

Dane County Natural Hazard Mitigation Plan

Village of DeForest Annex
Summer 2022

Village of DeForest Annex

This annex is a part of the Dane County Natural Hazard Mitigation Plan (DCNHMP). The DCNHMP contains additional information to support the Federal Emergency Management Agency's (FEMA) recognition of the plan (including this annex) as the formal natural hazard mitigation plan for the county and participating local governments. This annex will be valid for as long as FEMA approves the DCNHMP. The strategies adopted in this annex are designed to guide community efforts to reduce risks from natural hazards. These strategies work in conjunction with neighboring communities and Dane County government to reduce risks from natural hazards.

COMMUNITY PROFILE

The Village of DeForest is approximately 10 miles north of the State Capitol in the City of Madison. The Town of Vienna to the west, the Town of Burke to the south and the Village of Windsor to the east and north surround it. Land use within the Village is dominated by residential neighborhoods, areas developed for commercial and industrial uses, and an extensive environmental corridor network particularly along the Yahara River. According to the United States Census Bureau, the Village of DeForest has a total area of 7.42 square miles. As of 2020, it is estimated that the Village of DeForest has 3,833 households with an average household size of 2.66 people.

The municipal population data provided by the American Community Survey, a product of the US Census Bureau, indicates that the 2019 population estimates for Village of DeForest, Dane County, is comprised of 10,179 people. Table 1 shows the population profile by age for the village.

Table 1 Population Profile of Village of DeForest, Dane County

Category	Number	Percent
Total Population	10,179	100%
Under 5 years	818	8.0%
5 to 9 years	728	7.2%
10 to 14 years	679	6.7%
15 to 19 years	771	7.6%
20 to 24 years	467	4.6%
25 to 29 years	607	6.0%
30 to 34 years	705	6.9%
35 to 39 years	915	9.0%
40 to 44 years	670	6.6%
45 to 49 years	749	7.4%
50 to 54 years	743	7.3%
55 to 59 years	594	5.8%
60 to 64 years	674	6.6%
65 to 69 years	299	2.9%
70 to 74 years	314	3.1%
75 to 79 years	185	1.8%
80 to 84 years	138	1.4%
85 years and over	123	1.2%

Data Source: 2019 ACS Estimates - U.S. Census

Growth & Development Trends

Table 2-3 illustrates how the entire Village of DeForest has grown in terms of population and number of households between 2010 and 2020. Housing data is to 2020 due to data availability. Table 2-3 is drawn from the Demographics Services Center at the Wisconsin Department of Administration, and shows population projections through 2040.

Table 2 Village of DeForest Change in Population and Households, 2010-2020

2010 Population	2020 Population	Percent Change (%) 2010-2020	2010 # of Households	2020 # of Households	Percent Change (%) 2010-2020
8,936	10,835	21.25%	3,400	3,833	13.32%

Data Source: Demographic Services Center, Wisconsin Department of Administration

Table 3 Village of DeForest Population Projections, 2020-2040

Population Projection	2020	2025	2030	2035	2040
Increase by half of percent of change (11.36%/2) every 5 years	10,835	11,985	13,257	14,664	16,221

Data Source: Demographic Services Center, Wisconsin Department of Administration, 2021

Note: Population estimates offered by the U.S. Census Bureau's American Community Survey may differ from the WDOA due to sourcing, margin of error, and data availability.

Population Summary

Tables 4-7 illustrates key population demographics within the Village of DeForest. Key demographics include: (1) Disability Characteristics, (2) Federal Income Poverty Levels, (3) Educational Attainment, and (4) Household Language with English Speaking Capabilities. Due to data availability, all key demographic information has been provided by the American Community Survey (ACS) 2019 estimates. The ACS is a self-reported survey and may include total sample size differences and statistical margin of error.

Table 4 Village of DeForest, Dane County – Disability Characteristics by Detailed Age

Category	Number	Percent
Total of Residents Self-Identified as Disabled	1,587	100%
With a hearing difficulty	340	21.4%
Population under 18 years	26	-
Population 18 to 64 years	219	-
Population 65 years and over	95	-
With a vision difficulty	80	5.0%
Population under 18 years	10	-
Population 18 to 64 years	23	-
Population 65 years and over	47	-
With a cognitive difficulty	274	17.3%
Population under 18 years	42	-
Population 18 to 64 years	188	-
Population 65 years and over	44	-
With an ambulatory difficulty	372	23.4%
Population under 18 years	0	-
Population 18 to 64 years	205	-
Population 65 years and over	167	-
With a self-care difficulty	203	12.8%
Population under 18 years	0	-
Population 18 to 64 years	110	-
Population 65 years and over	93	-
With an independent living difficulty	318	20.0%
Population 18 to 64 years	220	-
Population 18 to 34 years	91	-
Population 65 years and over	98	-

Data Source: 2019 ACS Estimates - U.S. Census

Table 5.1: Village of DeForest, Dane County – Federal Income Poverty Levels (FIPL) by Families Summary

Category	Number of Families
50 percent of poverty level	38
125 percent of poverty level	207
150 percent of poverty level	274
185 percent of poverty level	366
200 percent of poverty level	387
300 percent of poverty level	617
400 percent of poverty level	975
500 percent of poverty level	1,446

Data Source: 2019 ACS Estimates - U.S. Census

Note: Use table 5.2 to interpret table 5.1:

5.1 identifies the total number of families (regardless of size) by percentage.

5.2 identifies family size in relation to annual family income and the percentage category of the FIPL.

Table 5.2: Village of DeForest, Dane County – Annual Federal Income Poverty Level Guide

Family Size	50%	100%	125%	150%	185%	200%	300%	400%	500%
1	\$6,440	\$12,880	\$16,100	\$19,320	\$23,828	\$25,760	\$38,640	\$51,520	\$64,400
2	\$8,710	\$17,420	\$21,775	\$26,130	\$32,227	\$34,840	\$52,260	\$69,680	\$87,100
3	\$10,980	\$21,960	\$27,450	\$32,940	\$40,626	\$43,920	\$65,880	\$87,840	\$109,800
4	\$13,250	\$26,500	\$33,125	\$39,750	\$49,025	\$53,000	\$79,500	\$106,000	\$132,500
5	\$15,520	\$31,040	\$38,800	\$46,560	\$57,424	\$62,080	\$93,120	\$124,160	\$155,200
6	\$17,790	\$35,580	\$44,475	\$53,370	\$65,823	\$71,160	\$106,740	\$142,320	\$177,900

Data Source: dhs.wisconsin.gov

Table 6: Village of DeForest, Dane County – Educational Attainment by Householders

Category	Number	Percent
Total of Householders	2,750	100%
Less than high school graduate	64	2.3%
High school graduate (includes equivalency)	523	19.0%
Some college, associate's degree	1,010	36.7%
Bachelor's degree or higher	1,153	41.9%

Data Source: 2019 ACS Estimates - U.S. Census

Table 7: Village of DeForest, Dane County – Household Language & English Speaking Capabilities

Category	Number	Percent
Total of Households	3,833	100%
English only	3,676	95.9%
Spanish:	51	1.3%
Limited English speaking household	0	-
Not a limited English speaking household	51	-
Other Indo-European languages:	81	2.1%
Limited English speaking household	0	-
Not a limited English speaking household	81	-
Asian and Pacific Island languages:	25	0.7%
Limited English speaking household	0	-
Not a limited English speaking household	25	-
Other languages:	0	0.0%
Limited English speaking household	0	-
Not a limited English speaking household	0	-

Data Source: 2019 American Community Survey

Note: Population estimates offered by the U.S. Census Bureau's American Community Survey may differ from the WDOA due to sourcing, margin of error, and data availability.

Asset Inventory

Assets include the people, property, and critical facilities within the Village of DeForest that are exposed to hazards in general. Inventories of property, essential infrastructure, and natural, cultural or historic resources help provide a comprehensive picture of the community and provide a method of assessing exposure to hazards by establishing the improved and total values, capacities and populations for these assets. It also forms the basis for estimating potential losses, where possible.

General Property

Table 8 Property Exposure Summary

Property Type	Parcel Count	Improved Land Count	Improved Land Value (\$)	Content Value (\$)	Total Value (\$)
Total	3577	3548	1191923400	595961700	1787885100
Agriculture	86	86	77869100	38934550	116803650
Industrial	84	84	194486100	97243050	291729150
Residential	3211	3211	755242200	377621100	1132863300
Transportation	4	4	879000	439500	1318500
Utility	13			0	0
Commercial	125	125	161065200	80532600	241597800
Other	29	22	1002500	501250	1503750
Institutional/ Governmental	25	16	1379300	689650	2068950

Data Source: Dane County Land Information Office, December 2021

Critical Facilities

The Village of DeForest has identified the critical facilities important to protect from disaster impacts. These are collected in Table 9. Table 9 is based on GIS data inventories from Dane County and information gathered from the Town. No further supplemental data was provided by the community through the Data Collection Guide.

Table 9 Critical Facility Summary/Essential Infrastructure

Facility	Type*	No. of Facilities	Replacement Value (\$)
Public Schools	VF	N/A	\$128,203,872
Public Safety Building housing fire, EMS, Police, Courts, Probation & Parole and Human Services	EI	4	\$5,940,759
Residential Parcels (improved)	VF	N/A	\$684,994,100
Commercial and Manufacturing Parcels (improved)	VF, HM	N/A	\$363,807,200
Communication Towers	EI	N/A	\$200,000
Electrical Generation Distribution	EI	1	Unknown
Village Hall/Municipal Building	EI, VF	1	\$2,651,261
Public Works Buildings (x2)	EI, VF	2	\$3,656,477
Water Utilities	EI	1	\$839,675
Sewer Utilities	EI	1	\$218,381
Child Care Centers	VF	N/A	\$1,703,100
Community Based Residential Facilities (CBRF) and Special Needs Housing	VF	N/A	\$29,402,500
Public Library	VF	1	\$6,212,613
Senior Center	VF	1	\$3,166,800
Medical Clinics	VF	N/A	\$11,206,700
*EI: Essential Infrastructure; VF: Vulnerable Facilities; HM: Hazardous Materials Facilities			

Data Source: 2021 Village of DeForest Data Collection Guide

Other Assets

Other assets help define a community beyond the current composition of the Village of DeForest. These assets may provide economic benefit to the community, in addition to preserving the heritage and diversity of the community and may include natural, cultural and historic assets or economic assets such as major employers. It may also include more specific detail on critical facilities. The Village of DeForest has not identified any other assets.

VULNERABILITY ASSESSMENT

A hazard identification and vulnerability analysis was completed for the Village of DeForest using the same methodology in the County's base plan. The information to support the hazard identification and risk assessment for this Annex was collected through a Data Collection Guide, which was distributed to each participating municipality to complete.

The first step in a hazard analysis is to identify which hazards the community is vulnerable to. Table 10 outlines the hazard identification for the Village of DeForest based on the Data Collection Guide issued in 2021. The Data Collection Guide listed all of the hazards that could impact Dane County. The purpose of this worksheet was to identify and rank the hazards and vulnerabilities specific to the jurisdiction. Brooklyn's planning team members were asked to complete the matrix by ranking each category on a scale of 0 to 5 based on the experience and perspective of each planning team member. A ranking of 0 indicated "no concern" while a ranking of 5 indicated "highest concern." This matrix appears as Table 10. This matrix reflects the significance of the hazards relative to one another as perceived by the Example's planning team.

This matrix reflects that the Village of DeForest is most vulnerable to tornadoes, floods, and winter storms. The vulnerability established here is a qualitative assumption based on the impacts, geographic extent, probability of future occurrence, and magnitude/severity.

Table 10: Vulnerability Assessment Matrix for the Village of DeForest

Name of Jurisdiction: <u>Village of DeForest</u>											
Hazard	<u>Hazard</u> Attributes			<u>Impact</u> Attributes						Total of Row Values	
				Primary Impact (Short Term - Life and Property)			Secondary Impact (Long Term – Community Impacts)				
	Area of Impact	Past History, Probability of Future Occurrence	Short Term Time Factors	Impact on General Structures	Impact on Critical Facilities	Impact on At-Risk Populations	Social Impact	Economic Impact	Severity Of Other Associated Secondary Hazards		
	(1-5)	(1-5)	(1-5)	(0-5)	(0-5)	(0-5)	(0-5)	(0-5)	(0-5)		
Dam/Levee failure	1	1	1	0	0	0	0	0	0		3
Extreme Cold	4	2	3	1	2	2	2	1	0		17
Extreme Heat	4	3	3	2	2	3	3	1	1		22
Drought	4	2	3	1	2	2	1	3	1		19
Expansive soils	1	1	1	3	1	1	1	2	0		11
Flood	3	4	3	2	1	2	3	3	2		23
Fog	3	3	3	0	2	1	3	0	1	16	
Hail Storm	2	3	2	1	1	1	1	2	1	14	
Landslide	1	2	2	0	0	0	0	0	0	5	
Lightning	1	2	3	1	1	1	1	1	0	11	
Tornado	3	2	4	2	2	3	3	2	2	23	
Wildfire	1	1	1	0	0	0	0	0	0	3	
Windstorm	2	2	2	1	2	1	1	1	1	13	
Winter Storm	4	4	3	1	2	3	2	2	1	22	

Vulnerability to Specific Hazards

This section details vulnerability to specific hazards, where quantifiable, and where it differs from that of the overall County. The previous inventory tables quantify what is exposed to the various hazards within Village of DeForest. Table 11 cross-references the hazards with the various tables where exposure or vulnerability specifics are found. The intent of Table 6 is to quantify, where possible, future impacts of each hazard on the jurisdiction. In many cases it is difficult to estimate potential losses, so the overall exposure of populations, structures, and critical facilities is referenced.

Table 11 Hazard Vulnerability Specifics

Hazard	Populations	Structures	Critical Facilities	Future Damage Potential
Dam Failure	None	None	None	Specifics unknown; See hazard profile in County Plan
Drought	Moderate	Minimal	Moderate	Specifics unknown; See hazard profile in County Plan
Flooding	See Tables 13-14 below	See Tables 13-14 below	See Tables 13-14 below	See Tables 13-14 below
Fog	Minimal	None	Moderate	Specifics unknown; See hazard profile in County Plan
Hailstorm	Minimal	Minimal	Minimal	Specifics unknown; See hazard profile in County Plan
Landslide/ Sinkholes/ Erosion	None	None	None	Specifics unknown; See hazard profile in County Plan
Lightning	Minimal	Minimal	Minimal	Specifics unknown; See hazard profile in County Plan
Severe Cold	Moderate	Minimal	Moderate	Specifics unknown; See hazard profile in County Plan
Severe Heat	See Tables 4-7 Populations	Moderate	Moderate	Specifics unknown; See hazard profile in County Plan
Winter Storm	See Tables 4-7 Populations	Minimal	Moderate	Specifics unknown; See hazard profile in County Plan
Tornado	See Table 15 below	See Table 15 below	See Table 15 below	See Table 15 below
Wildfire	None	None	None	Specifics unknown; See hazard profile in County Plan
Windstorm	Minimal	Minimal	Moderate	Specifics unknown; See hazard profile in County Plan

Data Source: 2021 Village of DeForest Data Collection Guide – Prepared by DCEM

Previous Hazard Events

Through the Data Collection Guide, the Village of DeForest noted specific historic hazard events to include in the community profile. These events have been incorporated into the appropriate hazard chapters in the main mitigation plan. These events had a particular impact on the community beyond the impacts and events recorded in the Dane County Hazard Mitigation Plan. This is not a comprehensive summary of past incidents, as the hazard profiles collected in the main Mitigation Plan include other events that may have historically impacted the jurisdiction. The events noted by this jurisdiction in the Data Collection Guide can be found in Table 12.

Table 12 Village of DeForest Historic Natural Hazards

Natural Hazard	Date	Impacted Structures	Comprehensive Harm to Jurisdiction	Other reported Losses (Fiscal reports, programs, etc.)	Comments
Flood	03/15-17/2019	Multiple Impacted Structures	A dozen or more homes had to be evacuated due to flooding. Dozens of other homes had water in basements. Road closures , traffic diversions, and undeveloped land damage ensued.	Loss was substantial enough for Village to receive FEMA funds, in the amount of \$2,289.	Planned mixed use development of the Karow property has been delayed in part to understand water storage and conveyance needs.

Data Source: 2021 Village of DeForest Data Collection Guide

Flood Hazard

Structures and Properties in the Floodplain

Refer to the flood profile in the mitigation plan for a description of the methodology used to identify potentially flood-prone properties. Figure 1 shows mapped floodplains, future growth areas, and critical or vulnerable facilities. Tables 13 and 14 outline the primary structures on them within the Village of DeForest, Dane County. Potential number of individuals at risk figures are based on primary residential structures and the average household size within Dane County (2.37 people as of 2021). Estimated loss potentials for all structures on the floodway can be found within section 4.6 in chapter 4 of the county plan.

Table 13 Primary Structures in the 100 Year Floodplain

Residential Structures in 100 yr. Floodway	Non-Residential Structures in 100 yr. Floodplain	Total Structures in 100 yr. Floodplain	Potential # of People at Risk in 100 yr. Floodplain	Total Assessed Values (\$) of Structures in 100 yr. Floodplain
5	0	5	12	\$574,932

Source: Analysis based on Dane County Land Information Office Data

Table 14 Primary Structures in the 500 Year Floodplain

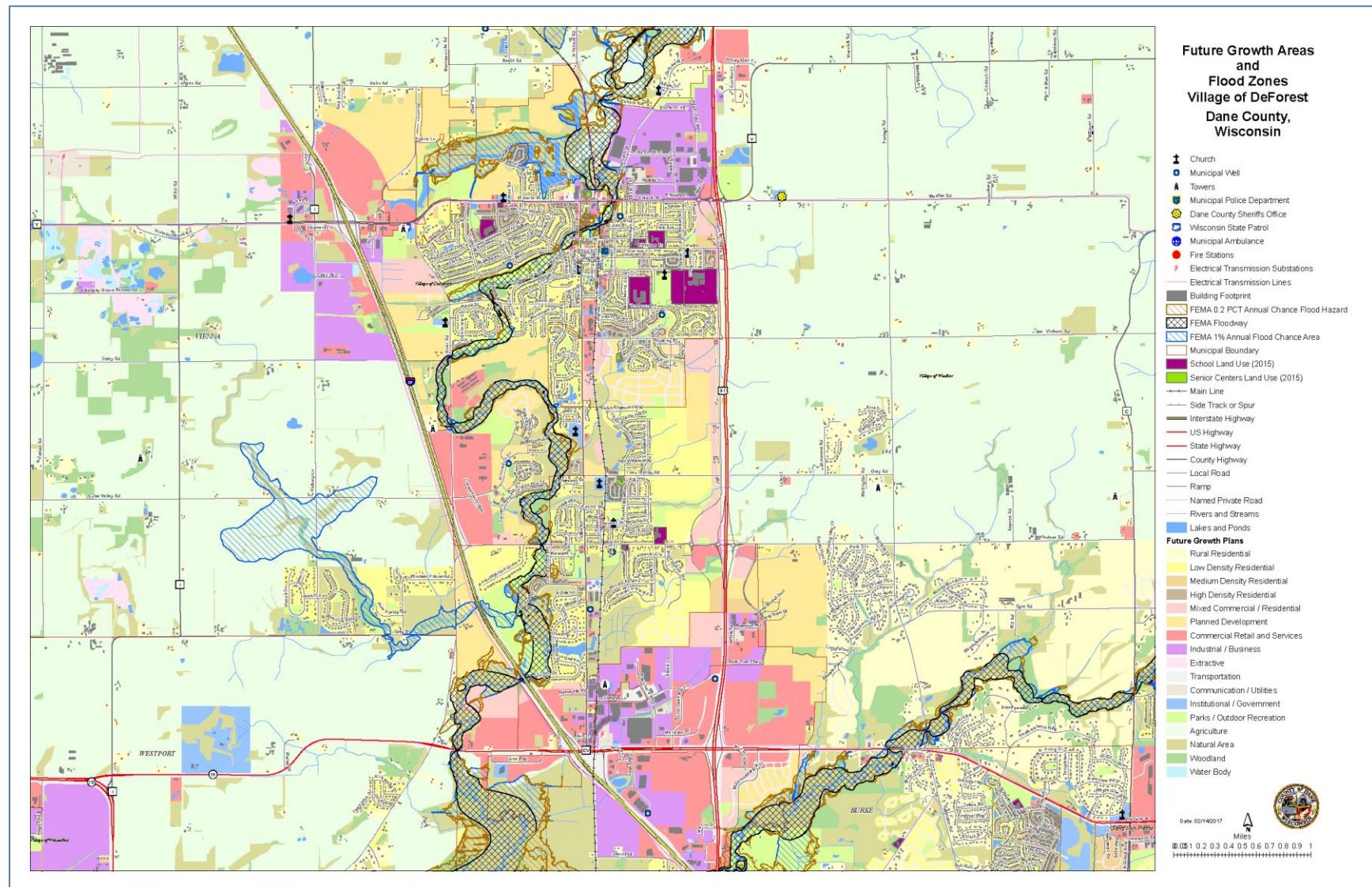
Residential Structures in 500 yr. Floodway	Non-Residential Structures in 500 yr. Floodplain	Total Structures in 500 yr. Floodplain	Potential # of People at Risk in 500 yr. Floodplain	Total Improved Values (\$) of Structures in 500 yr. Floodplain
13	3	16	31	\$418,858

Source: Analysis based on Dane County Land Information Office Data

Repetitive Loss Properties and Flood Insurance Policies

- One repetitive loss property has been reported in Village of DeForest, Dane County.
- There are 18 flood insurance policies in force within the Village of DeForest, Dane County, with a total coverage of \$6,468,900.

Figure 1 Flood Hazards and Future Land Use Map



Tornado

While it is difficult to estimate specific losses to a tornado due to the random nature of the event, a methodology was developed that was applied to each jurisdiction during the 2023 update. The table below estimates the percent area of the jurisdiction that could be impacted based on the average sized tornado (F2) in Dane County. High value exposure is based on 100% loss, medium 50% loss, and low is 25% loss to the property potentially impacted. The loss ratio, which is the ratio of the damaged building value to total exposed building value, is a measure of the impact to the jurisdiction as a whole. Communities with loss ratios 10% or more may have difficulty recovering from a disaster. Refer to the tornado hazard profile in the main mitigation plan for more details on this methodology.

Table 15 Tornado Loss Estimate

% Area impact	Improved Parcel Count	Affected Structure Estimate	Total Exposed Value (\$)	Estimated Loss \$ (High Damage Range)	Estimated Loss \$ (Moderate Damage Range)	Estimated Loss \$ (Low Damage Range)	Loss Ratio for Moderate Damage Range
11.17%	3,548	396	1,787,885,100	199,766,890	99,883,445	49,941,722	6%

Data Source: Analysis Based on Dane County Land Information Office's data

Problems or Additional Vulnerability Issues

The Village of DeForest identified the following additional vulnerabilities in the 2021 Data Collection Guide:

- **Average Depth of 100 Year Floodplain**
 - North DeForest (Northern Corridor Park) - 932.9 feet
 - Northwest DeForest (Western Green Area Park) – 927.2 feet
 - Central DeForest (Conservancy Place) – 884.3 feet
 - South Central DeForest (Sunfish Pond) – 875.1 feet
 - Southwest DeForest (west of Fleet Farm) – 862.6 feet
 - Southeast DeForest (Token Creek Wildlife Area) – 865.3 feet
- **Hazard Concerns:**
 - Village housing/community development authority operates a 42-unit affordable rental housing facility at 509 North Main Street. Residents are primarily elderly and some have mobility challenges. Facility is located relatively close to the Yahara River at the north dead-end of Main Street, making it relatively vulnerable to hazards.
 - DeForest Elderly Housing located at 829 Southbound Drive is a HUD affordable rental housing facility composed of 61 apartments for elderly residents. The facility is located relatively close to a large retention pond, which drains excess water from a significant amount of land nearby. The retention pond has never flooded, but is located less than 50 feet from the building.
- **Growth Trends**
 - Residential development has been attracted to natural areas in and near the Village, such as the Upper Yahara River and Token Creek corridors. New development proposals in this area have been subject to careful environmental review, stormwater management design, and development design standards (e.g., lowest building opening 2+ feet above

base flood elevations, 2+ ways in and out of development) to minimize potential for flooding and other natural hazards affecting new homes and infrastructure.

- Village has attempted to work with owner of property on northeast side of Village that experienced flooding in March 2019 (Karow) to make sure that sufficient flood storage and water conveyance provided on that property with any new development there. Karow property has been identified as a possible location for affordable senior and/or workforce housing in the future, with without proper planning and mitigation could increase vulnerable populations near a flood prone area. Size of Karow property almost certainly allows for proper flood mitigation in some locations and open space in more flood prone areas.
- **Changes since 2018 DC NHMP Update**
 - After the polar vortex in the winter of 2014, during which many Village residents experienced frozen water lines, the Village purchased a line thawer to thaw frozen laterals. This purchase will minimize impacts to residents when another similar period of extreme cold weather happens again.
 - After the flooding experienced in March 2019:
 - Drainage was improved behind the 500 block of Holum Street by installing a larger storm sewer pipe in residential backyards.
 - The Village bought 750 feet of Aqua Dam which can be quickly deployed to protect homes and public facilities during flooding.
 - Adjacent to the High School, the Village spent \$25,000 to excavate the ditch line along Renata Court from N. Towne Road to Jefferson Street to improve drainage during times of excess water flow.

CAPABILITY ASSESSMENT

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment summarizes regulatory mitigation capabilities, administrative and technical mitigation capabilities, and fiscal mitigation capabilities for the Village of DeForest.

Mitigation Capabilities Summary

Table 16 lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities, or by themselves contribute to reducing hazard losses. The table also indicates which of these tools are currently utilized in the Village of DeForest.

Table 16 Village of DeForest Regulatory Mitigation Capabilities

Regulatory Tools (ordinances, codes, plans)	Yes/No	Comments
Existing Natural Hazard Mitigation Plan	Yes	N/A
General or Comprehensive plan	Yes	Village of DeForest Comprehensive Plan last updated in 2015 and available at https://www.vi.deforest.wi.us/index.asp?Type=B_BASIC&SEC=%7BF8D439BC-F444-432A-992F-D714CE3556C0%7D . Another update expected by 2022.
Zoning ordinance	Yes	Available online at https://www.vi.deforest.wi.us/ordinances . Amended from time-to-time as needed. Update in progress.
Subdivision ordinance	Yes	Available online at https://www.vi.deforest.wi.us/ordinances . Amended from time-to-time as needed.
Growth management ordinance	No	No, but Village Comprehensive Plan includes growth phasing policy for new development areas.
Shoreland / wetland zoning ordinance	Yes	Updated in March 2021 and available online at https://www.vi.deforest.wi.us/ordinances
Floodplain zoning ordinance	Yes	Updated in September 2014 and available online at https://www.vi.deforest.wi.us/ordinances
FEMA / NFIP Community Rating System	No	N/A
Other special purpose ordinance (stormwater, steep slope, wildfire)	Yes	Snow and Ice Control Policy and Procedures and Erosion Control and Storm Water Management Ordinances available online at https://www.vi.deforest.wi.us/ordinances
Building code	Yes	Updated in January 2014 and available online at https://www.vi.deforest.wi.us/ordinances
Fire department ISO rating	Yes	The DeForest Windsor Fire and EMS Department has an ISO Class 4 Rating
Climate change Impact program	No	N/A
Erosion or sediment control program	Yes	Erosion Control and Storm Water Management Ordinances available online at https://www.vi.deforest.wi.us/ordinances

Regulatory Tools (ordinances, codes, plans)	Yes/No	Comments
Stormwater management program	Yes	N/A
Site plan review requirements	Yes	Through zoning ordinance, all non-residential and multiple-family residential development is subject to site plan approval by Village.
Capital improvements plan	Yes	The Village has a Capital Improvements Plan which can be accessible through the Director of Public Services – Judd Blau (blauj@vi.deforest.wi.us).
Economic development plan	Yes	Comprehensive Plan has an Economic Development chapter, with draft update completed in 2021. Scheduled for adoption by 2022.
Local emergency operations plan	Yes	DeForest has an Emergency Operations Center Plan, prepared in 2014 and revised in 2016. A copy of this Plan can be obtained by Police Chief James Olson at olsonj@vi.deforest.wi.us .
Other special plans	Yes	Parks and Open Space Plan, 2019 available online at https://www.vi.deforest.wi.us/vertical/sites/%7B5DD85418-8268-440C-BD18-45CB7768531A%7D/uploads/POSP_-_2020-2024_Plan.pdf
Flood insurance study or other engineering study for streams	No	No special flood studies have been performed for the Yahara River or other waterways in the Village.
Elevation certificates (for floodplain development)	No	No development authorized in floodplain.
Climate Action Plan	No	N/A

Data Source: Village of DeForest Data Collection Guide, 2021

Table 17 identifies the personnel responsible for mitigation and loss prevention activities as well as related data and systems in the Village of DeForest.

Table 17 Responsible Personnel and Departments for the Village of DeForest

Personnel Resources	Yes/No	Department/Position	Comments
Planner/engineer with knowledge of land development/land management practices	Yes	Public Services Director, Zoning Administrator, Village Engineer, Village Planner	Outside consultants used extensively in both planning and engineering
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	Village Engineer, Public Services Project Coordinator (PSPC)	Village Engineer is a hired consultant and PE; PSPC is Village staff person
Planner/engineer/scientist with an understanding of natural hazards	Yes	Public Services Director, Consultants	Consulting Village Planner has natural hazard planning experience
Personnel skilled in GIS	Yes	Consultants	Village has on-line interactive GIS

Full time building official	Yes	Zoning Administrator, Consulting Building Inspector	Together, positions are full-time as it relates to building
Personnel skilled in climate resilience	No	N/A	N/A
Floodplain manager	Yes	Zoning Administrator	
Emergency manager	Yes	Police Chief	Police Chief is designated as Emergency Management Director by ordinance
Real estate acquisition personnel	No	Village Administrator manages function	N/A
Grant writer	No	Community Development Director manages	N/A
Other personnel			N/A
GIS Data Resources (Hazard areas, critical facilities, land use, building footprints, etc.)	Yes	Consulting Engineer and GIS Professionals	N/A
Warning Systems/Services (Reverse 9-11, cable override, outdoor warning signals)	Yes	Police Department/Chief	Have sirens
Other: Emergency Preparedness Commission	Yes	Police Department	Comprised of village officials and citizen member

Data Source: Village of DeForest Data Collection Guide 2021

Table 18 identifies financial tools or resources that the Village of DeForest could potentially use to help fund mitigation activities.

Table 18 Financial Resources for the Village of DeForest

Financial Resources	Accessible/Eligible to Use (Yes/No)
Community Development Block Grants	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
Dedicated funding for land, easement or conservation easement acquisition	Yes
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes

Incur debt through private activities	Yes
Withhold Spending in hazard prone areas	No

Data Source: Village of DeForest Data Collection Guide

Additional Capabilities

The Village of DeForest identified the following as past or ongoing public education or information programs:

- The Fire Department participates in Fire Prevention Week Education to schools and other education activities throughout the year.
- The Fire Department works with schools for practicing emergency drills.
- Public Services Department engages in wintertime education, such as distributing information fliers during the severe cold events.
- The Village uses census meters to monitor water usage through the community. If there are users experiencing higher-than-average water use, the Village calls these users to inform them that they may have a leak.
- The Village routinely informs residents about environmental best practices by use of social media (i.e., Facebook). This includes posts about best practices for washing vehicles, watering lawns, and information about Clean Sweep and the appropriate disposal of hazardous chemicals and medications.
- Village spent \$25,000 excavate the ditch line along Renata Court from N. Towne Road to Jefferson Street to improve drainage during times of excess water flow.
- Initiated flood control effort near Lexington Parkway to address basement flooding.
- Improvements to the South Street drainage way.
- Purchased two-way radios aiding in emergency communications.
- Purchased four new firetrucks.
- Created a new Emergency Action Plan (EAP) with the Village of Windsor, including setting up an Emergency Operations Center (EOC) which helps DeForest by giving a second EOC location.
- Added repeater for public services communication.
- Emergency Management Plan for future disasters (most recently updated in 2016).

National Flood Insurance Program Participation

The Village of DeForest currently participates in the National Flood Insurance Program.

Public Involvement Activities

The Village of DeForest provided a publically noticed listening session with the Village of DeForest Board on December 7, 2021. It was noticed on the village website, and held remotely. The listening session provided an agenda in order to discuss the draft mitigation strategies. No changes were made to the initial draft mitigation strategies.

MITIGATION STRATEGIES

Below are the identified mitigation strategies developed by the Village of DeForest' NHMP steering committee. Mitigation is defined as a sustained action to reduce or eliminate risk to people and property from hazards and their effects. A *mitigation strategy* is a long-term vision for risk reduction in local jurisdictional or regional planning. A mitigation strategy can be achieved by a list of overall improvements to achieve (goals) that provide direction for community efforts to reduce potential losses identified in the risk assessment.

Strategy #1	General Action Steps to Address Localized Flooding
Mitigation strategy goal	
Prevention	Natural Resource Protection
Property Protection	Critical Facilities Protection
Public Education & Awareness	Structural Project
Implementing the strategies below will help protect residents and their property from localized flooding in the Village. These strategies are based on suggestion from a community survey conducted in October 2021 to gather resident input on prioritizing and assessing natural hazards in the Village of DeForest.	
Defined steps to achieving this mitigation strategy	
1. Train snowplow drivers to plow storm sewer drains clear. <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Public Services Department b. <i>Funding source</i> – Village operational funding c. <i>Completion date</i> – ongoing, every year during and after storm events and periods of melting 	
2. Implement a public educational campaign through social media, posters at Village Hall and local schools, and other methods to inform the public about clearing storm sewer drains of snow, ice, leaves, and other debris. <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Public Services Department, Community Ambassador b. <i>Funding source</i> – Village operational funding c. <i>Completion date</i> – ongoing, every year and after storm events and periods of melting 	

Strategy #1	General Action Steps to Address Localized Flooding
	<p>3. Connect with non-profit organizations or groups (such as local Scouts' troops) to help clear storm sewer drains as an act of community service.</p> <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Public Services Department, Community Ambassador b. <i>Funding source</i> – N/A c. <i>Completion date</i> – ongoing, every year and after storm events and periods of melting
	<p>4. Implement green infrastructure, such as bio-retention areas and rain gardens, where possible in already developed areas of the Village to maximize stormwater infiltration.</p> <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Public Services Department, Planning and Zoning b. <i>Funding source</i> – Hazard mitigation or other grants and/or the Village's Stormwater Utility Fund, in conjunction with street or other public works or park projects, or by private entities in conjunction with (re)development proposals c. <i>Completion date</i> – as opportunities present themselves

Strategy #2	Mitigate flooding along Scott Drive, N. Halsor Street, E. Holum Street, Dahl Park, Karow property	
Mitigation strategy goal		
Prevention	Natural Resource Protection	
Property Protection	Critical Facilities Protection	
Public Education & Awareness	Structural Project	
Implementing the strategies below will ensure the health and property of Village residents along Scott Drive, N. Halsor Street, and E. Holum Street. The strategies below will also ensure consistent public access and use of Dahl Park, which is the only public park accessible within 1/2 mile from portions of the Sunrise Estates and Timber Hill Meadows neighborhoods. Finally, these improvements will allow the Karow property, along the North Towne Road corridor to the east, to be developed in a manner that minimizes flood risk. The Karow property is already served by Village infrastructure and is in an appropriate location to help meet area workforce and/or senior housing needs.		
Defined steps to achieving this mitigation strategy		
1. Continue to survey Dahl Park ponds every 10 years to ensure adequate water retention capacity. a. <i>Responsible Party</i> – Village of DeForest Public Services Department b. <i>Funding source</i> – Village of DeForest Stormwater Utility Fund a. <i>Completion date</i> – by 2028		
2. Continue to survey channels, swales, and grates around the area to ensure there are no blockages from trees, ice, or other debris. a. <i>Responsible Party</i> – Village of DeForest Public Services Department b. <i>Funding source</i> – Village of DeForest Stormwater Utility Fund b. <i>Completion date</i> – ongoing (see also general flood mitigation strategy above)		
3. Raise curb elevation at the E. Holum Street and Cleveland Avenue intersection when street is reconstructed. a. <i>Responsible Party</i> – Village of DeForest Public Services Department b. <i>Funding source</i> – Village of DeForest Stormwater Utility Fund d. <i>Completion date</i> – ~2031		

Strategy #2	Mitigate flooding along Scott Drive, N. Halsor Street, E. Holum Street, Dahl Park, Karow property
	<p>4. Deepen infiltration basin north of Linde Fields, east of Highway 51 (Yankee Detention Basin).</p> <p>a. <i>Responsible Party</i> – Village of DeForest Public Services Department</p> <p>b. <i>Funding source</i> – Village of DeForest Stormwater Utility Fund</p> <p>d. <i>Completion date</i> – uncertain</p>
	<p>5. Ensure there is adequate design and capacity in new stormwater basins to retain and infiltrate water from planned development on Karow land plus, to the extent practical, from lands to the northeast across Highway 51, both to minimize flood risk on the remainder of the Karow property and on lands downstream.</p> <p>a. <i>Responsible Party</i> – Village of DeForest Planning & Zoning, Village Engineer</p> <p>b. <i>Funding source</i> – potentially hazard mitigation funds and Village match (possibly through its Stormwater Utility Fund or even park land impact fee fund) to support developer contributions to or construction of stormwater management facilities</p> <p>c. <i>Completion date</i> – prior to or when the Karow property develops. At time of writing, Karow property is the subject of a Village redevelopment planning effort, which may yield a desired direction for stormwater management.</p>

Strategy #3	Mitigate flooding in and near Liberty Land Park	
Mitigation strategy goal		
Prevention	Natural Resource Protection	
Property Protection	Critical Facilities Protection	
Public Education & Awareness	Structural Project	
Implementing the strategy below will ensure the health and property of Village residents near Liberty Land Park and will also ensure consistent public access and use of Liberty Land Park, which is the largest public park in and around the Liberty Land, High Field Terraces, High Field Terraces West, and Antique Acres residential subdivisions.		
Defined steps to achieving this mitigation strategy		
<div>1. Continue to survey channels, swales, and grates in and around Liberty Land Park to ensure there are no blockages from trees, ice, or other debris and keep water free flowing.<div><div>Responsible Party</div> – Village of DeForest Public Services Department<div>Funding source</div> – Village of DeForest Stormwater Utility Fund<div>Completion date</div> – ongoing (see also general flood mitigation strategy above)</div></div>		

Strategy #4	Mitigate flooding near Shooting Star Circle
Mitigation strategy goal	
Prevention	Natural Resource Protection
Property Protection	Critical Facilities Protection
Public Education & Awareness	Structural Project
Implementing the strategies below will protect from flooding residents and their property on Shooting Star Circle, within the Heritage Gardens subdivision. The strategies below will also ensure when planned development occurs to the east, it does not unduly increase stormwater flows in the greenway south of these Shooting Star Circle properties.	
Defined steps to achieving this mitigation strategy	
<ol style="list-style-type: none"> When the property to the east develops, ensure the plans and site development include appropriate stormwater retention capacity and proper grading with special attention to minimizing flows to downstream property by following current storm water ordinance. <ol style="list-style-type: none"> <i>Responsible Party</i> – Village of DeForest Planning & Zoning Department, Village Engineer <i>Funding source</i> – Developer funds, potentially supplemented by Village Stormwater Utility if extraordinary developer expenses would otherwise result <i>Completion date</i> – when proposal(s) for development present for the property to the east and when the property develops Educate property owners about creating a possible water conveyance system to send excess water north or south away from the residences along Shooting Star Circle. This would require collaboration with other nearby property owners. <ol style="list-style-type: none"> <i>Responsible Party</i> – Village of DeForest/private homeowners along Shooting Star Circle <i>Funding source</i> – N/A <i>Completion date</i> – to be determined During times of extreme snowmelt or heavy rainfall, the Village will provide sandbags to these residents. <ol style="list-style-type: none"> <i>Responsible Party</i> – Village of DeForest Public Services Department <i>Funding source</i> – Village of DeForest Stormwater Utility Fund <i>Completion date</i> – as periods of significant rainfall or snow melt occur 	

Strategy #5	Mitigate flooding of vacant land east of South Street/Main Street intersection
Mitigation strategy goal	
Prevention	Natural Resource Protection
Property Protection	Critical Facilities Protection
Public Education & Awareness	Structural Project
Implementing the strategies below will ensure adequate stormwater management practices and flood mitigation will be put in place if the upland parts of this currently-undeveloped site (Parcel 091017387395) develops, which will increase development prospects and reduce disruption to future business activity. This site could alternatively be publicly acquired for a regional stormwater basin, natural area, or other dedicated open or recreational space.	
Defined steps to achieving this mitigation strategy	
<ol style="list-style-type: none"> Continue to inspect the storm swale to the north every 1-2 years to ensure it stays clear of ice, trees, and other debris. <ol style="list-style-type: none"> <i>Responsible Party</i> – Village of DeForest Public Services Department <i>Funding source</i> – Village of DeForest Stormwater Utility Fund <i>Completion date</i> – 2022, and then every 1-2 years 	
<ol style="list-style-type: none"> When development occurs on this site, ensure it provides enough stormwater management in the form of detention ponds, channeling, and other methods for water to be easily collected and held and/or easily flow through the site without negatively affecting other properties by following current storm water ordinance. <ol style="list-style-type: none"> <i>Responsible Party</i> – Village of DeForest Planning & Zoning Department <i>Funding source</i> – Developer funding and/or installation, which may be supplemented by hazard mitigation or other grants and/or the Village’s Stormwater Utility Fund. <i>Completion date</i> – when proposal for development present itself 	

Strategy #5	Mitigate flooding of vacant land east of South Street/Main Street intersection
	<p>3. Alternatively, consider public acquisition of the site for a regional stormwater basin, natural area, or other dedicated open or recreational space.</p> <p><i>a. Responsible Party</i> – Village Board and Administration, upon advice from Public Services Dept.</p> <p><i>b. Funding source</i> – Hazard mitigation or other grants, potentially with Village of DeForest Stormwater Utility Fund and/or parkland impact fees</p> <p><i>c. Completion date</i> – Site plus developed lands to the south are currently subject to a redevelopment planning process, which will likely suggest a future use and potential outcome for this site, in consultation with its current land owner</p>

Strategy #6	Mitigate impacts from extreme heat and extreme cold events
Mitigation strategy goal	
Prevention	Natural Resource Protection
Property Protection	Critical Facilities Protection
Public Education & Awareness	Structural Project
Implementing the strategies below will ensure the health and lives of Village residents, especially those most at-risk to extreme heat or cold events. These strategies will become even more important over the next decade or two as DeForest's senior population is expected to grow significantly, and as extreme weather events may become more common.	
Defined steps to achieving this mitigation strategy	
<p>1. Provide public education and awareness in the form of social media posts so the public is aware of warming/cooling centers (such as the Senior Center and library) as well as where they can acquire any needed resources, water, or shelter.</p> <p>a. <i>Responsible Party</i> – Village of DeForest Community Ambassador</p> <p>b. <i>Funding source</i> – Village operational funding</p> <p>c. <i>Completion date</i> – as needed when extreme cold or extreme heat events occur</p>	
<p>2. Collaborate with the DeForest Area School District on using gyms and classroom spaces and other school areas for heating and cooling centers to provide more locations for heating and cooling centers across the community and collaborate with a local bus or transportation company to provide transportation to and from area schools for vulnerable populations such as seniors.</p> <p>a. <i>Responsible Party</i> – Village of DeForest Public Services Department</p> <p>b. <i>Funding source</i> – Village operational funding</p> <p>c. <i>Completion date</i> – 2022 and thereafter</p>	
<p>3. Provide public education and awareness in the form of social media posts during times of extreme cold so that the public is aware on how to avoid frozen water faucets.</p> <p>a. <i>Responsible Party</i> – Village of DeForest Public Services Department, Community Ambassador</p> <p>b. <i>Funding source</i> – Village operational funding</p> <p>c. <i>Completion date</i> – as needed when extreme cold events occur</p>	

Strategy #7	Mitigate impacts from a possible tornado
Mitigation strategy goal	
Prevention	Natural Resource Protection
Property Protection	Critical Facilities Protection
Public Education & Awareness	Structural Project
Implementing the strategies listed below will ensure appropriate, timely, and necessary response to those affected by a tornado in the Village.	
Defined steps to achieving this mitigation strategy	
<ol style="list-style-type: none"> 1. Review and make any necessary updates to the Emergency Operations Plan to incorporate best practices and lessons learned since the Plan was created in 2016. <ol style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Department of Public Services, Village of DeForest Emergency Preparedness Committee b. <i>Funding source</i> – to be determined; grant funding may be sought c. <i>Completion date</i> – 2022, and every two years thereafter 	
<ol style="list-style-type: none"> 2. Purchase a mini-excavator, which would be important and useful after a major natural hazard (like a tornado) for helping to remove debris and perform clean up. <ol style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Department of Public Services b. <i>Funding source</i> – to be determined; grant funding may be sought c. <i>Completion date</i> – when funds become available 	
<ol style="list-style-type: none"> 3. As the Village expands geographically, make sure existing tornado sirens can be heard from new areas in the Village. If necessary, add new tornado sirens in new subdivisions and commercial/industrial developments. <ol style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Department of Public Services, Planning & Zoning Department, Police Department b. <i>Funding source</i> – to be determined; grant funding may be sought c. <i>Completion date</i> – as Village expands geographically 	

Strategy #7	Mitigate impacts from a possible tornado
	<p>4. Perform a weather radio drive, the last one being done in 2011.</p> <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Police Department b. <i>Funding source</i> – to be determined c. <i>Completion date</i> – 2023
	<p>5. Perform an analysis of infrastructure, municipal buildings, and utility buildings (such as public wells) to ensure each critical building has access to a backup generator in times of power outages due to a tornado.</p> <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Department of Public Services b. <i>Funding source</i> – to be determined c. <i>Completion date</i> – 2022
	<p>6. Integrate redundancies in municipal utilities, such as water system looping, which makes the water system less vulnerable to water main breaks, aids in firefighting, and improves water quality.</p> <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Department of Public Services, Planning & Zoning Department b. <i>Funding source</i> – to be determined; grant funding may be sought c. <i>Completion date</i> – as opportunities present themselves
	<p>7. As new parts of the Village develop, implement best practices so that new areas have multiple points of entry and exit. This provides multiple ways for people and emergency services to access developments during times downed power lines, downed trees, buckled roadways, and other damage to roads.</p> <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Department of Public Services, Planning & Zoning Department, Fire Department b. <i>Funding source</i> – Village operational funds c. <i>Completion date</i> – as opportunities present themselves

Strategy #7	Mitigate impacts from a possible tornado
	<p>8. Provide public education and awareness in the form of social media posts during the spring and summer to ensure the public is aware of best practices to avoid loss of property and lives during a tornado.</p> <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Community Ambassador b. <i>Funding source</i> – Village operational funds c. <i>Completion date</i> – every year during the spring and summer months
	<p>9. Utilize social media, local television and news networks, and local radio stations to communicate with Village residents after a tornado and inform them of available resources and where they can access those resources.</p> <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Department of Public Services, Village of DeForest Police Department, Village of DeForest Administration Department b. <i>Funding source</i> – N/A c. <i>Completion date</i> – as needed
	<p>10. Continue to require Village staff to live close to the Village of DeForest so they can be called upon to quickly help during time of need or during an emergency.</p> <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest b. <i>Funding source</i> – N/A c. <i>Completion date</i> – ongoing

Strategy #8	Mitigate impacts from a major blizzard
Mitigation strategy goal	
Prevention	Natural Resource Protection
Property Protection	Critical Facilities Protection
Public Education & Awareness	Structural Project
Implementing the strategies listed below will ensure appropriate, timely, and necessary response to those affected by a major blizzard in the Village.	
Defined steps to achieving this mitigation strategy	
1. Purchase a mini-excavator, which would be important and useful after a major natural hazard (like a major blizzard) for helping to remove snow, debris, and perform clean up. <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Department of Public Services b. <i>Funding source</i> – to be determined; grant funding will be considered c. <i>Completion date</i> – when funds become available 	
2. Review street standards and ordinances to incorporate wider terraces, which provides greater capacity for snow storage. <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Planning & Zoning Department b. <i>Funding source</i> – Village operational funds c. <i>Completion date</i> – 2022 	
3. Perform an analysis of infrastructure, municipal buildings, and utility buildings (such as public wells) to ensure each critical building has access to a backup generator in times of power outages due to a major blizzard. <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Department of Public Services b. <i>Funding source</i> – to be determined c. <i>Completion date</i> – 2022 	

Strategy #8	Mitigate impacts from a major blizzard
	<p>4. As the Village expands geographically, incorporate new roads into the existing plan for clearing major roadways for emergency vehicles to respond if needed, prioritizing roads which provide access to vulnerable populations.</p> <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Department of Public Services, Planning & Zoning Department b. <i>Funding source</i> – N/A c. <i>Completion date</i> – as opportunities present themselves
	<p>5. Integrate redundancies in municipal utilities, such as water system looping, which makes the water system less vulnerable to water main breaks, aids in firefighting, and improves water quality.</p> <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Department of Public Services, Village Engineer b. <i>Funding source</i> – to be determined c. <i>Completion date</i> – as opportunities present themselves
	<p>6. As new parts of the Village develop, implement best practices so that new areas have multiple points of entry and exit. This helps provide multiple ways for people and emergency services to access neighborhoods during times heavy snowfall.</p> <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Department of Public Services, Planning & Zoning Department b. <i>Funding source</i> – Village operational funds c. <i>Completion date</i> – as opportunities present themselves
	<p>7. Provide public education and awareness in the form of social media posts during the fall, winter, and spring to ensure the public is aware of best practices to avoid loss of property and lives during a major blizzard.</p> <ul style="list-style-type: none"> a. <i>Responsible Party</i> – Village of DeForest Community Ambassador b. <i>Funding source</i> – Village operational funds c. <i>Completion date</i> – ongoing, every year

Strategy #8	Mitigate impacts from a major blizzard
	<p>8. Continue to require Village staff to live close to the Village of DeForest so they can be called upon to quickly help during time of need or during an emergency.</p> <ul style="list-style-type: none">a. <i>Responsible Party</i> – Village of DeForestb. <i>Funding source</i> – N/Ac. <i>Completion date</i> – ongoing