CHAPTER 80.
VILLAGE OF ORLAND PARK ANNEX

80.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact

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80.2 JURISDICTION PROFILE

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

- **Date of Incorporation:** 1892
- **Current Population:** 56,767
- **Population Growth:** The Village of Orland Park's population has increased 10% since 2000. It is predicted to continue by another 2.1% by the year 2016 which is slightly less than the 4.1% growth predicted for the United States. Between 1980 and 2010 the population grew 120.5%.
- **Location and Description:** The Village of Orland Park is located 25 miles southwest of downtown Chicago. The Village is located north of Interstate 80, east of Interstate 355 and south of Interstate 55. Orland Park has an effective trade are of over 840,000 people. The Village's planning area encompasses over 17,000 acres and 26 square miles. Neighboring communities include Palos Park, Tinley Park, Homer Glen, Orland Hills, Oak Forest, Palos Heights, and Mokena.
- **Brief History:** Most of Orland Park's original settlement founders were of German and English descent. As a small agricultural community, Orland Park maintained this ethnicity throughout the early years, with a relatively steady population until the middle of the twentieth century. Orland Park began to grow in earnest during the 1950s, along with the general trend toward suburbanization in US cities. Many people moved to the Orland area from Chicago's southwest side, inner ring southwest suburbs and other parts of the metro area. Orland Park's biggest population growth surge began after World War II, when returning soldiers looked for homes and when it became more profitable to sell land to developers rather than farmers. Orland Park grew 651.9% between 1950 and 1970, 302.7% between 1970 and 1980 and 120.5% between 1980 and 2010. In the early 1800s, pioneers from the eastern U.S. and Europe migrated to the area creating homesteads in the woodlands, avoiding the prairies and wetlands. By the late 1800s and early 1900s, farmers plowed the prairie and drained wetlands to grow crops. Agriculture continued to dominate the character of the area through the mid-1940s. After World War II however, land value began to rise as returning soldiers sought housing. Village improvements to utilities further added value to the land for housing and the first formal subdivision in the area, Orland Park Hills, was constructed in 1957. Civic structures such as schools and churches were also constructed to serve the growing population. The development of housing subdivisions and their related

community, commercial and industrial activities radically changed the character of the built environment in Orland Park. Orland Park is a safe, upscale suburb that draws new residents and visitors with its many strengths and amenities, and keeps successive generations of families around for the same reasons. In 2006 and 2008, the Village of Orland Park was ranked by Money Magazine as one of America's Top 100 Best Places to Live.

- **Climate:** Orland Park has a humid continental climate with cold, snowy winters, hot, humid summers and frequent short fluctuations in temperature, humidity, cloudiness and wind direction. Average annual temperature is approximately 48ºF, with winter averages ranging from the teens to the thirties and summer averages ranging from the sixties to the eighties. Average yearly precipitation is approximately 35 inches and average annual snowfall exceeds 38 inches. Orland Park averages approximately 50 days of thunderstorm activity a year, which accounts for 50-60 percent of annual precipitation. Tornadoes are also a concern for the Village, with Illinois averaging 29 annually.
- **Governing Body Format:** Orland Park is a Home Rule community. Illinois municipalities with over 25,000 residents automatically qualify for Home Rule status. Enabled by Illinois State law, Home Rule allows municipal government to engage in local decision making, including the power to regulate for the protection of the public health, safety, morals and welfare; the power to license; and the power to tax and incur debt. Local legislation in the Village of Orland Park is provided by the elected Board of Trustees. The elected officials include the village president (mayor), village clerk, and six village trustees, each of whom is elected at large (village-wide) to a four-year term. There are 6 Committees that report to the Village Board. The Village of Orland Park operates under the council-manager form of government, which combines the strong political leadership of elected officials in the form of a governing body with the strong managerial experience of an appointed local government manager. The manager is hired to serve the board and the community and to bring to the local government the benefits of training and experience in administering local government projects and programs on behalf of the governing body. Orland Park operates 8 Village departments including: Development Services, Human Resources, Public Information, Public Works, Finance, Recreation & Parks, Police, and Village Clerk's Office.
- **Development Trends:** The Department of Development Services oversees the planning, building, private engineering, and economic development functions of the Village. The Department is charged with providing design review, code enforcement, long-term strategic planning, and coordinated and balanced customer service to both residents and the business community. This Department also fosters and supports economic growth and an improved quality of life by encouraging business expansion, retaining existing business and industry, and supporting community revitalization and growth. With over 11 million square feet of commercial space, Orland Park is a regional draw for shopping and dining in the southwest suburbs. A 2012 Standard & Poor's rating report for general obligations bonds noted that the Village's retail base is a 'regional draw and solidifies its status as one of the largest generators of sales-tax revenue in the state. Growth via new development peaked in the early 2000s. In 2003, Orland Park issued 676 residential building permits and over 200 commercial building permits. After the economic downturn of 2008, these numbers decreased significantly. Commercial development held steady from 2008-2012 with redevelopment outpacing greenfield development. By land area, Orland Park is approximately 75% developed, with the majority of the available land planned for residential development. Current trends indicate that residential development is slowly increasing but not in the form of the 10,000 square foot lot subdivisions that dominated the rapid growth from the late 1990s to the early 2000s. The newest residential developments include senior housing, townhomes, smaller lot subdivisions and luxury apartment buildings.

80.3 CAPABILITY ASSESSMENT

The assessment of the jurisdiction's legal and regulatory capabilities is presented in Table 80-1. The assessment of the jurisdiction's fiscal capabilities is presented in Table 80-2. The assessment of the jurisdiction's administrative and technical capabilities is presented in Table 80-3. Information on the community's National Flood Insurance Program (NFIP) compliance is presented in Table 80-4. Classifications under various community mitigation programs are presented in Table 80-5.

TABLE 80-1.
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	In accordance with Public Act 096-0704, Illinois has adopted the IBC as its state Building Code Ord. 4786 Amended 2/4/13
Zonings	Yes	No	No	Yes	(65 ILCS 5/) Illinois Municipal Code. Ord. 4839 Amended 09/16/13
Subdivisions	Yes	No	No	No	Ord. 3281 Adopted 09/02/08
Stormwater Management	Yes	No	Yes	Yes	State regulates industrial activity from Construction sites 1 acre or larger under section 402 CWA. Ord. 3281 Adopted 08/16/99
Post Disaster Recovery	Yes	No	No	No	Village Disaster Plan September 2009
Real Estate Disclosure	No	No	Yes	Yes	(765 ILCS 77/) Residential Real Property Disclosure Act.
Growth Management	Yes	No	No	No	Comprehensive Plan August 2013
Site Plan Review	Yes	No	No	No	Ord. 4411 Adopted 09/02/08
Public Health and Safety	Yes	No	Yes	No	Cook County Board of Health. Title 6,8,5, and Chapter 4
Environmental Protection	Yes	No	No	No	Ord. 2570, 3837, 2796,3281, and 2570
Planning Documents					
General or Comprehensive Plan	Yes	No	No	No	Comprehensive Plan August 2013
Is the plan equipped to provide linkage to this mitigation plan?					Yes
Floodplain or Basin Plan	Yes	No	Yes	No	Village Code Ord. 4390 July 2008
Stormwater Plan	Yes	No	No	No	Ord. 3261 Adopted 08/16/99
Capital Improvement Plan	Yes	No	No	No	Capital Improvement Plan, January 2014
What types of capital facilities does the plan address?					Buildings and Public Streets
How often is the plan revised/updated?					Annually - January

TABLE 80-1.
LEGAL AND REGULATORY CAPABILITY

	Local Authority	State or Federal Prohibitions	Other Jurisdictional Authority	State Mandated	Comments
Habitat Conservation Plan	No	No	No	No	
Economic Development Plan	Yes	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 County 6b program. Village Comprehensive Plan August 2013
Shoreline Management Plan	No	No	No	No	
Response/Recovery Planning					
Comprehensive Emergency Management Plan	Yes	No	Yes	Yes	Disaster Plan. In accordance with IEMA, Section 301.210-260
Threat and Hazard Identification and Risk Assessment	No	No	Yes	No	Cook County DHSEM Preparing THIRA
Terrorism Plan	Yes	No	Yes	Yes	Disaster Plan and G.O. 46-9
Post-Disaster Recovery Plan	Yes	No	No	No	Disaster Plan and G.O. 46-9. In accordance with IEMA, Section 301.210-260
Continuity of Operations Plan	Yes	No	Yes	No	Disaster Plan and G.O. 46-9
Public Health Plans	Yes	No	Yes	No	Disaster Plan. In accordance with IEMA, Section 301.210-260

TABLE 80-2.
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	Yes
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other	Yes

TABLE 80-3.
ADMINISTRATIVE AND TECHNICAL CAPABILITY

Staff/Personnel Resources	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Development Services
Engineers or professionals trained in building or infrastructure construction practices	Yes	Development Services
Planners or engineers with an understanding of natural hazards	Yes	Development Services
Staff with training in benefit/cost analysis	Yes	Development Services
Surveyors	Yes	Contract Consultants
Personnel skilled or trained in GIS applications	Yes	Cook County GIS Consortium
Scientist familiar with natural hazards in local area	Yes	Contract Consultants
Emergency manager	Yes	Cook County DHSEM
Grant writers	Yes	Contract Consultants

TABLE 80-4. NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE	
What department is responsible for floodplain management in your jurisdiction?	Development Services
Who is your jurisdiction's floodplain administrator? (department/position)	Kevin Lehman
Are any certified floodplain managers on staff in your jurisdiction?	Yes- Consultant Contracted
What is the date of adoption of your flood damage prevention ordinance?	Ord. 1938; 11/27/89
When was the most recent Community Assistance Visit or Community Assistance Contact?	September 2013
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?	No
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, not at this time

TABLE 80-5.
COMMUNITY CLASSIFICATIONS

	Participating?	Classification	Date Classified
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	Yes	5	2013
Public Protection (ISO)	Yes	5/9	2013
StormReady	Yes	Gold (countywide)	2014
Tree City USA	Yes	Active	2013

80.4 JURISDICTION-SPECIFIC NATURAL HAZARD EVENT HISTORY

Table 80-6 lists all past occurrences of natural hazards within the jurisdiction. Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: 5
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 2

TABLE 80-6.
NATURAL HAZARD EVENTS

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Severe Winter Weather – Snow and Extreme Cold	N/A	January 2014	—
Severe Weather - High Winds	N/A	June 2013	—
Flood	N/A	April 2013	—
Severe Weather – High Heat	N/A	July 2012	—
Flood	N/A	July 2011	—
Flood	N/A	June 2011	—
Severe Weather - High Wind	N/A	June 2011	—
Snow	N/A	Feb 2011	—
Severe Weather – High Winds	N/A	October 2010	—
Flood	N/A	August 2010	—
Flood	DR-1935	July 2010	—
Flood	N/A	March 2009	—
Severe Winter Weather – Extreme Cold	N/A	January 2009	—
Flood – Hurricane Ike Remnants	DR-1800	September 2008	—
Severe Weather – High Winds	N/A	December 2007	—
Flood	DR-1729	August 2007	—
Flood	N/A	April 2007	—
Flood	N/A	October 2006	—
Flood	N/A	September 2006	—
Flood	N/A	August 2006	—
Drought	N/A	Summer 2005	—
Flood	N/A	July 2003	2 Repetitive Losses
Severe Weather – High Winds	N/A	May 2003	—
Flood	N/A	May 2002	—
Severe Weather – High Winds	N/A	March 2002	—
Flood	N/A	July 2001	—
Flood	N/A	February 1997	2 Repetitive Losses
Flood	DR-1129	July 1996	2 Repetitive Losses
Flood	N/A	July 1991	—
Flood	N/A	August 1986	—
Flood	N/A	February 1984	—
Flood	N/A	July 1983	—
Flood	N/A	1982	1 Repetitive Losses
Flood	DR-643	June 1981	—

80.5 HAZARD RISK RANKING

Table 80-7 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 80-7.
HAZARD RISK RANKING

Rank	Hazard Type	Risk Rating Score (Probability x Impact)
1	Severe Weather	54
2	Severe Winter Weather	54
3	Tornado	*24*
4	Earthquake	20
5	Flood	15
6	Dam Failure	10
7	Drought	2

80.6 HAZARD MITIGATION ACTION PLAN AND EVALUATION OF RECOMMENDED ACTIONS

Table 80-8 lists the actions that make up the jurisdiction's hazard mitigation plan. Table 80-9 identifies the priority for each action. Table 80-10 summarizes the mitigation actions by hazard of concern and the six mitigation types.

TABLE 80-8.
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 O7.1—Provide coordination of Hazard Mitigation Plan into local Village Plans.						
Existing	All	All	Village	Low	Village	Short-term
Action O7.2—Continue the implementation of the Hazard Mitigation Plan and updating of all existing Village disaster and emergency response plans.						
New and Existing	All	All	Village	Low	Village	Ongoing
Action O7.3—Maintain/upgrade municipal and other critical facilities and operations equipment.						
Existing	All	1,2,3,5,13	Village	High	HMGP, PDM Village	Ongoing
Action O7.4—Upgrade/retrofit bridges to provide floodplain clearance and meet seismic design standards.						
New and Existing	Flood, Severe Weather, Earthquake	1,2,6,8	Village	High	HMGP, PDM Village	Long-term
Action O7.5—Evaluate dams for potential upgrades/retrofits.						
Existing	Dam Failure, Flood	1,2,3,5,6,8	Village	Medium	HMGP, PDM Village	Short-term
Action O7.6—Continue and promote water conservation programs.						
Existing	Drought	1,6,8,10,11	Village	Low	Village	Ongoing
Action O7.7—Continue participation and work to expand mutual-aid agreements with surrounding communities and agencies for hazard and disaster response.						
New and existing	All	1,2,5,6,11	Village	Low	Village	Short-term
Action O7.8—Continue participation and compliance in the National Flood Insurance Program (NFIP) and consider participation in the Community Rating System (CRS).						
New and existing	Flood, Severe Weather	1,2	Village	Low	Village	Short-term
Action O7.9—Continue Village dam inspection program that includes updates to Operation and Maintenance Plans and Emergency Actions Plans for appropriate response.						
Existing	Dam Failure, Floods, Severe Weather	1,2,10,12	Village	Low	Village	Short-term
Action O7.10—Construct Parkview, Catalina, Caro Vista, Maycliff and other stormwater and flood control projects**.**						
New and existing	Flood, Severe Weather	1,2,8,9,12	Village	High	HMGP, PDM, Village	Ongoing
Action O7.11—Evaluate/relocate municipal storage capabilities for efficient response to hazards or disasters.						
New and Existing	All	1,2	Village	Medium	HMGP, PDM Village	Short-term

TABLE 80-8.
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 O7.12—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	Flood, Dam Failure, Severe Weather	7,13	Village	High	HMGP, PDM, Village, FEMA Hazard Mitigation Grants	Short and long-term (depending on funding)
Action O7.13—Enforce and update codes/ordinances as needed to reduce or eliminate hazard damage through proper design and planning standards.						
New and Existing	All	1,2,3,4,10	Village	High	HMGP, PDM Village	Long-term
Action O7.14—Evaluate/upgrade existing stormwater management system.						
Existing	Dam Failure, Flood, Severe Weather, Severe Winter Weather	1,2,9,12	Village	High	HMGP, PDM Village	Short and long-term
Action O7.15—Evaluate/upgrade transportation infrastructure for appropriate emergency access and evacuation capabilities.						
New and Existing	All	1,2,6,8	Village	High	HMGP, PDM Village	Short and long-term
Action O7.16—Raise public awareness regarding local natural hazards.						
New and Existing	All	1,6,8,11,13	Village	Low	HMGP, PDM, Village	Short and long-term
Action O7.17—Modify, relocate or bury infrastructure to reduce disruption or loss of service during hazards or disasters.						
New and Existing	All	1,2,4,6,8,13	Village	High	HMGP, PDM, Village	Short and long-term
Action O7.18—Continue to support the countywide actions identified in this plan.						
New and existing	All	All	Village	Low	General Fund	Short- and long-term
Action O7.19—Actively participate in the plan maintenance strategy identified in this plan.						
New and existing	All	3, 4, 6	DHSEM Village	Low	General Fund	Short-term
Action O7.20—Consider or maintain participation in incentive-based programs such as Tree City and StormReady.						
New and existing	All	3, 4, 5, 6, 7, 9, 10, 11, 13	Village	Low	General Fund	Long-term

TABLE 80-8.
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 O7.21—Where feasible, implement a program to record high water marks following high-water events**.**						
New and existing	Flooding, Severe Weather	3, 6, 9	Village	Medium	General Fund; FEMA Grant Funds (Public Assistance)	Long-term
Action O7.22—Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.						
New and existing	All	3, 4, 6, 10, 13	Village Development Services	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 80-9.
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	13	High	Low	Yes	No	Yes	High
2	13	High	Low	Yes	No	Yes	High
3	5	High	High	Yes	Yes	No	High
4	4	Medium	High	No	Yes	No	Medium
5	6	Medium	Medium	Yes	Yes	No	High
6	5	Low	Low	Yes	No	Yes	High
7	5	High	Low	Yes	No	Yes	High
8	2	Medium	Low	Yes	No	Yes	High
9	4	Medium	Low	Yes	No	Yes	High
10	5	High	High	Yes	Yes	Yes	High
11	2	Low	Medium	No	Yes	Yes	Medium
12	3	High	High	Yes	Yes	No	High
13	5	Medium	High	No	Yes	Yes	Medium
14	4	High	High	Yes	Yes	No	High
15	4	Medium	High	No	Yes	No	Medium
16	5	High	Low	Yes	Yes	No	High
17	6	Medium	High	No	Yes	No	Medium
18	13	Medium	Low	Yes	No	Yes	High
19	3	Medium	Low	Yes	Yes	Yes	High
20	9	Medium	Low	Yes	No	Yes	Medium
21	3	Medium	Medium	Yes	Yes	No	Medium
22	5	Medium	Low	Yes	No	Yes	High

a. See Chapter 1 for explanation of priorities.

TABLE 80-10.
ANALYSIS OF MITIGATION ACTIONS

	Action Addressing Hazard, by Mitigation Type[a]					
Hazard Type	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Dam Failure	1, 2, 3, 7, 9, 12, 13, 14, 19, 22	1, 2, 3, 5, 9, 12, 13, 14, 16	1, 2, 7, 9, 12, 13, 14, 16, 18	1, 2, 9, 12, 13, 14	1, 2, 3, 7, 9, 11, 12, 15, 17, 18	1, 2, 3, 14, 15, 17
Drought	1, 2, 3, 6, 7, 13, 19, 22	1, 2, 3, 13, 16	1, 2, 6, 7, 13, 16, 18	1, 2, 6, 13	1, 2, 3, 5, 7, 11, 15, 17, 18	1, 2, 3, 15, 17
Earthquake	1, 2, 3, 7, 13, 19, 22	1, 2, 3, 4, 13, 16	1, 2, 7, 13, 16, 18	1, 2, 13	1, 2, 3, 4, 7, 11, 15, 17, 18	1, 2, 3, 15, 17
Flood	1, 2, 3, 7, 8, 9, 12 13, 14, 19, 21, 22	1, 2, 3, 4, 5, 8, 9, 10, 12, 13, 14, 16	1, 2, 7, 8, 9, 12, 13, 16, 18	1, 2, 8, 9, 12, 13, 14	1, 2, 3, 4, 5, 7, 9, 11, 12, 15, 17, 18	1, 2, 3, 10, 14, 15, 17
Severe Weather	1, 2, 3, 7, 12, 13, 14, 19, 22	1, 2, 3, 12, 13, 14, 16	1, 2, 7, 12, 13, 14, 16, 18	1, 2, 12, 13, 14, 20	1, 2, 3, 7, 11, 12, 15, 17, 18	1, 2, 3, 14, 15, 17
Severe Winter Weather	1, 2, 3, 7, 13, 14, 19, 22	1, 2, 3, 10, 13, 14, 16	1, 2, 7, 13, 14, 16, 18	1, 2, 13, 14, 20	1, 2, 3, 7, 11, 15, 17, 18	1, 2, 3, 10, 14, 15, 17
Tornado	1, 2, 3, 7, 13, 19, 22	1, 2, 3, 13, 16	1, 2, 7, 13, 16, 18	1, 2, 13, 20	1, 2, 3, 7, 11, 15, 17, 18	1, 2, 3, 15, 17

a. See Chapter 1 for explanation of mitigation types.

80.7 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

No needs have been identified at this time.

80.8 ADDITIONAL COMMENTS

No additional comments at this time.

HAZUS-MH RISK ASSESSMENT RESULTS FOR ORLAND PARK

ORLAND PARK EXISTING CONDITIONS

2010 Population	56,583
Total Assessed Value of Structures and Contents	$11,523,928,409
Area in 100-Year Floodplain	989.16 acres
Area in 500-Year Floodplain	1,322.23 acres
Number of Critical Facilities	68

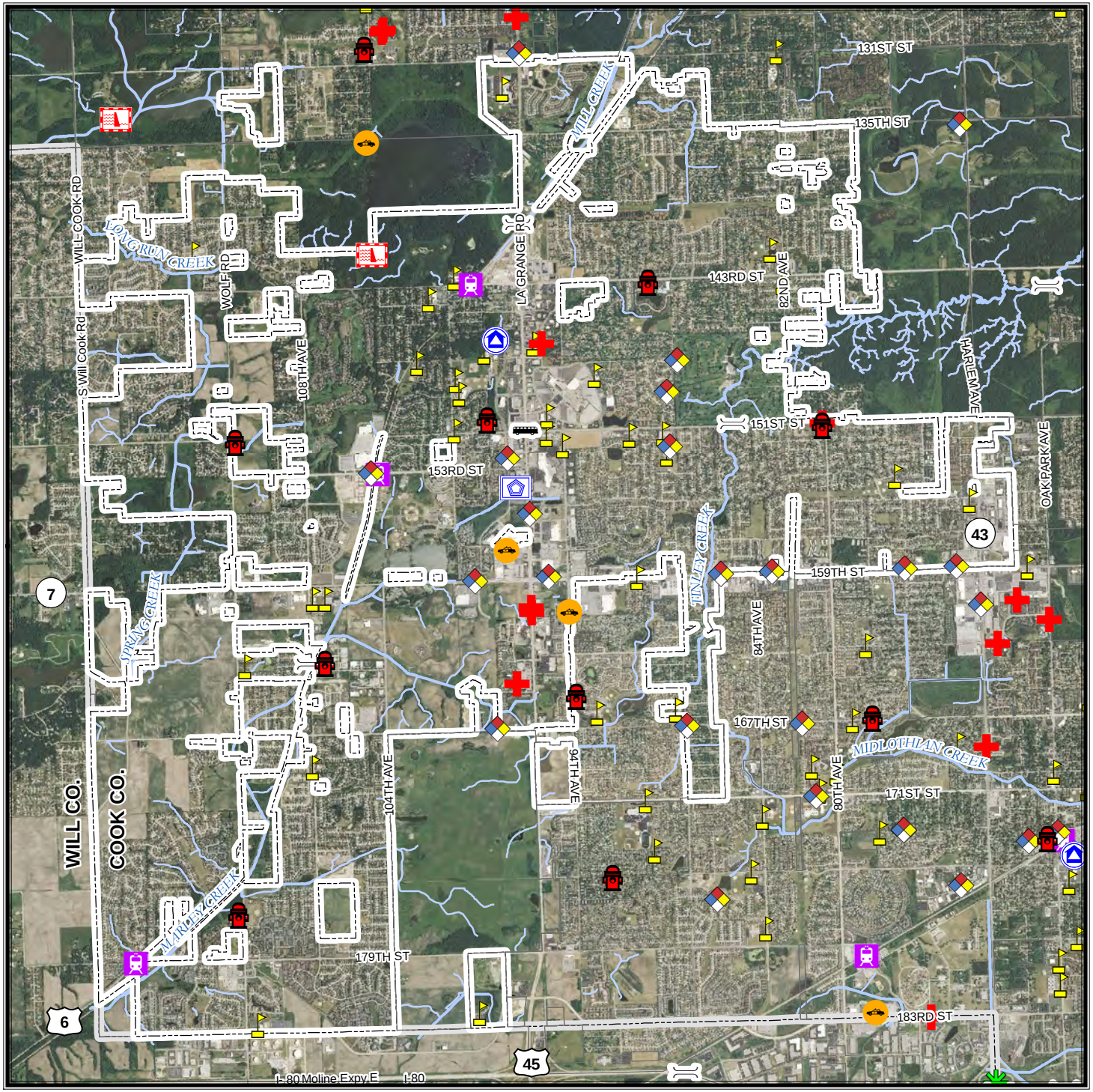
HAZARD EXPOSURE IN ORLAND PARK

	Number Exposed		Value Exposed to Hazard			% of Total Assessed Value Exposed
	Population	Buildings	Structure	Contents	**Total**	
Dam Failure						
Buffalo Creek	0	0	$0	$0	**$0**	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	169	52	$89,138,703	$84,072,964	**$173,211,667**	1.50%
500-Year	1,245	383	$221,197,273	$160,204,233	**$381,401,506**	3.31%
Tornado						
100-Year	—	—	$1,462,877,628	$929,420,083	**$2,392,297,711**	20.76%
500-Year	—	—	$1,507,912,624	$898,061,495	**$2,405,974,119**	20.88%

ESTIMATED PROPERTY DAMAGE VALUES IN ORLAND PARK

	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	$141,029,966	$43,255,618	**$184,285,584**	1.60%
Flood				
10-Year	$1,311,156	$3,378,278	**$4,689,434**	0.04%
100-Year	$2,637,865	$7,189,534	**$9,827,399**	0.09%
500-Year	$9,740,112	$10,104,514	**$19,844,626**	0.17%
Tornado				
100-Year	$146,287,763	$92,942,008	**$239,229,771**	2.08%
500-Year	$220,155,243	$131,116,978	**$351,272,221**	3.05%

HAZARD MAPPING FOR ORLAND PARK

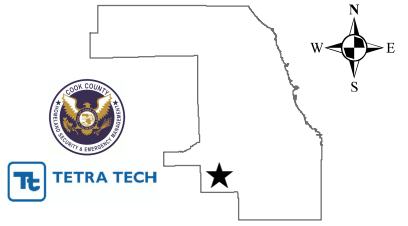


VILLAGE OF ORLAND PARK

Critical Facililties

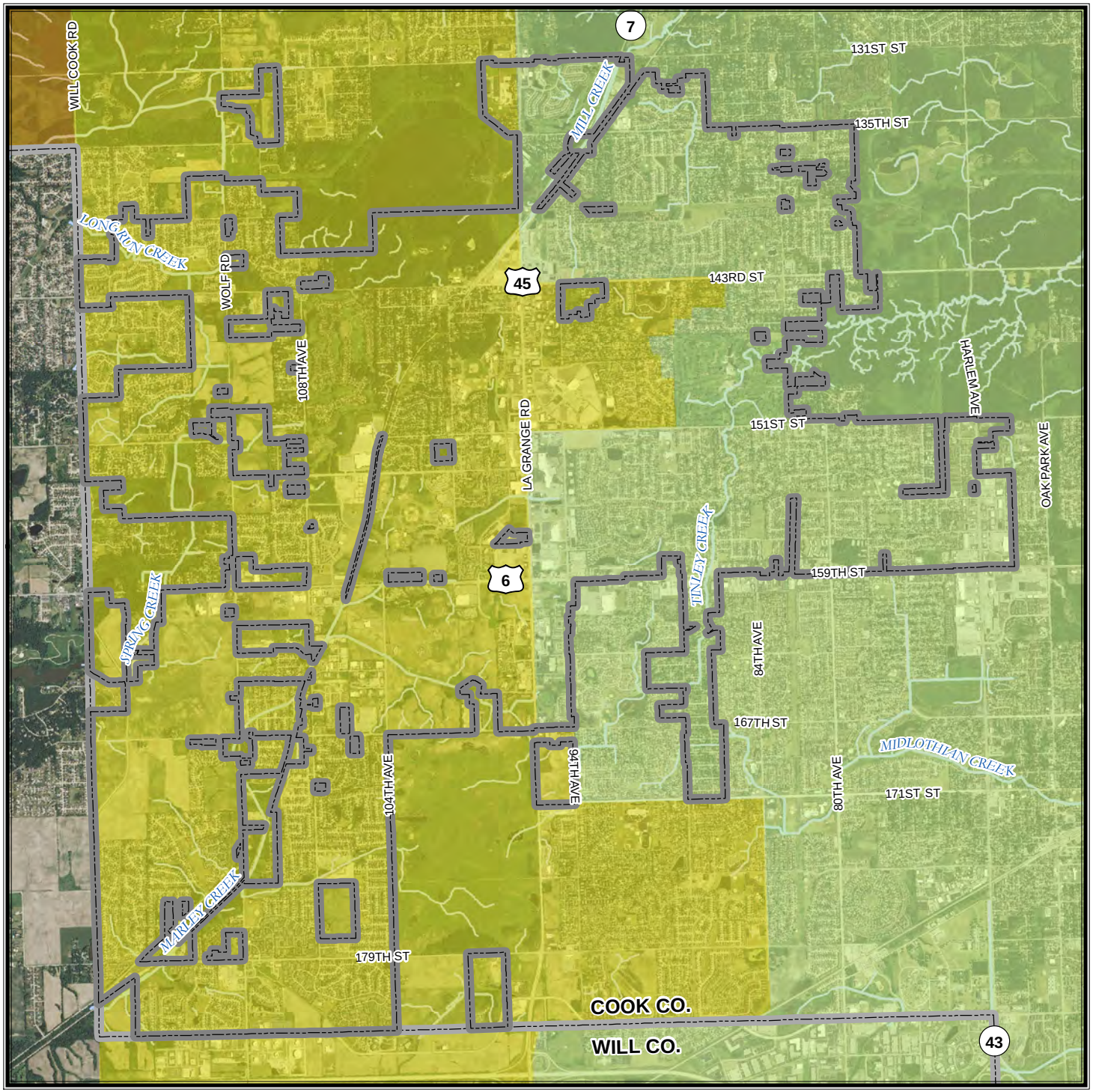
- Airport Facility
- Bus Facility
- Dams
- Emergency Operations Center
- Fire Station Facility
- Hazardous Materials
- Highway Bridge
- Light Rail Bridge
- Light Rail Facility
- Medical Care Facility
- Military
- Oil Facility
- Police Station Facility
- Port Facility
- Potable Water Facility
- Rail Facility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

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



TETRA TECH

0 0.5 1 Miles



VILLAGE OF ORLAND PARK

Illinois Historical 1909 Earthquake

Modified Mercalli Intensity

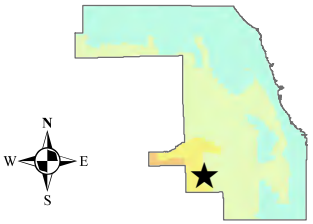
- I (Not Felt)
- II-III (Weak)
- IV (Light)
- V (Moderate)
- VI (Strong)
- VII (Very Strong)
- VIII (Severe)
- IX (Violent)
- X+ (Extreme)

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



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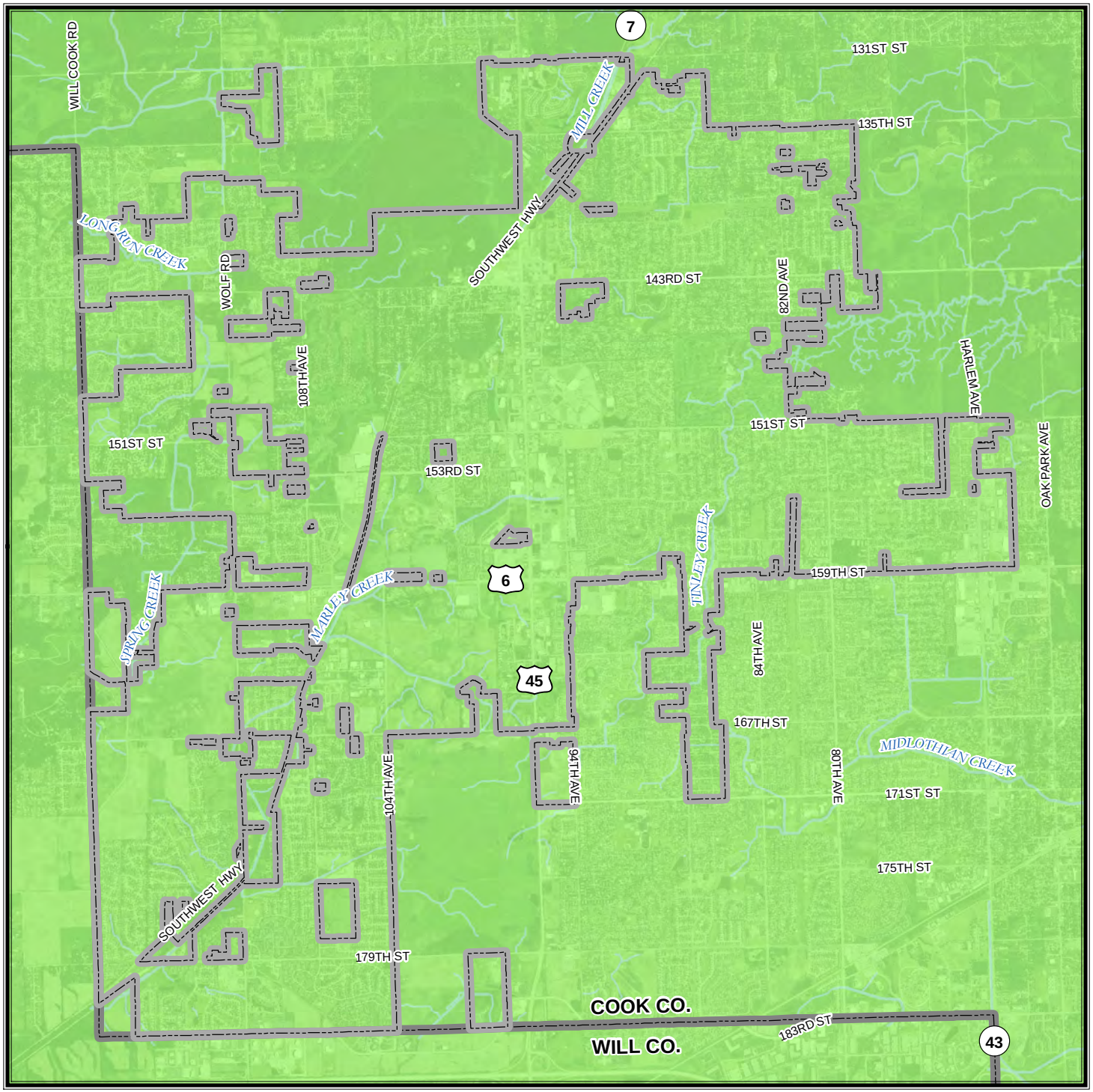


VILLAGE OF ORLAND PARK

National Earthquake Hazard Reduction Program (NEHRP) Soil Classification

Site Class

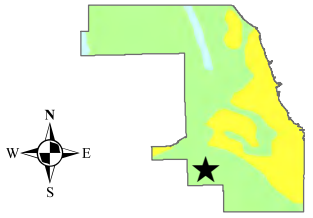
- A - Hard Rock
- B - Rock
- C - Very Dense Soil, Soft Rock
- D - Stiff Soil
- E - Soft Soil
- F - Site-Specifc Evaluation

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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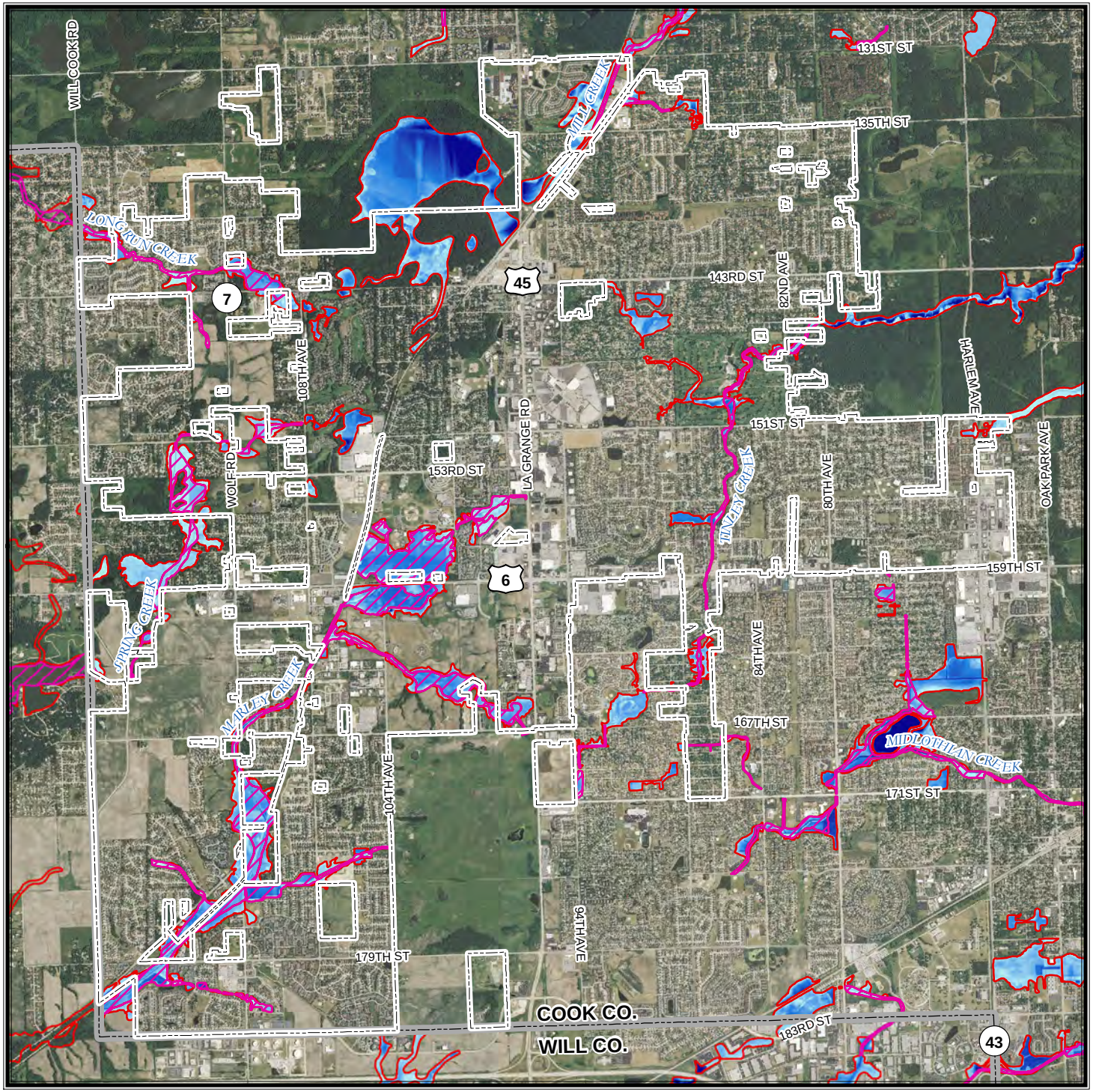


VILLAGE OF ORLAND PARK

FEMA DFIRM Flood Hazard Areas

- Floodway
- 1 Percent Annual Flood Hazard

Flood Depth

20 ft

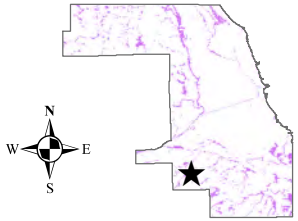
-1 ft

Flood hazard areas as depicted on FEMA Digital Flood Insurance Rate Maps (DFIRM). Preliminary DFIRM data for areas within Will County provided by the Illinois State Water Survey.

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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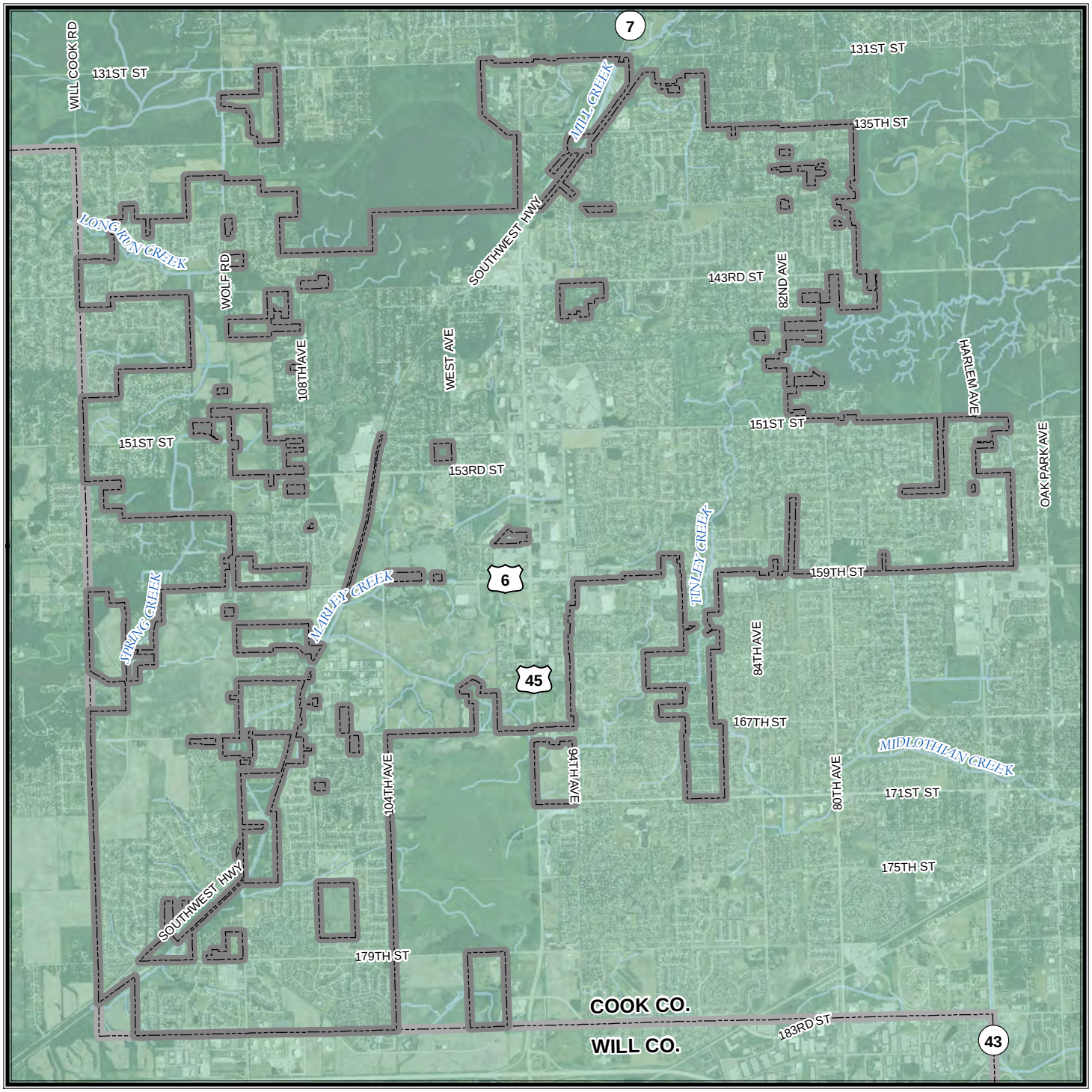


VILLAGE OF ORLAND PARK

Liquefaction Susceptibility

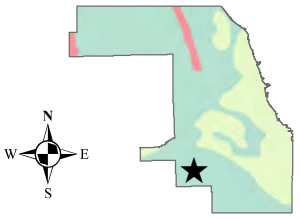
Susceptible	Not Susceptible
High	Bedrock
Moderate to High	Peat
Moderate	Water
Low to Moderate	Ice
Low	
Very Low to Low	
Very Low	

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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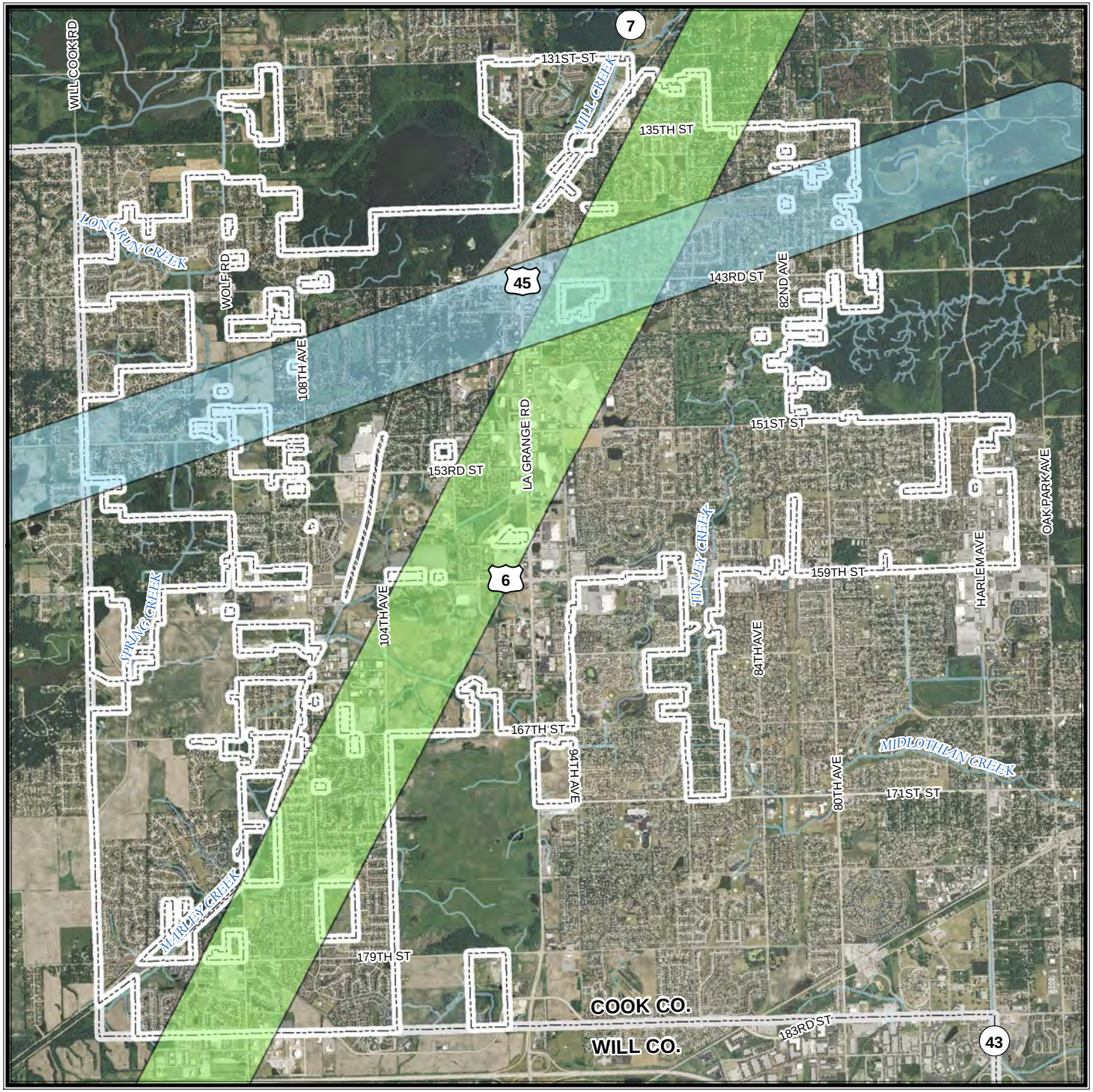

VILLAGE OF ORLAND PARK

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