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## Village of Cottage Grove Annex

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### Community Profile

The Village of Cottage Grove is located in the southeast quadrant of the County, north of the Town of Pleasant Springs, east of the City of Madison, and south of the Town of Sun Prairie. Land use is dominated almost entirely by residential uses. According to the United States Census Bureau, the Village of Cottage Grove has a total area of 2.29 square miles, all of it land.

As of the 2010 Census, there are 6,192 people, 2,210 households, and 1,628 families residing in the Village of Cottage Grove. The population density is 1,777.1 per square mile. There are 2,289 housing units at an average density of 656.9 per square mile. Table 1 shows the population profile by age for the Village of Cottage Grove according to the 2010 Census.

**Table 1 Population Profile of Village of Cottage Grove**

Category	Number	Percent
Total population	6,192	100.0
Under 5 years	526	8.5
5 to 9 years	638	10.3
10 to 14 years	572	9.2
15 to 19 years	401	6.5
20 to 24 years	227	3.7
25 to 29 years	356	5.7
30 to 34 years	491	7.9
35 to 39 years	590	9.5
40 to 44 years	577	9.3
45 to 49 years	477	7.7
50 to 54 years	391	6.3
55 to 59 years	276	4.5
60 to 64 years	196	3.2
65 to 69 years	140	2.3
70 to 74 years	96	1.6
75 to 79 years	70	1.1
80 to 84 years	70	1.1
85 years and over	98	1.6

Data Source: 2010 U.S. Census

American Community Survey estimates for 2014 indicate that the median income for a household in the Village of Cottage Grove is \$82,018 and the median income for a family is \$93,469. The per capita income for the Village of Cottage Grove is \$31,648. 94.6% of the population has at least a high school degree, while 45.1% of the population holds at least a bachelor's level degree.

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## **Hazard Identification and Risk Assessment**

A hazard identification and vulnerability analysis was completed for the Village of Cottage Grove using the same methodology in the 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 2 outlines the hazard identification for the Village of Cottage Grove based on the Data Collection Guide issued in 2015. The purpose of this worksheet was to identify and rank the hazards and vulnerabilities specific to the jurisdiction. The Village of Cottage Grove’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 3 indicated “highest concern.” This matrix appears as Table 2. This matrix reflects the significance of the hazards relative to one another.

This matrix reflects that the Village of Cottage Grove is most vulnerable to tornado, windstorm, and winter storms; flooding and lightning are also of higher levels of concern. The vulnerability established here is a qualitative assumption based on the impacts, geographic extent, probability of future occurrence, and magnitude/severity.

**Table 2 Vulnerability Assessment Matrix for the Village of Cottage Grove**

Hazard	Hazard Attributes			Impact Attributes						Total	
	Area of Impact	Past History, Probability of Future Occurrence	Short Term Time Factors	Primary Impact (Short Term - Life and Property)			Secondary Impact (Long Term – Community Impacts)				
(1-5)				(1-5)	(1-5)	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)	(0-5)	Total
Dam Failure	1	1	1	0	0	0	0	0	0	0	3
Extreme Cold	3	3	1	1	1	1	0	0	0	0	10
Extreme Heat	3	3	1	1	1	1	0	0	0	0	10
Drought	3	2	1	0	0	2	3	3	1	1	15
Expansive soils	1	1	1	0	0	0	0	0	0	0	3
Flood	3	3	3	2	0	1	1	3	3	3	19
Fog	3	3	3	0	0	0	0	0	0	0	9
Hail Storm	3	3	3	1	0	0	0	1	0	0	11
Landslide	1	1	1	0	0	0	0	0	0	0	3
Lightning	3	3	3	1	3	0	0	3	3	3	19
Tornado	3	3	3	3	3	3	3	3	3	3	27
Wildfire	1	1	3	1	0	0	0	1	1	1	8
Windstorm	3	3	3	3	3	3	3	3	3	3	27
Winter Storm	3	3	3	3	1	1	2	2	2	2	20

Source: Village of Cottage Grove

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## Previous Hazard Events

Through the Data Collection Guide, the Village of Cottage Grove did not note any specific hazard events that were not listed in the County plan. This is not to say that none occurred, but rather that those listed in the County plan sufficiently cover the range of hazards the Village is vulnerable to.

## Asset Inventory

Assets include the people, property, and critical facilities within the Village of Cottage Grove 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.

## Population

**Table 3 Vulnerable Population Summary**

Disability Status from the 2014 American Community Survey	Number	Percent of Group with Disability
Population Under 5 years old with a Disability	0	0%
Population 5-17 years old with a Disability	55	3.5
Population 18-64 with a Disability	269	6.7
Population Over 65 years old with a Disability	213	43.7
Total Population with Disability	537	8.2

Other Vulnerable Populations	Estimate	Percentage
Families Below Poverty Level	142	9.1
Individuals Below Poverty Level	724	11.3
Of those poverty: Individuals Under 18	374	19.8
Of those poverty: Individuals Over 65	0	0
Total Population Over 5 who Speak English less than "very well"	285	4.7
2014 ACS Total Population Estimate	6,533	100%

Data Source: 2014 American Community Survey

## General Property

**Table 4 Property Exposure Summary**

Property Type	Total Parcel Count	Improved Parcel Count	Improved Values (\$)	Content (\$)	Total Value (\$)
<b>Totals</b>	<b>2,190</b>	<b>1,879</b>	<b>393,659,700</b>	<b>196,829,850</b>	<b>590,489,550</b>
Agriculture	46	9	3,946,500	1,973,250	5,919,750
Commercial	53	42	36,385,300	18,192,650	54,577,950
Utilities	11	0	0	0	0
Industrial	10	9	7,376,800	3,688,400	11,065,200
Institutional/ Governmental	20	3	1,321,900	660,950	1,982,850
Other	276	79	22,712,300	11,356,150	34,068,450
Residential	1,774	1,737	321,916,900	160,958,450	482,875,350

Data Source: Dane County Land Information Office, 2015

## Critical Facilities

The Village of Cottage Grove has identified the following critical facilities important to protect from disaster impacts. These are collected in Table 4. Table 4 is based on the 2015 Village of Cottage Grove data collection guide. Note, the Village did not assign replacement values in this version of the plan, but based on previous plans, the total fiscal vulnerability in the Village, in terms of critical facilities is roughly \$30,000,000.

**Table 5 Critical Facility Summary/Essential Infrastructure**

Facility	Type*
Airport	EI
Municipal Hall	EI
Water Utility - 3 Active Well Houses (1 inactive)	EI
Water Utility – 2 Elevated Storage Reservoirs	EI
Sewer Utility – 4 Active Lift Stations	EI
Municipal Services Building (Police, Public Works, Parks & Rec)	EI
Hazardous Substances (4)	HM
Hazardous Chemicals (2)	HM
Child Care (7)	VF
Community Based Residential (2)	VF
Historic Site (2)	VF
Public Schools (3)	VF

Facility	Type*
Residential Care Apartment	VF
*EI: Essential Infrastructure; VF: Vulnerable Facilities; HM: Hazardous Materials Facilities	

Data Source: Village of Cottage Grove Data Collection Guide

## 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 the Village of Cottage Grove. Table 6 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 6 Hazard Vulnerability Specifics**

Hazard	Populations	Structures	Critical Facilities	Future Damage Potential
<b>Dam Failure</b>	None	None	None	Specifics unknown; See hazard profile in County Plan
<b>Drought</b>	Minimal	None	Minimal	Specifics unknown; See hazard profile in County Plan
<b>Flooding</b>	See section below	See section below	See section below	See section below
<b>Fog</b>	Minimal	None	None	Specifics unknown; See hazard profile in County Plan
<b>Hailstorm</b>	Minimal	See Property Exposure table 3	See Critical Facility Inventory Table(s)	Specifics unknown; See hazard profile in County Plan
<b>Landslide/ Sinkholes/ Erosion</b>	Minimal	Minimal	Minimal	Specifics unknown; See hazard profile in County Plan
<b>Lightning</b>	See Table 2 Population	See Table 3 Property Exposure	See Critical Facility Inventory Table(s)	Specifics unknown; See hazard profile in County Plan
<b>Severe Cold</b>	See Table 2 Population	See Table 3 Property Exposure	See Critical Facility Inventory Table(s)	Specifics unknown; See hazard profile in County Plan
<b>Severe Heat</b>	See Table 2 Population	None	Minimal	Specifics unknown; See hazard profile in County Plan
<b>Severe Winter Storm</b>	See Table 2 Population	See Table 3 Property Exposure	See Critical Facility Inventory Table(s)	Specifics unknown; See hazard profile in County Plan
<b>Tornado</b>	See Table 2 Population	See section below	See Critical Facility Inventory Table(s)	See section below

Hazard	Populations	Structures	Critical Facilities	Future Damage Potential
Wildfire	Minimal	Minimal	Minimal	Specifics unknown; See hazard profile in County Plan
Windstorm	See Table 2 Population	See Table 3 Property Exposure	See Critical Facility Inventory Table(s)	Specifics unknown; See hazard profile in County Plan

## Flood

### 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 7 and 8 outline the primary structures and properties with primary structures on them within the Village of Cottage Grove. Potential number of individuals at risk figures are based on primary residential structures and the average household size within Dane County.

**Table 7. Primary Structures in the Floodplain**

Total Floodway Structures	Floodway Residential Structures	Total Structures in 100 year Floodplain	Residential Structures in 100 year Floodplain	Potential Number of Individuals at Risk in 100 year Flood	Total Structures in 500 year Floodplain	Residential Structures in 500 year Floodplain	Potential Number of Individuals at Risk in 500 year Flood
0	0	0	0	0	0	0	0

Source: Analysis based on Dane County Land Information Office Data

**Table 8. Properties with Primary Structures in the Floodplain**

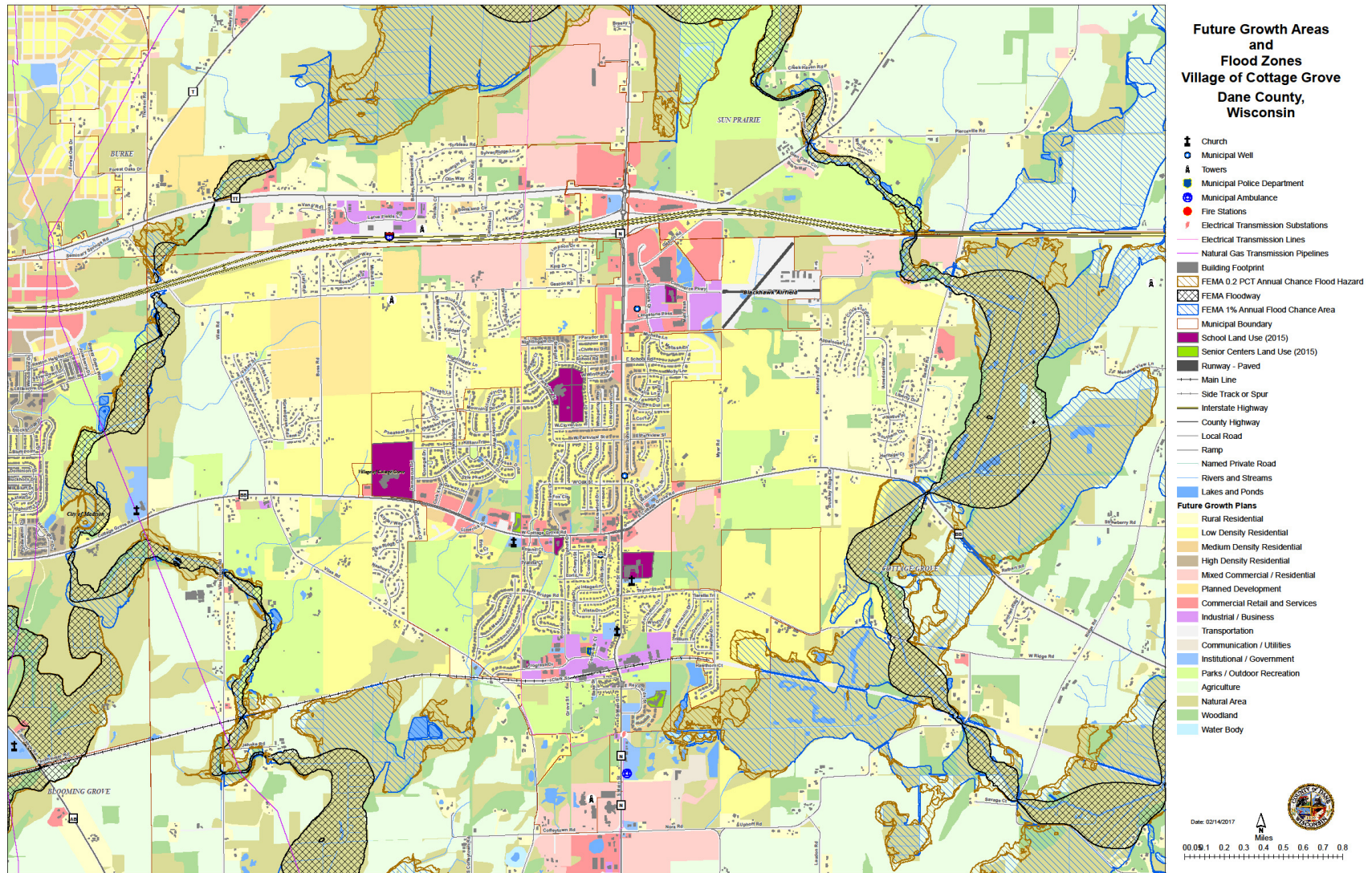
Total Floodway Properties	Floodway Improved Values	Floodway Residential Properties	Total Properties in 100 year Floodplain	Total Improved Value of Properties in 100 year Floodplain	Residential Properties in 100 year Floodplain	Total Properties in 500 year Floodplain	Total Improved Value of Properties in 500 year Floodplain	Residential Properties in 500 year Floodplain
0	\$0	0	0	\$0	0	0	\$0	0

Source: Analysis based on Dane County Land Information Office Data

### Repetitive Loss Properties and Flood Insurance Policies

There is one repetitive loss property within the Village of Cottage Grove. According to FEMA Policy and Claim Statistics for Flood Insurance, the community has 3 flood insurance policies, with a total coverage amount of \$728,000. There have been no claims recorded by FEMA.

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 2015 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 9 Tornado Loss Estimate**

% Area of 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
21.82%	2183	476	\$698,923,050	\$152,483,106	\$76,241,553.00	\$38,120,776.50	10.9%

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

## Growth and Development Trends

Planned land use is shown in Figure 1, in relation to the flood hazard. Table 10 illustrates how the Village of Cottage Grove has grown in terms of population and number of housing units between 2010 and 2014-15. Housing data is to 2014 due to data availability. Table 11, drawn from the Demographics Services Center at the Wisconsin Department of Administration, shows population projections through 2035.

**Table 10 Village of Cottage Grove Change in Population and Housing Units, 2010-2014/15**

2010 Population	2015 Population	Percent Change (%) 2010-2015	2010 # of Housing Units	2014 # of Housing Units	Percent Change (%) 2010- 2014
6,192	6,512	5.1	2,289	2,332	1.8

**Table 11 Village of Cottage Grove Population Projections, 2005-2035**

Population Change	5 year Growth %	2015	2020	2025	2030	2035
Increase by same percentage each year	1.01%	6,512	6,842	7,188	7,552	7,935

Data Source: Wisconsin Department of Administration, 2015

## **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 Cottage Grove.

### **Mitigation Capabilities Summary**

Table 12 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 Cottage Grove.

**Table 12 Village of Cottage Grove Regulatory Mitigation Capabilities**

Regulatory Tool (ordinances, codes, plans)	Yes/No
General or Comprehensive plan	Yes
Zoning ordinance	Yes
Subdivision ordinance	Yes
Growth management ordinance	Yes
Floodplain ordinance	Yes
Other special purpose ordinance (stormwater, steep slope, wildfire)	Yes
Building code	Yes
Fire department ISO rating	Yes
Erosion or sediment control program	Yes
Stormwater management program	Yes
Site plan review requirements	Yes
Capital improvements plan	Yes
Economic development plan	Yes
Local emergency operations plan	Yes
Flood insurance study or other engineering study for streams	Yes
Elevation certificates (for floodplain development)	Yes

Data Source: Village of Cottage Grove Data Collection Guide

Table 13 identifies the personnel responsible for mitigation and loss prevention activities as well as related data and systems in the Village of Cottage Grove.

**Table 13 Responsible Personnel and Departments for the Village of Cottage Grove**

Personnel Resources	Yes/No	Department/Position
Planner/engineer with knowledge of land development/land management practices	No	Contracted
Engineer/professional trained in construction practices related to buildings and/or infrastructure	No	Contracted
Planner/engineer/scientist with an understanding of natural hazards	No	Contracted
Personnel skilled in GIS	No	Contracted
Full-time Building Official	No	
Floodplain Manager	No	
Emergency Manager	No	
Grant Writer	No	
Other Personnel	No	
GIS Data Resources – (land use, building footprints, etc.)	No	
Warning systems/services (Reverse 9-11, cable override, outdoor warning signals)	No	

Data Source: Village of Cottage Grove Data Collection Guide

Table 14 identifies financial tools or resources that the Village of Cottage Grove could potentially use to help fund mitigation activities.

**Table 14 Financial Resources for the Village of Cottage Grove**

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
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	Yes
Incur debt through general obligation bonds	Yes

Financial Resources	Accessible/Eligible to Use (Yes/No)
Incur debt through special tax bonds	Yes
Incur debt through private activities	Yes

Data Source: Village of Cottage Grove Data Collection Guide

### Additional Capabilities

The Data Collection Guide identified the following additional capabilities for the Village of Cottage Grove:

- The Village now has a staff member with 20% of time allocated to Forester duties. This individual assesses and mitigates potential damage from Village owned trees along streets and on Village properties.
- The Cottage Grove Fire Department holds an annual open house.
- While development has been increasing in the Village since the last plan, it is being located in areas ideal for hazard mitigation.

### National Flood Insurance Program Participation

Table 16 provides an overview of the NFIP participation status for the Village of Cottage Grove.

**Table 16 NFIP Information Status for the Village of Cottage Grove**

Floodplain Ordinance	Comments	FEMA Flood Map	NFIP Participation	Init FHBM Identified	Init FIRM Identified	Curr Eff Map Date	Reg-Emer Date
Yes		55025C0454H,	Yes		6/17/2003	9/17/14	6/17/2003

Data Source: Dane County GIS, FEMA Community Status Book Report

### Public Involvement Activities

The Village of Cottage Grove community participated in the County public outreach process. This was a series of public workshops held around the County in which an overview of natural hazard mitigation was given and the County plan was discussed. Residents were then given the opportunity to give their input on mitigation actions that could be taken, and filled out informational surveys that assessed the level of risk the perceived within their own community. More information on these meetings can be found in the County base plan.

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## **Mitigation Actions**

### **Completed Mitigation Actions**

The Village of Cottage Grove has completed several projects to increase its resilience to natural hazards, they include:

- Identifying potential flooding issues along the Cottage Grove Creek.
- Preparing for power outages by purchasing a source of power/generator.
- Identifying and catalogue all publicly owned trees within the boulevards, park lands, and other public properties for defect or disease.
- Creating long-range plans to provide adequate shelter for the public in the largest park in Cottage Grove known as Fireman's Park.
- The Village website was significantly upgraded in 2016. This is now utilized to more effectively and quickly communicate with citizens.

### **Proposed Mitigation Actions**

**Objective 1:** Other media that may be utilized in order to more effectively and quickly communicate with citizens should be explored. With the Village website upgrade complete in 2016, Village departments are beginning to utilize other methods of communication to more effectively reach the citizens of Cottage Grove on all manners of topics. Social media will be increasingly utilized by all departments in the Village to facilitate information gathering and sharing.

#### Steps:

1. Research other public works and emergency management websites and social media pages and explore how they give mitigation information to the public.
2. Implement website upgrades and create social media presence.
3. Assign staff to maintain digital media presence.

Lead Implementing Agency: Village Public Works and Administrative Staff

Timeline: On going

Priority: Medium

Estimated Costs: Low

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**Objective 2:** The Seldal Plat is one of the oldest neighborhoods in the Village of Cottage Grove. There are a number of infrastructure issues that make the residents vulnerable to natural hazards. The sanitary sewer mains are old, flat & sagged in areas, and brittle with a history of failure. They require inordinate amounts of Public Works staff time to keep clean & functional. There are grading issues, and stretches with no curb/gutter, leaving the area vulnerable to stormwater. The asphalt pavement is in terrible condition, further contributing to the inability to move stormwater effectively. The storm/sanitary and street systems in this neighborhood must all be upgraded.

Steps:

1. Evaluate issues, and create engineering plan.
2. Seek and pursue funding opportunities.
3. Implement project once funding is secured.

Lead Implementing Agency: Village of Cottage Grove Public Works, Village Board, Village Engineer

Timeline: Engineering & design 2016, construction 2017. Construction project bid awarded March of 2017; construction will be completed by September 2017.

Priority: High

Estimated Costs: \$ 2,000,000 (total water/sewer/roads/curb/potential sidewalks)

Possible Funding Opportunities: Village Utility funds, general funds, Community Development Block Grant (CDBG)

**Objective 3:** Continue to implement sound floodplain management practices through continued compliance with the National Flood Insurance Program, to include floodplain ordinance enforcement and periodic review, promoting the benefits of flood insurance, and continued staff training and development in floodplain management.

Steps:

1. Evaluate through the existing staff, County planning staff, and additional DNR staff if necessary, the regulatory deficiencies and enforcement shortcomings in flood-related ordinances and programs (see related County objective).
2. Periodically update ordinances as necessary.
3. Ensure that stop work orders and other means of compliance are being used as authorized by each ordinance.
4. Suggest changes to improve enforcement of and compliance with regulations and programs.
5. Encourage floodplain management staff to become Certified Floodplain Managers (CFM) or maintain their CFM status.

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6. Participate in Flood Insurance Rate Map updates by adopting new maps or amendments to maps.
  7. Utilize recently completed Digital Flood Insurance Rate maps in conjunction with GIS to improve floodplain management, such as improved risk assessment and tracking of floodplain permits.
  8. Promote and disperse information on the benefits of flood insurance, with assistance from partners such as the County, WDNR, or ASFPM.
  9. Evaluate the potential costs and benefits of becoming a participant in the Community Rating System.

Lead Implementing Agency: Local zoning administrator

Supporting Agencies:

- Dane County Planning and Development
- Lakes and Watershed Commission
- Land Conservation Department
- Association of State Floodplain Managers
- Wisconsin Department of Natural Resources

Possible Funding and Technical Assistance:

Staff Time

Timeline: On going

Priority: High

Estimated Costs: Low; can be accomplished with existing staff and within existing department budget.

Note: This is a continuing goal from the 2010 plan.