees and the January low temperature is 11 degrees. The comfort index, which is based on humidity during hot months, is 46, which is close to the national average of 44.
- **Governing Body Format:** The Village of Arlington Heights is a home rule community with a council-manager form of government that provides policy leadership by elected officials along with the administrative direction of a village manager. The Village Board is composed of eight (8) Trustees and one (1) Village President, who is the Mayor. The Village consists of

sixteen (16) departments and nineteen (19) boards and commissions. This body of Government will assume the responsibility for adoption and implementation of the plan.

- **Development Trends**: The developmental plan for Arlington Heights is low to moderate consisting primarily of the redevelopment of older residential properties especially in the downtown area. The village is landlocked so further annexations of vacant land are no longer possible. According to the plan some rezoning for redevelopment is anticipated.

## 3.3 CAPABILITY ASSESSMENT

The assessment of the jurisdiction's legal and regulatory capabilities is presented in Table 3-1. The assessment of the jurisdiction's fiscal capabilities is presented in Table 3-2. The assessment of the jurisdiction's administrative and technical capabilities is presented in Table 3-3. Information on the community's National Flood Insurance Program (NFIP) compliance is presented in Table 3-4. Classifications under various community mitigation programs are presented in Table 3-5.

**TABLE 3-1.**
**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 | *ICC 2009 Ord. 11-034*<br>8/1/2011 |
| Zonings | Yes | No | No | Yes | (65 ILCS 5/) Illinois Municipal Code.<br>Ord. 85-114, 9/23/1985 |
| Subdivisions | Yes | No | No | No | Ord. 07-114, 9/23/1985 |
| Stormwater Management | Yes | No | Yes | Yes | State regulates industrial activity from Construction sites 1 acre or larger under section 402 CWA.<br>MWRD - TARP<br>Ord. 07-023, 4/9/2007 |
| 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 | No | No | 97-038, 1997 |
| Site Plan Review | Yes | No | No | No | Ord. 95-088, 12/4/1995 |
| Public Health and Safety | Yes | No | Yes | No | Cook County Dept. of Public Health<br>Ord. 95-088, 12/4/1995 |
| Environmental Protection | No | No | No | No | |

**TABLE 3-1.**
**LEGAL AND REGULATORY CAPABILITY**

| | Local Authority | State or Federal Prohibitions | Other Jurisdictional Authority | State Mandated | Comments |
|---|---|---|---|---|---|
| **Planning Documents** | **All have been amended many times since their adoption.** | | | | |
| General or Comprehensive Plan | Yes | No | No | No | Ord. 97-038, 1997 could be linked |
| *Is the plan equipped to provide linkage to this mitigation plan?* | | | | | Yes |
| Floodplain or Basin Plan | No | No | No | No | |
| Stormwater Plan | No | No | No | No | |
| Capital Improvement Plan | No | No | No | No | |
| *What types of capital facilities does the plan address?* | | | | | N/A |
| *How often is the plan revised/updated?* | | | | | N/A |
| Habitat Conservation Plan | No | No | No | No | |
| Economic Development Plan | Yes | No | Yes | Yes | 92-113, 97-038 11/16/92 |
| Shoreline Management Plan | No | No | No | No | |
| **Response/Recovery Planning** | | | | | |
| Comprehensive Emergency Management Plan | Yes | No | No | Yes | 1st 1982, amended bi. ann. Latest 2013-2014 |
| Threat and Hazard Identification and Risk Assessment | No | No | Yes | No | Cook County DHSEM Preparing THIRA |
| Terrorism Plan | Yes | No | No | Yes | Emergency Operations Plan Annex Q |
| Post-Disaster Recovery Plan | Yes | No | Yes | Yes | Emergency Operations Plan Annex P |
| Continuity of Operations Plan | Yes | No | Yes | No | Emergency Operations Plan Annex A |
| Public Health Plans | Yes | No | Yes | No | Emergency Operations Plan Annex E |

**TABLE 3-2.**
**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 | |

**TABLE 3-3.**
**ADMINISTRATIVE AND TECHNICAL CAPABILITY**

| Staff/Personnel Resources | Available? | Department/Agency/Position |
|---|---|---|
| Planners or engineers with knowledge of land development and land management practices | Yes | Planning, Engineering & Community Development Departments |
| Engineers or professionals trained in building or infrastructure construction practices | Yes | Building and Engineering Departments |
| Planners or engineers with an understanding of natural hazards | Yes | Engineering & Public Works |
| Staff with training in benefit/cost analysis | Yes | Planning & Community Development Departments |
| Surveyors | No | Outsourced |
| Personnel skilled or trained in GIS application | Yes | Cook County GIS Consortium |
| Scientist familiar with natural hazards in local area | No | Outsourced |
| Emergency manager | Yes | Fire/ AH Emergency Management Agency |
| Grant writers | Yes | Planning, Community Development Departments |

**TABLE 3-4.**
**NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE**

| | |
|---|---|
| What department is responsible for floodplain management in your jurisdiction? | Engineering |
| Who is your jurisdiction's floodplain administrator? (department/position) | Engineering Dept. Director |
| Are any certified floodplain managers on staff in your jurisdiction? | No |
| What is the date of adoption of your flood damage prevention ordinance? | 4/9/07 |
| When was the most recent Community Assistance Visit or Community Assistance Contact? | 12/09/05 |
| 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? | Continued training is always welcomed. |
| 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; No |

**TABLE 3-5.**
**COMMUNITY CLASSIFICATIONS**

| | Participating? | Classification | Date Classified |
|---|---|---|---|
| Community Rating System | No | N/A | N/A |
| Building Code Effectiveness Grading Schedule | Yes | 4 | 3/27/12 |
| Public Protection | Yes | ISO Class 2 | January 2009 |
| StormReady | Yes | Gold (countywide) | 2014 |
| Tree City USA | Yes | N/A | 1980 |

## 3.4 JURISDICTION-SPECIFIC NATURAL HAZARD EVENT HISTORY

Table 3-6 lists all past occurrences of natural hazards within the jurisdiction. Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: 3
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0

**TABLE 3-6.**
**NATURAL HAZARD EVENTS**

| Type of Event | FEMA Disaster # (if applicable) | Date | Preliminary Damage Assessment |
|---|---|---|---|
| Polar Vortex/ Winter Weather events | N/A | Dec 2013 – March 2014 | |
| Severe Weather/Urban Flooding | DR-4116 | April 2013 | |
| Severe Weather/Urban Flooding | N/A | June 2012 | |
| Severe Weather/Urban Flooding | N/A | July 2011 | |
| Severe Weather/Urban Flooding | DR-1800 | Sept. 2008 | |
| Severe Weather/Urban Flooding | N/A | Sept. 2006 | |
| Winter Storm | N/A | January 2005 | |
| Winter Storm | N/A | January 2002 | |
| Winter Storm | N/A | Feb. 2000 | |
| Winter Storm | N/A | January 1999 | |
| Severe Weather/Urban Flooding | DR-798 | August 1987 | |
| Severe Weather/Urban Flooding | DR-776 | Sept. 1986 | |
| Winter Storm | N/A | January 1979 | |

## 3.5 HAZARD RISK RANKING

Table 3-7 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 3-7.**
**HAZARD RISK RANKING**

| Rank | Hazard Type | Risk Rating Score (Probability x Impact) |
|---|---|---|
| 1 | Severe Weather/Urban Flooding | 54 |
| 2 | Severe Winter Weather | 54 |
| 3 | Flooding[a] | *18* |
| 4 | Earthquake | 32 |
| 5 | Tornado | 27 |
| 6 | Drought | 2 |
| 7 | Dam Failure | 0 |

a. Arlington Heights is not subject to river flooding but we are and have been affected by urban flooding issues for many years. We have subjectively placed flooding higher than its score value ranking would have put it due to our past experience. Experience has shown that our urban flooding issues are more directly connected to severe summer storms with excessively heavy rain fall rather than spring snow thawing events. Because of these issues we have grouped Severe Weather/Urban Flooding together with a risk rating of 54 since we only get the flooding along with these storms.

## 3.6 HAZARD MITIGATION ACTION PLAN AND EVALUATION OF RECOMMENDED ACTIONS

Table 3-8 lists the actions that make up the jurisdiction's hazard mitigation plan. Table 3-9 identifies the priority for each action. Table 3-10 summarizes the mitigation actions by hazard of concern and the six mitigation types.

**TABLE 3-8.**
**HAZARD MITIGATION ACTION PLAN MATRIX**

| Applies to New or Existing Assets | Hazards Mitigated | Objectives Met | Lead Agencies | Estimated Cost | Sources of Funding | Timeline[a] |
|---|---|---|---|---|---|---|
| **Action A2.1—**Construction & maintenance of the Lake Arlington retention & Wilke Rd. detention basins and the Weller Creek flood control projects. | | | | | | |
| New & existing | Urban Flooding | 1, 2, 9, 10, 13 | Engineering Dept. | $140,000,000 High | Grants, Bonds & CIP | Long Term |
| **Action A2.2—**Construction of rear yard storm sewers in chronic flood prone areas. | | | | | | |
| New & existing | Urban Flooding | 1, 2, 9, 10, 13 | Engineering Dept. | $800,000 High | Il. Dept. of Commerce grant, CIP | Long Term |

**TABLE 3-8.**
**HAZARD MITIGATION ACTION PLAN MATRIX**

| Applies to New or Existing Assets | Hazards Mitigated | Objectives Met | Lead Agencies | Estimated Cost | Sources of Funding | Timeline[a] |
|---|---|---|---|---|---|---|
| **Action A2.3**—Implementation of a rebate program to help owners of older homes install overhead sewers or install a sewer back up system. | | | | | | |
| New & existing | Urban Flooding | 1, 2, 6, 8, 9, 10, 13 | Engineering Dept. | $725,000 Medium | CIP | Long Term |
| **Action A2.4—**Commission two studies, one regarding areas of chronic flooding and a second regarding a combined Storm/Sanitary sewer system in the older part of the village. | | | | | | |
| New & existing | Urban Flooding | 1, 2, 6, 8, 9, 10, 13 | Public Works Dept. | $200,000, Low | CIP | Short Term and Ongoing |
| **Action A2.5—**Implement recommendations from studies mentioned in Action A2.4. | | | | | | |
| New | Urban Flooding | 1, 2, 6, 8, 9, 10, 13 | Engineering Dept. | Study due by June 2014 Medium | CIP | Long Term |
| **Action A2.6—**Print & distribute the 2014 Arlington Heights Multi-Hazard Emergency Preparedness Guide. | | | | | | |
| Update of existing | All | 1, 6, 8, 11, 13 | Emergency Management | $10,000, Low | General Fund | Short Term |
| **Action A2.7—**Update, bi-annually, the Arlington Heights Emergency Operations Plan. | | | | | | |
| Update of existing | All | 1, 4, 5, 6, 8 | Emergency Management | $1,000, Low | General Fund | Short Term |
| **Action A2.8—**Continue to improve and maintain the Everbridge Mass Notification System. | | | | | | |
| Update of existing | All | 1, 5, 6, 8, 11, 12 | Admin. | $112,000, Low | General Fund & 911 budget | Short Term and Ongoing |
| **Action A2.9—**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. | | | | | | |
| Existing | All | 7, 13 | Village of Arlington Heights | High | FEMA Hazard Mitigation Grants | Long-term (depending on funding) |
| **Action A2.10—**Continue to support the countywide actions identified in this plan. | | | | | | |
| New and existing | All | All | Village of Arlington Heights | Low | General Fund | Short- and long-term |
| **Action A2.11—**Actively participate in the plan maintenance strategy identified in this plan. | | | | | | |
| New and existing | All | 3, 4, 6 | DHSEM, Village of Arlington Heights | Low | General Fund | Short-term |

**TABLE 3-8.**
**HAZARD MITIGATION ACTION PLAN MATRIX**

| Applies to New or Existing Assets | Hazards Mitigated | Objectives Met | Lead Agencies | Estimated Cost | Sources of Funding | Timeline[a] |
|---|---|---|---|---|---|---|
| **Action A2.12—**Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady. | | | | | | |
| New and existing | All | 3, 4, 5, 6, 7, 9, 10,11, 13 | Village of Arlington Heights | Low | General Fund | Long-term |
| **Action A2.13—**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. | | | | | | |
| New and existing | Flooding | 4, 6, 9 | Village of Arlington Heights | Low | General Fund | Short-term and ongoing |
| **Action A2.14—**Where feasible, implement a program to record high water marks following high-water events**.** | | | | | | |
| New and existing | Flooding. Severe Weather | 3, 6, 9 | Village of Arlington Heights | Medium | General Fund; FEMA Grant Funds (Public Assistance) | Long-term |
| **Action A2.15—**Integrate hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment. | | | | | | |
| New and existing | All | 3, 4, 6, 10, 13 | Arlington Heights Planning, Engineering & Community Development Departments | Low | General Fund | Short-term |

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 3-9.**
**MITIGATION STRATEGY PRIORITY SCHEDULE**

| Action # | # 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 | High | Yes | partial | Yes | High |
| 2 | 5 | Medium | Medium | Yes | Yes | Yes | Med. |
| 3 | 7 | High | Medium | Yes | No | Yes | High |
| 4 | 7 | High | Medium | Yes | No | Yes | High |
| 5 | 7 | High | Medium | Yes | No | Yes | High |
| 6 | 5 | High | Low | Yes | No | Yes | Med. |
| 7 | 5 | High | Low | Yes | No | Yes | Med |
| 8 | 6 | High | Medium | Yes | No | Yes | High |
| 9 | 2 | High | High | Yes | Yes | No | Medium |
| 10 | 13 | Medium | Low | Yes | No | Yes | High |
| 11 | 2 | Medium | Low | Yes | Yes | Yes | High |
| 12 | 9 | Medium | Low | Yes | No | Yes | Medium |
| 13 | 3 | Medium | Low | Yes | No | Yes | High |
| 14 | 3 | Medium | Medium | Yes | Yes | No | Medium |
| 15 | 5 | Medium | Low | Yes | No | Yes | High |

a. See Chapter 1 for explanation of priorities.

**TABLE 3-10.**
**ANALYSIS OF MITIGATION ACTIONS**

| Hazard Type | Action Addressing Hazard, by Mitigation Type[a] | | | | | |
|---|---|---|---|---|---|---|
| | 1. Prevention | 2. Property Protection | 3. Public Education and Awareness | 4. Natural Resource Protection | 5. Emergency Services | 6. Structural Projects |
| Dam Failure | N/A | N/A | N/A | N/A | N/A | N/A |
| Drought | 10, 11, 15 | 9 | 6, 7, 8, 10, 11 | N/A | 7, 8, 10 | N/A |
| Earthquake | 6, 10, 11, 15 | 7, 9 | 6, 7, 8, 10, 11 | N/A | 7, 8, 10 | N/A |
| Flooding (Urban) | 1, 2, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15 | 1, 2, 3, 4, 5, 9, 12, 13 | 6, 8, 10, 11, 12, 13 | 1, 2, 7, 12, 13 | 6, 7, 8, 10, 12, 13 | 1, 2, 3 |
| Severe Weather | 6, 7, 10, 11, 12, 14, 15 | 1, 2, 3, 9 | 6, 7, 8, 10, 11, 12 | 1, 2, 12 | 1, 2, 7, 8, 10, 12 | 1, 2 |
| Severe Winter Weather | 10, 11, 12, 15 | 9 | 10, 11, 12 | 12 | 10, 12 | N/A |
| Tornado | 10, 11, 12, 15 | 9 | 10, 11, 12 | N/A | 10, 12 | N/A |

a. See Chapter 1 for explanation of mitigation types.

## 3.7 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

No future needs have been identified at this time.

## 3.8 ADDITIONAL COMMENTS

As shown in the Action Plan Matrix, Arlington Heights has been dealing with its urban flooding issues for many years. Lake Arlington, the Wilke-Kirchoff detention basins, and the Weller Creek flood control projects have provided exceptional flood prevention and control. Arlington Heights is a partner in the MWRD – TARP, better known as the "Deep Tunnel Project." Since the completion of the Gloria Alitto Majewski Reservoir in 1998 along with the aforementioned projects, flooding in the village has been greatly reduced.

The severity of flood damage within the village depends on topography, stormwater control measures, sewer capacity, etc. In some of the older parts of the village, built prior to 1975, there are combined sewer systems. Catch basin flow restrictors installed intentionally pond water in the streets in order to reduce the flow into the sewer system, thereby reducing basement flooding/backup.

Paved roads, parking lots, sidewalks, and buildings all reduce the amount of land which can absorb water and can lead to increased urban flooding issues without sufficient regulations. Arlington Heights requires on site stormwater detention systems with flow restrictors for various sites by ordinance.

# HAZUS-MH RISK ASSESSMENT RESULTS FOR ARLINGTON HEIGHTS

## ARLINGTON HEIGHTS EXISTING CONDITIONS

| | |
|---|---|
| 2010 Population | 75,101 |
| Total Assessed Value of Structures and Contents | $13,507,001,344 |
| Area in 100-Year Floodplain | 171.72 acres |
| Area in 500-Year Floodplain | 1,368.74 acres |
| Number of Critical Facilities | 91 |

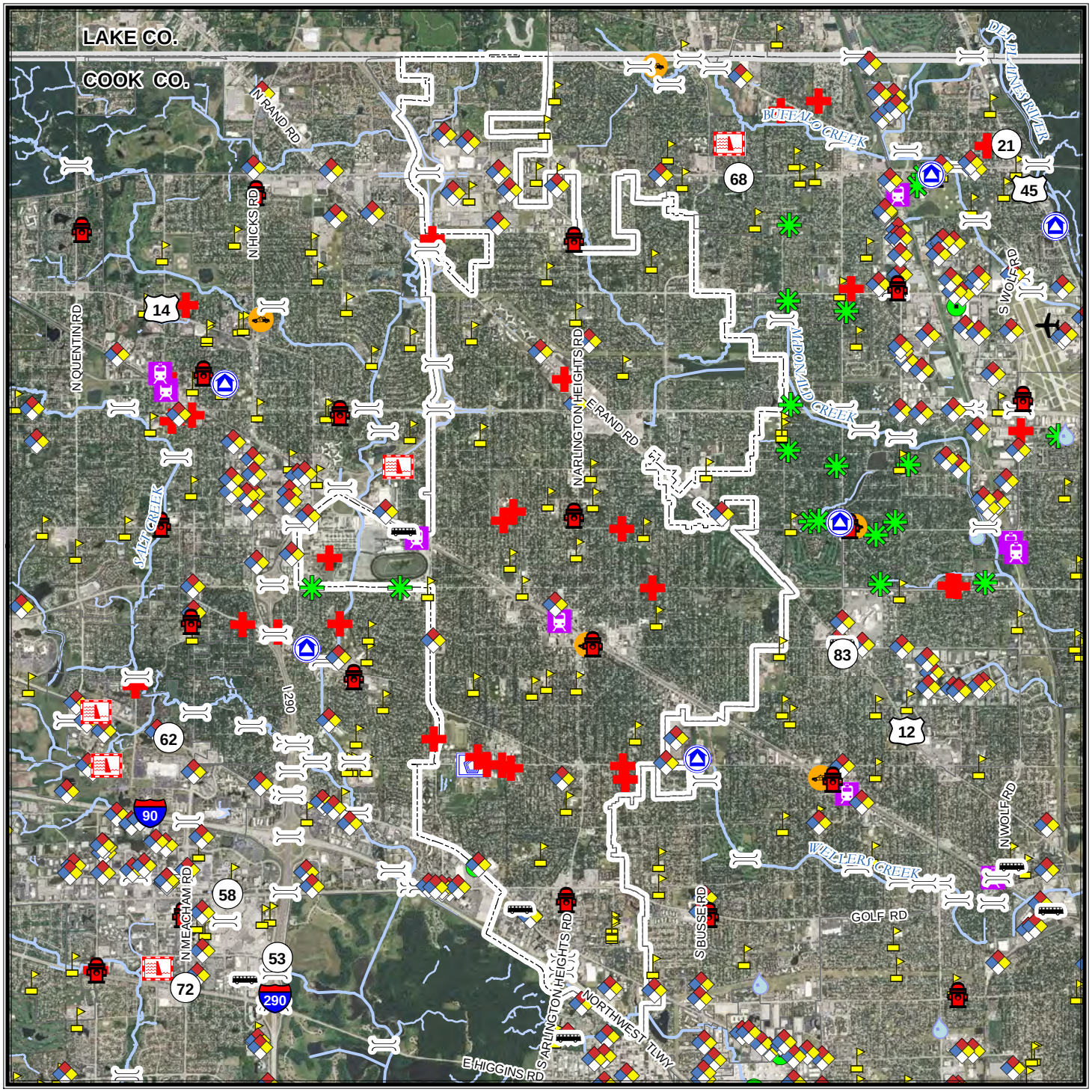
## HAZARD EXPOSURE IN ARLINGTON HEIGHTS

| | Number Exposed | | Value Exposed to Hazard | | | % of Total Assessed Value Exposed |
|---|---|---|---|---|---|---|
| | Population | Buildings | Structure | Contents | **Total** | |
| **Dam Failure** | | | | | | |
| Buffalo Creek | 400 | 123 | $73,027,000 | $60,348,000 | **$133,375,000** | 0.99% |
| U. Salt Cr. #2 | 0 | 0 | $0 | $0 | **$0** | 0.00% |
| Touhy | 0 | 0 | $0 | $0 | **$0** | 0.00% |
| U. Salt Cr. #3 | 46 | 14 | $53,485,000 | $53,362,000 | **$106,847,000** | 0.79% |
| U. Salt Cr. #4 | 46 | 14 | $53,485,000 | $53,362,000 | **$106,847,000** | 0.79% |
| **Flood** | | | | | | |
| 100-Year | 7 | 2 | $571,253 | $285,627 | **$856,880** | 0.01% |
| 500-Year | 12,233 | 3,764 | $1,048,736,908 | $546,262,513 | **$1,594,999,421** | 11.81% |
| **Tornado** | | | | | | |
| 100-Year | — | — | $843,431,153 | $507,709,348 | **$1,351,140,501** | 10.00% |
| 500-Year | — | — | $1,195,479,510 | $733,654,021 | **$1,929,133,530** | 14.28% |

## ESTIMATED PROPERTY DAMAGE VALUES IN ARLINGTON HEIGHTS

| | Estimated Damage Associated with Hazard | | | % of Total Assessed Value Damaged |
|---|---|---|---|---|
| | Building | Contents | **Total** | |
| **Dam Failure** | | | | |
| Buffalo Creek | $450,000 | $985,000 | **$1,435,000** | 0.01% |
| U. Salt Cr. #2 | $0 | $0 | **$0** | 0.00% |
| Touhy | $0 | $0 | **$0** | 0.00% |
| U. Salt Cr. #3 | $481,000 | $1,682,000 | **$2,163,000** | 0.02% |
| U. Salt Cr. #4 | $814,000 | $2,695,000 | **$3,509,000** | 0.03% |
| **Earthquake** | | | | |
| 1909 Historical Event | $33,714,113 | $7,290,861 | **$41,004,974** | 0.30% |
| **Flood** | | | | |
| 10-Year | $0 | $0 | **$0** | 0.00% |
| 100-Year | $0 | $0 | **$0** | 0.00% |
| 500-Year | $118,344,585 | $54,434,879 | **$172,779,464** | 1.28% |
| **Tornado** | | | | |
| 100-Year | $84,343,115 | $50,770,935 | **$135,114,050** | 1.00% |
| 500-Year | $174,540,008 | $107,113,487 | **$281,653,495** | 2.09% |

# HAZARD MAPPING FOR ARLINGTON HEIGHTS

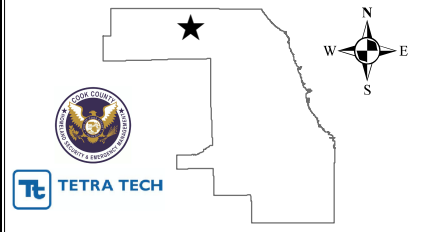



# VILLAGE OF ARLINGTON HEIGHTS

## Critical Facililties

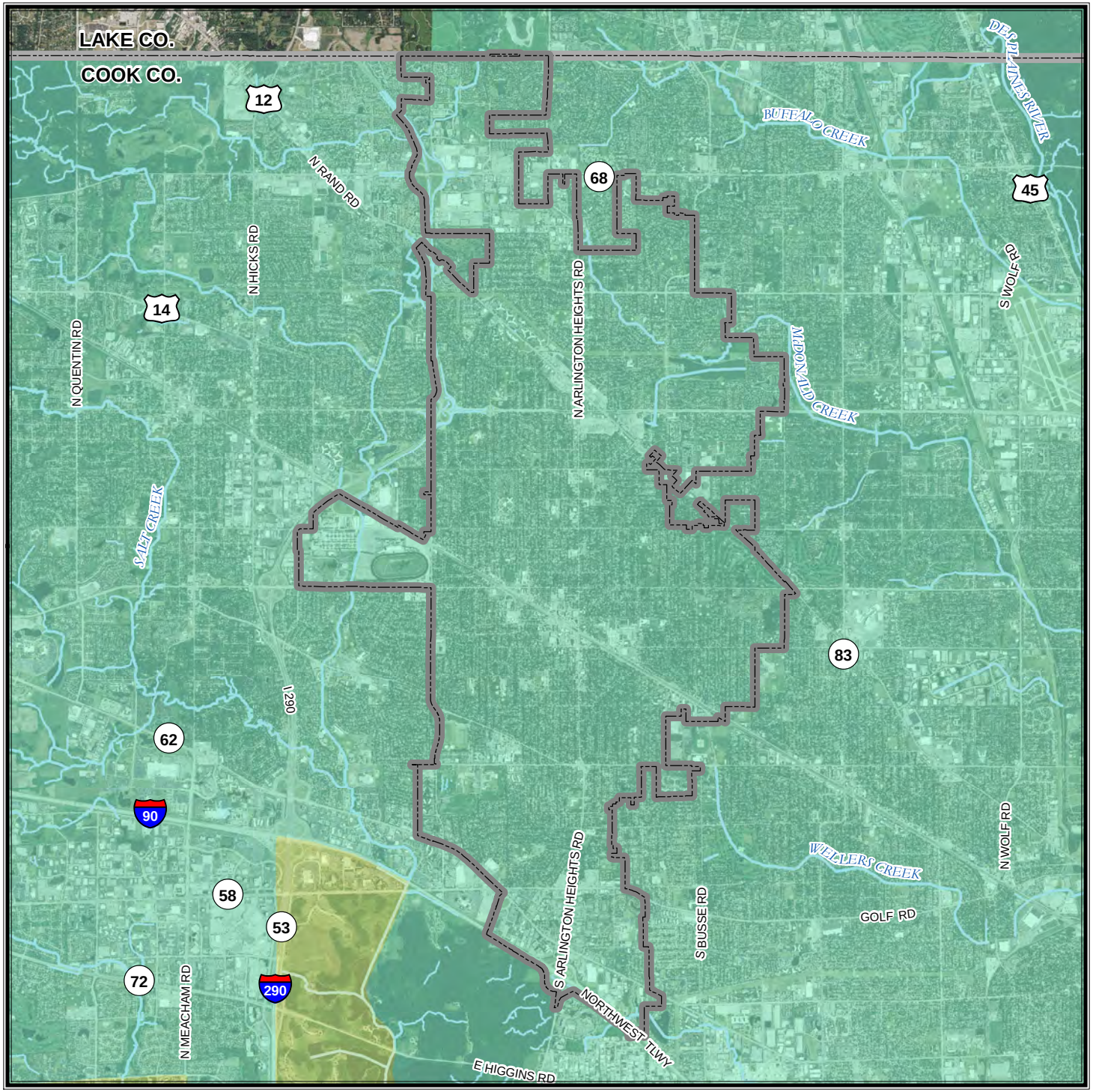
- Airport Facility
- Bus Facility
- Dams
- Emergency Operations Center
- Fire Station Facility
- Hazardous Materials
- Highway Bridge
- Light Rail Bridge
- Light Rail Facility
- Medical Care Facility
- Military
- Oil Facility
- Police Station Facility
- Port Facility
- Potable Water Facility
- Rail Facility
- Railway Bridge
- School Facility
- Other Facility

Base Map Data Sources:
Cook County, U.S. Geological Survey




TETRA TECH

0 1 2 Miles




# VILLAGE OF ARLINGTON HEIGHTS

## Illinois Historical 1909 Earthquake

**Modified Mercalli Intensity**

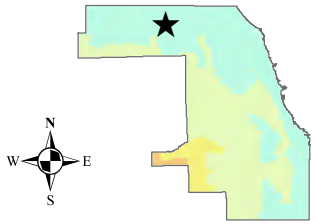
- I (Not Felt)
- II-III (Weak)
- IV (Light)
- V (Moderate)
- VI (Strong)
- VII (Very Strong)
- VIII (Severe)
- IX (Violent)
- X+ (Extreme)

Event Date of May 26, 1909. Original magnitude of 5.0; increased magnitude for analysis of 6.0. Depth: 10 km. Epicenter Lat/Long: 41.6N 88.1W

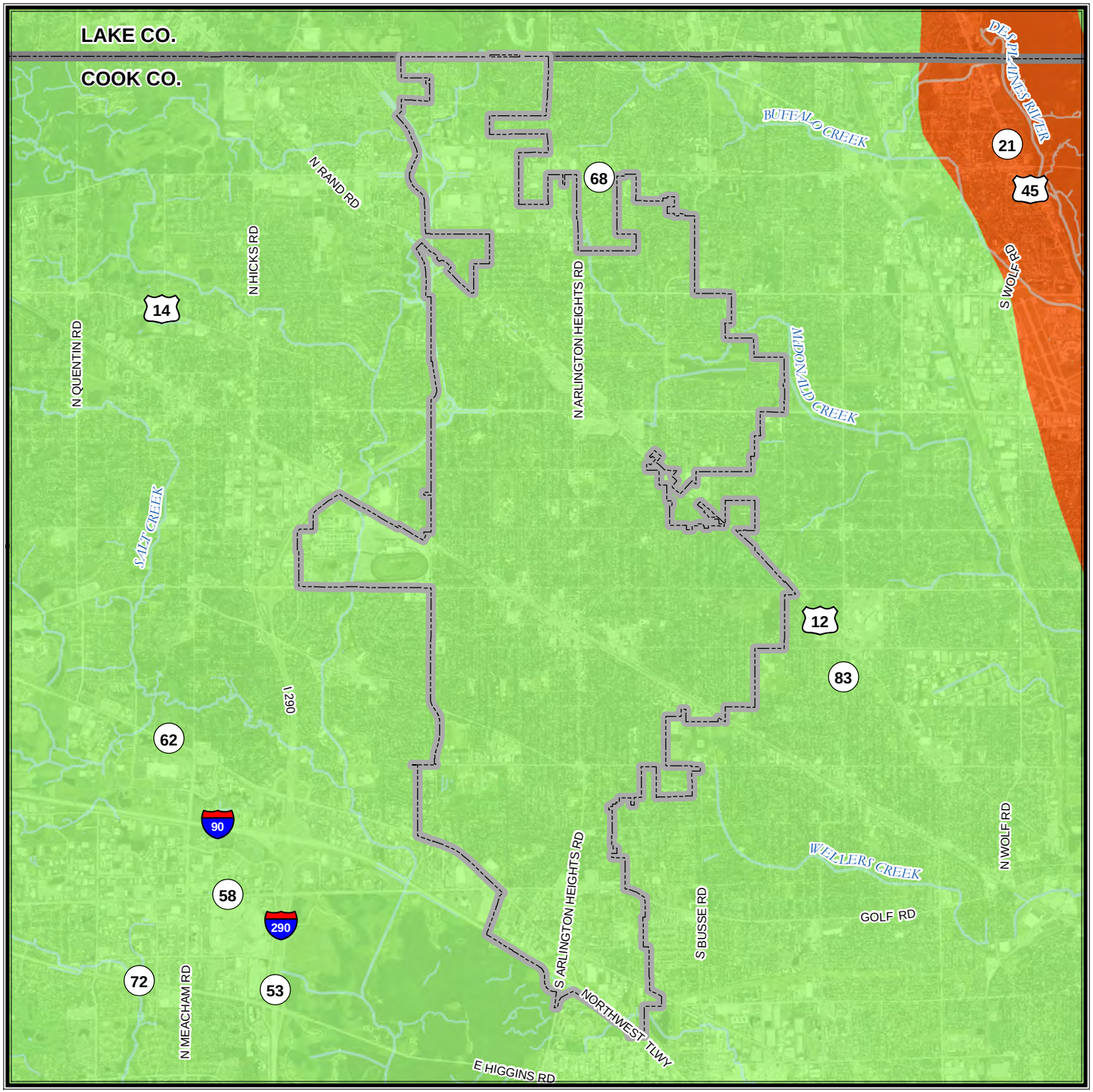
An Epicenter Map is derived from a database of historical earthquakes developed from three sources (Composite Earthquake Catalog, 2002, Earthquake Data Base, 2002, and Earthquake Seismicity Catalog, 1996). The database has been sorted to remove historical earthquakes with magnitudes less than 5.0. The Epicenter Map is based on a historical earthquake epicenter, selected from the database.

Base Map Data Sources:
Cook County, U.S. Geological Survey

TETRA TECH




0 1 2 Miles




# VILLAGE OF ARLINGTON HEIGHTS

## National Earthquake Hazard Reduction Program (NEHRP) Soil Classification

**Site Class**

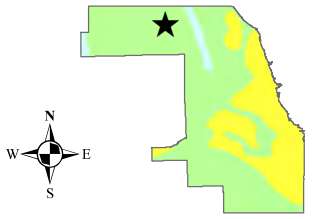
- A - Hard Rock
- B - Rock
- C - Very Dense Soil, Soft Rock
- D - Stiff Soil
- E - Soft Soil
- F - Site-Specifc Evaluation

Soil classification data provided by the Illinois State Geological Society.

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. Central U.S. Earthquake Consortium (CUSEC) State Geologists used the entire column of soil 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.

Base Map Data Sources:
Cook County, U.S. Geological Survey

TETRA TECH

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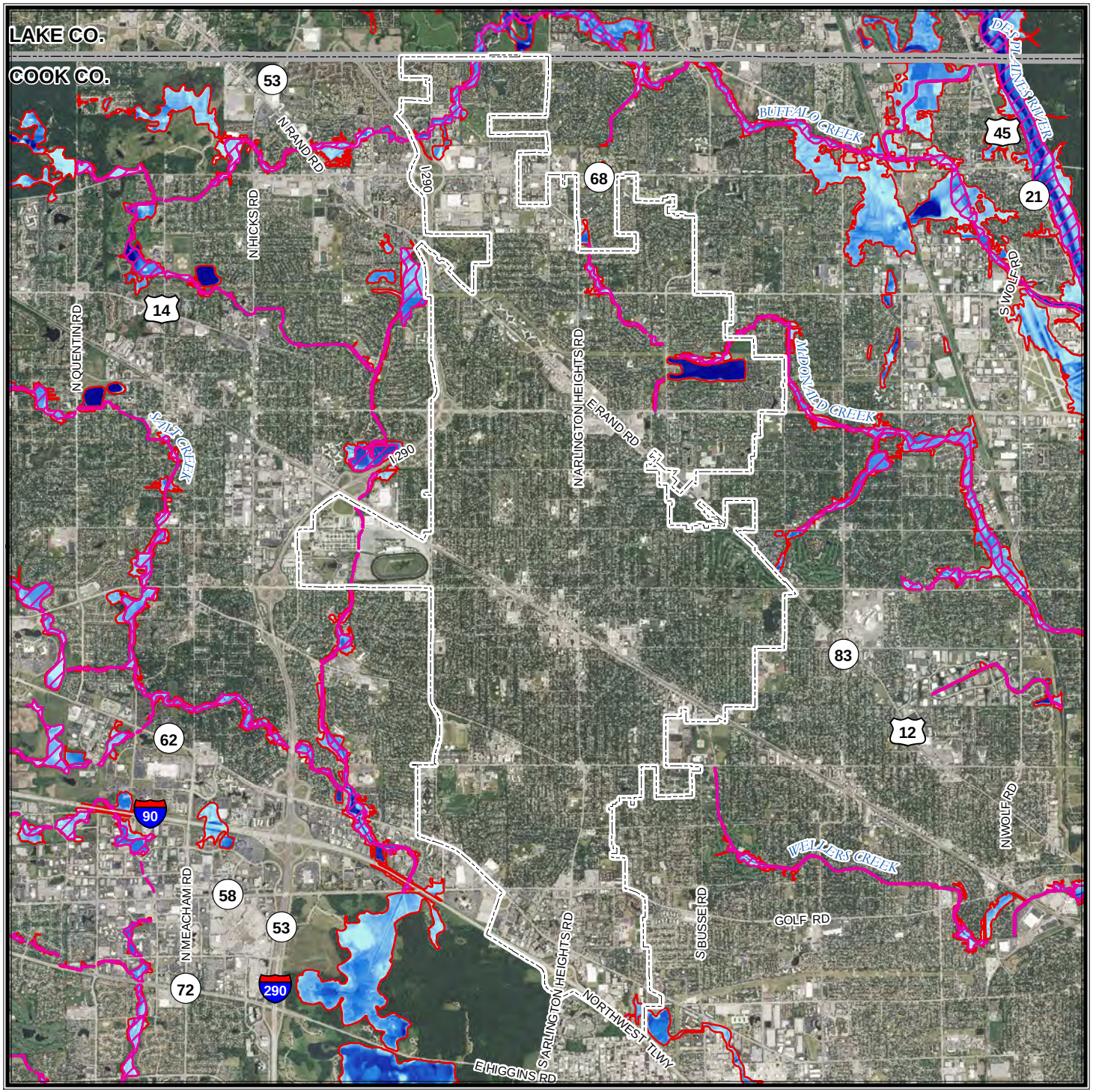



# VILLAGE OF ARLINGTON HEIGHTS

## FEMA DFIRM
## Flood Hazard Areas

- Floodway
- 1 Percent Annual Flood Hazard

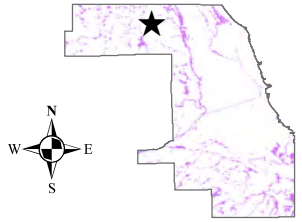
Flood Depth
20 ft
-1 ft

Flood hazard areas as depicted on FEMA Digital Flood Insurance Rate Maps (DFIRM).

The 1 percent annual flood hazard is commonly referred to as the 100 year floodplain.

Base Map Data Sources:
Cook County, U.S. Geological Survey

TETRA TECH

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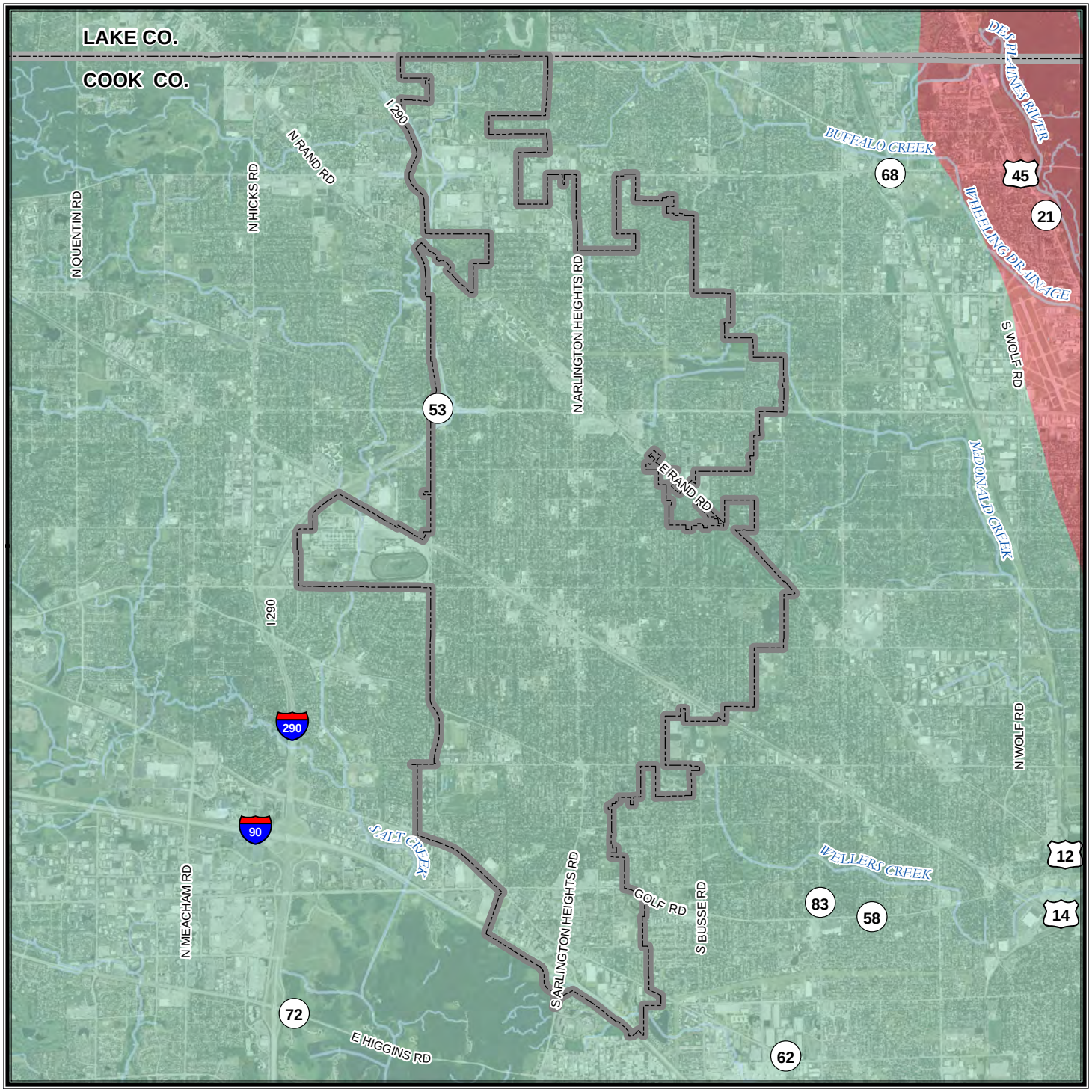



# VILLAGE OF ARLINGTON HEIGHTS

## Liquefaction Susceptibility

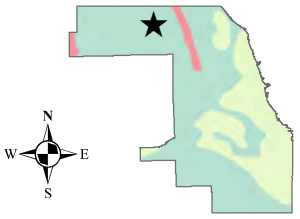
| Susceptible | Not Susceptible |
|---|---|
| High | Bedrock |
| Moderate to High | Peat |
| Moderate | Water |
| Low to Moderate | Ice |
| Low | |
| Very Low to Low | |
| Very Low | |

Liquefaction data provided by the Illinois State Geological Society. Liquefaction data based on the Youd and Perkins (1978) method.

A liquefaction susceptibility map provides an estimate of the likelihood that soil will liquefy as a result of earthquake shaking. This type of map depicts the relative susceptibility in a range that varies from very low to high. Areas underlain by bedrock or peat are mapped separately as these earth materials are not liquefiable, although peat deposits may be subject to permanent ground deformation caused by earthquake shaking.

Base Map Data Sources:
Cook County, U.S. Geological Survey

TETRA TECH

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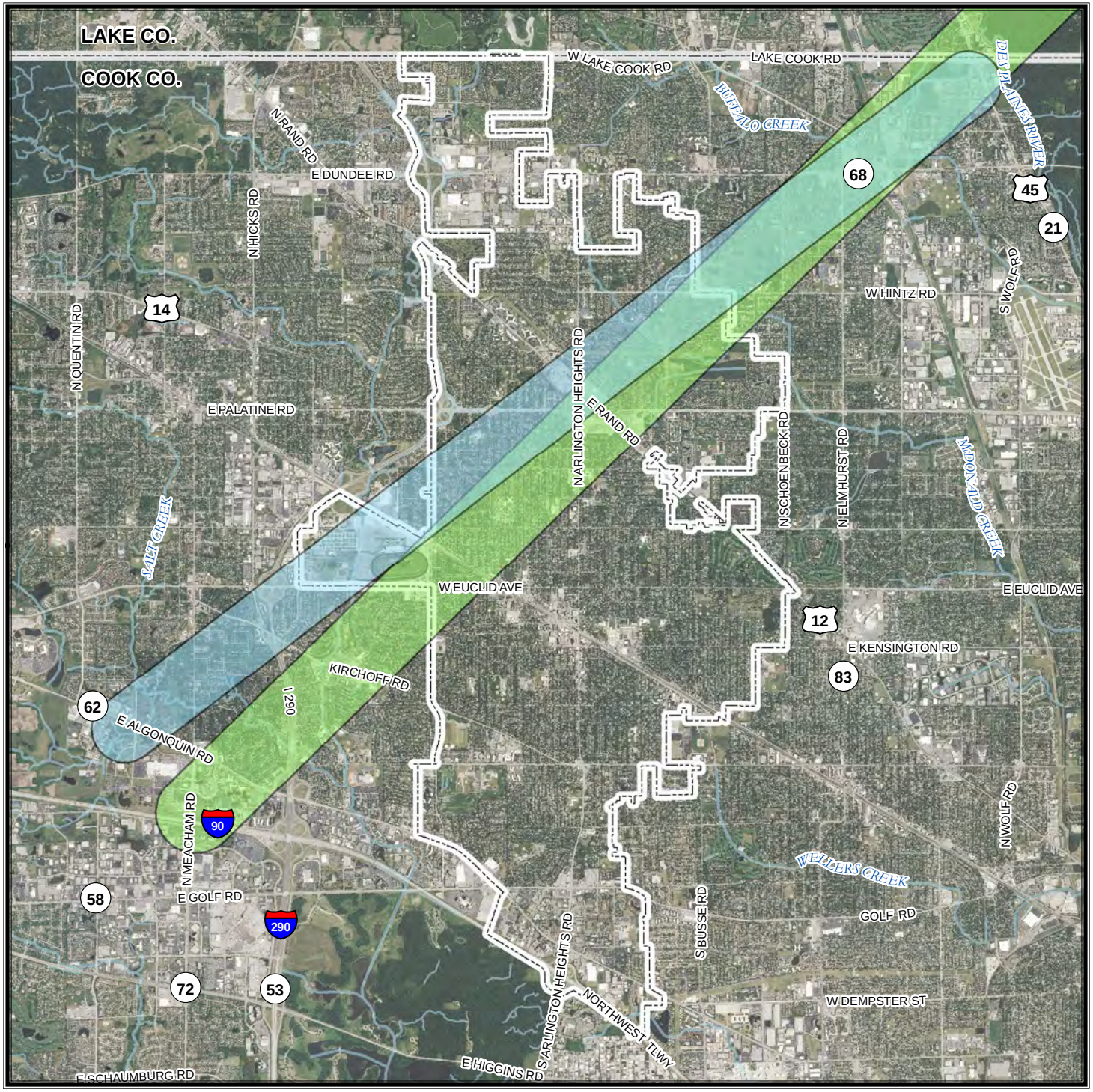



# VILLAGE OF ARLINGTON HEIGHTS

## 100- and 500-Year Tornado Events

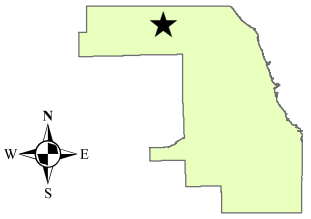
100-Year Modeled Tornado Event (F4)

500-Year Modeled Tornado Event (F5)

The 100- and 500-year events have been modeled based on fifty-nine years of tornado data for Cook County. The wind speeds, widths, lengths, and direction for each event were developed using existing historical tornado data. The simulated storms and their corresponding losses within this jurisdiction were used to determine the 100- and 500-year economic loss event.

Base Map Data Sources:
Cook County, U.S. Geological Survey

TETRA TECH




0 1 2 Miles