Palos Hills

Hazard Mitigation Plan 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: 1958

Current Population: The 2020 U.S. Census population was 18,530. The 2022 U.S. Census estimate indicated the population was 17,883**.**

Population Growth: The overall population has increased by 2.28% between 2010 and 2022.

Location and Description: Palos Hills is a city in Cook County, Illinois, United States. It is a southwest suburb of Chicago located 24 miles southwest of the Chicago Loop. The population was 17,484 at the 2010 census. It is the home of Moraine Valley Community College as well as Amos Alonzo Stagg High School. Adjacent suburbs that border Palos Hills include: Hickory Hills to the north, Palos Park and Palos Heights to the south, and Chicago Ridge to the east. Forest Preserves completely surround the western boundaries of Palos Hills. According to the 2010 census, the city has a total area of 4.29 square miles.

Brief History: The earliest inhabitants to the Palos Hills area were Indians during the Upper Mississippian and early historic periods. Archeological excavations reveal two Indian settlements: the Knoll Spring site near the Palos Hills Police Station and another near 107th Street and Route 45. Indians remained in the area until the 1832 Black Hawk War. The building of the Illinois & Michigan Canal from 1836 to 1848 brought Irish and German immigrants to the area. Farmers tilled the land and decimated the timber supply, sending much of it to Chicago via the canal. The first Roman Catholic community, Sacred Heart Roman Catholic Church, was formed in 1872. Agriculture remained the principal occupation of the area until the 1940s. During World War II, the construction of the Dodge-Chrysler aircraft plant at 75th and Cicero attracted workers to the North Palos area, where they lived in substandard housing. Subsequent development of the factory site generated a demand for more housing, but also fostered disagreement on future growth. Impetus for incorporation originated from annexation threats. Hickory Hills' annexation of streets in North Palos

in order to establish a speed trap led to the formation of the North Palos Community Council in 1957. The council fought street annexations, but ultimately was forced to choose between incorporation or continued annexation threats. In 1958 North Palos voted to incorporate as the city of Palos Hills. Before 1963 city lots in Palos Hills were large, apartments were banned, and minimal services were provided. Thereafter planned growth allowed unit subdivisions, leading to a building boom. By 1990 the community was largely middle-class, with strong public elementary and high schools, and Moraine Valley Community College. Descendants of Irish, German, and Polish immigrants constitute 50 percent of the population, with substantial numbers of Italian and Greek descendants. Transportation needs are met by easy accessibility to the Stevenson Expressway and the Route 294 Tollway, as well as by Metra train service in the adjacent suburb of Worth and Palos Heights. The western border of Palos Hills consists of 7,000 acres of the Cook County Forest Preserve.

Climate: Palos Hills, IL, gets 39 inches of rain per year and 27 inches of snowfall. The number of days with any measurable precipitation is 120. On average, there are 189 sunny days per year in Palos Hills, IL. The July high is around 85 degrees and the January low is 17. Our comfort index, which is based on humidity during the hot months, is a 46 out of 100, where higher is more comfortable. The US average on the comfort index is 44.

Governing Body Format: The mayor is the chief executive while the city council, consisting of ten aldermen elected from five wards, is the legislative body. The Mayor is Gerald R. Bennett. The Clerk is Rudy Mulderink. The Treasurer is Kenneth Nolan. This body of Government will assume the responsibility for the adoption and implementation of this plan. Palos Hills operates 6 departments: GIS Department, Economic Development, Police Department, Public Works Department, Parks and Recreation Department, and Community Resources.

Development Trends: The City of Palos Hills is land locked. Most of our building/development took place in the late 70s through the early 90s. Future development in Palos Hills will consist primarily of residential infill with few opportunities for commercial development. The focus of the City now is to capitalize on what little commercial growth opportunities that is currently available through market demographics and analyses.

Changes in Community Priorities: There have been no significant changes in priority regarding the hazards that could potentially impact the community or changes in priority regarding resilience.

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**	**Other Jurisdictional**	**State Mandated**	**Comments**

		Prohibitions	Authority		
Codes, Ordinances & Requirements					
Building Code	Yes	No	No	Yes	Chapter 15.04 Ord. 2023-8
Zonings	Yes	No	No	Yes	
Subdivisions	Yes	No	No	No	Chapter 16.04 Ord. 41 1959
Stormwater Management	Yes	No	MWRD	Yes	State regulates industrial activity from Construction sites 1 acre or larger under section 402 CWA. MWRD Public Act 93-1049 2004 Chapter 15.52 Ord. 91-14 1991
Post Disaster Recovery	Yes	No	No	No	Chapter 2.84 Ord. 89-4&6 1989
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	Chapter 17.56 Ord. 280 1968
Public Health and Safety	No	No	Yes	Yes	Cook County Board of Health
Environmental Protection	Yes	No	County	No	Chapter 15.08 Ord. 2006-15
Planning Documents					
General or Comprehensive Plan	No	No	No	No	Master Zoning Map
Is the plan equipped to provide integration to this mitigation plan?					N/A
Floodplain or Basin Plan	Yes	No	No	No	Chapter 17.18 Ord. 280 1968
Stormwater Plan	Yes	No	No	No	Chapter 15.52 Ord. 91-14
Capital Improvement Plan	Yes	No	No	No	Short Term General Capital Improvements based on current and future needs.
What types of capital facilities does the plan address?					Buildings, equipment,

					pumping station and infrastructure,
			How often is the plan revised/updated?		Annually
Habitat Conservation Plan	Yes	No	No	No	Chapter 17-31 Ord. 808 1983 Chapter 15.36 Ord. 2008-9
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 County 6b program. Master Zoning Map provide guidance
Shoreline Management Plan	Yes	No	No	No	Chapter 15-36 Ord. 2008-9
Response/Recovery Planning					
Comprehensive Emergency Management Plan	Yes	No	No	No	**Police** – Response to Extraordinary Emergency Plan **Public Work/Water** – Emergency Response Plan Fire **Fire** – Unified Command and Response Plan **Emergency Service & Disaster Agency** – Unified Emergency and Response Plan

Threat and Hazard Identification and Risk Assessment	No	No	Yes	No	Cook County EMRS Preparing THIRA
Terrorism Plan	No	No	Yes	Yes	Cook County EMRS
Post-Disaster Recovery Plan	No	No	No	No	
Continuity of Operations Plan	No	No	Yes	No	Cook County EMRS
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	No. Non-home rule. Referendum required
User Fees for Water, Sewer, Gas or Electric Service	Capital Improvement Fee on Water Bill
Incur Debt through General Obligation Bonds	Eligible for 30 million. Referendum required
Incur Debt through Special Tax Bonds	Non-home rule. Referendum required
Incur Debt through Private Activity Bonds	None
Withhold Public Expenditures in Hazard-Prone Areas	Referendum required
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Other	Yes

TABLE: ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	**Available?**	**Department/Agency/Position**
Planners or engineers with knowledge of land development and land management practices	Yes	Building Dept. Engineering Consultan
Engineers or professionals trained in building or infrastructure construction practices	Yes	Building Dept., Water Dept., Engineering Consultant
Planners or engineers with an understanding of natural hazards	Yes	Building Dept., Water Dept., Engineering Consultant
Staff with training in benefit/cost analysis	Yes	Engineering Consultant
Surveyors	Yes	Engineering Consultant
Personnel skilled or trained in GIS applications	Yes	In house GIS Staff , Cook County GIS Consortium
Scientist familiar with natural hazards in local area	No	Would locate if needed through our Engineer Consultant

Emergency manager	Yes	Police Chief, Fire Chief, Emergency Service & Disaster Agency Director and Commissioner of Public Works
Grant writers	No	

TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE	
What department is responsible for floodplain management in your jurisdiction?	Public Work, Building and Engineering Depts.
Who is your jurisdiction's floodplain administrator? (department/position)	Commissioner of Public Works
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date of adoption of your flood damage prevention ordinance?	Ord. 280 - 1968
When was the most recent Community Assistance Visit or Community Assistance Contact?	12/11/1996
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? (If no, please state why)	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Yes – General overview and update training
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 – we have no interest in joining

NFIP Participation Activities

Maintaining compliance under the NFIP is an important component of flood risk reduction. All planning partners that participate in the NFIP have identified actions to maintain their compliance and good standing. Cook County entered the NFIP on April 15, 1981. Structures permitted or built in the County before then are called "pre-FIRM" structures, and structures built afterwards are called "post-FIRM." The insurance rate is different for the two types of structures. The effective date for the current countywide FIRM is August 19, 2008. This map is a DFIRM (digital flood insurance rate map). The communities in Cook County that participate in the NFIP are shown in ***Table: NFIP Participating Communities in Cook County*** in **Volume I** of the Cook County MJ-HMP.

The NFIP makes federally-backed flood insurance available to homeowners, renters, and business owners in participating communities. The communities in Cook County that participate in the NFIP and their "Policies in Force," "Total Coverage," and "Total Written Premiums" are shown in ***Table: Cook County Flood Insurance Policies*** in **Volume I** of the Cook County MJ-HMP.

The following are NFIP-related activities completed by our community:

- Our staff provide the following services: permit reviews, GIS, inspections, engineering capability.
- Our community's Floodplain Administrator is a Certified Floodplain Manager (CFM).
- Our community teaches property owners or other stakeholders about the importance of flood insurance through public outreach events, workshops, and/or seminars.
- Our community enforces local floodplain regulations and monitors compliance.

- Our floodplain development regulations meet or exceed Federal Emergency Management Agency (FEMA) or State minimum requirements.

Substantial Improvement Rule and the Substantial Damage Rule

The IDNR/OWR has developed a model ordinance for floodplain management, which has been adopted by most communities in Illinois. The ordinance includes the minimum requirements an NFIP participating jurisdiction must adopt and enforce, as well as additional higher regulatory requirements. The optional, higher regulatory standards include a minimum one foot of freeboard above the base flood elevation and cumulative tracking of damage repairs and improvements to establish substantial damage and substantial improvement compliance. Some jurisdictions have chosen to exceed the requirements of the model ordinance and have adopted more restrictive ordinances. This is most common in the communities in northeastern Illinois.

Existing Municipal Code:

https://library.municode.com/il/palos_hills/codes/code_of_ordinances?nodeId=TIT15BUCO_CH15.36DESPFLHAAR

151.03 Definitions

57. "Substantial damage" means damage of any origin sustained by a building whereby the cumulative percentage of damage during a 10-year period equals or exceeds 50 percent of the market value of the building before the damage occurred regardless of actual repair work performed. Volunteer labor and materials must be included in this determination. The term includes repetitive loss buildings. (See Subsection 15.36.020(50), Repetitive loss).

58. "Substantial improvement" means any reconstruction, rehabilitation, addition or improvement of a building taking place during a 10-year period in which the cumulative percentage of improvements equals or exceeds 50 percent of the market value of the building before the start of construction of the improvement or repair is started, or increases the floor area by more than twenty percent (20%).

a. Substantial improvement is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the building. This term includes buildings which have incurred repetitive loss or substantial damage, regardless of the actual work done.

b. The term does not, however, include either:

i. any project for improvement of a Building to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions; or

ii. any alteration of a historic structure listed on the National Register of Historic Places or the Illinois Register of Historic Places, provided that the alteration will not preclude the Building's continued designation as a historic structure.

151.36.030 Duties of the Building Commissioner

A. Determining the Floodplain Designation.

1. Check all new development sites to determine whether they are in a floodplain using criteria listed in Section 15.36.040, Base *flood* elevation.
2. If the site is in a floodplain, determine whether the site is in a floodway, *flood* fringe or in a floodplain for which a detailed study has not been conducted and which drains more than one (1) square mile.
i. If the site is within a *flood* fringe, the building commissioner shall require that the minimum requirements of Section 15.36.050 be met.
ii. If the site is within a floodway, the building commissioner shall require that the minimum requirements of Section 15.36.060 be met.
iii. If the site is located within a floodplain for which no detailed study has been completed and approved, the building commissioner shall require that the minimum requirements of Section 15.36.070 be met.

B. Professional Engineer Review.
1. If the development site is within a floodway or in a floodplain for which a detailed study has not been conducted and which drains more than one square mile, the permit shall be referred to a P.E. under the employ or contract of the city for review to ensure that the development meets Sections 15.36.060 or 15.36.070.
2. In the case of an appropriate use, the P.E. shall state in writing that the development meets the requirements of Section 15.36.060.

15.36.080 Permitting Requirements Applicable to all Floodplain Areas

In addition to the requirements found in Sections 15.36.050, 15.36.060 and 15.36.070 for development in *flood* fringes, designated floodways, and floodplains where no floodways have been identified, the following requirements shall be met:

C. Protecting Buildings.
1. In addition to the damage prevention requirements in Sections 15.36.050(B) and 15.36.060(B) of this chapter, all buildings located within a floodplain, shall be protected from *flood* damage below the FPE. This building protection criteria applies to the following situations:
a. New construction or placement of a new building or alteration or addition to an existing building valued at more than one thousand dollars ($1,000) or seventy (70) square feet;
b. Substantial improvements, including any combination of alteration, repair, rehabilitation, reconstruction, addition or other improvements made to an existing building that equal or exceed the market value by fifty percent (50%), or that increase the floor area by more than twenty percent (20%). Alteration shall be figured cumulatively 10-year period. If substantially improved, the existing building and the addition must meet the *flood* protection standards of this section;
c. Any repairs made to a substantially damaged building. Substantial damage shall be figured cumulatively 10-year period by comparing the cost to repair the building to its pre-damage condition with the market value of the building immediately prior to the damage, for each event in which the building sustains damage, and adding the percentages of damage for each event. If substantially

damaged, the entire building must meet the *flood* protection standards of this section;

3. The lowest floor (including basement) of new construction of nonresidential buildings, and substantial improvement of nonresidential buildings, must either (1) be elevated to or above the FPE, subject to the more specific additional requirements of Sections (C)(2)(a) through (C)(2)(c) above; or (2) be structurally dry-floodproofed (in lieu of elevation), provided a Registered P.E. or architect submits a FEMA Floodproofing Certificate, documenting that the Registered P.E. or architect developed and/or reviewed the structural design, specifications, and plans for construction, and that the engineer or architect certifies that the design and methods of construction are in accordance with accepted standards of practice for meeting the requirements of ASCE 24-14 and the requirements listed below:

a. Below the FPE, the building and attendant utility and sanitary facilities are watertight with walls substantially impermeable to the passage of water and structural components capable of resisting hydrostatic and hydraulic loads and the effects of buoyancy.

b. The building design accounts for *flood* velocities, duration, rate of rise, hydrostatic and hydrodynamic forces, the effects of buoyancy, and impact from debris and ice.

c. Floodproofing measures will be incorporated into the building design and operable without human intervention and without an outside source of electricity.

d. The building, utility, and sanitary facilities' design and construction will prevent the effect of sewer backup into the building.

e. Levees, berms, floodwalls and similar works are not considered floodproofing for the purpose of this chapter.

9. New construction or substantial improvement of critical facilities shall be located outside the limits of the floodplain. Construction of new critical facilities shall be permissible within the floodplain if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor (including basement) elevated or structurally dry floodproofed to the 0.2 percent chance *flood* elevation or three feet above the BFE whichever is greater. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the BFE shall be provided to all critical facilities. As necessary, adequate parking, at or above the BFE, shall be provided for staffing of the critical facilities during a *flood*.

Critical facilities may include: emergency services facilities (such as fire and police stations), schools, sewage treatment plants, water treatment plants, sanitary pumping stations, hospitals, retirement homes, senior care facilities, major roads and bridges, critical utility sites (telephone switching stations or electrical transformers), and hazardous material storage facilities (chemicals, petrochemicals, hazardous or toxic substances).

TABLE: COMMUNITY CLASSIFICATIONS

	Participating?	Classification	Date Classified
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection/ISO	Yes	ISO 3	2009
StormReady	Yes	Gold (Countywide)	2014
Tree City USA	Yes	N/A	1989

Opportunities to Expand and Improve Capabilities

Opportunities to expand and improve capabilities include developing a strategy to identify and set aside municipal funds to assist with the 25% cost match for FEMA HMA mitigation grants. Due to the technical expertise needed to develop grant applications and benefit cost analyses for FEMA HMA grants, the City of Palos Hills has a need for qualified grant writers to assist in the development and management of these grants.

Plan Integration

The capability assessment describes opportunities to "link" or integrate the mitigation plan into other planning mechanisms. The process and mechanism to identify opportunities to integrate the Cook County MJ-HMP into other planning mechanisms will occur during the Annual Update Process and be reflected in the Jurisdictional Annual Report each year. Specific plan integration opportunities will include:

- The goals and actions of the Hazard Mitigation Plan will be considered in the next capital improvement planning process.

Emergency Plan Integration:

Cook County EMRS is supporting communities to develop and update their respective Emergency Operations Plans, Continuity of Operations Plan/Continuity of Government Plan, and Recovery Plan in 2024. This is an ongoing countywide initiative and is being implemented in all municipalities.

Emergency Operations Plan (EOP)

An EOP template was created for all municipalities. The 2019 Cook County MJ-HMP and the hazards in the mitigation plan have been integrated into the Situation and Assumptions section of the EOP. Within that section, the natural hazards based on the 2019 MJ-HMP were added in the Initial Analysis and Assessment and Identification of Hazards section of the EOP. The hazards in the 2019 plan and the 2024 MJ-HMP did not change apart from adding wildfires for the Forest Preserve and unincorporated areas of the County. Future updates of the EOP will take into consideration any additional new natural hazards that are added to subsequent updates to the MJ-HMP.

Continuity of Operations Plan (COOP)

The Continuity of Operations Plan (COOP) for the municipality includes a Situation section that is based on the 2019 Cook County MJ-HMP jurisdictional annex, and specifically the hazards identified in the annex. The COOP-specific risk assessment is hazard-specific and based on likelihood of occurrence and severity of impact.

Recovery Plan

The goals of the Recovery Plan were developed to align with the 2019 Cook County MJ-HMP, and specifically prioritizes the responsibility of officials under this plan to save lives, protect property,

relieve human suffering, sustain survivors, repair essential facilities, restore services, and protect the environment. The plan acknowledges that hazard mitigation is an important priority and consideration during the rebuilding process.

Jurisdiction-Specific Natural Hazard Event History

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: 3 (2 Single Family, 1 Other-Nonresidential)
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0

Federal Disasters Declared

Disaster Declaration Number	Date Declared	Event
DR-227	4/25/1967	Tornado
DR-351	9/4/1972	Flood
DR-373	4/26/1973	Flood
DR-509	6/18/1976	Severe Storm(s)
DR-643	6/30/1981	Severe Storm(s)
DR-776	10/7/1986	Flood
DR-798	8/21/1987	Flood
DR-997	7/9/1993	Flood
DR-1129	7/25/1996	Severe Storm(s)
DR-1188	9/17/1997	Severe Storm(s)
DR-1729	9/25/2007	Severe Storm(s)
DR-1800	10/3/2008	Severe Storm(s)
DR-1935	8/19/2010	Severe Storm(s)
DR-1960	3/17/2011	Snow
EM-3068	1/16/1979	Snow
EM-3134	1/8/1999	Snow
EM-3161	1/17/2001	Snow
EM-3230	9/7/2005	Hurricane – Katrina Evacuation
EM-3435	3/13/2020	Biological
DR-4116	5/10/2013	Flood
DR-4489	3/26/2020	Biological
DR-4728	8/15/2023	Severe Storm(s)
DR-4749	11/20/2023	Flood

State Disaster Declarations

Date Declared	Event

7/26/2010	Severe Storms, High Winds, Torrential Rain
1/31/2011	Winter Weather
4/25/2011 5/25/2011	High Wind, Tornadoes, Torrential Rain
4/18/2013 4/20/2013 4/21/2013 4/25/2013 4/30/2013	Severe Storms, Heavy Rainfall, Flooding, Straight-line Winds
1/6/2014	Heavy Snowfall, Frigid Temperatures
7/12/2017 7/14/2017	Thunderstorms, Heavy Rainfall, Flooding
1/29/2019	Winter Storm
2/6/2020	Severe Storms
3/12/2020 – present (reissued monthly)	COVID-19
2/16/2021	Winter Storms
2/1/2022	Winter Storms
8/1/2022 (reissued monthly through 10/28/2022)	Monkeypox

TABLE: NATURAL HAZARD EVENTS

Type of Event	FEMA Disaster Number (if applicable)	Date	Preliminary Damage Assessment/ Event Narrative
Hail	-	6/28/2014	-
Hail	-	5/20/2014	-
Severe Thunderstorm, High Winds, Flooding	-	9/11/2013	$50,000
Severe Thunderstorm, Wind, Flooding	ID# 9421181	7/24/2012	$50,000
Lighting, Minor Flooding	-	7/19/2012	$50,000
Flooding and Lighting	ID# 9323634	6/9/2011	$55,000
Winter Weather	ID# 9313997	2/1/2011	$75,000
Severe Snow Storm	DR-1960	1/31/2011	$50,000
Wind Storm	-	10/28/2010	$40,000
Severe Thunderstorm, Flooding	ID# 9251406	7/24/2010	$40,000
Lighting, Strong Storm, Wind	ID# 9251402	7/23/2010	$50,000
Severe Thunderstorm and Wind	ID# 9248714	6/18/2010	$40,000
Severe Rain Storm and Flooding	-	3/7/2009 - 3/10/2009	$40,000
Winter Storm, Winds and Flooding	ID# 8958077	12/27/2008	$40,000
High Winds	ID# 8941832	10/26/2008	$40,000
Winter Rain Storm	-	1/7/2008	$40,000

Severe Thunderstorm, Winds, and Flooding	-	8/30/2007	$40,000
Severe Thunderstorm, Winds and Flooding	ID# 8811471	10/02/2006	$4,000,000
Flash Flooding	ID# 8807363	8/10/2006	$10,000
Severe Thunderstorm, Winds, and Lightning	ID# 8807328	8/2/2006	$10,000
Thunderstorm, Winds	ID# 8815175	4/16/2006	$10,000
Thunderstorm	-	7/20/2005	$20,000
Severe Snow Storm	EM-3134	1/1/1999	$50,000
Flooding	ID# 54959	7/17/1996	$2,000,000

Jurisdiction-Specific Hazards: Vulnerabilities and Impacts

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2024 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.

Dam/Levee Failure: In the City, the Lagoon in the Hills has a levee to keep Stoney Creek from flooding the subdivision out. But this levee is 50 years old, in poor condition, and made with guardrail and dirt. Buildings in Lagoon in the Hills are below the level of Stoney Creek.

Flood: The overflow needs to be dredged because Roberts Rd. north of 103rd St. floods, as do all adjacent streets. When it floods, 50-year-old pumps at lift stations and the overflow go down side streets from 99th St. to 103 St. Lucas ditch. The City would benefit from adding a detention basin upstream in HH Golf Course, 103rd St. North to 99th St. (from 78th Ave to the Lucas Ditch is a FEMA floodplain). This area has repetitive flooding issues which result in hundreds of residences experiencing flooding and water damage.

Extreme Heat: The City doesn't have an elevated water tower which adds redundancy in case we have a power outage that compromises pumps. With an aging population and older homes that may not have air conditioning, extreme heat can be an issue. Cooling centers with AC and friendly policy can positively impact the elderly to seek shelter with pets.

High Winds: Since high winds result in tree damage, the City would benefit from more time and staff for pruning programs. Also, the lack of generators at sewage lift stations poses a critical power outage risk. Additionally, building codes with hurricane ties and uplift loads designed into structures could help protect the City.

Drought: The City is vulnerable to droughts because of its elevated water tower and lack of water pumps (they are 50 years old and need replacement). Current reservoirs need to be lined, and don't have a water tower.

Severe Weather: Not all city buildings, or pumping stations have on-site backup power generation. Park Department building is in need of a safe room, for pre-school age children, in the event of severe weather to include high winds and tornado. Also is our heating and cooling center does not have a back up generator in the event of power outage.

Snow: In order to protect the community's residents and property, the City needs funding for new trucks. Current small trucks in the fleet are all 20 years old. In addition, 90th Ave. and 98th St. changes in grade make snow hazardous for transportation. These must be placed first and often to prevent hazardous conditions.

Blizzards: In order to protect the community's residents and property, the City needs funding for new trucks. Current small trucks in the fleet are all 20 years old. In addition, 90th Ave. and 98th St.

changes in grade make snow hazardous for transportation. These must be placed first and often to prevent hazardous conditions.

Extreme Cold: The City needs backup power at water stations and sewer stations to safeguard its residents and facilities against the impacts of extreme cold. Currently, generators in multi-family buildings keep running during extreme events to keep heat and prevent pipe breaks.

Ice Storms: Backup power at water stations and sewer stations. Palos Hills is a tree city. The number and size of trees in the City make ice storms more dangerous for limb failures causing power outages, etc. The City would be less vulnerable to ice storms if there was backup power at water and sewer stations.

Tornado: The City would be less vulnerable to tornadoes if there was backup power at water and sewer stations, and City buildings. Park department building is in need of a safe room, for pre-school age children, in the event of severe weather to include high winds and tornado.

Widespread Power Outage: The City is vulnerable to various severe weather conditions, and as noted the lack of backup power for essential stations puts risks for life and property.

Hazardous Material Release: Sewage pumping stations are all over 50 years old and lack backup power generation.

Severe Winter Weather: Elevation changes throughout the city create difficulty with travel for emergency services. Park department building is in need of a safe room, for pre-school age children, in the event of severe weather to include high winds and tornado.

Indicator	Number	Percent
Families in poverty	741	11%
People with disabilities	3,657	13.3%
People over 65 years	5,048	18.3%
People under 5 years	1,643	5.9%
People of color	6,387	23.1%
Black	1,141	4.1%
Native American	31	0.1%
Hispanic	3,599	13%
Difficulty with English	1,524	5.9%
Households with no car	549	4.9%
Mobile homes	887	7.9%

Data are from the U.S. Census Bureau, American Community Survey. See methods for more information.

The community evaluated whether vulnerability, and subsequently the potential impacts, in hazard-prone areas had increased, decreased, or remained the same for each natural hazard identified in this Hazard Mitigation Plan. Climate change, infrastructure expansion, and economic shifts that can affect vulnerability were considered. For example, if planned development is in an identified hazard area or is not built to the updated building codes, it may increase the community's vulnerability to future hazards and disasters. On the other hand, if development occurred with mitigation practices in place, the vulnerability may have remained the same or decreased. Additionally, shifting demographics were taken into consideration when assessing development trends.

Jurisdiction-Specific Climate Change Vulnerability and Impacts

The table below outlines if climate change, as assessed by the local planning team, has increased or decreased the municipality's vulnerability/exposure, and thereby the potential impacts, to each

natural hazard over the past five (5) years (**Current Vulnerability**), and the effect of climate change in the future probability of occurrence and impacts (**Future Vulnerability**) from each natural hazard.

Future studies are needed to better understand the impact of climate change on the community's assets.

Hazard	Vulnerability
Current Vulnerability	
Dam and Levee Failure	Remained the Same
Drought	Remained the Same
Earthquake	Remained the Same
Flood (Riverine, Urban, Shoreline)	Remained the Same
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings)	Increased
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	Remained the Same
Tornado	Remained the Same
Wildfire (Wildfire Smoke)	Remained the Same

Hazard	Vulnerability
Future Vulnerability	
Dam and Levee Failure	No Change is Anticipated
Drought	No Change is Anticipated
Earthquake	No Change is Anticipated
Flood (Riverine, Urban, Shoreline)	Increase
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings)	Increase
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	Decrease
Tornado	No Change is Anticipated
Wildfire (Wildfire Smoke)	No Change is Anticipated

Jurisdiction-Specific Changes (or Expected Changes) in Development Trends in Hazard-Prone Areas

The table below outlines if development, as assessed by the local planning team, over the past five (5) years (**Current Vulnerability**) has increased or decreased the jurisdiction's vulnerability / exposure, and thereby the potential impacts, to these natural hazards, and the anticipated effects changes in development may have on the future probability of occurrence and impacts (**Future Vulnerability**) from these natural hazards.

Hazard	Vulnerability
Current Vulnerability	
Dam and Levee Failure	Remained the Same
Drought	Remained the Same
Earthquake	Remained the Same
Flood (Riverine, Urban, Shoreline)	Remained the Same
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings)	Remained the Same
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	Remained the Same
Tornado	Remained the Same
Wildfire (Wildfire Smoke)	Remained the Same

Hazard	Vulnerability
Future Vulnerability	
Dam and Levee Failure	No Change is Anticipated
Drought	No Change is Anticipated
Earthquake	No Change is Anticipated
Flood (Riverine, Urban, Shoreline)	No Change is Anticipated
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings)	No Change is Anticipated
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	No Change is Anticipated
Tornado	No Change is Anticipated
Wildfire (Wildfire Smoke)	No Change is Anticipated

Our community does not anticipate future major assets may be exposed or vulnerable to any of the natural hazards identified in this Hazard Mitigation Plan. Any new assets (e.g., new construction in hazard prone areas) will be constructed to adhere to the latest building codes and standards, and mitigation to protect them from identified and anticipated hazards, especially those that are expected to increase due to climate change.

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**
1	Severe Weather
2	Flooding
3	Severe Winter Weather
4	Tornado
5	Earthquake
6	Drought
7	Dam Failure

New Mitigation Actions

The following are new mitigation actions created during the 2024 update.

Action P-3.13

Mitigation Action #13: Upgrade/Replace/Refit existing original Lift Stations and add backup power generation					
Lead Agency/Department Organization: Administration	**Supporting Agencies/ Organizations:** MWRD	**Estimated Cost:** High	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Long-term	**Hazard(s) Mitigated:** Flood (Riverine, Urban, Coastal/Shoreline), Severe Weather (Extreme Heat, Lightning. Hail, Fog, High Winds),Tornado
Year Initiated		2024			
Applicable Jurisdiction		City of Palos Hills			
Applicable Goal		1,2,3			
Applicable Objective		1,2,3,7,9,12,13			
Cost Analysis (Low, Medium, High)		High			
Priority and Level of Importance (Low, Medium, High)		Medium			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		High			
Action/Implementation Plan and Project Description:		Upgrade/Replace/Refit existing original Lift Stations and add backup power generation			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		N			

Action P-3.14

Mitigation Action #14: Replace Current Police Department Mobile Command Center, it was built in 2000.					
Lead Agency/Department Organization: Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** High	**Potential Funding Source:** General Fund State Special Funds	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Drought, Flood (Riverine, Urban, Coastal/Shoreline), Severe Weather (Extreme Heat, Lightning. Hail, Fog, High Winds), Severe Winter Weather (Ice Storm, Heavy Snow, Blizzards, Extreme Cold), Tornado
Year Initiated		2024			
Applicable Jurisdiction		City of Palos Hills			
Applicable Goal		1,2,3,4			
Applicable Objective		1,2,3,5,7,9			
Cost Analysis (Low, Medium, High)		Medium			
Priority and Level of Importance (Low, Medium, High)		Medium			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Medium			
Action/Implementation Plan and Project Description:		Replace Current Police Department Mobile Command Center, it was built in 2000.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		N			

Action P-3.15

Mitigation Action #15: Replacement of Police Department Roof					
Lead Agency/Department Organization: Palos Hills Police Department	**Supporting Agencies/ Organizations:**	**Estimated Cost:** Medium	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Ongoing	**Hazard(s) Mitigated:** Severe Weather
Year Initiated		2024			
Applicable Jurisdiction		City of Palos Hills			
Applicable Goal		3			
Applicable Objective		1			
Cost Analysis (Low, Medium, High)		Low			
Priority and Level of Importance (Low, Medium, High)		Low			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Low			
Action/Implementation Plan and Project Description:		Hail damage has occurred to our police departments roof. A replacement would ensure the prevention of this in the future.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		N			

Ongoing Mitigation Actions

The following are ongoing actions with no definitive end or that are still in progress. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended, as needed.

Action P-3.2

Mitigation Action #2: Improve stormwater drainage capacity through re-routing of the stormwater drainage systems in the flood zone under and east of Roberts Road.					
Lead Agency/Department Organization: EMRS, County, MWRD, FEMA	**Supporting Agencies/ Organizations:**	**Estimated Cost:** 12,000,000	**Potential Funding Source:** MWRD, BRIC, HMGP, FMA	**Estimated Projected Completion Date:** 2026	**Hazard(s) Mitigated:** Flooding
Year Initiated		2014			
Applicable Jurisdiction		City of Palos Hills			
Applicable Goal		1,2,3			
Applicable Objective		2, 8, 9, 12			
Cost Analysis (Low, Medium, High)		High			
Priority and Level of Importance (Low, Medium, High)		Medium			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		High			
Action/Implementation Plan and Project Description:		The Roberts Rd drainage project has been accepted into MWRD's Phase II Stormwater Management Program. They have agreed to provide engineering assistance for the project.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		I			

Action P-3.5

Mitigation Action #5: Where appropriate, support retrofitting, purchasing, or relocating structures in hazard-prone areas to prevent future damage. Give priority to properties with exposure to repetitive losses.

Lead Agency/Department Organization: City Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** High	**Potential Funding Source:** FEMA Hazard Mitigation Grants, BRIC, HMGP, FMA	**Estimated Projected Completion Date:** Long-term (depending on funding)	**Hazard(s) Mitigated:** All
Year Initiated		2014			
Applicable Jurisdiction		City of Palos Heights			
Applicable Goal		1,2,3			
Applicable Objective		7,13			
Cost Analysis (Low, Medium, High)		High			
Priority and Level of Importance (Low, Medium, High)		Medium			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		High			
Action/Implementation Plan and Project Description:					
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		O			

Action P-3.6

Mitigation Action #6: Continue to support the countywide actions identified in this plan.					
Lead Agency/Department Organization: City Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** Low	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:**	**Hazard(s) Mitigated:** All

				Short- and Long-term	
Year Initiated		2014			
Applicable Jurisdiction		City of Palos Hills			
Applicable Goal		1,5			
Applicable Objective		All			
Cost Analysis (Low, Medium, High)		Low			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Medium			
Action/Implementation Plan and Project Description:		The city is in support of the actions within this plan and will continue to support the plan			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		O			

Action P-3.7

Mitigation Action #7: Actively participate in the plan maintenance strategy identified in this plan.					
Lead Agency/Department Organization: EMRS, City Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** Low	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** All
Year Initiated		2014			
Applicable Jurisdiction		City of Palos Hills			
Applicable Goal		1,5			
Applicable Objective		3,4,6			
Cost Analysis (Low, Medium, High)		Low			

Priority and Level of Importance (Low, Medium, High)	High
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium
Action/Implementation Plan and Project Description:	The city continues efforts to reduce and mitigate the effects of severe weather events through available means. At this time funding allows us to maintain creeks, streams, ditches and storm sewer to prevent flooding. We also have begun rebuilding our sanitary lift stations, which are all over 50 years old.
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed	O

Action P-3.12

Mitigation Action #12: No water tower, water and sewage pumping stations are all over 50 years old. Add backup power generation and upgrade station.					
Lead Agency/Department Organization: Public Works	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $3,000,000	**Potential Funding Source:** Public Works, HMGP, BRIC	**Estimated Projected Completion Date:** 2030	**Hazard(s) Mitigated:** Drought, Flooding, Extreme Heat, Lightning, High Wind, Extreme Cold, Ice Storms, Tornado, Epidemic or Pandemic, Widespread Power Outage

Year Initiated	2019
Applicable Jurisdiction	City of Palos Hills
Applicable Goal	1,2,3,4
Applicable Objective	2,12
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).
Priority and Level of Importance (Low, Medium, High)	High
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Water supplied citywide and sewage pumped. High - Project will provide an immediate reduction of risk exposure for life and property.
Action/Implementation Plan and Project Description:	
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed	O

Completed Actions

Completed Mitigation Actions - An archive of all identified and completed projects, including completed actions since 2014.

Completed Action Items
Conduct a building code education/land use and severe weather awareness program. With the goal to educate residents about building codes that preserve drainage pattern on private property and education on how to plan and respond to severe weather events

Severe weather / warning system. Early warning system to call land line and cell phones to notify residents of approaching severe weather impacts for all severe weather and other urgent community notifications, i.e., water main breaks, water shortage due power outage, road closures, extreme cold, frozen pipes etc.
Increase salt storage. During severe winter weather conditions. Salt becomes scarce due to frozen shipping routes. Additional storage would negate the need for salt usage restrictions and eliminate the use of sand and slag that choke storm sewer drainage systems and water ways.
Consider or maintain participation in incentive-based programs such as Tree City and StormReady.
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.
Where feasible, implement a program to record high water marks following high-water events.
Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.

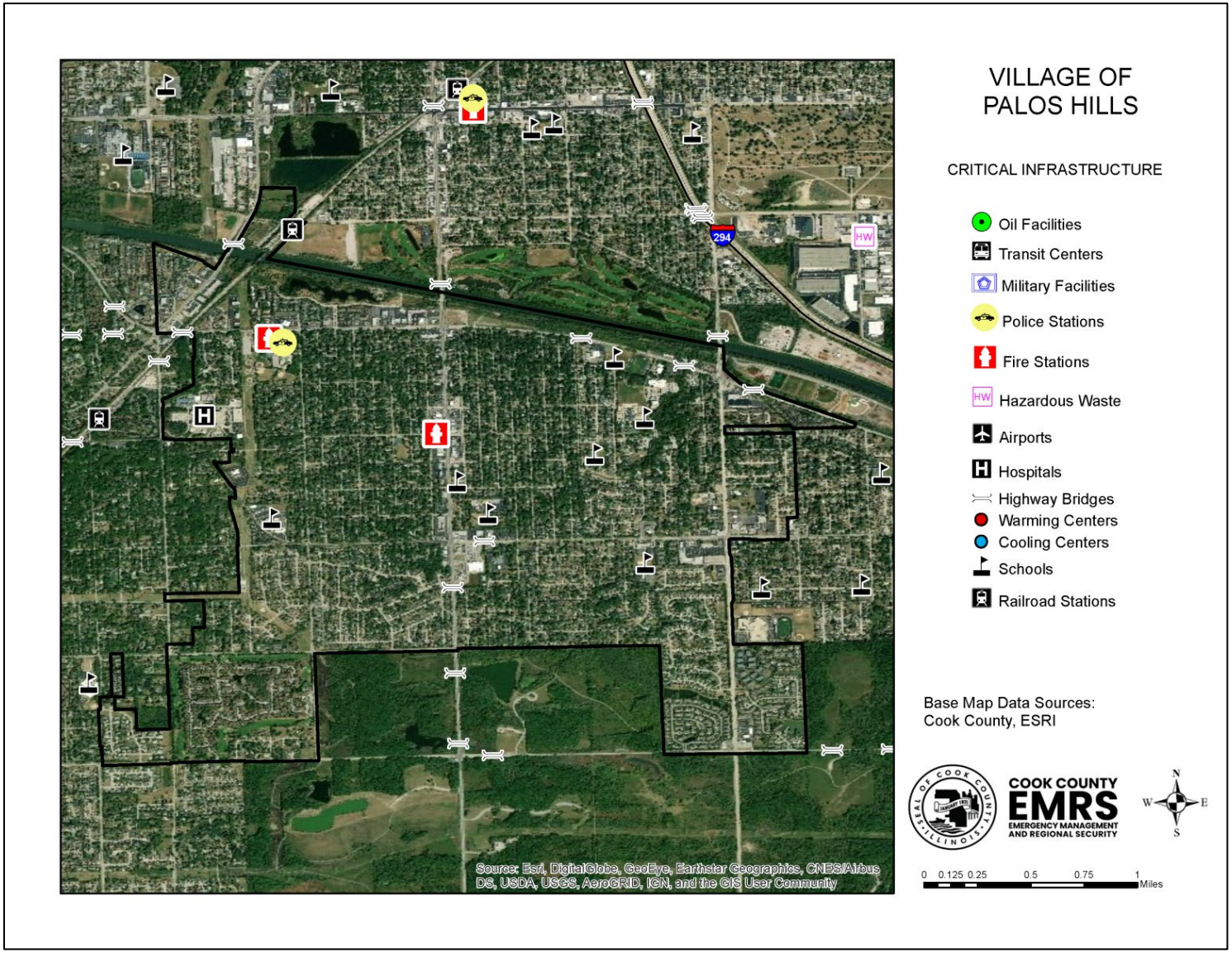
Future Needs to Better Understand Risk/Vulnerability

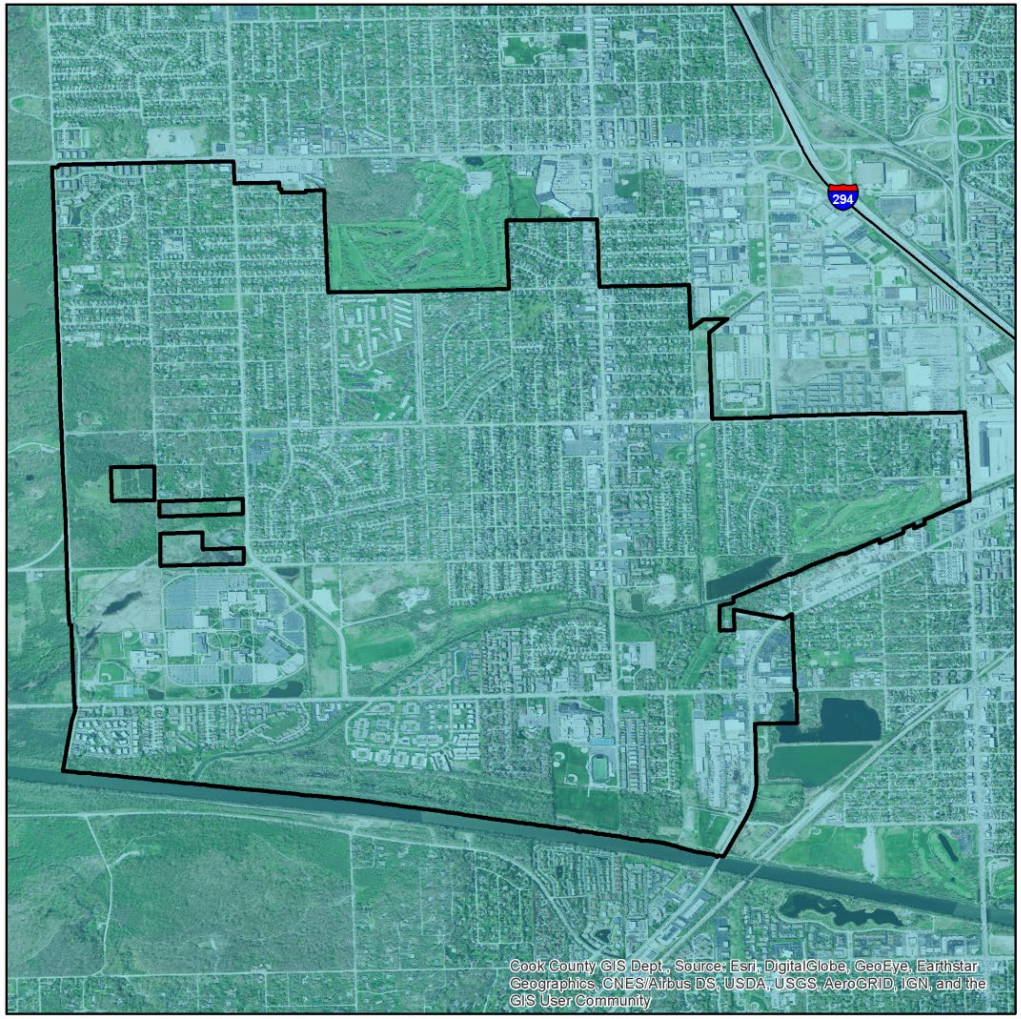
New transmission water main booster station.

Additional Comments

No additional comments at this time.

Hazard Mapping





CITY OF PALOS HILLS

PEAK GROUND ACCELERATION FOR A 100 YEAR EARTHQUAKE EVENT

Mercalli Scale, Potential Shaking

II-III Weak

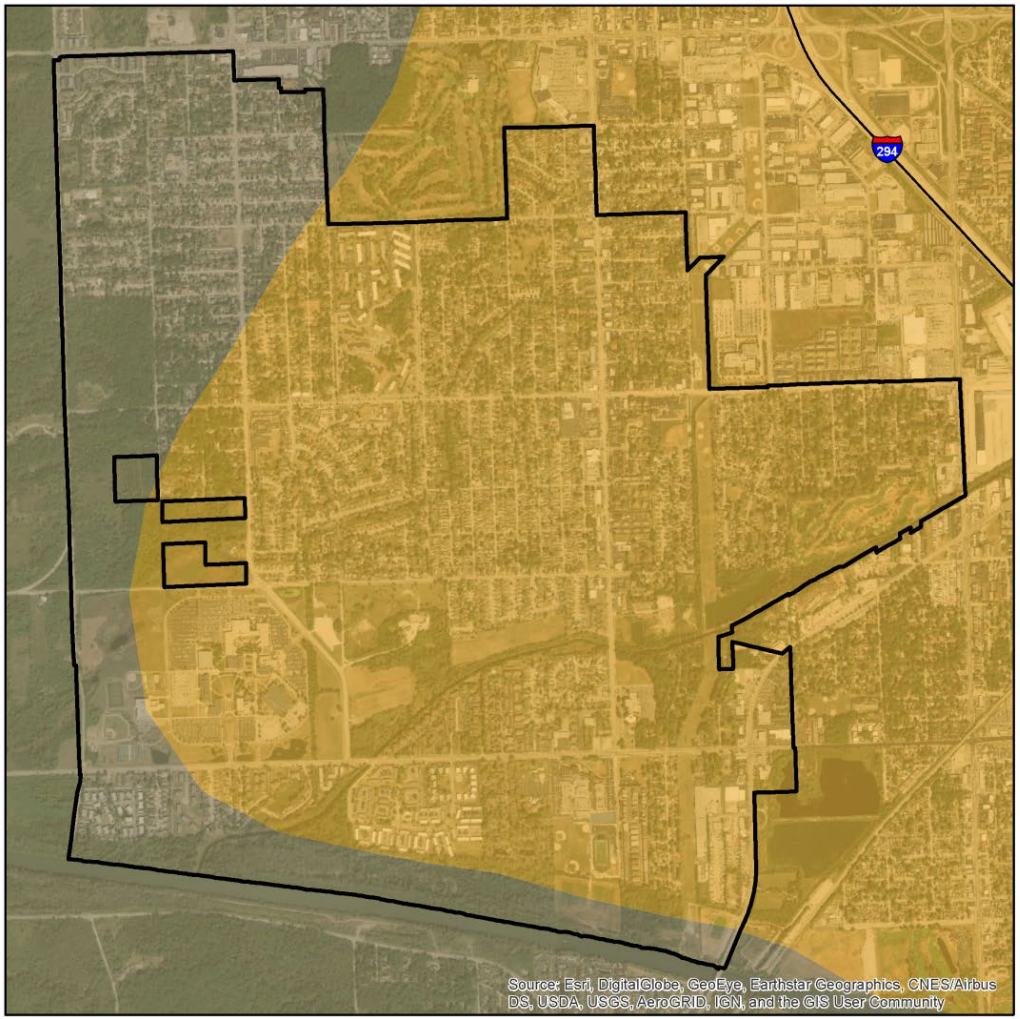
Data provided by the USGS Earthquake Hazards Program and Cook County.

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.

COOK COUNTY EMRS
EMERGENCY MANAGEMENT AND REGIONAL SECURITY

N W E S

0 0.125 0.25 0.5 0.75 1 Miles



CITY OF PALOS HILLS

NATIONAL EARTHQUAKE HAZARD REDUCTION PROGRAM (NEHRP) SOIL CLASSIFICATION

TYPE

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

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

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

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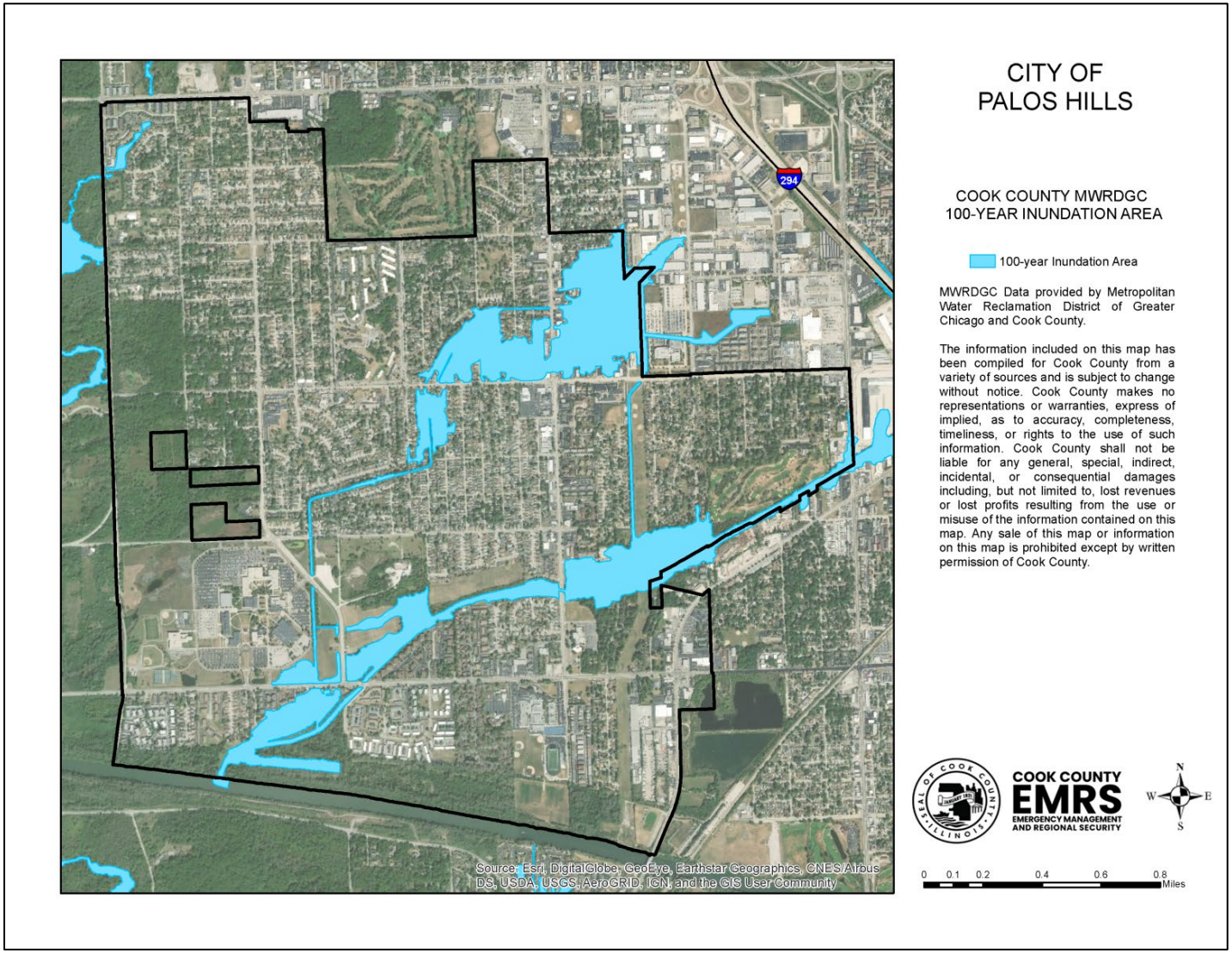
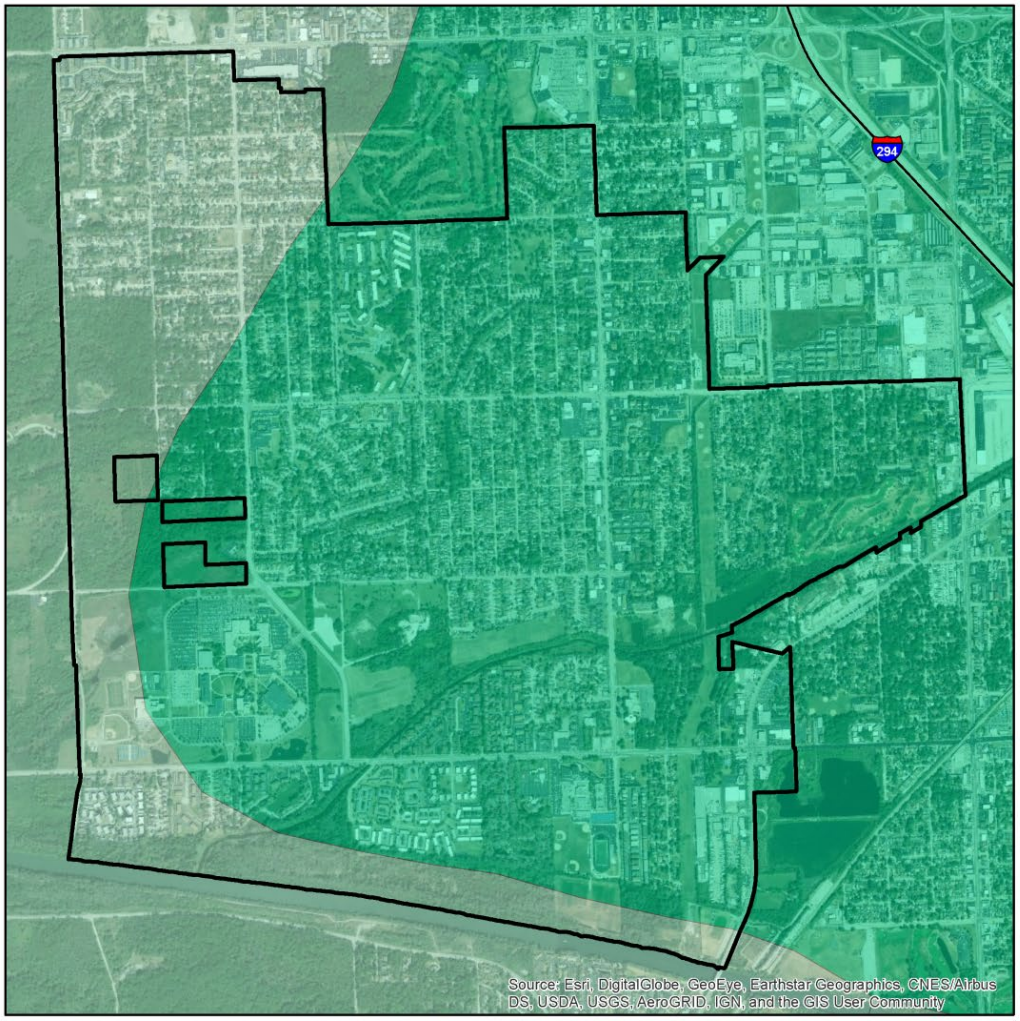
N
W E
S

0 0.1 0.2 0.4 0.6 0.8 Miles

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.





CITY OF PALOS HILLS

LIQUEFACTION SUSCEPTIBILITY

LIQUEFACTION SUSCEPTIBILITY

- high
- low
- very low

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

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

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COOK COUNTY EMRS
EMERGENCY MANAGEMENT AND REGIONAL SECURITY

N
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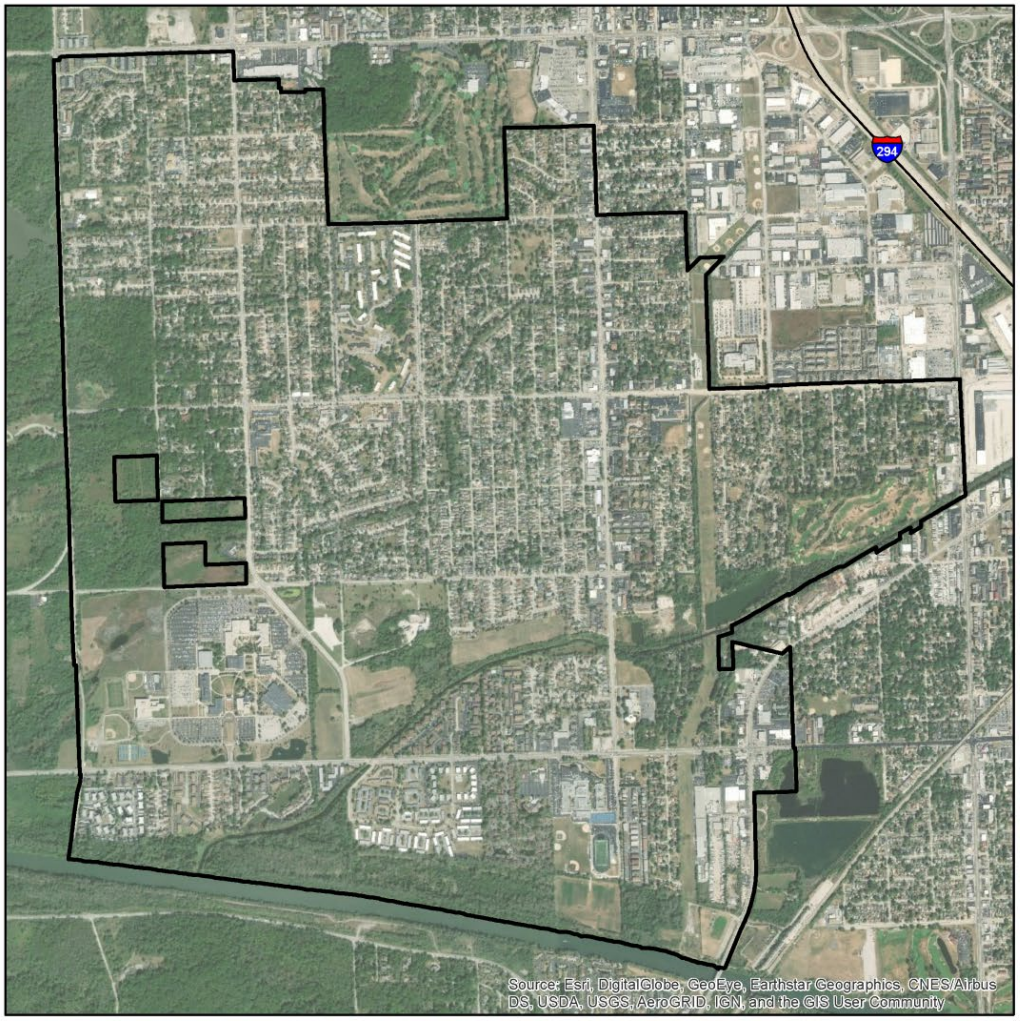

CITY OF PALOS HILLS

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.

COOK COUNTY EMRS
EMERGENCY MANAGEMENT AND REGIONAL SECURITY

N W E S

0 0.1 0.2 0.4 0.6 0.8 Miles