City of La Crosse, Wisconsin

City Hall
400 La Crosse Street
La Crosse, WI 54601

Meeting Agenda - Final

Floodplain Advisory Committee

Thursday, May 2, 2024 | **4:30 PM** | **Grandad Room**

Call to Order

Roll Call

Approval of Minutes

Minutes of March 6, 2024

Agenda Items:

24-0607 Floodplain Relief Grant for 213 Rose Street

Attachments: Staff memo for Northside Properties LLC.pdf
Miller Earthworks -- Fill.pdf
Duplex Floor Plan 2023-06-28
213 Rose St Floodplain Grant Application
Affordable Concrete Construction proposal.docx

24-0608 Review of Floodplain Mitigation Plan

Attachments: Flood Hazard Mitigation Plan

Mitigation strategies/action. Discussion on next steps and provide direction for staff.

Adjournment

Notice is further given that members of other governmental bodies may be present at the above scheduled meeting to gather information about a subject over which they have decision-making responsibility.

NOTICE TO PERSONS WITH A DISABILITY
Requests from persons with a disability who need assistance to participate in this meeting should call the City Clerk's office at (608) 789-7510 or send an email to ADAcityclerk@cityoflacrosse.org, with as much advance notice as possible.

Committee Members: Bill Bosshard, Tamra Dickinson, Karla Doolittle, Erin Goggin, Sharon Hampson, Barb Janssen, Mac Kiel

City of La Crosse, Wisconsin

City Hall
400 La Crosse Street
La Crosse, WI 54601

Text File

File Number: 24-0607

Agenda Date: 5/2/2024 **Version:** 1 **Status:** Agenda Ready

In Control: Floodplain Advisory Committee **File Type:** General Item

Agenda Number:

City of La Crosse
Department of Planning, Development, and Assessment
400 La Crosse St, La Crosse, WI 54601 | P: (608) 789-7512

Memorandum

To: Floodplain Advisory Committee
From: Andrea Trane, Director of Planning, Development and Assessment
Date: **May 1, 2024**
Re: Floodplain Grant Application of Northside Properties LLC/Kevin Stanton

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Floodplain Advisory Committee Members:

The property owner, Northside Properties LLC, is planning to make this property at 213 Rose St. floodplain compliant, split the property back into two parcels as it was prior to 2022 and develop two duplexes on each parcel.

Property is currently zoned R-5. It is part of Council District 3 and the Lower Northside and Depot Neighborhood Association.

Planning Staff recommends approval of this project of 90% of total eligible costs, with a maximum of $40,000.

Payment is contingent on proper permitting and any additional recommendations from Community Risk Management.

400 LA CROSSE STREET | LA CROSSE, WI 54601 | P: (608) 789-7512 | F: (608) 789-7318

Aerial (building shown is no longer there):

Street View:

Miller Earthworks

W3610 Silha Rd.

La Crosse, WI 54601

Phone: 608-386-6430

E-Mail: Matt@millerearthworkswi.com

January 16, 2024

Proposal: **$24,015.95**

Job: 213 Rose St.

Includes:

Removal of asphalt.

Hauling in and compaction of fill to elevation 645.40

Does not Include:

Permits if needed.

Seeding/mulch.

X _____.

Matthew Miller

Accepted by:_____ DATE:_____.

Price good for 30 days.

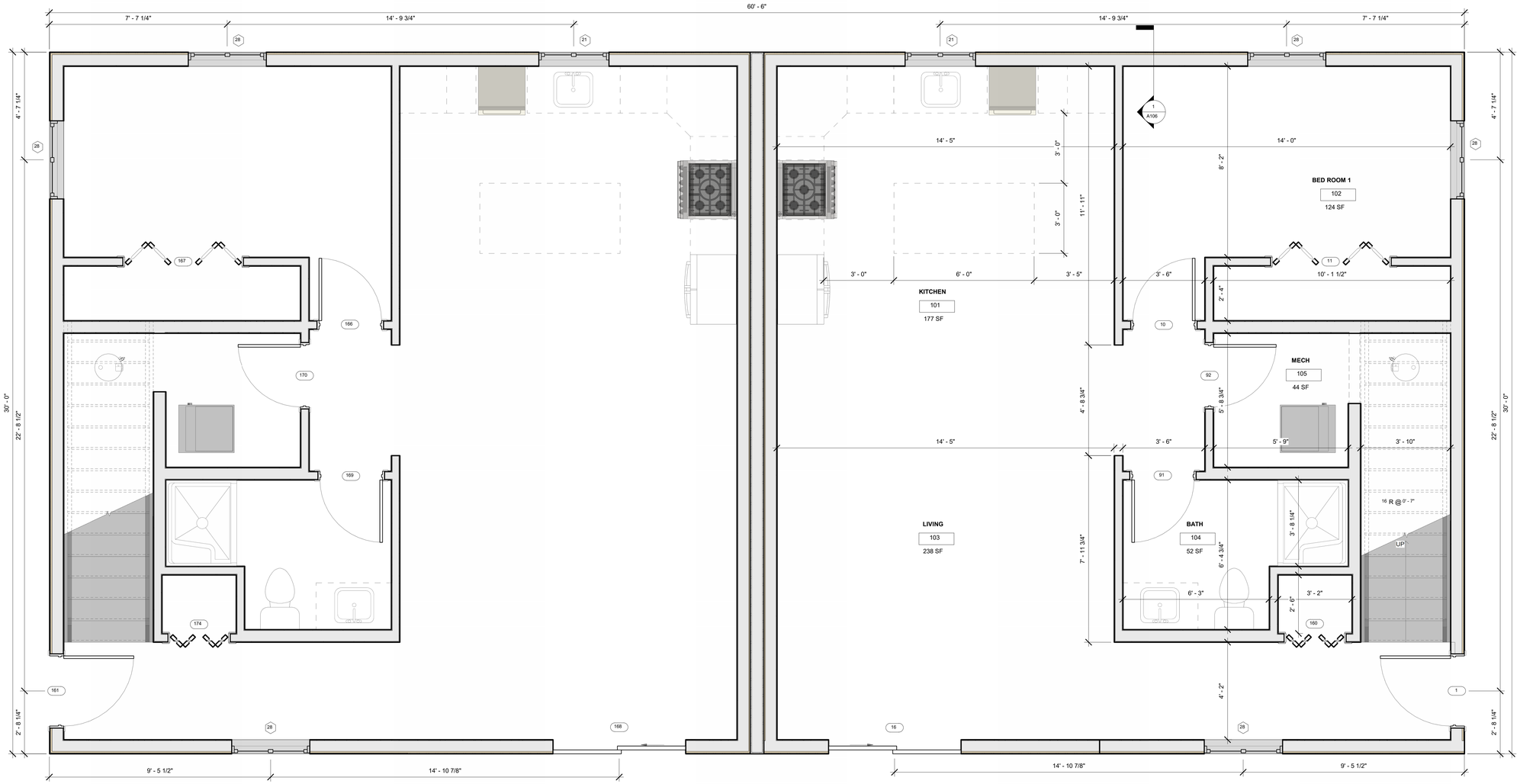
Payment to be made within 15 days of completion or by mutual agreement. Interest on outstanding balances more than 30 days past due at a rate of 1.5% per month.

DUPLEX

213 ROSE ST, LA CROSSE, WI, 54603

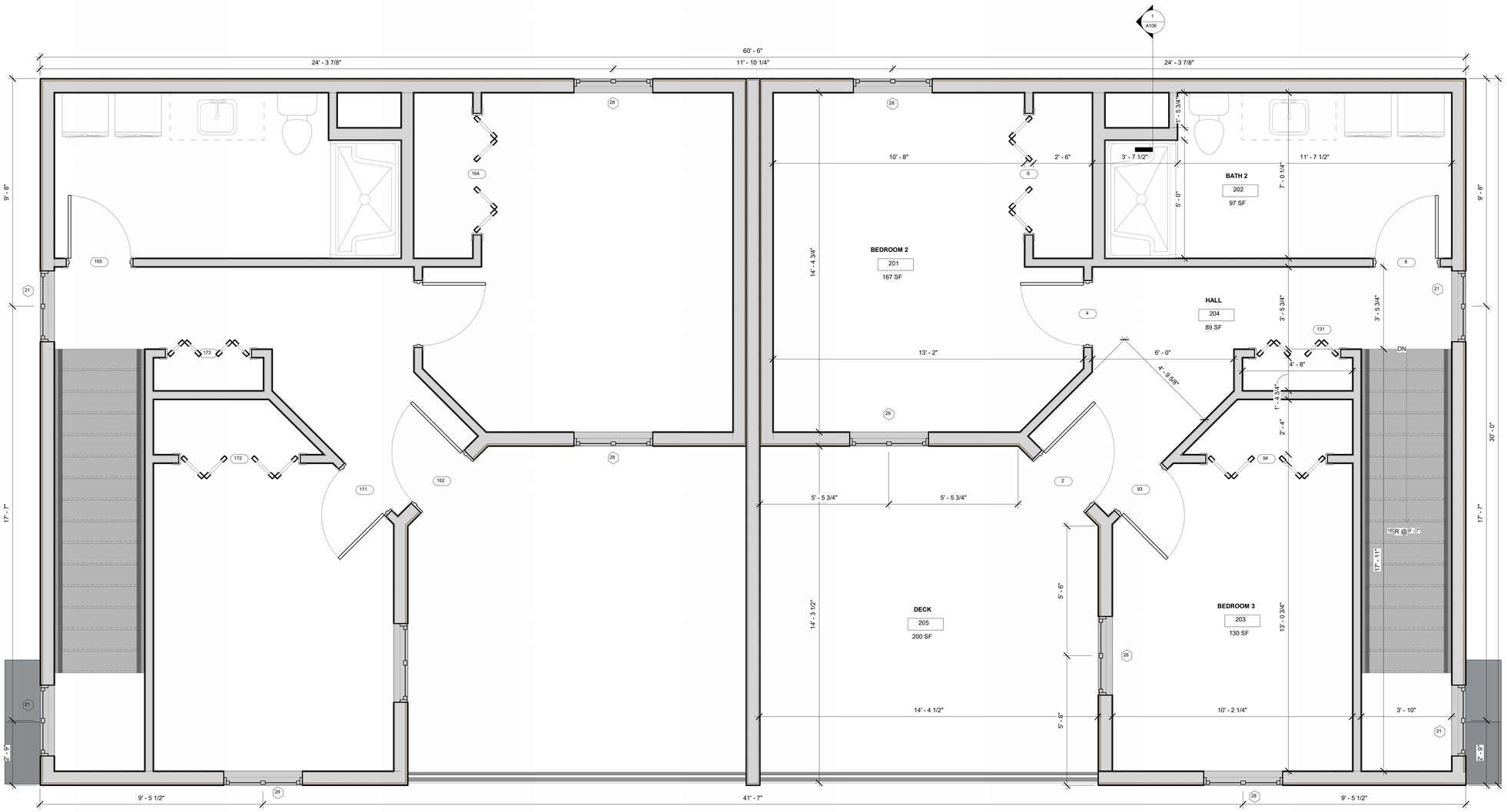
SHEET INDEX

A101 - FIRST FLOOR PLAN
A102 - SECOND FLOOR PLAN
A103 - FOUNDATION PLAN
A104 - ROOF PLAN AND 3D ISOMETRIC
A105 - ELEVATIONS
A106 - SCHEDULES AND DETAILS



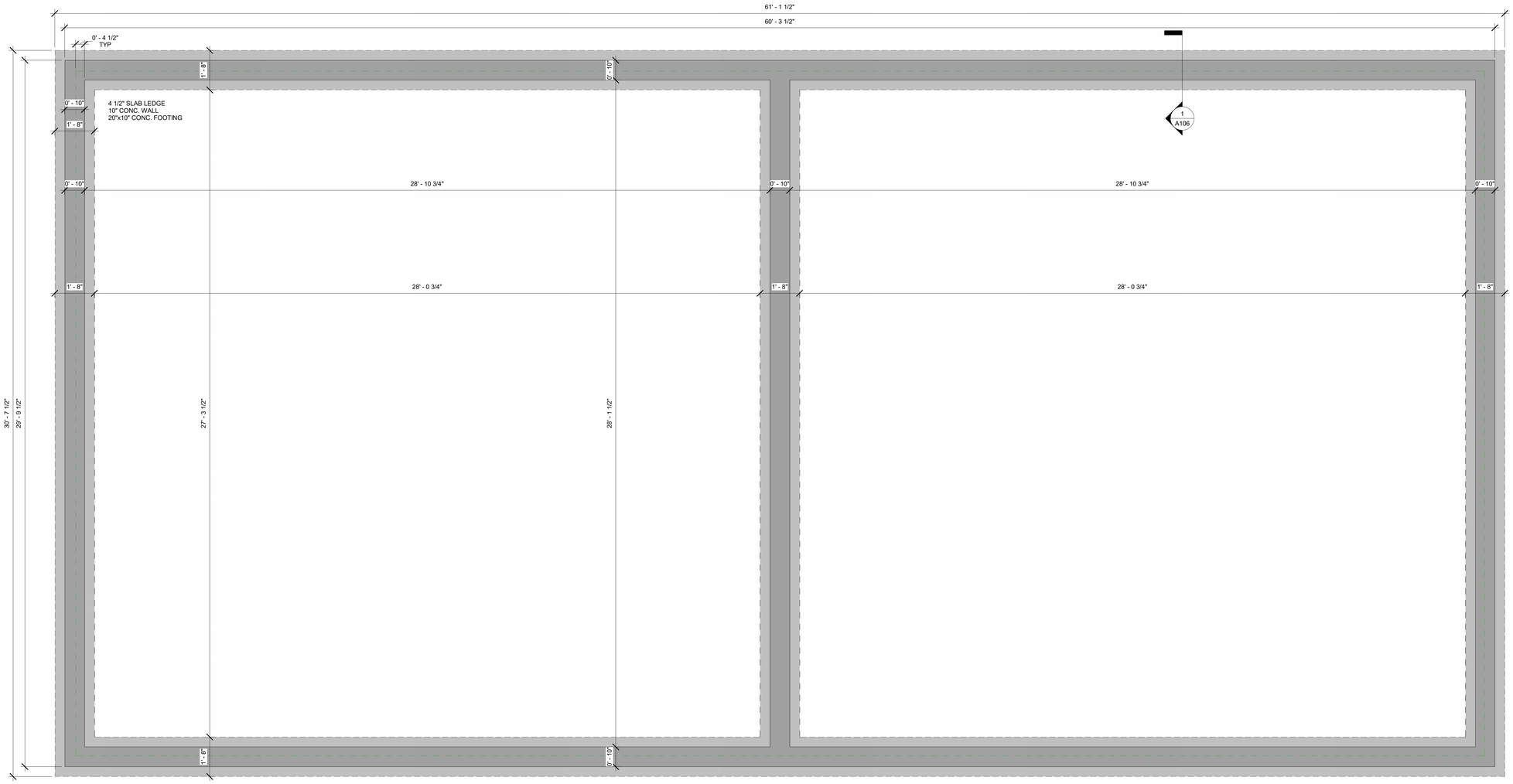
1 LEVEL 1
1/2" = 1'-0"

A101



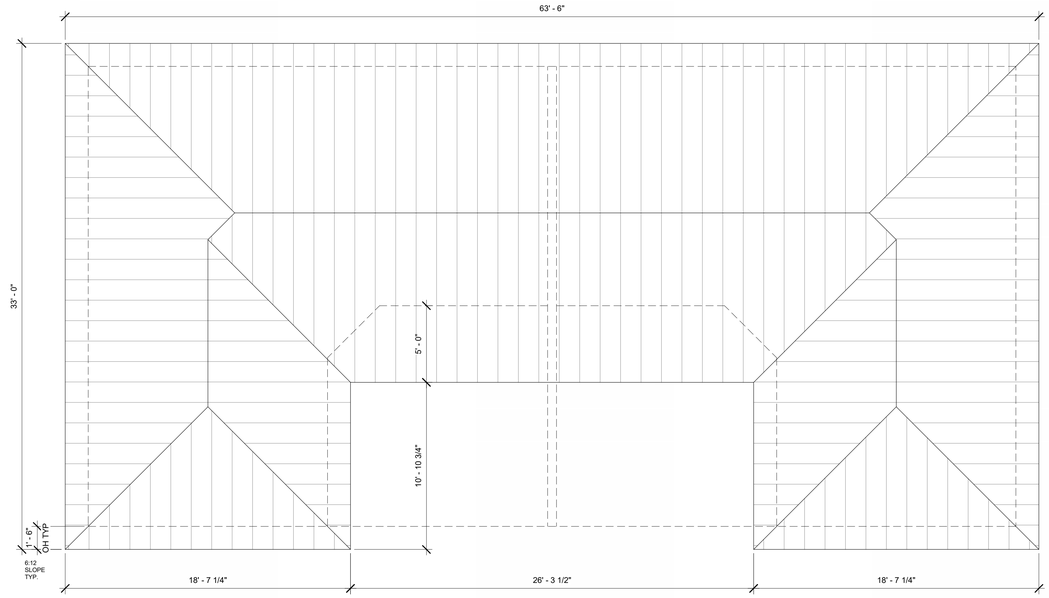
1 LEVEL 2
1/2" = 1'-0"

A102

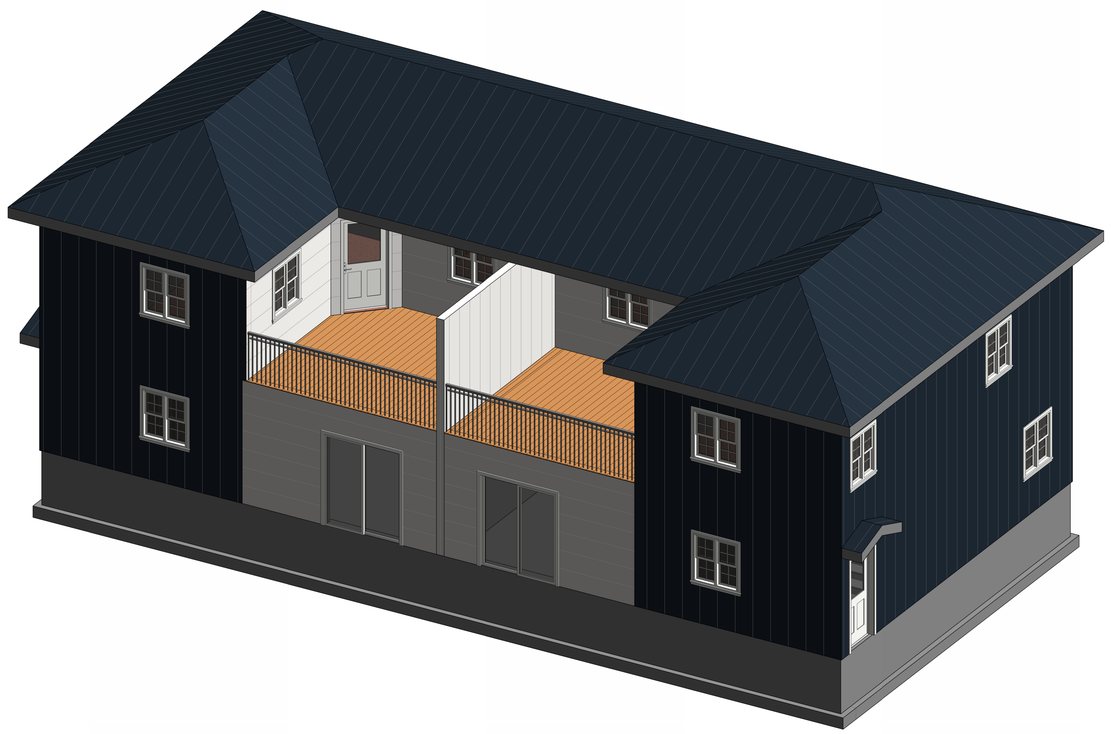


1 FOUNDATION PLAN
1/2" = 1'-0"

A103



2 ROOF
1/4" = 1'-0"



1 OVERALL UNIT 1

A104

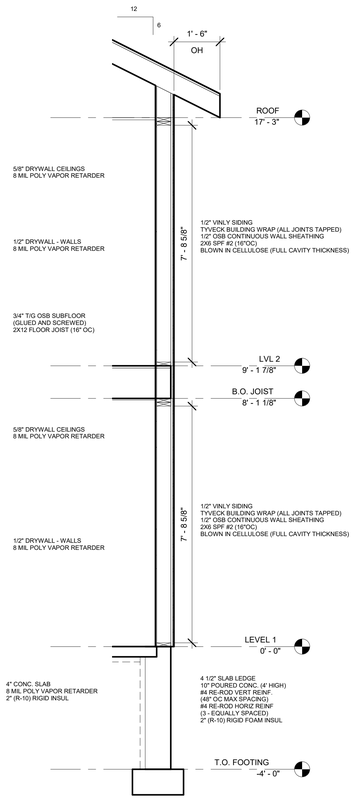
1 North
1/4" = 1'-0"

2 West
1/4" = 1'-0"

3 South
1/4" = 1'-0"

4 East
1/4" = 1'-0"

A105



1 TYPICAL WALL SECTION
1/2" = 1'-0"

Door Schedule			
Family	Height	Width	Mark
Door-Interior-Karona-K1020-Bifoldxxx	6' - 8"	2' - 6"	160
Door-Interior-Karona-K1020-Bifoldxxx	6' - 8"	2' - 6"	174
Door-Interior-Single-4_Panel-Wood	6' - 8"	2' - 8"	4
Door-Interior-Single-4_Panel-Wood	6' - 8"	2' - 8"	8
Door-Interior-Single-4_Panel-Wood	6' - 8"	2' - 8"	10
Door-Interior-Single-4_Panel-Wood	6' - 8"	2' - 8"	91
Door-Interior-Single-4_Panel-Wood	6' - 8"	2' - 8"	92
Door-Interior-Single-4_Panel-Wood	6' - 8"	2' - 8"	93
Door-Interior-Single-4_Panel-Wood	6' - 8"	2' - 8"	163
Door-Interior-Single-4_Panel-Wood	6' - 8"	2' - 8"	165
Door-Interior-Single-4_Panel-Wood	6' - 8"	2' - 8"	166
Door-Interior-Single-4_Panel-Wood	6' - 8"	2' - 8"	169
Door-Interior-Single-4_Panel-Wood	6' - 8"	2' - 8"	170
Door-Interior-Single-4_Panel-Wood	6' - 8"	2' - 8"	171
Door-Exterior-Single-Entry-Half Flat Glass-Wood_Clad	6' - 8"	3' - 0"	1
Door-Exterior-Single-Entry-Half Flat Glass-Wood_Clad	6' - 8"	3' - 0"	2
Door-Exterior-Single-Entry-Half Flat Glass-Wood_Clad	6' - 8"	3' - 0"	161
Door-Exterior-Single-Entry-Half Flat Glass-Wood_Clad	6' - 8"	3' - 0"	162
Door-Interior-Karona-K1020-Bifoldxxx	6' - 8"	3' - 6"	131
Door-Interior-Karona-K1020-Bifoldxxx	6' - 8"	3' - 6"	173
Door-Interior-Karona-K1020-Bifoldxxx	6' - 8"	5' - 0"	6
Door-Interior-Karona-K1020-Bifoldxxx	6' - 8"	5' - 0"	11
Door-Interior-Karona-K1020-Bifoldxxx	6' - 8"	5' - 0"	94
Door-Interior-Karona-K1020-Bifoldxxx	6' - 8"	5' - 0"	164
Door-Interior-Karona-K1020-Bifoldxxx	6' - 8"	5' - 0"	167
Door-Interior-Karona-K1020-Bifoldxxx	6' - 8"	5' - 0"	172
Door-Double-Sliding	6' - 8"	5' - 8"	16
Door-Double-Sliding	6' - 8"	5' - 8"	168

Window Schedule					
Family and Type	Height	Width	Sill Height	Keynote	Mark
Window-Double-Hung-Double: 36" x 42"	3' - 6"	3' - 0"	3' - 0"		20
Window-Double-Hung-Double: 36" x 42"	3' - 6"	3' - 0"	3' - 0"		21
Window-Double-Hung-Double: 36" x 42"	3' - 6"	3' - 0"	3' - 0"		58
Window-Double-Hung-Double: 36" x 42"	3' - 6"	3' - 0"	3' - 0"		130
Window-Double-Hung-Double: 36" x 42"	3' - 6"	3' - 0"	3' - 0"		131
Window-Double-Hung-Double: 36" x 42"	3' - 6"	3' - 0"	3' - 0"		132
Window-Double-Hung-Double: 40" x 42"	3' - 6"	3' - 4"	3' - 0"		10
Window-Double-Hung-Double: 40" x 42"	3' - 6"	3' - 4"	3' - 0"		11
Window-Double-Hung-Double: 40" x 42"	3' - 6"	3' - 4"	3' - 0"		12
Window-Double-Hung-Double: 40" x 42"	3' - 6"	3' - 4"	3' - 0"		13
Window-Double-Hung-Double: 40" x 42"	3' - 6"	3' - 4"	3' - 0"		17
Window-Double-Hung-Double: 40" x 42"	3' - 6"	3' - 4"	3' - 0"		18
Window-Double-Hung-Double: 40" x 42"	3' - 6"	3' - 4"	3' - 0"		59
Window-Double-Hung-Double: 40" x 42"	3' - 6"	3' - 4"	3' - 0"		124
Window-Double-Hung-Double: 40" x 42"	3' - 6"	3' - 4"	3' - 0"		125
Window-Double-Hung-Double: 40" x 42"	3' - 6"	3' - 4"	3' - 0"		126
Window-Double-Hung-Double: 40" x 42"	3' - 6"	3' - 4"	3' - 0"		127
Window-Double-Hung-Double: 40" x 42"	3' - 6"	3' - 4"	3' - 0"		128
Window-Double-Hung-Double: 40" x 42"	3' - 6"	3' - 4"	3' - 0"		129
Window-Double-Hung-Double: 40" x 42"	3' - 6"	3' - 4"	3' - 0"		133

A106

Floodplain Grant Program

Terms

Who Is Eligible?

All land owners having property within the corporate limits of the City of La Crosse including residential property owners, businesses, non-profit organizations, state agencies and educational institutions with all or a portion of their property located in the 1% annual chance flood zone (Special Flood Hazard Zone) are eligible. Tenants and others not having direct financial ownership or interest are not eligible.

Programs are applicable to targeted areas indicated in the City's flood relief mapping zones, based upon need and feasibility.

What Activities Does This Program Fund?

All eligible activities included below when the resulting effect is the removal of property improvements from the Special Flood Hazard Zone resulting in a Letter of Map Amendment or Revision:

- Earthwork
- Foundation and Structure Improvements including fill
- Electrical, Plumbing, Utility and HVAC improvements when necessary due to other eligible activities
- Raising or Elevating Structures
- Demolition or Razing
- Survey Work, Elevation Certificates
- Consultant Assistance for the application of a LOMA or LOMR
- Landscaping, Retaining Walls, Paving

How Much Funding is Available?

The City of La Crosse offers this program annually and conditionally pending City Council annual Capital Improvement Appropriations.

City Responsibilities

The City of La Crosse is offering 90% toward preliminary engineering and 90% toward construction reimbursement up to a total of $25,000 per parcel to eligible applicants with improvement costs that result in a successful Letter of Map Revision or for the basement fill and compliance program on page 2, potentially mitigating the costs of high-risk flood insurance. The City and its agents shall not be held liable or responsible for the actual construction or construction contract administration which is the sole responsibility of the property owner.

Basement Stabilization Only Program: Under this program, the City is also offering 90% funding up to a total of $25,000.00 per parcel to eligible applicants who plan to fill basement spaces to address groundwater inundation or who make improvements in compliance with an order to correct for floodplain related compliance issues. This portion of the program does not require the applicant achieve a Letter of Map Revision, but applicants must comply with all local, state and federal requirements. In order to apply for the basement stabilization funding, applicants must meet the following:

- Submit a complete application and gain approval from the City's Floodplain Advisory Committee
- Provide a comprehensive contractor cost estimate for the project
- Meet all local, state and federal requirements for making improvements in the Special Flood Hazard Area
- Enter into a first right of refusal agreement with the City for city-acquisition, should the property be put on the market, limited to the appraised fair market value of the property at the time of the sale. (for basement fill grants only)

Note: Recipients of City funding will need to provide a W-9 before funds are dispersed and detailed (line item) invoices for the eligible expenses under this program.

Instructions for Applicant:

1. Complete **Section A**: Name, Address, Property Information
2. Complete **Section B:** Property Floodplain Information
3. Complete **Section C**: Contractor Information
4. Complete **Section D**: Improvements Information
5. Complete **Section E**: Request for Reimbursement

Section A-Name, Address, Property Information

Property Identification Number/s:
17-10221-50

Address:
213 Rose street

Owners Name:
North side Properties

Owners Telephone Number:
608- 387-5033

Owners Email Address:
Kevin Stanton 2014@gmail.com

Buyers Name *(If property is being sold):

Buyers Address*:

Buyers Telephone Number*:

Section B-Property Floodplain Information

Base Flood Elevation on Parcel:
645.40

Lowest Finished Floor Elevation of Principal Structure (House):
647.40

Lowest Adjacent Grade Elevation (Next to Principal Structure):
646.40 – area around new structure

Location of Furnace, Water Heater, AC, Air Exchange, Etc.
N/A

Number of Structures other than the Principal Structure/House on Parcel (Including sheds and garages with a roof supported by walls or columns)
0

☐ Aerial Photograph of Parcel Attached

Section C-Engineer and Contractor Information

Engineering Consultant and Contact Information:

Engineer Business Name:
Makepeace Engineering

Engineer Business Telephone Number:
608-881-6030

Engineer Representative Name:
James

Engineer Representative Telephone (Direct Line or Cell Phone) Number:

Engineer Representative E-mail Address:
makepeaceengineering.com

Contractor Business Name:
Affordable Concrete / Miller Earthworks

Contractor Business Telephone Number:

Contractor Representative Name:

Contractor Representative Telephone (Direct Line or Cell Phone) Number:

Contractor Representative E-mail Address:

Attach: Contractor Estimate/Quote (Detailed by Line Item).

- Miller Earthworks $24,015
- Affordable Concrete $18,600
- Makepeace Engineering $6,000

Section D-Improvements Information

Nature of Improvements (List all eligible activities)

- retaining wall
- Fill

Estimated Cost of Improvements

$48,615

Final Cost of Improvements

Date of Completion of Improvements

Spring 2024

Letter of Map Revision Date of Application (Not applicable for basement only fill grants)

Letter of Map Revision Date of Receipt/Confirmation: (Not applicable for basement only fill grants)

Approval from Neighbors (Attach signatures and/or letters) (Not applicable for basement only fill grants)

☐ Engineer and Contractor Invoice, Payment Confirmation Attached

☐ Conditional Letter of Map Revision and Letter of Map Revision Attached

Requested Reimbursement Amount:

☐ LOMR Improvements (No More than 90% of eligible engineering and construction costs up to $25,000.

☐ Basement Stabilization Grant (No more than 90% of the costs up to $25,000.00)

☐ Noncompliance identified by FEMA (No more than 90% of the costs up to $25,000.00)

Note: The cost of engineering services related to all floodplain relief grants are part of the $25,000 maximum allowed under this program.

Section E-Request for 90% Reimbursement

Owner hereby certifies that the above stated work and successful Letter of Map Revision (LOMR) has been completed or in the case of basement stabilization funding, the work has been completed in accordance with all local, state and federal requirements, received and is on file with the City and the contractor and engineer/consultant has been paid for the above stated services in their entirety (Paid Invoices are Required for city documentation).

Owner acknowledges the terms and conditions of the Floodplain Grant Program.

Owner is hereby requesting a reimbursement grant for all above stated eligible activities/costs based upon the terms of this program.

Important Note: In order to receive direct payment to contractors (only under the compliance-basement fill portion of this grant), contractors must submit invoices to owners first for their signature and then to the City for direct payment requests from the City to the contractor. Payees must also have a W-9 on file with the City.

Owner/Sellers Signature

Kevin Starke

Date

3-14-2024

Proposal/Bill

Date: 3-18-2024

From: Janzen Concrete, LLC
628 S. Main St.
Westby, WI 54667
608-606-5111

Submitted To: Affordable Concrete Construction

Address:

Email: affordableconcrete.wi@outlook.com

Phone:

Work to be performed at: Rose St.

We hereby propose to furnish all materials and perform all labor.

300' of 54" X 10" wall w/ 18" x 8" footing = $15,800.00

2- concrete pumps = $2,800.00

Total= $18,600.00

Respectfully Submitted by

Work to be performed within the drawings and specifications submitted. Not responsible for normal hairline cracks damage or caused by backfilling prior to the recommended 10 day waiting period. All sites must have accessible entry to and around sites. All change orders to be discussed and signed before executed. All invoices subject to late charge of 1.5% per month.

Thanks,
Jesse Janzen
Owner of Janzen Concrete

Accepted by:

City of La Crosse, Wisconsin

City Hall
400 La Crosse Street
La Crosse, WI 54601

Text File

File Number: 24-0608

Agenda Date: 5/2/2024 **Version:** 1 **Status:** Agenda Ready

In Control: Floodplain Advisory Committee **File Type:** General Item

Agenda Number:

City of La Crosse

Flood Hazard Mitigation Plan

August 2022

Prepared by:

JEO CONSULTING GROUP

SEH

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Introduction

The City of La Crosse, Wisconsin, has experienced significant and sustained flooding since its development in the mid-1880s. Its seat at the confluence of three major waterways—the Mississippi River, Black River, and La Crosse River—has shaped culture of the city as well as the city's development trends and focus on infrastructure protection.

La Crosse identified the need for a cohesive and accurate flood risk assessment. The city hired SEH in partnership with JEO Consulting Group to assist in the development of a Flood Hazard Mitigation Plan (FHMP) which covers the entirety of the City of La Crosse. A flood hazard mitigation plan assesses flood risk and vulnerabilities and identifies mitigation projects to reduce flood impacts. By having a FEMA-approved FHMP, a community becomes eligible for flood hazard mitigation assistance grants to fund prioritized projects included in the plan. The FHMP also supports and provides additional detail for the flood risk section of the overall Hazard Mitigation Plan for the community.

Throughout the planning process, the planning team provided numerous and varied public engagement opportunities for stakeholders and residents of La Crosse to share local priorities, concerns, and suggestions with the city. This intensive collaboration with the public allowed the city to better understand persistent issues related to flooding, such as areas which experience continual flooding, resident concerns for property values and property protection, and difficulties navigating the current permitting process. In addition to local feedback, the plan is informed by key principles identified by the planning committee and residents. These include: to **reduce** the flooding impacts to public and private infrastructure, to **increase local capacity** to manage the city's floodplain management program, to **engage** the public and key stakeholders across the city in development, and to **comply** with all local, state, and federal floodplain management regulations and recommendations.

This FHMP identified key flood-related vulnerabilities and risk-reduction recommendations for the City of La Crosse. These recommendations range from large-scale structural projects (evaluation of the existing emergency levees and potential improvements) to programmatic and nonstructural flood mitigation strategies (retrofitting for buildings and updating and enforcing floodplain management ordinances). Recognizing that mitigating flood risk is a long-term investment, this plan offers incremental projects to improve the city's resilience to high-water events through cost-effective measures.

Disaster Mitigation Act of 2000

The U.S. Congress passed the Disaster Mitigation Act of 2000 to amend the Robert T. Stafford Disaster Relieve and Emergency Assistance Act.[1] Section 322 of the DMA 2000 requires that state and local governments develop, adopt, and routinely update a hazard mitigation plan to remain eligible for pre- and post-disaster mitigation funding.[2] These funds include the Hazard Mitigation Grant Program (HMGP)[3], Flood Mitigation Assistance (FMA)[4], and the more recent Building Resilient Infrastructure and

[1] Federal Emergency Management Agency, Public Law 106-390. 2000. "Disaster Mitigation Act of 2000." Last modified September 26, 2013. https://www.fema.gov/media-library/assets/documents/4596.
[2] Federal Emergency Management Agency. June 2007. "Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, and Related Authorities." Federal Emergency Management Agency 592: 22. Sec. 322. Mitigation Planning (42 U.S.C. 5165). https://www.fema.gov/pdf/about/stafford_act.pdf.
[3] Federal Emergency Management Agency. "Hazard Mitigation Grant Program." Last modified July 8, 2017. https://www.fema.gov/hazard-mitigation-grantprogram.
[4] Federal Emergency Management Agency. "Flood Mitigation Assistance Grant Program." Last modified July 11, 2017. https://www.fema.gov/flood-mitigationassistance-grant-program.

Communities (BRIC)[5]. BRIC replaced the Pre-Disaster Mitigation (PDM) Program in 2020. The Federal Emergency Management Agency administers these programs under the Department of Homeland Security (DHS).[6] The Wisconsin Emergency Management (WEM) administers these grants at the state level.

This plan was developed in accordance with current state and federal rules and regulations governing local hazard mitigation plans; however, this plan is solely focused on flood hazards. The City of La Crosse is covered for all hazards under the La Crosse County Hazard Mitigation Plan (2020-2024). The plan shall be monitored and updated on a routine basis, minimally every five years, to maintain compliance with the legislature per Section 322, mitigation Planning, of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as enacted by Section 104 of the DMA 2000 (P.L. 106-390)[7] and by FEMA's Final Rule (FR)[8] published in the Federal Register on November 30, 2007, at 44 Code of Federal Regulations (CFR) Part 201.

FEMA MITIGATION DIRECTORATE

Mitigation is the cornerstone of emergency management. Mitigation focuses on breaking the cycle of disaster damage, reconstruction, and repeated damage. Mitigation lessens the impact disasters have on people's lives and property through damage prevention, appropriate development standards, and affordable flood insurance. Through measures such as avoiding building in damage-prone areas, stringent building codes, and floodplain management regulations, the impact on lives and communities is lessened.

Plan Purpose

The purpose of this FHMP is to evaluate key riverine flooding issues which have plagued the city, damaged public and private infrastructure, and stressed the overall economic and social strengths of this tight-knit community. While there are a range of natural hazards which may impact the city, this plan evaluated and identified flood-specific mitigation strategies and actions to reduce the disruption of lives and livelihoods from riverine flooding. La Crosse will use this plan to guide and direct floodplain management and flood risk reduction activities in the coming decades. The overall plan framework was developed with the intention of meeting requirements for 44 Code of Federal Regulations (CFR) Part 201 and Community Rating System (CRS) Activity 510. Other natural hazards which impact the city are described and evaluated through the city's participation in the La Crosse County Multi-hazards Hazard Mitigation Plan (2020-2024).

The City of La Crosse constructed an emergency levee with seven reaches after historic flooding in 1965. These levee reaches were not accredited by the United States Army Corps of Engineers (USACE) and thus, do not constitute an official levee system per se. However, the city and other municipal officials commonly refer to the levee reaches around La Crosse as a levee system. Therefore, it is important to note that while the city's levee reaches will be described as a levee system in this FHMP, they are not officially designated as such. As discussed later in this FHMP, levee accreditation is a key strategy to reducing flood risk in La Crosse. By choosing to evaluate and upgrade the existing emergency levee reaches to USACE regulated conditions, the existing flood hazard risk areas across the city may be significantly altered or reduced.

[5] Federal Emergency Management Agency. "Building Resilient Infrastructure and Communities." Last modified September 8, 2020. https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities.
[6] Federal Emergency Management Agency. "Hazard Mitigation Assistance." Last modified March 29, 2017. https://www.fema.gov/hazard-mitigation-assistance.
[7] Federal Emergency Management Agency: Federal Register. 2002. "Section 104 of Disaster Mitigation Act 2000: 44 CFR Parts 201 and 206: Hazard Mitigation Planning and Hazard Mitigation Grant Programs; Interim Final Rule." https://www.fema.gov/pdf/help/fr02-4321.pdf.
[8] Federal Emergency Management Agency: Federal Register. 2002 "44 CFR Parts 201 and 206: Hazard Mitigation Planning and Hazard Mitigation Grant Programs; Interim Final Rule." https://www.fema.gov/pdf/help/fr02-4321.pdf.

Plan Goals

The city is concerned about the probability of future flooding and resulting losses. Therefore, the driving motivation behind the development of this plan is to reduce vulnerability and the likelihood of flood impacts to the health, safety, and welfare of all citizens in La Crosse. To this end, the local planning team developed and revised goals to steer plan development. It is important that the goals and mitigation activities identified and implemented from this plan be directly correlated to the flood risks identified to reduce vulnerability and build a stronger, more resilient community.

These goals and objectives were developed and reviewed by the planning team in coordination with the La Crosse Flood Advisory Committee (FAC) and the public and refined to reflect specific concerns for the city.

1. Fully fund and implement the existing floodplain management program to improve and maintain compliance with floodplain regulations
2. Improve flood awareness and education for all community members, property owners, and city staff on the importance of flood risk reduction activities for existing and new properties
3. Plan and budget for structural and nonstructural strategies to protect existing and new public and private infrastructure from river and stream flooding
4. Provide flood risk reduction from river and stream flooding to protect the health and safety of residents and share benefits from flood risk reduction activities

Key Findings and Mitigation Strategies

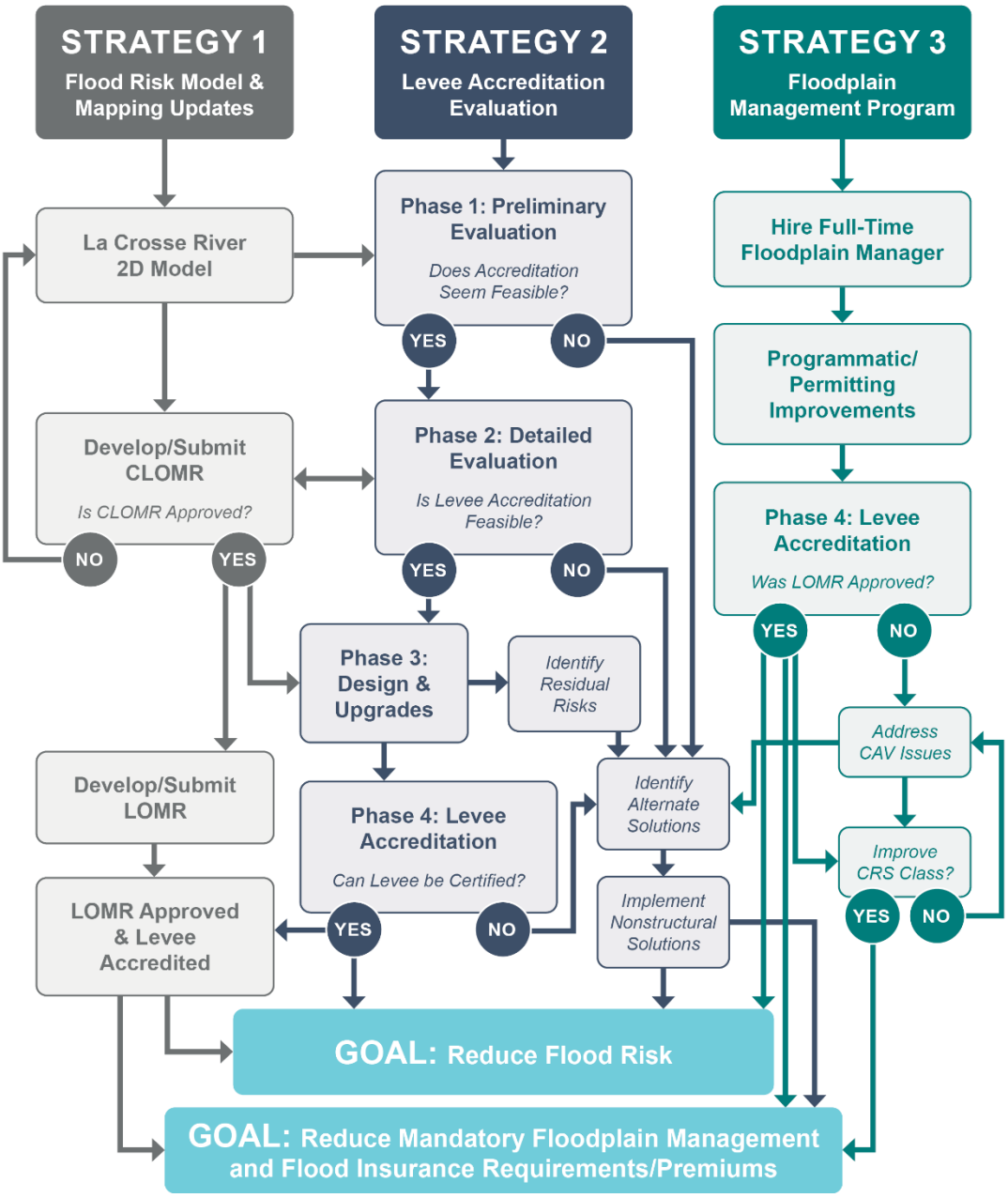
Key findings and strategies were identified for the City of La Crosse throughout this Flood Hazard Mitigation Planning process. The city has experienced a long a troubled relationship with floodplain management with challenges arising from inconsistent maintenance of existing flood risk protection structures, inaccurate floodplain data, and inadequate permitting procedures for structures in flood prone hazard areas. These key findings informed the overall flood risk reduction strategy framework the city will be taking to address flood risk across the city, reduce restrictive or mandatory floodplain permitting requirements, and reduce flood insurance premiums for some residents.

Key mitigation actions identified in this planning process to accomplish the goals include, but are not limited to:

- Hire a full-time floodplain administrator,
- Improve/update the floodplain permitting process,
- Update floodplain modeling data,
- Evaluate and improve existing levee systems, and
- Other actions as identified by the city.

For a full list of mitigation actions and the implementation timeline for each activity, see the *Mitigation Strategy* chapter (pg. 91).

Path to Flood Risk Reduction

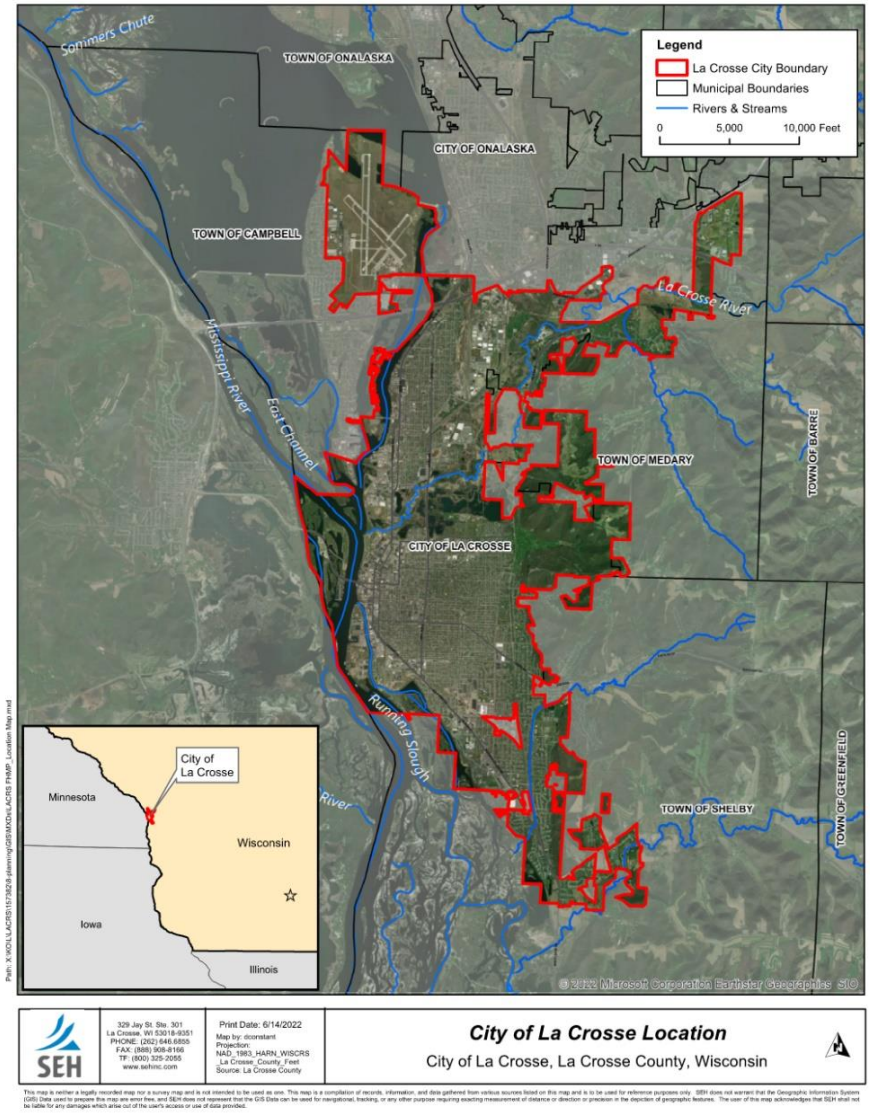


City of La Crosse Overview

To identify vulnerabilities, it is vitally important to understand the community and built environment of La Crosse. The following section describes the characteristics of the city.

Geographic Summary

The City of La Crosse is located along the southwestern border of La Crosse County in southwestern Wisconsin. La Crosse and its neighboring communities border the Mississippi River along the eastern edge of the Minnesota state line. The city encompasses approximately 23.8 square miles and is split by three major waterways: the Mississippi River, the Black River, and the La Crosse River. Important to the area's ecological identity is the La Crosse River Marsh in central La Crosse near the confluence of the La Crosse River and the Mississippi River. Five-hundred-foot bluffs surround the relatively flat prairie valley where La Crosse lies. Grandad Bluff, one of the area's most prominent bluffs, overlooks three states. This region is composed of high ridges dissected by narrow valleys called coulees, thus, the area around La Crosse is frequently referred to as the Coulee Region.



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Print Date: 6/14/2022
Map by: dcorstant
Projection:
NAD_1983_HARN_WISCRS
_La Crosse_County_Feet
Source: La Crosse County

City of La Crosse Location
City of La Crosse, La Crosse County, Wisconsin

This map is neither a legally recorded map nor a survey map and is not intended to be used as one. This map is a compilation of records, information, and data gathered from various sources listed on this map and is to be used for reference purposes only. SEH does not warrant that the Geographic Information System (GIS) Data used to prepare this map are error free, and SEH does not represent that the GIS Data can be used for navigational, tracking, or any other purpose requiring exacting measurement of distance or direction or precision in the depiction of geographic features. The user of this map acknowledges that SEH shall not be liable for any damages which arise out of the user's access or use of data provided.

Transportation

Transportation routes are necessary for delivering critical supplies and as potential evacuation routes. Major transportation corridors for the city include Interstate 90 and Highways 14, 53, 33, and 35. A Canadian Pacific railroad line runs through the city and both an Amtrak Station and harbor are located within La Crosse. The La Crosse Regional Airport is within City of La Crosse boundaries but located north of the census-designated French Island. Numerous routes through the city are used to transport

hazardous chemicals to chemical sites while heavy fuel truck traffic travels along the downtown area and I-90. The majority of residents commute to work and social locations throughout the city. Additionally, residents and visitors alike take advantage of the city's extensive hiking and walking trails.

High water events, either from riverine flooding or heavy rainfall, greatly inhibit transportation access in the city as waters frequently cover key roads. When access points are restricted, emergency services are unable to access all parts of the city and residents have limited ability to evacuate if needed.

Demographics

Demographic and asset information can be used to determine differing levels of vulnerability via population and housing, structural inventories and valuations, critical facilities, and other vulnerable areas. La Crosse is the county seat and the largest city along Wisconsin's western border with an estimated population of 52,680 (2020 Census Bureau), an increase from the 2010 Census (est. pop. 51,320). The city also forms the core of the La Crosse Metropolitan Area within La Crosse County, Wisconsin, and Houston County, Minnesota. The total estimated population of the metropolitan area is 139,627. La Crosse's population accounted for 44% of La Crosse County's population in 2020 (120,784).

Table 1: Estimated Total Population

Age	2000 Population	2010 Population	2020 Population
City of La Crosse	51,638	51,320	52,680
La Crosse County	107,120	112,819	118,168
State of Wisconsin	5,363,675	5,637,947	5,806,975

Table 2: Population by Age

Age	City of La Crosse	La Crosse County	State of Wisconsin
<5	2,648 (5.1%)	5,971 (5.1%)	331,066 (5.7%)
5-64	41,717 (81%)	92,923 (78.5%)	4,493,110 (77.3%)
>64	7,178 (13.9%)	19,274 (16.4%)	982,799 (17%)
Median	29.2 years	36.3 years	39.6 years

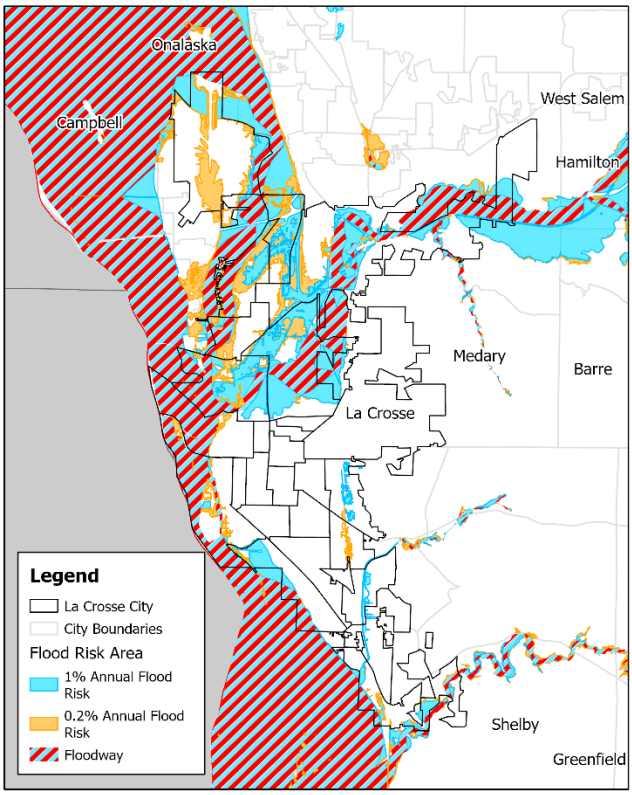
Social Vulnerability

Social vulnerability refers to a community's capacity to prepare for and respond to hazard events. Various factors influence the social vulnerability of a community including socioeconomic status, disability, marginalization due to race/ethnicity/language, housing type, access to transportation, or other unacknowledged barriers. In general, vulnerable or at-risk populations may have difficulty with medical issues, poverty, extremes in age, lack of access to resources, and communications due to language barriers. Several caveats must be considered when discussing potentially at-risk populations including:

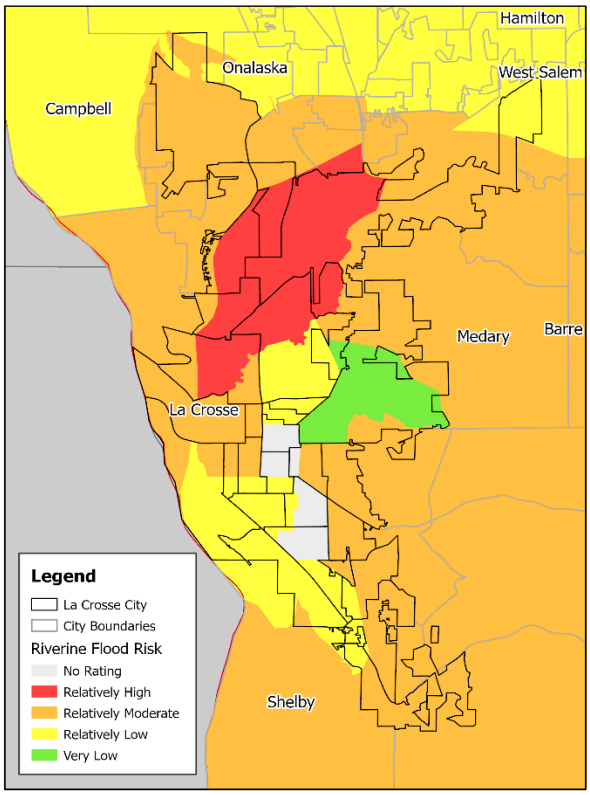
- Not all people who are considered "at-risk" are at-risk,
- Outward appearance does not necessarily mark a person as at-risk,
- A significant flood event will impact at-risk populations in different ways.

The National Response Framework defines at-risk populations as "…populations whose members may have additional needs before, during, and after an incident in functional areas, including but not limited to: maintaining independence, communication, transportation, supervision, and medical care."[9] Two primary tools evaluate social vulnerability – the Center for Disease Control and Prevention's Social Vulnerability Index and FEMA's National Risk Index.

Additionally, a 2008 national study examining social vulnerability as it relates to flood events found that low-income and minority populations are disproportionately vulnerable to flood events. These groups may lack necessary resources to mitigate potential flood events as well as resources to evacuate and respond to flooding. What's more, low-income residents are more likely to live in areas vulnerable to flooding but be unable to afford flood insurance. The study found that flash floods are more often responsible for injuries and fatalities than prolonged flood events. Other groups that may be more vulnerable to floods, specifically flash floods, include the elderly, those outdoors during rain events, and those in low-lying areas. Elderly residents may suffer from a decreased or complete lack of mobility and, as a result, be caught in flood-prone areas. Residents in campgrounds or public parks developed in flood prone areas may be more vulnerable to flooding events. Many of these areas exist in natural floodplains and can experience rapid rise in water levels resulting in injury or death.



La Crosse City Floodplain

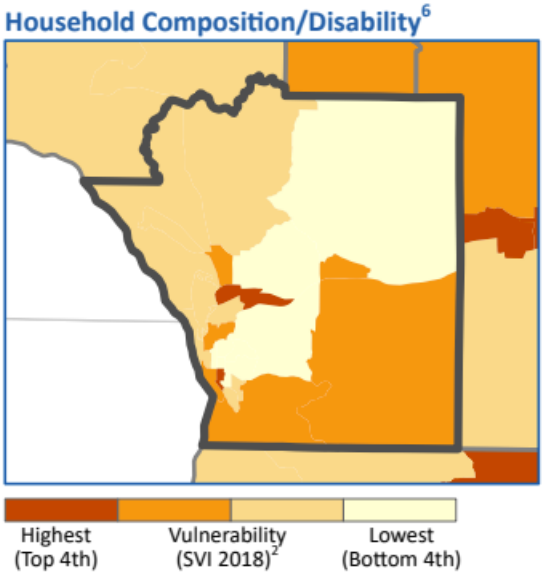


La Crosse City Riverine Flood Vulnerability

9 United States Department of Homeland Security. June 2016. "National Response Framework Third Edition." https://www.fema.gov/media-library-data/1466014682982-9bcf8245ba4c60c120aa915abe74e15d/National_Response_Framework3rd.pdf.

Age and Household Vulnerabilities

Children under 18 years old are one of the most vulnerable populations to disasters.[10] The majority of people in this age group do not have access to independent financial resources, transportation, or their own sure housing opportunities. They also lack practical knowledge necessary to respond appropriately during a disaster. Despite this outsized vulnerability, children are generally overlooked in disaster planning because the presence of a caretaker is assumed. With 15.4% of the population younger than 18, children are a key vulnerable group to address in the planning process. Over 84% of children in the city are 14 years and younger, further exacerbating their vulnerability.



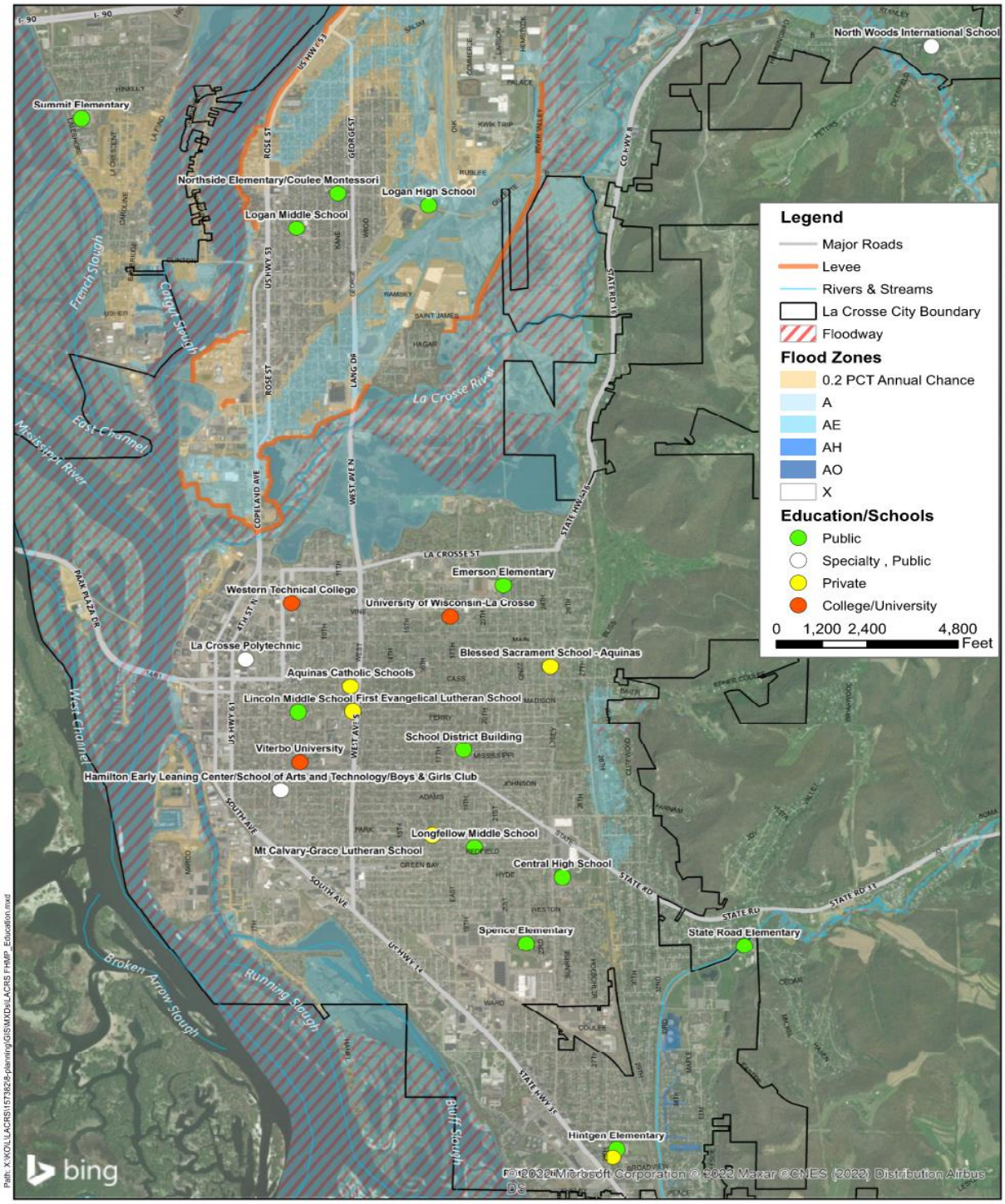
Schools house a high number of children within the planning area during the daytime hours of weekdays, as well as during special events on evenings and weekends. The School District of La Crosse has numerous school buildings throughout the city.

Table 3: Schools in La Crosse, WI

Elementary Schools		Middle Schools	High Schools
Coulee Montessori	School of Technology & Arts	Coulee Montessori Adolescent	Central High School
Emerson Elementary	Southern Bluffs Elementary	La Crosse Polytechnic School	La Crosse Polytechnic School
Hamilton Elementary	Spence Elementary	Lincoln Middle School	Logan High School
Hintgen Elementary	State Road Elementary	Logan Middle School	
Northside Elementary	Summit Environmental School	Longfellow Middle School	
North Woods International		School of Technology and Arts II	

[10] Flanagan, Gregory, Hallisey, Heitgerd, & Lewis. 2011. "A Social Vulnerability Index for Disaster Management." Journal of Homeland Security and Emergency Management, 8(11): Article 3.

Figure 1: La Crosse Educational Facilities



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Project: LACRS 157382
Print Date: 6/15/2022

Map by: dconstant
Projection: NAD 1983 HARN
La Crosse County

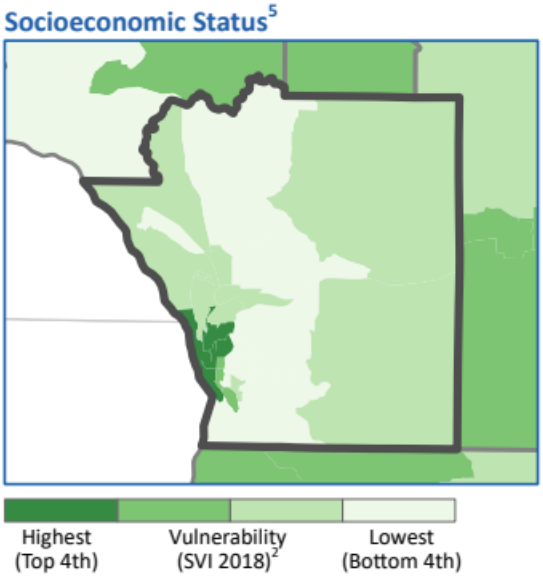
Proximity to Floodplain - Education/Schools

City of La Crosse, La Crosse County, Wisconsin

This map is neither a legally recorded map nor a survey map and is not intended to be used as one. This map is a compilation of records, information, and data gathered from various sources listed on this map and is to be used for reference purposes only. SEH does not warrant that the Geographic Information System (GIS) Data used to prepare this map are error free, and SEH does not represent that the GIS Data can be used for navigational, tracking, or any other purpose requiring exacting measurement of distance or direction or precision in the depiction of geographic features. The user of this map acknowledges that SEH shall not be liable

Like minors, seniors (age 65 and greater) are often more significantly impacted by disaster events than younger adults. Prolonged power outages (either standalone events or as the result of other contributing factors) can negatively affect any citizen relying on medical devices for proper bodily functions. Elderly residents may also require additional time to respond to hazardous conditions and/or require assistance evacuating. Care and medical facilities are also particularly vulnerable to hazards, as they house elderly and at-risk residents. Care facilities in La Crosse include hospitals, assisted living facilities, and nursing homes. No health care facilities are located within flood hazard areas within La Crosse.

Socioeconomic Status



In addition to age being a predictor of vulnerability, other groups within the city experience vulnerabilities related to their socioeconomic status. La Crosse has a lower median household income ($46,438), per capita income ($27,398), and median home value ($150,500) than both La Crosse County and the State of Wisconsin. These indicators demonstrate the city's general economic strength compared to the state. Relatively low economic indicators may influence a jurisdiction's resilience during hazardous events.

Residents below the poverty line may lack resources to prepare for, respond to, or recover from hazard events. Limited economic resources may make it more difficult for people to prioritize mitigation measures over more immediate needs. Approximately 22.9% of the city's population lives below the federal poverty line.

Further, residents with limited economic resources are more likely to live in older, more vulnerable structures. These structures could be mobile homes, homes located in flood hazard areas, or older, poorly maintained structures. In La Crosse, approximately 11% of all housed families do not have a vehicle available. Households without vehicles will likely have difficulty evacuating during flood events and have a reduced ability to access resources in emergencies.

Many low-income homeowners and renters live in flood prone areas of the city with aging infrastructure, poor road conditions, and a lack of adequate flood risk reduction strategies. Due to these systemic factors, hazard events are often much worse for low-income residents. Exacerbating this are the effects of poverty, where low-income residents are much less likely than middle- or upper-class residents to have surplus funds (or operational vehicles) to evacuate during emergencies, much less pay for personal mitigation projects. As almost a quarter of La Crosse lives below the poverty line, economic instability likely affects La Crosse's vulnerability to hazards.

Major Employers

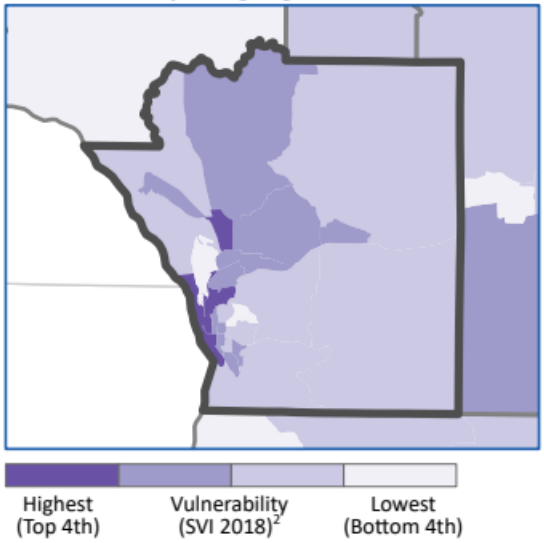
Communities with a diverse economic makeup are often more resilient following a hazardous event, especially if certain industries are more impacted than others. Major employers within La Crosse include: Gundersen, Mayo Clinic, UW-La Crosse, City of La Crosse, La Crosse County, Trane, Viterbo

University, Wisconsin Technical College, and Kwik Trip. With the broad variety of major employers in the city, the economic strength of La Crosse is relatively high. Additionally, many of these facilities are located outside of flood risk hazard areas, indicating they would remain operational during high water level events.

Race/Ethnicity/Language

Similar to residents living below the poverty line, racial minorities tend to have less access to financial and social support resources that would enable them to implement mitigation projects and respond and recover from hazard events. The mostly homogenous racial profile of La Crosse indicates that racial inequity will not significantly affect the community's vulnerability to hazards as approximately 90% of the population is white, non-Hispanic. Of the 10% non-white population, the largest ethnic subgroup is Asian-Americans at 3.7%.

Race/Ethnicity/Language[7]

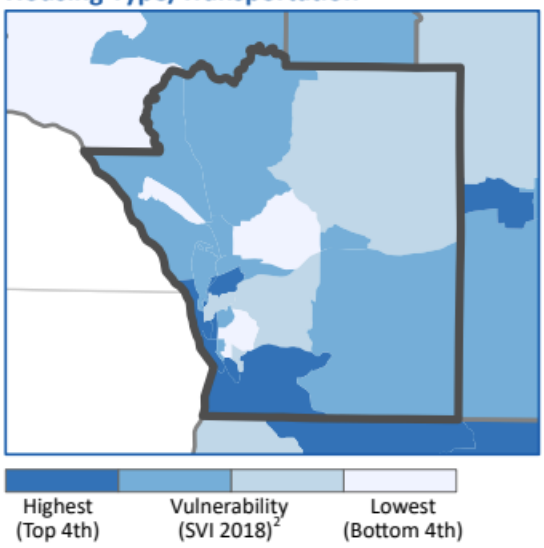


Residents who speak English as a second language may face challenges before, during, and after hazard events. If materials aimed at notification and/or education are distributed in only one language, residents and visitors who primarily speak other languages are at a disadvantage. When presented with a hazardous situation, it is important that all community members be able to receive, decipher, and act on relevant information. Unfamiliarity with the language used to develop warnings and notifications may prevent people from reacting in a timely manner. As educational materials related to regional hazards are most often developed in the dominant language for the area—English for the city—residents who do not fluently speak or read English may not have sufficient information to effectively mitigate potential impacts. Residents with limited English proficiency are at an increased vulnerability during high water events in the city.

Built Environment and Housing

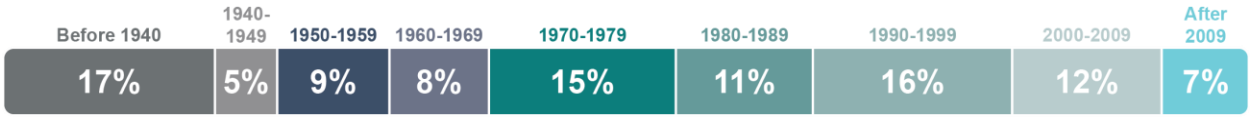
The US Census provides information related to housing units and potential areas of vulnerability. Housing age can serve as an indicator of risk, as structures built prior to the development of state building codes may be more vulnerable. Of total homes in La Crosse (22,724 total housing units), approximately 93.5% of homes are occupied (21,239). Of those occupied homes, more homes in the city are renter-occupied (54.5%) than owner-occupied (45.5%). The city also hosts a large population of student renters due to the presence of Viterbo University in central La Crosse. Renters are more likely to live in lower-value housing and more hazard-prone areas. Renters are also typically less likely to implement home mitigation activities to protect

Housing Type/Transportation[8]



property and infrastructure due to a lack of financial ability or legal authority to make improvements to the structure.

Homes throughout the city have been built consistently between the 1930s to present, with the most development occurring prior to 1939, between 1970-1979, and 1990-2000. Homes built across various decade periods may have been held to different building code standards, increasing overall vulnerability to various hazards if not retrofitted appropriately. Less stable housing, such as dilapidated homes or mobile homes, have a higher risk of sustaining damages during flood events, such as damage to basements, retaining walls, or grading. Less than two percent of housing units in the planning area are mobile homes.



Planning Process

The process of developing an effective and comprehensive planning document is equally as important as the data utilized in the analysis. The La Crosse FHMP planning process followed a ten-step planning process in alignment with both Hazard Mitigation Planning and NFIP Community Rating System requirements and guidelines. The Community Rating System (CRS) is a voluntary, incentive-based program to encourage participating jurisdictions in the NFIP to exceed minimum floodplain management activities. Under the CRS, community flood insurance premiums are discounted based upon the activities the community takes to reduce flood damage to existing buildings, manage development in areas not mapped by the NFIP, reduce flood risk for new buildings beyond the minimum NFIP flood risk reduction level, preserve and/or restore natural functions of floodplains, help insurance agents obtain flood data, and help people obtain flood insurance. Communities receive a CRS classification based upon the total credit for activities which provides a specific flood insurance rate discount percentage. The City of La Crosse crafted this planning process to assist in future efforts and garner points in the CRS program.

The FHMP planning process was broken down into the following ten steps:

Public outreach is crucial to the overall success of the planning effort, as well as the technical components of the flood hazard mitigation plan. A plan which incorporates the community's priorities sees more successful project implementation through community buy-in. Thus, a successful flood mitigation planning process engages the public and stakeholders throughout plan development to understand and include community priorities and support for mitigation alternatives.

Specific public engagement goals were identified to guide the public engagement plan (PEP) for integrative public participation. These goals were as follows:

1. Gain public understanding and support for community floodplain management.
2. Increase public awareness of flooding hazards and risks.
3. Support or highlight priority areas for flood mitigation.
4. Gain an understanding of the types of projects residents are willing to support.

5. Ensure transparency by providing multiple opportunities for public comment.
6. Utilize a common approach to distribute project information and organize additional outreach efforts.

Flood Hazard Mitigation Planning Committee

A diverse planning committee was established throughout the planning process to cultivate a greater knowledge of community-specific flood hazards. This committee included both city staff, applicable stakeholders, and members of the Flood Advisory Committee. Planning committee members provided knowledge on local flood concerns and ultimately have the authority to implement the mitigation strategies developed during the planning process. Representatives from various agencies responsible for regulating development, or those who may have a role in pursuing and implementing hazard mitigation projects, were invited to be part of the Planning Committee. These agencies included but were not limited to: local and county emergency management, Floodplain Administration, Parks and Recreation, Engineering/GIS departments, Planning and Economic Development divisions, neighboring communities and counties, U.S. Army Corps of Engineers, and applicable state agencies such as Wisconsin Department of Natural Resources.

The FHMP Committee provided guidance and input throughout the planning process, assisted with identifying/collecting relevant local data (including flood impacts and at-risk areas), reviewed/evaluated mitigation actions, assisted in the development of plan goals and/or objectives, and promoted public involvement.

Additional efforts were made to include the public and stakeholders to provide information and feedback on flood risk and potential mitigation priorities. These efforts included leaving a project bookmark at the public library, sharing Open House press release with the local news media, and updating information on the city website and social media accounts alongside general word of mouth, letters, emails, and follow up calls. The term “public” includes residents, businesses, property owners, tenants, and other identified stakeholders.

Members of the FHMP Planning Committee who engaged in the planning process are included in the table below.

Table 4: FHMP Planning Committee Members

Name	Title	Department
Sarah Rafajko	Floodplain Manager	Fire Dept Division of Community Risk Management
Lewis Kuhlman	Environmental Planner	Planning & Economic Development
Tobyn Peterson	Stormwater Coordinator	Engineering
Matt Gallager	Director of Engineering and Public Works	Engineering
Caleb Wodarz	Engineer	Engineering
Jay Odegaard	Director of Parks and Rec	Parks, Recreation, & Forestry
Dan Trussoni	Manager	Parks, Forestry, Building & Grounds
Kevin Clements		Community Development & Housing
Kevin Rindy	County Emergency Manager	County Emergency Services

Name	Title	Department
Andrea Richmond	Council Member	Floodplain Advisory Committee
Barb Janssen	Council Member	Floodplain Advisory Committee
Mac Kiel	Council Member	Floodplain Advisory Committee
Richie Schultz	Floodplain Advisory Committee Member	Floodplain Advisory Committee
Scott Neumeister	Council Member	Floodplain Advisory Committee
Sharon Hampson	Floodplain Advisory Committee Member	Floodplain Advisory Committee
Bill Bosshard	Floodplain Advisory Committee Member	Floodplain Advisory Committee
Adam Schroeder	Citizen	-
Karla Doolittle	Citizen	-
Terry Zien	Senior Program Manager	USACE - Flood Plain Management Services
Heather Henneman	Hydraulic Engineer	USACE
Alex (Long) Le	Hydraulic Engineer	USACE
Brad Woznak	Project Manager/Senior Engineer	SEH
Brea Grace	Senior Community Development Specialist	SEH
Jordan Thole	Engineer	SEH
Dillon Constant	Planner and GIS Analyst	SEH
John Callen	Senior Project Engineer	JEO
Becky Appleford	Senior Planner	JEO

Meeting Facilitation and Schedule

The planning team held one project kickoff meeting, two open houses, and individual planning committee meetings throughout this planning process. Due to the development and prevalence of COVID-19 during the planning process, the majority of these meetings were conducted virtually. Each meeting's objectives, attendees, and key takeaways are summarized below. As applicable, planners integrated the information garnered from each meeting into the plan. Formal meeting invitations were extended to all planning committee members and key stakeholders via email; additionally, each meeting was open to the general public and advertised via social media posts, local newspaper ads, and updates were posted to the City of La Crosse website.

Kick-Off Meeting

A project kick-off meeting was held virtually March 30, 2021. The kick-off meeting introduced key planning committee members to the planning process, clarified roles and responsibilities of Planning Committee members, provided an overview of the draft USACE nonstructural flood mitigation assessment, and reviewed the public engagement plan.

Key questions for this meeting included:

- What do committee members hope to get from this plan and planning process?
- Committee feedback on the planning process, timeline and public engagement methods and goals.

Table 5: Kick-off Meeting Information

Meeting Date and Location	Agenda Items
Flood Hazard Mitigation Plan Kick-off Meeting March 30, 2021 Virtual	-Planning Committee roles and responsibilities -Overview of planning process -Public engagement plan and strategies -USACE nonstructural flood mitigation assessment
Name	**Title and/or Jurisdiction**
Adam Schroeder	Community Member
Alex (Long) Le	USACE
Andrea Richmond	City of La Crosse - Council Member for District 1
Barb Janssen	City of La Crosse - Council Member for District 3
Becky Appleford	JEO Consulting Group
Bernie Lenz	City of La Crosse - Utility Manager
Bill Bosshard	Floodplain Advisory Committee Member
Brad Woznak	SEH
Brea Grace	SEH
Christina Peterson	Town of Shelby Administrator
Dillon Constant	SEH
Caleb Wodarz	City of La Crosse - Engineering Dept
John Callen	JEO Consulting Group
Jordan Thole	SEH
Karla Doolittle	Community Member
Kevin Clements	City of La Crosse - Planning Dept
Kevin Rindy	La Crosse County - Emergency Management Coordinator
Lewis Kuhlman	City of La Crosse – Environmental Planner
Randy Turtenwald	City of Lacrosse - Engineering Dept and Public Works
Richard Becker	Community Member
Sarah Rafajko	City of La Crosse - Community Risk Management
Terry Zien	USACE – Flood Plain Management Services

Open House #1

The Planning Committee held the first public open house on September 8, 2021, at the Black River Beach Neighborhood Center from 4pm to 6pm to share information about the FHMP process. After the event, all open house materials were posted online (https://www.lacrossefhmp.com/virtual-open-house-982021), allowing community members to view and comment on key takeaways virtually. The Planning Committee identified the need to share all information online to accommodate resident schedules and local concerns about COVID-19.

Residents and other community stakeholders were encouraged to attend this open house to provide input in the planning process. Representatives from the City of La Crosse, SEH, JEO, and the US Army Corps of Engineers were in attendance to answer questions regarding the FHMP process and related studies.

The city advertised the open house using several engagement strategies. They updated the city website with graphics and calendar invitations to the open house, shared a press release with local news resources, and extended formal invitations to the Planning Committee. In total, eighteen members of the public attended the open house.

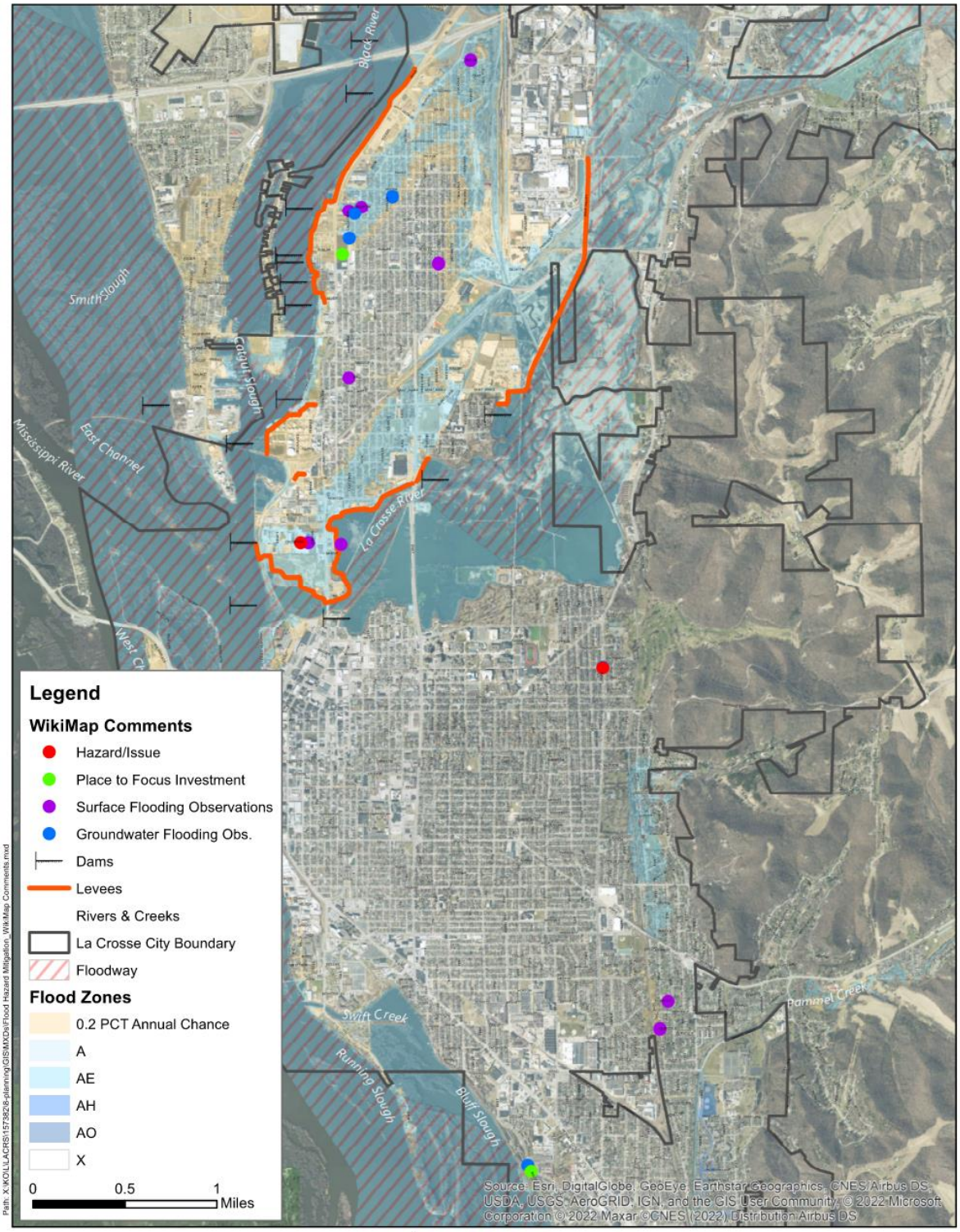
A variety of stations were prepared at the open house, including a welcome table; local flood hazards maps and GIS overview; dot exercise (explained below); mitigation strategies (flood risk reduction overview and types of mitigation activities and possible solutions); public surveys; and other information and resources. Key pieces of information shared at the open house included flood definitions such as floodway, flood fringe, and other characteristics of a floodplain, as well as safety and protection measures during a flood.

A unique approach during the open house included a dot exercise and WikiMap (https://wikimapping.com/La-Crosse-Flood-Hazard-Mitigation-Plan.html?perm=3&username=dconstant%40sehinc.com). The WikiMap captured groundwater and surface water observations, identification of hazards and vulnerable assets, and places to focus investment by local community members. The web tool allowed community members to drop specific pins and provide detailed observations.

Attendees used color-coded dots to mark specific areas of concern in the city and provided comments on maps to city and project coordinators at the open house. Planners compiled the WikiMap Comments and open house comments. These comments are shown in the graphics below. These comments and concerns were integrated throughout this FHMP and used to identify and shape the city's mitigation strategy.

LOCATION	COMMENT
Corner of Avon & Wall St	Heavy rain causes flooding at intersection. Enough to flow into lower apartment at 1002 Avon and into basement.
NE corner of Harvey & Taylor	How effective will city upgrades in this area be? Stormwater directed to La Crosse River or Black River?
1600 block of Prospect St	Every time it rains, it floods.
29th St & Glendale Ave	Husband is wheelchair bound - no way to get out, water rescue vehicle.
W & E Fairchild (S of State Rd)	Occured 8/13/21 and three years ago. Basement flooding included raw sewage. Neighbors have same problem.
Mobile Oil Site	New city development.
The Landings Condo	Potential for flooding at existing condo.
Losey Blvd N & Pine St	Storm sewer flooding. Major flooding in rain blocks main road through city.
Losey Blvd N & Pine St	Storm sewer flooding. During rain, water gushes vigorously up out of two sewer hold covers and side storm draining flooding intersection. Has risen as high as homes. Impassable.
Losey Blvd N & Pine St	Storm sewer flooding. I have observed five cars flooded and stalled in the intersection during one storm Summer 2021
Bayside Ct	Storm water over topping berm resulting in erosion and property flooding.
Bayside Ct	Storm water capacity issue is causing repetetive erosion and property flooding.
Causeway Blvd	Wafer has street and building flooding
Block between USH 53 & Caledonia St	Indoor Self Storage and La Crosse Fluid Power - This building consistently floods when the river goes high, they pump into the street and back up the drain system. This backs up drains for areas to the east of the building.
Caledonia St & Gohres St	This corner floods when river rises and Central States warehouse pumps.
Caledonia St to Avon St	Flooding when the river rises, pumping.
Caledonia St & Livingston St	With rain this corner floods. Why when they redid Livingston st, they could have raised it ever so slightly?
Between Charles St & Kane St, S of Moore St and N of Livingston St	Houses in this area experience water in their basements to varying degrees. It correlates to the River stage each year. Roughly 11.5 feet River stage.

Figure 2: WikiMap and Open House Comments Map



SEH

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La Crosse, WI 54601
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FAX: (888) 908.8166
www.sehinc.com

Project: LACRS 157382
Print Date: 11/12/2021

Map by: dconstant
Projection: NAD 1983 HARN
La Crosse County

WikiMap & Open House Comments

City of La Crosse, La Crosse County, Wisconsin

This map is neither a legally recorded map nor a survey map and is not intended to be used as one. This map is a compilation of records, information, and data gathered from various sources listed on this map and is to be used for reference purposes only. SEH does not warrant that the Geographic Information System (GIS) Data used to prepare this map are error free, and SEH does not represent that the GIS Data can be used for navigational, tracking, or any other purpose requiring exacting measurement of distance or direction or precision in the depiction of geographic features. The user of this map acknowledges that SEH shall not be liable for any

During the first open house, seventeen attendees completed surveys. After evaluating the surveys, planners calculated an average rating of concern for types of flooding or flood-related hazards. The list below describes the average level of concern as shared in the survey.

• Urban flooding	Very-somewhat concerned
• River flooding	Somewhat concerned
• Levee failure	Somewhat concerned
• Groundwater/ponding	Somewhat concerned
• Stormwater flooding	Somewhat concerned
• Stream bank erosion	Somewhat concerned
• Landslides	Somewhat concerned
• Dam failure	Somewhat-not concerned

Planning Committee Meeting 1 – Assess the flood hazard

The first FHMP Committee meeting was held virtually on November 15, 2021. This first meeting provided a status update on the FHMP, shared feedback from the open house held in September, discussed flood hazard sources, and described past flood events.

Planning committee members were asked to provide additional flood knowledge and experiences to supplement any open-source data collected and understanding of flood risk in the community.

The key question for this meeting included:

- What flood events has the city experienced which may not be represented in the major flood history narrative?

Table 6: FHMP Committee Meeting #1 Information

Meeting Date and Location	Agenda Items
Flood Hazard Mitigation Plan Risk Assessment Meeting November 15, 2021 Virtual	-Overview of plan components, plan purpose, and planning process -Public engagement and activities; summary of open house report -Description and discussion of flood hazard sources, past flood events
Name	**Title and/or Jurisdiction**
Barb Janssen	City of La Crosse - Council Member for District 3
Becky Appleford	JEO Consulting Group
Bernie Lenz	City of La Crosse - Utility Manager
Brad Woznak	SEH
Brea Grace	SEH
Caleb Wodarz	City of La Crosse - Engineering Dept
John Callen	JEO Consulting Group
Jordan Thole	SEH
Kevin Rindy	La Crosse County - Emergency Management Coordinator
Lewis Kuhlman	City of La Crosse – Environmental Planner
Sarah Rafajko	City of La Crosse - Community Risk Management
Scott Neumeister	City of La Crosse - Council Member

Meeting Date and Location Name	Agenda Items Title and/or Jurisdiction
Terry Wright	Community Member
Terry Zien	USACE – Flood Plain Management Services
Tobyn Peterson	City of La Crosse – Stormwater Coordinator

Planning Committee Meeting 2 – Assess the flood problem

The second FHMP Committee meeting was held virtually on January 19, 2022. Committee members discussed the impact of flooding on people, property, infrastructure, the local economy, and natural floodplain functions. Attendees were asked to detail historical impacts on municipal buildings, infrastructure, critical facilities, residential and commercial impacts, and other damages.

The key question for this meeting included:

- Considering historical flooding events, what impacts from those events have residents, businesses, or vulnerable areas experienced?

Table 7: FHMP Committee Meeting #2 Information

Meeting Date and Location	Agenda Items
Flood Hazard Mitigation Plan Risk Assessment and Goals Meeting January 19, 2022 Virtual	-Flood risk assessment and impacts discussion -Discussion of levee system, city planning documents, and future land use development -Preliminary discussion of FHMP goals
Name	**Title and/or Jurisdiction**
Adam Schroeder	Community Member
Becky Appleford	JEO Consulting Group
Bill Bosshard	Floodplain Advisory Committee Member
Brad Woznak	SEH
Brea Grace	SEH
Dillon Constant	SEH
Caleb Wodarz	City of La Crosse - Engineering Dept
David Reinhart	City of La Crosse – Community Development
John Callen	JEO Consulting Group
Jordan Thole	SEH
Karla Doolittle	Community Member
Lewis Kuhlman	City of La Crosse – Environmental Planner
Sarah Rafajko	City of La Crosse - Community Risk Management
Sharon Hampson	Floodplain Advisory Committee Member
Terry Zien	USACE – Flood Plain Management Services
Tobyn Peterson	City of La Crosse – Stormwater Coordinator

Planning Committee Meeting 3 – Set goals

The third FHMP Committee meeting was held virtually on March 16, 2022 and sought to develop floodplain management goals based on previously identified flood problems. The committee crafted these goals to be consistent with other community goals (e.g., comprehensive plan goals).

The key question for this meeting included:

- What is the overarching vision you have for flood risk reduction in La Crosse?
- Are there areas within the City of La Crosse that should be the focus of mitigation alternatives?

Table 8: FHMP Committee Meeting #3 Information

Meeting Date and Location	Agenda Items
Flood Hazard Mitigation Plan Goals and Mitigation Projects March 16, 2022 Virtual	-Draft FHMP goals -Preliminary mitigation alternatives discussion
Name	**Title and/or Jurisdiction**
Andrea Richmond	City of La Crosse - Council Member
Barb Janssen	City of La Crosse - Council Member for District 3
Becky Appleford	JEO Consulting Group
Brad Woznak	SEH
Brea Grace	SEH
Dillon Constant	SEH
Caleb Wodarz	City of La Crosse - Engineering Dept
John Callen	JEO Consulting Group
Jordan Thole	SEH
Karla Doolittle	Community Member
Kevin Rindy	La Crosse County - Emergency Management Coordinator
Lewis Kuhlman	City of La Crosse – Environmental Planner
Mac Kiel	City of La Crosse – Council Member
Sarah Rafajko	City of La Crosse - Community Risk Management
Sharon Hampson	Floodplain Advisory Committee Members
Terry Zien	USACE – Flood Plain Management Services
Tobyn Peterson	City of La Crosse – Stormwater Coordinator

Planning Committee Meeting 4 – Review possible activities and develop an Action Plan

The fourth FHMP Committee meeting was held virtually on April 27, 2022 and served as a joint meeting to identify key mitigation strategies and discuss their implementation. This discussion focused on different activities (or mitigation alternatives) that could prevent or reduce the severity of the problems discussed at Meeting 2. This was a systematic review of a wide range of activities to ensure that all possible mitigation alternatives were explored, not just the traditional approaches of flood risk reduction structures, acquisition, and regulation of land use. The planning committee then prioritized mitigation alternatives selected for inclusion in the final action plan and discussed an implementation timeline. See the *Mitigation Strategy* section for a full list of identified mitigation actions.

Key questions for this meeting included:

- What would you like to see the city focus on for flood risk reduction?
- What flood mitigation strategies do you support?

Table 9: FHMP Committee Meeting #4 Information

Meeting Date and Location	Agenda Items
Flood Hazard Mitigation Plan Finalize Goals and Mitigation Projects April 27, 2022 Virtual	-Finalize FHMP goals -Full mitigation alternatives discussion and action plan
Name	**Title and/or Jurisdiction**
Alex Le	USACE
Andrea Richmond	City of La Crosse - Council Member
Barb Janssen	City of La Crosse - Council Member for District 3
Becky Appleford	JEO Consulting Group
Brad Woznak	SEH
Brea Grace	SEH
Brooke Seachord	JEO Consulting Group
Caleb Wodarz	City of La Crosse - Engineering Dept
David Reinhart	City of La Crosse – Community Development
Dillon Constant	SEH
Gary Padesky	Community Member
John Callen	JEO Consulting Group
Jordan Thole	SEH
Karla Doolittle	Community Member
Kevin Rindy	La Crosse County - Emergency Management Coordinator
Lewis Kuhlman	City of La Crosse – Environmental Planner
Sarah Rafajko	City of La Crosse - Community Risk Management
Steve Cash	Community Member
Terry Zien	USACE – Flood Plain Management Services
Tobyn Peterson	City of La Crosse – Stormwater Coordinator

Public Review Period

Once a draft copy of the FHMP was compiled, a public review period was opened to allow for all members of the Planning Committee, stakeholders, and community members to review the plan and provide comments and changes, if any at that time. The public review period was open from Monday, July 18, 2022 to Friday, September 2nd, 2022. Members of the Planning Committee were emailed and mailed a letter notifying them of this public review period and utilized flyers, social media, and local news sources to share public review status with the community at large. The FHMP was made available on the project website (https://www.lacrossefhmp.com/projectdocuments) to download the document. Comments and revisions received during Public Review Period were minimal and included the following:

- General grammatical revisions or language clarification
- Revisions/expansion of description on mitigation action status'
- Increased priority level on "Education and Outreach" mitigation action from Medium priority to High priority
-

Open House #2

During Public Review Period, a second Open House was held at the Black River Beach Neighborhood Center on Tuesday, August 23rd from 4pm to 6pm. This second and final open house allowed the team to present the draft plan to those most affected by flooding in the city: the community. The full plan was provided to receive confirmation previously received feedback and opinions had been fully integrated into the plan. During this open house, the public shared feedback that informed the final, published plan, and established suggestions for plan maintenance. Attendees to the Open House are listed in the table below.

Table 10: Open House #2 Attendees

Attendee Name	
Bob Harter	Tom Pettengill
Dave Hanifl	Renee Riek
Leighton Lee	Tony and Nancy MacIntyre
Bill and Kim Hone	Mark and Keis Wess
Natalie Solverson	Dorthy Almea-Harwood
Jan Hand	Bill Bosshard
Jacalyn Mankein-Paul	Richard pual
Andrea Richmond	Kenneth Nolte
Larry Sleznikow	Kathleen Faar
Barb Janssen	Bob Stein
Rich Hamilton	

Comment cards were available for residents to provide local feedback, revisions, or suggestions to the plan. The following comments were provided through this process and how they are addressed in this FHMP.

- Complete a study that evaluates the storage capacity of La Crosse River Marsh and its effects on eliminating surface flooding on the lower northside from the railroad tracks to Monitor St.
    - *An evaluation of the La Crosse River Marsh is underway and other activities related to eliminating flooding are part of an identified mitigation action "Implement Projects or Improvements Identified in Hydraulic and Hydrologic Study on the La Crosse River and La Crosse River Marsh Area."*
- Evaluate FEMA's recognized floodplain for areas to be either within 1% or 0.2% floodplain.
    - *Evaluating the existing floodplain hazard risk areas and updating the modeling is identified as a current mitigation action under "Update Floodplain Modeling."*

- Share information about how annual flood risks from ground water is not the same as surface water flooding
    - *While identifying or mitigating sources of flooding from groundwater was not within the scope of this FHMP, additional outreach regarding groundwater flooding is part of the City's "Education and Outreach Program" mitigation action.*
- Consider a levee on the northern bank of the La Crosse River
    - *Evaluating existing levee conditions and structural flood control projects will be part of the mitigation action "Levee Evaluation Program" and "Levee Modification/Upgrade/FEMA Accreditation Program."*

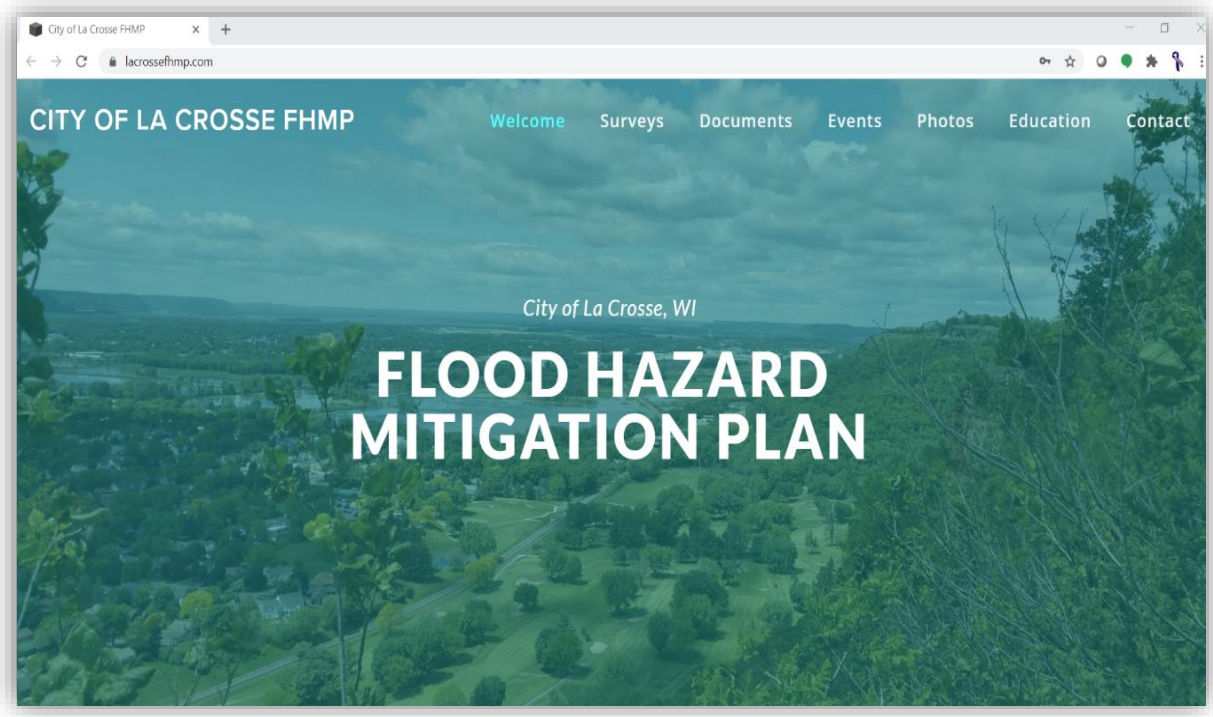
Lastly, all materials from the Open House were provided online in a Virtual Open House format. Materials from the open house were posted online as well and a comment form was also available for those reviewing the plan virtually (https://www.lacrossefhmp.com/082022-virtual-open-house).

Public Engagement Methods

Public engagement plays a key role in ensuring information included in the FHMP is relevant, comprehensive, and accurate. Project coordinators used various strategies to share the status of the FHMP with the public and encourage local buy-in and participation. Specific strategies are detailed below.

Website

A project website was developed by SEH/JEO to share ongoing project information such as the meeting schedule and information, surveys, draft materials, handouts, maps, and other materials to keep the public informed throughout the project. Upon FHMP completion, the city will be responsible for maintaining the website (set to renew annually) and should utilize it to publish critical flood related information for residents, track progress on identified mitigation activities, and share key resources. The project website is: https://lacrossefhmp.com/



Surveys

Project coordinators developed an online survey and made it available at the first open house and posted on the project website. The survey was open from the first open house through Meeting 3 to solicit information from the public on the city's flood hazards, problems, and possible solutions. Specifically, the survey asked residents to share their photos, stories, and experiences with past flooding events in the city. The survey was available to everyone, with an emphasis on reaching out to those living or working in the floodplain and other flood risk areas.

Social Media

The City of La Crosse shared social media posts to provide updates on the planning process, opportunities for the public to review information, attend meetings, survey links, educational materials, and generally keep the public aware of the project. The city created posts for the following activities:

- Planning committee meetings
- Open house meetings
- Availability of draft FHMP
- New information on the project website
    - Surveys, maps, images, key facts or summaries, etc.

A key social media resource during this planning process was a local neighborhood Facebook group called "Logan-Northside Neighborhood Association" (https://www.facebook.com/LoganNorthsideNeighborhoodAssociation). Members of the group shared open house meeting information and the survey link for residents.

Neighboring Jurisdiction Notification

Neighboring jurisdictions were notified of the La Crosse Flood Hazard Mitigation Plan and invited to participate in the planning process. Notifications were sent to neighboring jurisdictions to help provide input and review available drafts of the FHMP. The following table lists the neighboring jurisdictions and departments notified of the planning process. Letters and emails were also sent to neighboring jurisdictions to invite them to the Open House events for the FHMP.

Table 11: Neighboring Jurisdictions

NOTIFIED NEIGHBORING JURISDICTIONS	
Trempealeau County, WI – Sheriff's Department, Department of Land Management	**Village of Trempealeau, WI** – Village Board
Vernon County, WI – Emergency Management, Highway Department	**City of Viroqua, Vernon Co, WI –** City Engineer, Public Works
Houston County, MN – Emergency Management, City Engineer	**City of La Crescent, MN –** City Administration
Winona County, MN – Emergency Management/Sheriff's Department, County Engineer	**Town of Campbell/French Island, WI –** Clerk/Administration
Jackson County, WI – Emergency Management, Highway Department	**City of Onalaska, WI –** City Administration
Monroe County, WI – Emergency Management, Highway Department, County Administration	**Village of Homen, WI –** Village Administration
City of La Crosse, WI – Floodplain Advisory Committee	**USACE –** Floodplain Management Services Department
Wisconsin Department of Natural Resources	**Federal Emergency Management Administration**
National Weather Service La Crosse	**La Crosse County –** Emergency Management

Project Flyer and Bookmark

JEO drafted a project flyer that detailed the plan's description and goals, ways to get involved, project contacts, and a link to the project website. SEH and city staff posted the flyer in various locations around the community (libraries, community centers, retail and service establishments) and on social media.

Lastly, JEO created a project bookmark based on the project flyer. Copies were located at the city library for residents to take and use.

City of La Crosse

Flood Hazard Mitigation Plan

The City of La Crosse is developing a Flood Hazard Mitigation Plan or FHMP. Residents and stakeholders from the community are encouraged to provide input throughout the planning process.

Flood Hazards

Water overflowing from rivers or storm drains due to heavy rains can lead to property damage and public safety impacts such as closed roads and disruption of emergency services.

Mitigation

Mitigation is any action that reduces risk. Potential actions will be reviewed, discussed, and prioritized by the Flood Hazard Mitigation Planning Committee based on input from the community.

Flood Hazard Mitigation Plan

A Flood Hazard Mitigation Plan is a community-driven, living document that assesses vulnerability to flood hazards and identifies mitigation strategies to reduce vulnerability.

Why Develop a Flood Hazard Mitigation Plan:

- To assess flood risk and vulnerabilities
- To identify strategies to reduce flooding impacts and damages
- To prioritize and plan implementation of flood risk reduction projects according to feasibility, community priority, and potential for grant funding
- To increase community flood resiliency

For more information on upcoming meeting dates, input opportunities, and more, visit the project website!

www.lacrossefhmp.com

Bernard Lenz
Utility Coordinator, City of La Crosse
lenzb@cityoflacrosse.org | 608-789-7588

SEH

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Project Manager, SEH
bwoznak@sehinc.com | 651-490-2125

City of La Crosse

Flood Hazard Mitigation Plan

Flood Hazards

Water overflowing from rivers or storm drains due to heavy rains can lead to property damage and public safety impacts such as closed roads and disruption of emergency services.

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The City of La Crosse is developing a Flood Hazard Mitigation Plan. Residents and stakeholders from the community are encouraged to provide input throughout the planning process.

For more information on upcoming meeting dates, input opportunities, and more, visit the project website!

lacrossefhmp.com

Press Releases

Project coordinators drafted a press release in consultation with the city at key points of the planning process (i.e., the September 2021 open house) to ensure widespread awareness of upcoming meetings, ways to be involved, and provide comment. The city published the press releases on the city website, social media accounts, and shared them with local media including the La Crosse Tribune newspaper.

PRESS RELEASE

CITY OF LA CROSSE

Flood Hazard Mitigation Planning

09.01.2021

The City of La Crosse is inviting community members to attend the September 8th Public Information Open House for the city's Flood Hazard Mitigation Planning process. You're welcome to stop in anytime between 4pm - 6pm. The Open House will be held at the Black River Beach Neighborhood Center, 1433 Rose St, La Crosse, WI.

The City of La Crosse hired the SEH / JEO consulting team to prepare a Flood Hazard Mitigation Plan (FHMP), and the process of plan development is ongoing. In addition to this evaluation, the U.S. Army Corps of Engineers (USACE) recently completed a Nonstructural Flood Mitigation Assessment for La Crosse. Representatives from the City of La Crosse, SEH, JEO, and the US Army Corps of Engineers will be in attendance to answer questions regarding the FHMP process and related studies. Residents and stakeholders from the community are encouraged to attend this Open House to provide input in the planning process.

Developing a Flood Hazard Mitigation Plan is important for four primary reasons: (1) To assess flood risk and vulnerabilities (current planning phase); (2) To identify strategies to reduce flooding impacts and damages; (3) To prioritize and plan implementation of flood risk reduction projects according to feasibility, community priority, and potential for grant funding; and (4) To increase community flood resiliency.

The project team is seeking input from community members to gather information about historical and potential flood impacts to the La Crosse community. In addition to attending the Open House on Wednesday, September 8th, there are two opportunities on the project website to provide input into this planning process. The address for the project website is https://www.lacrossefhmp.com/.

First, the team would like to hear from the public about where flooding has been occurring, what the community members are identifying as hazards and vulnerable assets such as buildings or infrastructure, as well as what places should be focused on for future investment. To map these locations, visit the project website, and click on link to "Map Your Ideas".

Second, the team would like to hear details from the public about observations on flooding events. Have you experienced damage from a flood event? Was a claim filed with the flood insurance provider? Do you have pictures to share? To share these details, please visit the project website, and click on the link to "Upload Your Photo and Share Your Story."

Page 2

Community input on existing conditions for flood risks will help the project team prepare a Flood Hazard Mitigation Plan, which will provide guidance to the city on floodplain management. According to Brea Grace, Senior Community Development Specialist with SEH, "a Flood Hazard Mitigation Plan will both assess flood risk and vulnerabilities, and it will also start to identify mitigation actions to reduce flood risk and impacts. With this plan in place, the City will be better positioned to seek funding for future mitigation strategies."

Additional information on the plan, floodplain resources, and opportunities for input can be found at the project website. If you are not able to attend the Open House, please share your comments through a survey posted on the project website.

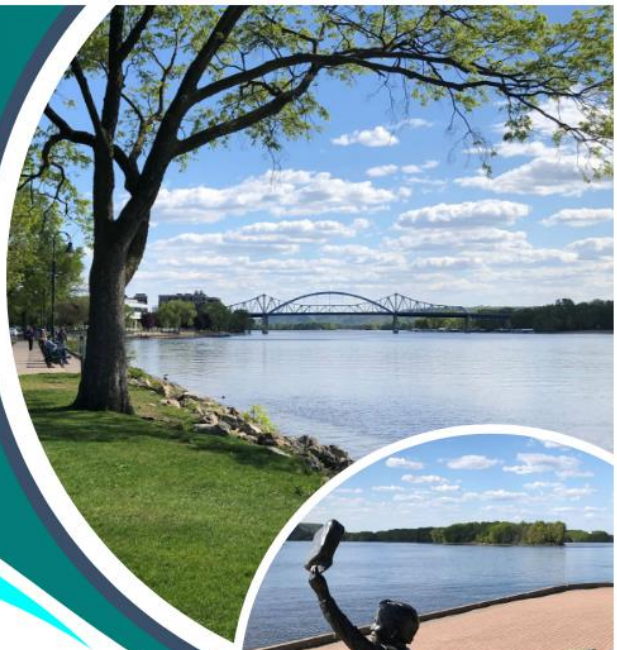
Questions about this project may be directed to: Sarah Rafajko, Floodplain Manager/Chronic Nuisance Technician, City of La Crosse, (608) 789-8678, rafajkos@cityoflacrosse.org or Becky Appleford, Planner, JEO Consulting Group, (402) 392-9915, rappleford@jeo.com.

Other press releases were developed and shared for: Open House #2 and Public Comment Period.

City of La Crosse

Flood Hazard Mitigation Plan

OPEN HOUSE



Tuesday, August 23rd
4:00-6:00pm

Black River Beach Neighborhood Center
1433 Rose St | La Crosse, WI 54603

The City of La Crosse has developed a Flood Hazard Mitigation Plan (FHMP). Community members are encouraged to attend this open house to speak with city officials and project consultants about the plan.

Why Develop a Flood Hazard Mitigation Plan:

- To assess flood risk and vulnerabilities
- To identify strategies to reduce flooding impacts and damages
- To prioritize and plan implementation of flood risk reduction projects according to feasibility, community priority, and potential for grant funding
- To increase community flood resiliency

For more information,visit the project website!
www.lacrossefhmp.com

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Existing and Future Conditions

Evaluating flood risk requires an intensive analysis of numerous resources, both quantitative and qualitative. Historical records of flood events which have impacted the city are described in the section below. It is critical that, in order to make effective future flood risk reduction decisions, we understand past events and the factors shaping flooding conditions today. Our ability to evaluate flood risk has greatly increased in the past several decades; however, flood risk reduction activities can never fully prevent flood impacts as development continues to occur in flood-prone areas.

Flood History

La Crosse sits at the confluence of three significant waterways – the Black, La Crosse, and Mississippi Rivers. With floods of record in 1965, 2001, and 2007, each of these waterways has contributed to flooding issues in the city.

April 1965

Figure 3: 1965 Flood - La Crosse Street (La Crosse Tribune)

Heavy rain and flooding occurred along the Mississippi River throughout the month of April. Governor Warren Knowles declared a state of emergency and signed a blank check for flood fighting efforts. River levels reached 15.3 feet on April 16, tying previous high-water records. Volunteers sandbagged along the waterfront and an emergency dike was constructed along the north side of the city's abutment with the Mississippi River. This flood fighting structure has since become the primary emergency levee still standing in La Crosse present day. During the 1965 flood, the dike began seeping water and a section failed April 19, flooding 25 homes on the north side. River crests at 17.9 feet on April 20 and additional sandbags were added to reinforce the dikes. Over three days, volunteers filled approximately 66,000 sandbags. This flooding was responsible for the death of Roland Fischer, 55, who drowned trying to ferry fellow employees across the river to the Northern States Power plant. On May 5, 1965, the Mississippi River finally fell below flood stage. Officials estimated $1.2 million spent on flood fighting efforts (~$8.4 million adjusted for inflation).

April 1997 - $1 million in property damages

In 1997, the Mississippi River reached its third highest flood level on record, and the ensuing floodwaters damaged several homes and businesses. A crest of 16.4 feet occurred on April 11 at Alma and 15 feet at La Crosse on April 12. Floodwater closed some roads, and barge and rail traffic were disrupted as well.

April 10 to May 1, 2001 - $3.2 million in property damages

March storms in 2001 brought heavy snow to Minnesota and Wisconsin. As La Crosse snow began to melt in earnest near the end of March, heavy rain plus snow melt runoff caused the Mississippi River to reach near record levels in early April. The Mississippi River at La Crosse (La

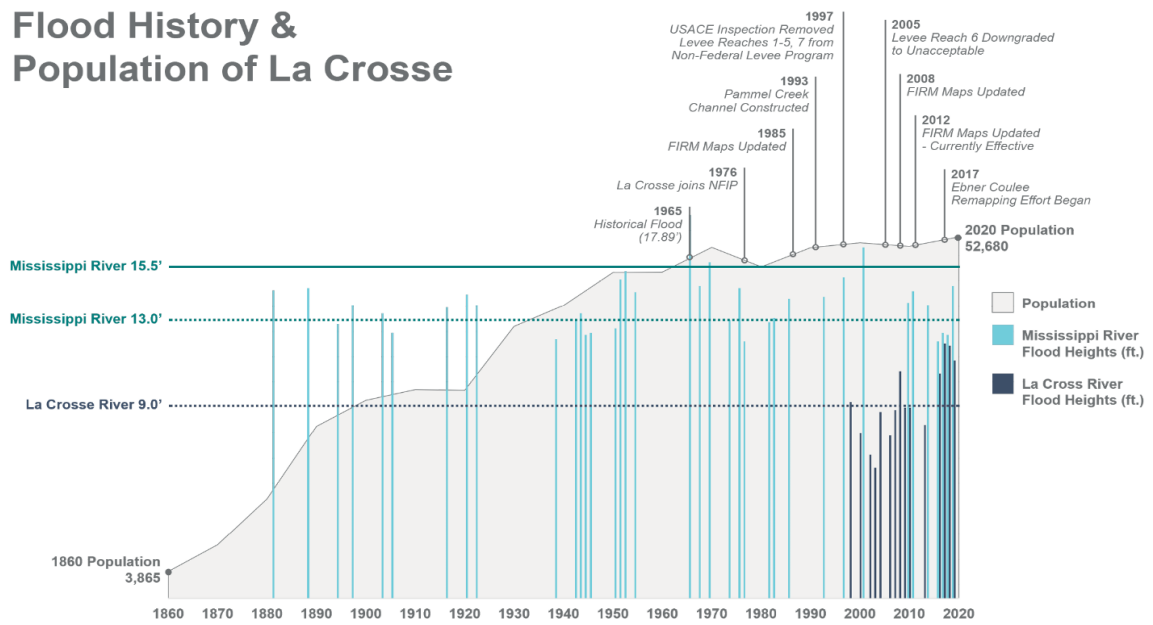
Crosse County) crested at 16.4 feet on April 18, which was tied for the third all-time highest flood on record, making La Crosse County eligible for state disaster relief funds. Water levels began dropping during the latter part of the month but remained above flood stage through early May.

August 18-19, 2007 - $13 million in property damages

Heavy rain in August 2007 led to major flash flooding in the south end of La Crosse County, especially directly south of La Crosse. Streets throughout La Crosse flooded and were impassable, specifically on the south side near Kwik Trip and Walmart. Law enforcement and fire department officials reported rescuing people in stranded vehicles. Reports came of mudslides along Highways 35 and 33, and a retaining wall washed away at the intersection of Highways 14, 61, and 35. Erosion, too, washed away some smaller roads. Highway 35 south of La Crosse and County Road GI to Good Island Park remained closed for several days after the main flood event. Up to 200 people were evacuated at Goose Island campground due to flash flooding and a nearby train derailment as mud and debris flowed across the railroad tracks. Water intruded into residential basements. Crawford, La Crosse, Richland and Vernon counties were declared federal disaster areas.

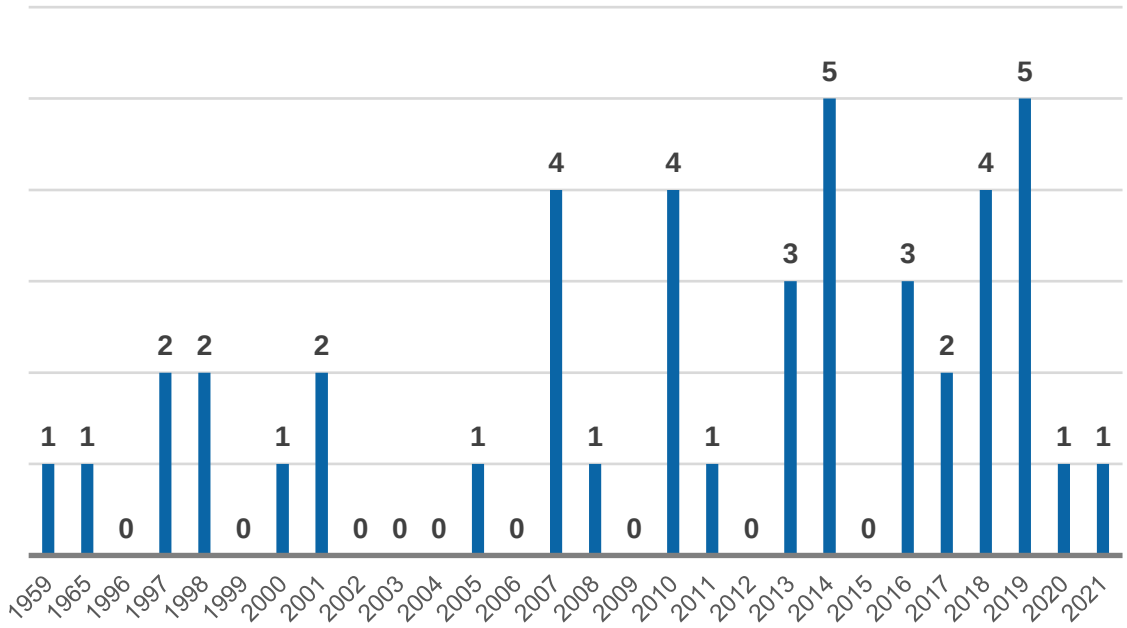
In addition to these recorded floods, in August 1959, flooding occurred along Pammel Creek, State Road Coulee, and Ebner Coulee.

The city has experienced 42 individual flood events since 1996 according to the NOAA National Centers for Environmental Information, in addition to the two additional recorded flood events in 1959 and 1965 (total events = 44). While one fatality was reported during the 1965 flood, thankfully no other injuries or fatalities were reported from these flood events. In total, damage estimates were reported in excess of $26 million to property (adjusted for inflation). La Crosse has experienced, on average, at least one high-water event every other year since 1996. Flood events typically occur between March and October, as they coincide with snowmelt and summer rainstorms. La Crosse may continue to expect high water events to occur regularly along the Mississippi River, La Crosse River, and Black River.



There has been a total of 44 flood events in the city between 1965 and 2021. Some years had multiple flooding events. The following figure shows the events broken down by year. For a consistent period of record, probability of events is based on the record provided by the NCEI (1996-2021, period of record = 26 years). Based on the historic record and reported incidents by the city with 17 out of 26 years with a reported flood event, there is a 65 percent probability that flooding will occur annually in the city.

Figure 4: Number of Flood Events by Year



The average damage per event estimate was determined based upon NCEI Storm Events Database since 1996 and the number of historical occurrences. This does not include losses from displacement, functional downtime, economic loss, injury, or loss of life. The NCEI database indicates that flooding causes an average of $750,120 in property damages and $23,400 in crop losses per year for the city (period of record 1996-2021). La Crosse County has experienced fourteen disaster declarations between 1965 and 2019, six for flooding.

Table 12: Disaster Declarations including La Crosse County

Disaster Number	Year	Disaster Title
DR-192-WI	1965	Tornadoes, Severe Storms, & Flooding
DR-260-WI	1969	Flooding
DR-376-WI	1973	Severe Storms & Flooding
DR-559-WI	1978	Severe Storms, Flooding, Hail and Tornadoes
DR-994-WI	1993	Severe Storms, Tornadoes & Flooding
DR-1236-WI	1998	Severe Storms, Straight Line Winds, Tornadoes, Rain, and Flood
DR-1369-WI	2001	Flooding, Severe Storms, and Tornadoes
DR-1526-WI	2004	Severe Storms and Flooding
DR-1719-WI	2007	Severe Storms and Flooding
DR-1768-WI	2008	Severe Storms, Tornadoes, and Flooding
DR-4288-WI	2017	Severe Storms, Flooding, and Mudslides

Disaster Number	Year	Disaster Title
DR-4343-WI	2018	Severe Storms, Straight Line Winds, Flooding, Landslides, and Mudslides
DR-4402-WI	2019	Severe Storms, Tornadoes, Straight Line Winds, Flooding, and Landslides
DR-4459-WI	2019	Severe Storms, Tornadoes, Straight Line Winds, and Flooding

Floodplain Description

Floodplains are typically designated as the low-lying areas inundated by a waterway that exceeds bank capacity, such as along river, lake, or coastal areas. In La Crosse, as in many other places, human development and infrastructure are located within the floodplain. In an effort to regulate and manage development in these flood zones, the Federal Emergency Management Agency (FEMA) delimits regulatory floodplains and definitively maps flood risk hazard areas to aid communities and agencies. In addition to mapping flood hazard areas, FEMA's National Flood Insurance Program (NFIP) was created in 1968 with the main goal of avoiding future losses of life and infrastructure from flooding by providing flood insurance in exchange for communities completing floodplain management to a minimum standard. Communities participating in the NFIP must regulate development in the floodplain in order to provide flood insurance and/or insurance premium discounts to residents. FEMA also develops Flood Insurance Rate Maps (FIRMs) which identify flood risk hazard areas and their subsequent flood risks.

Within these FIRMs, the high-risk flood zone is denoted as the Special Flood Hazard Area (SFHA) and is "defined as the areas that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood." Properties existing within the SFHA **have a 26% chance of experiencing a base flood or greater during the typical 30-year mortgage timeframe.** Federal law requires properties within the SFHA with mortgages from government-backed lenders to have flood insurance.

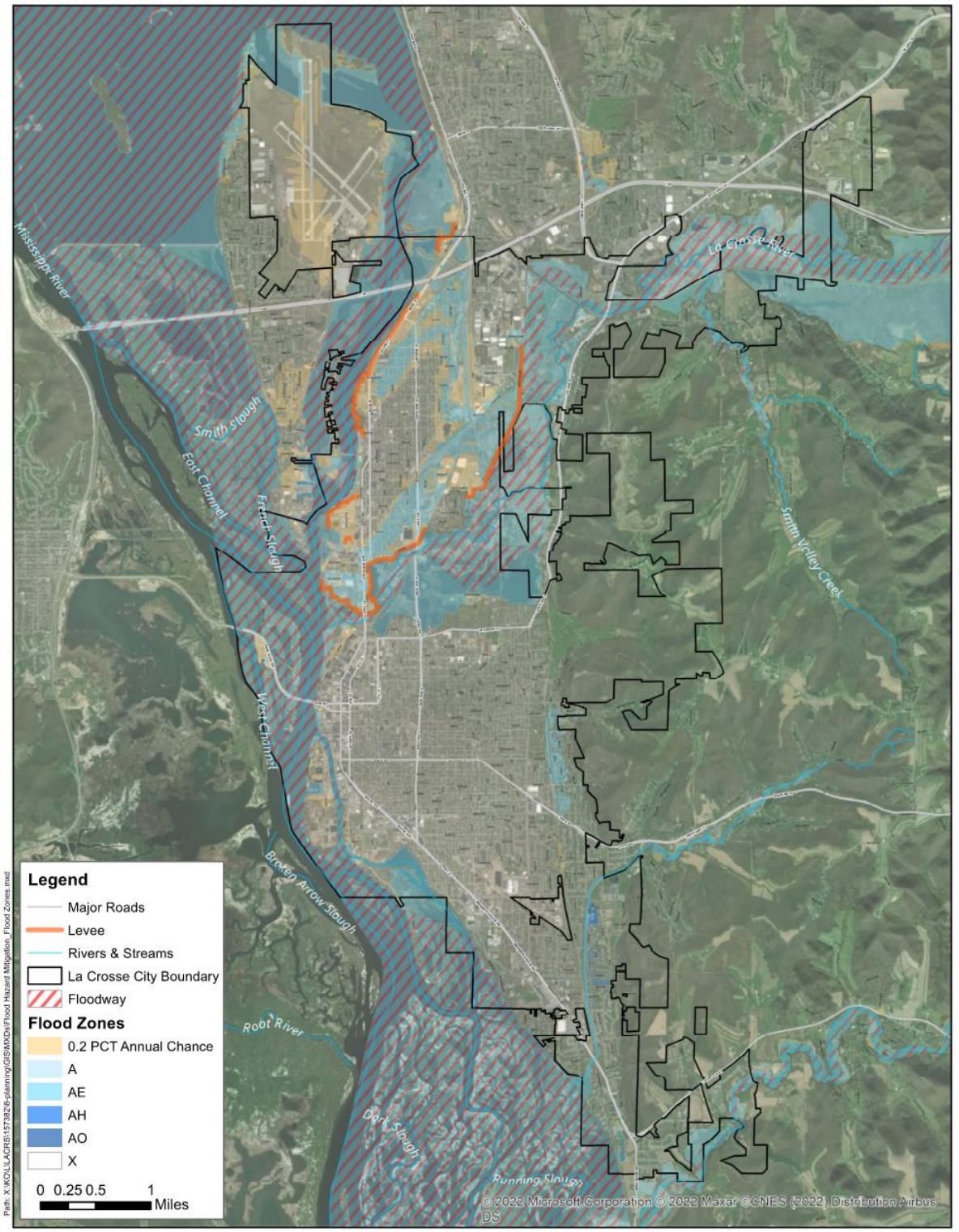
The following table lists Flood Map products for the city from FEMA's Flood Map Service Center.

Table 13: FEMA Flood Map Products for La Crosse

	Panel Number	Effective Date
Currently Effective FIRM Panels	55063CIND0B, 55063C0144D, 55063C0163D, 55063C0232D, 55063C0234D, 55063C0242D, 55063C0251D, 55063C0252D, 55063C0253D, 55063C0254D, 55063C0256D, 55063C0258D, 55063C0261D, 55063C0262D, 55063C0263D, 55063C0264D, 55063C0268D, 55063C0352D, 55063C0356D, 55063C_NTU_20210730	1/6/2012
Flood Insurance Study Reports	55063CV0001B, 55063CV002B	1/6/2012
Historic FIRM Panels (no longer effective)	55063CIND0A, 55063C0144C, 55063C0163C, 55063C0232C,	4/2/2008

	55063C0234C, 55063C0242C, 55063C0251C, 55063C0252C, 55063C0253C, 55063C0254C, 55063C0256C, 55063C0258C, 55063C0261C, 55063C0262C, 55063C0263C, 55063C0264C, 55063C0268C, 55063C0352C, 55063C0356C	
	555562IND0, 5555620005B, 5555620006B, 5555620007B, 5555620008B, 5555620005, 5555620006, 5555620007	5/15/1985
	555562A	5/14/1976
HISTORIC FLOOD INSURANCE STUDY REPORTS	55063CV000A	4/2/2008
	555562V000	11/15/1984

Figure 5: FEMA Flood Hazard Areas



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La Crosse County

FEMA Flood Hazard Areas

City of La Crosse, La Crosse County, Wisconsin

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Sources of Flooding

Riverine

The primary form of surface flood events impacting people and property in La Crosse is riverine flooding from the three rivers surrounding the city. The Mississippi River, Black River, and La Crosse River cradle the city and residents are intimately connected to these waterways through industry, recreation, and culture. Flooding from these rivers primarily occurs in the springtime from snowmelt or summer months from intense thunderstorms.

Figure 6: Flood Stages for Riverine Flood Sources

	Waterway	
Flood Stage (ft)	Mississippi River / Black River	La Crosse River (05383075)
Action	10.0’	6’
Minor	12.0’	7.5’
Moderate	13.0’	9’
Major	15.5’	-

Action Stage: Point at which city begins implementing flood planning activities; little to no public impacts at this stage

Minor Flooding: Minimal or no property damage, but possibly some public threat in roadway inundation

Moderate Flooding: Some inundation of structures and roadways near rivers and streams; some evacuations of people and/or transfer of property to higher elevations may be necessary

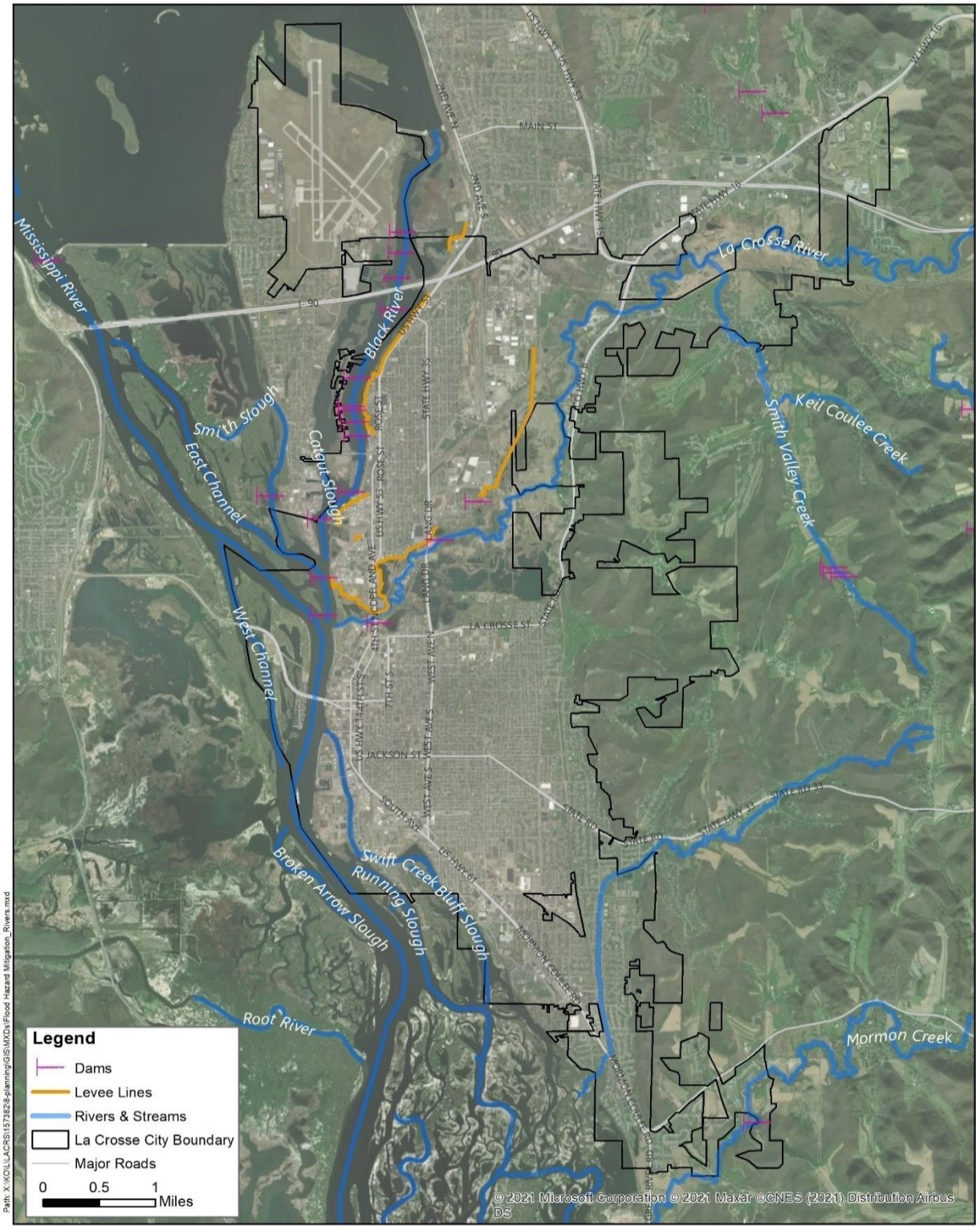
Major Flooding: Extensive inundation of structures and roadways; significant evacuations of people and/or transfer of property to higher elevations.

Listed below are impacts specific to La Crosse as the Mississippi River reaches each flood stage:

- Gage Height (12 ft) – Pettibone campground and RV park is flooded
- Gage Height (13 ft) – Flooding impacts road access to north end of Shore Acres development
- Gage Height (14 ft) – Homes in Shore Acres area threatened by flooding; flooding approaches Pettibone Beach House shelter and overtopping road at Houska Park near wastewater treatment plant
- Gage Height (14.5 ft) – Lock and Dam No. 8 become inoperative and Goose Island Park begins to flood
- Gage Height (15.4 ft) – Lock and Dam No. 7 become inoperative
- Gage Height (16 ft) – Water within one foot of Rose Street near I-90, eastbound exit closed; east and westbound lanes on Clinton Street between la Crosse and French Island reduced to two lanes; shelter and ballparks in Copeland Park flooded
- Gage Height (16.5 ft) – Most of riverside park is flooded with water up State Street, Rose Street and Clinton Street may need to be closed
- Gage Height (18 ft) – The road to the La Crosse airport may experience flooding

The La Crosse River has a stream gage approximately two miles west of West Salem (Gage No. 05383000) monitored by the USGS. The high-water record at this gage was set on July 2, 1978, at 12.82 feet.

Figure 7: Waterways in La Crosse



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Rivers, Channels, Sloughs & Creeks

City of La Crosse, La Crosse County, Wisconsin

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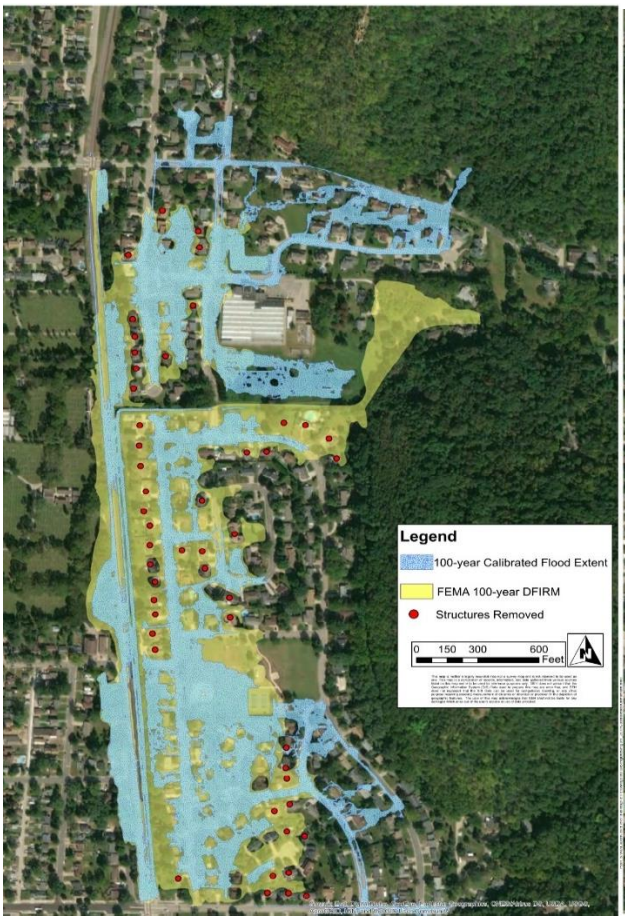
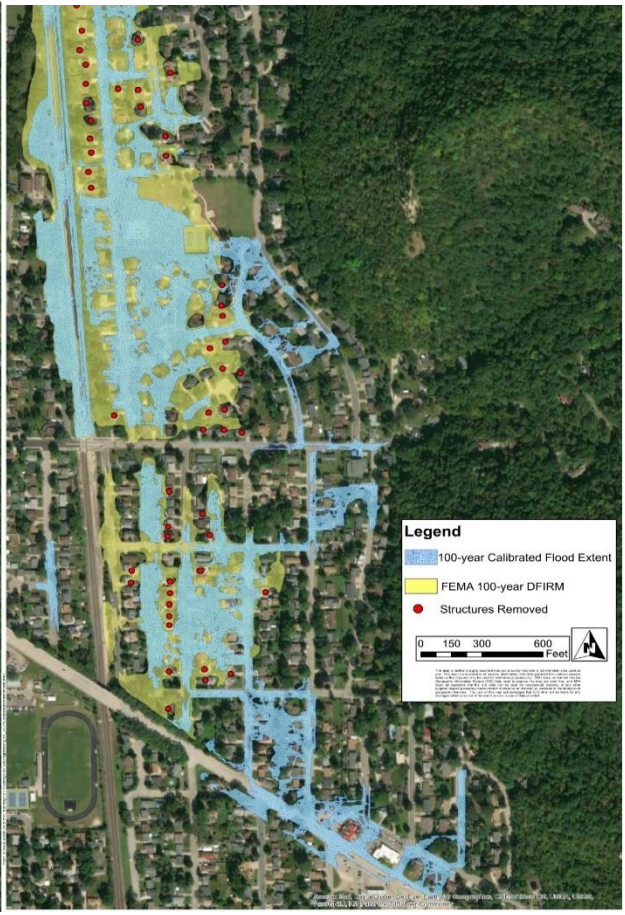
Other creeks and streams that contribute to riverine flooding in La Crosse include Mormon Coulee Creek, Smith Valley Creek, Pammel Creek, and Ebner Coulee.

- Mormon Coulee Creek and Smith Valley Creek: Newly mapped SFHA by studies from La Crosse County. No structures located in flood fringe or floodway.
- Pammel Creek/State Road Coulee: The city and USACE constructed a concrete channel to convey Pammel Creek to the Mississippi River and removed existing structures from the SFHA in 1993. During construction, the city made additional improvements to remove a portion of the former golf course area from the SFHA and allow homes to be built in that area. The city has also participated in a voluntary property buyout program and has bought homes located along Pammel Creek where periodic flooding has occurred.

Ebner Coulee: Ebner Coulee flows westward out of the bluffs into a leveed channel through several of the city's residential neighborhoods. Between 2017 and 2022 the city participated in an Ebner Coulee Floodway Remapping Study and FEMA Letter of Map Revision. The study aimed to reevaluate flood risk resulting from rainfall events within the Ebner Coulee watershed. This study was principally motivated by a major rainfall event in July 2017 (approximately a 50-year storm). Wisconsin DNR, SEH, and the city worked together to complete the study and ultimately submit and obtain a Letter of Map Revision to update the FEMA maps to be more reflective of the flood risk experienced. The LOMR which became effective in 2022 resulted in approximately 150 residential structures being removed from the SFHA and mandatory flood insurance purchase requirement.





Stormwater Flooding

In addition to riverine flooding, residents and landowners throughout La Crosse experience high water events and damages from flood waters due to heavy rainfall and overflows from the steeply sloped bluff areas to the east of city. Pluvial flooding, or flooding that occurs after extreme rainfall, can cause surface water or flash flooding when the urban drainage system is overwhelmed. Pluvial flooding can either occur slowly, such as with multiple days of consistent light rain, or rapidly, such as when water levels are already elevated and a heavy thunderstorm occurs. While still dangerous, gradual flood conditions may allow time for evacuation and relocation of property. Flash flooding moves quickly and is highly hazardous and destructive.

The city has identified specific intersections and roadways in La Crosse which are likely to experience flooding during storm events. When the Mississippi River stage rises between 12.5' to 13', water backs up into the storm drains that lead to the river, then makes its way back to the catch basins located in the curb or gutter of local streets. The city monitors the following streets for stormwater flooding:

1. Causeway Blvd & Sumner St. Located by the Hunger Task Force
2. Catch basins on the east side of Copeland St. from La Crosse River north to Monitor St.
3. George St. and St Cloud St. Watch Catch Basins Located on east side of George at St Cloud St.
4. North St. and Caledonia St.
5. Alley between Loomis St. and Prospect St. from Rublee st.to Gohres St.

Groundwater Seepage Flooding

While a full analysis and summary of groundwater seepage flooding is outside the scope of this FHMP, throughout the public engagement process, a consistent concern voiced by property owners and residents of La Crosse was groundwater intrusion to private infrastructure. The groundwater table beneath much of the city is classified as high, meaning during high water events and saturated ground conditions, hydrologically connected excess water cannot drain away from properties and intrudes into basements or residential structures.

Many homes throughout the city have basements with key utilities that, to prevent damages, should be elevated or relocated to the main floor. Homes and garages also face elevation requirements for significant remodels or repairs after substantial damage. However, because some La Crosse homes are located within the floodplain and because of current floodplain regulations, property owners are also restricted in their ability to add an addition to homes to accommodate these utilities. For example, homes and garages cannot accommodate additions as they would likely be three to five feet elevated in comparison to the home. Property owners are also faced with other problems, like declining property values due to their location within the floodplain, damaged basements and footings, and reduced usable square footage when relocating utilities. Property owners have expressed significant frustration due to the limitations in mitigation and remediation efforts for this issue.

While this plan does not specifically address individual property owners' groundwater concerns, pursuing key mitigation actions as identified in the plan—like a FEMA and USACE accredited levee system—will remove numerous homes facing these issues from the 1-percent floodplain designation and resulting floodplain rules and regulations for properties. Currently, elevation and relocation are the primary strategies available to eliminate groundwater seepage for individual residents since the existing

emergency levee segments are not accredited. However, if levee accreditation is obtained, this approach will allow individual residents to implement some of the other mitigation solutions that have been outlined, such as filling in basements and expanding property horizontally to accommodate some of the lost space.

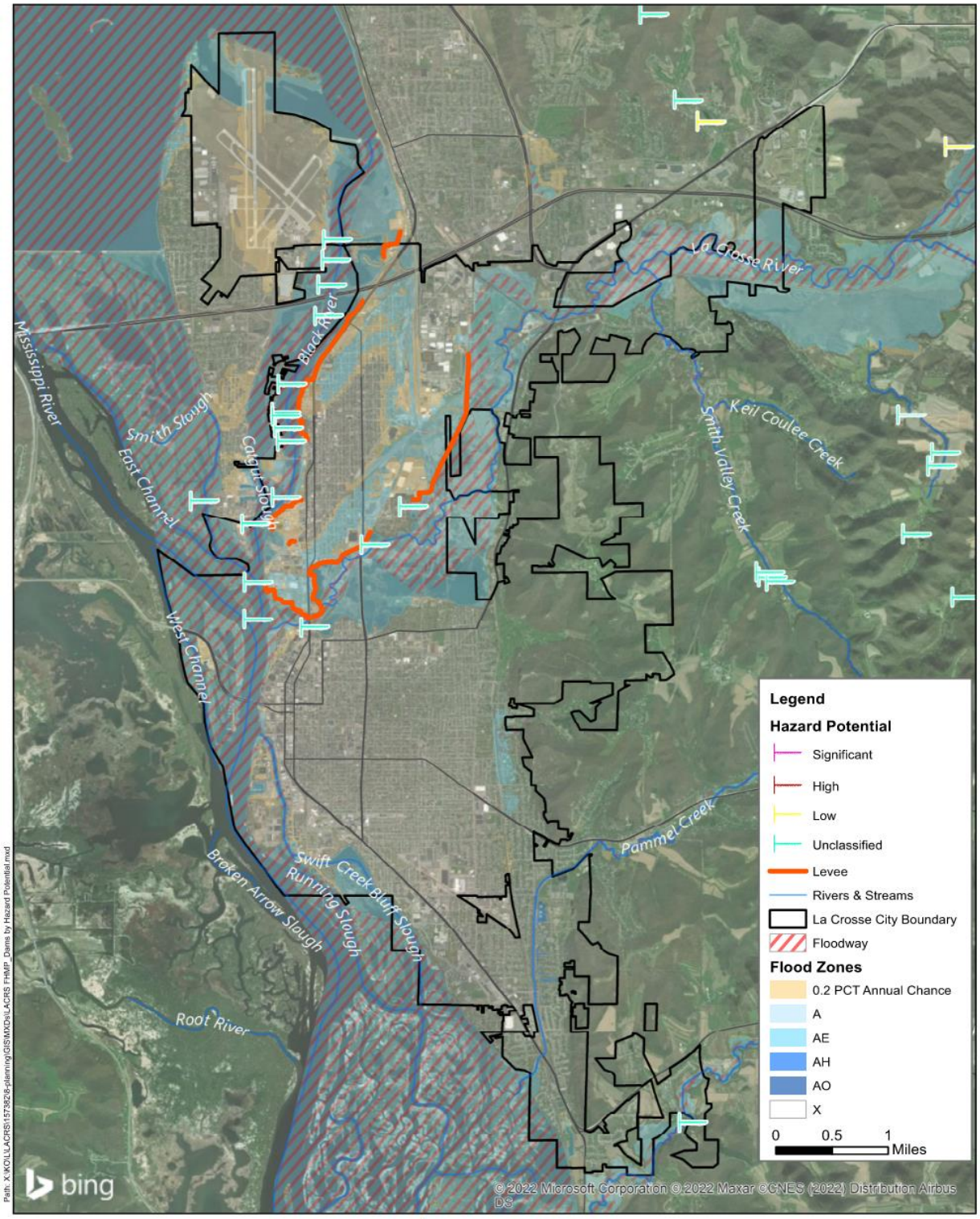
There are other non-structural methods to reducing flood risk potential for structures in the floodplain which are also faced with other challenges. USACE completed a Nonstructural Flood Mitigation Assessment in September 2020 which reviewed nineteen structures. The objective of the assessment was to identify potential non-structural flood risk reduction strategies. Examples of nonstructural actions identified for properties included wet or dry flood proofing, flood warning or preparedness activities, or implementing other floodplain regulations.

Flood Risk Reduction Infrastructure

Dam Locations

Several unclassified dams are located around the city, including Lock and Dam NO. 7 on the Mississippi River, Lake Onalaska Dam on the Black River, Neshonoc Dam at the mouth of Lake Neshonoc, and West Salem Dam on the La Crosse River. None of these dams were designed to provide flood control or flood risk reduction benefits; in addition, failure or misoperation of these structures could exacerbate flood risks downstream.

Figure 8: Dams around La Crosse



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La Crosse County

Dam by Hazard Potential

City of La Crosse, La Crosse County, Wisconsin

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Emergency Levee System Description

The city's emergency levee system is divided into seven sections, also known as reaches. This levee system was established during the 1965 flood event for emergency purposes and left in place after the flood. Since 1965 certain reaches have been modified to further enhance flood risk reduction characteristics or for the purposes of accommodating municipal projects or development.

Reach	Estimated Length
1	4,300 ft
2	3,300 ft
3	1,900 ft
4	Requires placement of emergency material to act as the flood risk reduction embankment
5	1,900 ft
6	11,500 ft
7	2,200 ft

Total – 25,100 ft (~4.75 miles)

USACE has performed numerous inspections and surveys of the various emergency levee reaches in La Crosse including in 1973, 1988, 1997, 2001, 2003, 2005, and 2006. The September 1997 report concluded that only levee Reach #6 was acceptable to be included in the USACE Non-Federal Flood Control Works Inspection Program and became eligible for funding opportunities from storm or flooding damage under Public Law PL84-99. PL84-99 provides rehabilitation assistance funding at 80% Federal, 20% local share to repair and rehabilitate levees damaged by flooding event to its pre-event condition. PL84-99 does not provide funding to initially construct dikes and levees, or to bring existing levees up to acceptable standards and levels of performance to be included in the program. However, after the 2005 inspection, the city was notified that Reach 6 of the levee system was downgraded to unacceptable and removed from the Non-Federal Levee Program. By being downgraded, the levee system was no longer eligible for PL84-99 funding opportunities.

Since the primary emergency levee reaches were constructed in 1965 in response to emergency conditions, many were placed on private property without proper easements or rights of entry secured. Without adequate easements, maintenance of the levees is limited. This limited maintenance ability leads to significant levee operation and maintenance issues, like erosion and poor vegetation management. Beyond these issues, the emergency levees constructed along the La Crosse River and on both sides of the Black River throughout most of northern La Crosse cannot be relied upon to provide flood risk reduction due to operation and maintenance deficiencies.

In addition to the emergency levees, several agricultural levees are located in the right overbank of the La Crosse River, starting approximately 0.75 mile south of County Highway B, crossing the river, and ending at the U.S. Highway 16 embankment. In establishing the related flood risks, models have shown the levee system overtopping but not completely failing structurally.

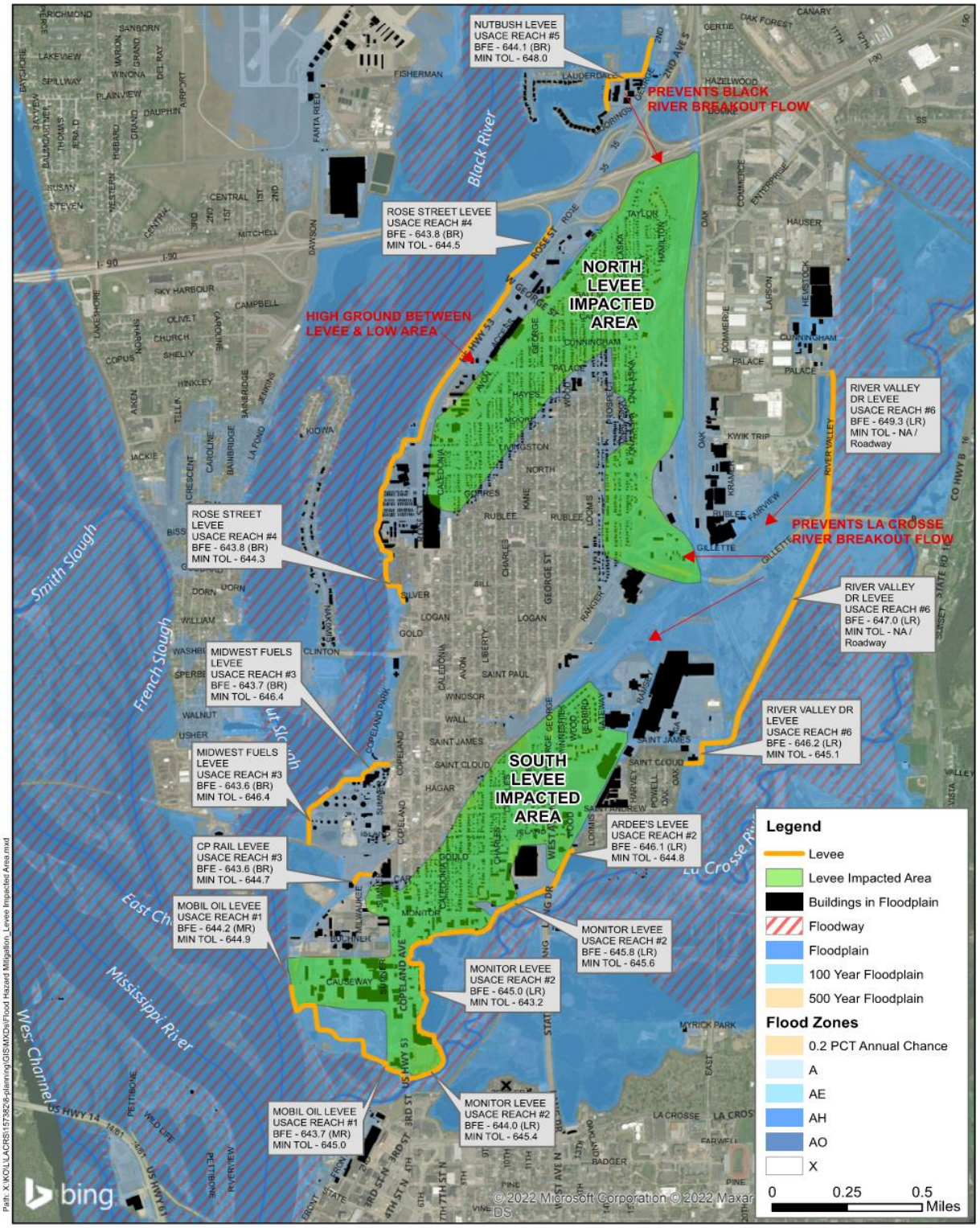
Flood Gates

To minimize the potential for riverine floodwaters to inundate areas inside the levee system, the city operates a number of gated structures as part of its flood fight plan. Gates need to be exercised

operated and maintained on a regular basis to ensure proper function during times of need. Based on the city's records, the following locations have gate structures that are closed during flooding conditions.

- Gillette and River Valley Dr.
- Palace St. and Rose St.
- Rose St. and Rose Ct.
- DE Rublee St.
- DE Sill St. by Black River Beach
- Hagar Station
- Copeland Ave. by La Crosse River
- Rublee St. 1W/Avon St.

Figure 9: La Crosse Levee Impact Areas



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La Crosse County

Levee Impacted Areas

City of La Crosse, La Crosse County, Wisconsin

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City and At-Risk Infrastructure

The City of La Crosse has a total of 17,150 parcels within its corporate limits. Of those, 3,529 (52.7%) land parcels are located in the floodplain and 1,617 (10%) parcels are within the levee-impacted area (LIA). The improvement value taken from the 2019 city tax assessment estimated total value of all improvements in La Crosse at over $2 billion. Improvements in the floodplain account for almost 22% of all improvements ($607,390,300) while improvements in the LIA accounted almost 30% of all improvements ($180,364,000). Significant portions of private and municipal infrastructure are at risk of flooding.

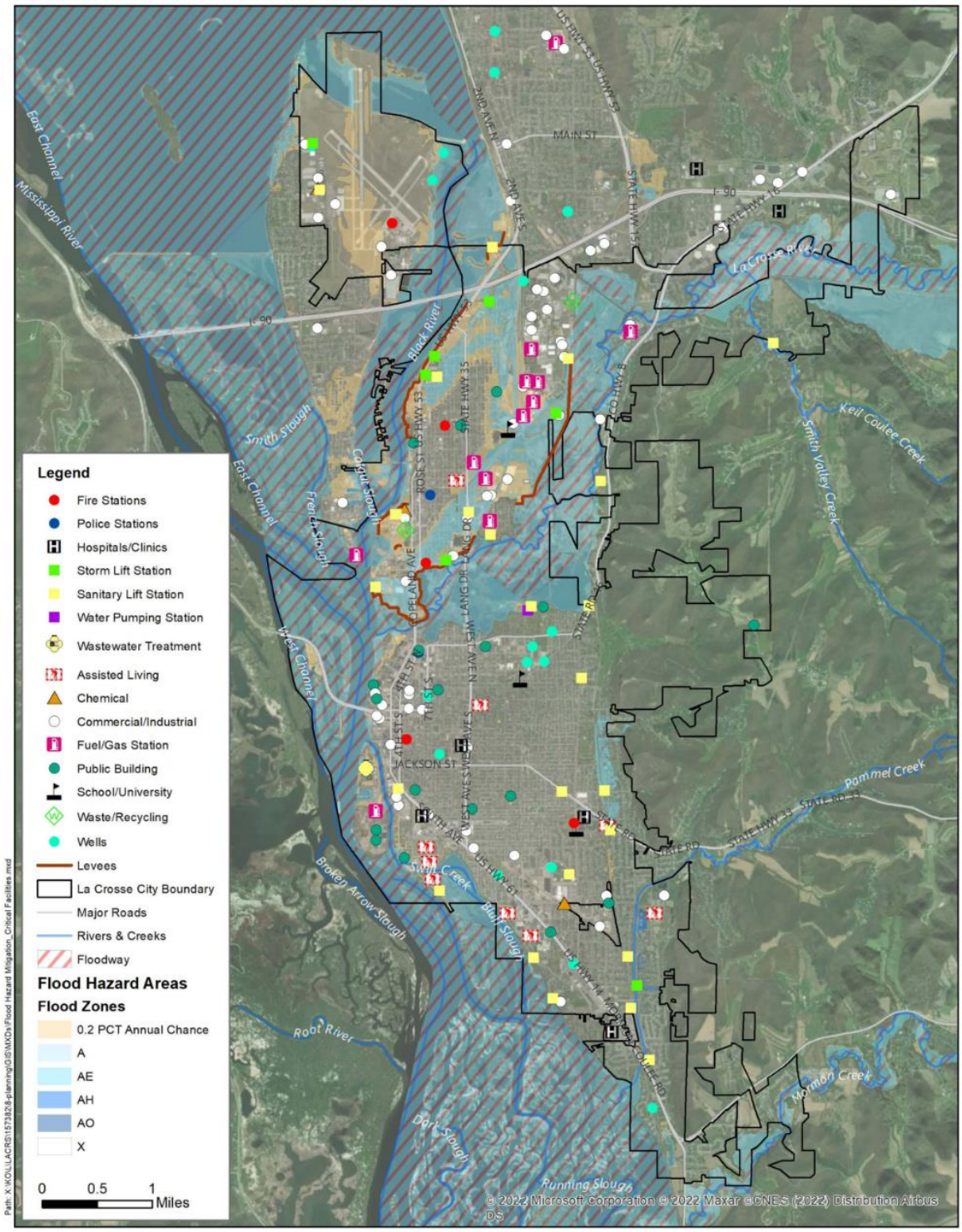
NORTH LEVEE-IMPACTED AREA	
Land area (sq. ft.);	1,873,345.2
# of parcels	1,006
Total value of improvements (2019) in Levee Impacted Area (LIA)	$89,635,000
Total value of land & improvements (2019) in LIA	$118,491,600
Percentage of total structures in floodplain in the city	40.7%
Percentage of total value of improvements in floodplain in the city	14.8%
SOUTH LEVEE-IMPACTED AREA	
Land area (sq. ft.);	1,179,573.4
# of parcels	611
Total value of structures improvements (2019) in LIA	$90,729,000
Total value of land & improvements (2019) in LIA	$122,740,900
Percentage of total structures in floodplain in the city	20.7%
Percentage of total value of improvements in floodplain in the city	14.9%

Critical infrastructure—infrastructure that should be prioritized during high water events—is of significant concern for the city. Most infrastructure in the floodplain is either residential or commercial, with some critical facilities also in the floodplain. Specific critical facilities located in the floodplain include:

Table 14: Critical Facilities within Floodplain Areas

100-YEAR FLOODPLAIN (1%)	500-YEAR FLOODPLAIN (0.2%)	
Monitor Storm Lift Station	Black River Beach Community Center	Harry J Olson Senior Center
Taylor Storm Lift Station	Gillette Storm Lift Station	Palace Storm Lift Station
Causeway Sanitary Lift Station	Rose Storm Lift Station	Hagar West Sanitary Lift Station
George Sanitary Lift Station	Green Island Sanitary Lift Station	Hagar East Sanitary Lift Station
Milson Sanitary Lift Station	Lauderdale Sanitary Lift Station	Moore Sanitary Lift Station
	Municipal Well 23	

Figure 10: La Crosse Critical Facilities



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La Crosse County

Critical Facilities

City of La Crosse, La Crosse County, Wisconsin

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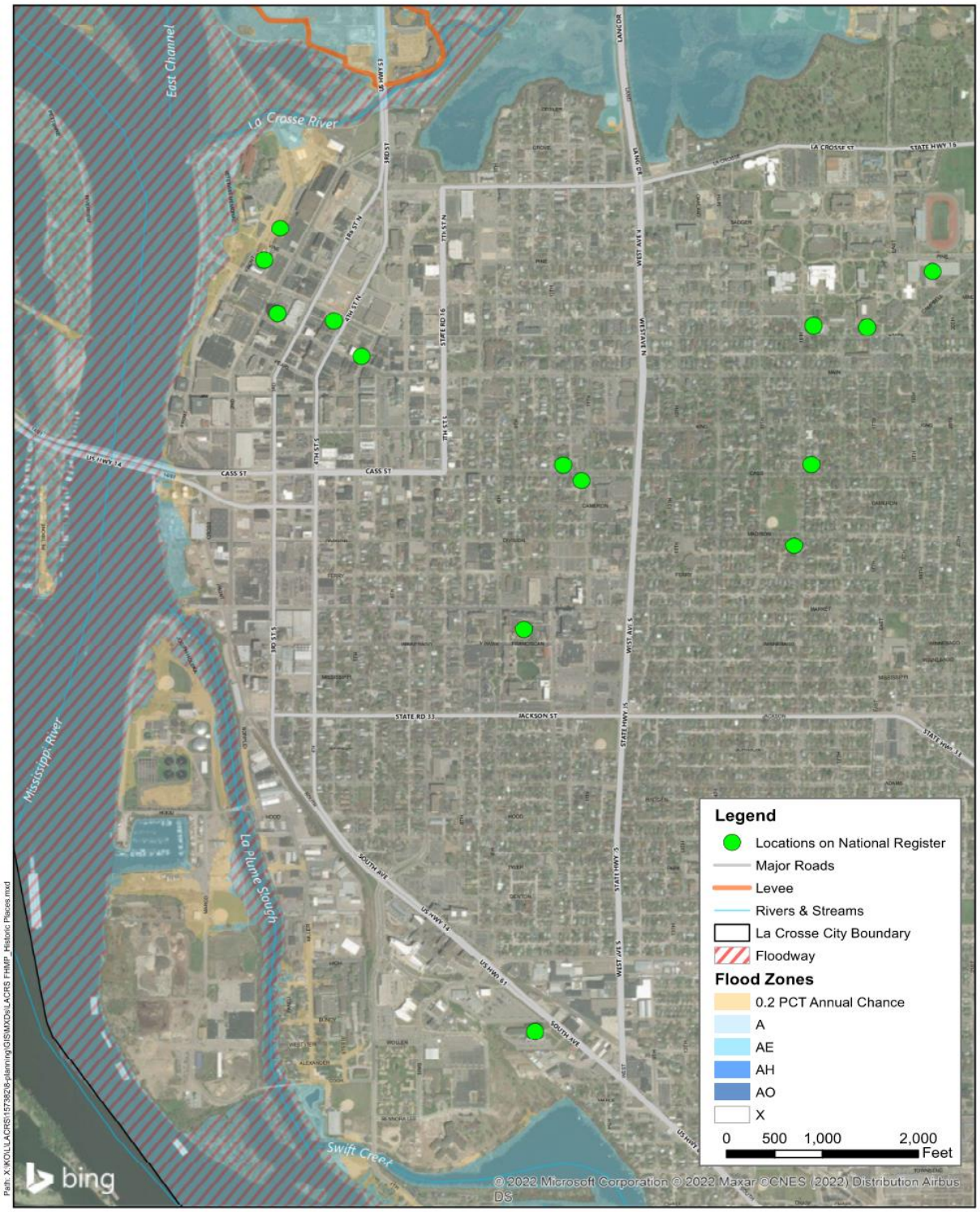
The city also has several historical and cultural sites registered on the National Register of Historic Places by the National Park Service. No sites are in the identified flood hazard areas for the City of La Crosse. Historical sites are listed in the table below.

Table 15: Historic Places in La Crosse

National Register of Historic Places Listings in La Crosse		
James Vincent House (1024 Cass St)	George Ziesler Building (201 Pearl St)	Dr. H.H. Chase and Henry G Wohlhuter Bungalows (221 and 223 S 11th St)
John L Callahan House (933 Rose St)	Cass and King Street Residential Historic District (roughly bounded by State, S. 21st, and Madison Sts., and West Ave S)	La Crosse State Teachers College Training School Building (1615 State St)
La Crosse Commercial Historic District (roughly bounded by Jay St., Second St. S., State St. and Fifth Ave. S.)	10th and Cass Streets Neighborhood Historic District (roughly bounded by Main St., S. 11th St., Cameron Ave., and S 8th St)	Chicago, Milwaukee and Saint Paul Railway Passenger Depot (601 Saint Andrew Rd.)
Mons Anderson House (410 Cass St)	Losey Memorial Arch (1407 La Crosse St)	Freight House (107-109 Vine St)
Gideon C. Hixon House (429 N 7th St)	Laverty-Martindale House (237 S 10th St)	Will Ott House (1532 Madison St)
U.S. Fish Control laboratory (410 Veterans Memorial Drive)	Waterworks Building (119 King St)	Gund Brewing Company Bottling Works (2130 South Avenue)
Edgewood Place Historical District (2520, 2526, 2532, 2537, 2539, 2540, 2541, 2546 Edgewood Place)	23rd and 24th Streets Historic District (generally bounded by Campbell Road, Losey Boulevard North, Main St., Vine St., and 23rd St)	Maria Angelorum Chapel (901 Franciscan Way)
Joseph B. Funke Company (101 State St)	La Crosse Plow Company Building (525 Second Street North)	La Crosse Armory (2219 South Avenue)
Roosevelt School (1307 Hayes St)	Dr Adolf and Helga Gundersen Cottage (100 US Hwy 14/61)	Otto and Ida Loeffler House (1603 Main St)
War Eagle Shipwreck – Sidewheel Steamboat (adjacent to Riverside North Park in the Black River)	Holy Trinity School (1417 13th St S)	Fire Station No 5 (1220-1222 Denton St)
Main Hall/La Crosse State Normal School (1724 State St., Univ. of WI, La Crosse)	Wisconsin Telephone Company Building (124 N 4th St)	Physical Education Building/La Crosse State Normal School (UW La Crosse Campus off US 16)
E.R. Barron Building (426-430 Main St)	Christ Church of La Crosse (831 Main St)	Powell Place (200-212 Main St)
W.A. Roosevelt Company (230 N Front St)	William W. Cargill House (235 West Ave S)	Our Lady of Sorrows Chapel (519 Losey Blvd. S)

Figure 11: Historic Places near Flood Hazard Risk Areas



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Proximity to Floodplain - Properties on National Register of Historic Places

City of La Crosse, La Crosse County, Wisconsin

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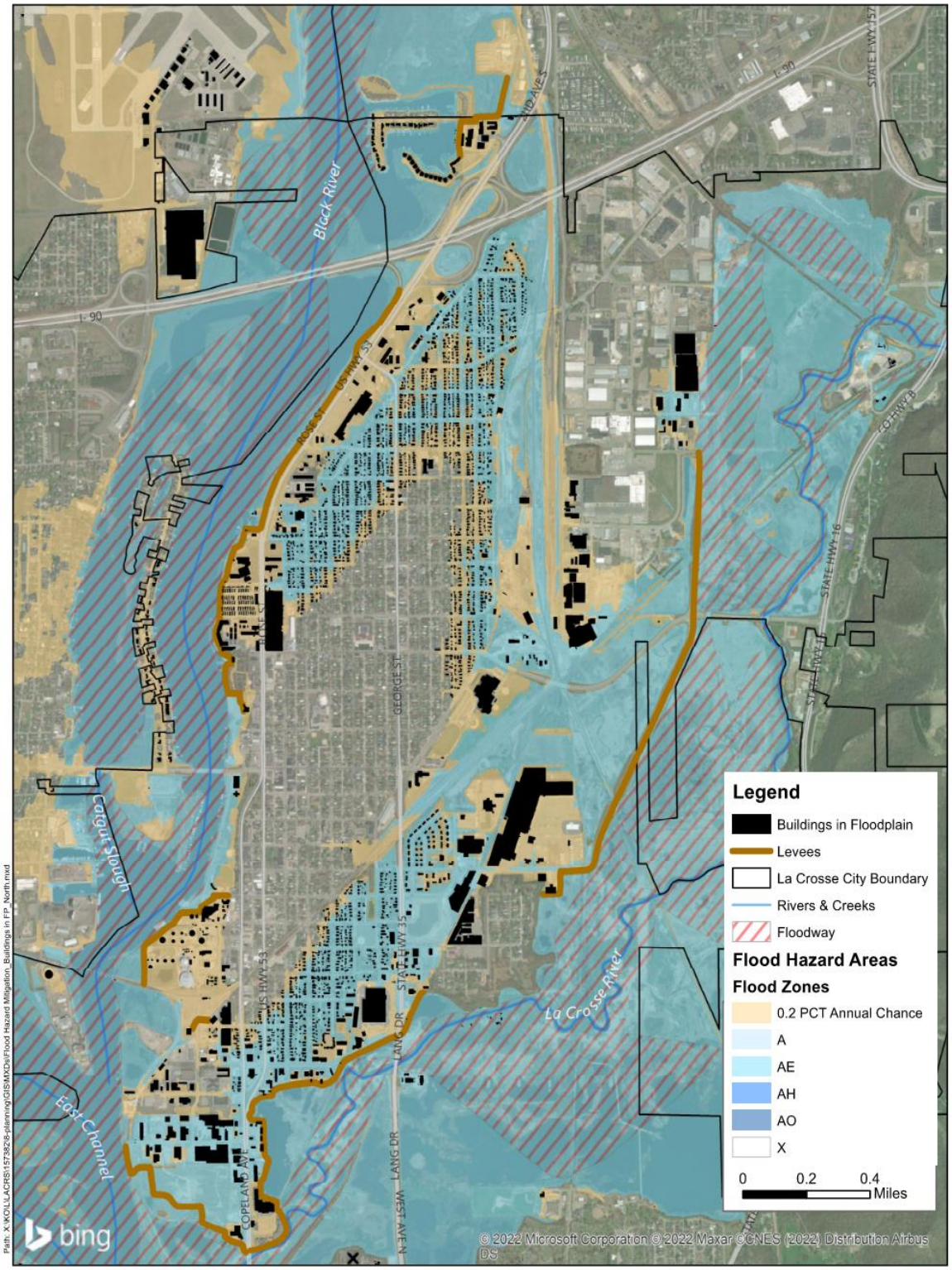
The majority of structures in the northern portion of the city within flood risk hazard areas sit between 642.5- and 644.0-feet Base Flood Elevation (BFE). Most structures in the southern part of the city sit between 644.0 and 648.0 feet BFE (Figure 14). Based on currently available floodplain modeling, the approximate flood elevation was mapped to identify homes with inadequate elevation during flood events (Figure 15).

Figure 12: Buildings in Floodplain – North and South



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Project: LACRS 157382
Print Date: 11/10/2021

Map by: dconstant
Projection: NAD 1983 HARN
La Crosse County

Buildings in Floodplain - North

City of La Crosse, La Crosse County, Wisconsin

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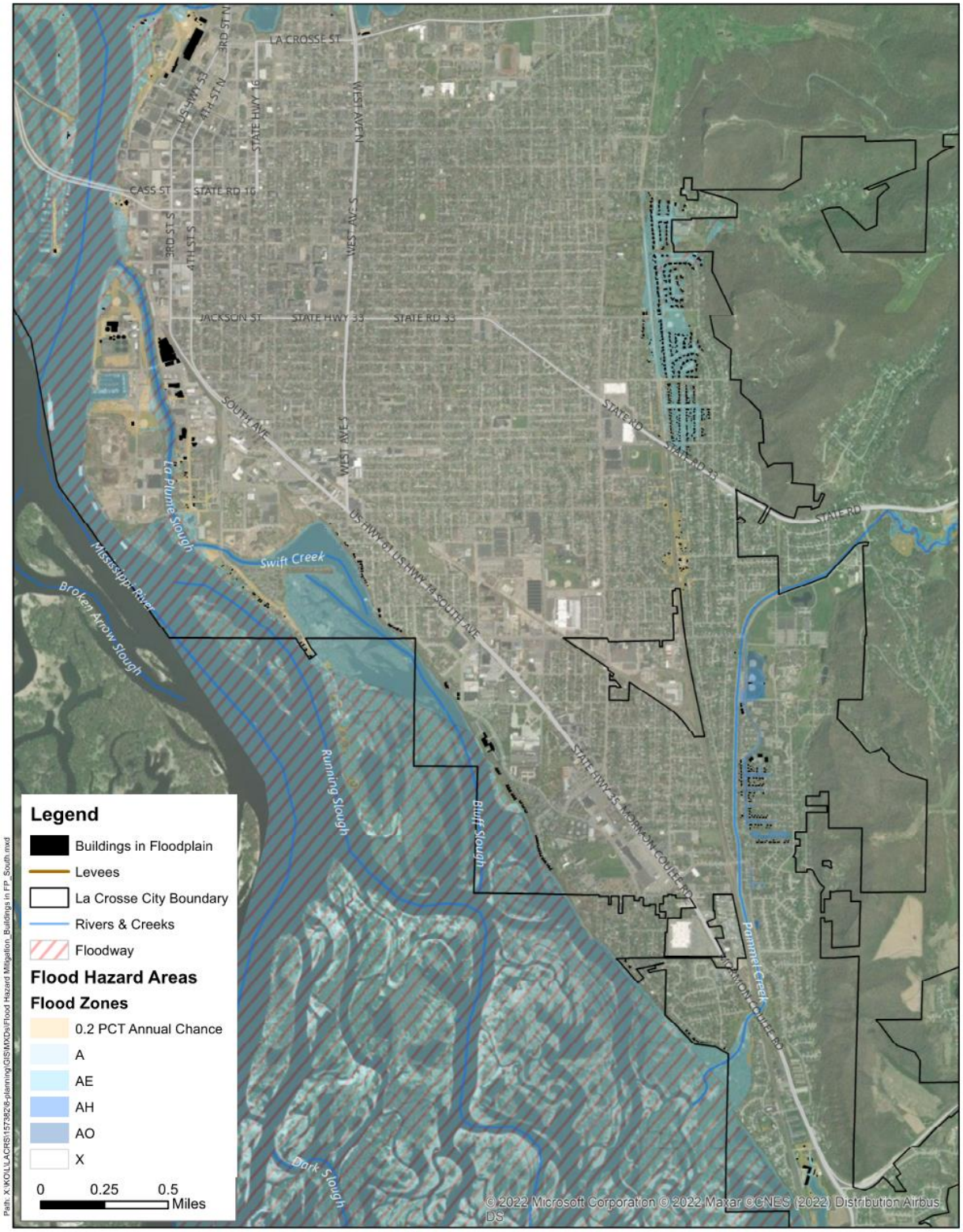

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Buildings in Floodplain - South

City of La Crosse, La Crosse County, Wisconsin

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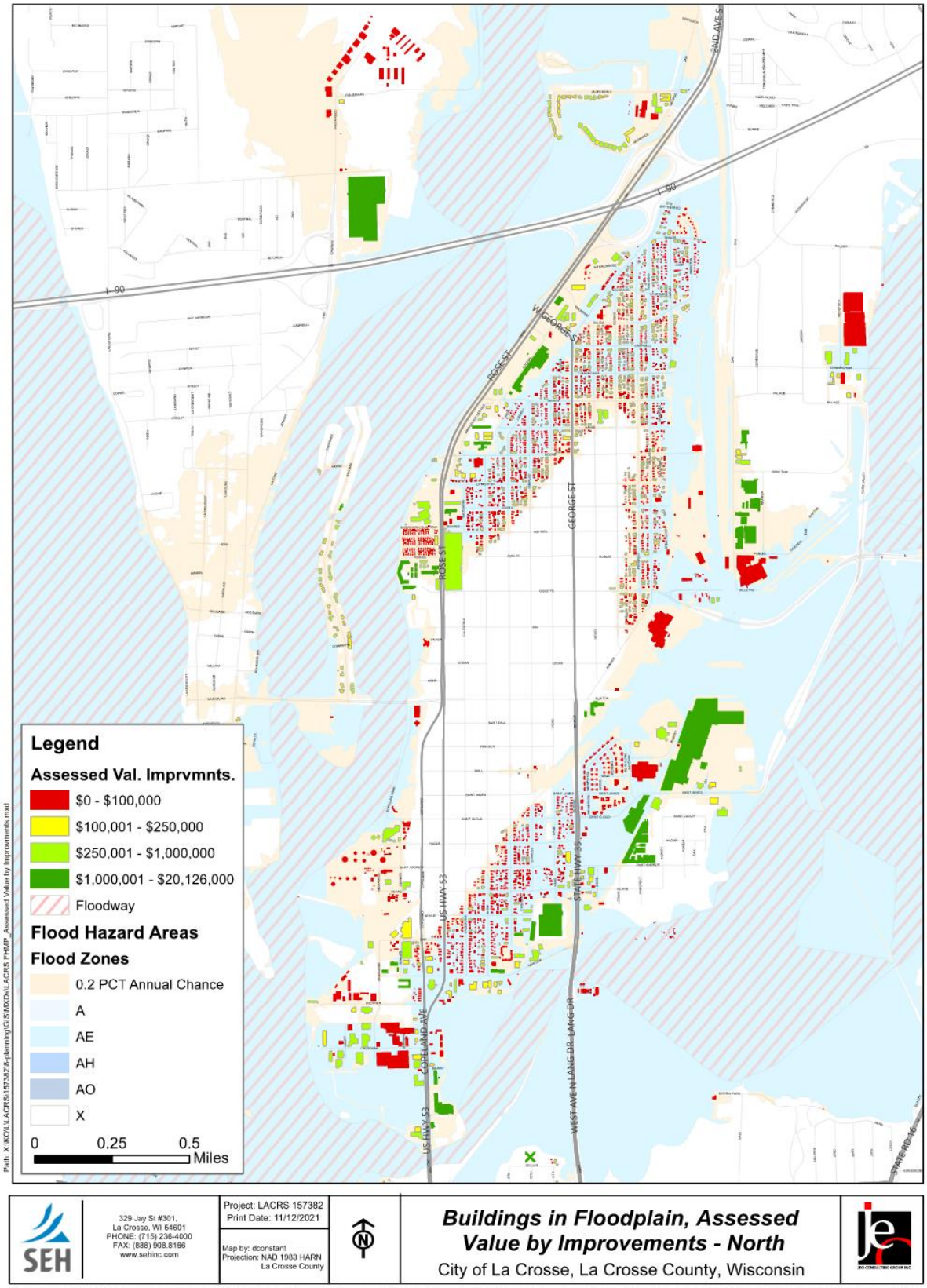
Figure 13: Improvements by Assessed Value – North and South



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Buildings in Floodplain, Assessed Value by Improvements - North

City of La Crosse, La Crosse County, Wisconsin

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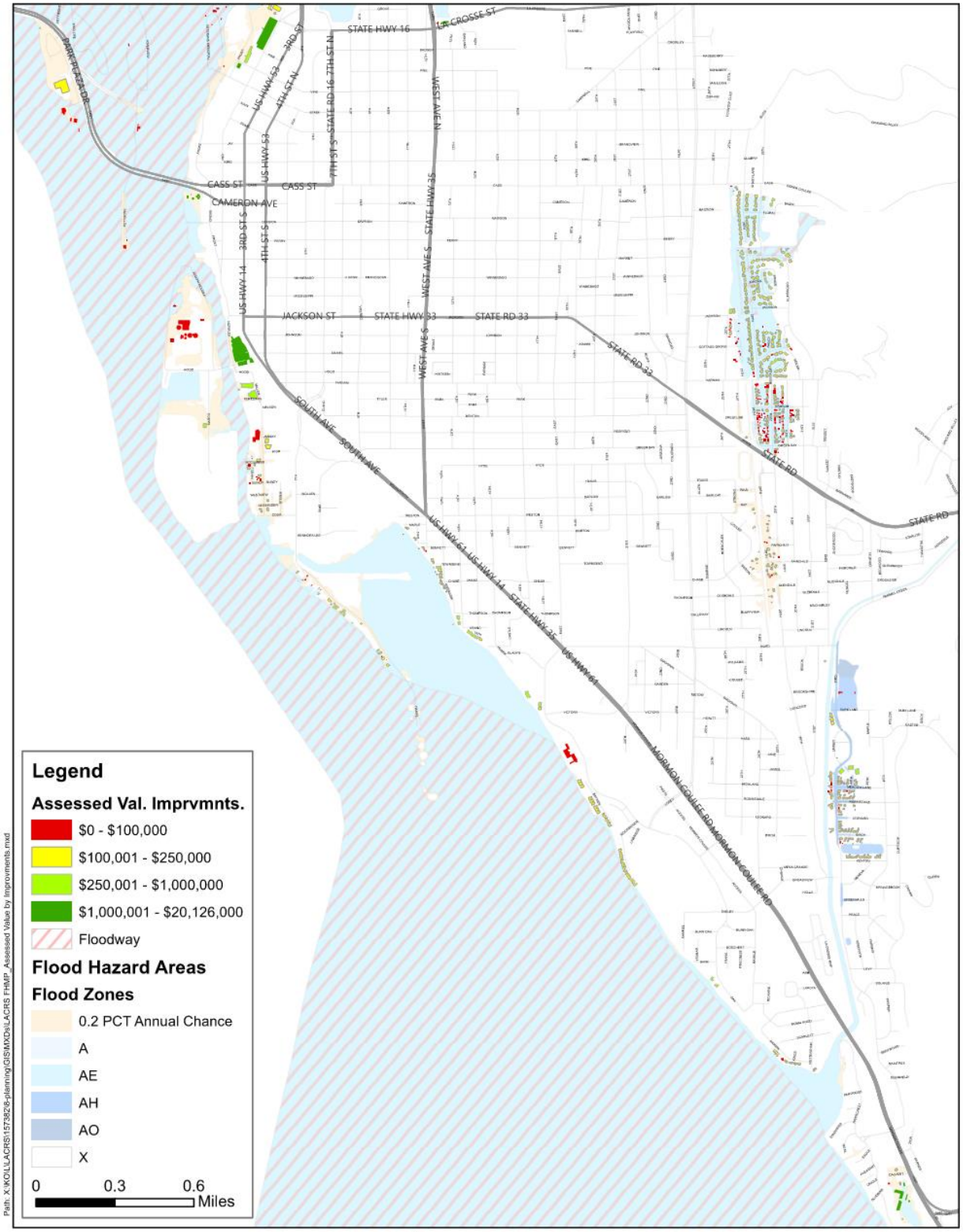

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Buildings in Floodplain, Assessed Value by Improvements - South

City of La Crosse, La Crosse County, Wisconsin

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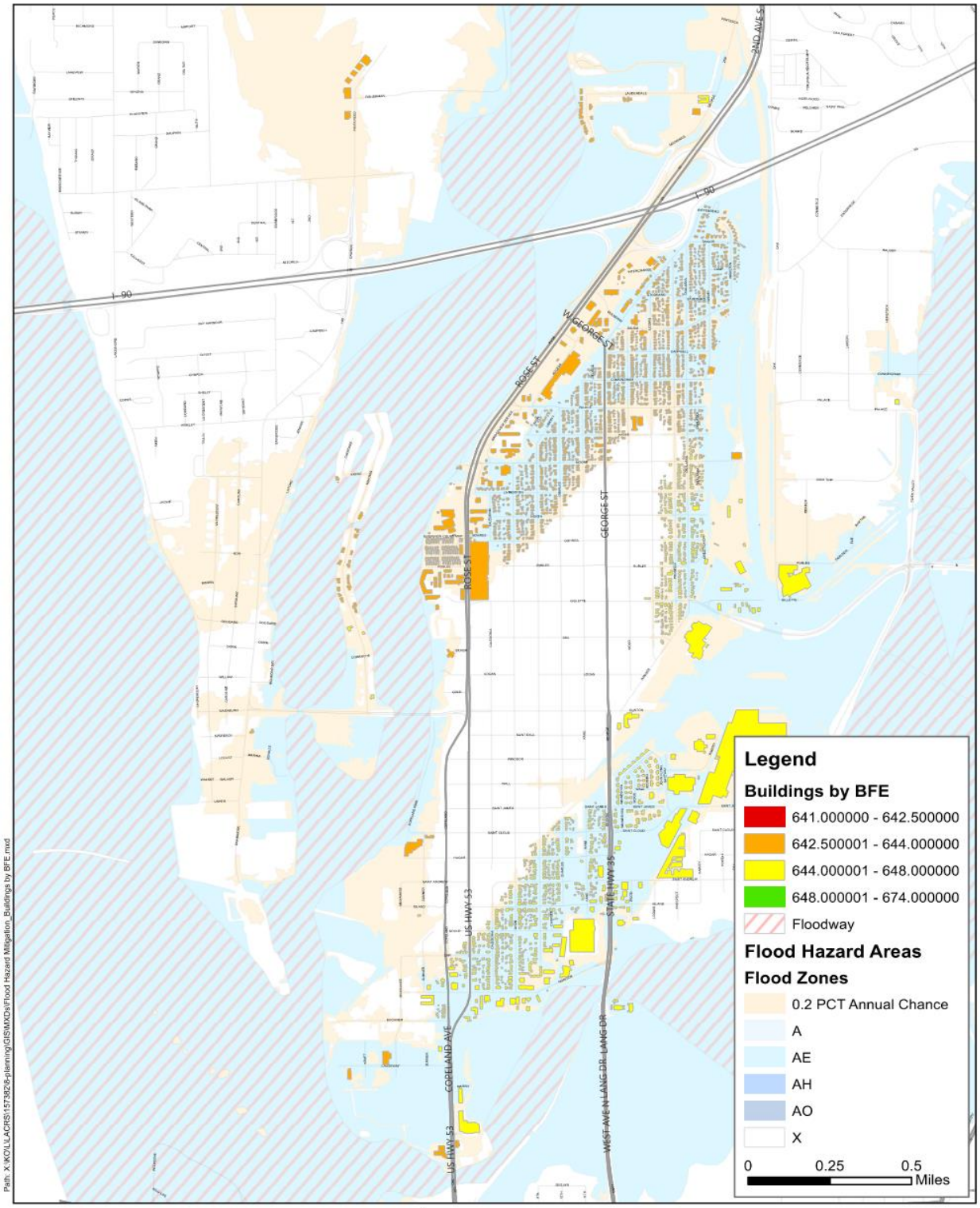
Figure 14: Buildings by BFE – North and South



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Buildings in Floodplain by Base Flood Elevation - North

City of La Crosse, La Crosse County, Wisconsin

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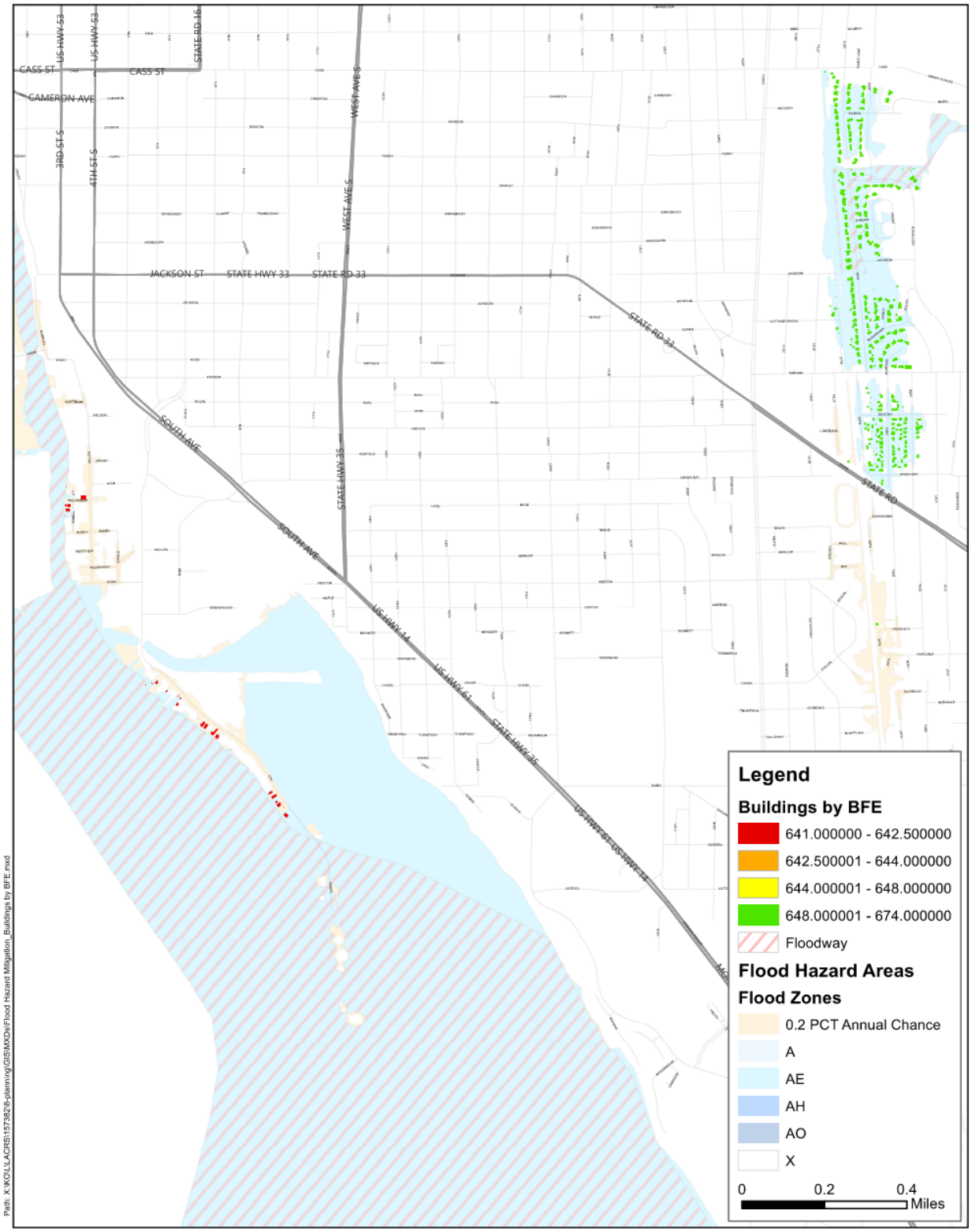

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Buildings in Floodplain by Base Flood Elevation - South

City of La Crosse, La Crosse County, Wisconsin

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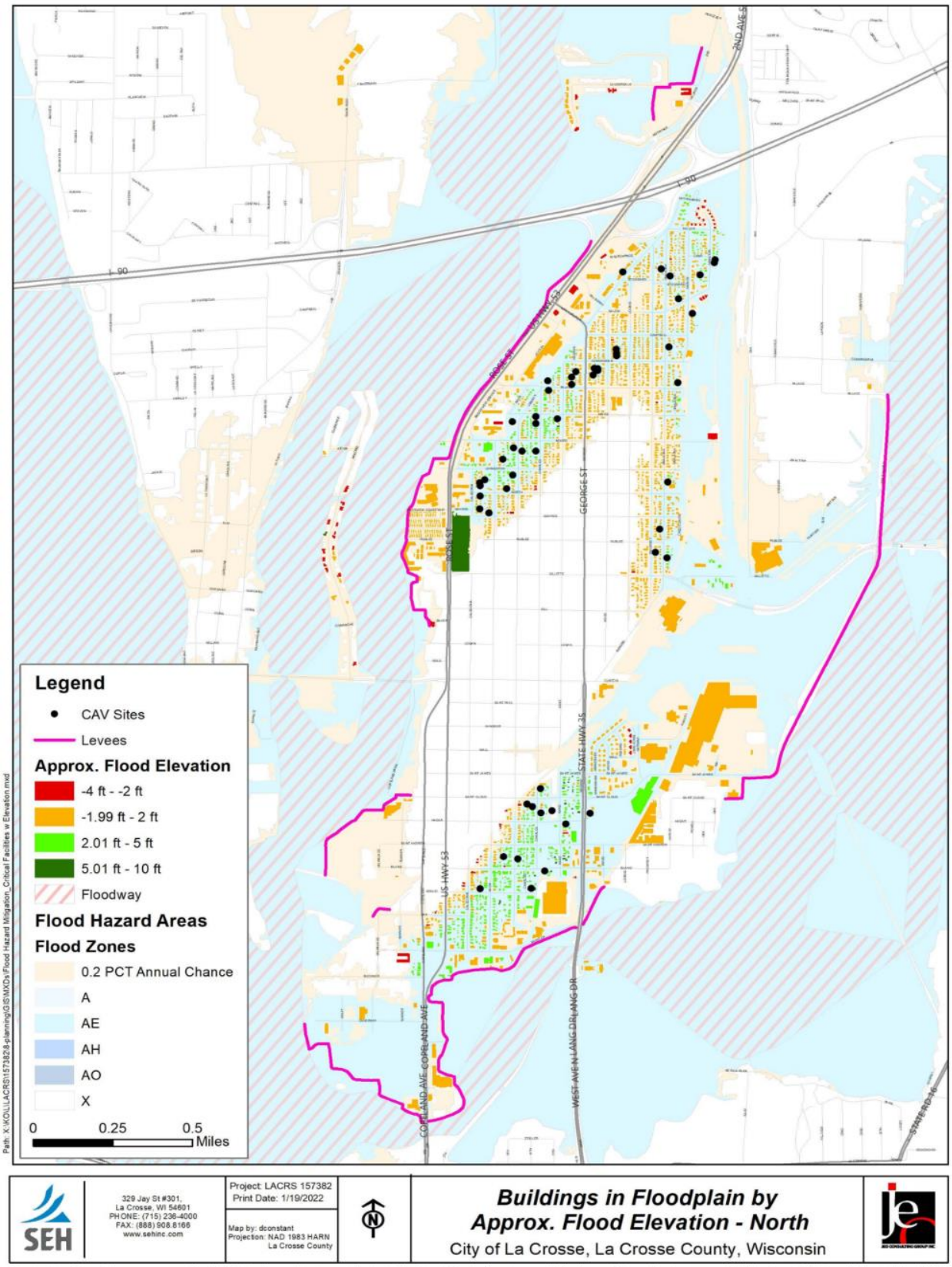
Figure 15: Buildings by Flood Elevation – North and South



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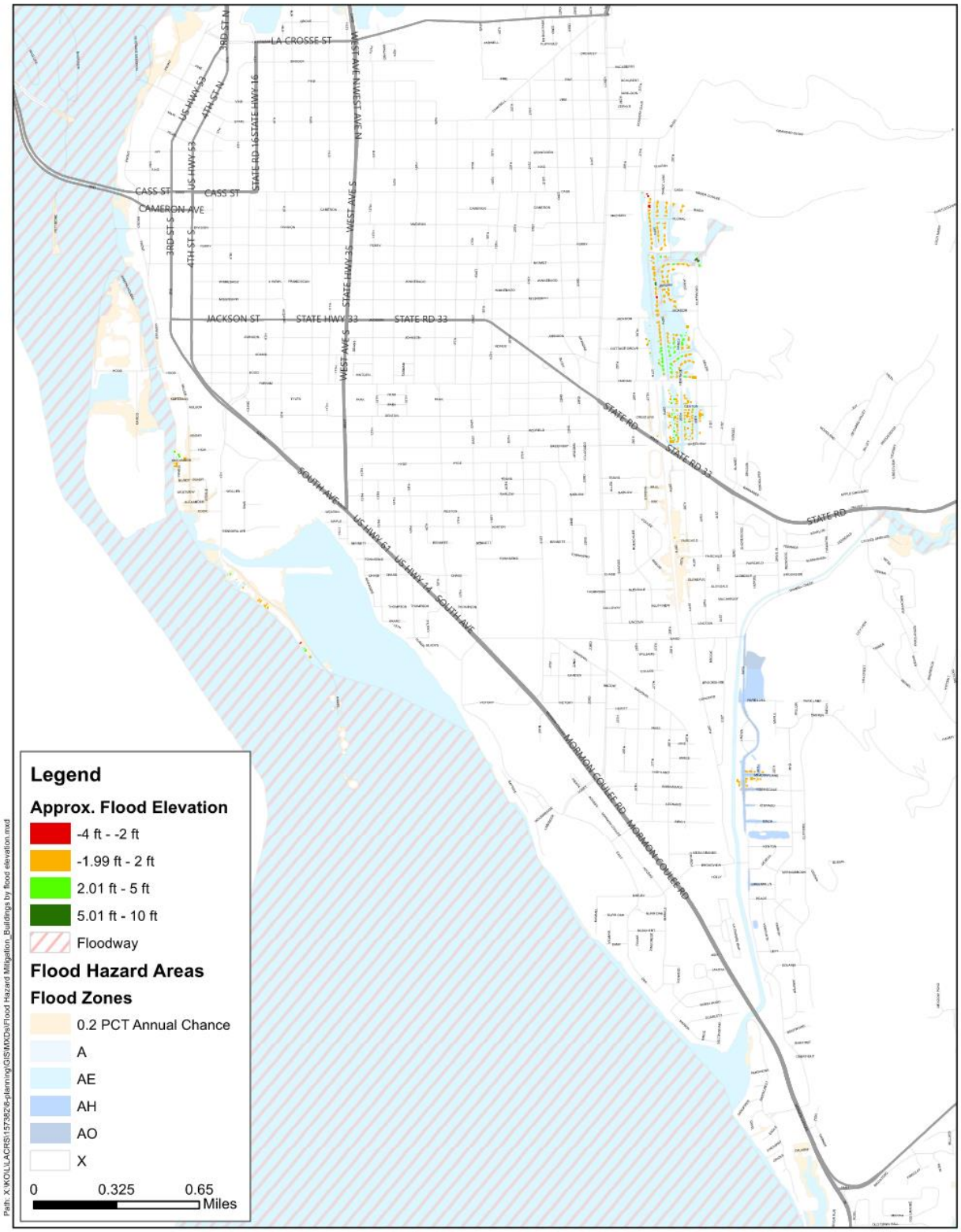

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La Crosse County

Buildings in Floodplain by Approx. Flood Elevation - South

City of La Crosse, La Crosse County, Wisconsin

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Repetitive flood loss properties

Project coordinators contacted FEMA Region V to determine if any existing buildings, infrastructure, or critical facilities are classified as NFIP Repetitive Loss Structures. Note there are two definitions for repetitive loss and severe repetitive loss structures. Severe repetitive loss is a grant definition for HMA purposes that has specific criteria while repetitive loss is a general NFIP definition, both of which are defined further below.

There are a total of seven repetitive loss properties in the city as of May 2022. Four buildings are located in A flood zones (AE, A1-30, AO, AH, or A) and three buildings are located in other flood zones (B, C, or X). Of these buildings, only two repetitive loss buildings are insured. There have been eleven repetitive loss claimed losses, of which three were insured and total payments exceeded $200,000. The type of RL properties was not available during the development of this plan (i.e. residential, commercial, or industrial).

Table 16: Repetitive Loss Properties in La Crosse

	FLOOD ZONE		
	A Zones (AE, A1-30, AO, AH, A)	**B, C, X**	**Total**
RL Buildings (Total)	4	3	7
RL Buildings (Insured)	0	2	2
RL Losses (Total)	6	5	11
RL Losses (Insured)	0	3	3
RL Payments (Total)	$126,668.48	$80,512.99	$207,181.47
Buildings	$118,126.86	$79,774.99	$197,901.85
Contents	$8,541.62	$738	$9,279.62
RL Payments (insured)	$0	$64,014.18	$64,014.18
Buildings	$0	$64,014.18	$64,014.18
Contents	-	-	-

NFIP RL: Repetitive Loss Structure refers to a structure covered by a contract for flood insurance under the NFIP that has incurred flood-related damage on two occasions during a 10-year period, each resulting in at least a $1,000 claim payment.

NFIP SRL: Severe Repetitive Loss Properties are defined as single or multifamily residential properties that are covered under an NFIP flood insurance policy and:

(1) That have incurred flood-related damage for which four or more separate claims payments have been made, with the amount of each claim (including building and contents payments) exceeding $5,000, and with the cumulative amount of such claim payments exceeding $20,000; or

(2) For which at least two separate claims payments (building payments only) have been made under such coverage, with cumulative amount of such claims exceeding the market value of the building.

(3) In both instances, at least two of the claims must be within 10 years of each other, and claims made within 10 days of each other will be counted as one claim.

HMA RL: A repetitive loss property is a structure covered by a contract for flood insurance made available under the NFIP that:

(1) Has incurred flood-related damage on two occasions, in which the cost of the repair, on the average, equaled or exceeded 25 percent of the market value of the structure at the time of each such food event; and

(2) At the time of the second incidence of flood-related damage, the contract for flood insurance contains increased cost of compliance coverage.

HMA SRL: A severe repetitive loss property is a structure that:

(1) Is covered under a contract for flood insurance made available under the NFIP.

(2) Has incurred flood related damage –

(a) For which four or more separate claims payments (includes building and contents) have been made under flood insurance coverage with the amount of each such claim exceeding $5,000, and with the cumulative amount of such claim payments exceeding $20,000; or

(b) For which at least two separate claims payments (includes only building) have been made under such coverage, with the cumulative amount of such claims exceeding the market value of the insured structure.

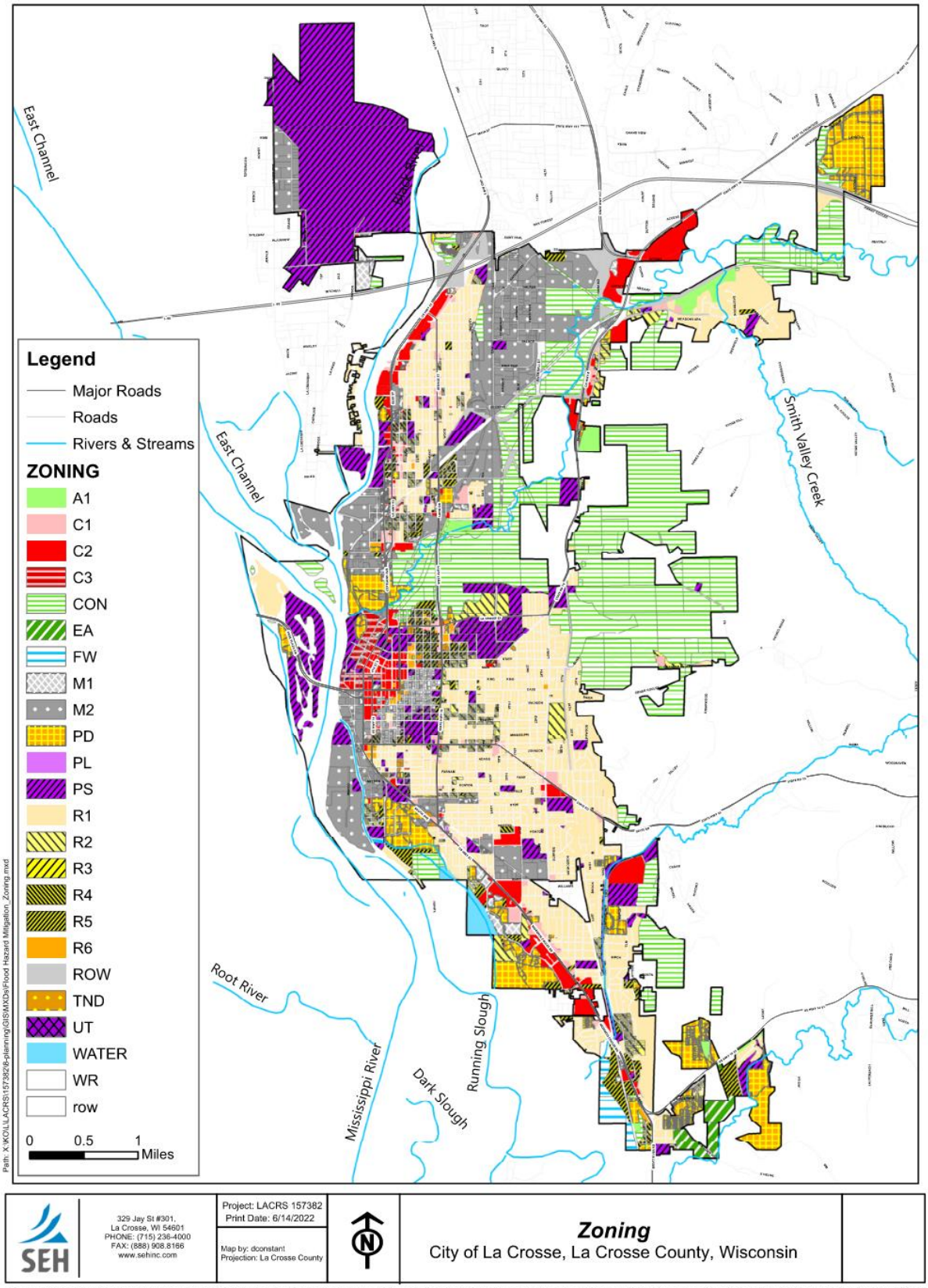
Purpose of the HMA definitions: The HMA definitions were identified by the Biggert-Waters Flood Insurance Reform Act of 2012 to provide an increased federal cost share under the FMA grant when a property meets the HMA definition.

Development Trends

The city is primarily limited in future development endeavors to currently utilized land as the vast majority of existing land is already developed. In the past, the city has grown by annexing land from abutting townships. Some additional residential or commercial development may be pursued directly east of the city; however, due to the specific geography of the city, little to no outward development can occur. Thus, the city must consider and prioritize safe redevelopment or improvements within flood hazard risk areas.

Any new development in flood hazard risk areas should be fully evaluated to protect future assets. Land-use regulations, zoning ordinances, and building codes should be used to limit or safely oversee development in flood hazard risk areas and other flood prone areas as well as protecting natural flood mitigation features. Buyout programs can be used to eliminate properties located in flood hazard risk areas, especially properties that have experienced repetitive losses. The city may also consider incorporating “Green Infrastructure” to address flooding concerns, and examples of this would include using permeable surfaces for parking areas, using rainwater retention swales, developing rain gardens, developing green roofs, and establishing greenways along creeks, tributaries, or rivers.

Figure 16: La Crosse Zoning Map



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Effects of Climate Change

Long-term climate trends have shifted throughout the 20th and 21st centuries and have created considerable changes in precipitation and temperature. Scientific consensus exists that climate change is having sustained and significant impacts to storm events across the globe. With these changes, the duration, intensity, and frequency of flooding events have shifted outside of historical norms and expectations. The northcentral portion of the United States where Wisconsin sits should expect both warmer and wetter climate patterns. Increasing precipitation, from both increased snow runoff and heavy rain events, increases overall flood risk.

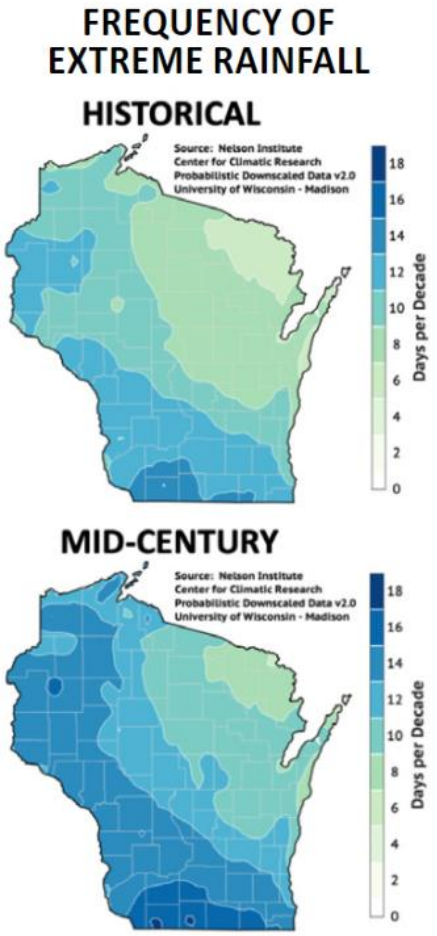
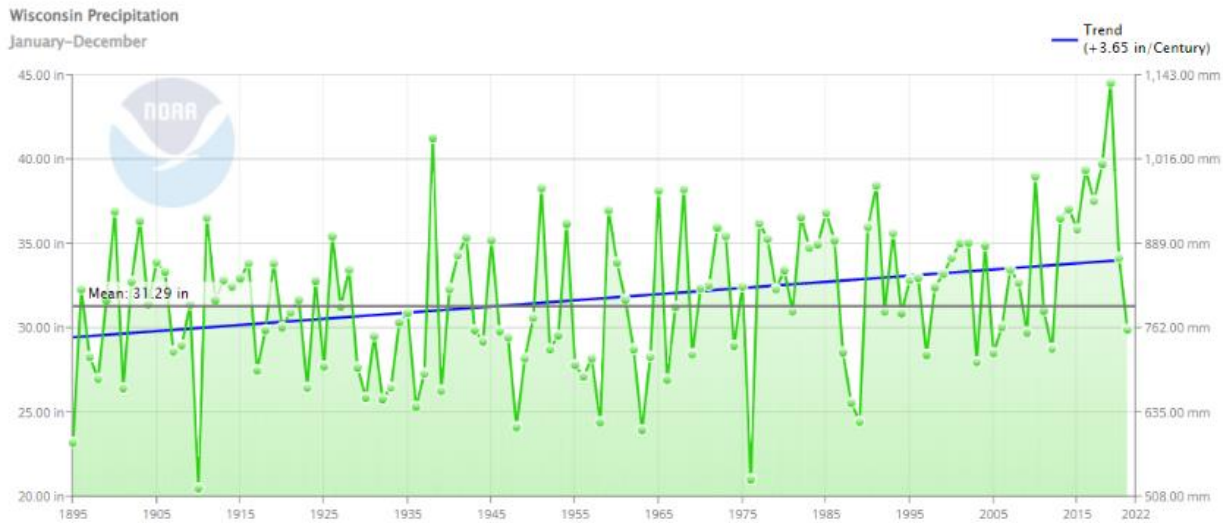


Figure 10: Extreme precipitation events will occur more frequently through the coming century. Shown here is the frequency of days with 2 or more inches of precipitation in a 24hr period.

The Wisconsin ICCI 2021 Climate Assessment Report discusses specific climate related impacts to natural hazard events, including flooding. The report identifies the risk of increased frequency and severity of floods in the Mississippi River and surrounding watersheds, in turn impacting the region's economy, connectivity, ecology, and overall built environment. Flooding will be the most prominent climate impact communities in Wisconsin are likely to feel.

Changing extremes in precipitation are anticipated in the coming decades, particularly in the increasing likelihood of greater rain and snowfall as well as more intense drought periods. Put another way, seasonal variations will be heightened, with more frequent and greater intensity rainfall expected in the spring and winter and hotter, drier periods in the summer. Since 1895, yearly annual precipitation for the State of Wisconsin has increased at a rate of three and a half inches per century. This trend is expected to continue or increase as the impacts of climate change continue to be felt. While climate modeling shows moderate changes in precipitation and streamflow, most of the northern United States is already at risk of large annual and seasonable variability as seen by flooding and drought events in concurrent years. An increase in days with heavy precipitation events (rainfall of greater than one inch per day) across the region are more likely and will subsequently impact riverine flooding events or already overwhelmed local stormwater management systems. Ultimately, the city should anticipate climate change to drastically alter the number of high-water events experienced along the Mississippi River in the next 100 years.



The National Weather Service (NWS) has three categories to define the severity of a flood once a river reaches flood stage as indicated in Table 17. While the NWS classifies the likely extent of flood events within the planning area as moderate, with the compounding effects of climate change, flood events in the future are likely to be classified as major at a higher frequency.

Table 17: Flooding Stages

FLOOD STAGE	DESCRIPTION OF FLOOD IMPACTS
MINOR FLOODING	Minimal or no property damage, but possible some public threat or inconvenience
MODERATE FLOODING	Some inundation of structures and roads near streams. Some evacuations of people and/or transfer of property to higher elevations are necessary
MAJOR FLOODING	Extensive inundation of structures and roads. Significant evacuations of people and/or transfer of property to higher elevations

Source: NOAA, 2018[11]

11 National Weather Service. 2017. "Flood Safety." http://www.floodsafety.noaa.gov/index.shtml.

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Existing Programs and Plans

Effective floodplain management relies on multiple planning mechanisms and capabilities. To that end, the City of La Crosse has previously developed planning mechanisms that support flood mitigation principles and activities. The following section provides an overview of existing codes, ordinances, resolutions, policies, and/or programs which focus on flood mitigation.

National Flood Insurance Program

The NFIP was established in 1968 to reduce flood losses and disaster relief costs by: guiding future development away from flood hazard areas where feasible; requiring flood resistant design and construction practices; and transferring the costs of flood losses to the residents of floodplains through flood insurance premiums. In return for availability of federally backed flood insurance, jurisdictions participating in the NFIP must agree to adopt and enforce floodplain management standards to regulate development in SFHAs as defined by FEMA's flood maps.

La Crosse participates in the NFIP with FIRMs first established for the city in 1976, with subsequent updates in 1985, and 2008. The currently effective FIRM was developed in 2012 (effective date 01/06/2012).

TERM	DEFINITION
Total Policy Count	*The total number of policies reported within the community and/or county in force as of the given date. All condo units are counted for each condo master policy.*
Total Premium and Policy Fee	*The policy premium and associated policy fee for the policies.*
Number of Losses	*The number of losses (claims) reported within that community and/ or county.*

As of May 2022, La Crosse had 402 total number of policies for $60 million in total insurance in force. There have been 129 closed paid losses totaling over $450,000. To participate in the NFIP, the city has adopted a Floodplain Ordinance, Zoning Regulations, and is currently evaluating its permitting process and enforcement procedures.

Table 18: NFIP Policy Summaries

	Policies in Force	Premium	Insurance in Force	Number of Closed Paid Losses	$ of Closed Paid Losses
	Policies by Occupancy				
Residential					
Non-Res	48	$178,880	$17,354,600	11	$136,163
Condos	1	$561	$350,000	0	$0
Non-Condos	401	$513,917	$59,767,400	129	$452,626
	Policies by Flood Zone				
A01-30 & AE Zones	289	$443,169	$35,042,000	103	$300,783
A Zones	0	$0	$0	4	$489
AH Zones	2	$2,305	$417,200	1	$1,375
B, C, & X Zone					
Standard	46	$30,761	$8,706,200	15	$115,584
Preferred	68	$38,243	$15,952,000	5	$28,530

Floodplain Ordinance

After the 1965 flood event, the Wisconsin DNR created a floodplain map and required the city to develop floodplain zoning regulations. In response, La Crosse updated the Floodplain Zoning Ordinance (Division 2 – Sec. 115-207) in May 2016. This division regulates all areas that would be covered by the regional flood or base flood as shown on the Flood Insurance Rate Map (FIRM) or other maps approved by DNR. The ordinance has several key purposes which relate directly to effective floodplain management and this FHMP.

This division is intended to regulate floodplain development to:

(1) Protect life, health and property;
(2) Minimize expenditures of public funds for flood control projects;
(3) Minimize rescue and relief efforts undertaken at the expense of the taxpayers;
(4) Minimize business interruptions and other economic disruptions;
(5) Minimize damage to public facilities in the floodplain;
(6) Minimize the occurrence of future flood blight areas in the floodplain;
(7) Discourage the victimization of unwary land and homebuyers;
(8) Prevent increases in flood heights that could increase flood damage and result in conflicts between property owners; and
(9) Discourage development in a floodplain if there is any practicable alternative to locate the activity, use or structure outside of the floodplain.

In the ordinance, the city importantly includes the following provisions:

> "In AE Zones with a mapped floodway, no obstructions or increases shall be permitted unless the applicant receives a Conditional Letter of Map Revision from FEMA and amendments are made to this section, the official floodplain zoning maps, floodway lines and water surface profiles, in accordance with section 115-212(a). Any such alterations must be reviewed and approved by FEMA and the DNR.
>
> In A Zones increases equal to or greater than 1.0 foot may only be permitted if the applicant receives a Conditional Letter of Map Revision from FEMA and amendments are made to this section, the official floodplain maps, floodway lines, and water surface profiles, in accordance with section 115-212(a)."

In summary, these provisions require any structures developed in the mapped floodplain to receive a Conditional Letter of Map Revision and is reflected on the existing maps. Additionally, the city has a shoreline ordinance which requires a 50-ft setback requirement from the surrounding waterways.

The State of Wisconsin has also adopted a Floodplain Management Program (Chapter NR 116.01-.22). Specifically, the legislature states for all residential homes:

(a) (a)Any structure or building used for human habitation (seasonal or permanent), which is to be erected, constructed, reconstructed, structurally altered or moved into the flood fringe area shall be place on fill with the finished surface of the lowest floor, excluding basement or crawlway, at or above the flood protection elevation. If any such structure or building has a basement or crawlway, the surface of the floor of the basement or crawlway shall be at or above the regional flood elevation and shall be floodproofed to the flood protection elevation in accordance with s. NR 116.16. No variance may be granted to allow any floor below the

regional flood elevation. An exception to the basement requirement may be granted by the department, but only in those communities granted such exception by the federal emergency management agency (FEMA) on or before March 1, 1986.

(b)(b) For all uses under this subsection:

1. Fill shall be not less than one foot above the regional flood elevation;
2. Fill shall extend at such elevation at least 15 feet beyond the limits of any structure or building erected thereon; and
3. Dryland access shall be provided.

CRS Participation

Communities participating in the NFIP may also participate in the NFIP's Community Rating System (CRS), a credit-based program emphasizing more comprehensive flood risk reduction activities. Communities may implement stricter or additional strategies to reduce overall flood risk in exchange for points towards flood insurance premium discounts for property owners who carry flood insurance. The city's CRS class rating is determined, in part, through Community Assistance Visits (CAVs). The CAV is a visit to a community by a FEMA staff member or staff of a State agency on behalf of FEMA that serves the dual purpose of providing technical assistance to the community and ensuring the city is adequately enforcing its floodplain management regulations.

The City of La Crosse held a CRS Class 8 for many years which provided a 10% discount to flood insurance premiums; however, the city is currently rated as a Class 10 which provides no discount in flood insurance premiums to residents. Violations to floodplain regulations or non-conforming structures are located throughout the city and must be mitigated or addressed prior to the city being reinstated in the program by FEMA. For a list of violations, please see discussion in the *Variances in Place* section of this plan.

The City of La Crosse identified participating in the CRS as a valuable and effective tool within the city's flood management program. Mitigating violations and reinstating flood insurance premium discounts for property owners is a priority for the city.

Building Codes and Requirements

The Wisconsin Department of Safety and Professional Services (DSPS) is responsible for adopting Wisconsin's building, fire safety, and energy efficiency codes. DSPS recently adopted the 2015 International Codes (I-Codes), effective May 1, 2018. Although Wisconsin uses state-based codes, they are modeled on the I-Codes. Wisconsin also uses its own hybrid residential code (UDC) and plumbing code. While the state utilizes the 2009 International Energy Conservation Code (IECC), it relies on the 2015 IECC for residential and commercial development.

The city has adopted the 2015 International Building Code for multifamily and commercial buildings as well as the 2009 Wisconsin Uniform Dwelling Code with Amendments for single-family homes. However, both of these codes are considered outdated because these versions are older than the current International Residential Code (IRC) or International Building Code (IBC) editions. Adopting the newest available building codes is an important component of building resiliency for communities. New development and structures must be constructed to a higher standard, making them more resistant to damages or impacts from various types of hazardous events, including flooding. Additionally, structures built to higher building codes may also be eligible for reduced home insurance premiums.

City Enforcement Process

Inadequate enforcement of floodplain regulations, permitting, building codes, and granted variances have caused significant NFIP violations for the city. As part of the NFIP's 1997 Community Rating System (CRS) review, it was identified that the city was not obtaining elevation certificates and the Zoning Board of Appeals was granting ineligible variances to allow basements and crawlspaces below the required elevation.

The penalty for violations to the floodplain ordinance are directed to the City Attorney who is responsible for prosecuting such violators. A violator shall, upon conviction, forfeit to the city a penalty of not less than $20.00 nor more than $50.00, together with a taxable cost of such action. Each day of continued violation shall constitute a separate offense.

A major barrier to floodplain regulation enforcement for the city is a lack of adequate staffing. The city has identified the need for more staff and prioritized hiring a full-time floodplain administrator in the FY2023 budget. The city also recognizes the need to improve training for city staff, as well as communication between the Engineering Department, Planning and Zoning, Board of Appeals, and the City Council to ensure all staff and elected officials are aware of floodplain regulations and their importance in protecting the lives and property in La Crosse.

City of La Crosse Comprehensive Plan (2002)

The city last updated their Comprehensive Plan in 2002; however, as of 2022, the city was in the process of updating the plan. The Comprehensive Plan is a confluence plan which is designed to integrate various goals for safe and sustainable growth for the city. These goals include establishing a foundation for zoning ordinance and map amendments and establishing a long-term strategy for the growth of the city. The plan also identifies specific issues regarding flooding, specifically articulating that river flooding presents a persistent threat to the city due to the large part of the community that lies within the floodplain, as well as the fact that the existing levee system does not meet current design standards.

La Crosse, Wisconsin Nonstructural Flood Mitigation Assessment, 2020 (USACE)

The USACE St. Paul District conducted a reconnaissance-level nonstructural assessment of flood risk in La Crosse. This study evaluated nineteen structures for flood risk and potential flood risk adaptive measures (nonstructural mitigation measures) to reduce future flood risk. These structures were at greatest risk to flood impacts from riverine flooding (Mississippi River, Black River, and La Crosse River) and interior urban storm water drainage. These structures included one public structure, two non-residential commercial structures, and sixteen residential properties. While none of the evaluated structures are in violation of floodplain regulations, they will require future flood risk reduction mitigation work. These structures are currently being used as examples for properties that are in violation or for those who may exceed the 50% rule with an upcoming project.

City of La Crosse Consolidated Plan

The 2020-2024 Consolidated Plan provides a condensed overview of ways the city will address housing and community needs. The plan identifies specific priorities for the city to pair with Community Development Block Grant and HOME Investment Partnership for projects.

La Crosse County Multi-Hazards Mitigation Plan, 2020-2024

The City of La Crosse is included in the La Crosse County Hazard Mitigation Plan (LCCHMP), adopted February 2021. The LCCHMP allows the city to be eligible for grant funding under FEMA's Hazard Mitigation Assistance program. Mitigation actions identified in the LCCHMP are eligible for FEMA's Hazard Mitigation Assistance grant programs including Building Resilient Infrastructure and Communities (BRIC), Flood Mitigation Assistance (FMA), or Hazard Mitigation Grant Program (HMGP, post-disaster only). By completing and adopting the FEMA approved version of this Flood Hazard Mitigation Plan, the city becomes eligible for flood-related hazard mitigation grant funding for projects through either this FHMP or the LCCHMP.

Hazard Mitigation Plans address local risks and vulnerabilities to a broad range of hazards including drought, fog, severe storms, earthquake, among others. Flooding is included in the LCCHMP and the plan offers an overview of flood risk for the entire county from riverine, flash flooding, and stormwater flood risk. The plan identifies the county as at high risk of flooding with specific areas of risk in the City of La Crosse.

The LCCHMP is a valuable tool for managing floodplain risk for the city. Mitigation actions involving flooding identified in the LLCHMP include:

- Northside flooding improvements, storm gates, dikes
- Ebner Coulee area flood control study
- Fill the former Mobil Oil/Patros Steel property to above base flood elevation
- Create a neighborhood scale redevelopment initiative with potential elevation changes of structures
- Create educational material for the community on groundwater flooding and surface water flooding
- Create a flood plan
- Conduct a feasibility study on structure removal from the floodplain and potential to fill these areas
- Remove or relocate structures from the floodplain
- Conduct a feasibility study on ideal locations for biofilters and rain gardens

Mitigation actions from the LCCHMP were discussed at meetings with the Planning Committee and are integrated into this FHMP within the *Mitigation Strategy* section.

Public Education, Awareness, and Assistance

The city has implemented various education and outreach strategies to help educate property owners about flood risk reduction activities. The city's Floodplain Administrator leads floodplain education efforts and has provided training to city staff members and at University of Wisconsin-La Crosse. As floodplain permits are submitted to the city, the Floodplain Administrator also contacts each property owner to educate them on existing regulations and the 50% improvements rule. Educational posts and links to additional resources are shared regularly on the city fire department's social media regarding flash flooding and flood insurance in areas outside of the currently mapped floodplain.

The city has a specific Floodplain Advisory Committee (FAC) to help garner public input, share current or future activities, and provide key local insight to city officials about flood issues. The FAC also shares

specific information about the value and process of buying flood insurance. The FAC meets the first Thursday of the month at 4:00pm at City Hall and these meetings are open to the public as well.

The city has created a floodplain relief program comprising engineering, design, earthwork, structure relocation, foundation improvements, and other construction requirements necessary to elevate current structures above the flood protection elevation for property owners in the floodplain (https://www.cityoflacrosse.org/your-government/departments/planning-economic-development/floodplain-management/floodplain-relief-program). The City of La Crosse also offers two programs under the Floodplain Relief Program:

Community Development Block Grant Flood Relief Funding
This program makes available up to $250,000 annually city-wide for qualified applicants for housing rehabilitation and replacement grants. Applicants must meet Low to Moderate Income (LMI) requirements.

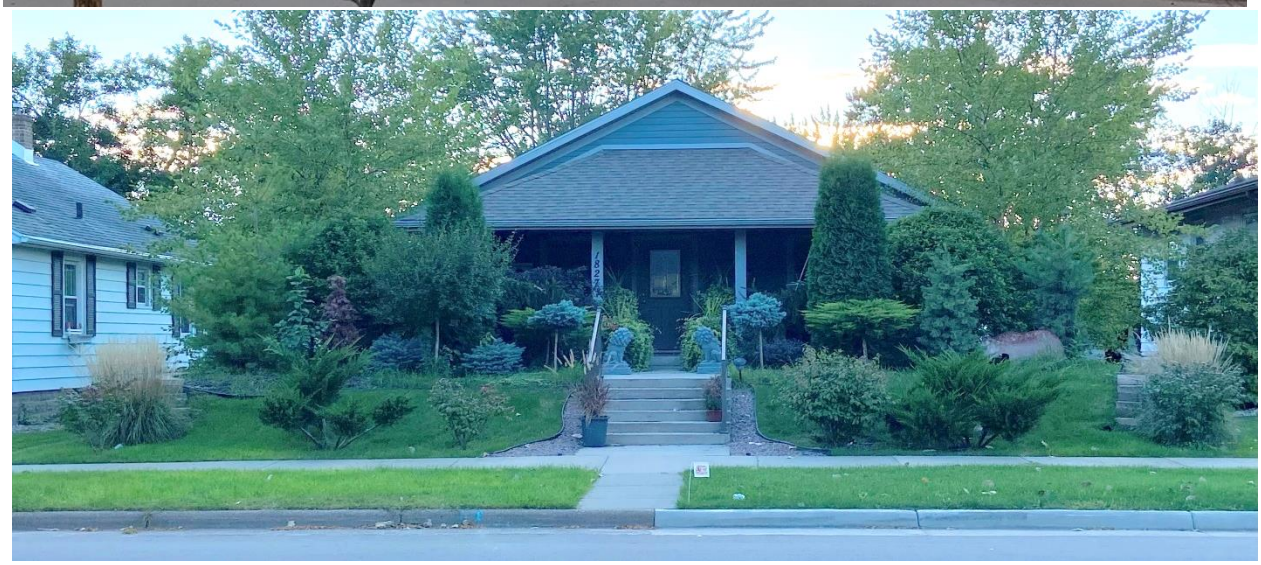
Floodplain Relief Loan/Investment Forgiveness Program
This program makes available up to $250,000 annually city-wide for applicants wishing to elevate or improve structures in the floodplain when work results in a successful Letter of Map Revision (LOMR). Applicants may apply for 90% funding for eligible engineering/surveying and consulting work resulting in a Conditional Letter of Map Revision (CLOMR) and for eligible construction costs for flood improvements resulting in a Letter of Map Revision (LOMR). The total amount available to each applicant, per property, for engineering/consulting and construction is $20,000. Applicants with a differential between the BFE and lowest finished floor of more than 3 feet are required to coordinate improvements with neighboring properties to mitigate negative storm water and aesthetic impacts.

The City of La Crosse's Floodplain Relief Program helps property owners reduce their risk of flooding and reduce their flood insurance costs. These grants assist by:

- Removing structures in the 100-year floodplain (areas subject to inundation by the 1-percent-annual-chance flood event).
- Filling in basements that have been damaged by groundwater flooding.
- Bringing noncompliant floodplain structures into compliance.

There are two sources of funding which apply to different areas of the floodplain within city limits: city-wide funding and funding within ½ mile of Tax Increment Finance District 13 - Kwik Trip. All property owners within La Crosse's city limits, including residential property owners, businesses, non-profit organizations, state agencies and educational institutions with all or a portion of their property located in 100-year floodplain, are eligible for these funding options. As of summer 2022, only TIF area funding is currently available.

Figure 17: Examples of Elevated Home in La Crosse



More information about the City's Floodplain Management program is available on the city's website: https://www.cityoflacrosse.org/your-government/departments/fire-department/community-risk-management/floodplain-management.

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Challenges

Evaluating flood risk for the City of La Crosse is difficult for several reasons. The following section outlines some of the barriers to effectively evaluating true risk and flood impacts for the city.

Data Limitations

A significant challenge in determining flood risk in the city is due to a lack of updated risk assessment and quantitative data. FIRMs and SFHAs can and should be reviewed and revised regularly to accurately evaluate current flood risk for a community. In general, the existing modeling information related to the Mississippi and Black Rivers should be sufficient to estimate real world flood risk. However, the modeling associated with the La Crosse River may benefit from recent advancements in hydraulic modeling such as two-dimensional (2D) modeling of complex flow patterns, paths, and varying water surface elevations across the floodplain.

Additionally, climate change and past major flood events drastically impact river systems and existing infrastructure, and these impacts have not been comprehensively captured in the data. It is likely and anticipated that future climatic conditions will exacerbate and affect future flood events in frequency and magnitude.

The city has undergone several remapping efforts in the past to evaluate localized flood risk. However, as identified throughout this planning process and noted by the Planning Committee, there may be additional areas in which significant discrepancies exist between the currently effective FIRMs and identified flood risk hazard areas in the city. As such, existing available data have a higher degree of uncertainty and cannot be relied upon when determining flood risk to community members and infrastructure. In particular, the flood risk modeling for the La Crosse River is outdated and would benefit from an evaluation using current flood risk modeling tools, including a 2D hydraulic model.

Levee Accreditation

The existing seven levee reaches currently in and around the city were constructed in 1965 after historic flooding. These levee reaches do not currently meet minimum regulatory standards to be mapped to provide flood risk reduction, nor were they accredited by FEMA or USACE after construction in the 1960s. While commonly referred to as a levee system around La Crosse, without accreditation, these reaches do not constitute an official levee system. With these limitations, the properties within the levee impact areas are currently mapped and regulated as falling within the SFHA. In order for the levees to be mapped as providing 100-year flood risk reduction on the FIRM, and areas within the leveed area removed from the 100-year floodplain and associated zoning limitations and mandatory flood insurance purchase requirements, the city must provide documentation to FEMA that the levee meets the criteria as specified in 44 Code of Federal Regulations (CFR) 65.10. As noted above, the existing levee reaches do not meet these criteria.

Regulation 44CFR65.10 indicates five categories that must be evaluated and demonstrated as acceptable as part of the FEMA accreditation process.

(1) Design Criteria: It must be demonstrated that the levees are a sufficient height above the base flood elevation (freeboard). Closure structures must be designed as an integral part of the system. Adequate levee embankment protection must be shown. Geotechnical analyses

demonstrating settlement potential and acceptance, embankment and foundation stability, and underseepage are accounted for. An interior drainage analysis on the levee system must be completed and documented.

(2) Operations Plan: A plan must be developed and documented which outlines the flood warning system, operation and triggering elevations of closure structures, and emergency preparedness plan.
(3) Interior Drainage Operations Plan: A plan must be developed to identify the city's plan for handling seepage or runoff water from interior of the levee system.
(4) Maintenance Plan: The city must develop and follow a maintenance plan for the elements of the levee system.
(5) Certification Packet: A certification packet must be submitted to FEMA which demonstrates compliance with the above criteria through a Letter of Map Revision.

Levee accreditation is a key strategy to reducing flood risk in La Crosse. By choosing to evaluate and upgrade the existing emergency levee reaches to USACE regulated conditions, the existing flood hazard risk areas across the city may be significantly altered or reduced. Currently flood risk protection from the existing levee reaches are not designated on the regulatory floodplain maps. If the levees were to undergo the accreditation process, the floodplain maps could be revised and homes throughout the city may be removed from the designated floodplain areas.

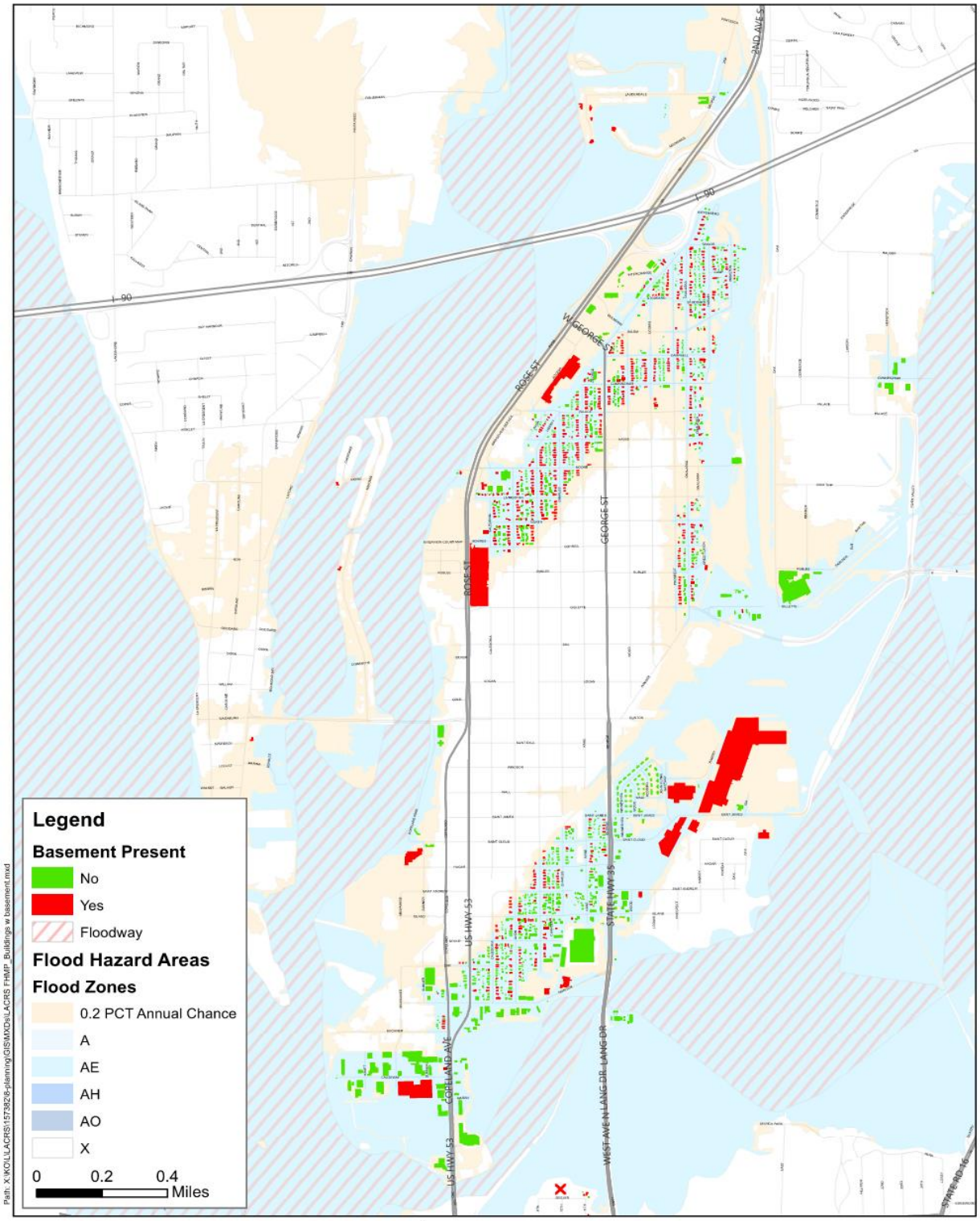
An evaluation of the feasibility of accreditation for the existing levee system will benefit the city by identifying the actions and funding needed to upgrade the levee to a condition that can be accredited on the FIRM and will benefit property owners by potentially removing sections of the regulatory floodplain. Homes not located in the regulatory floodplain are not held liable to NFIP's substantial improvement criteria. For homes removed from that regulatory floodplain, specific floodplain development restrictions are also removed from properties. This may allow property owners to build additions to compensate for reduced square footage from filling basements.

It is valuable to note that by accrediting the levee, it can not be guaranteed that sections of the regulatory floodplain will be removed. If levee accreditation is not feasible, the city can use evaluation information to identify alternative flood risk reduction actions and property owners will be required to explore other non-structural flood risk reduction measures.

Home Values and Nonstructural Flood Risk Reduction

Property owners have expressed major reservations to city officials about non-structural flood risk reduction measures, particularly the option of filling basements or elevation. Basement filling requires property owners to relocate utilities, which in residential contexts include mechanical equipment such as furnaces, water heaters, water softeners, or appliances; ductwork and plumbing, electrical panels, and circuits; and other usable storage area. However, as many zoning regulations for homes currently in the floodplain are restricted from building additions to house relocated utilities and equipment, overall home values can decrease when usable square footage is reduced. An additional concern for potentially pursuing non-structural mitigation activities is that the structure must be in relatively good condition (i.e., structurally sound) to be a candidate for retrofitting or elevation. These structures are less sound as foundations and basements erode due to groundwater intrusion. However, if residents do choose to fill in basements to remediate water intrusion, the city will provide financial assistance to residents.

Figure 18: Buildings with Basements in Floodplain – North and South



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La Crosse County

Buildings in Floodplain, Basement Present - North

City of La Crosse, La Crosse County, Wisconsin

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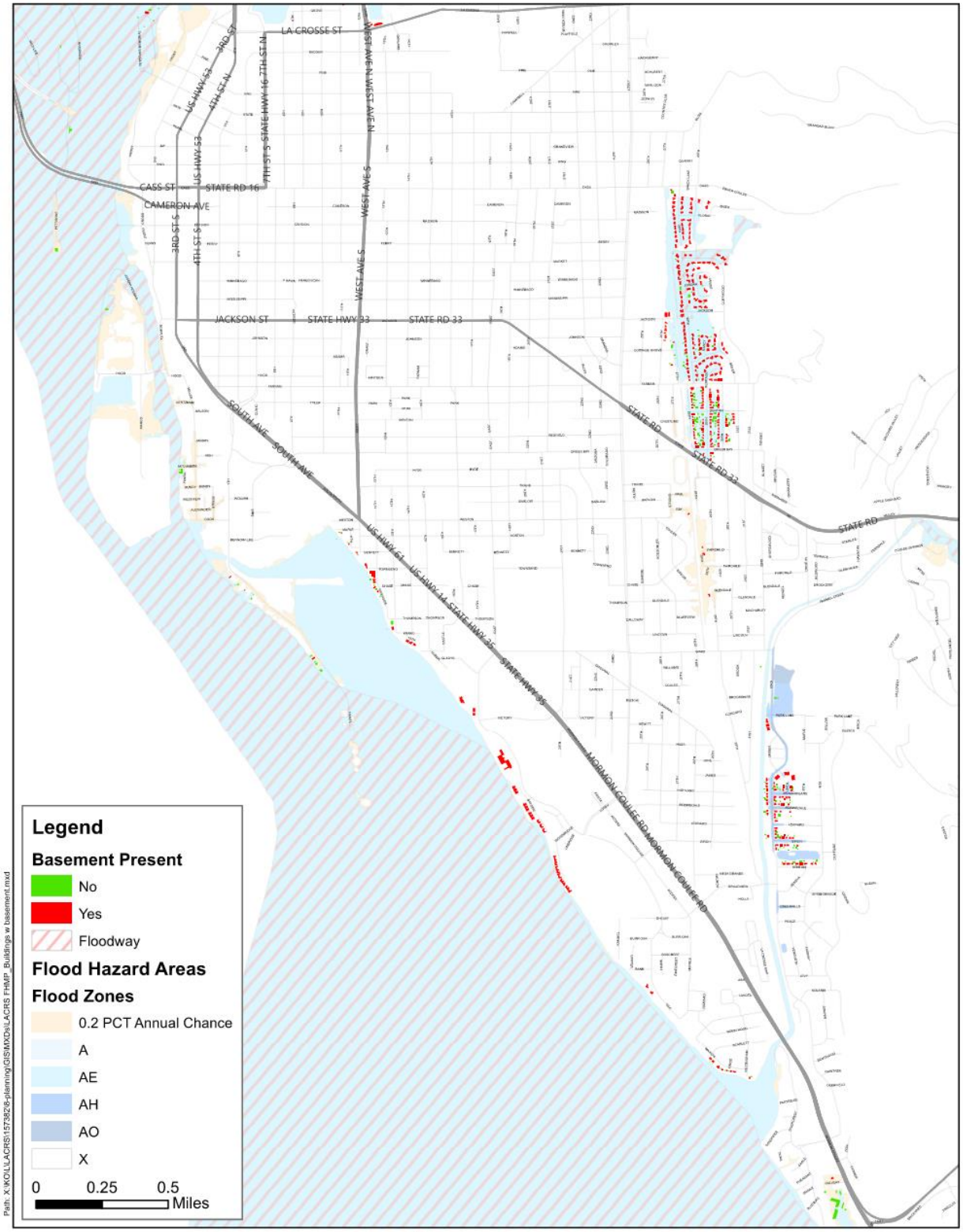

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Buildings in Floodplain, Basement Present - South

City of La Crosse, La Crosse County, Wisconsin

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Variances in place

A variance is an authorization for the construction or maintenance of a structure or other land uses that would otherwise be prohibited by a land-use regulation such as a zoning ordinance. Within FEMA's NFIP two types of variances may be awarded. These include *Use Variances* and *Area Variances.*

> **Use variances:** Local officials permit a property owner to use a building or parcel for a purpose not normally allowed in a particular zone. An example of this would be allowing someone to establish an office in a residential zone because the property has some unique characteristic that precludes use or development as a residence and use as an office would not be detrimental to the surrounding properties or the community as a whole.
>
> **Area variances:** An area variance may be granted when, for instance, a property owner is able to show that there are serious, practical difficulties associated with complying with the dimensional requirements of the zoning ordinance, such as setback requirements or maximum height restrictions.

Variances to local floodplain management criteria may be granted to property owners seeking to make improvements **only if** specific criteria are met. These criteria pertain to parcels with physical characteristics so unusual that complying with the ordinance would create exceptional hardship. Those characteristics must be unique to the property and not shared by adjacent parcels; and pertain solely to the land, not to any structures, inhabitants, or property owners. In the past decade the city had granted variances to structures which may not have met these criteria and, due to these variances, set a precedent for future variance cases.

The city has taken positive steps to address, remediate, and reverse variances granted that do not meet floodplain management criteria. As part of the remediation process, the city must review its variance process and adjust as appropriate to ensure all variances are consistent with 44CFR60.6. Currently the city is working to address variance violations to the following properties throughout the city.

The following list of properties have been remediated or have had permitting issues addressed. Many of these properties required after the fact permits for improvements made several years ago. The city worked with property owners to file permits and determine reasonable project costs that could be used to determine the 50% rule on the structure. Some structures required documentation such as compaction reports, supplemental drawings, or were closed by having an engineer certify that the structure is Reasonably Safe from Flooding. The majority of the resolved violations thus far needed more data and in-depth research in order to be removed. The ones that remain will require flood vents, a revocation of the LOMR-F (in progress), or elevation.

Residential or Commercial Properties

1. 2033 Liberty Street
2. 934 28th Street
3. 2526 Harvey Street
4. 719 Gould Street
5. 725 Charles Street
6. 2690 7th Street South
7. 2713 Hamilton Street
8. 1627 N Salem Road
9. 710 George Street – Commercial Building
10. 2422 Onalaska Avenue
11. 733 Kane Street
12. 721 Charles Street

Accessory Structures

1. 1906 Caledonia – Garage
2. 2730 Hamilton – Garage
3. 2314 Kane – Garage
4. 1115 Palace – Garage
5. 1716 Prospect – Garage
6. 2410 Wood – Garage

Of the remaining properties, only one property is a variance violation which is currently in the process of being addressed. All other listed properties below are a result of the structure being substantially improved, an ineligible LOMR-F being issued, structures built below BFE, or no permits were required by the city at the time of work.

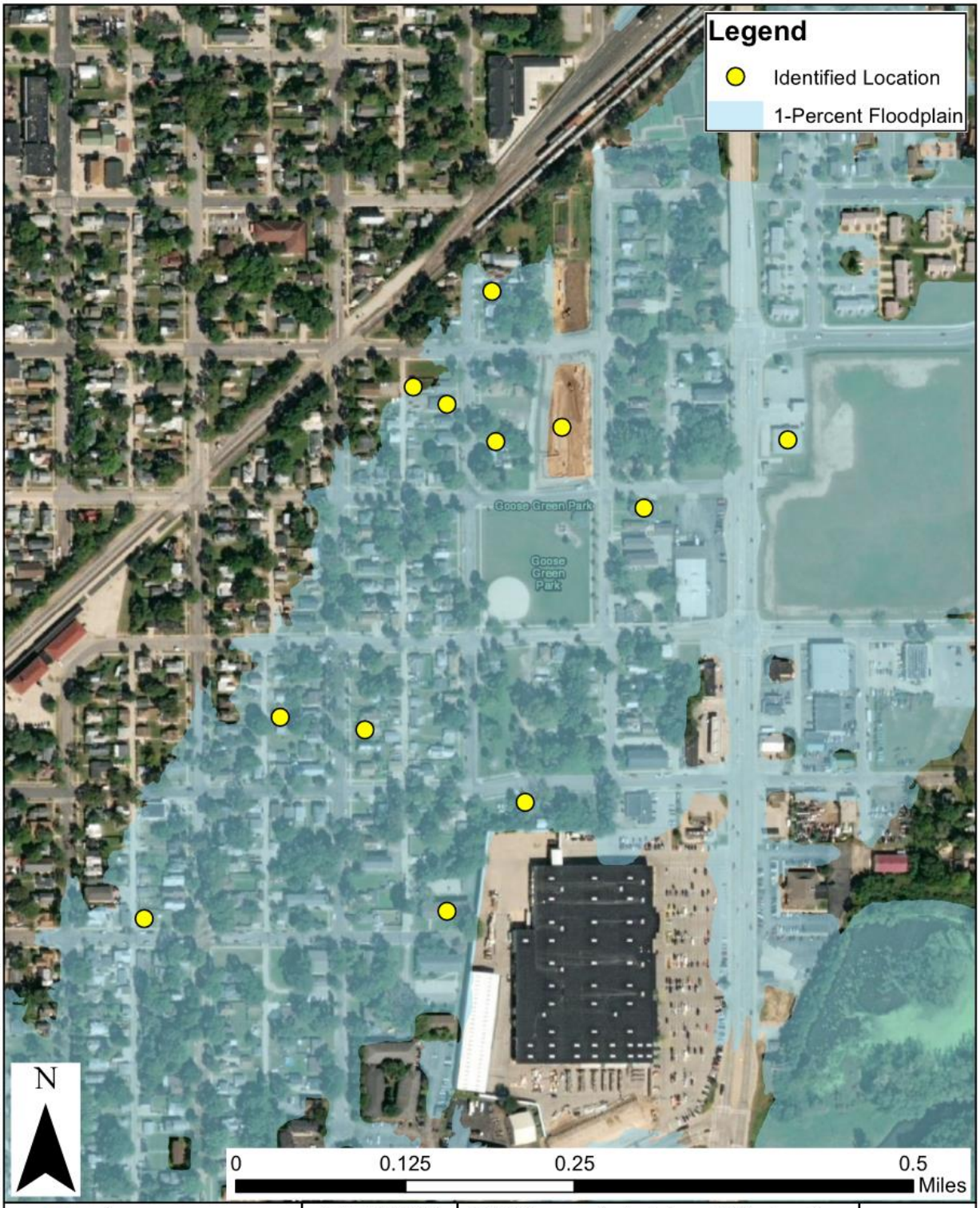
Residential or Commercial Properties

1. 2127 Liberty Street
2. 2027 Charles Street
3. 1910 Caledonia Street
4. 2026 Liberty Street
5. 919 Gould Street – Apartment Building
6. Badger Hickey Park Building – Pavilion and Park Structure
7. 2721 Onalaska Street
8. 2723 George Street
9. 432 Charles Street
10. 712 Charles Street
11. 812 Charles Street
12. 2127 Charles Street
13. 2139 Charles Street
14. 632 Kane Street
15. 2135 Kane Street
16. 512 Liberty Street
17. 517 Liberty Street
18. 1916 Onalaska Avenue
19. 1803 Avon Street
20. 2710 Onalaska Avenue
21. 1619 Palace Street
22. 710 North Street

Accessory Structures

1. 1917 Avon – Garage
2. 2010 Avon – Garage
3. 1806 Caledonia – Garage
4. 2238 Charles – Garage
5. 2318 George – Garage
6. 2323 George – Garage
7. 2328 George – Garage
8. 2738 Hamilton – Garage addition
9. 1931 Liberty – Garage
10. 815 North – Garage
11. 1626 Onalaska – Garage
12. 1636 Prospect – Garage
13. 2327 Wood – Garage
14. 2331 Wood – Garage
15. 2406 Wood – Garage
16. 2418 Wood - Garage

Figure 19: La Crosse Community Assistance Visit Site Identified Issues



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FEMA Community Assistance Visit – Locations of Identified Issues - Mid Region
La Crosse Flood Hazard Mitigation Plan
La Crosse, Wisconsin

Figure 11

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FEMA Community Assistance Visit – Locations of Identified Issues - North Region

La Crosse Flood Hazard Mitigation Plan
La Crosse, Wisconsin

Figure 10

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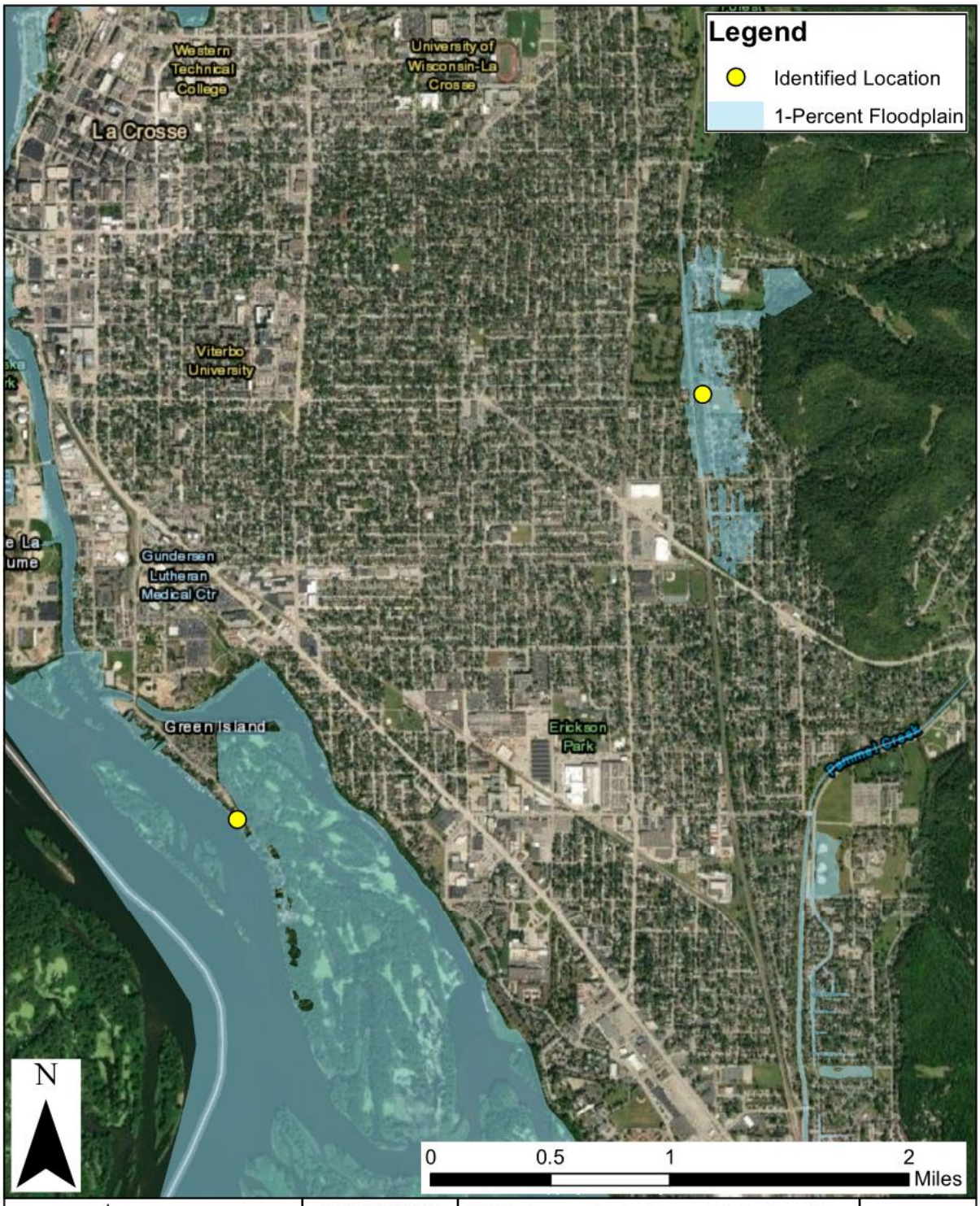

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FEMA Community Assistance Visit – Locations of Identified Issues - South Region
La Crosse Flood Hazard Mitigation Plan
La Crosse, Wisconsin

Figure 12

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Mitigation Strategy

The mitigation strategy section of the plan identifies specific actions items to reduce flooding impacts in the City of La Crosse. Mitigation actions must be specific activities that are concise and can be implemented individually. The Planning Committee evaluated mitigation alternatives based on the city's local flood risk and capabilities. Importantly, the Planning Committee selected these actions against the goals of this plan. Each action should specifically address flood risk concerns or increase local capabilities to respond to flood hazard events.

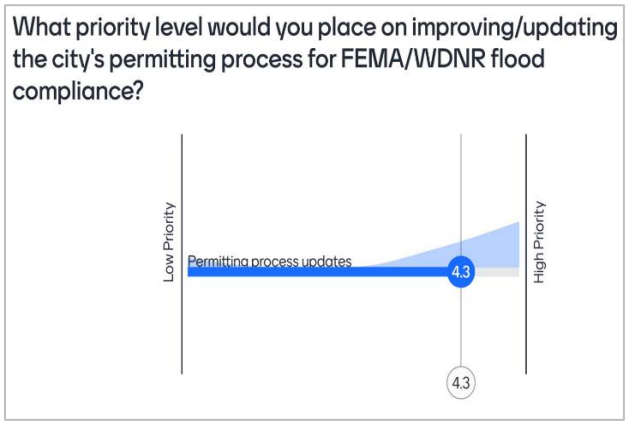
Goals

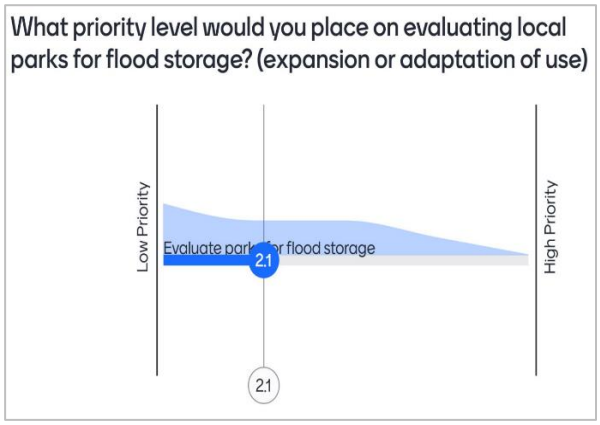
Below is the list of goals as determined by the Planning Committee which provides specific direction to the city in reducing future flood related losses. These goals also guided their selection of mitigation actions.

1. Fully fund and implement existing floodplain management program to improve and maintain compliance of floodplain regulations
2. Improve flood awareness and education for all community members, property owners, and city staff on the importance of flood risk reduction activities for existing and new properties
3. Plan and budget for structural and nonstructural strategies to protect existing and new public and private infrastructure from river and stream flooding
4. Provide flood risk protection from river and stream flooding to protect the health and safety of residents and share benefits from flood risk reduction activities

Mitigation Actions and Prioritization

After establishing the goals, mitigation actions were identified, evaluated, and prioritized. This prioritized list of alternatives helped determine which actions will best assist the city in preventing damages in the event of a disaster. The listed priority does not indicate which actions will be implemented first, but instead serves as a guide in determining the order in which each action should be implemented. The Planning Committee established a final list of alternatives that include the following information: description of the action; responsible agency/department/party; priority; cost estimate; potential funding sources; and estimated timeline.





The Planning Committee utilized a specific tool called MentiMeter to help prioritize mitigation strategies. Each attendee was able to rank the priority of an action on a scale of one to five and the tool calculates the average of each vote. The final weight of each mitigation strategy was then ranked against one another to determine the highest to lowest priority projects.

Table 19: Identified Mitigation Strategies for La Crosse

Mitigation Action	Estimated Cost	Potential Funding	Timeline	Principal Contact(s)	Comments
High Priority Projects					
Full-time Floodplain Manager	$50,000+	City Budget	1 year	City Council	Currently identified in FY2023 budget to transition part time to fulltime floodplain manager.
Improve/Update Permitting Process for Consistency and Compliance with FEMA/WDNR	Staff Time	City Budget	1-2 years	Floodplain Manager FEMA USACE Wisconsin DNR	The city is currently updating and adopting additional floodplain regulations related to updated mapping efforts. Future updates are needed to standardize the mitigation permitting process.
Update Floodplain Modeling	$150,000	City Budget FEMA USACE	3+ years	Floodplain Manager City Council FEMA USACE	The city recently updated Ebner Coulee model. Additional floodplain map revisions potentially needed to appropriately identify flood risk on FIRMs.
Levee Evaluation Program	$250,000+	City Budget – Engineering Department	2 years	Engineering Department Floodplain Manager	As of June 2022, the city sent out a Request for Proposals (RFP) to conduct an evaluation on the existing levee system in La Crosse.
FEMA CAV Property Mitigation	Varies by structure, Staff Time	City Budget	1-2 years	Floodplain Manager Planning and Development	The city is currently in the process of addressing CAV violations. The city has acquired one property for mitigation activities and remediated 18 properties with identified issues. The city council was evaluating deed restrictions in spring/summer 2022.
Education and Outreach Program	Staff Time	City Budget	2-10 years	Floodplain Manager	Develop and implement specific education materials, outreach programs, and training regarding the city's floodplain management program, groundwater flooding, and surface

Mitigation Action	Estimated Cost	Potential Funding	Timeline	Principal Contact(s)	Comments
					water flooding. Individual programs to be developed for: residents and general public, realtors and contractors, and staff or elected officials. This action will be an ongoing effort and was identified in the LCCHMP.
Remove or Relocate Structures from the Floodplain	Varies by structure	City Budget, FEMA (FMA, BRIC)	5+ years	Floodplain Manager	This action was identified in the LCCHMP for the city. The city will focus on repetitive loss properties for mitigation efforts.
Medium Priority Projects					
Identify Flood Fringe Properties for Elevation	Staff Time (may be contracted out – TBD)	City Budget	8+ years	Floodplain Manager Planning and Development	This action is contingent on the floodplain models being updated to accurately reflect city flood risk. Currently deferred.
Implement Projects or Improvements Identified in Hydraulic and Hydrologic Study on the La Crosse River and La Crosse River Marsh area	Unknown	City Budget – Parks and Recreation, Engineering Department	8+ years	Parks and Recreation, Engineering Department	H&H Study is currently under development as of summer 2022 by Smith Group as part of marsh restoration project. Report should include specific stormwater management infrastructure in need of improvements and new technical data collection. The city would like to restore natural river/marsh floodplain benefits and pursue possible LOMR options based on new data.
Levee Modification / Upgrade / FEMA Accreditation Program	Unknown – to be determined from Levee Evaluation Program	City Budget – Engineering Department	8+ years	Engineering Department Floodplain Manager USACE	This action is contingent on the completion of Levee Evaluation Program (out for proposals as of July 2022). This action includes improvements to storm gates, dikes, and to the north side

Mitigation Action	Estimated Cost	Potential Funding	Timeline	Principal Contact(s)	Comments
					of the city as identified in the LCCHMP. Currently deferred.
Long-term Flood Risk Data Gathering	Staff Time	City Budget – Planning and Economic Development (GIS), Floodplain Manager	5+ years	Planning and Economic Development (GIS) Floodplain Manager	The city must develop a process to update and manage flood risk data to be used in future study updates and grant applications. May include using GIS to identify the biggest risks in the area to influence priorities (e.g., flooding from Grandad's Bluff, flooding from the Mississippi, groundwater flooding, data for Farman Street Bulkhead projects); relocation efforts; property mitigation efforts; and green infrastructure or nature-based solution work.
Create and Institute Incentives for Development and Redevelopment	Staff Time	City Budget – Planning and Economic Development	3+ years	Planning and Economic Development	This action is aligned with mitigation actions identified in the LLCHMP (2020-2024). Redevelopment initiatives will be evaluated once new floodplain modeling is available to identify key areas at risk.
Low Priority Projects					
Evaluate Adapting and Expanding Parks for Flood Storage	$75,000+	City Budget – Parks and Recreation FEMA	8+ years	Floodplain Manager, Engineering Department, Parks and Recreation	This project is currently deferred until updated floodplain modeling is available to determine where and how much additional flood storage is needed.
Community Rating System (CRS) - Lowering the Class to benefit City and Citizens	Staff Time	City Budget – Floodplain Management	1-5 years	Floodplain Manager	The city must address all existing violations prior to restoring role in the CRS program. The city is currently working on permitting and ordinance updates to help address violations.
Conduct a Feasibility Study on Ideal Locations	$25,000	City Budget – Floodplain Management	8+ years	Floodplain Manager, Parks and Recreation	This action was identified in the LCCHMP for the city. However, the city did not formally adopt the LCCHMP and

Mitigation Action	Estimated Cost	Potential Funding	Timeline	Principal Contact(s)	Comments
for Biofilters and Rain Gardens					has carried the action over into this FHMP.

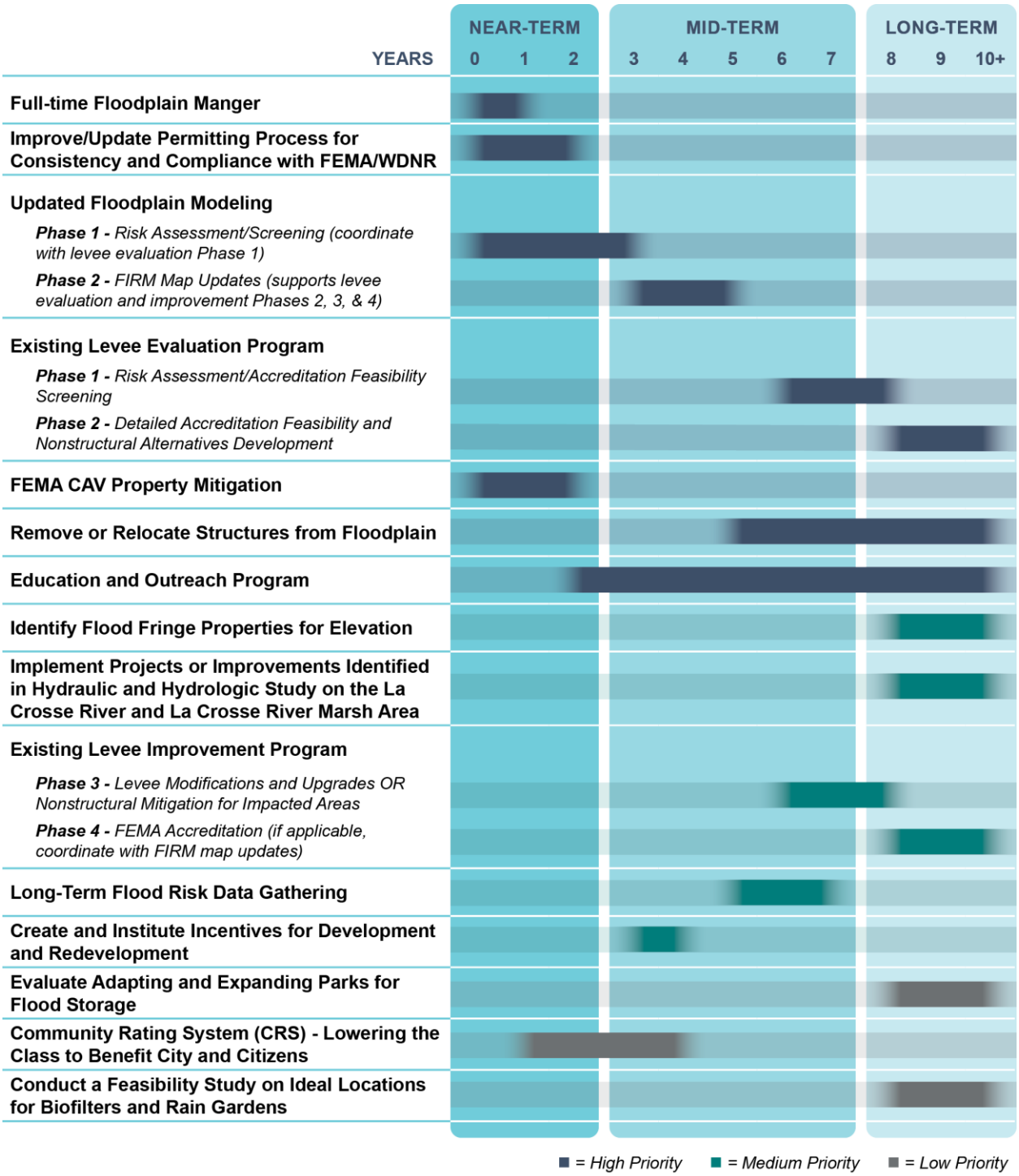
Three projects were identified as completed during this planning process from the La Crosse County Hazard Mitigation Plan (2020-2024) for the City of La Crosse.

- ***Create a flood plan –*** this FHMP serves as the city's flood plan with a completion date of fall 2022.
- ***Ebner Coulee area flood study and FEMA LOMR –*** this study was completed in 2020. A letter of map revision was submitted to capture the updated flood risk for this area and will become effective in 2022.
- ***Fill the former Mobil Oil/Patros Steel property to above base flood elevation –*** The River Point District redevelopment project has brought fill into the site to bring the district above base flood elevation.

Plan Implementation and Maintenance

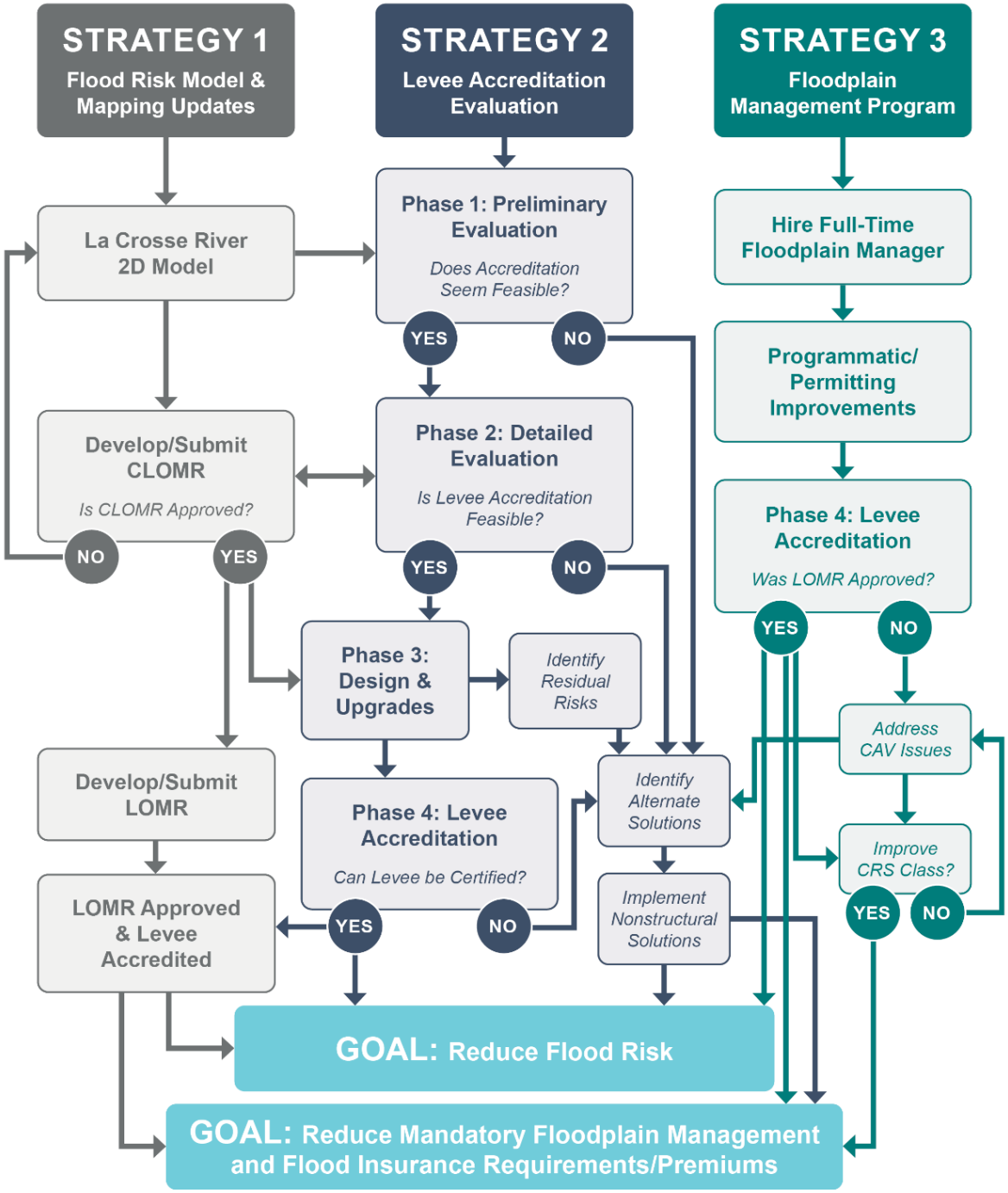
The City of La Crosse is ultimately responsible for implementing, managing, overseeing, and maintaining compliance with the NFIP and floodplain regulations. The city also has a responsibility to its residents to provide protection from flooding to both lives and property. Plan implementation and maintenance are critical components of ensuring the city meets those obligations.

Plan Implementation



Managing flood risk is a complex process with many moving parts and the city is responsible for integrating its many programs and departments. The following graphic helps showcase the interaction of the city's key strategies to reduce flood risk. Each strategy has key overlapping components and critical tripper points to shepherd the city towards its overall goals of reducing both flood risk and regulatory hardships for residents.

Path to Flood Risk Reduction



Local Capabilities

Many projects depend on the local capability of the city to oversee, manage, fund, and implement them. A major barrier to successful project implementation often relates to a lack in one or more capabilities. By evaluating existing resources, the city can plan for and address limiting factors during project scoping or development. The following table provides an overview of many existing local capabilities.

Table 20: La Crosse Local Capabilities

LOCAL CAPABILITY COMPONENTS		YES/NO
PLANNING & REGULATORY CAPABILITY	Comprehensive Plan	Yes (2002)
	Economic Development Plan	No
	Emergency Operational Plan	Yes – County
	Floodplain Management Plan	No – FHMP and floodplain related studies
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes
	National Flood Insurance Program	Yes
	Community Rating System	Inactive
ADMINISTRATIVE & TECHNICAL CAPABILITY	Planning Department	Yes
	Floodplain Manager	Yes – part time 2022, transitioning to full time 2023
	GIS Capabilities	Yes
	Chief Building Official	Yes
	Civil Engineering	Yes
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
FISCAL CAPABILITY	Capital Improvement Plan/ 1- & 6-Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Utility Fee	Yes
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
EDUCATION & OUTREACH CAPABILITY	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes – FAC

LOCAL CAPABILITY COMPONENTS		YES/NO
	Ex. CERT Teams, Red Cross, etc.	
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
	Natural Disaster or Safety related school programs	Yes
	StormReady Certification	No (WKBT TV is a Supporter)
	Firewise Communities Certification	No
	Tree City USA	Yes

Monitoring, Evaluating, and Updating the Plan

A monitoring plan provides the city with a specific roadmap to ensure mitigation actions are implemented and documented. The city shall, annually at a minimum:

Document Completed Projects

- Document and include as an amendment a summary of project implementation. This amendment should include a detailed timeline of how that project was completed, project timelines, agencies involved, area(s) benefited, total cost and funding resources, and maintenance plan (if applicable).

Evaluate Projects throughout Implementation

- As projects kick-off, are implemented, and are completed, they should be consistently reviewed to ensure they are effective in meeting overall project and FHMP goals. Project status meetings between project managers (regardless of department) should meet with the city Floodplain Administrator to ensure consistency with flood risk reduction priorities. If, during project status meetings, it is determined that projects are not currently effective in meeting plan goals, the Floodplain Administrator will assist in any scope changes.

Prioritize Other Actions

- As other projects or mitigation strategies are identified, such as during CRS Community Assistance Visits, they should be integrated and prioritized in the monitoring plan alongside other structural and non-structural projects. The Planning Committee and FAC should meet to discuss and evaluate additional actions annually or more frequently, as needed.

It is the responsibility of the City Floodplain Administrator to monitor the documentation of mitigation actions completed as part of the FHMP and provide such documentation within this document or as an appendix. Information gathering regarding tracking the implementation of actions may be collected through council meetings, city department internal meetings, or other avenues as applicable per mitigation action.

Plan Update and Integration

The Floodplain Manager is responsible for updating the plan; however, key members of the FHMP Planning Committee should consist of the FAC, council members, and members of each city department. This plan shall be reviewed annually by the Floodplain Administrator and/or revised as needed after any flooding event which impacts the city, after a Presidential Disaster Declaration, and/or as mitigation projects are completed or added. As revisions to the plan are made by the Floodplain Administrator, revised copies of this FHMP shall be shared and reviewed by both the FAC and other applicable city departments prior to release to the public for review and comment.

The projects and goals identified in this FHMP should be carried forward into other planning mechanisms utilized by the city. This should include:

- Adopted Building Code Updates and Amendments
- La Crosse County Hazard Mitigation Plan
- Zoning Maps and Regulations
- Comprehensive Plan Updates

The importance of collaboration and communication across city departments cannot be overstated. Effective plans require buy-in and support from all departments and staff who help support a healthy community. This plan provides a prime opportunity for such collaborative efforts especially as projects are implemented. The project coordinators highly recommended that the city increases its overall collaboration among departments who assist in managing the overall Floodplain Management Program for the city, including Engineering, Planning, and Floodplain Manager.

Continued Public Involvement

To ensure continued plan support and input from the public and business owners, public involvement will remain a top priority for the city. The FHMP Planning Committee should annually review this plan and document all progress towards implementation of projects. A key strategy to integrate public input shall be utilized to describe public perception of ongoing projects and upcoming projects. This may take the form of either public surveys throughout a project's implementation or an open forum discussion and recording of city meetings.

Notices for public meetings involving discussion of an action on mitigation updates will be published and posted in the following locations at least 48-hours in advance:

- Public spaces around the city
- City Halls
- City Website
- Local radio stations
- Local newspapers

A copy of the current FHMP will be made publicly available on the city's website with an active comment period for members of the public to provide comments, questions, or suggestions to the plan.

Potential Funding Sources

Potential funding and available resources are critical for project implementation. Project coordinators evaluated local, state, federal, and private funding sources for various projects identified in this FHMP. Factors which influence the city's ability to utilize these funding streams can include the funding's applicable fit (or project eligibility for funding requirements), the time needed to receive or raise funding, and/or the level of effort required to pursue and manage funds.

The estimated cost of mitigation actions identified in this FHMP are reflected in 2022 dollars. However, it is important to note that the full cost of implementation is likely to increase each year a project is not completed due to inflation or other extenuating circumstances. As the city considers various funding streams for project implementation, the local council and financial advisors for the city must be involved in the funding process. The following sections outline a few key funding streams which may be used by the city in their flood hazard risk reduction journey and should be used by the city to understand how each funding source can best meet various project needs. Many of these funding streams are not mutually exclusive but may be leveraged to accomplish more than one project concurrently. It is up to the city to identify and pursue funding sources that best match the actions they are pursuing.

Local Funding Options

Tax Increment Financing (TIF): TIF allows the city to receive property tax revenue to fund infrastructure improvements. The city may establish a Tax Incremental District (TID) which receives benefits from the infrastructure improvement and as property values rise, the property tax revenue pays for the project itself. TIF bonds allow the developer to retire the "public costs" over a period of 20 years. While the bonds are outstanding, each taxing jurisdiction receives its original share of tax revenue or "pre-TIF project tax revenues." Once the improvement has been paid off, the city can then close the TID. The advantage of TIF is that it enables a local government to borrow against future tax revenues generated by a redevelopment project which creates new tax base within the city.

Business Improvement District (BID)/ Neighborhood Improvement District (NID): Properties within a BID / NID sharing in the costs of improvements within the district through a special assessment that is placed on the property, all in an effort to growth and strengthen the vitality of the district.

Sales Tax: Several types of local sales taxes are levied in Wisconsin. Wisconsin counties are permitted to impose a 0.5% county sales tax; however, the city may be limited in its ability to utilize sales tax as a local funding option. The other types of local sales taxes levied in the state are local exposition district taxes, local professional baseball park district taxes, local professional basketball stadium district ticket and food and beverage taxes, and premier resort area taxes. Instituting a sales tax requires a referendum and there may be competing priorities for revenue.

Stormwater Utility Fee: The city may add flood risk reduction improvements to a stormwater utility fee for residents receiving water services from the city, thus dispersing the cost burden more equitably among residents receiving flood risk reduction benefits. This fee can also be used to address future operations and maintenance (O&M) needs.

Stormwater Utility District: A municipality may set up a Storm Water Utility District. The district then gathers revenue from taxes accrued from the valuation of property within the district. This tax revenue

is used to fund costs associated with the creation of new development within the district and supporting infrastructure.

General Obligation Bonds: General Obligation (GO) bonds are municipal bonds which provide a way for state and local governments to raise money for projects that may not generate a revenue stream directly. GOs are backed by property taxes and are issued by the city for a wide array of community betterment projects.

Public Private Partnerships

A partnership between public and private industries can provide a significant source of recurring revenue for improvements. These partnerships also shift funding responsibility to private sector partners of the project. Local partners may include non-profits, conservation-based organizations, businesses receiving benefits from improvements, or financial institutions.

Joint Public Agency Act: The Joint Public Agency Act allows local governmental units to make the most efficient use of their taxing authority and powers by collaborating with other governmental units on mutually advantageous projects. These efforts can provide services and facilities which best accommodate geographic, economic, population, or other factors influencing the needs and development of local communities. Two or more public agencies may enter into agreements with one another for joint or cooperative action pursuant to the Joint Public Agency Act. Any combination of two or more public agencies may create one or more joint public agencies to exercise the powers and authority prescribed by the Joint Public Agency Act.

River 2 Ridge Disaster Resilience Group (R2RDR): River 2 Ridge Disaster Resilience Group (R2RDR) is a non-profit, 501 (c) 3 organization made up of a volunteer committee of community partners including local businesses, non-profit organizations, churches and other religious organizations, economic development and emergency management. R2RDR provides resources and connections for residents in La Crosse County working to recover from natural disasters or a community crisis.

Originally formed as the Long Term Flood Recovery Group – Region 1 to provide relief following the flooding of 2007, the group re-convened in the fall of 2018 to help their neighbors with unmet flood recovery needs. In March of 2020, the LTFRG officially dissolved and reconvened as R2RDR.

The current committee is made up of representatives from American Red Cross, Coulee Cap, La Crosse County Emergency Management, Vernon County Economic Development & Tourism, Westby Coon Prairie Lutheran Church, Thrivent Financial, Great Rivers United Way, and several other local, regional, and national organizations. More information about R2RDR can be found online here: https://www.r2rdr.org/.

State Funding Options

Natural Resource Conservation Service (NRCS) Watershed and Flood Prevention Operations (WFPO): The NRCS has committed funding to its Watershed and Flood Prevention Operations (WFPO) program through PL-566. In general, projects must be less than 250,000 acres and meet one of many purposes (flood prevention, watershed protection, etc.). NRCS pays for up to 100% of planning, design, and construction costs but, like all funding applications, the greater the local match contributed, the better the chance for receiving additional funding. Permitting and land rights are not eligible, however having existing studies and plans available further strengthens the grant application.

State Revolving Loan Funds: The Wisconsin Department of Natural Resources (WDNR) manages a state revolving loan fund that combines federal capitalization grants from the EPA Clean Water and Drinking Water State Revolving Funds with state funding for financial assistance in the form of subsidized loans for drinking water, stormwater, and wastewater infrastructure projects.

Municipal Flood Control Grant Program: Wisconsin DNR offers grant funding to cities concerned with municipal flood control management through either local assistance grants designed to support municipal flood control administrative activities and/or acquisition and development grants to acquire and remove floodplain structures, elevate floodplain structures, restore riparian areas, acquire land and easements for flood storage, construct flood control structures, and fund flood mapping projects. This grant program is only available on even-numbered years (i.e., 2022, 2024, etc.).

Federal Funding Options

FEMA Hazard Mitigation Assistance: As a community covered by an approved Hazard Mitigation Plan, the city is eligible for grant funding through several FEMA programs for hazard mitigation including the Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA) Program, and Building Resilient Infrastructure and Communities (BRIC) Program. Many flood mitigation-type projects are specifically eligible and of high priority for FEMA under these programs.

- **HMGP:** provides funds to states, territories, Indian tribal governments, local governments, and other eligible participants following a presidential disaster declaration. The DMA 2000 authorizes up to seven percent of HMGP funds available to a state after a disaster to be used for the development of state, tribal, and local mitigation plans.
- **FMA:** provides grant funds to implement projects such as acquisition or elevation of flood-prone homes. Jurisdictions must be participating communities in the National Flood Insurance Program (NFIP) to qualify.
- **BRIC:** replaces the Pre-Disaster Mitigation Program and provides funds on an annual allocation basis to local jurisdictions for implementing programs and projects to improve resilience and local capacity before disaster events.

HUD Community Development Block Grant: The federal Community Development Block Grant (CDBG) program provides funding for community and economic development projects to encourage additional federal, state, and private resource investment. Communities receiving CDBG funds can use the grants to provide safe and sanitary housing, a suitable living environment, and expanded economic opportunities. Being an Entitlement Community (population over 50,000), La Crosse receives federal funds for CDBG from the U.S. Department of Housing and Urban Development (HUD) on an annual basis. The city can use its CDBG funds for projects as identified through its current Consolidated Plan.

The 2020-2024 Consolidated Plan identifies specific priorities for the city and can use its CDBG funds for projects that:

- Benefit low and moderate-income persons,
- Prevent or eliminate slum or blight conditions, or
- Solve catastrophic health and safety threats.

CDBG funds have been used in conjunction with other hazard mitigation funding sources, like HMGP, to implement projects including acquisitions and elevation of flood prone properties.

United States Army Corp of Engineers - USACE can provide a broad range of assistance under legislative authority related to flood risk reduction for floodplain management planning, stream bank protection, and aquatic ecosystem restoration.

Appendix A

Meeting Materials and Agenda

Contents:

1. Kick Off Meeting
2. Planning Committee Meeting 1: November 2021
3. Planning Committee Meeting 2: January 2022
4. Planning Committee Meeting 3: March 2022
5. Planning Committee Meeting 4: April 2022

Kickoff Meeting Agenda

CITY OF LA CROSSE
FLOOD HAZARD MITIGATION PLAN

Kick-Off Meeting Agenda
March 30, 2021; 4:00pm
Online Meeting

Join online: https://global.gotomeeting.com/join/891547981
Join by phone: 866-899-4679 (toll free); access code: 891-547-981

1. **Welcome and Introductions**

2. **Flood Hazard Mitigation Plan Project Overview**
   - Project description and purpose
   - Other flood studies

3. **USACE – Nonstructural Flood Mitigation Assessment**
   - Project update
   - Terry Zien, USACE Senior Program Manager, Terry.R.Zien@usace.army.mil

4. **Planning Committee Role**
   - Plan goals and objectives
   - Promote public involvement

5. **Planning Process**
   - Project schedule

6. **Public Engagement Plan**
   - Community engagement strategies
   - Project website: https://lacrossefhmp.com/

7. **Next Steps**
   - Data collection and analysis
   - Schedule virtual Open House
   - Project announcement press release

8. **Contact Information**
   - Brad Woznak, SEH Project Manager, bwoznak@sehinc.com, (651) 508-0458
   - Bernard Lenz, La Crosse Utility Manager, lenzb@cityoflacrosse.org, (608) 789-7588

Kickoff Meeting Presentation

City of La Crosse

Flood Hazard Mitigation Planning

Project Kickoff Meeting

March 30, 2021

Agenda

1. Welcome and Introductions
2. Flood Hazard Mitigation Plan Project Overview
3. USACE – Nonstructural Flood Mitigation Assessment
4. Planning Committee Role
5. Planning Process
6. Public Engagement Plan
7. Next Steps

Introductions

BRAD WOZNAK PE, PH, CFM
PROJECT MANAGER/SENIOR FLOODPLAIN MANAGER
Brad will serve as the project manager and will be responsible for ensuring the FHMP meets the City's schedule and the City's long-term goals and expectations.

JOHN CALLEN PE, CFM
SENIOR PLANNER/ FEMA CRS EXPERT
John will ensure the programmatic floodplain management and technical assessments are cohesive in the plan document.

BREA GRACE AICP
LAND USE PLANNER/PUBLIC ENGAGEMENT FACILITATOR
Brea will lead the overall planning and community development efforts. She will also be responsible for public meetings and community engagement for the project.

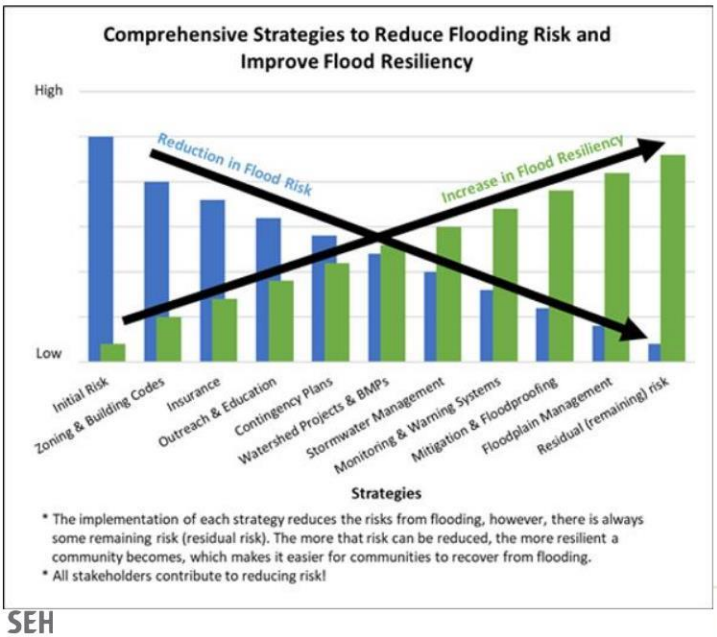
BECKY APPLEFORD CFM
SENIOR HAZARD MITIGATION/ EMERGENCY MANAGEMENT
Becky will lead the efforts to ensure the FHMP complies with FEMA regulations for local mitigation plans.

JORDAN THOLE PE, CFM
FLOODPLAIN ENGINEER
Jordan will be responsible for hydraulic engineering and flood risk and mitigation efforts for the project.

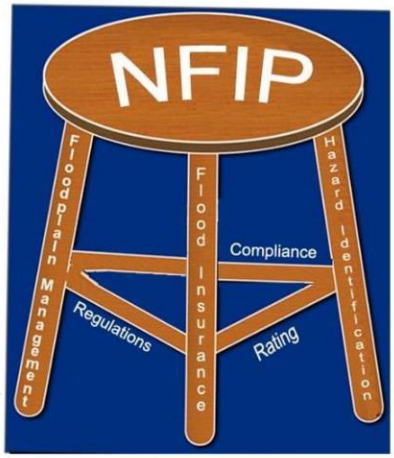
FHMP Overview

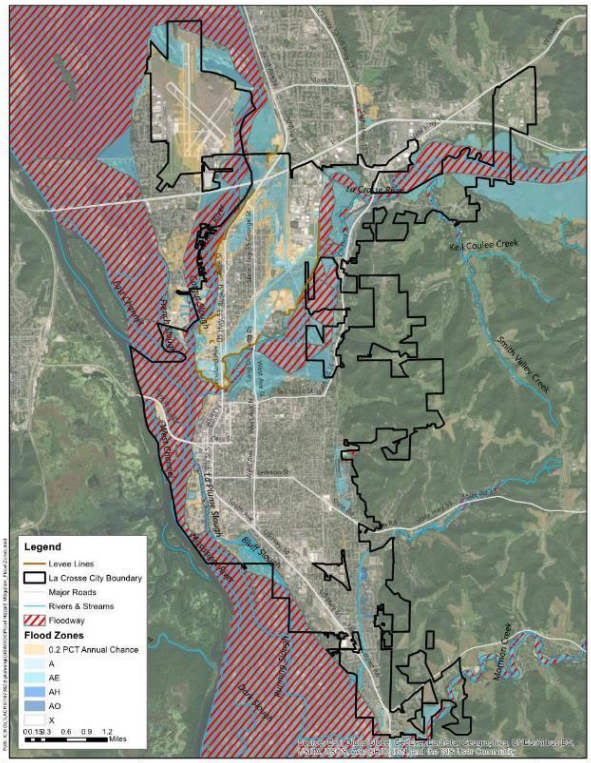
- Community-guided document that follows defined floodplain management planning process to assist with identifying and prioritizing floodplain management and flood risk mitigation actions
- Provides foundation for a stronger, more flood resilient community
- Supports eligibility for FEMA mitigation grant programs
- PURPOSE:
  - To assess flood risk and vulnerabilities, and
  - To identify mitigation actions to reduce flood risk and impacts

Purpose of the Plan for the Community

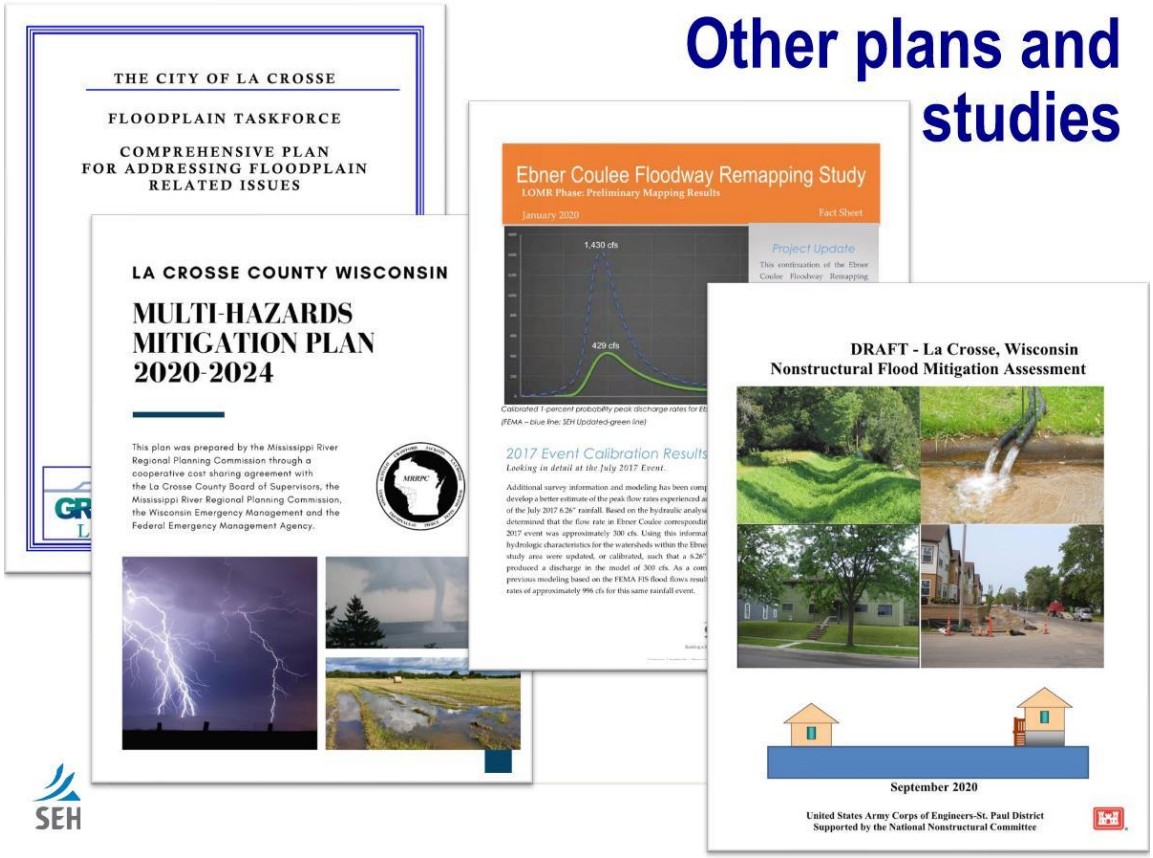


SEH





Other plans and studies



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LA CROSSE NONSTRUCTURAL ASSESSMENT

Background

- Previous USACE work – Pammel Creek Channel
- Ebner Coulee Feasibility Evaluation
- Emergency Action Plan Workshop
- Other Studies

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10

LA CROSSE NONSTRUCTURAL ASSESSMENT

Site Visit

- June 2019
- What we did
- What we saw
- Issues

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11

LA CROSSE NONSTRUCTURAL ASSESSMENT

Report

- February 2021
- Contents
- Results
- Recommendations

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12

LA CROSSE NONSTRUCTURAL ASSESSMENT

Next Steps

- Review
- Coordination with staff
- Solutions for residents
- Modeling
- Comprehensive flood plain management plan

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LA CROSSE NONSTRUCTURAL ASSESSMENT

Questions?

- Point of Contact:
  - Terry Zien
  - 651-290-5714
  - terry.r.zien@usace.army.mil

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LA CROSSE WISCONSIN

Discussion

FHMP Committee Role

- Provide guidance and input
  - Feedback is critical to development of the plan
- Assist with identifying/collecting relevant local data
  - Including flood impacts and at-risk areas
- Review/evaluate mitigation projects
- Plan goals and objectives
- Promote public involvement

FHMP Committee Composition

Diverse group leads to greater shared knowledge of community flood hazards

- Council Members - Floodplain Advisory Committee
- City department reps
  - Utilities
  - Risk Management
  - Planning
  - Engineering
  - Parks & Rec
  - Community Development & Housing
- Stakeholders
  - County Emergency Services
  - USACE
  - NWS
- Citizens
- Consultants

Planning Process: 10-Steps

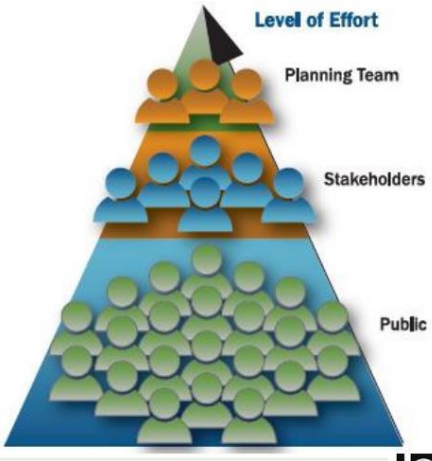
1. Organize to prepare the plan
2. Involve the public
3. Coordinate
4. **Assess the hazard**
5. **Assess the problem**
6. **Goals**
7. **Review possible activities**
8. **Draft action plan**
9. Adopt the plan
10. Implement, evaluate, and revise

} FHMP Meetings

Project Timeline

Public Engagement Plan

- Developed for planning process
- Designed to guide
  - Education of public and stakeholders
  - Gathering of feedback and input
- Methods
  - Project planning committee
  - Meeting facilitation
  - Website
  - Survey
  - Short videos
  - Social media
  - Project flyer
  - Press releases
  - Strategic mailings



Public Engagement Goals

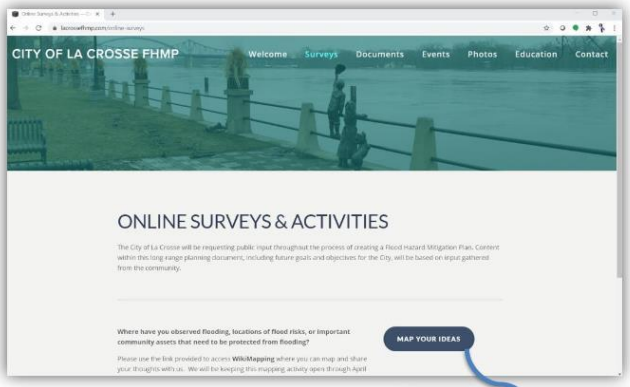
1. Gain public understanding and support for community floodplain management
2. Increase public awareness of flooding hazards and risks
3. Support or highlight priority areas for flood mitigation
4. Gain an understanding of the types of projects residents are willing to support
5. Ensure transparency by providing multiple opportunities for public comment
6. Utilize a common approach to distribute project information and organize additional outreach efforts

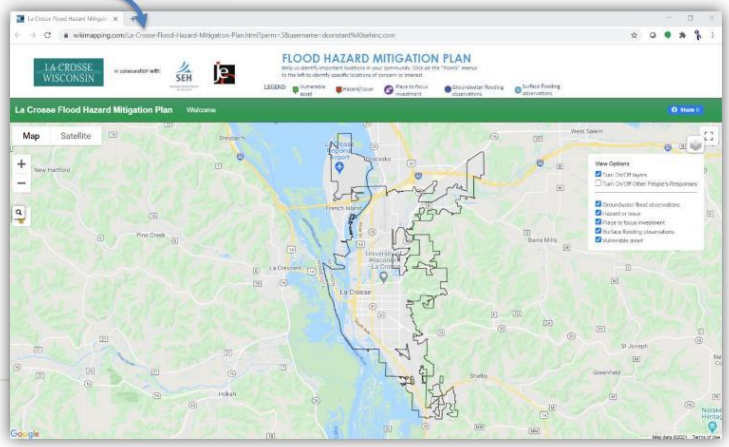
Project Website

- Developed and maintained for duration of project
- Share current project information
- Floodplain education
- Involvement opportunities

http://lacrossefhmp.com

WikiMaps





Next Steps

- Checkout the website
  - Share flooding pictures or observations
- Data collection and analysis
- Schedule virtual open house
- Project announcement press release

Project Contacts

- SEH
  Brad Woznak
  (651) 490-2125
  bwoznak@sehinc.com
- JEO
  Becky Appleford
  (402) 392-9915
  rappleford@jeo.com
- City of La Crosse
  Bernie Lenz
  (608) 789-7588
  lenzb@cityoflacrosse.org

thank you!

Planning Committee Meeting 1 Presentation

City of La Crosse

Flood Hazard Mitigation Plan

Risk Assessment and Goals Meeting

January 19, 2022

Agenda

1. Welcome and Introductions
2. Flood Risk Assessment and Impacts Discussion
3. Role of Levee System – Existing Conditions
4. Future Development and Land Use Plans
5. Draft Flood Hazard Mitigation Plan Goals
6. Mitigation Alternatives Discussion
7. Next Meeting

Welcome!

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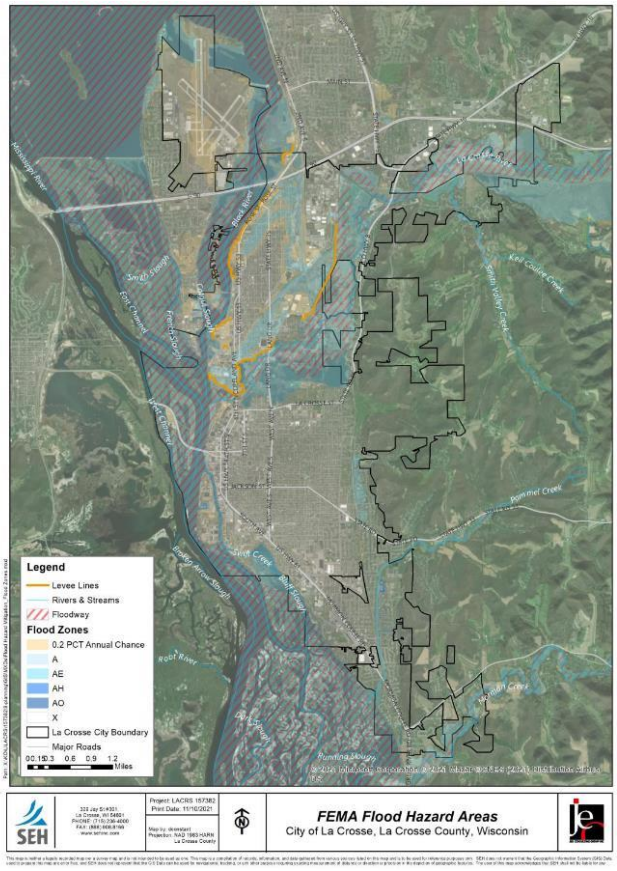
From U.S. Army Corps of Engineers:

TERRY ZIEN, PE, CFM
SENIOR PROGRAM MANAGER

ALEX LE, EIT
HYDRAULIC ENGINEER

Previous Meeting

- Flood Hazard Sources
  - River, Stream, or Creek
    - Flood Risk Areas
    - Levee Failure
  - Dam Failure
  - Other sources of flooding
    - Localized or Stormwater
    - Groundwater
- Historic Floods and Damages



Planning Process: 10-Steps

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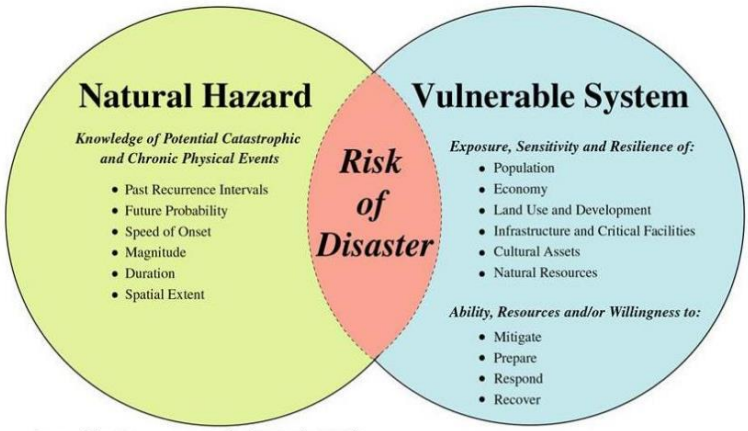
} FHMP Meetings

Risk Assessment and Impacts



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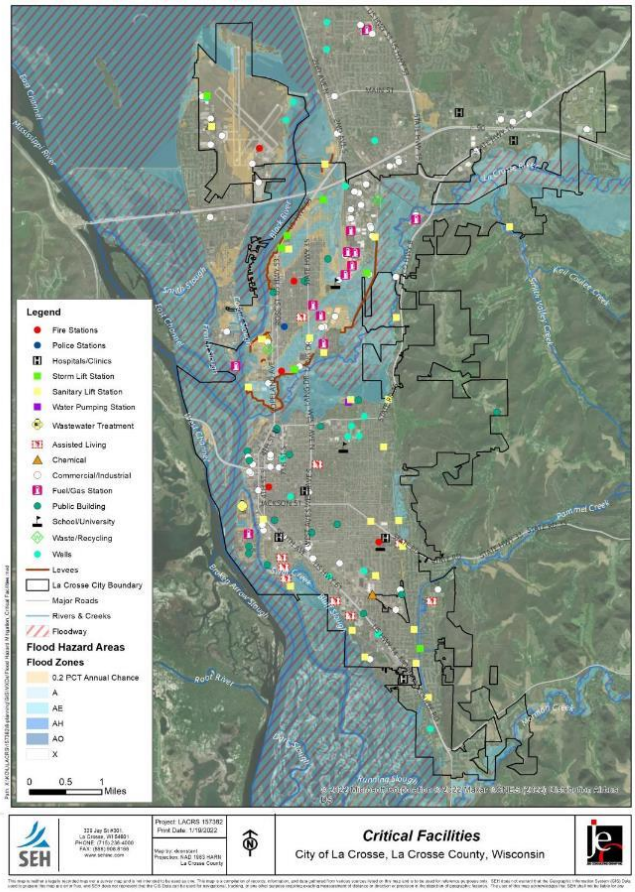

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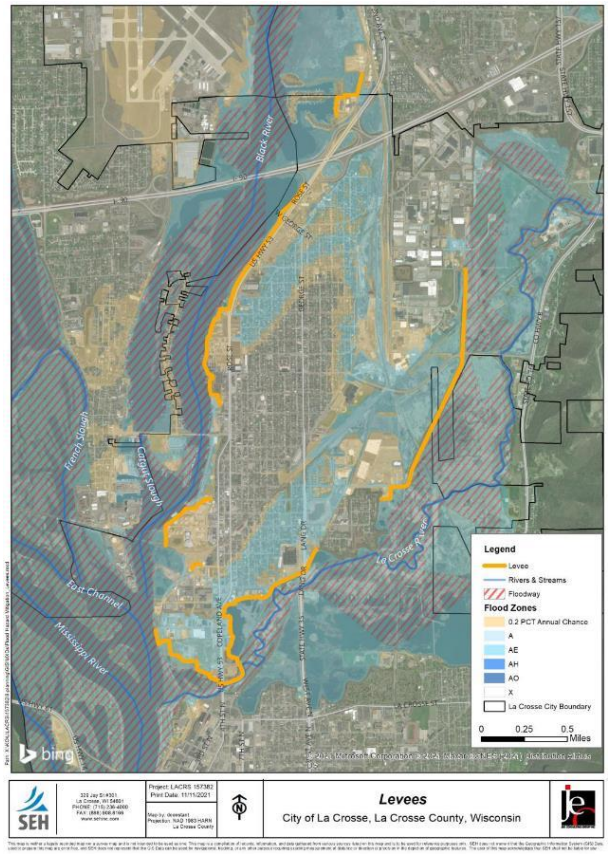

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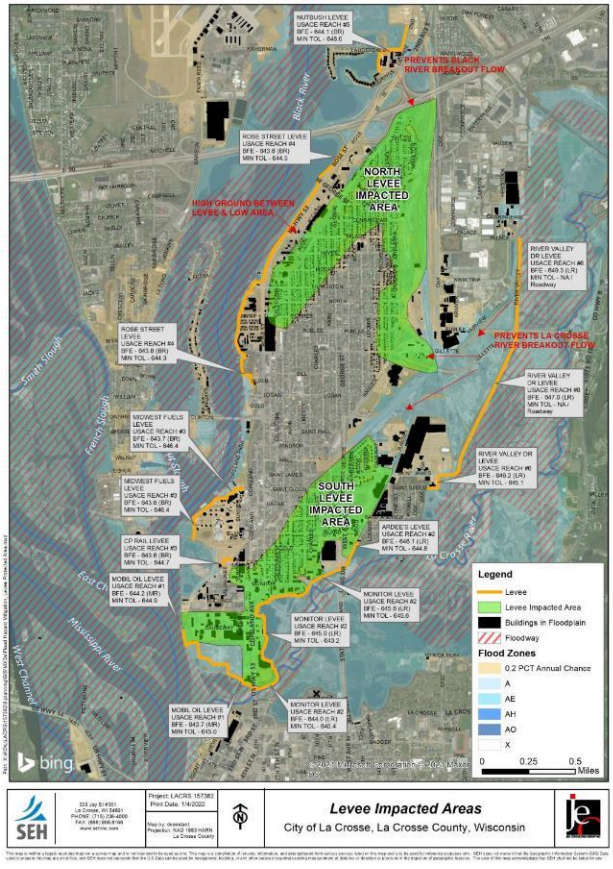

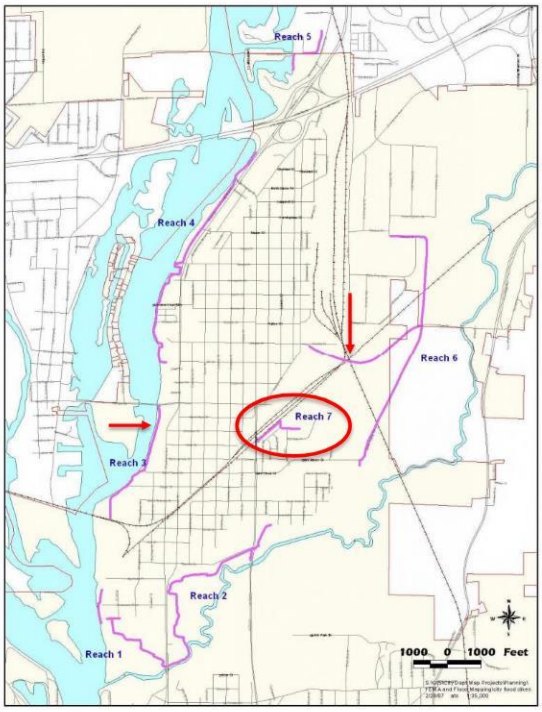

Map from 2008 Floodplain Taskforce Plan

Benefits of an Improved Levee

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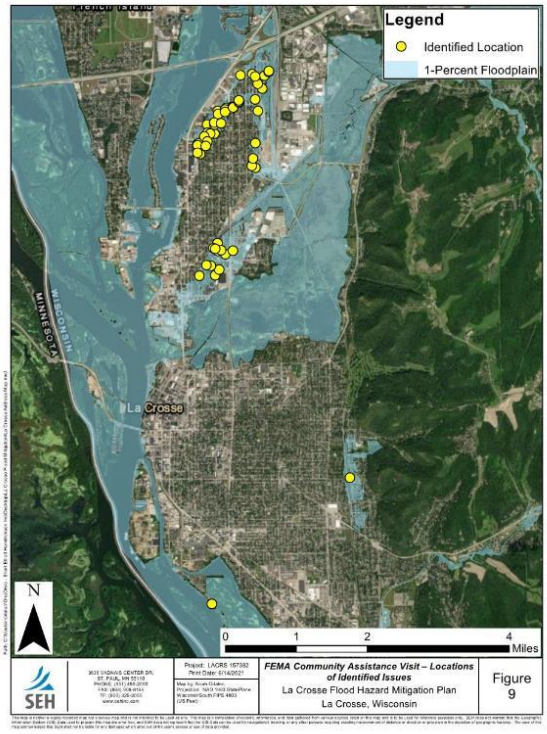

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	Total	Floodplain*	Levee Impact Area
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Parcels	17,150	3,529	1,617
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Improvements Value	$2,789,500,400	$607,390,300	$180,364,000
% of Improvements Value	--	21.8%	6.5% (~30% of FP Properties)
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- Routinely flood impacted areas
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- Who manages the data for levee alignments?
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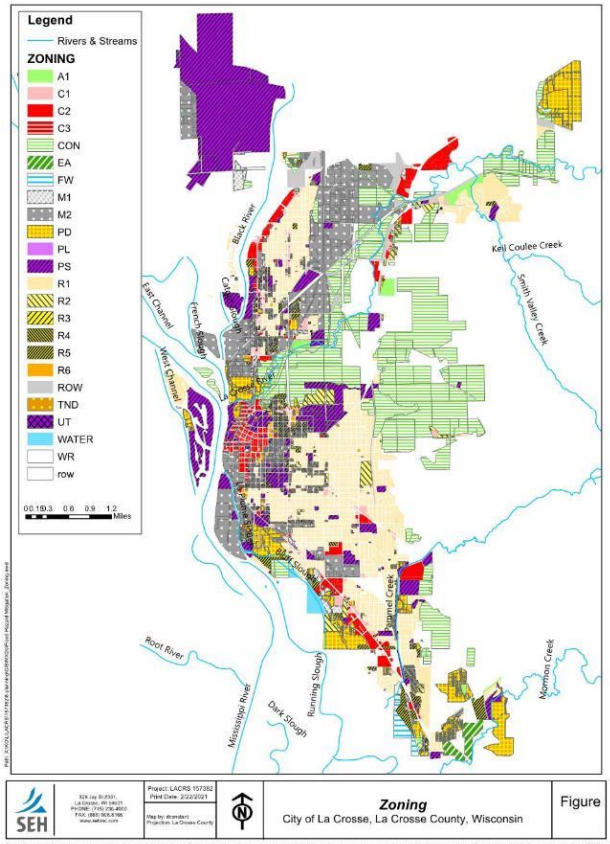
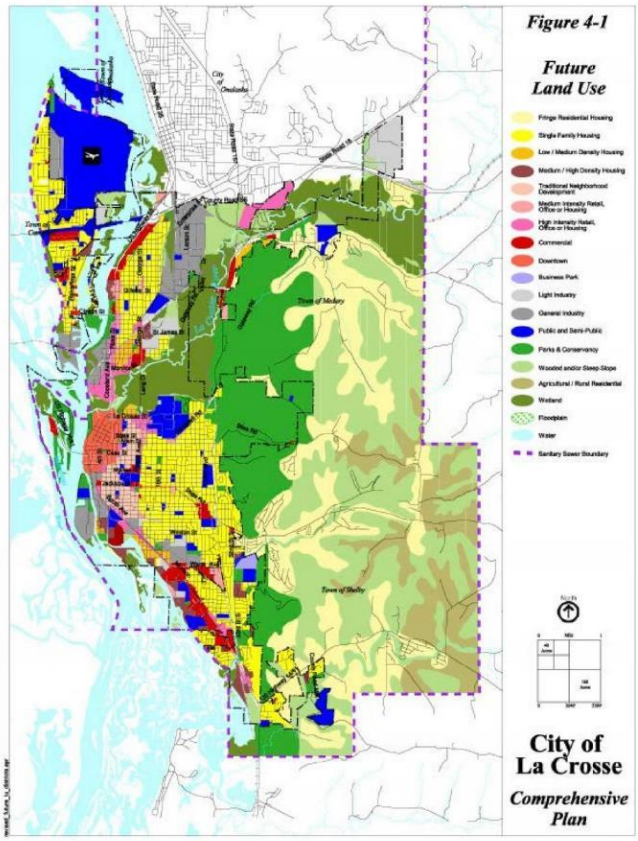


Land Use

- Mix of residential, industrial, commercial, and green space
- Opportunities for growth are limited
- Bluffs to east and river to west



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- Limited expansion opportunities
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- No major changes to existing residential areas
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Plan Goals and Objectives

- Long-term, broad policy-type statements
- Represent vision to reduce losses
- Utilize SMART method to define objectives
- Align goals with other existing community plans

S	**SPECIFIC** A defined end point or target of the web interaction.
M	**MEASURABLE** Attach numbers and timelines to the goal.
A	**ACHIEVABLE** Based on existing figures and research, is it achievable?
R	**RELEVANT** Is this web goal in line with the business's broader goals?
T	**TIME LIMITED** The goal must be measurable over a period of time.

Mitigation Actions

- Actions define how the goals and objectives are accomplished
- Action plan:
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  - Priority
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Review Other Plan Goals

- City Comprehensive Plan 2002
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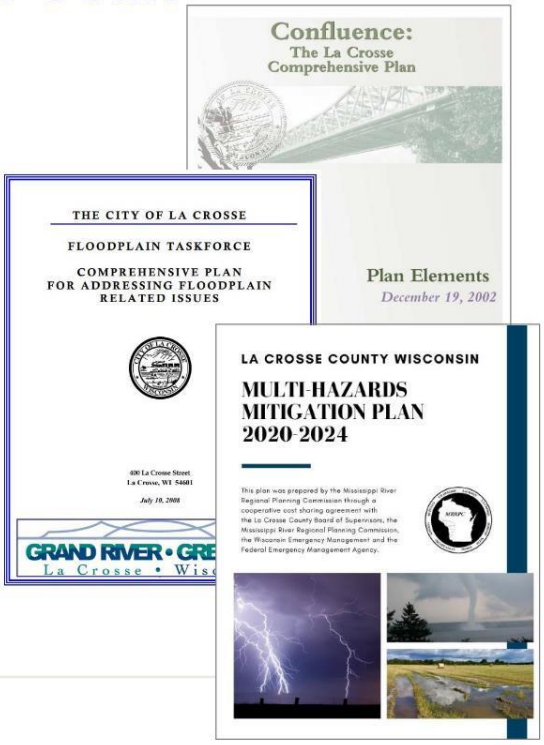

Goals and Objectives Discussion

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- What are the common themes discussed?
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Mitigation Alternatives

- Update flood modeling
- Evaluate levee segments to prioritize for levee improvements
- Levee certification
- Identify flood fringe properties for elevation
- Interior drainage issues
- Programmatic changes to floodplain management
- Education and outreach
- Flood insurance
- Continue participation in CRS program

Next Meeting

- Finalize Goals
- Flood Mitigation Alternatives

Project Contacts

- SEH
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  (651) 490-2125
  bwoznak@sehinc.com

- JEO
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  rappleford@jeo.com

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  Sarah Rafajko
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thank you!

Planning Committee Meeting 2 Agenda

CITY OF LA CROSSE
FLOOD HAZARD MITIGATION PLAN

Planning Committee Meeting Agenda
January 19, 2021; 5:00pm
Online Meeting

Join online: https://us02web.zoom.us/j/89523039845
Join by phone: 346-248-7799 **Meeting ID**: 895 2303 9845

1. **Welcome and Introductions**

2. **Flood Risk Assessment and Impacts Discussion**

3. **Role of La Crosse Levee System – Existing Conditions**

4. **Future Development and Land Use Plans**

5. **Draft Flood Hazard Mitigation Plan Goals**

6. **Mitigation Alternatives Discussion**

7. **Next Meeting**

8. **Contact Information**
   - Brad Woznak, SEH Project Manager, bwoznak@sehinc.com, (651) 508-0458
   - Sarah Rafajko, City Floodplain Manager, rafajkos@cityoflacrosse.org, (608) 789-8678

Planning Committee Meeting 2 Presentation

City of La Crosse

Flood Hazard Mitigation Plan

Risk Assessment and Goals Meeting

January 19, 2022

Agenda

1. Welcome and Introductions
2. Flood Risk Assessment and Impacts Discussion
3. Role of Levee System – Existing Conditions
4. Future Development and Land Use Plans
5. Draft Flood Hazard Mitigation Plan Goals
6. Mitigation Alternatives Discussion
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BRAD WOZNAK PE, PH, CFM
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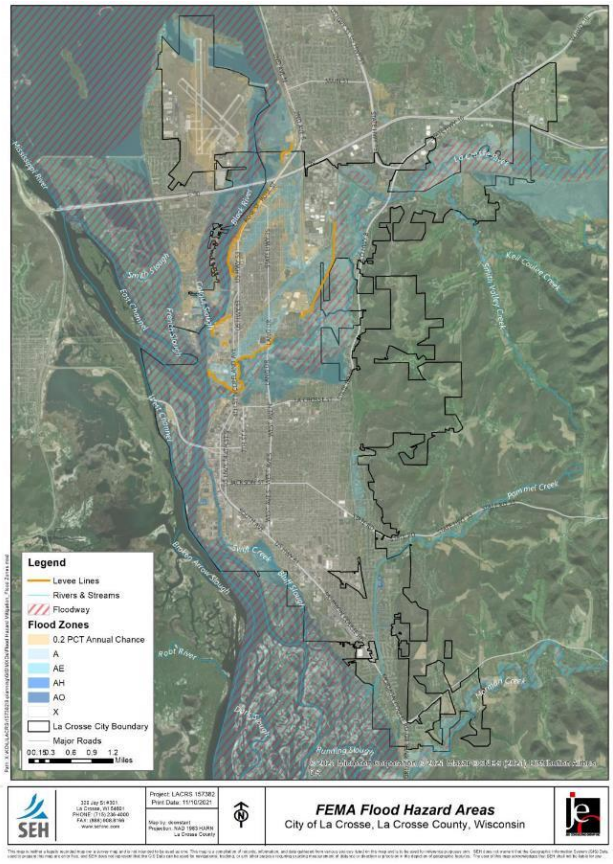

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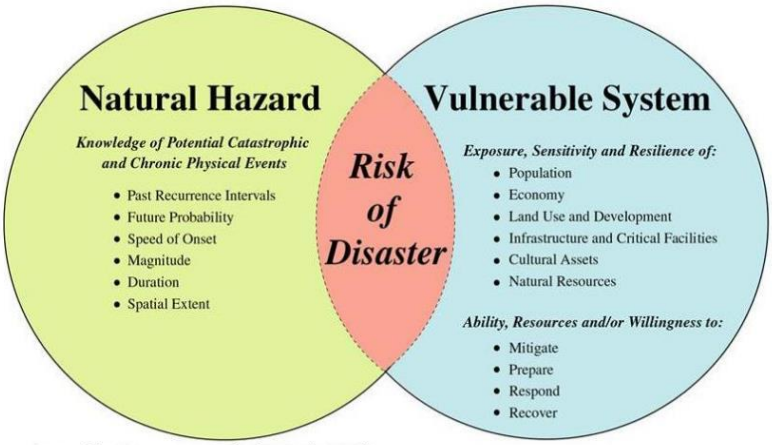

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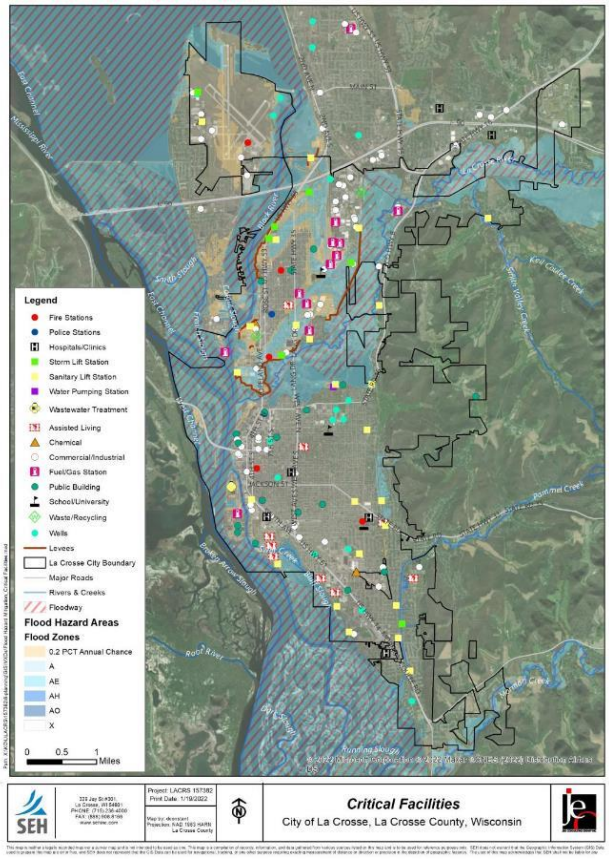

SEH

Project: LACRS 157382
Print Date: 1/19/2022

Critical Facilities
City of La Crosse, La Crosse County, Wisconsin

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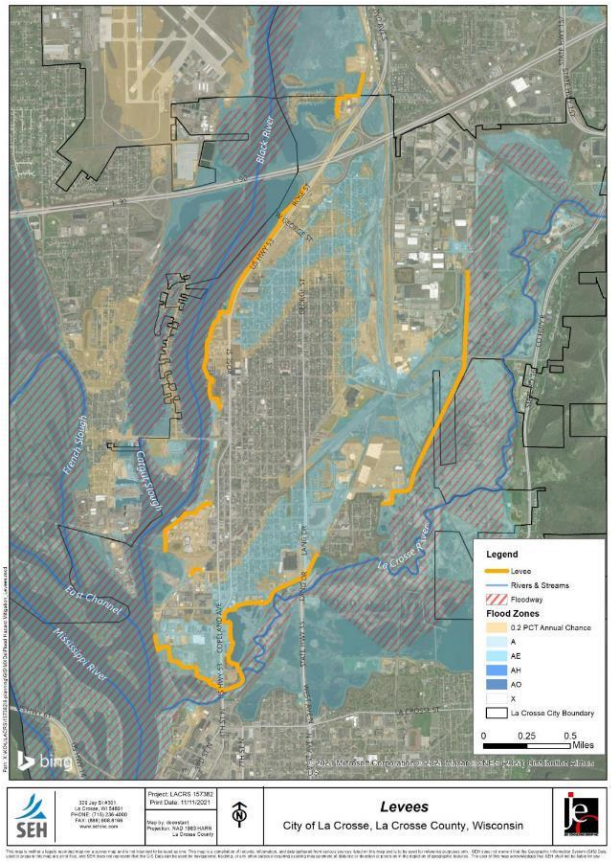

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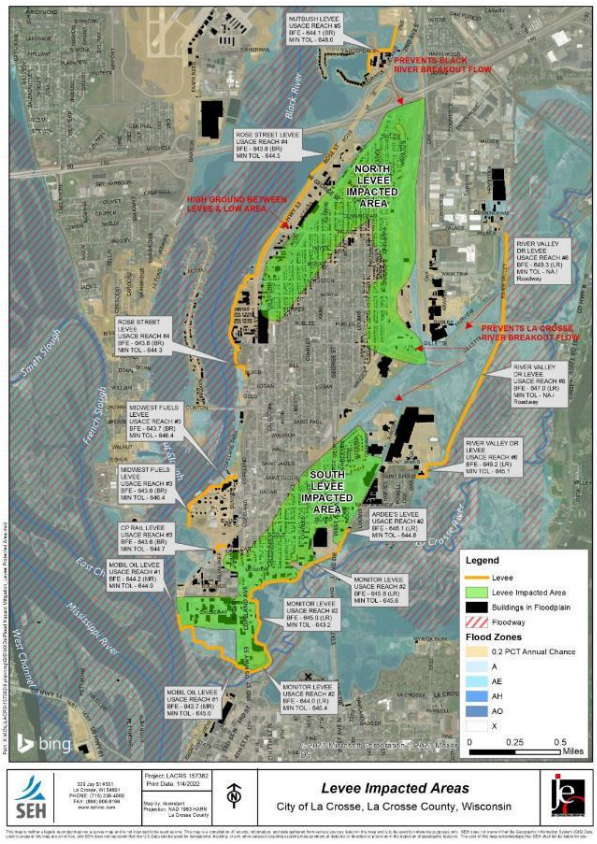

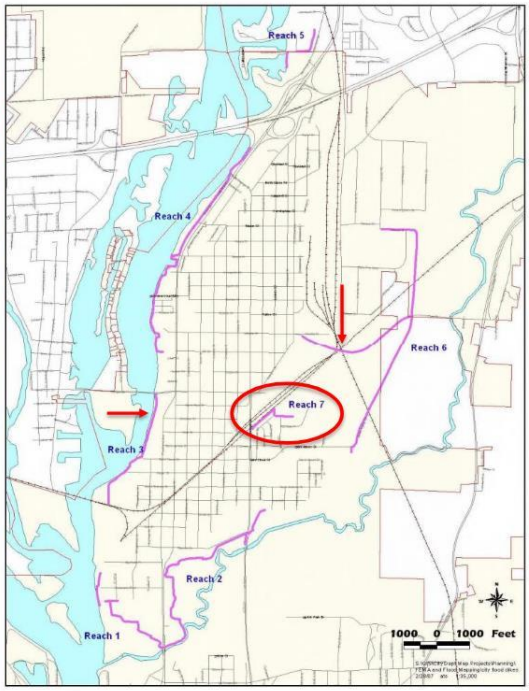

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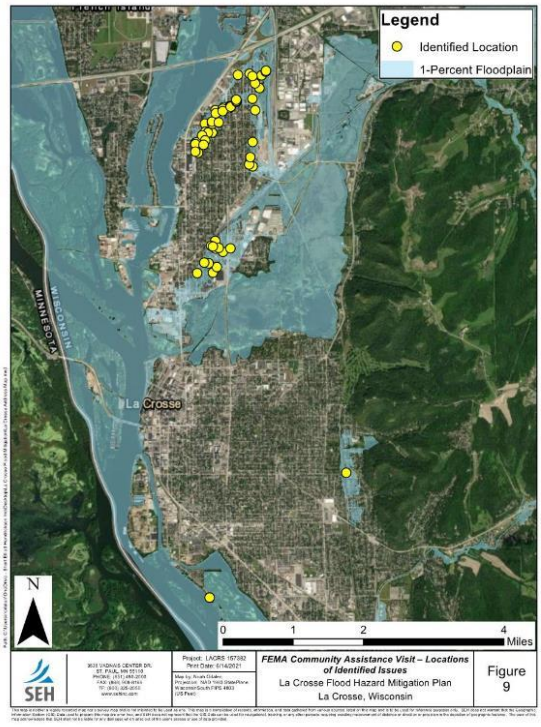

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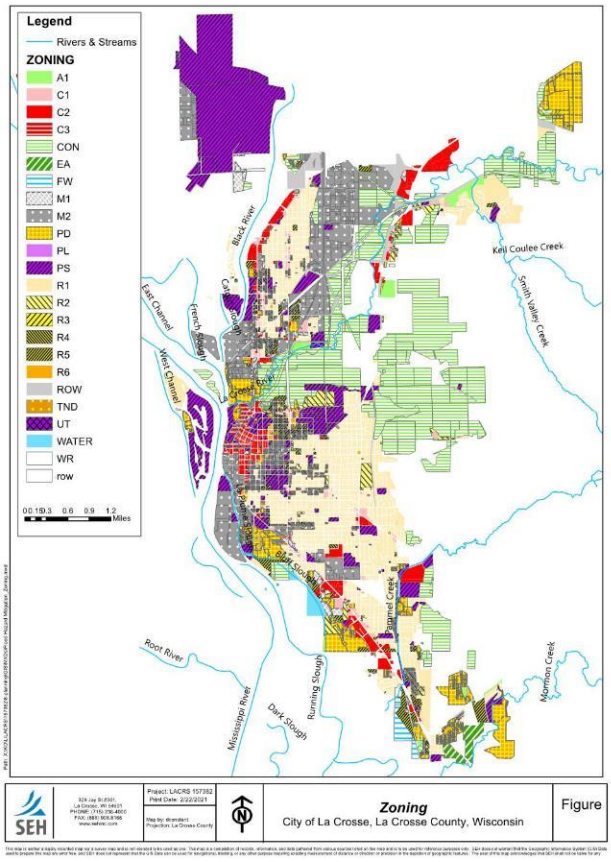

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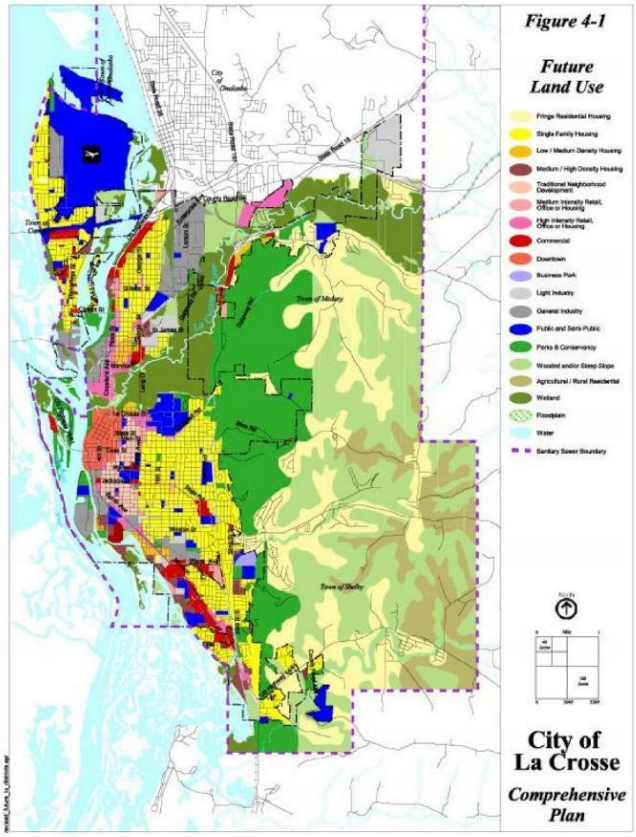

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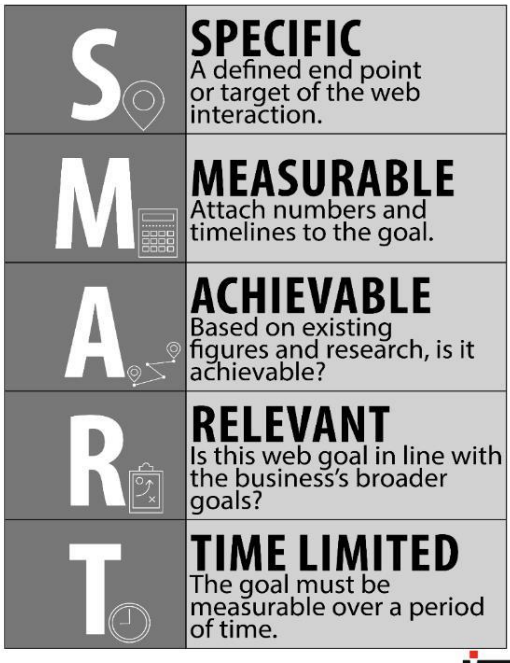

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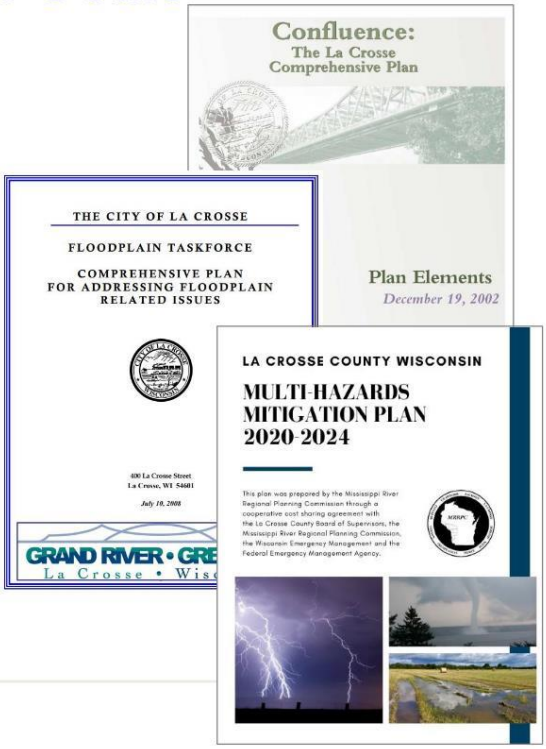

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Planning Committee Meeting 3 Agenda

CITY OF LA CROSSE
FLOOD HAZARD MITIGATION PLAN

Planning Committee Meeting Agenda
March 16, 2022; 4:00pm
Online Meeting

Join online: https://us02web.zoom.us/j/84043320099
Join by phone: (346) 248-7799 **Meeting ID**: 840 4332 0099

1. **Welcome and Introductions**

2. **Draft Flood Hazard Mitigation Plan Goals**

3. **Flood Mitigation Alternatives Discussion**

4. **Next Meeting**

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Planning Committee Meeting 3 Presentation

City of La Crosse

Flood Hazard Mitigation Plan

Goals and Mitigation Projects Discussion

March 16, 2022

Agenda

1. Welcome and Introductions
2. Draft Flood Hazard Mitigation Plan Goals*
3. Mitigation Alternatives Discussion*
4. Next Meeting

*Have phones or browser ready for – Mentimeter
www.menti.com
and use the code
76 79 418

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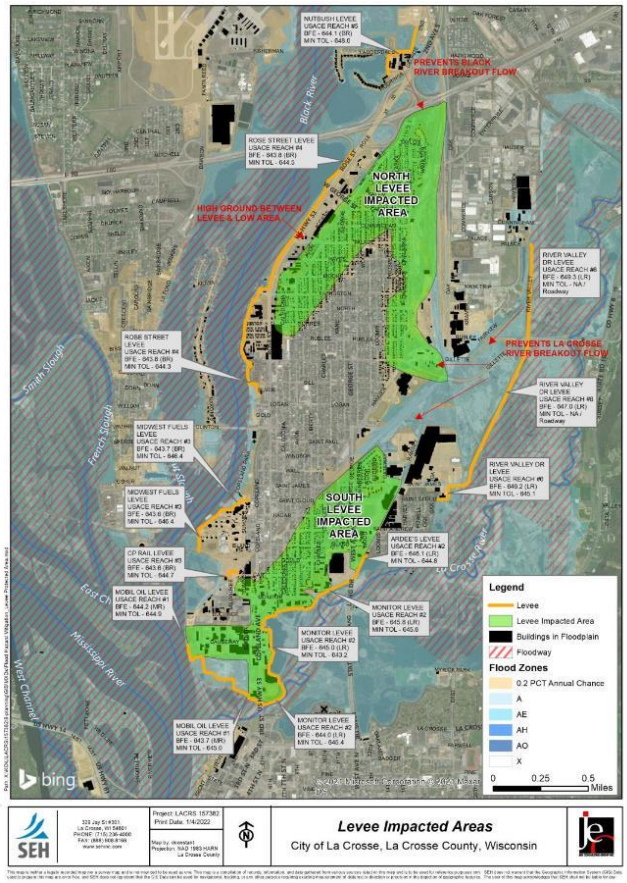
} FHMP Meetings

Previous Meeting

- Flood Risk Assessment and Impacts
- Role of the Levee System
  - Existing Conditions
  - Benefits of Levee Improvements
  - Levee data constraints
- Current and Future Land Use
- Introduction to Plan Goals and Objectives



Flood Hazard Mitigation Plan Goals Discussion

Plan Goals

Goals

- Long-term, broad policy-type statements
- Represent vision to reduce losses
- Align goals with other existing community plans

Objectives

- Define strategies or implementation steps to attain goals
- Specific and measurable (i.e., SMART)

Actions

- Specific projects/activities to achieve goals & objectives

Continuity with Other Plan Goals

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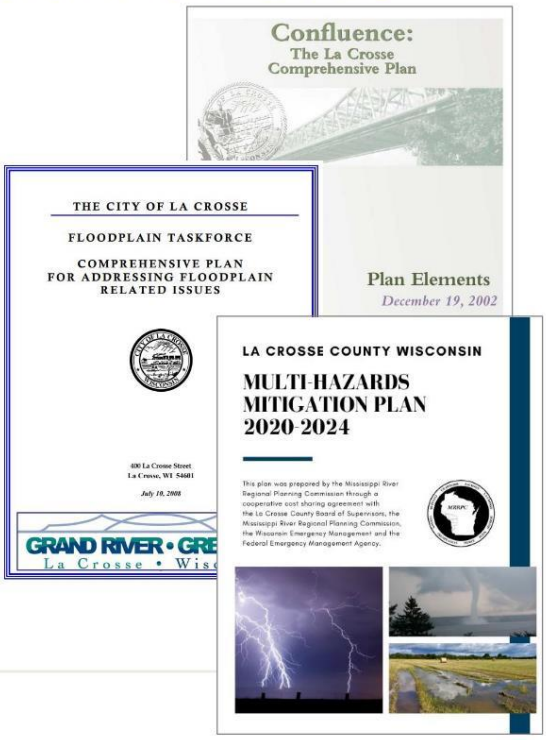
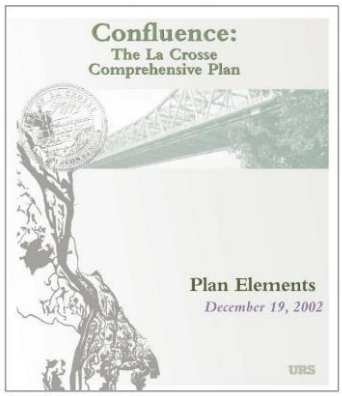


Continuity with Other Plan Goals

- Currently going through an update
- Natural Environment: Safeguard and improve environmental features as a means of promoting neighborhood revitalization, community image, and quality of life.

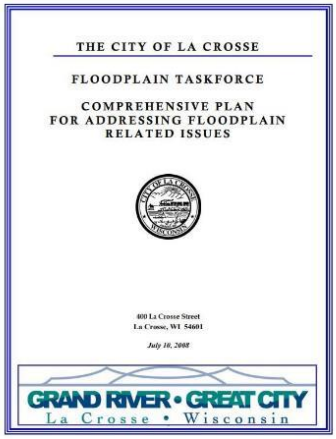


Continuity with Other Plan Goals

- County goal for flooding, stormwater drainage, and dams:
- Protect the health and safety of residents and property in high water events by improving infrastructure and warning and communication systems.

Continuity with Other Plan Goals

- One overarching goal:
- To remove all structures from the regulated floodplain over the next 50 years. The City will prioritize on homes and then business structures.
  - Public/Staff Education
  - FEMA/WDNR Compliance
  - Hazard Mitigation
  - Flood Mitigation Initiatives
  - Incentives for Development/Redevelopment


THE CITY OF LA CROSSE

FLOODPLAIN TASKFORCE

COMPREHENSIVE PLAN FOR ADDRESSING FLOODPLAIN RELATED ISSUES

400 La Crosse Street
La Crosse, WI 54601

July 10, 2008

GRAND RIVER • GREAT CITY
La Crosse • Wisconsin

Mentimeter Questions

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and use the code

76 79 418

Draft Goals

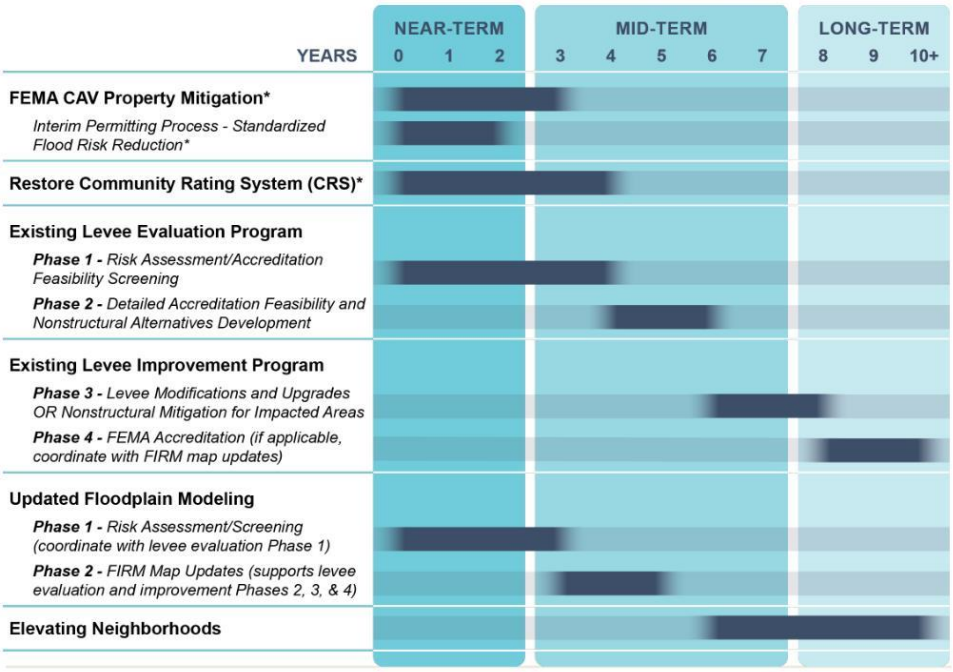
- Reduce the city's risk to river and stream flooding to protect the health safety of residents
- Educate and support property owners with protecting existing and new properties from river and stream flooding
- Plan and budget for methods to protect existing and new municipal infrastructure from river and stream flooding
- Restore and improve the city's participation in the Community Rating System (CRS)
- Improve flood awareness and education

Flood Mitigation Alternatives Discussion

Mitigation Themes

- Update flood modeling
- Evaluate levee segments to prioritize for levee improvements
- Levee certification
- Identify flood fringe properties for elevation
- Interior drainage issues
  - Addressed through Stormwater Master Plan
- Programmatic changes to floodplain management
- Education and outreach for public and staff
- Flood insurance
- Continue participation in CRS program

Mitigation Recommendations



*Programmatic Changes/Updates

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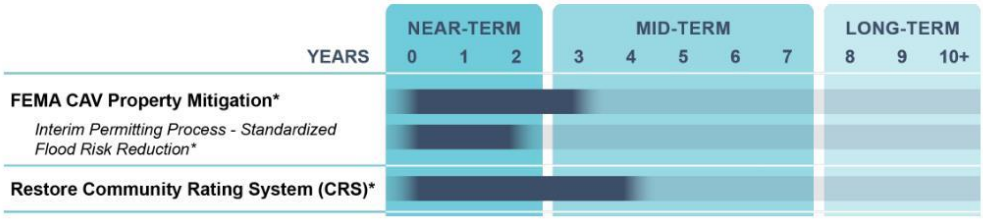

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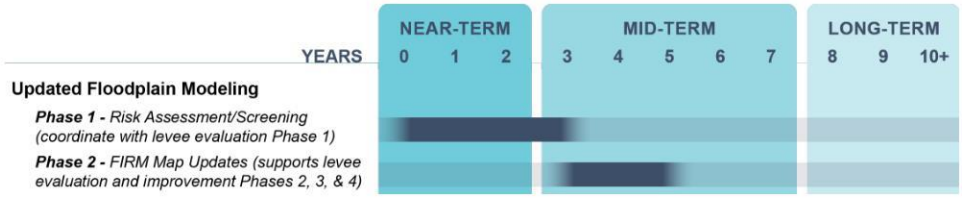

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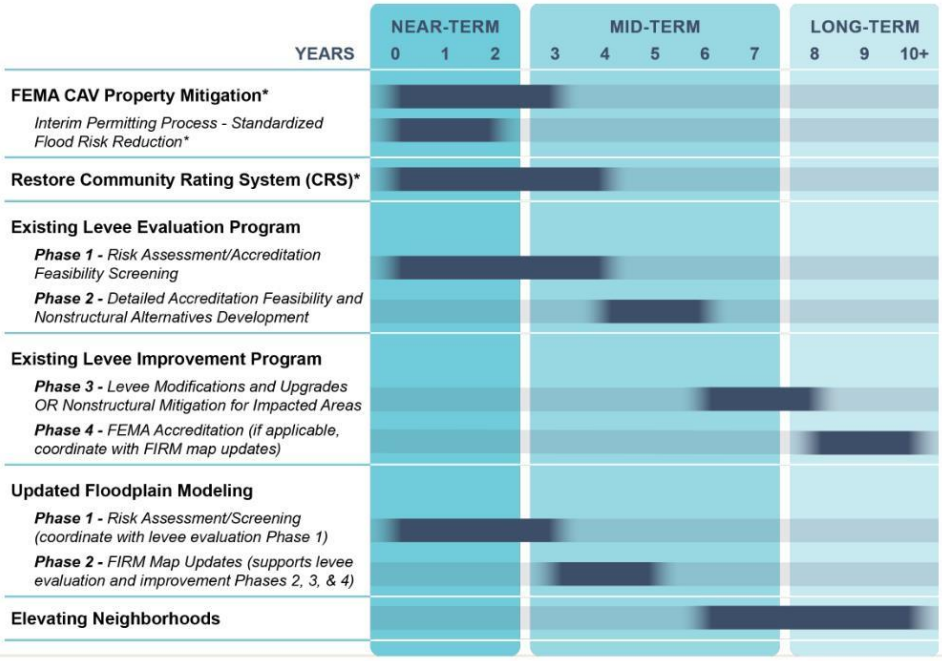


*Programmatic Changes/Updates

Final Questions or Comments

Mitigation Action Plans (Next Meeting)

- Actions define how the goals and objectives are accomplished
- Action plan:
  - Action description
  - Cost
  - Funding
  - Completion timeline
  - Priority
  - Responsibility

Next and Final Meeting

- Finalize plan goals
- Finalize flood mitigation projects
- Complete action plans for each mitigation project

Project Contacts

- SEH
  Brad Woznak
  (651) 490-2125
  bwoznak@sehinc.com
- JEO
  Becky Appleford
  (402) 392-9915
  rappleford@jeo.com
- City of La Crosse
  Sarah Rafajko
  (608) 789-8678
  rafajkos@cityoflacrosse.org

thank you!

Planning Committee Meeting 4 Agenda

CITY OF LA CROSSE
FLOOD HAZARD MITIGATION PLAN

Planning Committee Meeting Agenda
April 27, 2022; 4:00pm
Online Meeting

Join online: https://us02web.zoom.us/j/85447003581
Join by phone: (346) 248-7799 **Meeting ID**: 840 4332 0099

1. **Welcome and Introductions**

2. **Flood Hazard Mitigation Plan Goals Discussion**

3. **Flood Mitigation Projects and Action Plans Discussion**

4. **Next Steps**

5. **Contact Information**
   - Brad Woznak, SEH Project Manager, bwoznak@sehinc.com, (651) 508-0458
   - Sarah Rafajko, City Floodplain Manager, rafajkos@cityoflacrosse.org, (608) 789-8678

Planning Committee Meeting 4 Presentation

City of La Crosse

Flood Hazard Mitigation Plan

Finalize Goals and Mitigation Projects

April 27, 2022

Agenda

1. Welcome and Introductions
2. Flood Hazard Mitigation Plan Goals
3. Flood Mitigation Projects and Action Plans
4. Next Steps

*Have phones or browser ready for – Mentimeter
www.menti.com
and use the code
9854 1595

Welcome!

BRAD WOZNAK PE, PH, CFM
PROJECT MANAGER/SENIOR FLOODPLAIN MANAGER
Brad will serve as the project manager and will be responsible for ensuring the FHMP meets the City's schedule and the City's long-term goals and expectations.

BREA GRACE AICP
LAND USE PLANNER/PUBLIC ENGAGEMENT FACILITATOR
Brea will lead the overall planning and community development efforts. She will also be responsible for public meetings and community engagement for the project.

JORDAN THOLE PE, CFM
FLOODPLAIN ENGINEER
Jordan will be responsible for hydraulic engineering and flood risk and mitigation efforts for the project.

JOHN CALLEN PE, CFM
SENIOR PLANNER/ FEMA CRS EXPERT
John will ensure the programmatic floodplain management and technical assessments are cohesive in the plan document.

BECKY APPLEFORD CFM
SENIOR HAZARD MITIGATION/ EMERGENCY MANAGEMENT
Becky will lead the efforts to ensure the FHMP complies with FEMA regulations for local mitigation plans.

From U.S. Army Corps of Engineers:

TERRY ZIEN, PE, CFM
SENIOR PROGRAM MANAGER

ALEX LE, EIT
HYDRAULIC ENGINEER

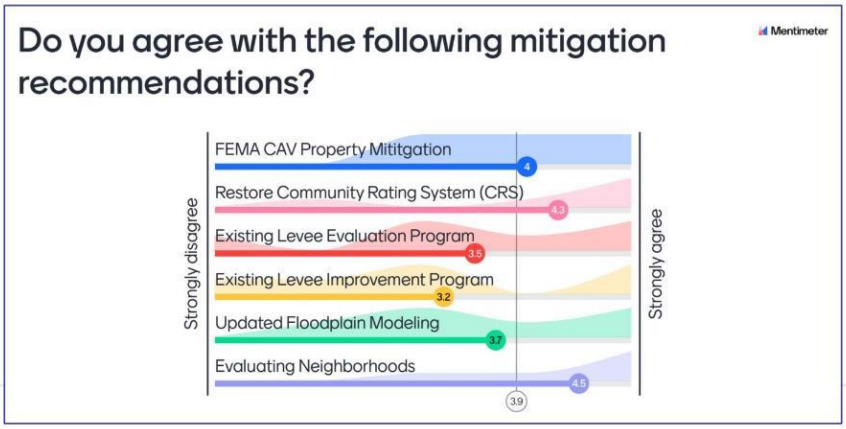
Planning Process: 10-Steps

1. Organize to prepare the plan
2. Involve the public
3. Coordinate
4. **Assess the hazard**
5. **Assess the problem**
6. **Goals**
7. **Review possible activities**
8. **Draft action plan**
9. Adopt the plan
10. Implement, evaluate, and revise

} FHMP Meetings

Previous Meeting

- Discussed plan priorities and goals through Mentimeter
- Provided early draft of plan goals
- Utilized Mentimeter to identify and evaluate mitigation projects



Flood Hazard Mitigation Plan Goals Discussion

Plan Goals and Actions

Goals

- Long-term, broad policy-type statements
- Represent vision to reduce losses
- Align goals with other existing community plans

Actions

- Specific projects/activities to achieve goals

Updated Draft Goals

1. Reduce the city's risk to river and stream flooding to protect the health and safety of residents
2. Plan and budget for structural and nonstructural strategies to protect existing and new municipal infrastructure from river and stream flooding
3. Establish a floodplain management program to improve and maintain compliance of floodplain regulations
4. Restore and improve the city's participation in the Community Rating System (CRS)
5. Educate and provide resources to property owners for protecting existing and new properties from river and stream flooding
6. Improve flood awareness and education for all community members and city staff on the importance of flood risk reduction activities

Mentimeter Questions

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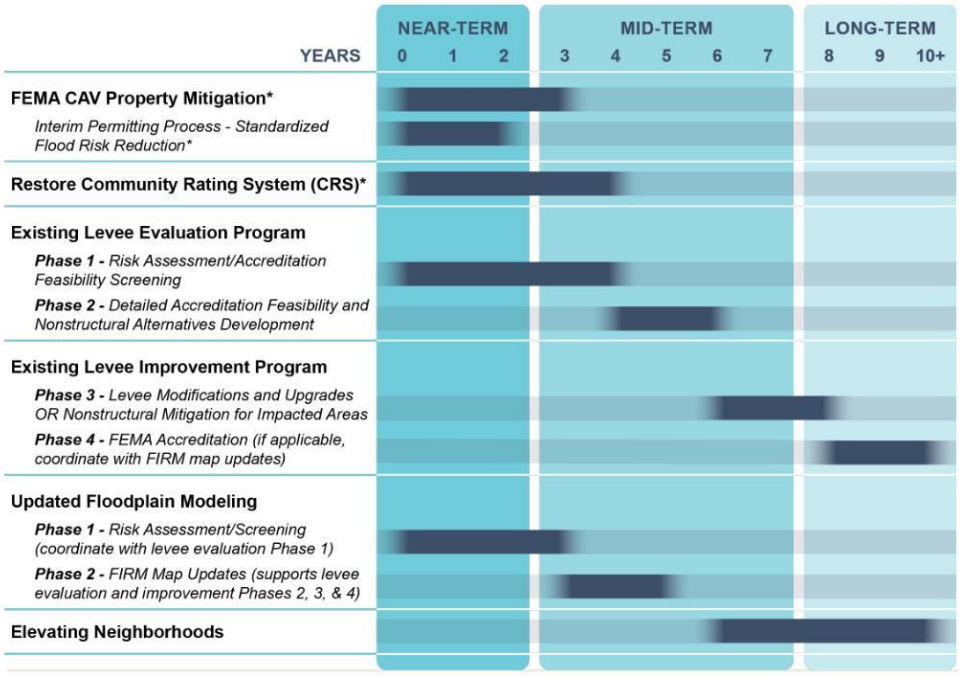
Flood Mitigation Projects/Actions Discussion

Mitigation Actions



Mitigation Actions

- Identify additional mitigation actions to round out the city's flood mitigation strategy
- Project team identified additional projects based on:
  - Previous meeting discussions and feedback
  - Mentimeter comments
  - Emailed suggestions
  - Plan goals

Mitigation Actions

a) Full-time Floodplain Manager
b) Long-term Flood Risk Data Gathering (for study updates and grants)
c) Farnam & 28th Street Early Warning System
d) Identify Flood Fringe Properties for Elevation
e) Create and Institute Incentives for Development and Redevelopment
f) Improve/Update Permitting Process for Consistency and Compliance with FEMA/WDNR
g) Pursue Study for Potential Hydraulic and Hydrologic Improvements on the La Crosse River and La Crosse River Marsh area
h) Evaluate Adapting and Expanding Parks for Flood Storage
i) Education and Outreach Program (for public, realtors, and city staff)

Mentimeter Questions

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Developing Mitigation Action Plans

- Actions define how the goals and objectives are accomplished
- Actions comprise the overall mitigation strategy
- Action plan:
  - Action description
  - Cost
  - Funding
  - Completion timeline
  - Priority
  - Responsibility

Developing Mitigation Action Plans

- Mitigation Action Name: General name for the project.
- Description: Information about the project.
- Hazard(s) Addressed: What hazard(s) will this action help with?
- Estimated Cost: Best guess at what it might cost.
- Local Funding: Where will the funds come from?
- Timeline: When will this project be completed?
- Priority: High, medium, or low. Feasibility review.
- Lead Dept: What department or position will be leading the project
- Status: Where is the project currently at in development?

Example Project

Mitigation Action Name	Streambank Stabilization		
Description	Stabilize erosion along the River from 1st to Main Street		
Hazard(s) Addressed	Flooding		
Estimated Cost	$125,000		
Local Funding	Department Funds		
Timeline	1 Year	2-5 Years	5+ Years
Priority	High	Medium	Low
Lead Dept/Position	City Engineer		
Status	Early planning stage		

STAPLEE

Method used to evaluate and prioritize actions

- **S**ocial – *Is it accepted by the community?*
- **T**echnical – *Is it technically feasible?*
- **A**dministrative – *Is City/staff capable of implementing the project?*
- **P**olitical – *Is there political support or local champion to promote the action?*
- **L**egal – *Does the city have the authority to implement the action?*
- **E**conomic – *Is there sufficient funding?*
- **E**nvironment – *Will it adversely affect the environment?*

Mentimeter Questions

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Final Questions or Comments

Next Steps

- Finalize draft FHMP
- Public Review FHMP
- Open House
- City adopts FHMP
- Implement projects!

Project Contacts

- SEH
  Brad Woznak
  (651) 490-2125
  bwoznak@sehinc.com

- JEO
  Becky Appleford
  (402) 392-9915
  rappleford@jeo.com

- City of La Crosse
  Sarah Rafajko
  (608) 789-8678
  rafajkos@cityoflacrosse.org

thank you!

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Appendix B

Public Engagement Materials

Contents:

1. Open House #1 Survey Press Release
2. Open House Survey Questions
3. Open House Survey Responses and Public Comments
4. Open House #2 Comment Card
5. Open House #2 News Article

Open House Survey Press Release

PRESS RELEASE

CITY OF LA CROSSE

Flood Hazard Mitigation Planning

09.01.2021

The City of La Crosse is inviting community members to attend the September 8th Public Information Open House for the city's Flood Hazard Mitigation Planning process. You're welcome to stop in anytime between 4pm - 6pm. The Open House will be held at the Black River Beach Neighborhood Center, 1433 Rose St, La Crosse, WI.

The City of La Crosse hired the SEH / JEO consulting team to prepare a Flood Hazard Mitigation Plan (FHMP), and the process of plan development is ongoing. In addition to this evaluation, the U.S. Army Corps of Engineers (USACE) recently completed a Nonstructural Flood Mitigation Assessment for La Crosse. Representatives from the City of La Crosse, SEH, JEO, and the US Army Corps of Engineers will be in attendance to answer questions regarding the FHMP process and related studies. Residents and stakeholders from the community are encouraged to attend this Open House to provide input in the planning process.

Developing a Flood Hazard Mitigation Plan is important for four primary reasons: (1) To assess flood risk and vulnerabilities (current planning phase); (2) To identify strategies to reduce flooding impacts and damages; (3) To prioritize and plan implementation of flood risk reduction projects according to feasibility, community priority, and potential for grant funding; and (4) To increase community flood resiliency.

The project team is seeking input from community members to gather information about historical and potential flood impacts to the La Crosse community. In addition to attending the Open House on Wednesday, September 8th, there are two opportunities on the project website to provide input into this planning process. The address for the project website is https://www.lacrossefhmp.com/.

First, the team would like to hear from the public about where flooding has been occurring, what the community members are identifying as hazards and vulnerable assets such as buildings or infrastructure, as well as what places should be focused on for future investment. To map these locations, visit the project website, and click on link to "Map Your Ideas".

Second, the team would like to hear details from the public about observations on flooding events. Have you experienced damage from a flood event? Was a claim filed with the flood insurance provider? Do you have pictures to share? To share these details, please visit the project website, and click on the link to "Upload Your Photo and Share Your Story."

Community input on existing conditions for flood risks will help the project team prepare a Flood Hazard Mitigation Plan, which will provide guidance to the city on floodplain management. According to Brea Grace, Senior Community Development Specialist with SEH, "a Flood Hazard Mitigation Plan will both assess flood risk and vulnerabilities, and it will also start to identify mitigation actions to reduce flood risk and impacts. With this plan in place, the City will be better positioned to seek funding for future mitigation strategies."

Additional information on the plan, floodplain resources, and opportunities for input can be found at the project website. If you are not able to attend the Open House, please share your comments through a survey posted on the project website.

Questions about this project may be directed to: Sarah Rafajko, Floodplain Manager/Chronic Nuisance Technician, City of La Crosse, (608) 789-8678, rafajkos@cityoflacrosse.org or Becky Appleford, Planner, JEO Consulting Group, (402) 392-9915, rappleford@jeo.com.

Public Survey Questions

City of La Crosse
Flood Hazard Mitigation Plan
Project Survey
September 2021

Please complete the following questions to the best of your ability. When finished, please leave the form in the box provided on the table. An online version of this survey is also available at the project website: https://www.lacrossefhmp.com/ . Thank you!

1. Do you live in a floodplain or area that experiences flooding?
   a. Yes
   b. No
   c. Not sure

2. Do you own or operate a business, or work in an area that experiences flooding?
   a. Yes
   b. No
   c. Not sure

3. Do you have flood insurance for your home or business?
   a. Yes
   b. No
   c. Not sure

4. If no above, why not? Mark all that apply.
   a. I don't need it because my property has never flooded.
   b. I don't need it because my property is located on high ground.
   c. I don't need it because my property is not located in a floodplain.
   d. My property isn't required to have flood insurance.
   e. It's too expensive.
   f. I don't qualify for coverage.
   g. I don't know anything about it.

5. Mark all flood impacts that you have experienced in La Crosse.
   a. Caused property or business damage
   b. Flooded or closed roads or intersections
   c. Observed flooding in your yard
   d. Required to temporarily evacuate your home
   e. Required to temporarily close your business
   f. Not yet, but I'm concerned that flooding could occur
   g. I'm not concerned about flooding in La Crosse
   h. Other – please describe

6. If you experienced flooding as indicated above, please describe the event(s), such as general location, impacts, and dates or frequency.

Page **1** of **2**

7. How concerned are you with each of the following flood types or flood-related hazards in La Crosse? (options for each are: Not concerned, Somewhat concerned, Very concerned, Extremely concerned)
    a. River flooding
    b. Groundwater flooding/ponding
    c. Urban flooding
    d. Stormwater flooding
    e. Stream bank erosion
    f. Landslides
    g. Dam failure
    h. Levee failure
    i. Other – please describe

8. If you have taken photos of flooding in La Crosse, would you be willing to share them with the project team?
    a. Yes – I'll share them through the project website or will email a project contact.
    b. No
    c. I haven't taken any photos.

9. What else would you like to share about flooding in La Crosse?

Open House Survey Responses and Public Comments

5 Surveys & Public Comments

To solicit public feedback about areas vulnerable to riverine flooding and how flood hazards affect the entire community, the planning team requested responses to a survey and general comments sheet at the Open House, a separate online survey, and a Wikimapping exercise. Responses from the public are summarized below.

5.1 Open House Survey Responses

A total of 6 surveys were submitted at the Open House.

Question 1: Do you live in a floodplain or area that experiences flooding?

Yes **= 3 responses**

No **= 1 response**

Not sure **= 1 response**

Question 2: Do you own or operate a business, or work in an area that experiences flooding?

Yes

No **= 6 responses**

Not sure

Question 3: Do you have flood insurance for your home or business?

Yes **= 1 response**

No **= 5 responses**

Not sure

Question 4: If no above, why not? Mark all that apply.

I don't need it because my property has never flooded.

I don't need it because my property is located on high ground. = 2 responses

I don't need it because my property is not located in a floodplain. **= 3 responses**

My property isn't required to have flood insurance. **= 2 responses**

It's too expensive.

I don't qualify for coverage. **= 1 response**

I don't know anything about it.

Question 5: Mark all flood impacts that you have experienced in La Crosse.

Caused property or business damage = **3 responses**

Flooded or closed roads or intersections = **6 responses**

Observed flooding in your yard = **3 responses**

Required to temporarily evacuate your home

Required to temporarily close your business

Not yet, but I'm concerned that flooding could occur = **1 response**

I'm not concerned about flooding in La Crosse

Other – please describe

Question 6: If you experienced flooding as indicated above, please describe the event(s), such as general location, impacts, and dates or frequency.

Lived in La Crescent where there were fatalities from flooding years ago

Concerned for N side neighbors

Every time it rains hard the streets flood and overflow into yards. 1600 block Prospect St. Seepage in basement. Have to use sump pump.

Corner of Avon and Wall floods in heavy rain. Floods over sidewalk and curb and as high as the lower apartments at 1002 Avon.

Question 7: How concerned are you with each of the following flood types or flood-related hazards in La Crosse? (options for each are: Not concerned, Somewhat concerned, Very concerned, Extremely concerned)

River flooding = 1 x Extremely concerned, 1 x Very concerned, 2 x Somewhat concerned

Groundwater flooding/ponding = 1 x Extremely concerned, 1 x Very concerned, 1 x Somewhat concerned, 1 x Not concerned

Urban flooding = 1 x Extremely concerned, 1 x Very concerned, 1 x Somewhat concerned, 1 x Not concerned

Stormwater flooding = 1 x Extremely concerned, 2 x Very concerned, 2 x Somewhat concerned

Stream bank erosion = 1 x Extremely concerned, 1 x Somewhat concerned, 1 x Not concerned

Landslides = 1 x Extremely concerned, 1 x Somewhat concerned, 1 x Not concerned

Dam failure = 1 x Somewhat concerned, 2 x Not concerned

Levee failure = 2 x Somewhat concerned

Other – please describe = 0 responses

Question 8: If you have taken photos of flooding in La Crosse, would you be willing to share them with the project team?

Yes – I'll share them through the project website or will email a project contact. = **2 responses**

No

I haven't taken any photos. **= 4 responses**

Question 9: What else would you like to share about flooding in La Crosse?

I appreciate City of La Crosse upgrading storm sewers on northside.

Some thing needs to be done. Thanks.

The 100 year rains come every 3 or 4 years, not 100 years.

5.2 General Public Comments

- Difficult for residences near new construction that's elevated 5 ft above flood level. Neighbors experience run-off from the difference in elevation. 1) if the elevation is not handled properly the runoff of rainwater has effected adjoining properties causing water in basements and garages. 2) The issues of snow removal or management is significantly impacted from the steep driveways. It is often difficult to manage the snow piles as there is not enough room for the snow. 3) If more than one new elevated house is too close to other neighbors this snow and run off issue is compounded. 4) I wisely asked for a retaining wall to manage soil erosion. This should be considered most of the time during the construction of these elevated houses. Our narrow lots do not allow for 15 feet from the edge of the building to lot lines. The lots on the Northside are usually 50 foot wide. All construction requires a variance to proceed.
- 1 attendee would like storm sewer improvements in Town of Shelby. Frequent basement flooding.
- 1 attendee concerned about evacuation plan for disabled husband.

5.3 Wikimapping Comments (As of 9.28.21)

29 users visited the site. 4 users left the comments summarized below. 7 of the 11 recorded comments are related to stormwater flooding rather than riverine flooding.

- Storm sewer flooding at Losey Blvd N & Pine St. - Major flooding in rain blocks main road through city
- Storm sewer flooding at Losey Blvd N & Pine St - During rain, water gushes vigorously up out of two sewer hold covers and side storm draining flooding intersection. Has risen as high as homes. Impassable
- Storm sewer flooding at Losey Blvd N & Pine St - I have observed 5 cars flooded and stalled in the intersection during one storm Summer 2021

- Bayside Ct - storm water over topping berm resulting in erosion and property flooding.
- Bayside Ct - Storm water capacity issue is causing repetitive erosion and property flooding
- Causeway Blvd - Wafer has street and building flooding.
- Block between USH 53 & Caledonia St, Indoor Self Storage & La Crosse Fluid Power - This building consistently floods when the river goes high, they pump into the street and back up the drain system. This backs up drains for areas to the east of the building
- Caledonia St & Gohres St - This corner floods when river rises and Central states warehouse pumps
- Caledonia St to Avon St - Flooding when the river rises, pumping
- Caledonia St & Livingston St - With rain this corner floods. Why when they redid Livingston St, they could have raised it ever so slightly?

5.4 Alchemer Online Survey Comments (As of 9.28.21)

Seven responses were received between September 7-15, 2021.

Question 1: Do you live in a floodplain or area that experiences flooding?

a. Yes **= 3 responses**
b. No **= 3 responses**
c. Not sure **= 1 response**

Question 2: Do you own or operate a business, or work in an area that experiences flooding?

a. Yes **= 1 responses**
b. No **= 5 responses**
c. Not sure **= 1 response**

Question 3: Do you have flood insurance for your home or business?

a. Yes
b. No **= 7 responses**
c. Not sure

Question 4: If no above, why not? Mark all that apply.

a. I don't need it because my property has never flooded. **= 3 responses**
b. I don't need it because my property is located on high ground. **= 3 responses**
c. I don't need it because my property is not located in a floodplain. **= 3 responses**

d. My property isn't required to have flood insurance. **= 3 responses**

e. It's too expensive. **= 1 response**

f. I don't qualify for coverage.

g. I don't know anything about it. **= 2 responses**

Question 5: Mark all flood impacts that you have experienced in La Crosse.

a. Caused property or business damage **= 2 responses**

b. Flooded or closed roads or intersections **= 4 responses**

c. Observed flooding in your yard **= 3 responses**

d. Required to temporarily evacuate your home

e. Required to temporarily close your business

f. Not yet, but I'm concerned that flooding could occur **= 1 response**

g. I'm not concerned about flooding in La Crosse **= 1 response**

h. Other – please describe **= 2 responses, below**

- "I experience seepage in my basement when the Mississippi water levels are high enough; this is roughly at 11.5 feet river stage and above. This has happened three times in the last 20 years (2011, 2018 and 2019 approx.) Also the year I purchased 2001. The amount of seepage varies from 2-3 inches in parts of my basement. It is enough to be annoying but it recedes and dries out with no issues. I have a sump pump to help remove the water. I have a full basement with furnace and laundry along with other storage/work areas. I simply removed carpets and elevated everything off the floor. This type of seepage does not receive any kind of consideration as flooding. I am at 2028 Charles Street, LaCrosse. I no longer have a mortgage therefore I do not need to carry flood insurance."
- "I have experienced severe flooding twice in La Crosse in the 5 years I have lived here. I was caught in a flash flood on Losey Blvd in 2018 that nearly destroyed my vehicle which was my family's only form of transportation at the time. My home and property were also affected by the storm in early August of this year where so many roads in La Crosse experienced flash flooding. Water in our alleyway reached mid-thigh height and rose into our garage and our basement. Again I was afraid we would lose our cars or be trapped in our home."

Question 6: If you experienced flooding as indicated above, please describe the event(s), such as general location, impacts, and dates or frequency.

- Lived in La Crescent where there were fatalities from flooding years ago
- Concerned for N side neighbors
- Every time it rains hard the streets flood and overflow into yards. 1600 block Prospect St. Seepage in basement. Have to use sump pump.
- Corner of Avon and Wall floods in heavy rain. Floods over sidewalk and curb and as high as the lower apartments at 1002 Avon.

Question 7: How concerned are you with each of the following flood types or flood-related hazards in La Crosse? (Options for each are: Not concerned, Somewhat concerned, Very concerned, Extremely concerned)

a. River flooding = 1 x Extremely concerned, 4 x Moderately concerned, 2 x Somewhat concerned

b. Groundwater flooding/ponding = 3 x Very concerned, 2 x Moderately concerned 1 x Somewhat concerned, 1 x Not concerned

c. Urban flooding = 2 x Extremely concerned, 1 x Very concerned, 2 x Moderately concerned, 2 x Somewhat concerned

d. Stormwater flooding = 2 x Extremely concerned, 2 x Very concerned, 1 x Moderately concerned, 2 x Somewhat concerned

e. Stream bank erosion = 1 x Extremely concerned, 1 x Very concerned, 3 x Moderately concerned, 2 x Not concerned

f. Landslides = 1 x Very concerned, 2 x Moderately concerned, 3 x Somewhat concerned, 1 x Not concerned

g. Dam failure = 3 x Moderately concerned, 2 x Somewhat concerned, 2 x Not concerned

h. Levee failure = 1 x Moderately concerned, 4 x Somewhat concerned, 2 x Not concerned

i. Other – please describe = 2 responses:

- 1 x Extremely concerned - Damage to personal property during large rain events.
- 1 x Extremely concerned – Flash flooding

Question 8: If you have taken photos of flooding in La Crosse, would you be willing to share them with the project team?

a. Yes – I'll share them through the project website or will email a project contact. = 1 response
b. No
c. I haven't taken any photos. = 6 responses

Question 9: What else would you like to share about flooding in La Crosse?

- "If some houses could be categorized as not in the flood plain that would be helpful for insurance purposes. Flood insurance is very expensive especially for someone in my situation that does not experience flooding that would move my home off its foundation. My issue with 'flooding' is water table seepage."
- "I would like the team to seriously look into creating sinks where waters can be redirected away from roads and built structures to mitigate damage and allow the water to infiltrate into the ground. I think these areas could also serve as vital open spaces for the community to enjoy the natural world within our urban area. I think a perfect location for one if these would be the old Kmart on the corner of Losey and Jackson/Hwy 33. Its a huge unused area of impermeable surface that could be eliminated and turned into a space where waters that flood Losey could be redirected to. I also think the local governmental bodies should consider setting up funds to assist property owners in making changes to their property that would reduce the overland flow of water into the storm drains. For example offering monetary incentives or discounts to replace driveways with permeable surfaces (including the more permeable versions of concrete/asphalt that are becoming available), planting native species and creating swales, rain gardens etc."
- "The floodplain map needs to be updated for my home. I live at 621 Pettibone Pointe Way in La Crosse 54601-2273 and our neighborhood started in 2017 and is still in progress with some homes but the floodplain map shows 2012 and needs to be updated with correct elevations since fill was brought in to raise our area prior to building our townhomes. Thanks for your concerns and work."

Open House #2 Comment Card

City of La Crosse
Flood Hazard Mitigation Plan

Comments:

Open House #2 News Article

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DOWNLOAD NOW: | WXOW Weather and News Apps

https://www.wxow.com/news/la-crosse-flood-hazard-mitigation-plan-open-house/article_339d2bc8-2338-11ed-a593-2b599d0df4cc.html

La Crosse Flood Hazard Mitigation Plan open house

Crystal Flintrop
Aug 23, 2022

LA CROSSE, Wis. (WXOW) - The City of La Crosse asked for community feedback during Tuesday night's open house, as they wrap up the review phase of the Flood Hazard Mitigation Plan (FHMP).

The City of La Crosse has worked with the U.S. Army Corps of Engineers and the SEH / JEO consulting team to create the plan. The goal is to address the flood risks and vulnerabilities for La Crosse, as well as creating strategies to reduce flooding and increasing flood resiliency.

The City of La Crosse Floodplain Manager/Chronic Nuisance Technician Sarah Rafajko said the plan includes remapping the floodplain and getting the almost five-miles of levees evaluated and certified.

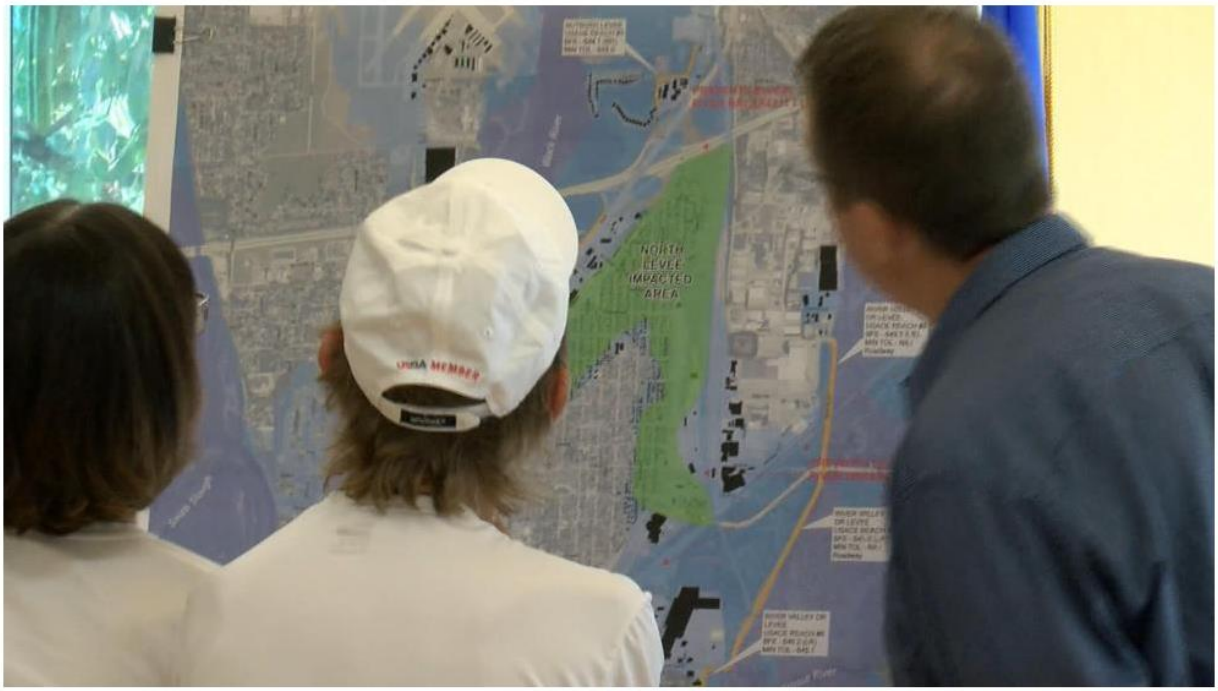
She said most of the residents she's spoken to just aren't aware of what it is to have a structure in the floodplain beyond needing flood insurance.

"It's so much more to it. There's building regulations, they're only allowed to invest certain amounts into their house before they would then have to elevate that house. That's a huge investment those owners would eventually have make," Rafajko said. "It's what we can do help those owners in the future."

La Crosse resident, Jackie Mahlum-Paul said in her 30 years of living on her property, she has had groundwater issues in her basement twice.

"We really haven't had any damage or any negative impact other than it does effect our property values," Mahlum-Paul said. "It also effects people's ability to purchase our home because of the cost - the additional cost of mandatory flood insurance."

She said the current plan is a "step in the right direction" and would hopefully improve affordable housing in the area.



The next steps for the FHMP is to be submitted to the La Crosse City Council for approval.

According to Rafajko, once the plan is adopted by the City Council and approved by the Department of Natural Resources and Federal Emergency Management Agency (FEMA), they would qualify for state and federal grants.

To learn more about the flood plan, or to submit comments and concerns, visit the **FHMP website**.

Appendix C

Public Engagement Summary

Contents:

1. Public Engagement Summary – September 2021

9/8/2021 PUBLIC ENGAGEMENT SUMMARY

FLOOD HAZARD MITIGATION PLAN

City of La Crosse, WI

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1 Executive Summary

On Wednesday, September 8, 2021, between 4:00 and 6:00 PM, the City of La Crosse held a Public Information Open House regarding the City's Flood Hazard Mitigation Plan. The open house was held at Black River Beach Neighborhood Center, 1433 Rose St, La Crosse, WI. Public notice for the meeting was given, a press release was issued, the event was noticed on the City's social media channels, and local news channels published stories about the event.

The City of La Crosse hired the SEH / JEO consulting team to prepare a Flood Hazard Mitigation Plan (FHMP), and the process of plan development is ongoing. Representatives from the City of La Crosse, SEH, JEO, and the US Army Corps of Engineers were in attendance to answer questions regarding the FHMP process and related studies.

The planning team used the meeting as an opportunity to consult with members of the community who have insights into historic flooding and potential flooding hazards and vulnerable assets and infrastructure. Public feedback provided at the open house informed the project team as it researches and identifies methods of reducing flooding risks around the community.

Developing a Flood Hazard Mitigation Plan is important for four primary reasons: (1) To assess flood risk and vulnerabilities (current planning phase); (2) To identify strategies to reduce flooding impacts and damages; (3) To prioritize and plan implementation of flood risk reduction projects according to feasibility, community priority, and potential for grant funding; and (4) To increase community flood resilience.

2 Attendees

18 members of the public attended the event.

City of La Crosse

- Mitch Reynolds, Mayor
- Lewis Kuhlman, Environmental & Sustainability Planner
- Sarah Rafajko, Technician
- 2 members of City Council
- 2 La Crosse Police Officers

SEH, Inc.

- Brad Woznak, Water Resources Engineer
- Jordan Thole, Water Resources Engineer
- Brea Grace, Senior Planner
- Dillon Constant, Planner

JEO

Becky Appleford, Hazard Mitigation & Emergency Planner

USACE

Le Long, Engineer

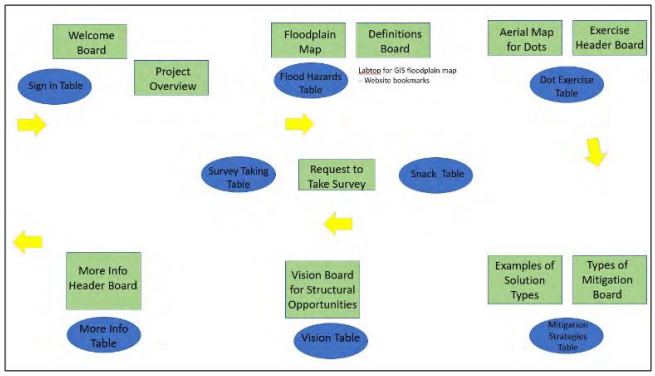
3 Meeting Content

A) Welcome Table – Sign In & Open House overview – Introduction to Project
B) Flood Hazards Table
- Maps and GIS to allow people to review their property & its proximity to floodplains
- QR code for the project website

C) Dot Exercise Table
- Attendees mapped short-term and long-term issues and opportunities

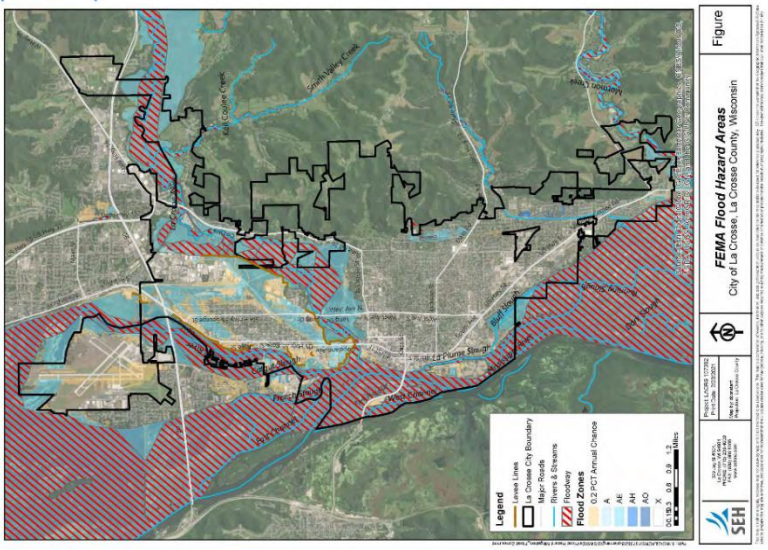
D) Mitigation Strategies Table
- Flood risk reduction – overview (why/what)
- Post boards with types of mitigation actions and potential solutions

E) Survey – Attendees were invited to take a written survey about their experiences and observations with flooding
F) Informational Table with resources and educational info



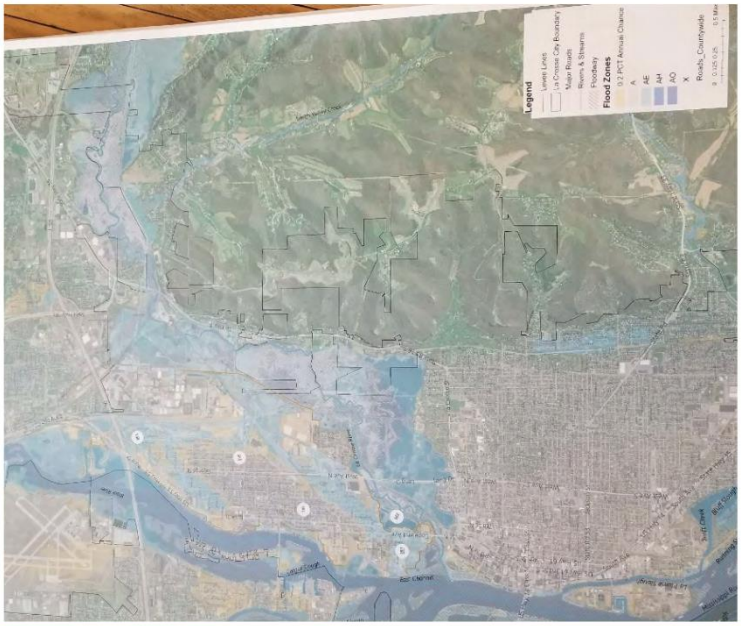
4 Observations & Hazards Mapping

4.1 Floodplain Map



4.2 Dot Map – South

4.3 Dot Map – North



4.4 Dots/Responses

Sticker #	Location	Type	Comment
109	Corner of Avon & Wall St	Pluvial	Heavy rain causes flooding at intersection. Enough to flow into lower apartment at 1002 Avon & into basement
003	NE corner Harvey & Taylor	Heavy rains	How effective will city upgrades in this area be? Stormwater directed to La Crosse River or Black River?
004	1600 block of Prospect St	Street & property flooding	Every time it rains it floods
005	29th St & Glendale Ave	Street flooding	husband is wheelchair bound - no way to get out, water rescue vehicle
006	W & E Fairchild (S of State Rd)	basement, storm sewer	Occurred 8/13/21 & 3 years ago. Basement flooding included raw sewage. Neighbors have same problem
001	Mobile Oil site	Could be down the road	New city development
002	The Landings Condo	Water from La Crosse River gets high	Potential for flooding at existing condo

5 Surveys & Public Comments

To solicit public feedback about areas vulnerable to riverine flooding and how flood hazards affect the entire community, the planning team requested responses to a survey and general comments sheet at the Open House, a separate online survey, and a Wikimapping exercise. Responses from the public are summarized below.

5.1 Open House Survey Responses

A total of 6 surveys were submitted at the Open House.

Question 1: Do you live in a floodplain or area that experiences flooding?

Yes **= 3 responses**

No **= 1 response**

Not sure **= 1 response**

Question 2: Do you own or operate a business, or work in an area that experiences flooding?

Yes

No **= 6 responses**

Not sure

Question 3: Do you have flood insurance for your home or business?

Yes **= 1 response**

No **= 5 responses**

Not sure

Question 4: If no above, why not? Mark all that apply.

I don't need it because my property has never flooded.

I don't need it because my property is located on high ground. = 2 responses

I don't need it because my property is not located in a floodplain. **= 3 responses**

My property isn't required to have flood insurance. **= 2 responses**

It's too expensive.

I don't qualify for coverage. **= 1 response**

I don't know anything about it.

Question 5: Mark all flood impacts that you have experienced in La Crosse.

Caused property or business damage = **3 responses**

Flooded or closed roads or intersections = **6 responses**

Observed flooding in your yard = **3 responses**

Required to temporarily evacuate your home

Required to temporarily close your business

Not yet, but I'm concerned that flooding could occur = **1 response**

I'm not concerned about flooding in La Crosse

Other – please describe

Question 6: If you experienced flooding as indicated above, please describe the event(s), such as general location, impacts, and dates or frequency.

Lived in La Crescent where there were fatalities from flooding years ago

Concerned for N side neighbors

Every time it rains hard the streets flood and overflow into yards. 1600 block Prospect St. Seepage in basement. Have to use sump pump.

Corner of Avon and Wall floods in heavy rain. Floods over sidewalk and curb and as high as the lower apartments at 1002 Avon.

Question 7: How concerned are you with each of the following flood types or flood-related hazards in La Crosse? (options for each are: Not concerned, Somewhat concerned, Very concerned, Extremely concerned)

River flooding = 1 x Extremely concerned, 1 x Very concerned, 2 x Somewhat concerned

Groundwater flooding/ponding = 1 x Extremely concerned, 1 x Very concerned, 1 x Somewhat concerned, 1 x Not concerned

Urban flooding = 1 x Extremely concerned, 1 x Very concerned, 1 x Somewhat concerned, 1 x Not concerned

Stormwater flooding = 1 x Extremely concerned, 2 x Very concerned, 2 x Somewhat concerned

Stream bank erosion = 1 x Extremely concerned, 1 x Somewhat concerned, 1 x Not concerned

Landslides = 1 x Extremely concerned, 1 x Somewhat concerned, 1 x Not concerned

Dam failure = 1 x Somewhat concerned, 2 x Not concerned

Levee failure = 2 x Somewhat concerned

Other – please describe = 0 responses

Question 8: If you have taken photos of flooding in La Crosse, would you be willing to share them with the project team?

Yes – I'll share them through the project website or will email a project contact. = **2 responses**

No

I haven't taken any photos. **= 4 responses**

Question 9: What else would you like to share about flooding in La Crosse?

I appreciate City of La Crosse upgrading storm sewers on northside.

Some thing needs to be done. Thanks.

The 100 year rains come every 3 or 4 years, not 100 years.

5.2 General Public Comments

- Difficult for residences near new construction that's elevated 5 ft above flood level. Neighbors experience run-off from the difference in elevation. 1) if the elevation is not handled properly the runoff of rainwater has effected adjoining properties causing water in basements and garages. 2) The issues of snow removal or management is significantly impacted from the steep driveways. It is often difficult to manage the snow piles as there is not enough room for the snow. 3) If more than one new elevated house is too close to other neighbors this snow and run off issue is compounded. 4) I wisely asked for a retaining wall to manage soil erosion. This should be considered most of the time during the construction of these elevated houses. Our narrow lots do not allow for 15 feet from the edge of the building to lot lines. The lots on the Northside are usually 50 foot wide. All construction requires a variance to proceed.
- 1 attendee would like storm sewer improvements in Town of Shelby. Frequent basement flooding.
- 1 attendee concerned about evacuation plan for disabled husband.

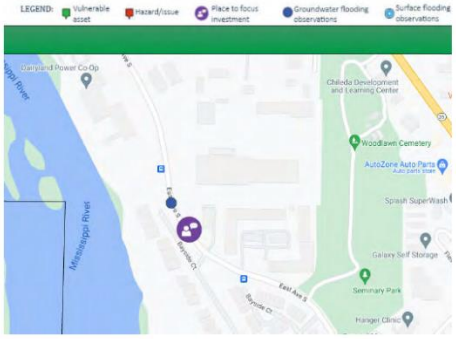
5.3 Wikimapping Comments (As of 9.28.21)

29 users visited the site. 4 users left the comments summarized below. 7 of the 11 recorded comments are related to stormwater flooding rather than riverine flooding.

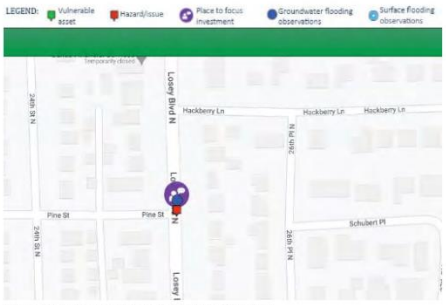
- Storm sewer flooding at Losey Blvd N & Pine St. - Major flooding in rain blocks main road through city
- Storm sewer flooding at Losey Blvd N & Pine St - During rain, water gushes vigorously up out of two sewer hold covers and side storm draining flooding intersection. Has risen as high as homes. Impassable
- Storm sewer flooding at Losey Blvd N & Pine St - I have observed 5 cars flooded and stalled in the intersection during one storm Summer 2021

- Bayside Ct - storm water over topping berm resulting in erosion and property flooding.
- Bayside Ct - Storm water capacity issue is causing repetitive erosion and property flooding
- Causeway Blvd - Wafer has street and building flooding.
- Block between USH 53 & Caledonia St, Indoor Self Storage & La Crosse Fluid Power - This building consistently floods when the river goes high, they pump into the street and back up the drain system. This backs up drains for areas to the east of the building
- Caledonia St & Gohres St - This corner floods when river rises and Central states warehouse pumps
- Caledonia St to Avon St - Flooding when the river rises, pumping
- Caledonia St & Livingston St - With rain this corner floods. Why when they redid Livingston St, they could have raised it ever so slightly?

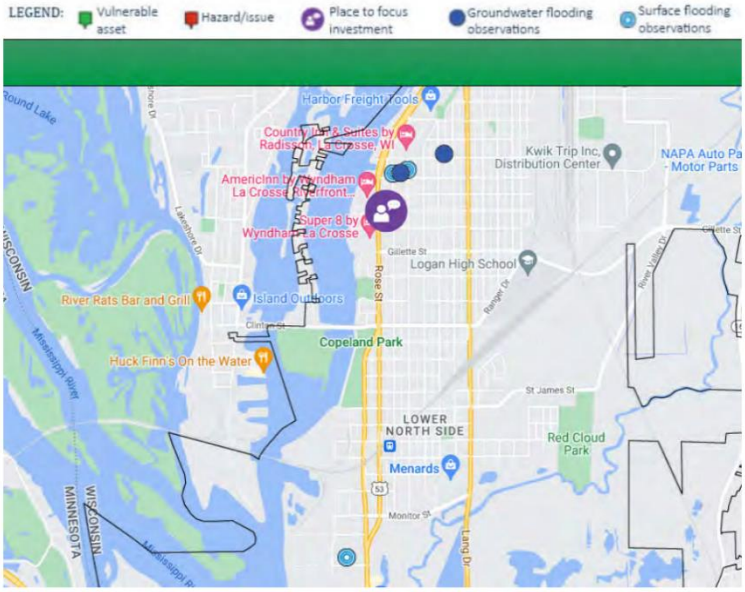
- Between Charles St & Kane St, South of Moore St and N of Livingston St - Houses in this area experience water in their basements to varying degrees. It correlates to the River stage each year. Roughly 11.5 feet River stage.



Notes: Wikimap Comments received along Bayside Ct.



Notes: Wikimap comments along Losey Blvd N



Notes: Wikimap comments. Northside of La Crosse.

5.4 Alchemer Online Survey Comments (As of 9.28.21)

Seven responses were received between September 7-15, 2021.

Question 1: Do you live in a floodplain or area that experiences flooding?

a. Yes **= 3 responses**
b. No **= 3 responses**
c. Not sure **= 1 response**

Question 2: Do you own or operate a business, or work in an area that experiences flooding?

a. Yes **= 1 responses**
b. No **= 5 responses**
c. Not sure **= 1 response**

Question 3: Do you have flood insurance for your home or business?

a. Yes
b. No **= 7 responses**
c. Not sure

Question 4: If no above, why not? Mark all that apply.

a. I don't need it because my property has never flooded. **= 3 responses**
b. I don't need it because my property is located on high ground. **= 3 responses**
c. I don't need it because my property is not located in a floodplain. **= 3 responses**

d. My property isn't required to have flood insurance. **= 3 responses**
e. It's too expensive. **= 1 response**
f. I don't qualify for coverage.
g. I don't know anything about it. **= 2 responses**

Question 5: Mark all flood impacts that you have experienced in La Crosse.

a. Caused property or business damage **= 2 responses**
b. Flooded or closed roads or intersections **= 4 responses**
c. Observed flooding in your yard **= 3 responses**
d. Required to temporarily evacuate your home
e. Required to temporarily close your business
f. Not yet, but I'm concerned that flooding could occur **= 1 response**
g. I'm not concerned about flooding in La Crosse **= 1 response**
h. Other – please describe **= 2 responses, below**

- "I experience seepage in my basement when the Mississippi water levels are high enough; this is roughly at 11.5 feet river stage and above. This has happened three times in the last 20 years (2011, 2018 and 2019 approx.) Also the year I purchased 2001. The amount of seepage varies from 2-3 inches in parts of my basement. It is enough to be annoying but it recedes and dries out with no issues. I have a sump pump to help remove the water. I have a full basement with furnace and laundry along with other storage/work areas. I simply removed carpets and elevated everything off the floor. This type of seepage does not receive any kind of consideration as flooding. I am at 2028 Charles Street, LaCrosse. I no longer have a mortgage therefore I do not need to carry flood insurance."
- "I have experienced severe flooding twice in La Crosse in the 5 years I have lived here. I was caught in a flash flood on Losey Blvd in 2018 that nearly destroyed my vehicle which was my family's only form of transportation at the time. My home and property were also affected by the storm in early August of this year where so many roads in La Crosse experienced flash flooding. Water in our alleyway reached mid-thigh height and rose into our garage and our basement. Again I was afraid we would lose our cars or be trapped in our home."

Question 6: If you experienced flooding as indicated above, please describe the event(s), such as general location, impacts, and dates or frequency.

- Lived in La Crescent where there were fatalities from flooding years ago
- Concerned for N side neighbors
- Every time it rains hard the streets flood and overflow into yards. 1600 block Prospect St. Seepage in basement. Have to use sump pump.
- Corner of Avon and Wall floods in heavy rain. Floods over sidewalk and curb and as high as the lower apartments at 1002 Avon.

Question 7: How concerned are you with each of the following flood types or flood-related hazards in La Crosse? (Options for each are: Not concerned, Somewhat concerned, Very concerned, Extremely concerned)

a. River flooding = 1 x Extremely concerned, 4 x Moderately concerned, 2 x Somewhat concerned
b. Groundwater flooding/ponding = 3 x Very concerned, 2 x Moderately concerned 1 x Somewhat concerned, 1 x Not concerned
c. Urban flooding = 2 x Extremely concerned, 1 x Very concerned, 2 x Moderately concerned, 2 x Somewhat concerned
d. Stormwater flooding = 2 x Extremely concerned, 2 x Very concerned, 1 x Moderately concerned, 2 x Somewhat concerned
e. Stream bank erosion = 1 x Extremely concerned, 1 x Very concerned, 3 x Moderately concerned, 2 x Not concerned
f. Landslides = 1 x Very concerned, 2 x Moderately concerned, 3 x Somewhat concerned, 1 x Not concerned
g. Dam failure = 3 x Moderately concerned, 2 x Somewhat concerned, 2 x Not concerned
h. Levee failure = 1 x Moderately concerned, 4 x Somewhat concerned, 2 x Not concerned
i. Other – please describe = 2 responses:
   - 1 x Extremely concerned - Damage to personal property during large rain events.
   - 1 x Extremely concerned – Flash flooding

Question 8: If you have taken photos of flooding in La Crosse, would you be willing to share them with the project team?

a. Yes – I'll share them through the project website or will email a project contact. = 1 response
b. No
c. I haven't taken any photos. = 6 responses

Question 9: What else would you like to share about flooding in La Crosse?

- "If some houses could be categorized as not in the flood plain that would be helpful for insurance purposes. Flood insurance is very expensive especially for someone in my situation that does not experience flooding that would move my home off its foundation. My issue with 'flooding' is water table seepage."
- "I would like the team to seriously look into creating sinks where waters can be redirected away from roads and built structures to mitigate damage and allow the water to infiltrate into the ground. I think these areas could also serve as vital open spaces for the community to enjoy the natural world within our urban area. I think a perfect location for one if these would be the old Kmart on the corner of Losey and Jackson/Hwy 33. Its a huge unused area of impermeable surface that could be eliminated and turned into a space where waters that flood Losey could be redirected to. I also think the local governmental bodies should consider setting up funds to assist property owners in making changes to their property that would reduce the overland flow of water into the storm drains. For example offering monetary incentives or discounts to replace driveways with permeable surfaces (including the more permeable versions of concrete/asphalt that are becoming available), planting native species and creating swales, rain gardens etc."
- "The floodplain map needs to be updated for my home. I live at 621 Pettibone Pointe Way in La Crosse 54601-2273 and our neighborhood started in 2017 and is still in progress with some homes but the floodplain map shows 2012 and needs to be updated with correct elevations since fill was brought in to raise our area prior to building our townhomes. Thanks for your concerns and work."

6 Photographs from the Open House

7 Poster Boards from the Open House

City of La Crosse

Flood Hazard Mitigation Plan

Project Overview

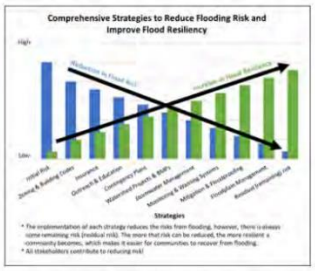
What is a Flood Hazard Mitigation Plan?
- Community-guided document to assist with floodplain management
- Provides foundation for a stronger, more flood resilient community
- Supports eligibility for FEMA mitigation grant programs

Why Create a Flood Hazard Mitigation Plan?
- To assess flood risk and vulnerabilities, and
- To identify mitigation actions to reduce flood risk and impacts

What are the three Phases of the Flood Hazard Mitigation Planning Process?
1) Understanding of Flood Hazards and Flood Risk Assessment
2) Goals and Objectives Setting
3) Mitigation Strategies, Funding and Tools

Strategies to Reduce Flood Risk and Improve a Community's Resiliency
- Provide a wide range of solutions for a community
- Can be implemented in phases
- Differ greatly in the cost to implement

A Flood Hazard Mitigation Plan will identify the most solutions based on the community need, cost effectiveness and an implementation timeline.



Is federal funding available to help implement the plan?
- The Flood Hazard Mitigation Plan will identify opportunities to align future projects with FEMA funding programs.

Hazard Mitigation

Benefits of Hazard Mitigation

Mitigation is an investment in your community's future safety and sustainability. Mitigation planning helps you take action now, before a disaster, to reduce impacts when a disaster occurs. Hazard mitigation planning helps you think through how you choose to plan, design, and build your community and builds partnerships for risk reduction throughout the community.

Hazard Mitigation is Important to:
- Protect public safety and prevent loss of life and injury.
- Reduce harm to existing and future development.
- Maintain community continuity and strengthen the social connections that are essential for recovery.
- Prevent damage to your community's unique economic, cultural, and environmental assets.
- Minimize operational downtime and accelerate recovery of government and business after disasters.
- Reduce the costs of disaster response and recovery and the exposure to risk for first responders.
- Help accomplish other community objectives, such as capital improvements, infrastructure protection, open space preservation, and economic resiliency.

Having a hazard mitigation plan will increase awareness of hazards, risk, and vulnerabilities; identify actions for risk reduction; focus resources on the greatest risks; communicate priorities to state and federal officials; and increase overall awareness of hazards and risks.

Mitigation Activities for Risk Reduction

Possible mitigation activities may include:

- Adoption and enforcement of regulatory tools, including ordinances, regulations, and building codes, to guide and inform land use, development, and redevelopment decisions in areas affected by hazards.
- Acquisition or elevation of flood-damaged homes or businesses retrofit public buildings, schools, and critical facilities to withstand extreme weather events.
- Creating a buffer area by protecting natural resources, such as floodplains, wetlands, or sensitive habitats. Additional benefits to the community may include improved water quality and recreational opportunities.
- Implement outreach programs to educate property owners and the public about risk and about mitigation measures to protect homes and businesses.

Hazard Mitigation Implementation
- Implementation of risk reduction activities can significantly reduce the physical, financial, and emotional losses caused by disasters.
- Putting the plan into action will be an ongoing process that may include initiating and completing mitigation projects and integrating mitigation strategies into other community plans and programs.
- Monitoring the plan's implementation helps to ensure it remains relevant as community priorities and development patterns change.

Types of Flooding and Flood Zones

Flooding is a temporary overflow of water onto land that is normally dry. Floods are the most common natural disaster in the United States. Floods can happen during heavy rains, when snow melts quickly, or when dams or levees break. Damaging flooding may happen with only a few inches of water, or it may cover a house to the rooftop. Floods can occur within minutes or over a long period, and may last days, weeks, or longer.

DEFINITIONS

Floodplain
An area of land susceptible to being inundated by floodwaters from any source. The floodplain includes the floodway and floodfringe areas. These areas are labeled on the Flood Insurance Rate Maps as A, AE, A1-30, AO or AH zones.

Floodway
The channel of a river or stream and those portions of the floodplain adjoining the channel required to carry the regional flood discharge. The floodway is the most dangerous part of the floodplain -- it is associated with moving water.

Floodfringe
The portion of the floodplain outside of the floodway that is covered by flood water during the regional flood. The term floodfringe is generally associated with standing water rather than flowing water. Development is allowed in the floodfringe subject to local floodplain ordinance requirements.

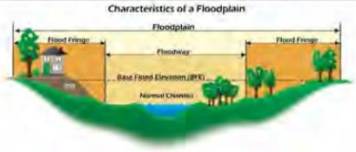
Regional Flood
The same as the 100-year flood, the 1-percent chance flood, or base flood (FEMA)

Regional Flood Elevation
The elevation determined to be representative of large floods known to have occurred in Wisconsin or which may be expected to occur on a particular lake, river, or stream at a frequency of 1% during any given year. (Wisconsin only)

Base Flood Elevation
The elevation determined by FEMA to which flood water is expected to rise during the base flood

Flood Protection Elevation
An elevation that is two feet above the regional flood elevation. (Wisconsin only)

Characteristics of a Floodplain



Flood Zones

Flood zones are geographic areas that the FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area.

Zone X (shaded)	The area between the limits of the 100- year and 500-year floods.
Zone X (unshaded)	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100- year flood.
Zone A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
Zone AE	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
Zone AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
Zone AO	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones

Examples of Mitigation Plan Implementation

Structural Measures

Adaptive measures designed to reduce flood risk by modifying the probability or frequency of flooding at a particular location. Structural measures do not modify the characteristics of existing development in the floodplain. While structural measures may decrease the frequency of flooding at a specific location, they can actually increase flood risk if the consequences of flooding are allowed to increase through development. Examples of these physical improvements include levee systems, floodwalls, reservoirs, channel modifications, diversions, detention, and storm drain improvements. For instance, a levee will prevent flooding of the protected area, changing the natural probability of flooding for that location.

STORMWATER MANAGEMENT

DIVERSION CHANNELS

IN CHANNEL WEIR FOR WATER CONTROL & EROSION CONTROL

UPSTREAM RESERVOIRS

FLOOD WALLS

STORM DRAIN IMPROVEMENTS

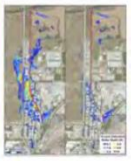
PROTECTION OF MUNICIPAL INFRASTRUCTURE (I.E., LIFT STATIONS)

LEVEES

Non-Structural Measures

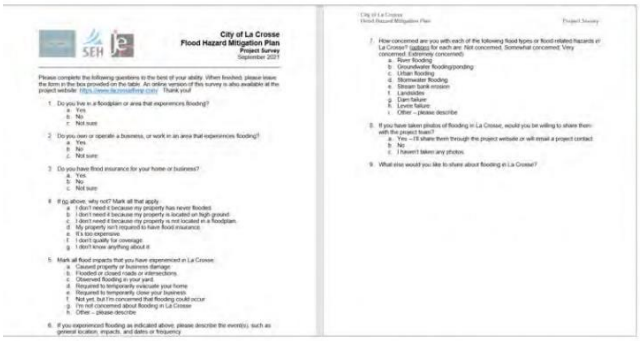
Adaptive measures directed at reducing flood risk and flood damages in floodplains, but do not modify the characteristics of floods (stage, velocity, duration) nor do they induce development in a floodplain that is inconsistent with reducing flood risk. These measures modify the characteristics of vulnerable structures and structures that are subject to flooding or modifying the behavior of people living in or near floodplains. Nonstructural measures are very effective for both short and long term flood risk and flood damage reduction and can be very cost effective when compared to structural measures.

- IDENTIFICATION OF RISK
- MAPPING / MODELING
- ZONING & BUILDING CODES
- FLOOD INSURANCE
- OUTREACH & EDUCATION
- CONTINGENCY PLANS
- FORMATION OF WATERSHED DISTRICTS
- ACQUISITION



We'd Like to Hear from You!

- **Please Take 5 Minutes to Complete a Survey**



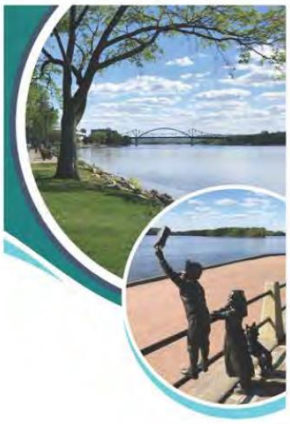
City of La Crosse
Flood Hazard Mitigation Plan
Project Survey
September 2021

Please complete the following questions to the best of your ability. When finished, please leave the form in the box provided on the table. An online version of this survey is also available at the project website: https://www.lacrossefhmp.com/ Thank you!

1. Do you live in a floodplain or area that experiences flooding?
   a. Yes
   b. No
   c. Not sure
2. Do you own or operate a business, or work in an area that experiences flooding?
   a. Yes
   b. No
   c. Not sure
3. Do you have flood insurance for your home or business?
   a. Yes
   b. No
   c. Not sure
4. If no above, why not? Mark all that apply:
   a. I don't need it because my property has never flooded.
   b. I don't need it because my property is located on high ground.
   c. I don't need it because my property is not located in a floodplain.
   d. My property isn't required to have flood insurance.
   e. It's too expensive.
   f. I don't qualify for coverage.
   g. I don't know anything about it.
5. Mark all flood impacts that you have experienced in La Crosse:
   a. Caused property or business damage.
   b. Flooded or closed roads or intersections.
   c. Observed flooding in your yard.
   d. Required to temporarily evacuate your home.
   e. Required to temporarily close your business.
   f. Not yet, but I'm concerned that flooding could occur.
   g. I'm not concerned about flooding in La Crosse.
   h. Other – please describe
6. If you experienced flooding as indicated above, please describe the event(s), such as general location, impacts, and dates or frequency.

City of La Crosse
Flood Hazard Mitigation Plan
Project Survey

7. How concerned are you with each of the following flood types or flood-related hazards in La Crosse? (options for each are: Not concerned, Somewhat concerned, Very concerned, Extremely concerned)
   a. River flooding
   b. Groundwater flooding/ponding
   c. Urban flooding
   d. Stormwater flooding
   e. Stream bank erosion
   f. Landslides
   g. Levee failure
   h. Levee failure
   i. Other – please describe
8. If you have taken photos of flooding in La Crosse, would you be willing to share them with the project team?
   a. Yes – I'll share them through the project website or will email a project contact
   b. No
   c. I haven't taken any photos.
9. What else would you like to share about flooding in La Crosse?



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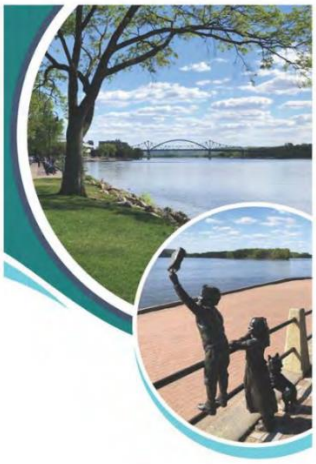
Looking for More Information?

- **Flood Mapping**
- **Flood Insurance**
- **Project Website**

For more information, visit the project website!
www.lacrossefhmp.com



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