



# VILLAGE OF WILLIAMS BAY

250 Williams Street | PO Box 580 | Williams Bay | WI | 53191 | [vi.williamsbay.wi.gov](http://vi.williamsbay.wi.gov)

Phone: 262-245-2700

## NOTICE

### COMMITTEE MEETINGS

**MONDAY, JUNE 5, 2023 AT 6:45 PM**

**Village Hall Council Room  
250 Williams Street  
Williams Bay, WI 53191**

## AGENDA

**The following agenda items may be considered for Discussion, Consideration, or Action**

- I. Streets & Highways Committee – D'Alessandro, Russell, Vlach (5 Min.)**
  - a. Call to Order
  - b. Roll Call
  - c. Streets & Highways Committee Meeting Minutes of April 12, 2023
  - d. Streets & Highways Committee Meeting Minutes of May 10, 2023
  - e. Adjourn
- II. Building, Zoning & Ordinance Committee – Jaramillo, Wright, D'Alessandro (15 Min.)**
  - a. Call to Order
  - b. Roll Call
  - c. Building, Zoning & Ordinance Committee Meeting Minutes of May 10, 2023
  - d. Geneva Lakes Environmental Agency - Chapter 30 Proposed Draft Ordinance
  - e. Adjourn
- III. Protective Services Committee – Vlach, Russell, Jaramillo (20 Min.)**
  - a. Call to Order
  - b. Roll Call
  - c. Protective Services Committee Meeting Minutes of April 12, 2023
  - d. Protective Services Committee Meeting Minutes of May 10, 2023
  - e. Williams Bay Fire Department Temporary Class "B" Retailer's License Application for July 14-16, 2023
  - f. Natural Hazards Mitigation Plan 2022-26 – Walworth County
  - g. Fontana Emergency Medical Systems Reports - April 2023
  - h. Monthly Numbers
  - i. Adjourn
- IV. Water & Sewer Committee – Umans, Jaramillo, Vlach (20 Min.)**

- a. Call to Order
- b. Roll Call
- c. Water & Sewer Committee Meeting Minutes of May 10, 2023
- d. Resolution R-12-23 2023 Compliance Maintenance Annual Report (CMAR)
- e. Water Plant Modification - Copper Corrosion Action Plan
  - Baxter Woodman Work Order 221778.01/221778.61 - Service Pump Modifications Design & Construction
  - Baxter Woodman Work Order 221778.01/221778.60 - Chlorination Modifications Design & Construction
  - Safe Water Drinking Fund Loan Application(s)
- f. Baxter & Woodman Work Order 2325347 to assist the Southeastern Wisconsin Regional Planning Commission (SEWRPC) in their study to properly locate and map the Southwick Creek floodplain/floodway in the area of the Village's water plant.
- g. Lift Station #3 (Harris Road) Replacement
  - Final Design Option
  - Clean Water Fund Project Loan Application
- h. Engineer Report
- i. Adjourn

**V. Parks & Lakefront Committee –Russell, Wright, Umans (30 Min.)**

- a. Call to Order
- b. Roll Call
- c. Parks & Lakefront Committee Meeting Minutes of May 10, 2023
- d. Williams Bay Fire Department 57th Annual Chicken Roast Edgewater Park Use and Policy Contract for July 14-16, 2023
- e. William Guy Forbeck Research Foundation Yoga Class and Family Fun Edgewater Park Use and Policy Contract for June 24, 2023
- f. Williams Bay Boy Scout Pack 237 Edgewater Use and Policy Contract for June 20, 2023
- g. Boat Slip Waiting List and Boat Slip Lease
- h. Theatre Road Park
  - Tennis and Basketball Courts Project Approach
  - Village Engineer Baxter & Woodman Work Order
- i. Recreation Department Monthly Report
- j. Lions Field House Renovations
- k. Adjourn

**VI. Finance & Personnel Committee – Wright, D'Alessandro, Umans (40 Min.)**

- a. Call to Order
- b. Roll Call
- c. Finance & Personnel Committee Meeting Minutes of May 10, 2023
- d. Hydro Corp Cross Connection Contract Renewals - Commercial and Residential
- e. Accurate Appraisal Contract
- f. Baker Tilly Letter of Engagement for Audit Services for years 2023-2027
- g. Resolution Establishing the Minimum Bond Amount for the Municipal Judge



- h.** Water Plant Modification - Copper Corrosion Action Plan
  - Baxter Woodman Work Order 221778.01/221778.61 - Service Pump Modifications Design & Construction
  - Baxter Woodman Work Order 221778.01/221778.60 - Chlorination Modifications Design & Construction
  - Safe Water Drinking Fund Loan Application(s)
- i.** Baxter & Woodman Work Order 2325347 to assist the Southeastern Wisconsin Regional Planning Commission (SEWRPC) in their study to properly locate and map the Southwick Creek floodplain/floodway in the area of the Village's water plant.
- j.** Lift Station #3 (Harris Road) Replacement
  - Final Design Option
  - Clean Water Fund Project Loan Application
- k.** Theatre Road Park
  - Tennis and Basketball Courts Project Approach
  - Village Engineer Baxter & Woodman Work Order
- l.** Discussion on Directing Staff to Provide Information about Tax Increment Financing (TIF) and Potential Areas
- m.** Treasurer Report
- n.** Monthly Borrowing Status Report
- o.** Adjourn

*Requests from persons with disabilities, who need assistance to participate in this meeting or hearing, should be made to the Village Clerk's office in advance so the appropriate accommodations can be made.*

Posted: 06/02/2023 5:00 PM



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250 Williams Street | PO Box 580 | Williams Bay | WI | 53191 | [vi.williamsbay.wi.gov](http://vi.williamsbay.wi.gov)  
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## UNOFFICIAL MINUTES STREETS AND HIGHWAYS COMMITTEE WEDNESDAY, APRIL 12, 2023, AT 6:30 PM VILLAGE HALL COUNCIL ROOM

### Call to Order

The meeting was called to order by Trustee Vlach at 6:30pm.

### Roll Call

Trustees D'Alessandro and Vlach

Excused: Trustee Stanek

Also Present: President Duncan, Trustee Jaramillo, Umans and Wright, Administrator Lothspeich, Treasurer Peternell, Director of Public Works Edwards, Police Chief Timm, Recreation Director Rowland and Village Engineer Snyder

### Meeting Minutes

D'Alessandro/Vlach motion to approve meeting minutes of March 15, 2023. Motion carried unanimously.

### Additional Sidewalk on STH 67 – Elkhorn Rd

Snyder reviewed his engineer report regarding broken and heaving sidewalk sections on Elkhorn Road between Olive Street and Stark Street of which the WDOT refused to replace these sections. JW Schultz Construction, who is the subcontractor to Payne & Dolan provided a quote for \$12.50 per square foot to replace approximately 480 square feet of sidewalk. The quote assumed a quantity of 750 square feet, but Schultz will only be paid for the sidewalk completed. D'Alessandro/Vlach motion to recommend Village Board approval of moving forward with the project. Motion carried unanimously.

### Consider an ordinance modifying the Walworth Avenue maximum on street parking hours from 1 hour to 2 hours.

D'Alessandro discussed a meeting with some of the downtown business owners regarding the 1-hour parking on Walworth Avenue between Geneva Street and Cherry Street. Discussion was held regarding changing the limit from 1 hour to 2 or 3 hours. Further discussion was held regarding an overall comprehensive parking plan for the downtown area. It was the consensus of the Committee to have the Department of Public Works temporarily apply stickers over the 1 hour to 2 hours instead of ordering new signs as there may be more changes to parking restrictions once a comprehensive parking plan is complete. Vlach/D'Alessandro motion to recommend the Building, Zoning and Ordinance Committee change the ordinance from a maximum of 1-hour parking to 2-hour parking on Walworth Avenue between Geneva Street and Cherry Street. Motion carried unanimously.

### Adjourn

D'Alessandro/Vlach motion to adjourn at 6:49pm. Unanimously carried.

/s/ Lori Peternell, Village Treasurer

*These are not official minutes until approved by the Streets & Highways Committee*



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## UNOFFICIAL MINUTES STREETS AND HIGHWAYS COMMITTEE WEDNESDAY, MAY 10, 2023, AT 6:30 PM VILLAGE HALL COUNCIL ROOM

### Call to Order

The meeting was called to order by Chairman D'Alessandro at 6:30pm.

### Roll Call

Trustees D'Alessandro and Russell

Excused: Trustee Vlach

Also Present: President Duncan, Trustee Jaramillo, Umans and Wright, Administrator Lothspeich, Treasurer Peternell, Director of Public Works Edwards, Police Chief Timm, Recreation Director Rowland, Library Director Schnupp, and Village Engineer Snyder

### Meeting Minutes

Trustee Russell stated that since his term as a Trustee began after April 12, 2023, he would be abstaining from voting on the April 12, 2023, meeting minutes. Approval of meeting minutes will be moved to the June meeting for approval.

### Village Engineer's Report: East-West Route 67 and possible Streetscape Improvements

Snyder stated that they have reviewed the 30% Wisconsin Department of Transportation (WDOT) plans for the STH 67 resurfacing project planned for construction in 2026 or 2027. Snyder is recommending that the Village inform the WDOT that streetscaping between Elkhorn Road and Williams Street be included in the project. It was the consensus of the Committee to have Snyder contact WDOT to have streetscaping included in the project plans.

### Adjourn

Russell/D'Alessandro motion to adjourn at 6:40pm. Unanimously carried.

/s/ Lori Peternell, Village Treasurer

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# VILLAGE OF WILLIAMS BAY

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## UNOFFICIAL MINUTES BUILDING, ZONING AND ORDINANCE COMMITTEE WEDNESDAY, MAY 10, 2023, AT 6:30 PM VILLAGE HALL COUNCIL ROOM

### Call to Order

Meeting was called to order by Chairman Jaramillo at 6:45pm

### Roll Call

Trustees Jaramillo, D'Alessandro, and Wright

Also Present: President Duncan, Trustees Russell and Umans, Administrator Lothspeich, Treasurer Peternell, Director of Public Works Edwards, Police Chief Timm, Recreation Director Rowland and Engineer Snyder.

### Meeting Minutes

Jaramillo/Wright motion to approve the meeting minutes of April 12, 2023. Unanimously carried.

### GLEA – Chapter 30 Proposed Draft Ordinance

Jacob Schmitt from the Geneva Lake Environmental Agency (GLEA) was unable to attend the meeting, so the item was deferred to the June Building, Zoning and Ordinance Committee meeting.

### Adjourn

Wright/D'Alessandro motion to adjourn at 6:49pm. Unanimously carried.

/s/ Lori Peternell, Village Treasurer

*These are not official minutes until approved by the BZO Committee*

## Section VII. Aquatic Plants and Invasive Animals.

### (a) - Purpose

The purpose of this ordinance is to prevent the spread of aquatic invasive species in Geneva Lake and surrounding water bodies.

### (b) - Definitions

1. The following words, terms, and phrases, when used in this article shall have the meanings described to them in this section. The words, terms, and phrases defined shall apply to this section only.
2. *Animal* - means all vertebrate and invertebrate species including but not limited to mammals, birds, reptiles, amphibians, fish, and shellfish, or their eggs, larvae, or young, but exclude humans.
3. *Aquatic Animal* - means all animals that live in, on, or near the water. This includes all vertebrate and invertebrate species, including but not limited to reptiles, amphibians, fish, and shell fish, or their eggs, larvae or young.
4. *Invasive Species* - has been previously defined under Wis. Stat. § 23.22(1)(c), and Wis. Adm. § NR 40.02(24) and the definition is hereby adopted under this code.
5. *Aquatic Invasive Species* - has been previously defined under Wis. Adm. § NR 40.02(3m) and the definition is hereby adopted under this code.
6. *Aquatic Plant* - means a nonwoody submerging, emergent, free-floating, or floating leave plant that normally grows in or near water and includes any part thereof. Any permits issued under Wis. Adm. Code § NR 19.09 shall be exempt from this definition.
7. *Decontamination* - is the process of removing Aquatic Invasive Species as defined in (5) or materials that may contain or transmit any type of invasive species by disinfection or other methods.
8. *Portable Boat Cleaning Station* - is a device provided at public or private lake access to remove all potential invasive species.

### (c) - Prohibition Against the Transport of Plants and Aquatic Animals.

1. No person may operate a vehicle, or transport any boat, personal watercraft, canoe, kayak, paddle board or associated trailer, or boating equipment, fishing equipment, hunting and/or trapping equipment from navigable waters onto a public highway if aquatic plants, or aquatic animals are attached. All aquatic

plants and aquatic animals shall be removed prior to entry onto a public highway or launching a boat or placing equipment or trailers into navigable waters.

2. When available, an operator or owner of a vehicle, boat, personal watercraft, canoe, kayak, paddle board, or associated trailer shall use at public or private access, the person shall decontaminate the boat per the posted instructions on the Portable Boat Cleaning Station.
3. This section shall not apply to bait used on that particular body of water in accordance with the Department of Natural Resources, or applicable Wisconsin Administrative Codes.

(d) – Enforcement

1. Any County or Municipality Law Enforcement Officer shall have authority to issue a citation pursuant to Wis. Stat. §66.0113(1)(a).
2. All forfeitures shall be collected and retained by the enforcing agency.
3. An offense shall be considered by each instance of violation, not by each vehicle or equipment subject to this ordinance.

**Walworth County reference**— General penalty, § 1-12; statutory misdemeanors and forfeitures adopted, § 14 Citations, § 38-1; sheriff, ch. 46; excavation regulations enforced by citation, § 54-43; cash deposits for violation of the excavation regulations, § 54-45; issuance of citations, §§ 54-46, 54-98.

**State Law reference**— Citation system, Wis. Stats. § 66.0113

**Section X. Penalties.**

6. Any person who violates Section VII of the Joint Uniform Lake Law Ordinances shall be subject to a forfeiture plus court costs as follows:
  - (a) For the first offense, a forfeiture shall be \$100, plus costs
  - (b) For a second offense, a forfeiture shall be \$175, plus costs.
  - (c) For a third and subsequent offense, a forfeiture shall be \$250, plus costs.



# VILLAGE OF WILLIAMS BAY

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## UNOFFICIAL MINUTES PROTECTIVE SERVICES COMMITTEE WEDNESDAY, APRIL 12, 2023, AT 6:30 PM VILLAGE HALL COUNCIL ROOM

### Call to Order

The meeting was called to order by Chairman Vlach at 6:49pm

### Roll Call

Trustees Vlach, Jaramillo, and Umans

Also Present: President Duncan, Trustees D'Alessandro and Wright, Administrator Lothspeich, Treasurer Peternell, Director of Public Works Edwards, Police Chief Timm, Recreation Director Rowland and Engineer Snyder.

### Meeting Minutes

Umans/Jaramillo motion to approve the meeting minutes of March 15, 2023. Jaramillo abstained; motion carried.

### Hazardous Mitigation Plan

Chief Timm stated that every 3-4 years there is a County wide initiative updating the Hazardous Mitigation Plan in accordance with FEMA rules. The Village will need to adopt the plan by Resolution in December to qualify for Federal & State assistance funding. The Committee had some questions regarding the data in the current plan from 2010-2018; the Chief will follow up with the County to inquire if there is more current data available. The Committee requested that Lieutenant Rowland from the Walworth County Sheriff's Office attend a committee meeting to discuss the Plan.

### Police Chief's Report

Chief Timm discussed current training and department activities.

### Monthly Numbers

The Committee reviewed the March 2023 Police Activity.

### March 2023 EMS Report

The Committee reviewed the March 2023 EMS report and requested that future reports include staffing breakdowns of AEMT and Paramedics that responded to calls.

### Speed Sign Numbers (Q1)

Chief Timm stated that there was an issue with printing the reports and will provide them to the Committee at a future meeting.

### Adjourn

Umans/Jaramillo motion to adjourn at 7:08pm. Unanimously carried.

/s/ Lori Peternell, Village Treasurer

*These are not official minutes until approved by the Protective Services Committee*





# VILLAGE OF WILLIAMS BAY

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Phone: 262-245-2700

## UNOFFICIAL MINUTES PROTECTIVE SERVICES COMMITTEE WEDNESDAY, MAY 10, 2023, AT 6:30 PM VILLAGE HALL COUNCIL ROOM

### Call to Order

The meeting was called to order by Trustee Jaramillo at 6:30pm

### Roll Call

Trustees Jaramillo, and Russell

Excused: Chairman Vlach

Also Present: President Duncan, Trustees D'Alessandro, Umans and Wright, Administrator Lothspeich, Treasurer Peternell, Director of Public Works Edwards, Police Chief Timm, Recreation Director Rowland, Library Director Schnupp, and Engineer Snyder.

### Meeting Minutes

Trustee Russell stated that since his term as a Trustee began after April 12, 2023, he would be abstaining from voting on the April 12, 2023, meeting minutes. Approval of meeting minutes will be moved to the June meeting for approval.

### Monthly Numbers

The Committee reviewed the April 2023 Police Activity.

### Adjourn

Wright/Jaramillo motion to adjourn at 6:32pm. Unanimously carried.

/s/ Lori Peternell, Village Treasurer

## Application for Temporary Class "B" / "Class B" Retailer's License

See Additional Information on reverse side. Contact the municipal clerk if you have questions.

FEE \$ 10.00

Application Date: 5-23-23

☐ Town ☒ Village ☐ City of Williams Bay

County of Walworth

The named organization applies for: (check appropriate box(es).)

- ☒ A Temporary Class "B" license to sell fermented malt beverages at picnics or similar gatherings under s. 125.26(6), Wis. Stats.  
☐ A Temporary "Class B" license to sell wine at picnics or similar gatherings under s. 125.51(10), Wis. Stats.

at the premises described below during a special event beginning 7-14-23 and ending 7-15-23 and agrees to comply with all laws, resolutions, ordinances and regulations (state, federal or local) affecting the sale of fermented malt beverages and/or wine if the license is granted.

**1. Organization** (check appropriate box) →

- ☐ Bona fide Club ☐ Church ☐ Lodge/Society  
☐ Veteran's Organization ☐ Fair Association or Agricultural Society  
☐ Chamber of Commerce or similar Civic or Trade Organization organized under ch. 181, Wis. Stats.

(a) Name Williams Bay Volunteer Fire Dept.

(b) Address 5 EAST GENEVA ST. Williams Bay  
(Street) ☐ Town ☒ Village ☐ City

(c) Date organized 1936

(d) If corporation, give date of incorporation \_\_\_\_\_

(e) If the named organization is not required to hold a Wisconsin seller's permit pursuant to s. 77.54 (7m), Wis. Stats., check this box: ☒

(f) Names and addresses of all officers:

President CHIEF DOUG SMITH

Vice President ASST. CHIEF PAUL NICHOLSON

Secretary DOUG SWANGREN

Treasurer JIM LOVELL

(g) Name and address of manager or person in charge of affair: DAVID BURROUGHS  
140 POTAWATOMI RD

**2. Location of Premises Where Beer and/or Wine Will Be Sold, Served, Consumed, or Stored, and Areas Where Alcohol Beverage Records Will be Stored:**

(a) Street number EDGEWATER PARK

(b) Lot \_\_\_\_\_ Block \_\_\_\_\_

(c) Do premises occupy all or part of building? YES

(d) If part of building, describe fully all premises covered under this application, which floor or floors, or room or rooms, license is to cover: PARK AREA & PAVILION

**3. Name of Event**

(a) List name of the event STJA ANNUAL CHICKEN ROAST

(b) Dates of event 7-14-15-23

BARTENDERS: MIKE ROBINS SCOTT BUCHOWSKI DAVE BURROUGHS

**DECLARATION**

An officer of the organization, declares under penalties of law that the information provided in this application is true and correct to the best of his/her knowledge and belief. Any person who knowingly provides materially false information in an application for a license may be required to forfeit not more than \$1,000.

Officer [Signature]  
(Signature) (Date)

Wms. Bay Fire Dept  
(Name of Organization)

Date Filed with Clerk \_\_\_\_\_

Date Reported to Council or Board \_\_\_\_\_

Date Granted by Council \_\_\_\_\_

License No. \_\_\_\_\_

**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-24-23**

**A RESOLUTION GRANTING TEMPORARY “CLASS B” FERMENTED MALT BEVERAGE LICENSE TO  
WILLIAMS BAY VOLUNTEER FIRE DEPARTMENT FOR ANNUAL CHICKEN ROAD**

**WHEREAS**, on June 5, 2023 the Village of Williams Bay Protective Services Committee determined that it is in the best interests of the Village and its residents to recommend approval of the Special Permit Application for Temporary Class “B”/”Class B” Retailers License by the Williams Bay Volunteer Fire Department for the 57<sup>th</sup> Annual Chicken Road on July 14, 2023 and July 15, 2023; and

**WHEREAS**, the licensed outdoor beer garden area for fermented malt beverages will encompass portions of the Edgewater Park property that will be set up and operated within the perimeter fenced area with entry monitored and limited to individuals that are a minimum of 21 years old; and

**WHEREAS**, that licensed operators will be on the premises at all times to oversee the serving of alcohol; and

**WHEREAS**, as mandated by Village Code § 128-6. Liquor or Beer in Public Places. “No person shall carry any open can, bottle or other container of alcohol beverage or drink from the same upon any public walk, street, park or other public place in the Village except where a special permit is granted by the Village Board”; and

**WHEREAS**, the Village Board of the Village of Williams Bay, being fully advised in the premises, have determined that it is in the best interests of the Village and its residents to approve the recommended special permit application.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

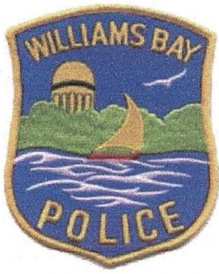
**Section II: Approval.** The President and Board of Trustees hereby approves the recommended application and authorizes the temporary retailers license, therefore.

Approved by the Village Board of the Village of Williams Bay this 5<sup>th</sup> day of June 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk



# Village of Williams Bay Police Department

PO Box 580  
250 Williams Street  
Williams Bay, WI 53191



Phone: 262.245.2710

Chief Justin P Timm

Fax: 262.245.2711

May 30, 2023

TO: Protective Services Committee

From: Chief Justin P Timm

REF: 2022-2026 Walworth County Hazardous Mitigation Plan

Trustees,

I unfortunately will not be in attendance at the Committee meeting in June due to training. As we have spoken about at the previous committee meeting, the Walworth County Hazardous Mitigation Plan is set up by the county and will be looking for all the municipalities within Walworth County to be in agreement with the plan.

Lieutenant Jason Rowland, the Emergency Management Coordinator for Walworth County and subject matter expert on the Hazardous Mitigation Plan will be in attendance to explain the document and answer any questions you may have.

Sincerely,

Justin P Timm  
Chief of Police  
Village of Williams Bay Police Department

# NATURAL HAZARDS MITIGATION PLAN: 2022-2026



## WALWORTH COUNTY, WISCONSIN

County Adoption: \_\_\_\_, 2023

# ACKNOWLEDGEMENTS

Sheriff Kurt Picknell

Mark Lubberda, County Administrator

## County Board Supervisors by District

- Rick Stacey, District 1
- Joseph H. Schaefer, District 2
- Brian Holt, District 3
- Jerry Grant, Vice Chair, District 4
- Ryan G. Simons, District 5
- Kathy Ingersoll, District 6
- David A. Weber, District 7
- Daniel G. Kilkenny, District 8
- Susan M. Pruessing, District 9
- Kenneth H. Monroe, District 10
- Nancy Russell, Chair, District 11

## Executive Committee

- Dave Weber, Chair
- Daniel Kilkenny, Vice-Chair
- Brian Holt
- Susan Pruessing
- Nancy Russell

## 2021/22 – Working Group

- Todd Lindert, Emergency Management Coordinator; City of Whitewater
- Robert Williams, Public Works Supervisor; Town of Darien
- James Bushey, Police Chief; Town of Linn
- Thomas Lorden, Town Supervisor; Town of Troy
- Jeremy Swendrowski, Chief of Police; Village of East Troy
- Jeff Cates, Police Chief; Village of Fontana
- Joan Sallee, Village Trustee; Village of Walworth
- Justin Timm, Chief of Police; Village of Williams Bay

## 2013 – Working Group

- Joseph Balog, Police Chief; Village of Genoa City
- Richard Brandl, Town Chairman; Town of Sharon
- James Bushey, Sgt. Linn Police; Town of Linn
- Michael Ciardo, EM Coordinator, retired; City of Whitewater
- Daniel Cooper, Town Chairman; Town of La Fayette
- Lieutenant John R. Ennis; Walworth County Sheriff's Department, Emergency Management Director
- David Fladten, EMT Coordinator; Village of Fontana
- Kelly Hayden, Village Administrator; Village of Fontana
- John Kendall, Town Chairman; Town of Troy
- John Peters, Deputy Director EM; City of Lake Geneva
- Chris F. Severt, Police Chief; Village of Walworth
- Bill Shimmer, Highway Supervisor, retired; Town of Darien
- Jeff Stein, Fire Chief; Village of Mukwonago
- Tom Sullivan, Supervisor; Town of Bloomfield
- Donald Teubel, Town of East Troy
- Randy Timms, President; Village of East Troy

**2009 – Working Group**

- Michael Carder; Walworth County Public Health
- Michael Ciardo; City of Whitewater, Emergency Management Coordinator
- Michael Cotter; Walworth County Corporation Counsel, Deputy Corporation Counsel
- William Holder; Town of Bloomfield, Supervisor
- Rusty Kapela; National Weather Service Forecast Office, Milwaukee/Sullivan, Meteorologist
- Mark Mullikin; Walworth County Public Works Department, Public Works Superintendent
- Wayne Redenius; Town of Richmond, Chair
- Chris F. Severt; Village of Walworth, Emergency Services Director
- Lieutenant Kevin Williams; Walworth County Sheriff's Department, Emergency Management Director
- Allen Zimmerman; Walworth County Sheriff's Department, Retired (LEPC)

**Project Supervision**

- Lieutenant Kevin Williams, former Emergency Management Director, served as project supervisor for Walworth County for the initial plan adopted in 2009.
- Lieutenant John R. Ennis, former Emergency Management Director, served as project supervisor for the 2014-2018 plan update.
- Lieutenant Jason W. Rowland, Emergency Management Director, served as project supervisor for the 2021-2025 plan update.

**Funding**

Partial funding for the preparation of the initial plan and plan updates was provided by Wisconsin Emergency Management through a grant from the federal Pre-Disaster Mitigation Program.

**Consultant**

Civi Tek Consulting prepared the initial plan and the plan updates under the supervision of Tim Schwecke.

## FORWARD

The *Walworth County Natural Hazard Mitigation Plan: 2022-2026* consists of six chapters and a map series. The first chapter provides an overview of the plan. The second chapter presents background information about Walworth County including its setting, demographic and economic characteristics, climate, natural resources, land use, and development trends. Chapter 3 presents background information related to special needs populations and groups in the county. Chapter 4 contains a complete inventory of critical facilities in the county. Natural hazards are reviewed in chapter 5 along with estimated losses to buildings, infrastructure, and critical facilities. In chapter 6, goals, objectives, and policies are identified that will help to craft appropriate solutions to the identified problems. A range of activities are also presented to help foster hazard mitigation efforts. Various funding sources are reviewed with an eye towards identifying options for funding identified projects. Most of the maps in the plan are included in the final section of the plan.

Walworth County adopted a multi-jurisdictional plan in 2009, which was initially approved by the Federal Emergency Management Agency (FEMA) on July 9, 2009. This plan is the second five-year update of that initial plan and was updated to reflect the best available background information and to confirm goals, objectives, and policies.

This version is intended to guide mitigation planning efforts in Walworth County during the five-year period from 2022 through 2026.



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# INTRODUCTION

## 1. CHAPTER OVERVIEW

This chapter introduces the need for this plan by making the case that natural disasters have historically caused substantial damage to people and property in Walworth County and that while it is not possible to prevent natural disasters from occurring, it is possible to better position a community to mitigate the effects of natural disasters. The purpose and scope of this plan are described so that it is clear what this document is intended to do and how it relates to other previous planning efforts and ongoing emergency management activities. The ways in which the general public and local units of government were involved in the preparation, review, and adoption of this plan are documented. A procedure for keeping this document current is described. In the final section, those governmental units adopting this plan are listed.

## 2. PURPOSE

It's fair to say that most people do not think about natural disasters until they are personally affected in some way. When a significant event does strike, the general public most often looks to government at all levels and non-governmental organizations, like the American Red Cross, for assistance. Likewise, local units of government look to state agencies and the federal government for financial help and assistance. Depending on the scale of the natural disaster, assistance can be short-term or on-going over an extended period of time.

Throughout the United States, government response and associated costs have grown significantly. At the federal level, the average annual loss from natural disasters was \$3.3 billion between 1989 and 1993. Between 1994 and 1998, that figure rose to \$13 billion.

In an effort to curb rising costs, the federal government adopted the Disaster Mitigation Act of 2000 (DMA 2000). It amended the Robert T. Stafford Disaster Relief and Emergency Act, which is the primary law at the federal level dealing with disaster planning, mitigation, response, and recovery.

DMA 2000 reinforced the importance of hazard mitigation planning to proactively devised strategies intended to avoid and reduce the negative effects of natural disasters. If a community wants to apply for grant funding from the Pre-Disaster Mitigation (PDM) Program or the Hazard Mitigation Grant Program (HMGP), it must have an approved hazard mitigation plan. If a disaster strikes a community that does not have an approved plan, it can only receive funding through HMGP if it agrees to prepare a plan within one year.

Walworth County and participating municipalities have prepared this plan to meet this new requirement, and in so doing, help its citizens mitigate the effects of natural disasters.

## 3. SCOPE

The scope of this plan is limited to natural hazards that pose a threat to people and property in Walworth County. It does not address threats of terrorism or man-made hazards, such as HAZMAT incidents.



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## 4. CONTENTS

This plan includes a number of elements. The first section provides an overview of the project. The second reviews the background information about the county including its setting, demographic and economic characteristics, climate, natural resources, architectural and historic resources, land use, and development trends. In the third section, the plan addresses special needs populations and groups. The fourth details the critical facilities while the fifth outlines natural hazards. In the sixth chapter the recommended mitigation strategy for the County and its individual jurisdictions is presented. A series of maps is included in the last chapter.

## 5. RELATIONSHIP OF MITIGATION PLANNING TO OTHER EMERGENCY MANAGEMENT ACTIVITIES

Mitigation planning is one prong of a multi-faceted approach to emergency management (Exhibit 1-1). Each of these are briefly described to help provide context for this plan.

### MITIGATION

Mitigation is any activity that is proactively done to reduce a community's vulnerability of damage from future disasters. Mitigation is the focus of this plan.

### PREPAREDNESS

Emergency preparedness focuses exclusively on creating effective strategies and procedures to respond to an emergency. It includes creating the institutional framework for response and protocol for decision making, conducting training of emergency response personnel, ensuring equipment is available and operational, and developing and maintaining an appropriate communications network.

Walworth County has a well-established and tested emergency operations plan. It identifies a decision making structure and areas of responsibility depending on the nature of the emergency.

### RESPONSE

Response includes any action taken immediately before, during, and after an event to save lives and minimize property damage.

### RECOVERY

Although the extent and type of recovery efforts will vary with the nature and extent of the event, they focus on restoring support services and infrastructure and helping those affected to regain a sense of normalcy.

It is important to recognize that each of these areas focuses on different aspects of emergency management, but that the effectiveness of each depends on an integrated systems approach.

### Key Terms in This Chapter

**Disaster Mitigation Act of 2000 (DMA 2000)** – A federal law (P.L. 106-390) amending the Robert T. Stafford Disaster Relief and Emergency Act. The act authorizes the president to establish (1) a program of technical and financial assistance to the states and local governments to assist in the implementation of pre-disaster hazard mitigation measures; (2) the National Predisaster Mitigation Fund; and (3) an interagency task force. It requires state, local, or tribal governments to develop predisaster hazard mitigation plans as a precondition of receiving certain federal funds and controls and streamlines the cost of disaster assistance.

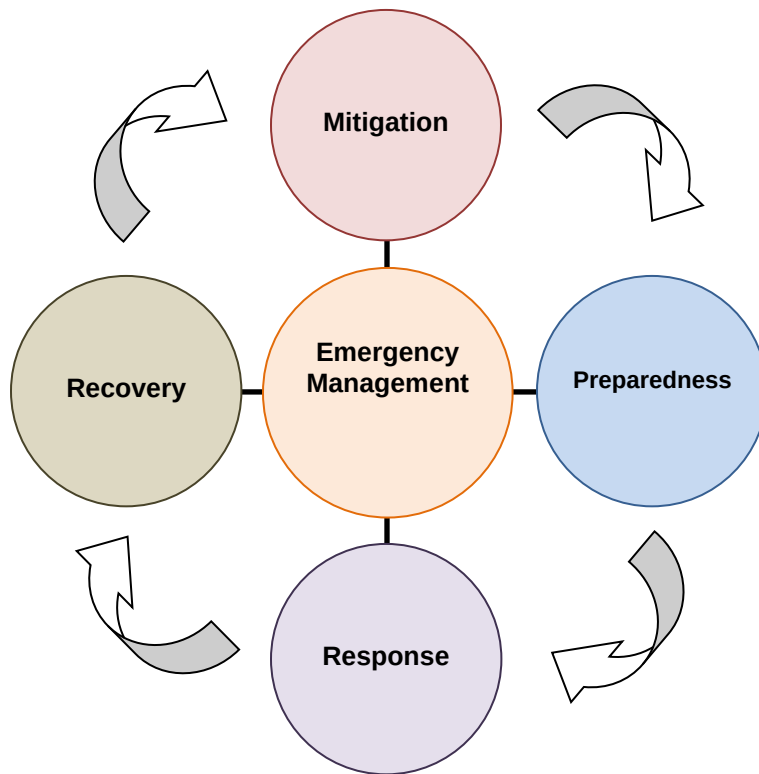
**Federal Emergency Management Agency (FEMA)**

– A federal agency created in 1979 with a mission to reduce loss of life and property and protect our nation's critical infrastructure from all types of hazards through a comprehensive, risk-based emergency management program of mitigation, preparedness, response, and recovery. In March 2003, it was placed under the Department of Homeland Security.

**Hazard mitigation plan** – A plan prepared at the state or local level that systematically evaluates policies, actions, and tools, and sets goals for implementation over the long term that will result in a reduction in risk and minimize future losses in a community.

**Hazard Mitigation Grant Program (HMGP)** – A federal program administered by the Federal Emergency Management Agency intended to prevent future losses of lives and property due to disasters; to implement state or local hazard mitigation plans; to enable mitigation measures to be implemented during immediate recovery from a disaster; and to provide funding for previously identified mitigation measures to benefit the disaster area. It was authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

**Wisconsin Emergency Management (WEM)** – A state agency that specializes in hazard mitigation, warning and communications, emergency police services, disaster response and recovery, hazardous materials & EPCRA, radiological emergency preparedness, and exercise and training.

**Exhibit 1-1. Emergency Management****6. RELATIONSHIP TO OTHER PLANS**

The following plans, studies, and reports were reviewed in preparing this plan:

- ◆ **Smart Growth Comprehensive Plans** Walworth County adopted the 2035 Multi-jurisdictional Comprehensive Plan in 2009 which was updated in June of 2019. In addition to a countywide plan, a number of municipalities have adopted comprehensive plans.
- ◆ **Walworth County Land and Water Resources Management Plan** This plan is intended to help the Walworth County Land Conservation Committee and county staff define and chart actions and activities that can be cooperatively undertaken by agencies, organizations, and residents to protect the county's land and water resources. The plan serves to target staff and financial resources on those land and water management issues county residents are most concerned about. It was last amended in 2020.
- ◆ **Walworth County Hazards Analysis** This document identifies those hazards that have or could occur in the county. It also describes each hazard, its frequency of occurrence, and actions being taken to mitigate the hazard. It was last updated September 2014.
- ◆ **Walworth County Hazardous Materials Response Plan** Walworth County has a hazardous materials response plan which identifies the

policies and procedures for responding to hazardous materials incidents/accidents. It was adopted in compliance with the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) and state law codified in Section 166.20, Wis. Stats. It was last updated March 2020.

- ◆ **Walworth County Emergency Operations Plan** The Walworth County Office of Emergency Management maintains an emergency operations plan that identifies the procedures for responding to emergency events in the county. The plan is currently being updated and adoption is anticipated in September 2021.
- ◆ **State Hazard Mitigation Plan** This plan was prepared by Wisconsin Emergency Management (WEM) and complies with the requirements of the Disaster Mitigation Act of 2000 at the state level.
- ◆ **Emergency Action Plan (EAP) Lake Beulah Dam** This document describes the dam hazard area for Lake Beulah Dam, identifies those responsible for dam operation and implementation of the EAP; describes the events of conditions that indicate an emergency, defines the levels of emergency, and describes how EAP participants and the public should be notified in the event of an emergency.

When any of these local plans are updated in the future, they should incorporate provisions, as may be appropriate, that support this plan.

## 7. PLAN PREPARATION, REVIEW, AND ADOPTION

This plan was initially prepared and adopted in 2009. In 2013, the county initiated a five-year update which was adopted on January 13, 2015. In a letter dated March 26, 2015, the Federal Emergency Management Agency certified that this plan update meets federal requirements (Appendix C).

### 2021/22 5-YEAR PLAN UPDATE

The Walworth County Emergency Management office applied for and received a grant to prepare a second five-year update to the plan. The county contracted with Civi Tek Consulting for this project.

The Walworth County Board of Supervisors adopted a public participation plan on August 10, 2021, that describes the ways in which the public and local units of government would be involved in the preparation, review, and approval of the plan update. A copy of the public participation plan is included in Appendix A. Key elements include: a project website, establishment of a steering committee, publication of all meetings, submittal of press releases, and numerous opportunities for submitting written comments and suggestions.

No comments were received from residents, property owners, or other interested parties during the process.

Municipalities in the county were involved in a number of ways and were kept abreast of the plan's progress. Initially, letters were sent to each municipality inviting them to approve a memorandum of understanding (MOU) and to designate an individual who would serve as a point of contact and a liaison. A sample of the MOU and of the appointment form is included in Appendix A. All of the municipalities approved the MOU. The local point of contact was given a

listing of critical facilities in his/her jurisdiction for review and comment (Appendix A). Corrections were made to the list of critical facilities based on the input received.

A steering committee was established and given the responsibility of reviewing the draft of the plan update. Members are listed in the acknowledgements to this plan. The committee met on June 17, 2021 to review the proposed changes to the plan. The meeting was publicly noticed and the agenda from the meeting and a listing of those in attendance is included in Appendix A. Members of the public in attendance were given an opportunity to provide input (see agenda).

After the steering committee finished its work, another draft (2.0) was prepared, which was sent to Wisconsin Emergency Management (WEM) for tentative review. A third draft of the plan was prepared to address WEM's initial comments.

**Table 1-1. Summary of Village and City Involvement (verify)**

| Municipality                      | Description                                                                                                                                                                                                                      |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| City of Burlington                | The City is primarily located in Racine County and participated in that county's hazard mitigation planning process.                                                                                                             |
| City of Delavan                   | Appointed a point of contact for the project; returned review acknowledgement form and requested revisions (which were made)                                                                                                     |
| City of Elkhorn                   | Appointed a point of contact for the project; city representative on steering committee; returned review acknowledgement form, no revisions requested                                                                            |
| City of Lake Geneva               | Appointed a point of contact for the project; city representative on steering committee; provided information relating to critical facilities; returned review acknowledgement form and requested revisions (which were made)    |
| City of Whitewater                | Appointed a point of contact for the project; city representative on steering committee; provided information relating to critical facilities; returned review acknowledgement form, no revisions required                       |
| Village of Bloomfield             | Appointed a point of contact for the project; returned review acknowledgement form, no revisions requested                                                                                                                       |
| Village of Darien                 | Appointed a point of contact for the project; returned review acknowledgement form, no revisions requested                                                                                                                       |
| Village of East Troy              | Appointed a point of contact for the project; provided information relating to critical facilities; returned review acknowledgement form and requested revisions (which were made)                                               |
| Village of Fontana-on-Geneva Lake | Appointed a point of contact for the project; provided information relating to critical facilities; returned review acknowledgement form, no revisions required                                                                  |
| Village of Genoa City             | Appointed a point of contact for the project; returned review acknowledgement form and requested revisions (which were made)                                                                                                     |
| Village of Mukwonago              | The Village is primarily located in Waukesha County and participated in that county's hazard mitigation planning process.                                                                                                        |
| Village of Sharon                 | Appointed a point of contact for the project; provided information relating to critical facilities; returned review acknowledgement form and requested revisions (which were made)                                               |
| Village of Walworth               | Appointed a point of contact for the project; village representative on steering committee; provided information relating to critical facilities; returned review acknowledgement form and requested revisions (which were made) |
| Village of Williams Bay           | Appointed a point of contact for the project; provided information relating to critical facilities; returned review acknowledgement form, no revisions requested                                                                 |

A copy of this draft was then sent to each of the cities and villages in the county, the Emergency Management Directors of the adjoining counties, the local chapter of the American Red Cross, and the Southeastern Wisconsin Regional Planning Commission for review and comment.

A copy was sent to the Michael P. Cotter, Director, Walworth County Land Use and Resource Management Department, for review and comment.

An executive summary was sent to each of the towns for review and comment. A copy of these cover letters are included in Appendix A. All of the municipalities responded (Table 1-1). Revisions as requested were incorporated into the plan document. (verify)

A fourth draft of the plan was prepared based on the local government input that was received. It was then sent to the Federal Emergency Management Agency for preliminary approval. A letter dated [REDACTED], 2022, indicated such approval. The Executive Committee of the County Board reviewed this draft on [REDACTED], 2022, and recommended the draft plan to the full County Board for its review and action.

On [REDACTED], 2022, the County Board of Supervisors adopted this plan. The county adoption resolution and those of the cities and villages are included in Appendix B.

In a letter dated [REDACTED], 2022, the Federal Emergency Management Agency certified that this plan update meets federal requirements (Appendix C).

Every effort has been made to use the best available data for the update. The most current census data was used to update the housing and demographic information contained in this plan.

Table 1-2 summarizes the changes made to each section of the plan as part of the update.

**Table 1-2. Summary of Changes Made in the 2021/22 Plan Update**

| Plan Section | Summary of Changes                                                                                                                                           |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chapter 1    | This chapter was reviewed and updated as needed.                                                                                                             |
| Chapter 2    | This chapter was updated using data the best available data.                                                                                                 |
| Chapter 3    | This chapter was updated including data from the 2010 Census of population and housing and other more recent data sources.                                   |
| Chapter 4    | This chapter was updated.                                                                                                                                    |
| Chapter 5    | Natural hazard profiles, occurrences, and probabilities were reviewed and updated as necessary. In addition, the risk assessments were updated.              |
| Chapter 6    | This chapter was updated. The steering committee focused in on the goals, objectives, policies, and activities. Revisions were made and new ones were added. |
| Map Series   | All of the maps were updated.                                                                                                                                |
| Appendix A   | Public participation documentation for the 2021-2025 plan is included.                                                                                       |
| Appendix B   | Resolutions adopting the 2021-2025 plan update are included.                                                                                                 |
| Appendix C   | Certification letters from WEM and FEMA for the 2021-2025 plan are included.                                                                                 |
| Appendix D   | This appendix was updated to list all of the municipalities adopting the plan.                                                                               |
| Appendix E   | The listing represents an up-to-date inventory of critical facilities in the county sorted by type of facility.                                              |
| Appendix F   | The listing represents an up-to-date inventory of critical facilities in the county sorted by jurisdiction.                                                  |
| Appendix G   | The history of storm events was updated using data provided by the National Weather Service.                                                                 |
| Appendix H   | No change                                                                                                                                                    |
| Appendix I   | No change                                                                                                                                                    |

## 8. PLAN MAINTENANCE AND AMENDMENT

DMA 2000 requires that an adopted plan be reviewed and updated at least once every five years. However, to ensure that the plan remains a viable planning tool, it should be reviewed each year and following a natural disaster. The Federal Emergency Management Agency and Wisconsin Emergency Management will be notified of amendments to this plan.

### ANNUAL REVIEW

Each November, the Emergency Management Director should review and monitor this plan and suggest amendments to the Executive Committee. As part



of this review, the Emergency Management Director should contact each of the participating jurisdictions to give them the opportunity to suggest changes. During this annual review, most of the focus should be on Chapter 6, which lists the goals, objectives, policies, and activities.

To determine whether amendments are needed, the following considerations should be reviewed:

- ◆ Review of general development trends
- ◆ Review of hazard risk
- ◆ Review of hazard mitigation goals and objectives
- ◆ Review of completed mitigation activities and their effectiveness
- ◆ Review of recommended strategies
- ◆ Review of available resources for future projects
- ◆ Public input
- ◆ Input from WEM and FEMA

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***Without periodic review and assessment, this plan has the potential to lose its relevance as conditions change, specific projects are implemented, and new priorities emerge.***

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## **FOLLOWING A NATURAL DISASTER**

In addition, to a yearly review cycle, this plan should be updated following a significant natural disaster. Ideally, the update would be completed within six months of the event.

The public will be formally notified of meetings scheduled for the purpose of plan review. Other mechanisms that will be used to maintain public involvement include making available a copy of the plan at local public libraries, issuance of periodic press releases to the media describing the status of plan implementation, and the use of the county's website as a medium to keep residents informed of the plan's status and implementation activities.

## **HISTORY OF ADOPTION AND AMENDMENT**

A history of adoption and amendment is included as Appendix D. It lists when this plan was first adopted and the various amendments which have taken place since then.

## **9. INCORPORATING THIS PLAN INTO OTHER PLANNING EFFORTS**

The state-mandated comprehensive plan and floodplain regulations will be the primary means of reducing the effects of hazards on people and property in Walworth County. Mitigation strategies can be incorporated into these plans when they are updated. Each jurisdiction should incorporate goals, objectives, and policies into their comprehensive plans that are consistent with this plan. The Walworth County Emergency Management Director should send a letter to the Plan Commission of each city and village in 2013 encouraging them to cross reference their plan revisions with this plan. Likewise, amendments to this plan should be made consistent with comprehensive plans so long as such action would reduce the impact of hazards on people and property.

In addition to long-range planning, this plan will also be utilized when reviewing land development projects. It will be useful to consult this plan to determine where hazards are located, primarily 100-year floodplains. The plan will also be consulted as necessary when capital improvement plans are being prepared. Again, the intent of these cross-cutting planning efforts is to reduce the effects of hazards on people and property.

To underscore the importance of incorporating this plan into other planning efforts, Walworth County Emergency Management sent a letter to the County Planning Director encouraging the use of this plan (Appendix A).

## **10. ENTITIES INVOLVED IN MITIGATION**

Aside from emergency management personnel/departments, there is a wide range of others at the local level that are directly or indirectly involved in hazard mitigation efforts and activities, including:

- ◆ Zoning administrators
- ◆ Floodplain administrators
- ◆ Public engagement coordinators
- ◆ Public works department heads
- ◆ Police and fire department heads
- ◆ Building inspectors

## **11. GOVERNMENTAL UNITS ADOPTING THIS PLAN**

In addition to Walworth County, a number of cities and villages in the county have also adopted this plan. Resolutions of those jurisdictions adopting this plan are included in Appendix B.

Those jurisdictions that have not adopted this plan, can adopt this plan, provided they involve the public in the adoption process.

# PLANNING AREA PROFILE

## 1. CHAPTER OVERVIEW

This chapter is intended to give an overview of Walworth County to help describe the setting and provide the general context for mitigation planning. Some of the information in this chapter was derived from *SEWRPC (Southeastern Wisconsin Regional Planning Commission) Community Assistance Planning Report No. 288*.

## 2. REGIONAL CONTEXT

Walworth County is located in southeastern Wisconsin and borders the northern Illinois metropolitan region to its south and the Milwaukee metropolitan region to its east. Walworth County borders Jefferson, Kenosha, Racine, and Waukesha counties in Wisconsin and Boone and McHenry counties in Illinois (Exhibit 2-1). A number of cities/villages are located in Walworth County and an adjoining county. These include the following:

- ◆ City of Burlington (also in Racine County)
- ◆ City of Whitewater (also in Jefferson County)
- ◆ Village of Genoa (also in Kenosha County)
- ◆ Village of Mukwonago (also in Waukesha County)

Exhibit 2-1. General Location



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| 6.  | Transportation         |
| 7.  | Land Use               |
| 8.  | Climate                |
| 9.  | Physiographic Features |
| 10. | Topography             |
| 11. | Surface Water          |
| 12. | Groundwater            |

### 3. UNITS OF GOVERNMENT

Civil divisions consist of 16 towns, 9 villages, and 5 cities (Table 2-1). The city of Burlington is located in Walworth and Racine counties and the city of Whitewater is located in Walworth and Jefferson counties. The village of Genoa City is located in Walworth and Kenosha counties and the village of Mukwonago is in Walworth and Waukesha counties. A portion of the Town of Bloomfield incorporated in 2011 and is now the Village of Bloomfield. The city of Elkhorn is the county seat.

**Table 2-1. Civil Divisions; Walworth County: 2021**

| Towns          | Cities         | Villages               |
|----------------|----------------|------------------------|
| Bloomfield     | Burlington [1] | Bloomfield [2]         |
| Darien         | Delavan        | Darien                 |
| Delavan        | Elkhorn        | East Troy              |
| East Troy      | Lake Geneva    | Fontana-on-Geneva Lake |
| Geneva         | Whitewater [1] | Genoa City [1]         |
| La Grange      |                | Mukwonago [1]          |
| Lafayette      |                | Sharon                 |
| Linn           |                | Walworth               |
| Lyons          |                | Williams Bay           |
| Richmond       |                |                        |
| Sharon         |                |                        |
| Spring Prairie |                |                        |
| Sugar Creek    |                |                        |
| Troy           |                |                        |
| Walworth       |                |                        |
| Whitewater     |                |                        |

Notes: 1. Municipality located in Walworth County and another county  
2. The village was incorporated on December 20, 2011

### 4. POPULATION

In 2000, the resident population in the county was 92,013 and ten years later it had grown to 102,228, representing an 11 percent increase (Table 2-2). In 2019, the County's population was estimated to be 103,868 by the U.S. Census Bureau. The City of Whitewater is the most populous municipality in the county, accounting for about 11 percent of the countywide population. In 2010, almost half of the population lived in the towns and the other half lived in the county's cities and villages. However, 2018 population estimates show that close to 60 percent now live in villages and cities, which may be partially explained by the incorporation of the Village of Bloomfield in 2011. Additionally, the Town of Bloomfield's sharp decrease in population during the 2010s reflects this incorporation, where most Town of Bloomfield residents became new Village of Bloomfield residents.

**Table 2-2. Population; Walworth County and Civil Divisions: 1990, 2000, and 2010 U.S. Census; 2018 American Community Survey Estimates**

|                        | 1990<br>Count | 2000<br>Count | 2010<br>Count  | 2018<br>Estimate | Percent<br>Change<br>2010-2018 |
|------------------------|---------------|---------------|----------------|------------------|--------------------------------|
| <b>Town</b>            |               |               |                |                  |                                |
| Bloomfield             | 3,723         | 5,537         | 6,278          | 1,433            | -77.17%                        |
| Darien                 | 1,490         | 1,747         | 1,693          | 1,894            | 11.87%                         |
| Delavan                | 4,195         | 4,559         | 5,285          | 5,319            | 0.64%                          |
| East Troy              | 3,687         | 3,830         | 4,021          | 4,041            | 0.50%                          |
| Geneva                 | 3,472         | 4,099         | 4,993          | 5,041            | 0.96%                          |
| Lafayette              | 1,276         | 2,251         | 1,979          | 1,938            | -2.07%                         |
| La Grange              | 1,643         | 2,444         | 2,454          | 2,501            | 1.92%                          |
| Linn                   | 2,062         | 2,194         | 2,383          | 2,762            | 15.90%                         |
| Lyons                  | 2,579         | 3,440         | 3,698          | 3,714            | 0.43%                          |
| Richmond               | 1,405         | 1,835         | 1,884          | 1,874            | -0.53%                         |
| Sharon                 | 1,016         | 912           | 907            | 779              | -14.11%                        |
| Spring Prairie         | 1,753         | 2,089         | 2,181          | 1,918            | -12.06%                        |
| Sugar Creek            | 2,661         | 3,331         | 3,943          | 3,964            | 0.53%                          |
| Troy                   | 2,051         | 2,328         | 2,353          | 2,153            | -8.50%                         |
| Walworth               | 1,341         | 1,676         | 1,702          | 1,747            | 2.64%                          |
| Whitewater             | 1,378         | 1,399         | 1,471          | 1,526            | 3.74%                          |
| Subtotal               | 35,731        | 43,671        | 47,225         | 42,604           | -9.79%                         |
| <b>Village</b>         |               |               |                |                  |                                |
| Bloomfield             | [2]           | [2]           | [2]            | 4,704            | N/A                            |
| Darien                 | 1,158         | 1,572         | 1,580          | 1,795            | 13.61%                         |
| East Troy              | 2,664         | 3,564         | 4,236          | 4,330            | 2.22%                          |
| Fontana-on-Geneva Lake | 1,635         | 1,754         | 1,672          | 1,723            | 3.05%                          |
| Genoa City [1]         | 1,277         | 1,949         | 3,036          | 3,009            | -0.89%                         |
| Mukwonago [1]          | 0             | 0             | 101            | 98               | -2.97%                         |
| Sharon                 | 1,250         | 1,549         | 1,605          | 1,748            | 8.91%                          |
| Walworth               | 1,614         | 2,304         | 2,816          | 2,822            | 0.21%                          |
| Williams Bay           | 2,108         | 2,415         | 2,564          | 2,592            | 1.09%                          |
| Subtotal               | 11,706        | 15,107        | 17,610         | 22,821           | 29.59%                         |
| <b>City</b>            |               |               |                |                  |                                |
| Burlington [1]         | 0             | 0             | 0              | 7                | NA                             |
| Delavan                | 6,073         | 7,956         | 8,463          | 8,338            | -1.48%                         |
| Elkhorn                | 5,337         | 7,305         | 10,084         | 9,907            | -1.76%                         |
| Lake Geneva            | 5,979         | 7,148         | 7,651          | 7,815            | 2.14%                          |
| Whitewater [1]         | 10,170        | 10,826        | 11,150         | 11,737           | 5.26%                          |
| Subtotal               | 27,559        | 33,235        | 37,348         | 37,804           | 1.22%                          |
| <b>Walworth County</b> | <b>75,000</b> | <b>92,013</b> | <b>102,228</b> | <b>103,013</b>   | <b>0.77%</b>                   |

Source: US Census Bureau (Summary File 1), Wisconsin Department of Administration, Demographic Service Center, and 2018 American Community Survey Estimates

Notes: 1. Municipality located in Walworth County and another county. Data is for Walworth County only.  
2. The village was incorporated on December 20, 2011.

## 5. HOUSING

In 2018, there was estimated to be 52,177 housing units in the county (Table 2-3). The average household size was 2.5.

**Table 2-3. Housing Characteristics: 2018 Estimates**

|                        | Average<br>Household<br>Size | Housing<br>Units | Seasonal<br>Housing<br>Units |
|------------------------|------------------------------|------------------|------------------------------|
| <b>Town</b>            |                              |                  |                              |
| Bloomfield             | 2.69                         | 596              | 247                          |
| Darien                 | 2.85                         | 660              | 4                            |
| Delavan                | 2.35                         | 3,901            | 1473                         |
| East Troy              | 2.56                         | 1,990            | 317                          |
| Geneva                 | 2.46                         | 3,343            | 1170                         |
| Lafayette              | 2.6                          | 817              | 19                           |
| La Grange              | 2.42                         | 1,804            | 700                          |
| Linn                   | 2.47                         | 2,194            | 1075                         |
| Lyons                  | 2.6                          | 1,641            | 45                           |
| Richmond               | 2.56                         | 996              | 216                          |
| Sharon                 | 2.35                         | 357              | 6                            |
| Spring Prairie         | 2.52                         | 837              | 28                           |
| Sugar Creek            | 2.68                         | 1,581            | 129                          |
| Troy                   | 2.41                         | 983              | 71                           |
| Walworth               | 2.48                         | 759              | 49                           |
| Whitewater             | 2.53                         | 905              | 297                          |
| Subtotal               |                              | 23,364           | 5,846                        |
| <b>Village</b>         |                              |                  |                              |
| Bloomfield [2]         | 3.01                         | 1,992            | [2]                          |
| Darien                 | 2.99                         | 652              | 6                            |
| East Troy              | 2.29                         | 1,913            | 10                           |
| Fontana-on-Geneva Lake | 2.16                         | 2,407            | 1538                         |
| Genoa City [1]         | 2.7                          | 1,197            | 28                           |
| Mukwonago [1]          | 2.53                         | 34               | 0                            |
| Sharon                 | 2.66                         | 719              | 5                            |
| Walworth               | 2.61                         | 1,183            | 12                           |
| Williams Bay           | 2.24                         | 2,133            | 831                          |
| Subtotal               | n/a                          | 12,230           | 2,430                        |
| <b>City</b>            |                              |                  |                              |
| Burlington [1]         | 0                            | 7                | 0                            |
| Delavan                | 2.59                         | 3419             | 33                           |
| Elkhorn                | 2.44                         | 4065             | 17                           |
| Lake Geneva            | 2.23                         | 4400             | 575                          |
| Whitewater [1]         | 2.3                          | 4692             | 11                           |
| Subtotal               |                              | 16583            | 636                          |
| <b>Walworth County</b> | <b>2.48</b>                  | <b>52,177</b>    | <b>8,912</b>                 |

Source: US Census Bureau (Summary File 1) and Wisconsin Department of Administration, Demographic Service Center

Notes: 1. Municipality located in Walworth County and another county. Data is for Walworth County only.

2. The village was incorporated on December 20, 2011

## 6. TRANSPORTATION

### SURFACE TRANSPORTATION

Map 1 shows the location of roadways and railroads in the county. In 2005, there were about 1,518 miles of public streets and highways (Table 2-4). Nearly three-fourths of the roads were classified as a local road. Interstate 43 traverses northeast to southwest between Milwaukee and Beloit. Interchanges are located in the village of Mukwonago and the cities of Elkhorn and Delavan.

The other key regional highways include US 12, STH 11, STH 20, STH 50, STH 67, STH 89, and STH 120. Each of these highways connects one or more of the incorporated municipalities in Walworth County to the Interstate highway system and provides access to nearby metropolitan areas.

**Table 2-4. Roadway by Type:  
Walworth County; 2005**

| Roadway Type       | Miles        | Percent    |
|--------------------|--------------|------------|
|                    |              | of Total   |
| Interstate Highway | 31.0         | 2          |
| State Highway      | 193          | 13         |
| County Highway     | 200          | 13         |
| Local Roads        | 1,094        | 72         |
| <b>Total</b>       | <b>1,518</b> | <b>100</b> |

Source: Southeastern Wisconsin Regional Planning Commission

### AIR TRANSPORTATION

In 2021, there were five public-use airports in the county. Three of these – Grand Geneva, Lake Lawn, and Big Foot Airfield – were privately owned. East Troy Municipal Airport and Burlington Municipal Airport are publicly owned and are part of the Wisconsin Airport System. Both of these airports are classified as a general utility airport<sup>1</sup>. For the purposes of this plan, airports that are not part of the Wisconsin Airport System are not considered critical infrastructure. The majority of the land area associated with the Burlington Municipal Airport is located in Racine County; only a portion of the northwest-southeast runway is in Walworth County.

In addition to these public-use airports, there are a number of private-use airport which are not open to the general public. Commercial passenger service is available at Dane County Regional Airport in Madison, General Mitchell International Airport in the Milwaukee metropolitan area, O'Hare International Airport and Midway International Airport in the Chicago metropolitan area, and Rockford International Airport in Rockford, Illinois.

### RAIL TRANSPORTATION

In 2013 the following railroad lines operated within Walworth County (Map 1):

- ◆ Wisconsin & Southern Railroad Company with routes in the Whitewater area, in the south-central and southwesterly portion of the county; and a route running southwesterly from Elkhorn.
- ◆ Union Pacific Railroad with a route in the southwestern corner of the county.
- ◆ Canadian National Railway with a route in the northeastern area of the county.
- ◆ East Troy Electric Railroad Museum with a seasonal trolley service route between the villages of East Troy and Mukwonago.

<sup>1</sup> A general utility airport is intended to serve virtually all small general aviation single and twin-engine aircraft, both piston and turboprop, with a maximum takeoff weight of 12,500 pounds or less.



## 7. LAND USE<sup>2</sup>

Based on a land use inventory conducted in 2000 by the Southeastern Wisconsin Regional Planning Commission, urban land uses – consisting of residential; commercial; industrial; recreational; governmental and institutional; and transportation, communication, and utilities; and unused urban land – covered 46,600 acres, or about 13 percent of the total area of the county (Table 2-5). Residential land uses accounted for nearly half of this urban development.

Rural and other nonurban land uses in Walworth County accounted for 87 percent of the total area of the county. Agriculture was the single largest land use, comprising nearly two-thirds of the land base in the county.

The amount of nonurban lands decreased by about 19,000 acres between 1963 and 2000 as cities and villages have grown, and more importantly, as rural lands were converted to residential uses. This trend is likely to continue resulting in lower urban densities and a loss of farmland.

The continued growth and development of northeastern Illinois will have a bearing on land development pressures in Walworth County. It is anticipated that the pressures will grow in the coming years.

As more fully discussed elsewhere in this plan, all of the cities and villages enforce zoning regulations and the County continues to enforce zoning throughout the unincorporated areas. Within those communities that enforce state floodplain requirements, future development will not be impacted during flood events because the buildings are elevated and meet other protection standards.

With these safeguards in place, future development will not materially impact the county's vulnerability since the previous hazard plan was developed. Climate change is a broad-scale trend that needs to be further monitored and assessed.

## 8. CLIMATE<sup>3</sup>

Walworth County lies in the mid-continental zone, which is characterized by long and relatively cold and snowy winters, and warm summers, with periods of hot and humid conditions. Air temperatures are subject to extreme seasonal variations. July is the warmest month and January is the coldest. Snow cover is most likely during December, January, and February. Streams and lakes begin to freeze over in late November, and ice breakup usually occurs in late March or early April.

Rainfall intensity, duration, and frequency are major factors that affect the peak rate of runoff and flooding. The most intense type of storm is that which occurs within a 24-hour duration, with the most intense rainfall occurring during a six-hour period near the middle of the event. The size of a storm is often described by the length of time over which precipitation occurs, the total amount of precipitation occurring, and how often this same storm

**Table 2-5. Existing Land Use; Walworth County: 2000**

| Land Use                   | Acres   | Percent of Total |
|----------------------------|---------|------------------|
| Agricultural               | 237,671 | 64.4             |
| Extractive and Landfill    | 1,499   | 0.4              |
| Transportation             | 15,206  | 4.1              |
| Residential                | 20,259  | 5.5              |
| Recreational               | 4,307   | 1.2              |
| Government & Institutional | 1,734   | 0.5              |
| Natural Lands              | 72,614  | 19.7             |
| Industrial                 | 1,420   | 0.4              |
| Commercial                 | 1,248   | 0.3              |
| Other                      | 12,993  | 3.5              |
| Total                      | 368,951 | 100              |

Source: Southeastern Wisconsin Regional Planning Commission

**Table 2-6. Rainfall Intensity, Duration and Frequency; Walworth County**

| Recurrence Interval | Rainfall in a 24-hour Period (Inches) |
|---------------------|---------------------------------------|
| 2 Year              | 2.8                                   |
| 5 Year              | 3.5                                   |
| 10 Year             | 4.1                                   |
| 25 Year             | 4.6                                   |
| 50 Year             | 5.2                                   |
| 100 Year            | 5.8                                   |

Source: Southeastern Wisconsin Regional Planning Commission

<sup>2</sup> Source: SEWRPC Community Assistance Planning Report No. 288. Southeastern Wisconsin Regional Planning Commission

<sup>3</sup> Source: SEWRPC Community Assistance Planning Report No. 288. Southeastern Wisconsin Regional Planning Commission



occurs. The amount of rainfall that can be expected to occur in Walworth County in a 24-hour period for selected frequencies is shown in Table 2-6.

The mean annual precipitation for Walworth County is approximately 36 inches. The majority of precipitation falls in the form of rain during the growing season, between May and September. Approximately 50 rainfall events occur per year<sup>4</sup>. Runoff can be high during rainfall events in March and April, when the ground is still frozen, the soil moisture is high, and little infiltration occurs. The average annual snowfall and sleet is 47.1 inches. Assuming that 12 inches of measured snow and sleet are equivalent to one inch of water, the average annual snowfall is equivalent to 3.9 inches of water or about 11 percent of the average annual precipitation. Temperature and precipitation data from an observation station in Lake Geneva are presented in Table 2-7.

**Table 2-7. Temperature and Precipitation; Lake Geneva: 1945-1988**

| Month     | Monthly Mean<br>Temperature [1] | Average Total<br>Precipitation (Inches) | Average Snow and<br>Sleet (Inches) |
|-----------|---------------------------------|-----------------------------------------|------------------------------------|
| January   | 19.8                            | 1.89                                    | 12.6                               |
| February  | 23.8                            | 1.39                                    | 7.9                                |
| March     | 33.5                            | 2.67                                    | 9.6                                |
| April     | 46.5                            | 3.83                                    | 2.0                                |
| May       | 57.9                            | 3.35                                    | 0.1                                |
| June      | 68.3                            | 4.16                                    | 0.0                                |
| July      | 73.0                            | 4.26                                    | 0.0                                |
| August    | 71.6                            | 3.81                                    | 0.0                                |
| September | 83.8                            | 3.42                                    | 0.0                                |
| October   | 52.8                            | 2.56                                    | 0.1                                |
| November  | 38.2                            | 2.40                                    | 3.6                                |
| December  | 25.4                            | 2.40                                    | 11.2                               |

Source: Wisconsin Statistical Reporting Service, National Climate Data Center and National Oceanic and Atmospheric Administration, National Weather Service, Sullivan

Notes: 1. The monthly mean temperature is the mean of the average daily maximum temperature and the average daily minimum temperature for each month.

## 9. PHYSIOGRAPHIC FEATURES<sup>5</sup>

The four major stages of glaciation that occurred in the region have laid the foundation for the physiology, topography, and soils of Walworth County. The last and most influential stage of glaciation was the Wisconsin stage, which is said to have ended in the state about 11,000 years ago. The Kettle Moraine is oriented in a northeast-southwest direction across Washington, Waukesha, and Walworth counties. The Kettle Moraine is a prominent feature in the towns of Whitewater and LaGrange in northwestern Walworth County and is a complex landform of hummocky sand and gravel including kames, kettles, and eskers. The remainder of Walworth County is covered by a variety of glacial landforms and features.

<sup>4</sup> A rainfall event is defined as a distinct period when precipitation is equal to or greater than 0.1 inch.

<sup>5</sup> Source: *SEWRPC Community Assistance Planning Report No. 288*. Southeastern Wisconsin Regional Planning Commission

## 10. TOPOGRAPHY<sup>6</sup>

The surface of the county is a gently undulating plain with broad valley bottoms and gently sloping hills. Broad marshes along the streams are a characteristic feature. The lowest land in the western part of the county at Whitewater is about 829 feet, and along Turtle Creek at Fairchild about 880 feet, while the lowest land in the eastern part, along the White River near Burlington, is about 760 feet above sea level. The highest uplands reach an altitude of a little over 1,000 feet, with a much larger proportion of the land of the western part reaching close to this altitude than of the eastern part. The maximum range in altitude between the highest hills and the adjacent valleys is less than 200 feet.

## 11. SURFACE WATER<sup>7</sup>

Surface waters of Walworth County flow to the Mississippi River through two major drainage basins, the Fox (Illinois) River and the Rock River. The principal drainage system of eastern Walworth County consists of three watersheds all contributing to the Fox (Illinois) River. The streams representing the three watersheds are: Mukwonago River, Honey and Sugar creeks, and White River and Nippersink Creek. The principal drainage system of western Walworth County consists of four watersheds tributary to the Rock River. The streams representing the four watersheds include Turtle Creek, Piscasaw Creek, Whitewater Creek, and Scuppernong Creek.

Walworth County has 36 named lakes covering 13,353 acres (Table 2-8). Lake Geneva is the largest lake in the county, with a surface area of 5,104 acres. The majority of lakes are 200 acres or smaller. There are 29 named streams within nine watersheds (Table 2-9). In addition, there are a number of small unnamed streams.

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<sup>6</sup> Source: *Flood Insurance Study, Walworth County and Incorporated Areas* (FIS No. 55127CV000A). Federal Emergency Management Agency

<sup>7</sup> Source: *SEWRPC Community Assistance Planning Report No. 288*. Southeastern Wisconsin Regional Planning Commission

**Table 2-8. Named Lakes;  
Walworth County**

| Lake                  | Acres         |
|-----------------------|---------------|
| Army Lake             | 76            |
| Beulah Lake           | 712           |
| Booth Lake            | 108           |
| Cedar Grove Millpond  | 12            |
| Como Lake             | 1,058         |
| Comus Lake            | 117           |
| Cravath Lake          | 65            |
| Delavan Lake          | 2,072         |
| Geneva Lake           | 5,104         |
| Green Lake [1]        | 292           |
| Hilburn Pond          | 17            |
| Honey Lake            | 42            |
| Ivanhoe Lake          | 41            |
| LaGrange Lake         | 55            |
| Lauderdale Lakes      | 809           |
| Loaiane Lake          | 133           |
| Lower Whitewater Lake | 137           |
| Lulu Lake             | 95            |
| Lyons Millpond        | 12            |
| Middle Lake [1]       | 256           |
| Mill Lake             | 261           |
| Mud Lake              | 23            |
| North Lake            | 191           |
| Number (10) Lake      | 34            |
| Pell Lake             | 107           |
| Peters Lake           | 60            |
| Pickerel Lake         | 27            |
| Pleasant Lake         | 137           |
| Potters Lake          | 151           |
| Silver Lake           | 86            |
| Swift Lake            | 17            |
| Tombeau Lake          | 32            |
| Trapp Lake            | 115           |
| Turtle Lake           | 140           |
| Wandawega Lake        | 119           |
| Whitewater Lake       | 640           |
| <b>Total</b>          | <b>13,353</b> |

Source: Southeastern Wisconsin Regional  
Planning Commission

Notes:

1. Part of Lauderdale Lake

**Table 2-9. Streams; Walworth County**

| Stream Names                      | Surface Area (acres) | Drainage Area (Square miles) | Length (miles) | Width (feet) |
|-----------------------------------|----------------------|------------------------------|----------------|--------------|
| Baker Creek                       | 1.9                  | 8                            | 1.8-9          | 9            |
| Bloomfield Creek                  | 2.5                  | 4                            | 3.5            | 6            |
| Bluff Creek                       | 2.4                  | 7                            | 2.0            | 10           |
| Como Creek                        | 6.4                  | 9                            | 3.8            | 14 Ditch     |
| Darine Creek                      | 7.7                  | 18                           | 5.3            | 12           |
| Honey Creek                       | 54.7                 | 92                           | 18.5           | 24           |
| Horton Creek                      | 6.3                  | 12                           | 4.7            | 11 Ditch     |
| Indian Run Creek                  | 1.8                  | 4                            | 2.5            | 6            |
| Jackson Creek                     | 5.0                  | 6                            | 2.3            | 18           |
| Ladd Creek                        | 10.8                 | 17                           | 7.4            | 12           |
| Lightbody Creek                   | 0.2                  | 2                            | 0.6            | 2            |
| Mukwonago River                   | 2.5                  | 9                            | 1.5            | 14           |
| Nippersink Creek                  | 14.5                 | 45                           | 5.2            | 12           |
| Nippersink, N.E. Branch           | 7.3                  | 27                           | 4.7            | 14           |
| Nippersink, W. Branch             | 8.8                  | 16                           | 7.4            | 9            |
| Ore Creek                         | 5.2                  | 17                           | 3.6            | 12           |
| Ore Creek, 1 <sup>st</sup> Branch | 2.5                  | 3                            | 2.7            | 7.5          |
| Ore Creek, 2 <sup>nd</sup> Branch | 1.2                  | 5                            | 2.8            | 3.5          |
| Piscasaw Creek                    | 4.0                  | 10                           | 2.2            | 15 Ditch     |
| Spring Brook                      | 5.1                  | 5                            | 3.5            | 12           |
| Spring Creek                      | 3.4                  | 7                            | 3.5            | 8            |
| Spring Valley Creek               | 5.8                  | 14                           | 6.0            | 8            |
| Steel Brook                       | 0.7                  | 5                            | 2.0            | 3            |
| Sugar Creek                       | 42.5                 | 70                           | 19.5           | 18           |
| Turtle Branch                     | 15.8                 | 35                           | 6.5            | 20 Ditch     |
| Turtle Creek                      | 70.9                 | 90                           | 13.0           | 45           |
| White River                       | 66.2                 | 298                          | 12.3           | 45           |
| Whitewater Creek                  | 13.0                 | 81                           | 4.3            | 25           |
| Williams Bay Creek                | 0.7                  | 1                            | 1.1            | 5 Ditch      |
| <b>Named Rivers and Streams</b>   | <b>369.8</b>         | <b>-</b>                     | <b>154.2</b>   | <b>-</b>     |
| <b>Unnamed Streams</b>            | <b>10.6</b>          | <b>-</b>                     | <b>11.2</b>    | <b>-</b>     |
| <b>Total</b>                      | <b>380.4</b>         | <b>-</b>                     | <b>165.4</b>   | <b>-</b>     |

Source: Southeastern Wisconsin Regional Planning Commission

## 12. GROUNDWATER<sup>8</sup>

Groundwater is the main source of industrial water and drinking water for Walworth County residents. There are three principal aquifers in the county: the shallow sand-gravel deposits in the glacial drift aquifer; the shallow dolomite strata aquifer in the underlying bedrock; and the deep sandstone, dolomite and shale aquifer. Most of the private drinking water wells are less than 200 feet deep and tap into the sand-gravel aquifer.

Groundwater also sustains the water levels of lakes and provides base flow to streams in the county. Like surface water, groundwater is susceptible to depletion and deterioration. The deep sandstone aquifer has experienced excessive draw downs, primarily as a result of pumping in metropolitan Milwaukee and northeastern Illinois.

The shallow sand-gravel and dolomitic aquifer is recharged locally by the infiltration and percolation of precipitation and surface water runoff. The shallow aquifer is more susceptible to pollution from waste water and runoff pollution. The deeper sandstone aquifer is recharged by the vertical movement of rainwater through glacial deposits located in the western-half of Walworth and Waukesha counties, along a narrow zone oriented in a north-south direction. This recharge area supplies drinking water to Walworth County communities and many communities outside of the county served by deep public wells.

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<sup>8</sup> Source: *SEWRPC Community Assistance Planning Report No. 288*. Southeastern Wisconsin Regional Planning Commission

# SPECIAL NEEDS POPULATIONS AND GROUPS

## 1. CHAPTER OVERVIEW

During a natural disaster the potential exists for certain populations and groups of people to be disproportionately affected when compared to the general population. This section looks at those groups including the elderly, people with disabilities, homeless individuals, populations with language barriers, and people in mobile home parks, campgrounds, and group quarters. Strategies and actions are included in Chapter 5 in order to address the particular needs of these groups.



## 2. ELDERLY

As a group, the elderly are especially vulnerable to natural hazards. This is especially true when an elderly person lives by him or herself or with an elderly spouse and do not have family or friends to help them prepare for natural hazards or react to and recover from an event.

The aging of the population is occurring throughout the nation and is also evident in Walworth County. As seen in Table 3-1, the number of people in Walworth County in most age groups under 45 years old decreased between 2000 and 2018, while the number of people 45 and older increased, especially in the 55 to 64 and 65 to 74 age groups, with an increase from 15 percent of the total to 23.9 percent. As the population continues to get proportionately older, it will become increasingly important to address the needs of the elderly with respect to natural hazards planning.

### Chapter Contents

- 1. Chapter Overview
- 2. Elderly
- 3. People with Disabilities
- 4. Homeless Individuals
- 5. Populations with Language Barriers
- 6. People Living in Manufactured and Mobile Homes
- 7. People in Campgrounds
- 8. Residents in Group Quarters

## 3. PEOPLE WITH DISABILITIES

Like the elderly, people with disabilities have increased exposure to some types of natural hazards. As shown in Table 3-2, the likelihood that an individual has a disability increases with age. About 20 percent of county residents between 18 to 64 years had a disability, while more than 61 percent that were 65 years and older had a disability.

Table 3-1. Age of Population; Walworth County: 2010 and 2010; 2018 estimates

| Age Group     | Percent of Total |      |      | Percent Change |
|---------------|------------------|------|------|----------------|
|               | 2000             | 2010 | 2018 | 2000-2018      |
| Under 5 years | 5.9              | 6.1  | 5.2  | -11.8          |
| 5 to 9        | 6.7              | 6.6  | 5.7  | -14.9          |
| 10 to 14      | 7.3              | 6.6  | 6.5  | -10.1          |
| 15 to 19      | 8.7              | 7.4  | 7.4  | -14.9          |
| 20 to 24      | 9.3              | 8.5  | 9.4  | 1.1            |
| 25 to 34      | 11.9             | 11.2 | 10.5 | -11.8          |
| 35 to 44      | 15.6             | 12.4 | 11.2 | -28.2          |
| 45 to 54      | 13.1             | 15.2 | 13.4 | 2.3            |
| 55 to 64      | 8.6              | 12.4 | 14.2 | 65.1           |
| 65 to 74      | 6.4              | 7.2  | 9.7  | 51.6           |
| 75 to 84      | 4.4              | 4.3  | 4.7  | 6.8            |
| 85 and older  | 1.8              | 2.0  | 2.1  | 16.7           |

Source: 2000 Census of Population and Housing, US Census Bureau  
2010 Census of Population and Housing, US Census Bureau  
2018 American Community Survey Estimates

## 4. HOMELESS INDIVIDUALS

Homeless individuals are disproportionately affected by many types of natural disasters. Excessive heat and cold are especially hard on the elderly homeless. Seven churches in the county host a homeless shelter on a rotating basis (Table 3-3).

**Table 3-3. Homeless Shelters: 2021**

| Location Name                   | Address               | Jurisdiction                   |
|---------------------------------|-----------------------|--------------------------------|
| Chapel on the Hill              | N2440 Ara Glen Drive  | City of Lake Geneva            |
| Christ Episcopal Church         | 503 E Walworth Avenue | City of Delavan                |
| Creek Road Community Church     | W7778 Creek Road      | City of Delavan                |
| Delavan United Methodist Church | 213 S 2nd Street      | City of Delavan                |
| First Baptist Church            | 212 S Main Street     | City of Delavan                |
| St. Benedict's Church           | 137 Dewey Avenue      | City of Fontana-on-Geneva Lake |
| St. John Lutheran Church        | 104 S Broad Street    | City of Elkhorn                |

Source: Walworth County Emergency Management

## 5. POPULATIONS WITH LANGUAGE BARRIERS

Most people in Walworth County are able to communicate effectively in English. However, a small group of residents, most likely recent immigrants, have not learned to speak English or have not become proficient. Recognizing this fact is important in devising strategies to help residents prepare themselves for an impending disaster and recover from the aftermath of the event.

It is estimated that 3.2 percent of residents in Wisconsin in 2018 were not able to communicate "very well" in English (Table 3-4). The village of Walworth and Cities of Delavan and Lake Geneva exceeded this statewide rate considerably, at 9.4 percent, 14.3 percent, and 6.0 respectively.

Although the number of residents who do not speak proficient English is comparatively small, it is anticipated that the number will continue to rise barring a significant shift in public policy in immigration.

**Table 3-4. People with Language Barriers: 2018**

| Jurisdiction                    | Percent of Population |
|---------------------------------|-----------------------|
| Bloomfield, village [2]         | 1.1                   |
| Burlington, city [1]            | 0                     |
| Darien, village                 | 2.9                   |
| Delavan, city                   | 14.3                  |
| East Troy, village              | 0.3                   |
| Elkhorn, city                   | 3.9                   |
| Fontana-on-Geneva Lake, village | 1.1                   |
| Genoa City, village [1]         | 3.2                   |
| Lake Geneva, city               | 6.0                   |
| Mukwonago, village [1]          | 0                     |
| Sharon, village                 | 7.6                   |
| Walworth, village               | 9.4                   |
| Whitewater, city [1]            | 3.5                   |
| Williams Bay, village           | 1.6                   |
| Wisconsin                       | 3.2                   |

Source: 2018 American Community Survey 5-year estimates

Notes:

1. Municipality located in Walworth County and another county; data is for that area within Walworth County
2. The Village incorporated on December 20, 2011

**Table 3-2. Noninstitutionalized People with Disabilities; Walworth County: 2018**

| Under 5                    | Percent of Population |
|----------------------------|-----------------------|
| With any disability        | 0.6                   |
| With hearing difficulty    | 0.4                   |
| With vision difficulty     | 0.2                   |
| <b>5 to 17 years</b>       |                       |
| With any disability        | 6.0                   |
| With hearing difficulty    | 1.2                   |
| With vision difficulty     | 1.1                   |
| With cognitive difficulty  | 4.8                   |
| With ambulatory difficulty | 0.6                   |
| With self-care difficulty  | 1.3                   |
| <b>18 to 64 years</b>      |                       |
| With any disability        | 20.0                  |
| With hearing difficulty    | 2.6                   |
| With vision difficulty     | 1.5                   |
| With cognitive difficulty  | 4.6                   |
| With ambulatory difficulty | 4.5                   |
| With self-care difficulty  | 1.9                   |
| <b>65 years and over</b>   |                       |
| With any disability        | 61.2                  |
| With hearing difficulty    | 14.9                  |
| With vision difficulty     | 3.6                   |
| With cognitive difficulty  | 6.1                   |
| With ambulatory difficulty | 16.3                  |
| With self-care difficulty  | 5.4                   |

Source: 2018 American Community Survey 5-year estimates

## 6. PEOPLE LIVING IN MANUFACTURED AND MOBILE HOMES

Manufactured housing and mobile homes are especially susceptible to damage from wind and other storms. As a result, people living in this type of housing are more vulnerable to injury and death when compared to those living in dwellings built with conventional framed construction.

In 2020, there were 8 mobile home parks in Walworth County (Table 3-5). None of the mobile home parks have a storm shelter where people could go during wind-related storm events.

**Table 3-5. Mobile Home Parks: 2021**

| Name                                    | Jurisdiction       | Address                 | Number of Sites | License Number |
|-----------------------------------------|--------------------|-------------------------|-----------------|----------------|
| Coachman's Terrace                      | Geneva, town       | W3540 State Road 50     | 60              | MHC-019900891  |
| Land O' Lakes Mobile Home Court         | Elkhorn, city      | 473 E Geneva Street     | 96              | MHC-079300835  |
| Ludwell Estates                         | Delavan, town      | 5614 STH 11             | 65              | MHC-079300825  |
| Pioneer Estates of Delavan              | Darien, town       | W7941 Creek Road        | 167             | MHC-079300830  |
| Pioneer Estates – Lake Geneva           | Bloomfield, town   | N2020 CTH H             | 265             | MHC-069400393  |
| Skyview Terrace                         | East Troy, village | 2742 E Main Street      | 109             | MHC-129400841  |
| Snug Harbor Manufactured Home Community | Richmond, town     | W7772 Wisconsin Parkway | 36              | MHC-079300955  |
| The Timbers Court                       | Lake Geneva, city  | 515 S Wells Street      | 71              | MHC-079300331  |

Source: Wisconsin DSPS

## 7. PEOPLE IN CAMPGROUNDS

People staying in campgrounds are even more vulnerable to wind storm events than those living in mobile home and manufactured homes. Although many campers stay in hard-sided campers or RVs, some stay in soft-sided tents. During a wind storm or tornado, they have little protection from wind-borne debris and falling branches and trees.

In 2021, there were 16 campgrounds in Walworth County (Table 3-6). With the exception of four campgrounds, they were all privately operated. Many of the privately-operated campgrounds were run by a Girl Scout association or similar nonprofit organization. In addition to the campgrounds listed, there were a number of other camps that provide indoor sleeping in rustic cabins. Because they provide indoor sleeping accommodations, they are not considered a critical facility.

**Willow Run RV Condo Association**



**Table 3-6. Campgrounds: 2021**

| Name                                      | Jurisdiction          | Address                    |
|-------------------------------------------|-----------------------|----------------------------|
| Alice Chester Center                      | Troy, Town            | N8651 Town Line Road       |
| Bigfoot Beach State Park (Wis DNR)        | Lake Geneva, City     | 1550 S Lake Shore Drive    |
| Camp Charles Allis                        | East Troy, Town       | W2035 Beulah Heights Road  |
| Camp Edwards YMCA                         | East Troy, Town       | N8901 Army Lake Road       |
| Camp Joy                                  | Whitewater, Town      | W7725 Kettle Moraine Drive |
| Conference Point Camp                     | Williams Bay, Village | 300 Conference Point Road  |
| Hickory Woods Group Camp                  | Whitewater, Town      | Hi-Lo Road                 |
| Holiday Home Camp                         | Williams Bay, Village | Holiday Avenue             |
| McIntyres Resort                          | Richmond, Town        | N6471 Milwaukee Road       |
| Norman B. Barr Camp                       | Williams Bay, Village | 483 Outing Street          |
| Scenic Ridge Campground                   | Richmond, Town        | W7991 R&W Townline Road    |
| Snug Harbor Inn Campground on Turtle Lake | Richmond, Town        | W7785 Wisconsin Parkway    |
| Timber Lee Christian Center               | Troy, Town            | N8705 Scout Road           |
| Whitewater Lakes-East (Wis DNR)           | Whitewater, Town      | N8096 Hi-Lo Road           |
| Whitewater Lakes-West (Wis DNR)           | Whitewater, Town      | N8095 Hi-Lo Road           |
| Willow Run RV Condo Association           | Sugar Creek, Town     | W4945 County Road ES       |

Source: Various sources including field verification

## 8. RESIDENTS IN GROUP QUARTERS

While the majority of people in Walworth County live in a single-family dwelling or a multifamily building, more than five percent of the residents live in what are referred to as group quarters. If residents live in a controlled environment (e.g., correctional institutions, nursing homes) the group quarters are referred to as institutional, and those living in a group setting are referred to as non-institutional (e.g., college dormitories).

In 2010, there were a total of 2,696 residents living in group quarters (Table 3-7). Nearly two-thirds of those lived in college dormitories at UW-Whitewater. Nursing homes and community living arrangements accounted for the next two largest housing types.

The Wisconsin School for the Deaf (WSD) is a residential school for deaf and hard of hearing students from throughout Wisconsin. WSD operates under the direction of the Wisconsin Department of Public Instruction and provides educational services for deaf and hard of hearing students ages 3 to 21. WSD has an average annual enrollment of 130 students in grades pre-K through 12th. It is located at 309 W. Walworth Avenue in the city of Delavan. It operates residential halls for its student enrollment.



**Table 3-7. Group Quarters Population: 2010 Estimates**

|                        | Institutional | Non-Institutional | Total        |
|------------------------|---------------|-------------------|--------------|
| <b>Town</b>            |               |                   |              |
| Bloomfield             | 0             | 19                | 19           |
| Darien                 | 0             | 71                | 71           |
| Delavan                | 8             | 10                | 10           |
| East Troy              | 0             | 14                | 14           |
| Geneva                 | 0             | 19                | 19           |
| Lafayette              | 0             | 0                 | 0            |
| La Grange              | 0             | 10                | 10           |
| Linn                   | 0             | 3                 | 3            |
| Lyons                  | 0             | 0                 | 0            |
| Richmond               | 0             | 5                 | 5            |
| Sharon                 | 0             | 0                 | 0            |
| Spring Prairie         | 0             | 0                 | 0            |
| Sugar Creek            | 0             | 17                | 17           |
| Troy                   | 0             | 3                 | 3            |
| Walworth               | 0             | 0                 | 0            |
| Whitewater             | 7             | 4                 | 11           |
| <b>Village</b>         |               |                   |              |
| Bloomfield [2]         | 0             | 0                 | 0            |
| Darien                 | 0             | 0                 | 0            |
| East Troy              | 45            | 0                 | 45           |
| Fontana-on-Geneva Lake | 0             | 0                 | 0            |
| Genoa City [1]         | 0             | 22                | 22           |
| Mukwonago [1]          | 0             | 0                 | 0            |
| Sharon                 | 0             | 0                 | 0            |
| Walworth               | 53            | 6                 | 59           |
| <b>City</b>            |               |                   |              |
| Burlington [1]         | 0             | 0                 | 0            |
| Delavan                | 56            | 28                | 84           |
| Elkhorn                | 452           | 7                 | 459          |
| Lake Geneva            | 56            | 27                | 83           |
| Whitewater [1]         | 92            | 1,608             | 1,700        |
| Williams Bay           | 59            | 3                 | 62           |
| <b>Walworth County</b> | <b>828</b>    | <b>1,876</b>      | <b>2,696</b> |

Source: 2010 Census

Notes: 1. Municipality located in Walworth County and another county

2. The village incorporated on December 20, 2011.

# CRITICAL FACILITIES

## 1. CHAPTER OVERVIEW

This chapter focuses on those critical facilities in Walworth County that need to be evaluated in terms of natural hazards mitigation planning. For the purpose of this plan, critical facilities are categorized into the following classification scheme:

- ◆ Type I      A facility that provides a public service, which if damaged would significantly impair a local governmental response
- ◆ Type II     A facility that provides a public service, but which if damaged would not significantly impair a local governmental response
- ◆ Type III    A facility that can cause greater damage to the surrounding area if damaged by a natural hazard
- ◆ Type IV    A facility that primarily housing special populations such as the infirm, children, elderly, or people with development disabilities

In all, there were 692 critical facilities in the county (Table 4-1). There were 221 Type I facilities, 194 Type II, 61 Type III, and 216 Type IV facilities. Appendix E lists all of the critical facilities sorted by type and Appendix F provides a list sorted by jurisdiction.

As part of this project, the consultant created a Microsoft Access™ database to manage basic information for critical facilities identified in this plan. Each facility is assigned to one or more parcels using the county PIN number to facilitate use in the county’s geographic information system. Most of the facilities also have a digital picture. Because the crude oil pipeline and the natural gas pipeline cross multiple jurisdictions, they were not included in the database.

## 2. BRIDGES

The road network in the county consists of local, county, state, and federal roads. There are 93 locations where a federal, state, or county roadway crosses a waterbody such as a river, stream, or lake. These range in size from a single culvert to a multi-span bridge. These locations have been identified because flooding may overtop the roadway or backup floodwaters. The locations are shown on Map 4. Bridges that cross another roadway or railroad tracks were not considered a critical facility from the perspective of natural hazards.



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9. Petroleum Pipeline Facilities
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11. Wastewater Facilities
12. Fire and Police Services
13. National Guard Facilities
14. Government Facilities
15. Schools
16. Special Care Facilities-Residential
17. Special Care Facilities-Nonresidential
18. Health Care Facilities
19. Vulnerable Housing
20. American Red Cross Shelters

**Table 4-1. Critical Facilities by Type: 2021**

| Facility Type                                 | Type I | Type II | Type III | Type IV   |
|-----------------------------------------------|--------|---------|----------|-----------|
| <b>Infrastructure</b>                         |        |         |          |           |
| Bridge                                        | -      | 93      | -        | -         |
| Dam (large & small)                           | -      | -       | 54       | -         |
| Communication Tower                           | -      | 70      | -        | -         |
| Electric Facility – Power Plant               | -      | -       | -        | -         |
| Electric Facility – Substation                | 19     | -       | -        | -         |
| Natural Gas Facility                          | -      | -       | 5        | -         |
| Natural Gas Pipeline                          | -      | -       | 1        | -         |
| Petroleum Pipeline                            | -      | -       | 1        | -         |
| Public-Use Airport                            | -      | 2       | -        | -         |
| Telephone Facility                            | 9      | -       | -        | -         |
| Utility Offices/Yard                          | 6      | -       | -        | -         |
| Water Facility [1]                            | 50     | -       | -        | -         |
| Wastewater Facility                           | 10     | -       | -        | -         |
| <b>Government Facility</b>                    |        |         |          |           |
| Community Center                              | -      | -       | -        | -         |
| Library                                       | -      | 11      | -        | -         |
| Municipal Garage                              | 28     | -       | -        | -         |
| Municipal Office and Other                    | 41     | -       | -        | -         |
| Post Office                                   | -      | 16      | -        | -         |
| Senior Center                                 | -      | 1       | -        | -         |
| Recreation                                    | -      | 1       | -        | -         |
| <b>Health Care Facility</b>                   |        |         |          |           |
| Health Care Clinic                            | 13     | -       | -        | -         |
| Hospital                                      | 2      | -       | -        | -         |
| <b>Public Safety Facility</b>                 |        |         |          |           |
| EMS Facility                                  | 4      | -       | -        | -         |
| Fire Station                                  | 20     | -       | -        | -         |
| National Guard Facility                       | 2      | -       | -        | -         |
| Police Station                                | 17     | -       | -        | -         |
| <b>School</b>                                 |        |         |          |           |
| K-12                                          | -      | -       | -        | 57        |
| Post-Secondary                                | -      | -       | -        | 4         |
| <b>Special Care Facility - Residential</b>    |        |         |          |           |
| Adult Family Home                             | -      | -       | -        | 31 or 32  |
| Community Based Residential Facility          | -      | -       | -        | 32        |
| Nursing Home                                  | -      | -       | -        | 8         |
| Residential Care Apartment Complex            | -      | -       | -        | 8         |
| <b>Special Care Facility - Nonresidential</b> |        |         |          |           |
| Adult Day Care                                | -      | -       | -        | 2         |
| Group Day Care                                | -      | -       | -        | 50        |
| <b>Vulnerable Housing</b>                     |        |         |          |           |
| Mobile Home Park                              | -      | -       | -        | 8         |
| Campground                                    | -      | -       | -        | 16        |
| <b>Total</b>                                  |        |         |          |           |
|                                               | 221    | 194     | 61       | 216 - 217 |

Notes: 1. Types of facilities included in this category include wells, towers, and treatment plants.

**Key Terms in This Chapter**

**Adult day care** – A place where adults receive care for less than 24 hours.

**Adult family home (AFH)** – A place where three or four adults who are not related to the operator reside and receive care, treatment, or services that are above the level of room and board and that may include up to seven hours per week of nursing care per resident.

**Community based residential facility (CBRF)** – A place where five or more adults reside who are not related to the operator, who do not require care above intermediate level nursing care, and who receive care, treatment, or services that are above the level of room and board, but includes no more than three hours of nursing care per week per resident.

**Group day care** – A place where a person for less than 24 hours a day provides care and supervision for 9 or more children who are not related to the provider.

**Nursing home** – A place where unrelated individuals live, who because of their mental or physical condition, are given 24-hour personal care and nursing care, but who do not require hospitalization.

**Large dam** – A dam that either (1) has a structural height of over 6 feet and impounds 50 acre-feet or more, or (2) has a height of 25 feet or more and impounds more than 15 acre-feet.

**Power plant** – A facility containing prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or fission energy into electric energy.

**Public-use airport** – An airport open for public use without prior permission, and without restrictions within the physical capacities of available facilities. A public-use airport may or may not be publicly owned.

**Residential care apartment complex (RCAC)** – A multi-family building where five or more adults reside in independent dwelling units and also receive not more than 28 hours per week of supportive services, personal assistance, and nursing assistance.

**Small dam** – A dam not classified as a large dam.

**Substation** – An auxiliary power station where electrical current is converted, as from DC to AC, or where voltage is stepped up or down.

### **3. DAMS**

According to the community inventory there are 54 dams in the county. Honey Creek had the highest number of dams followed by Whitewater Creek. Map 4 shows the location of dams (large and small) within the county.

For the purposes of this plan, dams are classified as a Type III critical facility in that a dam failure would cause additional impacts primarily to downstream properties.

### **4. PUBLIC-USE AIRPORTS**

There were two public-use airports in the county (Map 5). East Troy Municipal airport is located on the city's east side and a small portion of Burlington Municipal airport runway extends in the county. Both are classified as a general utility airport.<sup>1</sup> In addition to these public-use airports there were a number of private-use airports located throughout the county.

### **5. COMMUNICATION TOWERS**

Map 6 shows the location of 70 communication towers located in the county.

### **6. TELEPHONE FACILITIES**

Nine telephone facilities were maintained by telephone service providers (Map 6). They were located in the cities of Delevan and Lake Geneva, the towns of Sugar Creek and Richmond, as well as the villages of Darien, East Troy, Sharon, and Williams Bay.

### **7. ELECTRIC FACILITIES**

There were no electric power plants in the county. One is located in the city of Whitewater, in Jefferson County. Nineteen substations were located throughout the county, primarily in or near urban areas (Map 7).

### **8. NATURAL GAS FACILITIES**

Guardian Pipeline operates a high-pressure natural gas pipeline in the eastern part of the county (Map 7). There were a number of above-ground facilities associated with the pipeline. Because of concerns about security, the exact location of the pipeline is not precisely mapped in this plan.

### **9. PETROLEUM PIPELINE FACILITIES**

Enbridge Energy operates a pipeline for transporting petroleum crude oil through the county. It extends from the city of Whitewater to the southeast (Map 7). It carries oil from Superior to Chicago where it is processed. Gate valves were located along the pipeline in number of locations. Because of concerns about security, the exact location of the pipeline is not mapped in this plan.

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<sup>1</sup> General utility airports serve virtually all small general aviation single and twin-engine aircraft, both piston and turboprop, with a maximum takeoff weight of 12,500 pounds or less. These aircraft generally have approach speeds below 121 knots and wingspans of less than 79 feet. Typically, these aircraft are used for business and charter flying and for personal reasons. In Wisconsin, airports in this category normally have a primary runway length of 3,900 to 4,800 feet.

## 10. PUBLIC WATER FACILITIES

Public water facilities inventoried for this plan include water wells, towers, reservoirs, and treatment plants. A total of 50 facilities were identified and are shown on Map 8.

## 11. WASTEWATER FACILITIES

There were 10 wastewater treatment plants in Walworth County, and they were located in each of the urban areas and in the more developed areas of the towns of Darien, Lyons, and Sharon (Map 8).

## 12. FIRE AND POLICE FACILITIES

Within Walworth County, there were 17 police stations and 20 fire stations (Map 9). Generally, EMS services were housed with a fire station or police station. In four instances though, EMS services were housed in a stand-alone building.

## 13. NATIONAL GUARD FACILITIES

There were two National Guard facilities. One is in the city of Elkhorn and the other is in the city of Whitewater (Map 9).

## 14. GOVERNMENT FACILITIES

Government facilities included in the inventory of critical facilities include a wide array of facilities including community centers, public libraries, municipal garages, municipal offices, post offices, and senior centers. Map 10 shows the location of these facilities.

## 15. SCHOOLS

Within Walworth County, there were 57 schools serving kindergarten through high school and 4 post-secondary schools. Both Gateway Technical College and Upper Iowa University were located in the city of Elkhorn. The University of Wisconsin-Whitewater is located in the city of Whitewater, while George Williams College of Aurora University is located in the village of Williams Bay (Map 11).

## 16. SPECIAL CARE FACILITIES - RESIDENTIAL

Special care facilities include various types of housing arrangements where residents receive care or supervision from trained personnel. Special care facilities include nursing homes, residential care apartment complexes (RCACs), community based residential facilities (CBRFs), and adult family homes (AFHs) (Map 12). There were 8 nursing homes in the county, 8 RCACs, 32 CBRFs, and 31 AFHs.

In a RCAC, people live in independent dwelling units complete with a kitchen, a bathroom, and sleeping and living areas. The management team provides supportive services such as general housekeeping and transportation to access community services and recreational activities. Personal services are also provided and may include help with daily activities such as dressing, eating, bathing, and grooming. Finally nursing services are available to help with health monitoring, medication administration, and medication management. There are

Water tower in the City of Lake Geneva



Electric substation in the City of Elkhorn



Tibbets Elementary School in the Town of Sugar Creek



7 RCACs in Walworth County. There was one in each of the cities of Delavan, Elkhorn, and Lake Geneva, one located in the town of Walworth, and one in each of the villages of East Troy, Walworth, and Williams Bay.

CBRFs and AFHs are similar in terms of the level of care provided. One significant difference between them is the number of residents served in the facility. An AFH can serve up to four adults. A CBRF serves five or more adults.

## 17. SPECIAL CARE FACILITIES – NONRESIDENTIAL

Nonresidential special care facilities include group day care centers and adult day care centers (Map 13). Group day care centers provide child care for nine or more children. Adult day care centers provide care to older adults who may live at home but need care during the day because the spouse or other primary care giver is not able to provide care.

There were 40 group day care centers located throughout the county primarily in more urban areas. There are 2 adult day care centers in the county.

## 18. HEALTH CARE FACILITIES

For the purpose of this plan, health care facilities are divided into two types: hospitals and health care centers. Health care centers provide sub-acute medical and include ambulatory surgery centers, and health care clinics are medical offices for a number of practitioners.

There were two hospitals in the county. Aurora Lakeland Medical Center is a full-service hospital serving the region with inpatient and outpatient care, ranging from diagnostics to the most advanced medicine. Mercy Walworth Hospital and Medical Center is a six-bed facility. Prior to becoming certified as a hospital in 2006, it was known as Mercy Walworth Medical Center.

There were 13 health care clinics located throughout the county. Aurora Health Care, which operates Aurora Lakeland Medical Center, operates health care clinics in the cities of Delavan, Elkhorn, and Lake Geneva and in the villages of East Troy and Walworth. Map 14 shows the location of health care facilities along with the service areas for the three emergency medical service (EMS) providers serving Walworth County.

## 19. VULNERABLE HOUSING

Vulnerable housing, including campgrounds and mobile home parks, is described in Chapter 3.

## 20. AMERICAN RED CROSS SHELTERS

American Red Cross in Southeastern Wisconsin (49110) serves Walworth County along with Dodge, Kenosha, Milwaukee, Ozaukee, Racine, Washington, and Waukesha counties in southern Wisconsin and Price and Taylor counties in northern Wisconsin. Table 4-2 lists designated shelters available during an emergency; many of these are also classified as critical facilities.

**Fairhaven Retirement Community and Hearthstone Memory Care in the City of Whitewater**



**Aurora Lakeland Medical Center in the City of Elkhorn**



**Table 4-2. American Red Cross Shelters: 2021**

| Facility Name                                | Address                      | Jurisdiction                 | Sleeping<br>Capacity | Meal                    | Meal                | Back-up<br>Generator |
|----------------------------------------------|------------------------------|------------------------------|----------------------|-------------------------|---------------------|----------------------|
|                                              |                              |                              |                      | Preparation<br>Capacity | Serving<br>Capacity |                      |
| First Congregational United Church of Christ | 715 Wisconsin St             | City of Lake Geneva          | 0                    | 0                       | 250                 | No                   |
| Badger High School                           | 220 South St                 | City of Lake Geneva          | 520                  | 0                       | 700                 | Yes                  |
| Big Foot High School                         | 401 Devils Ln                | Village of Walworth          | 156                  | 216                     | 216                 | Yes                  |
| Calvary Community Church                     | Hwy 50 and Harris Rd         | Village of Williams Bay      | 0                    | 0                       | 0                   | No                   |
| Community Church of Fontana                  | 275 Kinzie St                | Village of Fontana-on-Geneva | 0                    | 0                       | 250                 | No                   |
| Delavan United Methodist Church              | 213 South 2 <sup>nd</sup> St | City of Delavan              | 37                   | 150                     | 150                 | No                   |
| East Troy Bible Church                       | 2660 North Street            | Village of East Troy         | 112                  | 0                       | 0                   | No                   |
| Elkhorn Area High School                     | 482 E Geneva St              | City of Elkhorn              | 0                    | 450                     | 450                 | Yes                  |
| First Congregational Church of East Troy     | 2931 Union St                | Village of East Troy         | 0                    | 0                       | 0                   | No                   |
| First English Lutheran Church                | 401 W Main St                | City of Whitewater           | 52                   | 120                     | 120                 | No                   |
| First Evangelical Lutheran Church            | 415 Devendorf St             | City of Elkhorn              | 22                   | 50                      | 100                 | No                   |
| First United Methodist Church                | 111 N Broad St               | City of Elkhorn              | 0                    | 110                     | 110                 | No                   |
| Fontana Elementary School                    | 450 S Main St                | Village of Fontana-on-Geneva | 0                    | 120                     | 100                 | No                   |
| Grace Evangelical Free Church                | 215 South Main St            | Village of Walworth          | 0                    | 175                     | 175                 | No                   |
| Lyons Center School                          | 1622 Mill Street             | Town of Lyons                | 0                    | 0                       | 320                 | No                   |
| St. Benedict Catholic Church                 | 137 Dewey Ave                | Village of Fontana-on-Geneva | 0                    | 0                       | 0                   | No                   |
| St. Patrick Parish School                    | 534 Sunset Dr                | City of Elkhorn              | 108                  | 130                     | 200                 | No                   |
| St. Patrick's Parish                         | 1235 W Main St               | City of Whitewater           | 0                    | 200                     | 0                   | No                   |
| St. Paul's Evangelical Lutheran Church       | 2665 North St                | Village of East Troy         | 0                    | 0                       | 300                 | No                   |
| Tibbets Elementary School                    | N7850 USH 12                 | Town of Sugar Creek          | 0                    | 0                       | 200                 | No                   |
| Whitewater Assembly of God                   | 1540 W Walworth Ave          | City of Whitewater           | 24                   | 0                       | 0                   | No                   |
| Whitewater Middle School                     | 401 S Elizabeth Ave          | City of Whitewater           | 0                    | 0                       | 0                   | Yes                  |
| Williams Bay School                          | 139 Congress St              | Village of Williams Bay      | 0                    | 200                     | 120                 | No                   |
| Williams Bay United Church of Christ         | 46 Stam St                   | Village of Williams Bay      | 0                    | 0                       | 0                   | No                   |

Source: American Red Cross



# NATURAL HAZARDS ASSESSMENT

## 1. CHAPTER OVERVIEW

This chapter evaluates the natural hazards that have or could occur in the county. Initially, 14 hazards were identified. Because earthquakes and landslides pose such a low risk, they were dropped from future consideration. The remaining 12 hazards are described in detail. After describing the nature of the hazard, the frequency of occurrence is documented along with its effect on critical facilities, various population groups, and economic sectors. Estimates of economic loss are included for each of the natural hazards.

## 2. HAZARD IDENTIFICATION

As part of an initial screening process, the working group used the methodology developed by Wisconsin Emergency Management<sup>1</sup> to evaluate natural hazards in Walworth County to determine which warrant the most attention. For each hazard, the members used a group consensus process to assign a numeric value to the 10 factors listed in Table 5-1.

Table 5-1. Natural Hazard Assessment Criteria

| Factor                                     | Description                                                                           |
|--------------------------------------------|---------------------------------------------------------------------------------------|
| Historical Hazard Frequency                | Frequency of past occurrences                                                         |
| Anticipated Hazard Probability             | Probability of the hazard occurring again                                             |
| Historical Health and Public Safety        | Degree of past hazard events causing injuries, sickness, and/or deaths                |
| Residential Damage                         | Degree of past hazard events causing damages to homes                                 |
| Business Damage                            | Degree of past hazard events causing damages to businesses                            |
| Public Costs                               | Amount of local, state, and federal funds expended on past hazard recovery activities |
| Magnitude of Population at Risk            | Amount of the area's population still vulnerable to injury, sickness, and/or death    |
| Magnitude of Homes at Risk                 | Amount of homes still vulnerable to damage                                            |
| Magnitude of Businesses at Risk            | Amount of businesses still vulnerable to damage or interruption of business trade     |
| Magnitude of Public Infrastructure at Risk | Amount of infrastructure that is susceptible to damages                               |

Source: Resource Guide to All Hazards Mitigation Planning In Wisconsin, 2003. Wisconsin Emergency Management

Table 5-2 shows the results of that exercise. The three highest ranked natural hazards are winter storms, stormwater flooding, and thunderstorms. Given the distance to a known fault line, earthquakes were judged to be of little concern. In addition, given the topography and soils in the county, land failures, including subsidence and mass movement, were judged to be of little concern. Both of these were removed from further consideration in this plan.

The nature of the identified hazards are quite different (Table 5-3). Some of the hazards are characteristically localized occurrences, while others could



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<sup>1</sup> Resource Guide to All Hazards Mitigation Planning In Wisconsin, 2003. Wisconsin Emergency Management



potentially cover all of Walworth County and the surrounding region. Further, some hazards occur with little advance warning and others, such as riverine flooding, can be forecasted with some degree of accuracy several days in advance of the actual event.

**Table 5-2. Comparative Analysis of Natural Hazards; Walworth County: 2021**

|                        | 1          | 2           | 3          | 4           | 5        | 6       | 7          | 8         | 9         | 10             | 11     |
|------------------------|------------|-------------|------------|-------------|----------|---------|------------|-----------|-----------|----------------|--------|
|                        |            |             | Historical |             |          |         | Magnitude  | Magnitude | Magnitude | Magnitude      |        |
|                        | Historical | Expected    | Health and | Residential | Business | Public  | of         | of        | of        | of Public      |        |
|                        | Hazard     | Hazard      | Public     | Damage      | Damage   | Costs   | Population | Homes     | Business  | Infrastructure |        |
|                        | Frequency  | Probability | Safety     |             |          |         | at Risk    | at Risk   | at Risk   | at Risk        | Rating |
| Natural Hazard         | (1,2,3)    | (1,2,3)     | (1,2,3)    | (1,2,3)     | (1,2,3)  | (1,2,3) | (1,2,3)    | (1,2,3)   | (1,2,3)   | (1,2,3)        | Total  |
| Storms - snow **       | 3          | 3           | 2          | 2           | 2        | 3       | 3          | 2         | 2         | 3              | 25     |
| Flooding - stormwater  | 3          | 3           | 2          | 2           | 2        | 3       | 2          | 2         | 2         | 3              | 24     |
| Storms - thunderstorm  | 3          | 3           | 2          | 2           | 2        | 3       | 2          | 2         | 2         | 3              | 24     |
| Storms - hail **       | 3          | 3           | 1          | 2           | 2        | 3       | 2          | 2         | 2         | 2              | 22     |
| Tornado                | 3          | 3           | 2          | 2           | 2        | 3       | 1          | 1         | 1         | 2              | 20     |
| Dense fog              | 3          | 3           | 2          | 1           | 1        | 1       | 1          | 1         | 1         | 1              | 15     |
| Extreme temperature ** | 2          | 2           | 1          | 1           | 1        | 1       | 1          | 1         | 2         | 2              | 14     |
| Drought                | 1          | 1           | 1          | 1           | 2        | 1       | 1          | 1         | 2         | 1              | 12     |
| Flooding - floodplain  | 1          | 1           | 1          | 1           | 1        | 1       | 1          | 1         | 1         | 1              | 10     |
| Ice shoves             | 1          | 1           | 1          | 1           | 1        | 1       | 1          | 1         | 1         | 1              | 10     |
| Dam failure            | 1          | 1           | 1          | 1           | 1        | 1       | 1          | 1         | 1         | 1              | 10     |
| Wildland fire          | 1          | 1           | 1          | 1           | 1        | 1       | 1          | 1         | 1         | 1              | 10     |

Notes: This matrix is based on a qualitative assessment and is intended to identify those hazards posing the greatest concern.

A low, medium, or high numerical rating of 1, 2, or 3, respectively, is assigned to each criterion and then the ratings for each hazard are totaled.

\*\* The ratings for these hazards are based on occurrences in the region.

Column 1 refers to the frequency of past occurrences.

Column 2 refers to the probability of the hazard occurring again.

Column 3 refers to the degree of past hazard events causing injuries, sickness, and/or deaths.

Column 4 refers to the degree of past hazard events causing damages to homes.

Column 5 refers to the degree of past hazard events causing damages to businesses.

Column 6 refers to the amount of local, state, and federal funds expended on past hazard recovery activities.

Column 7 refers to the amount of the area's population still vulnerable to injury, sickness, and/or death.

Column 8 refers to the amount of homes still vulnerable to damage.

Column 9 refers to the amount of businesses still vulnerable to damage or interruption of business trade.

Column 10 refers to the amount of infrastructure that is susceptible to damages.

Column 11 is the raw score for the hazard.

In an effort to keep residents and local officials informed about potential events, the National Weather Service (NWS) issues, outlooks, watches, and warnings for most weather events. NWS mentions the possibility of a hazard in daily message entitled "Hazardous Weather Outlook" (HWO) that is disseminated to the media, posted on its web site, broadcast on NOAA Weather Radio All Hazards, and made available on various computer circuits. An outlook covers possible events seven days out. Confidence factor is about 30 percent for issuance. A message entitled "watch" for most weather hazards is generally issued hours to a couple days in advance of a possible event. Confidence factor

is about 60 percent for issuance. It is disseminated to the media, posted on the NWS web site, is broadcast on NOAA Weather Radio All Hazards, and is made available on various computer circuits. A “warning” message for most weather hazards has a confidence factor of 80 to 100 percent. It is disseminated to the media, posted on the NWS web site, broadcast on NOAA Weather Radio All Hazards, and made available on various computer circuits. Table 5-3 also lists the recurrence interval for the various natural hazards. Some hazards have the potential to occur often, while others occur rather infrequently.

**Table 5-3. Nature of Natural Hazards; Walworth County**

| Natural Hazard                     | Extent                                            | Amount of Advance Notification |                |                          | Recurrence Interval (Years) |
|------------------------------------|---------------------------------------------------|--------------------------------|----------------|--------------------------|-----------------------------|
|                                    |                                                   | Outlook                        | Watch          | Warning                  |                             |
| Dam Failure                        | Along affected stream corridor                    | None to weeks                  | None to weeks  | None to 30 to 90 minutes | N/A [1]                     |
| Flooding – Riverine                | Along affected stream corridor                    | Several days                   | Hours to 1 day | 30 to 90 minutes         | 100 [2]                     |
| Flooding – Stormwater              | Poorly drained areas                              | Several days                   | Hours          | 10 to 90 minutes         | 100 [2]                     |
| Ice Shove                          | Large lakes, such as Lake Geneva                  | Several days                   | Hours          | 10 to 90 minutes         | 5                           |
| Dense Fog                          | Small pockets in low-lying areas to countywide    | Several days                   | -              | 30 minutes to hours      | 1                           |
| Tornado                            | Generally, a linear path up to several miles long | Several days                   | Hours          | 5 to 60 minutes          | 2.7                         |
| Hail Storm                         | 1 square mile and larger                          | Several days                   | Hours          | 5 to 60 minutes          | 1                           |
| Thunderstorm Winds                 | 10 square miles and larger                        | Several days                   | Hours          | 5 to 60 minutes          | 1                           |
| High Winds (Non-thunderstorm)      | 10 square miles and larger                        | Several days                   | 12 to 48 hours | 30 minutes to 24 hours   | 1                           |
| Snow Storm                         | Countywide                                        | Several days                   | 12 to 48 hours | 1 to 40 hours            | 1                           |
| Extreme Heat                       | Countywide                                        | Several days                   | 12 to 48 hours | 1 to 24 hours            | 2                           |
| Extreme Cold                       | Countywide                                        | Several days                   | 12 to 48 hours | 1 to 24 hours            | 1                           |
| Drought - short-lived              | Countywide                                        | Several months                 | -              | -                        | 10                          |
| Drought - long-lived               | Countywide                                        | Year                           | -              | -                        | 75                          |
| Wildland Fire - 25 acres or more   | 25 to 160 acres                                   | None to hours                  | Hours          | Hours                    | 100                         |
| Wildland Fire - less than 25 acres | Less than 25 acres                                | None to hours                  | Hours          | Hours                    | 10                          |

Notes: 1. It is not possible to define a recurrence interval for this type of hazard

2. Based on a 100-year flood

Table 5-4 lists each of the hazards and identifies whether they will have an impact on the critical facilities identified in this plan, noncritical buildings and structures, special populations, the general population, and broadly defined economic sectors.

Table 5-4. General Effects of Natural Hazards on Facilities, Population Groups, and Economic Sectors; Walworth County: 2021

| Critical Facility                      |                                      | Dam Failure | Flooding - Riverine | Flooding - Stormwater | Ice Shoves | Dense Fog | Tornado | Hail Storms | Thunderstorm | Snow Storms | Extreme Temperature | Drought | Wildland Fire |
|----------------------------------------|--------------------------------------|-------------|---------------------|-----------------------|------------|-----------|---------|-------------|--------------|-------------|---------------------|---------|---------------|
| Infrastructure                         | Bridge                               | D           | D                   | -                     | -          | -         | -       | -           | -            | -           | -                   | -       | -             |
|                                        | Dam                                  | D           | D                   | -                     | -          | -         | -       | -           | -            | -           | -                   | -       | -             |
|                                        | Communication Tower                  | -           | -                   | -                     | -          | -         | D       | -           | -            | -           | -                   | -       | -             |
|                                        | Electric Facility – Power Plant      | -           | -                   | -                     | -          | -         | D       | -           | -            | -           | -                   | -       | -             |
|                                        | Electric Facility – Substation       | -           | -                   | -                     | -          | -         | D       | -           | -            | -           | -                   | -       | -             |
|                                        | Natural Gas Facility                 | -           | -                   | -                     | -          | -         | D       | -           | -            | -           | -                   | -       | -             |
|                                        | Petroleum Pipeline                   | -           | -                   | -                     | -          | -         | -       | -           | -            | -           | -                   | -       | -             |
|                                        | Public-Use Airport                   | -           | -                   | -                     | -          | D         | D       | I           | I            | D           | -                   | -       | -             |
|                                        | Telephone Facility                   | -           | -                   | -                     | -          | -         | D       | -           | -            | -           | -                   | -       | -             |
|                                        | Utility Offices/Yard                 | -           | -                   | -                     | -          | -         | D       | -           | -            | -           | -                   | -       | -             |
|                                        | Water Facility [1]                   | -           | -                   | -                     | -          | -         | D       | -           | -            | -           | -                   | I       | -             |
|                                        | Wastewater Facility                  | -           | -                   | -                     | -          | -         | D       | -           | -            | -           | -                   | -       | -             |
|                                        |                                      |             |                     |                       |            |           |         |             |              |             |                     |         |               |
| Government Facility                    | Community Center                     | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
|                                        | Library                              | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
|                                        | Municipal Garage                     | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
|                                        | Municipal Office and Other           | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
|                                        | Post Office                          | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
|                                        | Senior Center                        | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
| Health Care Facility                   | Health Care Clinic                   | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
|                                        | Hospital                             | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
| Public Safety Facility                 | EMS Facility                         | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
|                                        | Fire Station                         | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
|                                        | National Guard Facility              | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
|                                        | Police Station                       | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
| School                                 | K-12                                 | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
|                                        | Secondary                            | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
| Special Care Facility - Residential    | Adult Family Home                    | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
|                                        | Community Based Residential Facility | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
|                                        | Nursing Home                         | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
|                                        | Residential Care Apartment Complex   | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
| Special Care Facility - Nonresidential | Adult Day Care                       | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
|                                        | Group Day Care                       | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
| Vulnerable Housing                     | Mobile Home Park                     | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
|                                        | Campground                           | -           | -                   | -                     | -          | -         | D       | D           | -            | -           | -                   | -       | -             |
| Population Groups                      |                                      |             |                     |                       |            |           |         |             |              |             |                     |         |               |
| General Public                         |                                      | -           | -                   | -                     | -          | -         | I       | -           | -            | -           | I                   | I       | -             |
| Elderly and People with Disabilities   |                                      | -           | -                   | -                     | -          | -         | -       | -           | -            | -           | D                   | -       | -             |
| Homeless                               |                                      | -           | -                   | -                     | -          | -         | -       | -           | D            | D           | D                   | -       | -             |
| Economic Sector                        |                                      |             |                     |                       |            |           |         |             |              |             |                     |         |               |
| Agriculture                            |                                      | -           | D                   | D                     | -          | -         | -       | D           | I            | -           | I                   | D       | -             |
| Commercial                             |                                      | -           | -                   | -                     | -          | -         | -       | -           | -            | -           | -                   | I       | -             |
| Industrial                             |                                      | -           | -                   | -                     | -          | -         | -       | -           | -            | -           | -                   | -       | -             |
| Transportation                         |                                      | -           | -                   | -                     | I          | -         | -       | -           | -            | -           | -                   | -       | -             |

Notes: 1. Types of facilities included in this category include wells, towers, and treatment plants

Key: "-" No or minimal effect; "I" – Indirect Effect; "D" – Direct Effect

### 3. HISTORY OF WEATHER-RELATED EVENTS

Table 5-5 presents a summary of documented weather-related events that have affected Walworth County since 1950 (See Appendix G for a list of all events). Strong winds associated with a thunderstorm occur with the highest frequency—on average almost 3.5 half times a year. Occurring just over once per year, hail is the second most common weather-related event. Flooding, lightning, severe winter weather, and tornadoes have about the same low recurrence interval.

Out of all of the weather-related events, extreme cold is the only event resulting in a direct fatality. Wind events caused 26 injuries. Lightning caused 17 injuries. Although tornadoes can cause dramatic localized damage, only three injuries over the 62-year period in Walworth County have been reported.

Flooding over the years has caused by far the most damage to property and crops (\$48.3 million). At \$8.95 million, wind events caused the second highest amount of economic impact. Tornadoes caused \$5.8 million in damage.

**Table 5-5. Summary of Weather-Related Events; Walworth County: 1950 through May 2021**

| Type of Event       | Number of Events | Direct Deaths | Direct Injuries | Property Damage     | Crop Damage         |
|---------------------|------------------|---------------|-----------------|---------------------|---------------------|
| Drought             | 16               | 0             | 0               | 0                   | \$4,500,000         |
| Heat                | 40               | 0             | 0               | 0                   | 0                   |
| Extreme Cold        | 22               | 2             | 0               | \$22,000            | 0                   |
| Flood               | 22               | 0             | 4               | \$14,726,000        | \$33,583,000        |
| Dense Fog           | 73               | 0             | 0               | 0                   | 0                   |
| Funnel Cloud        | 8                | 0             | 0               | 0                   | 0                   |
| Hail                | 110              | 0             | 0               | \$1,000             | \$2,000             |
| Heavy Rain          | 6                | 0             | 0               | \$4,000             | 0                   |
| Lightning           | 25               | 0             | 17              | \$487,000           | 0                   |
| Tornado             | 28               | 0             | 3               | \$5,928,000         | \$71,000            |
| Winds, High         | 11               | 0             | 1               | \$730,000           | 0                   |
| Winds, Strong       | 44               | 0             | 0               | \$854,000           | 0                   |
| Winds, Thunderstorm | 298              | 0             | 21              | \$7,239,000         | \$110,000           |
| Winter Storms       | 119              | 0             | 5               | \$21,000            | 0                   |
| <b>Total</b>        | <b>822</b>       | <b>2</b>      | <b>51</b>       | <b>\$30,012,000</b> | <b>\$38,266,000</b> |

Source: National Climatic Data Center

See Appendix G for a complete listing of weather events during the reporting period

### 4. PRESIDENTIAL DECLARATIONS

Since 1965, there have been 33 major disaster declarations issued for Wisconsin, 7 emergency declarations, and no fire management assistance declarations. Walworth County has been included in three disaster declarations and three emergency declarations (Table 5-6).

**Major Disaster Declaration** A major disaster declaration was issued for Walworth County in 2000, 2004, 2008, and 2020 (Table 5-6). Both individual

assistance and public assistance grants were made to help local communities respond to severe storms and flooding.

**Emergency Declaration** In 2005, an emergency declaration was issued for all 72 counties in the state as part of the nationwide response to Hurricane Katrina. In 2001, Walworth County was one of 21 counties covered by an emergency declaration for a severe winter storm. In 2008, there was an emergency declaration issued for 11 counties in the state for the snow and blowing snow. Most recently, a statewide emergency declaration was issued in 2020 for the Covid-19 Pandemic (EM-3454-WI).

**Fire Management Assistance Declaration** No fire management assistance declarations have been issued for Walworth County (and it is unlikely that one would be issued given the nature of that category of declaration).

**Table 5-6. Presidential Disaster Declarations, Walworth County: 1965 – 2021**

| Major Disaster                    | Year | Description                          | Number of Counties<br>By Type of Assistance |            |
|-----------------------------------|------|--------------------------------------|---------------------------------------------|------------|
|                                   |      |                                      | Public                                      | Individual |
| DR-4520-WI                        | 2020 | Covid-19 Pandemic                    | 52                                          |            |
| DR-1768-WI                        | 2008 | Severe storms, tornadoes, flooding   | 28                                          | 29         |
| DR-1526-WI                        | 2004 | Severe storms, icing, wind, flooding | 17                                          | 27         |
| DR-1332-WI                        | 2000 | Severe storms, tornadoes, flooding   | 24                                          | 15         |
| <b>Emergency</b>                  |      |                                      |                                             |            |
| EM-3454-WI                        | 2020 | Covid-19 Pandemic                    | 52                                          |            |
| EM-3285-WI                        | 2008 | Snow                                 | 11                                          | 0          |
| EM-3249-WI                        | 2005 | Hurricane Katrina evacuation         | 72                                          | 0          |
| EM-3153-WI                        | 2001 | Severe Winter Storm                  | 21                                          | 0          |
| <b>Fire Management Assistance</b> |      |                                      |                                             |            |
| None                              | -    | -                                    | -                                           | -          |

Source: Federal Emergency Management Agency (<http://www.fema.gov/news/disasters.fema> accessed November 9, 2012) and Wisconsin Emergency Management

**Denied Applications for Presidential Disaster Declaration** On one occasion, the county's application for a presidential disaster declaration was denied (Table 5-7).

**Table 5-7. Denied Applications for Presidential Disaster Declarations, Walworth County: 1990 – 2021**

| County-Level Data |                   |                         |
|-------------------|-------------------|-------------------------|
|                   | Number of         |                         |
| Year              | Counties Included | Description             |
| 1996              | 14                | Flooding, severe storms |

Source: Wisconsin Emergency Management

## 5. DAM FAILURE

### PROFILE

A dam failure involves the uncontrolled release of impounded water when the structure fails. A dam can fail because of excessive rainfall or melting snow, poor construction or maintenance, flood damage, earthquake activity, weakening caused by burrowing animals, vegetation, surface erosion, vandalism, or a combination of factors. When a dam does fail, the impounded water flows unimpeded and, depending on what development is located downstream, can potentially cause significant property damage and loss of life.

### HISTORY OF PAST OCCURRENCES

According to the Wisconsin Department of Natural Resources, there are about 3,700 dams in the state. Between 1990 and 1995, 75 dam failures were documented, many of which resulting from the flooding that occurred statewide in 1993. There are no documented dam failures in Walworth County.

### VULNERABILITY ASSESSMENT

According to the Department of Natural Resources, there were 50 known dams in the county. Over the years, nine of the dams were removed or fell into disrepair and do not currently impound water (Table 5-8). Of the existing dams that remain intact today, 18 are classified as large and 23 are small.

**Table 5-8. Abandoned Dams: 2021**

| ID   | Official Name          | Jurisdiction           |
|------|------------------------|------------------------|
| -    | Vienna Dam             | Spring Prairie, Town   |
| -    | Vaughn's Dam           | Spring Prairie, Town   |
| -    | Lyons Dam              | Lyons, Town            |
| -    | Spring Valley Dam      | Lyons, Town            |
| -    | Genoa Dam              | Genoa City             |
| -    | Haskins Dam            | Lake Geneva            |
| -    | Fontana Dam            | Fontana-on-Geneva Lake |
| -    | Tildens Dam            | Delavan, City          |
| 1190 | Delevan #2 -Grist Mill | Delavan, City          |

Source: Wisconsin Department of Natural Resources

A failure of a small dam would likely not cause damage. Given the amount of water impounded behind a large dam, dam failure is a concern in varying degrees. Dams are also classified based on the threat to downstream property if a dam failed as specified in Section 333.06, Wis. Admin. Code. A dam rated as a high hazard indicates that a failure would most probably result in the loss of life. A significant hazard indicates that a dam failure could result in appreciable property damage. A low hazard rating is assigned to dams where a dam failure would result in only minimal property damage and where loss of life is unlikely. Of the 18 existing large dams, 3 are classified as significant and 3 as high (Table 5-8). The remaining dams are either unclassified or classified as low.

Section NR 333.07(3), Wisconsin Administrative Code, mandates that owners of a large dam or a dam that poses a threat to life or property must prepare an emergency action plan (EAP). An EAP is a document that identifies potential emergency conditions at a dam and procedures to be followed to eliminate the loss of life and minimize downstream property damage. When drafting an EAP,

the dam operator must consult with the local units of government that lie downstream of the dam as well as the county emergency management department.

Walworth County adopted an EAP for the Lake Beulah dam in 2008. The plan indicates that there are residences immediately downstream of the dam and that they would be inundated should the dam fail. No critical facilities, such as hospitals, rescue and relief facilities, water supply facilities, hazardous waste facilities, or bridges are located in the hazard area. If the dam were to fail, County Highway J would be closed.

According to the DNR inventory, an EAP has not been prepared for 13 of the 18 existing large dams (Table 5-9).

Based on historical data and the lack of multiple large, high-risk dams in the county, it is unlikely that a catastrophic dam failure, resulting in the loss of life and property, will occur in Walworth County in the future.

**Table 5-9. Active Large Dams: 2021**

| ID    | Official Name                | Jurisdiction         | Ownership | Stream Name         | Date<br>of Last<br>Inspection | Hazard<br>Rating<br>Code [1] | Status of<br>Emergency<br>Action Plan |
|-------|------------------------------|----------------------|-----------|---------------------|-------------------------------|------------------------------|---------------------------------------|
| 84    | Lake Geneva                  | Geneva, town         | Private   | White River         | 8/21/2007                     | Low                          | 2011                                  |
| 212   | Lauderdale Lakes             | La Grange, town      | Private   | Hone Creek          | 7/25/2008                     | Significant                  | Not done                              |
| 213   | Old Paper Mill               | Whitewater, city     | City      | Whitewater Creek    | 3/17/2003                     | High                         | Not done                              |
| 214   | Old Paper Mill               | Whitewater, city     | City      | Whitewater Creek    | 1/15/2008                     | High                         | Not done                              |
| 321   | Delavan                      | Delavan, city        | City      | Turtle Creek        | 1/28/2005                     | Low                          | Not done                              |
| 322   | Whitewater Lake              | Whitewater, town     | County    | Whitewater Creek    | 1/14/2008                     | Low                          | Not done                              |
| 323   | Honey Lake                   | Spring Prairie, town | Private   | Sugar Creek         | 10/12/2007                    | Low                          | 2012                                  |
| 451   | Grethe                       | Bloomfield, town     | Private   | Bloomfield Creek    | 6/26/2000                     | Low                          | Not done                              |
| 699   | Lake Beulah                  | East Troy, town      | Joint [2] | Lake Beulah outlet  | 11/12/2007                    | High                         | May 2008                              |
| 701   | Pabst                        | Troy, town           | Private   | Baker Creek         | 8/21/2007                     | Low                          | Not done                              |
| 702   | Borg                         | Delavan, town        | Town      | Turtle Creek        | 8/21/2007                     | Low                          | 2004                                  |
| 768   | Val Sauer                    | Bloomfield, town     | Private   | Spring Valley Creek | 4/1/1997                      | Low                          | Not done                              |
| 856   | Rice Lake                    | Whitewater, town     | DNR       | Whitewater Creek    | 1/14/2008                     | High                         | Not done                              |
| 986   | Kettle Moraine Estates Corp. | Troy, town           | Private   | Lulu Lake           | 4/1/1997                      | Low                          | Not done                              |
| 997   | Droster, Elmer               | Lafayette, town      | Private   | Trib. Sugar Creek   | 7/20/2008                     | Low                          | 2006                                  |
| 1234  | Turtle Valley Central Phase  | Richmond, town       | DNR       | Sugar Creek         | 2/16/2005                     | Low                          | Not done                              |
| 1236  | Turtle Valley Phase III      | Sugar Creek, town    | DNR       | Unnamed             | 2/16/2005                     | Low                          | Not done                              |
| 12450 | Morrissey                    | Darien, town         | Private   | Turtle Creek        | 7/19/2008                     | Low                          | Not done                              |

Source: Wisconsin Department of Natural Resources, data accessed September 2008

Key: 1. High - loss of life likely should dam fail; Significant - significant property damage is likely; Low - neither loss of life or property will occur  
2. Joint ownership involving Walworth County, lake district, and private individuals

**Effects on Facilities** – As previously mentioned, there are no critical facilities downstream of the Beulah Lake dam that would be affected if the dam were to fail. In terms of the other dams, much of the released waters resulting from a failure would be contained within the 100-year floodplain below the dam failure. Except for wastewater facilities, there are no critical facilities in the 100-year floodplain.

**Effects on Population Groups** – A dam failure would not disproportionately affect the elderly, people with disabilities, or the homeless.

**Effects on Economic Sectors** – Although a dam failure could damage individual structures, it likely would not affect the overall economy of the area or any particular economic sector.

**Effects on New Development** – Communities have the opportunity through the land division process to ensure that new development does not occur within defined dam inundation areas.

## 6. FLOODING

### PROFILE

Riverine flooding occurs when a stream, lake, or other body of water overflows its banks onto normally dry land. Stormwater flooding occurs when stormwater pools in normally dry depressions in the land. Flooding can develop slowly over a period of days, but can also occur within a few hours in some watersheds with narrow stream channels.

### HISTORY OF PAST OCCURRENCES

Documentation of historic flooding is available from the following sources:

- ◆ presidential disaster declarations
- ◆ records from the Federal Flood Insurance Program
- ◆ anecdotal information

**Presidential Disaster Declarations** – Since 1965, there have been seven presidential declarations in Walworth County; three of these were flood related (Table 5-6). Presidential disaster declarations were issued in 2000, 2004, and 2008.

**Historical National Flood Insurance Program Claims** In 1968, Congress adopted the National Flood Insurance Act, which among other things created the National Flood Insurance Program (NFIP). This program allows property owners to purchase flood insurance if their community participates in the program. In fact, certain homeowners must purchase flood insurance when their property is located in the regulatory floodplain and their mortgage is meets certain criteria. Property owners in the Village of Genoa City and Village of Williams Bay are not eligible to purchase flood insurance even if they want to do so, because the municipality has chosen to not participate in NFIP.

Table 5-10 summarizes the number and type of claims made by jurisdiction from January 1, 1978 through March 31, 2021. On a countywide basis, payments to policyholders totaled \$546,118 during this period.



**Repetitive Loss Properties** A property for which two or more National Flood Insurance Program losses of at least \$1,000 each have been paid within any 10-year rolling period since 1978 is referred to as a repetitive loss property. According to the National Flood Insurance Program, there were **two** repetitive loss properties in the county during **2021**, both of which were single-family residences.

**Major Floods** All streams and waterbodies may experience flooding at any time during the year. However, flooding is most common in early spring when the ground is frozen or saturated with water and rains and/or spring melt exceeds the capacity of the ground surface to absorb the additional water.

Within the county, the majority of the flooding occurs during the spring on Honey Creek, Sugar Creek, Turtle Creek, and White River. The watersheds of the other streams are comparatively small and flooding is characteristically minor. When floods do occur, they are generally during the warmer months of the year.

There are six historical gaging stations within the county: White River (#05-5453), a tributary of the White River (#05-5452), Sugar Creek (#05-5451), North Branch Nippersink Creek (#05-5481.5), and two on Whitewater Creek (#05-4265 and #05-4270). The drainage areas of the latter five are quite small and therefore flooding conditions at the gages would not have to be indicative of general flooding conditions within the county. The White River gage is located near the city of Burlington and was in operation from 1959 to 1983. Major floods were recorded in 1960, 1966, 1967, and 1969. The expected frequency for each of these floods was set at approximately once every 10 years.

Within the City of Delavan the majority of major floods on Turtle Creek and Swan Creek have occurred in the early spring and are usually the result of spring rains and/or snowmelt. A damaging flood occurred in the city of Delavan in 1973. At that time, heavy rainfalls and a debris-restricted control structure caused local flooding. Although no discharge measurements are available for this flood event, it has an estimated recurrence interval of approximately 65 years. No other flooding information was available for the city.

The majority of major floods on Honey Creek within the village of East Troy have occurred in the early spring and is usually the result of spring rains and/or snowmelt. Floods in the Honey Creek basin are characterized by high peak flows, with relatively small volumes. The majority of major floods in the city of Lake Geneva have occurred on the White River in the early spring. Historic lake elevations have been recorded since 1894 for Lake Geneva; high water elevations occurred in 1908 (865.1 feet) and in 1938 (864.9 feet). These elevations indicate floods with approximate recurrence intervals of 90 and 50 years respectively.

**Table 5-10. National Flood Insurance Program Claims by Jurisdiction: 1978 through March 31, 2021**

| Jurisdiction                    | Total Losses | Total Payments   |
|---------------------------------|--------------|------------------|
| Village                         |              |                  |
| Bloomfield [2]                  | 1            | \$17,931         |
| Darien                          | 0            | 0                |
| East Troy                       | 0            | 0                |
| Fontana-on-Geneva Lake          | 1            | 0                |
| Genoa City [1]                  | 2            | \$776            |
| Mukwonago [1]                   | 0            | 0                |
| Sharon                          | -            | -                |
| Walworth                        | 0            | 0                |
| Williams Bay                    | 0            | 0                |
| City                            |              |                  |
| Burlington [1]                  | 0            | 0                |
| Delavan                         | 1            | 0                |
| Elkhorn                         | -            | -                |
| Lake Geneva                     | 3            | \$20,322         |
| Whitewater [1]                  | 0            | 0                |
| Walworth County, Unincorporated | 32           | \$507,089        |
| <b>Total</b>                    | <b>40</b>    | <b>\$546,118</b> |

Source: National Flood Insurance Program, Federal Emergency Management Agency

Notes: 1. Municipality located in Walworth County and another county; data for Walworth County only  
2. The Village incorporated on December 20, 2011

***Without appropriate mitigation measures, the damage caused by a 100-year flood would dramatically exceed the damage caused by past floods.***

The majority of major floods on Whitewater Creek and Spring Brook in the city of Whitewater have occurred in the early spring and are usually the result of spring rains and/or snowmelt. Floods in the Whitewater Basin are characterized by high peak flows, with relatively small volumes. Obstructions to flood flow from natural and manmade features impede the natural flow of water and in some cases causes a backwater effect. Natural obstructions include trees and other vegetation growing along stream banks and floodway areas. Manmade obstructions include numerous dams and bridges.

**Stormwater Flooding** Although flooding from streams and rivers can be quite dramatic, flooding from ponding stormwater can also be significant. In 2008, flooding resulting from spring rainfall occurred in the village of Walworth in Oak Knolls subdivision. In this case, flooding was localized around the development's stormwater detention basin as stormwater entered the detention pond but was not able to leave as designed. Local officials are working with an engineering firm and others to develop a range of solutions to correct the situation. As of this date, a preferred alternative has not been selected.

**Road Closures Due to Flooding – 2007 and 2008** Periodically, flood water encroaches on major roads and in some cases requires transportation officials to close them to vehicular traffic. In August of 2007, STH 11 between Delavan and STH 14/89 was closed for approximately five days. In 2008, the county highway department around the 5th of June closed CTH ES from STH 12 and 67 (Abell's Corners) to CTH D due to water over the road just east of Cobb Road. CTH ES was closed for approximately 24 hours. That portion of STH 11 that was closed in 2007 was again closed in 2008 for approximately 36 hours. The highway department signed for "high water" and slowed traffic at CTH F and STH 11 for 4 days. Townline Road, near Booth Lake, was closed for numerous days in 2008.

*A countywide 100-year flood could potentially cause more than \$21 million in damage to buildings.*

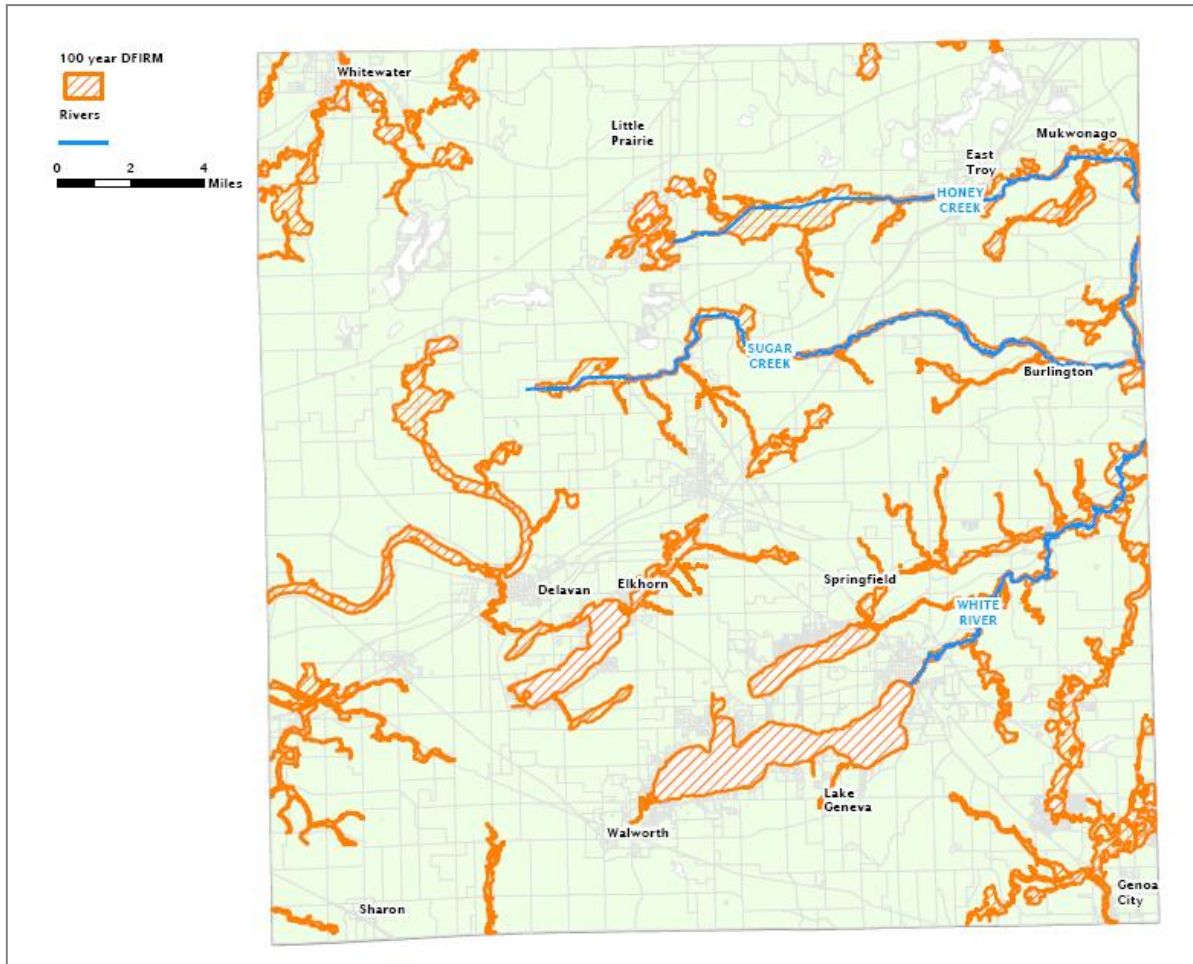
### **VULNERABILITY ASSESSMENT – 2007**

Flood analysis for Walworth County was performed using HAZUS-MH MR3 released in July 2007. The bundled aggregated general building stock was updated to Dun & Bradstreet 2006. Building valuations were updated to R.S. Means 2006. Building counts based on census housing unit counts are available for RES1 (single-family dwellings) and RES2 (manufactured housing) instead of calculated building counts.

The site-specific inventory (specifically schools, hospitals, emergency operation centers, fire stations and police stations) was updated using the best available statewide information.

HAZUS-MH was used to generate the flood depth grid for a 100-year return period calculated by clipping the USGS 30m DEM to the DFIRM boundary. Exhibit 5-1 depicts the flood boundary from the HAZUS-MH analysis.

The majority of damages due to flooding occur along the White River, Honey Creek, and Sugar Creek.

**Exhibit 5-1. HAZUS-MH Analysis (100-Year Flood): 2007**

**Aggregate Loss Analysis** – HAZUS-MH was used to estimate the damages for a 100-year flood event in Walworth County. An estimated 285 buildings will be damaged totaling \$120 million in building losses and \$232 million in total economic losses. The total estimated number of damaged buildings, total building losses, and estimated total economic losses are shown in Table 5-11.

HAZUS-MH estimates 59 census blocks with losses exceeding \$1 million. The distribution of losses is shown in Exhibit 5-2.

HAZUS-MH aggregate loss analysis is evenly distributed across a census block. Census blocks of concern should be reviewed in more detail to determine the actual percentage of facilities that fall within the flood hazard areas. The aggregate losses reported in this study may be overstated.

**Table 5-11. Economic Loss for a 100-Year Flood: 2007**

| General Occupancy    | Estimated<br>Total<br>Buildings | Total<br>Damaged<br>Buildings | Total<br>Building<br>Exposure X<br>1000 | Total<br>Economic<br>Loss X 1000 | Building Loss<br>X 1000 |
|----------------------|---------------------------------|-------------------------------|-----------------------------------------|----------------------------------|-------------------------|
| Agricultural         | 1                               | 0                             | \$65,060                                | \$4,213                          | \$1,439                 |
| Commercial           | 248                             | 0                             | \$1,174,043                             | \$43,263                         | \$13,965                |
| Education            | 2                               | 0                             | \$143,928                               | \$1,351                          | \$533                   |
| Government           | 6                               | 0                             | \$53,757                                | \$1,447                          | \$371                   |
| Industrial           | 83                              | 0                             | \$650,589                               | \$37,424                         | \$10,270                |
| Religious/Non-Profit | 14                              | 0                             | \$122,661                               | \$4,069                          | \$1,282                 |
| Residential          | 35,387                          | 285                           | \$7,094,257                             | \$140,750                        | \$92,150                |
| <b>Total</b>         | <b>35,741</b>                   | <b>285</b>                    | <b>\$9,304,295</b>                      | <b>\$232,517</b>                 | <b>\$120,010</b>        |

The reported building counts should be interpreted as degrees of loss rather than as exact numbers of buildings exposed to flooding. These numbers were derived from aggregate building inventories which are assumed to be dispersed evenly across census blocks. HAZUS-MH requires that a predetermined amount of square footage of a typical building sustain damage in order to produce a damaged building count. If only a minimal amount of damage to buildings is predicted, it is possible to see zero damaged building counts while also seeing economic losses.

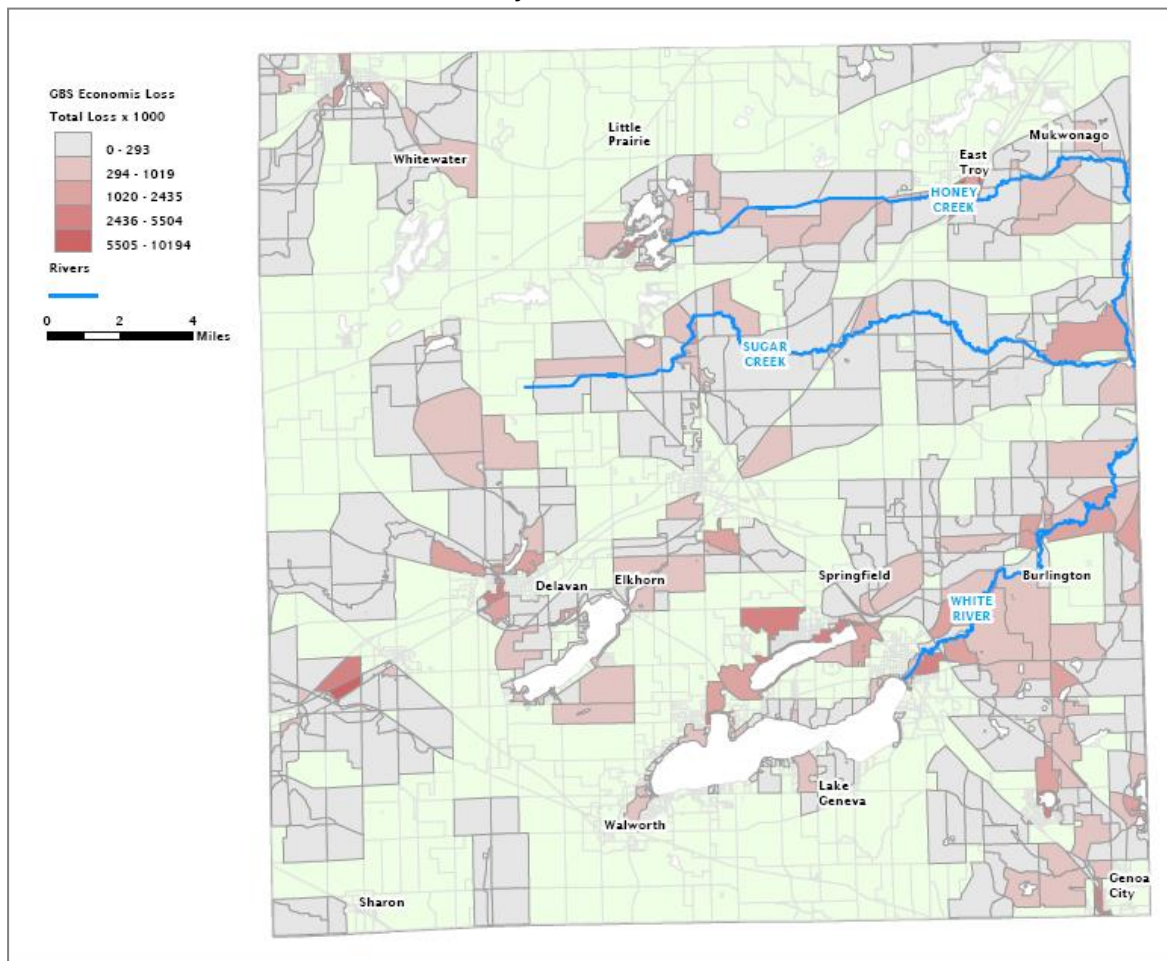
**Exhibit 5-2. Economic Loss for a 100-Year Flood by Census District: 2007**



Exhibit 5-3 shows census blocks overlaid with the flood boundary and orthophoto of East Troy. Census Block 551270001006021 has an estimated building loss of \$3.4 million with a combined replacement cost of \$10 million. However, the orthophoto shows that the majority of the buildings in this census block lie outside of the floodplain boundary.

**Exhibit 5-3. Flood Damage Exposure in East Troy: 2007**

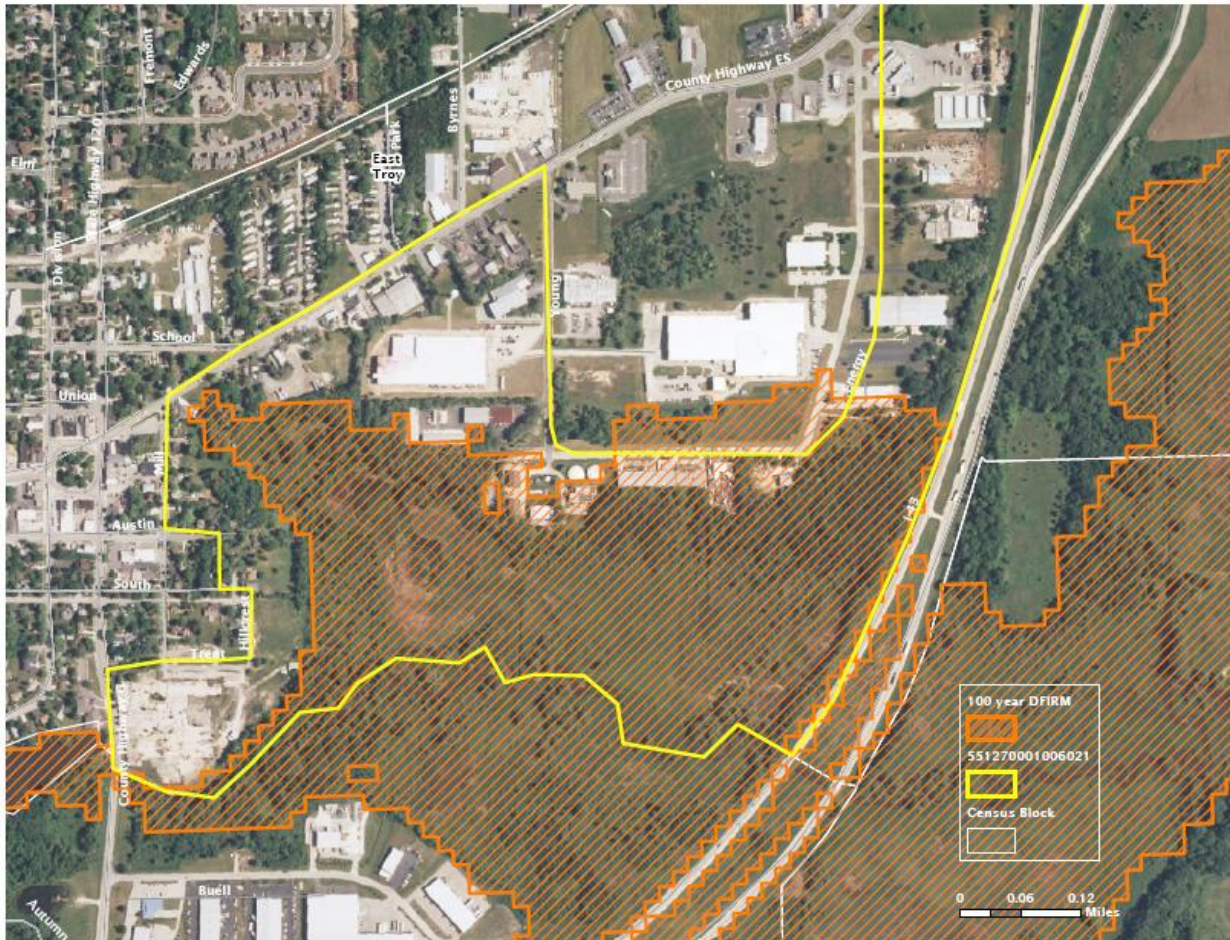
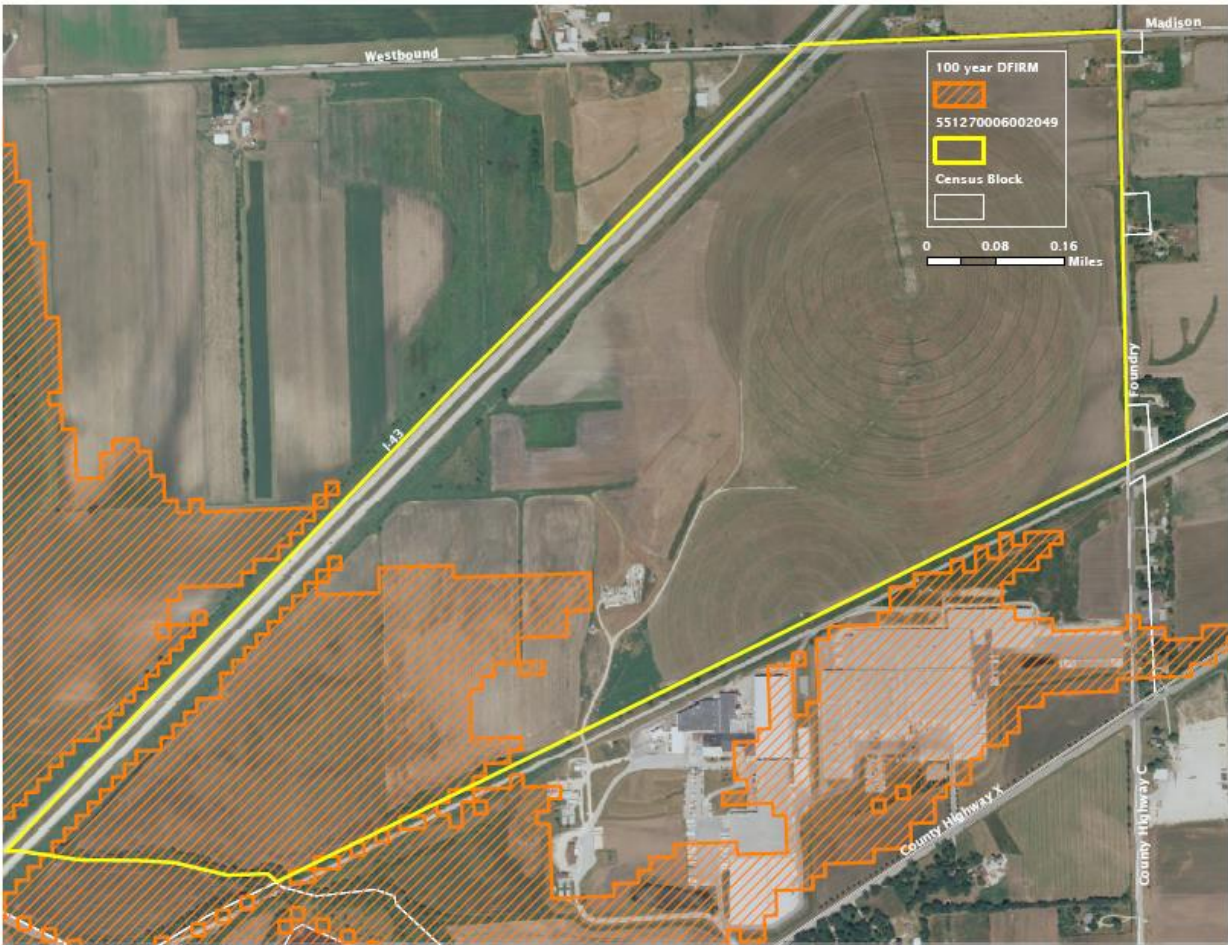


Exhibit 5-4 shows census blocks overlaid with the flood boundary and orthophoto of Darien. Census Block 551270006002049 has an estimated building loss of \$1 million with a combined replacement cost of \$6 million. HAZUS-MH estimates that one building is located in this census block. However, the orthophoto shows that the building is not within the floodplain boundary.

Exhibit 5-4. Flood Damage Exposure in Darien: 2007



**Essential Facility Loss Analysis** – An essential facility would encounter many of the same impacts as any other building within the flood boundary. These impacts include: structural failure, extensive water damage to the facility, and loss of facility functionality (i.e. a damaged police station will no longer be able to serve the community).

The HAZUS-MH analysis identified that no essential facilities are subject to flooding. A list of the essential facilities in the county is included in Table 5-12.

Table 5-12. Essential Facility Loss for a 100-Year Flood: 2007

| Class                      | Building Count | At Least Moderate Damage | At Least Substantial Damage | Loss of Use |
|----------------------------|----------------|--------------------------|-----------------------------|-------------|
| Care Facilities            | 10             | 0                        | 0                           | 0           |
| Fire Stations              | 0              | 0                        | 0                           | 0           |
| Police Stations            | 17             | 0                        | 0                           | 0           |
| Schools                    | 25             | 0                        | 0                           | 0           |
| Emergency Operation Center | 58             | 0                        | 0                           | 0           |
| Total                      | 110            | 0                        | 0                           | 0           |



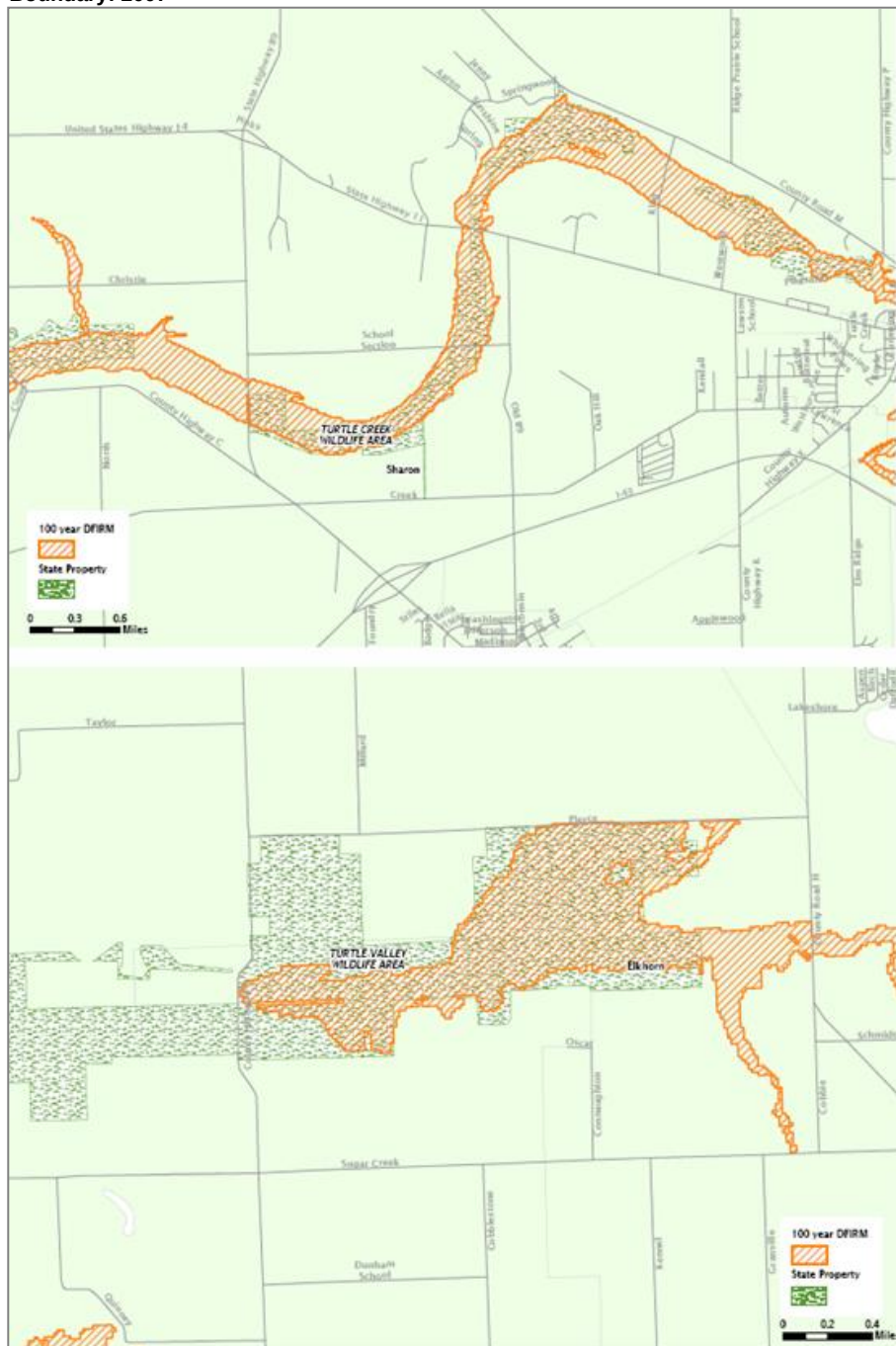
**Shelter Requirement Analysis** - HAZUS-MH estimates the number of households that are expected to be displaced from their homes due to the flood and the associated potential evacuation. HAZUS-MH also estimates those displaced people that will require accommodations in temporary public shelters. The model estimates 942 households will be displaced due to the flood. Displacement includes households evacuated from within or very near to the inundated area. Of these 1,053 people (out of a total population of 93,759) will seek temporary shelter in public shelters.

**State Property Loss Analysis** - The flood boundaries were overlaid with the State of Wisconsin property boundaries as provided by the Department of Natural Resources. Table 5-13 provides a list of state properties impacted by the flood boundary. Exhibit 5-5 shows two examples of the inundated areas.

**Table 5-13. State Property Flood Inundation: 2007**

| State Property                            | Percent Inundated | Acres |
|-------------------------------------------|-------------------|-------|
| Scattered Wildlife                        | 6%                | 623   |
| Turtle Creek Wildlife Area                | 56%               | 583   |
| Turtle Valley Wildlife Area               | 30%               | 576   |
| Extensive Wildlife Habitat                | 2%                | 250   |
| Stream Bank Protection Fee Program        | 4%                | 227   |
| Kettle Moraine State Forest-Southern Unit | 1%                | 209   |
| Statewide Habitat Areas                   | 3%                | 205   |
| Honey Creek Wildlife Area                 | 11%               | 146   |
| Lulu Lake Natural Area                    | 8%                | 129   |
| Ice Age Trail                             | 1%                | 74    |
| White River State Trail                   | 8%                | 13    |
| Rem-Delavan Lake                          | 87%               | 9     |
| Big Foot Beach State Park                 | 1%                | 1     |

**Exhibit 5-5. Select State of Wisconsin Properties Boundary with 100-Year Flood Boundary: 2007**



## VULNERABILITY ASSESSMENT – 2008

**Effects on Facilities** – The consultant team identified 345 buildings within the 100-year floodplain in 2008 (Table 5-14). Of all of the municipalities in the county, the towns of Bloomfield and Lyons had the highest number of buildings in the 100-year floodplain. The towns of Richmond and Walworth and the villages of Sharon and Walworth do not have any buildings within the 100-year floodplain. In addition, those portions of the village of Mukwonago and the city of Burlington within Walworth County do not have any buildings within the 100-year



floodplain. In terms of damage from a 100-year flood, the town of Darien is expected to experience the most, followed by town of Delavan. With the exception of wastewater treatment facilities and bridges, there are no critical facilities in the 100-year floodplain.

**Table 5-14. Buildings in 100-Year Floodplain and Estimated Damage: 2008**

| Jurisdiction           | Number of Buildings by<br>Percent Damaged |        |      | Total<br>Buildings | Market      | 100-Year     |
|------------------------|-------------------------------------------|--------|------|--------------------|-------------|--------------|
|                        | <10%                                      | 10-20% | >20% |                    | Value of    | Flood        |
|                        |                                           |        |      |                    | Structures  | Damage       |
| Town                   |                                           |        |      |                    |             |              |
| Bloomfield             | 0                                         | 56     | 7    | 63                 | 7,924,900   | 1,541,975    |
| Darien                 | 0                                         | 7      | 1    | 8                  | 27,377,300  | 7,236,311    |
| Delavan                | 0                                         | 37     | 16   | 53                 | 10,174,900  | 2,285,360    |
| East Troy              | 0                                         | 4      | 2    | 6                  | 1,097,500   | 233,723      |
| Geneva                 | 0                                         | 18     | 0    | 18                 | 3,890,600   | 716,660      |
| Lafayette              | 0                                         | 10     | 0    | 10                 | 5,994,000   | 1,181,265    |
| La Grange              | 0                                         | 35     | 7    | 42                 | 10,126,600  | 2,058,278    |
| Linn                   | 0                                         | 5      | 2    | 7                  | 8,246,700   | 2,303,990    |
| Lyons                  | 0                                         | 50     | 13   | 63                 | 6,488,200   | 1,615,059    |
| Richmond               | 0                                         | 0      | 0    | 0                  | 0           | 0            |
| Sharon                 | 0                                         | 5      | 0    | 5                  | 631,300     | 116,225      |
| Spring Prairie         | 0                                         | 8      | 0    | 8                  | 811,800     | 148,630      |
| Sugar Creek            | 0                                         | 4      | 1    | 5                  | 613,400     | 116,538      |
| Troy                   | 0                                         | 2      | 0    | 2                  | 265,900     | 53,150       |
| Walworth               | 0                                         | 0      | 0    | 0                  | 0           | 0            |
| Whitewater             | 0                                         | 1      | 0    | 1                  | 258,600     | 41,280       |
| Village                |                                           |        |      |                    |             |              |
| Darien                 | 0                                         | 2      | 0    | 2                  | 132,000     | 26,400       |
| Bloomfield             | [3]                                       | [3]    | [3]  | [3]                | [3]         | [3]          |
| East Troy              | 0                                         | 4      | 0    | 4                  | 558,100     | 96,505       |
| Fontana-on-Geneva Lake | 0                                         | 13     | 1    | 14                 | 2,764,900   | 551,855      |
| Genoa City [1]         | -                                         | -      | -    | -                  | -           | -            |
| Mukwonago [1,2]        | 0                                         | 0      | 0    | 0                  | 0           | 0            |
| Sharon [2]             | 0                                         | 0      | 0    | 0                  | 0           | 0            |
| Walworth [2]           | 0                                         | 0      | 0    | 0                  | 0           | 0            |
| Williams Bay           | -                                         | -      | -    | -                  | -           | -            |
| City                   |                                           |        |      |                    |             |              |
| Burlington [1,2]       | 0                                         | 0      | 0    | 0                  | 0           | 0            |
| Delavan                | 0                                         | 1      | 1    | 2                  | 261,100     | 42,661       |
| Elkhorn                | 0                                         | 1      | 0    | 1                  | 163,600     | 24,540       |
| Lake Geneva            | 0                                         | 6      | 1    | 7                  | 4,229,400   | 847,516      |
| Whitewater [1]         | 0                                         | 24     | 0    | 24                 | 2,511,800   | 445,485      |
| Walworth County        | 0                                         | 32     | 2    | 34                 | \$7,165,900 | \$21,683,406 |

Source: Civi Tek Consulting and Planning and Design Institute (PDI)

Notes: 1. Municipality located in Walworth County and another county; data just for Walworth County  
 2. Municipality does not contain any special flood hazard areas  
 3. The village incorporated on December 20, 2011, after this analysis was conducted

**Effects on Population Groups** – There are no population groups that are especially vulnerable to flooding except to the extent older homes, which were built prior to floodplain regulations, are occupied by lower income residents.

**Effects on Economic Sectors** – While flooding can impact a number of economic sectors, the agricultural sector is the most vulnerable. Aside from damaging farm buildings, flooding can destroy crops and reduce crop yields for surviving crops. In addition, harvesting crops on wet soils causes soil compaction that reduces crop yields in subsequent years. Heavy rains, which are often associated with flooding, cause a considerable amount of soil erosion on unprotected soils.

Damages sustained by businesses in the county are primarily a direct reflection of the agricultural production losses. The effects of the agricultural base extend throughout the county. Farming supports a variety of farm- (e.g., implement dealers, feed stores, granaries) and non-farm related (e.g., grocery stores, hardware stores) businesses.

**Other Effects** – During periods of flooding, no-wake boating restrictions are imposed which limit recreational uses, but are needed to protect shorelines from erosion. Also, as previously mentioned, road closures do occur, and in some cases cause a significant impediment to the flow of traffic within and through the county.

**Effects on New Development** – All new development in Walworth County, except in the villages of Genoa City and Williams Bay, is subject to local floodplain regulations. Therefore, all new development in the regulated floodplain will meet or exceed adopted development standards, which are designed to afford a reasonable level of protection from flood waters. In addition, communities have the opportunity through the subdivision review process to ensure that new projects are not susceptible to flooding that may result from the ponding of storm water.

## **ESTIMATED DAMAGE**

Using the methodology described in Appendix H, it is estimated that if 100-year flood levels occurred countywide during the same time period, flood damage to buildings could potentially exceed \$21.6 million. It should be noted however, that flood magnitudes are generally not uniform across different watersheds and that it would be a rare occurrence for all water bodies in the county to experience a 100-year flood from the same event.

## **7. ICE SHOVES**

### **PROFILE**

An ice shove, also referred to as an ice flow, is a large accumulation of broken ice blocks and sheets which have been piled up by the wind along the shoreline of a lake. Ice shoves are characteristically found on large lakes in the spring during and immediately after ice breakup. The size of the ice shove is related to the amount of ice on the lake when breakup occurs and the strength and duration of the winds at breakup.

## HISTORY OF PAST OCCURRENCES

While not common, ice shoves have occurred on Geneva Lake, which is the largest lake in the county. The only other lakes in the county which are large enough to experience ice shoves are Delavan Lake and Como Lake. Given the lack of significant damage from ice shoves, there is no written documentation regarding when they have occurred in the past or the amount of actual damage.

## VULNERABILITY ASSESSMENT

When ice shoves do form, they rarely cause measurable damage given the size of the county's largest lakes. Although ice shoves occur on a fairly frequent basis, most do not cause damage to man-made structures such as buildings, piers, boat landings, and roads. On a few occasions though, ice shoves have become rather large and damaged man-made structures. Damage estimates are not available for ice shoves.

**Effects on Facilities** – Ice shoves most directly affect buildings and structures near the lakeshore. Ice may pile on top of a road if not removed as it moves on shore.

**Effects on Population Groups** – Ice shoves do not negatively affect any population group in particular.

**Effects on Economic Sectors** – Ice shoves do not negatively affect any economic sector in particular.

**Effects on New Development** – Current land use regulations help to keep new principal buildings a safe distance away from lake shorelines. Some water related accessory structures, such as boat houses, can however be built next to the shore and would be susceptible to ice shoves.

## ESTIMATED DAMAGE

It is estimated that an ice shove event would cause damage to structures in the range of \$500 to \$5,000. This estimate assumes damage to 10 lakeside structures such as boathouses, piers, and other similar structures.

# 8. DENSE FOG

## PROFILE

Dense fog is a visible concentration of small water droplets suspended in the air at the earth's surface that obscures visibility to less than one-quarter mile. It forms when air temperature falls to its dew point, which is the temperature at which air is holding as much moisture as it can. When air reaches its dew point, it condenses into very small water droplets.

## HISTORY OF PAST OCCURRENCES

Dense fog can form throughout the year, but is most common from September through April. As listed in Appendix G, there have been 73 reported occurrences of dense fog in Walworth County since 1950.

## VULNERABILITY ASSESSMENT

**Effects on Facilities** – Dense fog does not damage or impair the operation of facilities.

**Effects on Population Groups** – Dense fog does not negatively affect any population group.

**Effects on Economic Sectors** – Dense fog impairs visibility and can hamper ground and air transportation. When visibility is decreased, the potential for motor vehicle crashes increase as does the possibility of an airplane accident on landing or take off.

**Effects on New Development** – Dense fog does not affect buildings, whether current or future.

## **ESTIMATED DAMAGE**

Based on historical data, dense fog events do no cause or result in property damage.

# **9. TORNADO**

## **PROFILE**

A tornado is a violently rotating column of air extending from the ground to the base of a convective cloud. The tornado may or may not have a visible condensation funnel (commonly referred to as a "funnel cloud"), which may or may not extend from the cloud base all the way to the ground. In the absence of a visible condensation funnel, a severe weather spotter can determine they are looking at a tornado if they observe cloud-base rotation superimposed over rotating dirt and debris at ground level. Wind speeds in a tornado typically range from 80 mph to 150 mph, but on occasions reach speeds in excess of 200 mph. There have been documented tornado winds exceeding 300 mph outside of Wisconsin. The majority of damage resulting from a tornado occurs within one-eighth mile of the tornado's path, which characteristically does not exceed 16 miles. In fact, the average path length of tornadoes in Wisconsin for the period of 1950-2005 was 9.8 miles with a duration of about 5.5 minutes. Tornadoes with track lengths greater than 150 miles have been reported in Wisconsin, although they are quite rare.

Tornadoes are visible because low atmospheric pressure in the vortex leads to cooling of the air by expansion with condensation and formation of water droplets. They are also visible as a result of the airborne debris and dust associated with the vortex. The destructive power of the tornado lies primarily in its high horizontal winds, a built-in upward-lifting force, and airborne debris impacting structures (collectively resulting in about 95 percent of the damage). To a much lesser degree, air pressure differences associated with a tornado result in additional damage. Years ago, it was assumed that air pressure differences accounted for a large portion of the damage, however, it is now realized that most buildings have enough air leakage or infiltration so that most of the air pressure differences between the inside and outside of a structure are minimized as the tornado approaches. Since tornadoes are usually associated with organized storm systems that consist of several thunderstorm cells of varying intensity, large hail, torrential rain, and intense lightning usually accompany the storm that spins up a tornado.

Although a tornado can form at any time during the year, the peak tornado season is May through July. They can also occur at any time of the day. The

peak hour for tornado initiation is between 6 and 7 p.m. and the peak hours of occurrence are between 3:00 and 9 p.m.

Prior to 2007, the Fujita Tornado Scale was used to estimate the wind speed of a tornado based on damage to structures (Table 5-15). Though the Fujita Scale has 13 ratings (F0-F12), tornadoes never exceed an F5 (261 to 318 MPH). Beginning in 2007, tornadoes are rated using the Enhanced Fujita Tornado Scale, which is essentially the same as the former scale except for the wind speed (Table 5-16).

**Table 5-15. Fujita Tornado Scale**

| Fujita |                |                                                                                                                                                                         |
|--------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rating | Wind Speed     | Characteristic Damage                                                                                                                                                   |
| F0     | 40 to 72 mph   | Some damage to chimneys, TV antennas, roof shingles, trees, and windows                                                                                                 |
| F1     | 73 to 112 mph  | Automobiles overturned, carports destroyed, and trees uprooted                                                                                                          |
| F2     | 113 to 157 mph | Roofs blown off homes, sheds and outbuildings demolished, mobile homes overturned                                                                                       |
| F3     | 158 to 207 mph | Exterior walls and roofs blown off homes; metal buildings collapsed or are severely damaged; forests and farmland flattened                                             |
| F4     | 208 to 260 mph | Few walls, if any, standing in well-built homes; large steel and concrete missiles thrown far distances                                                                 |
| F5     | 261 to 318 mph | Homes leveled with all debris removed; schools, motels, and other larger structures have considerable damage with exterior walls and roofs gone; top stories demolished |

**Table 5-16. Enhanced Fujita Tornado Scale**

| Fujita |                |                                                                                                                                                                         |
|--------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rating | Wind Speed     | Characteristic Damage                                                                                                                                                   |
| EF0    | 65 to 86 mph   | Some damage to chimneys, TV antennas, roof shingles, trees, and windows                                                                                                 |
| EF1    | 86 to 110 mph  | Automobiles overturned, carports destroyed, and trees uprooted                                                                                                          |
| EF2    | 111 to 135 mph | Roofs blown off homes, sheds and outbuildings demolished, mobile homes overturned                                                                                       |
| EF3    | 136 to 165 mph | Exterior walls and roofs blown off homes; metal buildings collapsed or are severely damaged; forests and farmland flattened                                             |
| EF4    | 166 to 200 mph | Few walls, if any, standing in well-built homes; large steel and concrete missiles thrown far distances                                                                 |
| EF5    | >200 mph       | Homes leveled with all debris removed; schools, motels, and other larger structures have considerable damage with exterior walls and roofs gone; top stories demolished |

## HISTORY OF PAST OCCURRENCES

Wisconsin lies along the northern edge of the nation's tornado belt that extends northeastward from Oklahoma into Iowa. Winter, spring, and fall tornadoes are more likely to occur in southern Wisconsin than in northern counties. Yet, tornadoes have occurred in Wisconsin during every month except February.

Wisconsin's tornado season runs from the beginning of April through September. The most severe tornadoes typically occur during April, May, and

June. Many tornadoes strike in late afternoon or early evening. However, tornadoes have occurred at other times. Personal property damage, deaths, and injuries have and will continue to occur in Wisconsin. On average, one person in Wisconsin dies from tornado-related injuries each year and an additional 24 are injured.

Since 1950, there have been 28 verified tornadoes in Walworth County (Table 5-17 and Appendix G). The vast majority of them were F0 or F1 (Table 5-18). Prior to 1982 when the National Weather Service officially began classifying tornadoes, ratings are at best broad estimates, with an accuracy of plus or minus 1.

The most recent tornado in Walworth county occurred in 2018 and 2015.

## VULNERABILITY ASSESSMENT

**Effects on Facilities** – Because tornadoes apparently occur randomly across the landscape, all areas of the county are equally as likely to experience a tornado. Therefore, all of the critical facilities which have been identified in this plan are at risk.

**Effects on Population Groups** – Even though all areas of the county are equally likely to experience a tornado, those living in mobile homes or staying in a campground are more vulnerable than those people living in a residence with a basement. In 2008, there were 10 mobile home parks and 12 campgrounds in Walworth County. None of these had a storm shelter where people could go during a wind-related storm event.

**Effects on Economic Sectors** – While individual businesses may be damaged, the overall economy generally experiences short-term effects of a tornado, if at all.

**Effects on New Development** – Because a tornado can occur anywhere in the county, new development will not be any more or less affected than current development.

## ESTIMATED DAMAGE

Based on historical occurrences and documented damage estimates, a strong tornado (EF2 or EF3) would be expected to cause about \$375,000 in damage to buildings and infrastructure. However, the range is quite wide (0 to \$3 million) depending on where the tornado occurs and its magnitude (Table 5-19).

**Table 5-17. Documented Tornadoes; Walworth County: 1950 through May 2019**

| Year | Month     | Number |
|------|-----------|--------|
| 1955 | April     | 1      |
| 1957 | April     | 1      |
| 1959 | June      | 1      |
| 1961 | August    | 1      |
| 1965 | April     | 2      |
| 1966 | March     | 1      |
| 1967 | June      | 1      |
| 1968 | May       | 1      |
| 1970 | May       | 1      |
| 1972 | July      | 1      |
| 1972 | September | 1      |
| 1978 | June      | 1      |
| 1978 | August    | 1      |
| 1980 | June      | 1      |
| 1988 | July      | 1      |
| 1990 | June      | 1      |
| 1991 | July      | 1      |
| 1992 | September | 1      |
| 1993 | June      | 1      |
| 1993 | July      | 1      |
| 1997 | July      | 1      |
| 2004 | June      | 1      |
| 2008 | January   | 1      |
| 2010 | November  | 1      |

Source: National Weather Service

**Table 5-18. Rated Tornadoes;  
Walworth County: 1950  
through May 2019**

| Fujita<br>Rating [1] | Number of<br>Occurrences | Percent<br>of Total |
|----------------------|--------------------------|---------------------|
| F0                   | 4                        | 18                  |
| F1                   | 12                       | 55                  |
| F2                   | 6                        | 27                  |
| F3                   | 0                        | 0                   |
| F4                   | 0                        | 0                   |
| F5                   | 0                        | 0                   |
| Total                | 22                       | 100                 |

Source: National Weather Service

Notes:

1. Refer to Table 5-15 and 5-16 for a description of the Fujita ratings
2. During this period, 3 tornadoes were not rated

**Table 5-19. Estimated Tornado  
Damage: Walworth  
County**

| Enhanced<br>Fujita |                          |
|--------------------|--------------------------|
| Rating [1]         | Damage Estimate          |
| EF0                | 0 to \$10,000            |
| EF1                | \$25,000 to \$200,000    |
| EF2                | \$25,000 to \$1,500,000  |
| EF3                | \$250,000 to \$2,000,000 |
| EF4                | \$500,000 to \$2,500,000 |
| EF5                | \$750,000 to \$3,000,000 |

Notes:

1. Refer to Table 5-16 for a description of the Enhanced Fujita Scale

## 10. HAILSTORMS

### PROFILE

A hailstorm is a weather event where water particles in the upper atmosphere form into round or irregular masses of ice that fall to earth. Hail stones form when sub-freezing temperatures in the upper atmosphere cause water in thunderstorm clouds to accumulate in layers around an icy core. When strong underlying winds no longer can support their weight, the hailstones fall to Earth. The size of hail typically ranges from one-quarter inch in diameter up to three inches.

Hail tends to fall in swaths that may be 20-115 miles long and 5-30 miles wide. The swath is not normally an even bombardment of hail, but generally consists of a series of hail strikes that are produced by individual thunderstorm clouds traversing the same general area. Hail strikes are typically one-half mile wide and up to five miles long. They may partially overlap, but often leave completely undamaged gaps between them. Hailstorms tend to occur in conjunction with severe thunderstorms.

### HISTORY OF PAST OCCURRENCES

Between January 1, 1950 and May 2021, there have been 110 documented hailstorm events in Walworth County (Table 5-5).

### VULNERABILITY ASSESSMENT

**Effects on Facilities** – The threat of hail damage increases as the size of the hailstone increases. Hail can break windows, damage roofs and siding, and dent motor vehicles. The threshold value of hail size in which damage can occur is  $\frac{3}{4}$  inch (NWS issues a Severe Thunderstorm Warning for these events), however, hailstones usually need to grow to 1.5 to 1.75 inch in diameter before they result in a significant amount of damage.

**Effects on Population Groups** – All population segments are equally susceptible to hail storms. Hail storms while resulting in property and crop damage, rarely causes serious injury or loss of life.

**Effects on Economic Sectors** – Of all the economic sectors, agriculture is the most susceptible to hail damage. When hailstones approach golf ball size, crops are damaged and are not able to recover, which may result in a total loss.

**Effects on New Development** – Because hail storms can occur anywhere in the county, new development will not be any more or less affected than current development.

## **ESTIMATED DAMAGE**

Based on historical data, hailstorms, while quite numerous, normally do not cause widespread or significant damage. There is however, one exceptional event. On April 13, 2006, a group of three thunderstorms moved west to east through the counties of Iowa, Dane, Jefferson, Waukesha, Milwaukee, and also affected the southern parts of the counties of Columbia, Dodge, Washington, and Ozaukee. Collectively, property damage reached at least \$420 million. Obviously, damage can reach into the tens of millions in a single county, but this would be a rare occurrence for any single county. This single event accounts for nearly 92 percent of all the documented damage that occurred between 1950 and 2006.

For the purposes of this plan, it is estimated that a hailstorm would cause about \$5,000 to \$10,000 in property damage per localized event.

# **11. THUNDERSTORMS**

## **PROFILE**

Thunderstorms are severe and violent forms of convection produced when warm moist air is overlaid by dry cool air. As the warm air rises, thunderheads (cumulonimbus clouds) form and cause the strong winds, lightning, hail, and rain characteristically associated with these storms. Thunderheads may be a towering mass 6 miles or more across and 40,000 to 50,000 feet high. As much as 1.5 million tons of water may be held in a thunderhead.

A storm event arising for a single thunderhead typically lasts less than 30 minutes in a given location. However, strong frontal systems may spawn more than one squall line composed of many individual thunderheads.

As defined by the National Weather Service, a severe thunderstorm is a thunderstorm event that produces one or more of the following: downbursts with winds of 58 mile per hour or greater, hail three-quarters of an inch in diameter, or a tornado.

## **HISTORY OF PAST OCCURRENCES**

Out of all the weather-related events in Walworth County, powerful thunderstorms are the most common. They account for 37 percent of the weather-related events documented from 1950 through May 2021. On average, county residents can expect slightly more than four significant thunderstorm events each year.



Although thunderstorms can occur throughout the year, they are most common from May through September. Typically, they occur after 12:00 p.m. until 10:00 p.m.

One of the most devastating thunderstorms to hit Walworth County occurred July 21, 1998 when scattered thunderstorms merged over the county. Hurricane-force winds were generated over the north side of Elkhorn and the resultant wind damage strongly suggests that winds gusts peaked in the 100 to 110 mph range. Elkhorn city officials declared a state of emergency due to the damage to buildings and downed trees and power lines. Several Elkhorn downtown office buildings suffered some minor damage, while six buildings on the north side along STH 67 had considerable damage. Twelve people were injured and 14 vehicles sustained damage. The storm traveled through rural farmland east to the Walworth/Racine county line, destroying three farm buildings in the process. Altogether, about 27,000 customers in Walworth County lost electric power. This event resulted in property damage totaling \$1.9 million and crop losses of \$105,000.

### **VULNERABILITY ASSESSMENT**

**Effects on Facilities** – Aside from hail, downburst straight line winds from a thunderstorm can damage property and to a less extent crops. Overhead utility lines are quite susceptible to downed trees and tree branches. Entire neighborhoods and even larger areas can lose power because of a thunderstorm. All areas of the county are equally susceptible to thunderstorms, meaning that all critical facilities are at risk.

**Effects on Population Groups** – Wind associated with severe thunderstorms can cause injury or loss of life. With the exception of those living in mobile home parks or staying in campgrounds, no population group is uniquely susceptible to a thunderstorm event. Those in mobile homes and campgrounds are at risk from falling trees and branches, and damage to their residence or camper.

**Effects on Economic Sectors** – Severe thunderstorms do not affect any economic sector disproportionately more than others.

**Effects on New Development** – Because a thunderstorm can occur anywhere in the county, new development will not be any more or less affected than current development.

### **ESTIMATED DAMAGE**

Based on historical data, a severe thunderstorm is expected to cause less than \$20,000 in property damage and less than \$2,000 in crop damage.

## **12. WINTER STORMS**

### **PROFILE**

Winter storms include a wide range of weather-related events including snowstorms, blizzards, freezing rain, sleet, and ice storms. Typical snow events produce totals of between one and three inches. On a statewide basis, heavy snowfalls happen on average five times per winter. Total snow accumulations in southern Wisconsin average about 40-50 inches. While blizzard conditions can occur in southern Wisconsin, it is rare. Both ice and sleet storms can occur at any time from October into April. They are more common in southern Wisconsin

than in the northern part of the state. Statewide, there are 3 to 5 freezing rain events each year.

## HISTORY OF PAST OCCURRENCES

For the period of 1950 through May 2021, there have been 119 winter storm events in Walworth County consisting of blizzard conditions, heavy snow, ice, or sleet.

## VULNERABILITY ASSESSMENT

**Effects on Facilities** – Heavy snow can cause the structural collapse of buildings with flat roofs. In recent memory there have been a few winter seasons where snow events taxed the ability of local governments to pay for the removal of snow from roads and keep them clear of snow.

**Effects on Population Groups** – Winter storms affect all population groups equally. People who commute a comparatively long distance are disproportionately affected.

**Effects on Economic Sectors** – A prolonged winter storm event with a large accumulation of snow can have a short term effect on the local economy in terms of lost productivity. Transportation-related businesses are often negatively affected when winter weather hits.

**Effects on New Development** – Because winter storms generally affect the county as a whole, new development will not be any more or less affected than current development.

## ESTIMATED DAMAGE

The cost of snow removal is incorporated into local government budgets so there is no direct financial impact arising from a winter storm unless the community experiences a prolonged winter season with a high number of snowfall events, such as the 2007-2008 winter when 75 to 122 inches of snow fell across southern Wisconsin.

# 13. EXTREME HEAT

## PROFILE

Periods of excessive heat, often referred to as heat waves, are quite common in Wisconsin during the summer months. When high temperatures do occur, they cover large areas of the country. Summertime heat and exposure to solar radiation can cause a number of heat disorders ranging from sunburn to heat stroke as described in Exhibit 5-6.

If left untreated, heat stroke can be deadly. From 1986 through 2006, about 143 people died each year from excessive heat in the United States. The elderly, small children, chronic invalids, people on certain medications or drugs, and people with weight and alcohol problems are particularly susceptible to heat disorders. The human body dissipates heat by varying the rate and depth of blood circulation, by perspiring, and as a last resort, by panting. Perspiration is an effective way of cooling the body's surface, but as the relative humidity increases, the positive effects of perspiration decline.

### Terms Related to Winter Storms

**Heavy snowfall** - The accumulation of six or more inches of snow in a 12-hour period or eight or more inches in a 24-hour period.

**Blizzard** - The occurrence of sustained wind speeds in excess of 35 miles per hour accompanied by heavy snowfall or large amounts of blowing or drifting snow.

**Ice storm** - An occurrence where rain falls from warmer upper layers of the atmosphere to the colder ground, freezing upon contact with the ground and exposed objects near the ground forming an accumulation of at least 1/4" in 12 hours or less.

**Freezing drizzle / freezing rain** - The effect of drizzle or rain freezing upon impact on objects that have a temperature of 32 degrees Fahrenheit or below.

**Sleet** - Solid grains or pellets of ice formed by the freezing of raindrops or the refreezing of largely melted snowflakes. Sleet does not cling to surfaces.

### Exhibit 5-6. Heat Disorders and Symptoms

| Heat Disorder   | Symptoms                                                                                                                |
|-----------------|-------------------------------------------------------------------------------------------------------------------------|
| Sunburn         | Redness and pain; in severe cases swelling of skin, blisters, fever, headaches                                          |
| Heat Cramps     | Painful spasms usually in muscles of legs and abdomen possible; heavy sweating                                          |
| Heat Exhaustion | Heavy sweating, weakness, skin cold, pale and clammy; pulse thready; normal temperature possible; fainting and vomiting |
| Heat Stroke     | High body temperature (106 or higher); hot dry skin; rapid and strong pulse; possible unconsciousness                   |

Source: National Weather Service, National Oceanic and Atmospheric Administration

**Out of all of the natural hazards in Wisconsin, excessive heat is the leading cause of fatalities.**

The National Weather Service devised the Heat Index<sup>2</sup> as a way to measure the combined effects of temperature and relative humidity. The Heat Index chart (Exhibit 5-7) also shows when certain physiological responses are commonly seen with prolonged exposure and/or physical activity. As the relative humidity increases, even modest temperatures can cause heat stroke and other less serious heat disorders.

**Exhibit 5-7. Heat Index (Apparent Temperature)**

| Air Temp. °F | Relative Humidity (%) |     |     |     |     |     |     |     |     |     |     |     |     |
|--------------|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|              | 40                    | 45  | 50  | 55  | 60  | 65  | 70  | 75  | 80  | 85  | 90  | 95  | 100 |
| 110          | 136                   |     |     |     |     |     |     |     |     |     |     |     |     |
| 108          | 130                   | 137 |     |     |     |     |     |     |     |     |     |     |     |
| 106          | 124                   | 130 | 137 |     |     |     |     |     |     |     |     |     |     |
| 104          | 119                   | 124 | 131 | 137 |     |     |     |     |     |     |     |     |     |
| 102          | 114                   | 119 | 124 | 130 | 137 |     |     |     |     |     |     |     |     |
| 100          | 109                   | 114 | 118 | 124 | 129 | 136 |     |     |     |     |     |     |     |
| 98           | 105                   | 109 | 113 | 117 | 123 | 128 | 134 |     |     |     |     |     |     |
| 96           | 101                   | 104 | 108 | 112 | 116 | 121 | 126 | 132 |     |     |     |     |     |
| 94           | 97                    | 100 | 103 | 106 | 110 | 114 | 119 | 124 | 129 | 135 |     |     |     |
| 92           | 94                    | 96  | 99  | 101 | 105 | 108 | 112 | 116 | 121 | 126 | 131 |     |     |
| 90           | 91                    | 93  | 95  | 97  | 100 | 103 | 106 | 109 | 113 | 117 | 122 | 127 | 132 |
| 88           | 88                    | 89  | 91  | 93  | 95  | 98  | 100 | 103 | 106 | 110 | 113 | 117 | 121 |
| 86           | 85                    | 87  | 88  | 89  | 91  | 93  | 95  | 97  | 100 | 102 | 105 | 108 | 112 |
| 84           | 83                    | 84  | 85  | 86  | 88  | 89  | 90  | 92  | 94  | 96  | 98  | 100 | 103 |
| 82           | 81                    | 82  | 83  | 84  | 84  | 85  | 86  | 88  | 89  | 90  | 91  | 93  | 95  |
| 80           | 80                    | 80  | 81  | 81  | 82  | 82  | 83  | 84  | 84  | 85  | 86  | 86  | 87  |

Source: National Weather Service, National Oceanic and Atmospheric Administration

With Prolonged Exposure and/or Physical Activity

|  |                                                                           |
|--|---------------------------------------------------------------------------|
|  | Extreme Danger – Heat stroke or sunstroke highly likely                   |
|  | Danger – Sunstroke, muscle cramps, and/or heat exhaustion likely          |
|  | Extreme Caution – Sunstroke, muscle cramps, and/or heat exhaustion likely |
|  | Caution – Fatigue possible                                                |

## HISTORY OF PAST OCCURRENCES

From 1986 to 2006, there were 10 years in which at least one or more persons in Wisconsin died from the direct or indirect effects of excessive heat (Table 5-20).

## VULNERABILITY ASSESSMENT

In those 10 years, a total of 115 people died. However, none of the deaths occurred in Walworth County. It is believed that some county residents received medical treatment for heat-related symptoms.

<sup>2</sup> The Heat Index is sometimes referred to as the apparent temperature.

During that 20-year period, 1995 was the deadliest year when a total of 82 deaths were reported. Two heat waves gripped much of the state. The first occurred in mid-June and the second in mid-July. During the second heat wave, the temperature rose to between 100°F and 108°F, with heat indices of 120°F to 130°F.

According to the National Weather Service, the mortality rate from excessive heat in Wisconsin is the highest of all natural disasters – more than four times greater than the second highest cause of death, tornadoes.

Intensely urbanized areas feel the effects of heat waves more than rural areas in that the temperature in urban areas is often elevated because radiant energy is stored in pavement and the exterior building surfaces and is released slowly over a period of time. Even during a heat wave, nighttime temperatures typically drop, but less so in urban areas because these heat reservoirs dissipate the radiant heat collected during the day time. This phenomenon is often referred to as the heat island effect.

Not only are urban areas heat islands, pollutants often build up in the lower atmosphere during periods of excessive heat, causing respiratory problems, especially for the young, the elderly, and those with respiratory ailments such as asthma.

Although the more urban areas of the county experience the heat island effect, the change in the ambient temperature is modest. This is because the urban areas of the county are relatively small and street trees help to deflect solar radiation back into the atmosphere.

**Effects on Facilities** – Excessive heat does not directly impact critical facilities.

**Effects on Population Groups** – The elderly are disproportionately affected by heat. For example, during the heat waves of 1995, three-quarters of the fatalities were 60 years of age or older (Table 5-21).

**Effects on Economic Sectors** – Excessive heat can accompany drought causing a loss of crops. Additionally, some businesses may close or reduce production to minimize heat effects on employees.

**Effects on New Development** – Most new homes that are being constructed in the area have central air conditioning. As such, those people living in new dwelling units will be less affected by extreme heat than those living in the existing housing stock, some of which do not have air conditioning.

## ESTIMATED DAMAGE

Aside from health consequences for county residents, excessive heat does not cause a definable economic loss.

**Table 5-20. Heat-Related Fatalities; Wisconsin: 1986 - 2006**

| Year  | Direct Deaths | Indirect Deaths |
|-------|---------------|-----------------|
| 1986  | 1             | 0               |
| 1988  | 1             | 0               |
| 1993  | 2             | 0               |
| 1995  | 82            | 72              |
| 1997  | 1             | 0               |
| 1999  | 12            | 8               |
| 2001  | 10            | 5               |
| 2002  | 3             | 5               |
| 2003  | 0             | 4               |
| 2006  | 3             | 1               |
| Total | 115           | 95              |

Source: National Weather Service, Milwaukee - Sullivan Office

**Table 5-21. Heat-Related Fatalities; United States: 1995**

| Age          | Number | Percent |
|--------------|--------|---------|
| 0 – 19       | 14     | 1.4     |
| 20 – 29      | 5      | 0.5     |
| 30 – 39      | 34     | 3.3     |
| 40 – 49      | 79     | 7.7     |
| 50 – 59      | 95     | 9.3     |
| 60 – 69      | 179    | 17.5    |
| 70 – 79      | 253    | 24.8    |
| 80 – 89      | 241    | 23.6    |
| 90 and older | 61     | 6.0     |
| Unknown age  | 60     | 6.0     |
| Total        | 1,021  | 100     |

Source: National Weather Service

## 14. EXTREME COLD

### PROFILE

Periods of extreme cold temperature are common during the winter months in Wisconsin, including Walworth County. While not commonly occurring, there have been instances where outdoor temperatures dropped to -15 degrees Fahrenheit.

### HISTORY OF PAST OCCURRENCES

From 1950 through May 2021, the National Weather Service documented 22 periods of extreme cold, all of which occurring from December through mid-February.

The lowest recorded temperature (-29 degrees Fahrenheit) in Walworth County was recorded on February 9, 1933 at the Williams Bay weather station and February 1, 1918, at the Delavan weather station. Based on data collected at the Lake Geneva weather station (474457), there are on average 6.6 days in January with temperatures at or below zero degrees Fahrenheit (Table 5-22).

### VULNERABILITY ASSESSMENT

**Effects on Facilities** – Excessive cold does not directly impact most critical facilities. There may be instances where an extended period of cold causes water pipes in buildings to freeze, and if not corrected, to burst. Underground water laterals often leak because of extreme cold temperatures as the surrounding soil materials expand and contract.

**Effects on Population Groups** – The elderly are disproportionately affected by cold temperatures. They are often times confined to their home during extended cold periods.

**Effects on Economic Sectors** – Excessively cold temperatures can accompany winter storm events; which compounds a generally difficult time. Because cold temperatures do not last for an extended period, the effects of excessively cold temperatures are short lived.

**Effects on New Development** – Periods of extreme cold will not disproportionately affect new development.

### ESTIMATED DAMAGE

Aside from health consequences for county residents, excessively cold temperatures do not cause a definable economic loss.

**Table 5-22. Temperature Extremes; Lake Geneva Weather Station: 1971-2000**

| Month     | Number<br>of Days<br>≥90°F | Number<br>of Days<br>≤0°F |
|-----------|----------------------------|---------------------------|
| January   | 0.0                        | 6.6                       |
| February  | 0.0                        | 3.8                       |
| March     | 0.0                        | 0.2                       |
| April     | 0.0                        | 0.0                       |
| May       | 0.9                        | 0.0                       |
| June      | 4.4                        | 0.0                       |
| July      | 7.4                        | 0.0                       |
| August    | 4.3                        | 0.0                       |
| September | 1.3                        | 0.0                       |
| October   | 0.0                        | 0.0                       |
| November  | 0.0                        | 0.1                       |
| December  | 0.0                        | 2.9                       |

Source:  
[http://mrcc.sws.uiuc.edu/climate\\_midwest/historical/temp/wi/474457\\_tsum.html](http://mrcc.sws.uiuc.edu/climate_midwest/historical/temp/wi/474457_tsum.html)

## 15. DROUGHT

### PROFILE

A drought is an extended period of time when rainfall is significantly below normal amounts. Unlike other natural disasters, it is not known until much later in time, when a drought begins. A drought could last for months, several years, and in extreme conditions, much longer. Droughts are typically accompanied by higher-than-normal temperatures and lower-than-normal relative humidity levels.

A drought could affect an entire region of a continent or a sub-region as small as several counties.

A number of methodologies have been developed to measure droughts from a purely meteorological standpoint. Droughts can also be defined based on the consequences which result. For the purposes of this plan, two types of drought are considered: agricultural and hydrologic. An agricultural drought causes a noticeable drop in crop yields and a hydrological drought causes a drop in lake and stream levels and lowers the height of the ground water table.

Although these two types of droughts can occur at the same time, the negative effects of a drought are first seen on crop production. Hydrologic droughts characteristically lag behind an agricultural drought because it takes time for the lack of precipitation to lower surface and ground water levels. As a result, it is possible for an area to experience a hydrologic drought long after the end of an agricultural drought.

### HISTORY OF PAST OCCURRENCES

Agricultural and hydrologic droughts occur in Wisconsin on a regular basis. Since the Dust Bowl, short-lived droughts have occurred on an interval of about one in every ten years. Long-term droughts are more infrequent. Since the Dust Bowl, there have been four significant droughts in the state: 1948-1950, 1955-1959, 1976-1977, and 1987-1988.

Exhibit 5-8 shows the statewide average annual precipitation between 1895 and 2006 and the lowest annual precipitation recorded in the state for the same period. Over this period, the average annual precipitation was 31.4 inches per year on a statewide basis. There were 56 years when precipitation was below the average and 7 years when precipitation was less than 25 inches. The lowest average annual precipitation occurred in 1976 with 20.9 inches of precipitation.

On a more localized level, there have been 88 years when an area of the state with the lowest precipitation level received less than 25 inches of precipitation. As shown in Table 5-23, the lowest statewide precipitation levels occurred in Walworth County or an adjoining county on four occasions.

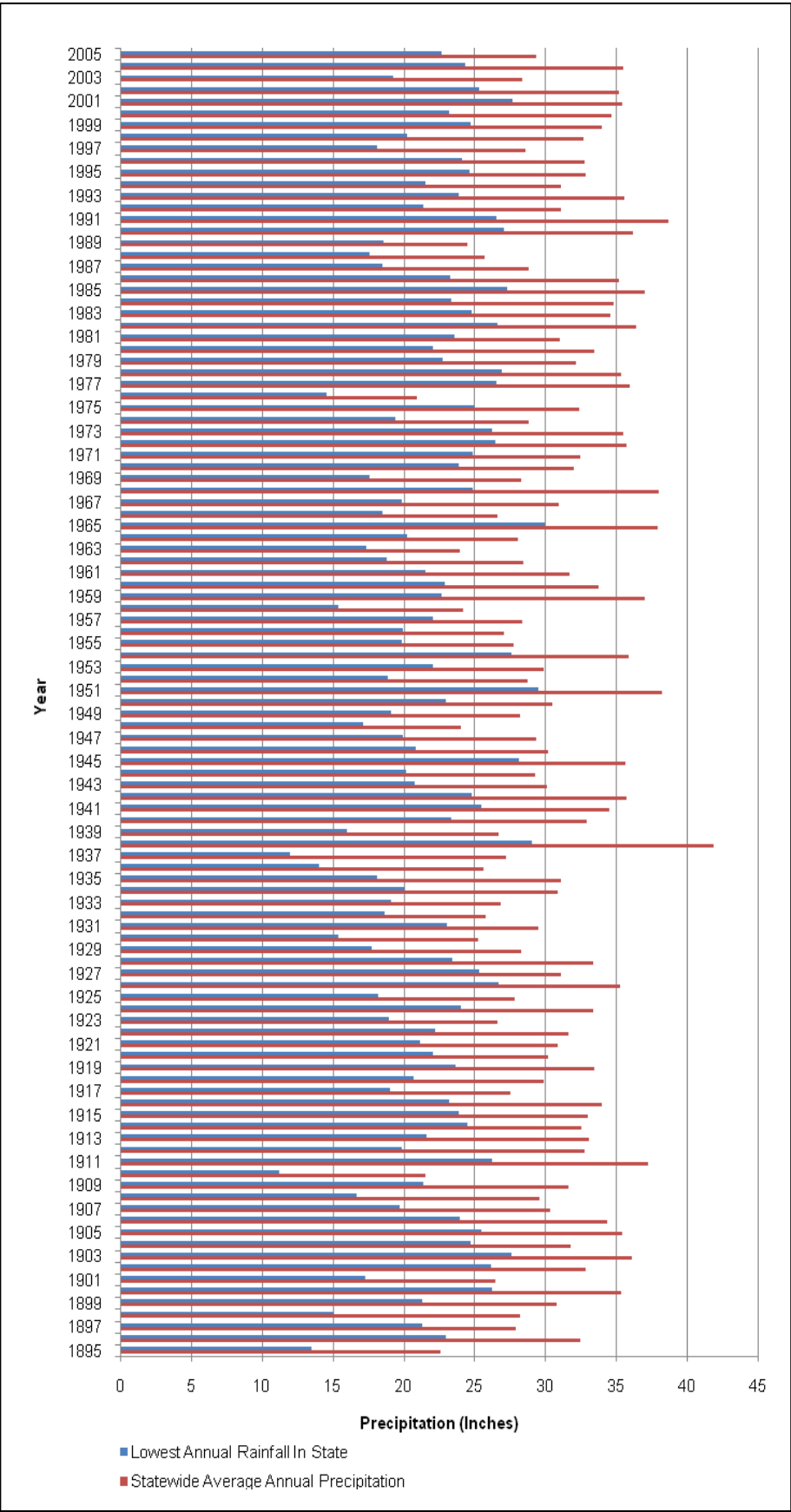
**Table 5-23. Locations in and near Walworth County with the Lowest Annual Statewide Precipitation Levels: 1895-2006**

| Year | Lowest Recorded Precipitation Levels |                           |                        |                     |                 |
|------|--------------------------------------|---------------------------|------------------------|---------------------|-----------------|
|      | Statewide<br>Average<br>(Inches)     | Precipitation<br>(Inches) | Difference<br>(Inches) | General<br>Location | County          |
| 2005 | 29.34                                | 22.7                      | 6.64                   | Racine              | Racine County   |
| 1971 | 32.48                                | 24.9                      | 7.58                   | Racine              | Racine County   |
| 1922 | 31.64                                | 22.2                      | 9.44                   | Williams Bay        | Walworth County |
| 1901 | 26.52                                | 17.3                      | 9.22                   | Waukesha            | Waukesha County |

Source: Wisconsin State Climatology Office

Note: The Wisconsin State Climatology Office did not have this dataset updated when accessed in 2013

Exhibit 5-8. Wisconsin Average Annual Precipitation: 1895-2006



Source: Wisconsin State Climatology Office Note: This office did have this dataset updated when accessed in 2012

## **VULNERABILITY ASSESSMENT**

By most accounts, the 1987-1988 drought in Wisconsin was the most severe and is estimated to have a recurrence interval of about 75 years. All Wisconsin counties were eligible for drought assistance. Agricultural losses throughout the state totaled \$1.3 billion. More than half of the farms in the state suffered crop losses of 50 percent or more, with 14 percent experiencing a crop loss of 70 percent or more.

**Effects on Facilities and Population Groups** – Unlike many of the other natural disasters addressed in this plan, drought conditions do not cause physical harm to people or destroy buildings and other structures.

**Effects on Economic Sectors** -- The two main concerns with drought relate to economic losses to agricultural crops and livestock and effects on ground water supplies available to both private and public water wells.

According to the land use inventory conducted by the Southeastern Wisconsin Regional Planning Commission in 2000, nearly two-thirds of the county was in agriculture. A drought in the county would therefore affect a significant portion of the county's economic base. During extended droughts, municipalities often see increased water usage due primarily to increased use for lawns and gardens. It is important that municipal wells are properly sized for the number of residents they are intended to serve. At times, it may be necessary to impose water restrictions when there is concern that the available water supply may not be sufficient to meet basic needs.

Because municipal wells are generally concentrated in a relatively small geographic area, extended droughts can affect the level of the water table. With decreased rainfall, the water table will naturally drop. Most public water wells draw from the deep aquifers and typically are not negatively affected. However, those wells serving an individual household are comparatively shallow and are more susceptible to a dropping water table, especially when located near a municipal well.

**Effects on New Development** – Aside from the potential of limiting the use of potable water for certain uses during drought periods, new development will be no more susceptible to drought than exists now.

## **ESTIMATED DAMAGE**

It is estimated that a drought over the course of a year would cause a loss in agricultural production in the range of \$25,000 to \$50,000. This estimate is based on an average loss of \$300 per acre over 83 to 166 acres.

# **16. WILDLAND FIRE**

## **PROFILE**

A wildland fire is an uncontrolled fire burning natural vegetation and potentially buildings and other structures. A wildland fire can occur in a large forested area, woodlot, grassland, roadside ditch, or marsh.



Wildland fires can be ignited by lightning, human carelessness, and arson. In Wisconsin, human carelessness is the leading ignition source.

### **HISTORY OF PAST OCCURRENCES**

Because the majority of nonurban land in Walworth County is in some form of agriculture, there have been few instances of wildland fires. Those wildland fires that have started were small and contained comparatively quickly.

### **VULNERABILITY ASSESSMENT**

**Effects on Facilities** – With the exception of some utility infrastructure, no critical facilities are vulnerable to a wildland fire.

**Effects on Population Groups** – Wildland fires do not negatively affect any one population group more than another.

**Effects on Economic Sectors** – Wildland fires do not negatively affect any of the economic sectors in Walworth County.

**Effects on New Development** – Most new dwelling units that will be constructed in the county will occur within subdivisions and as such will not, as a general rule, be exposed to the threat of wildland fire. A small percentage of new dwelling units will however occur on larger parcels in rural areas of the county.

### **ESTIMATED DAMAGE**

It is estimated that direct costs for fighting a five-acre grass fire is in the range of \$1,000 to \$3,000. Costs related to a fire exceeding 25 acres would be in the range of \$10,000 to \$15,000.

## **17. SUMMARY OF RISK BY JURISDICTION**

Table 5-24 presents a summary of risk for each jurisdiction in Walworth County.

**Table 5-24. Summary of Risk by Jurisdiction: 2021**

|                        | Dam<br>Failure | Flooding<br>[3] | Dense<br>Fog | Tornado | Hail-<br>storm | Thunder-<br>storm | Winter<br>Storms | Temp.<br>Extremes | Drought | Wildland<br>Fire |
|------------------------|----------------|-----------------|--------------|---------|----------------|-------------------|------------------|-------------------|---------|------------------|
| <b>Town</b>            |                |                 |              |         |                |                   |                  |                   |         |                  |
| Bloomfield             | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Darien                 | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Delavan                | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| East Troy              | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Geneva                 | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Lafayette              | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| La Grange              | Medium         | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Linn                   | Medium         | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Lyons                  | Medium         | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Richmond               | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Sharon                 | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Spring Prairie         | Medium         | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Sugar Creek            | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Troy                   | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Walworth               | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Whitewater             | Medium         | High            | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| <b>Village</b>         |                |                 |              |         |                |                   |                  |                   |         |                  |
| Bloomfield [2]         | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Darien                 | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| East Troy              | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Fontana-on-Geneva Lake | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Genoa City [1]         | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Mukwonago [1,2]        | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Sharon [2]             |                |                 |              |         |                |                   |                  |                   |         |                  |
| Walworth [2]           | Low            | High            | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Williams Bay           | Low            | High            | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| <b>City</b>            |                |                 |              |         |                |                   |                  |                   |         |                  |
| Burlington [1,2]       | Low            | High            | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Delavan                | Medium         | High            | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Elkhorn                | Low            | Medium          | Low          | Medium  | Medium         | Medium            | Medium           | Medium            | Low     | Low              |
| Lake Geneva            |                |                 |              |         |                |                   |                  |                   |         |                  |
| Whitewater [1]         |                |                 |              |         |                |                   |                  |                   |         |                  |
| <b>Walworth County</b> |                |                 |              |         |                |                   |                  |                   |         |                  |

Notes:

1. Municipality located in Walworth County and another county
2. The Village incorporated on December 20, 2011
3. See Section 6 of this chapter for a detailed loss estimates.

## 18. SUMMARY OF DAMAGE ESTIMATES

Table 5-25 lists damage estimates for the various natural hazards reviewed in this chapter.

**Table 5-25. Damage Estimates for Natural Hazards; Walworth County: 2021**

| Natural Hazard                     | Damage Estimate                        |
|------------------------------------|----------------------------------------|
| Dam Failure                        | Unknown                                |
| Flooding [1]                       | \$21.6 million (maximum)               |
| Ice Shoves                         | \$500 to \$5,000                       |
| Dense Fog [2]                      | 0                                      |
| Tornado                            | \$375,000                              |
| Hail Storms [2]                    | \$5,000 to \$10,000                    |
| Thunderstorm [2]                   | \$20,000 property; \$2,000 crop        |
| Winter Storms [2,3]                | Minimal                                |
| Extreme Temperature – heat         | Minimal                                |
| Extreme Temperature – cold         | Minimal                                |
| Drought - short-lived              | \$25,000 to \$50,000                   |
| Drought - long-lived               | 0 property; \$50,000 to \$100,000 crop |
| Wildland fire - less than 25 acres | \$1,000 to \$3,000                     |
| Wildland fire - 25 acres or more   | \$10,000 to \$15,000                   |

## Notes:

1. Based on a 100-year flood
2. Estimates do not include damage to motor vehicle or other accident-related costs
3. Estimate does not include snow removal costs. These are included in local government budgets.

# MITIGATION STRATEGY

## 1. CHAPTER OVERVIEW

This chapter is intended to identify common mitigation strategies for each of the natural hazards reviewed in this plan and potential funding sources for carrying out mitigation activities. The bulk of the chapter is devoted to listing goals, objectives, and policies along with activities that apply broadly to the county and special programs or projects or activities that apply specifically to a town, city, or village in the county.



## 2. TYPES OF POTENTIAL MITIGATION STRATEGIES

Mitigation strategies can be grouped into six broad categories:

- ◆ Prevention
- ◆ Property protection
- ◆ Public education and awareness
- ◆ Natural resource protection
- ◆ Emergency services
- ◆ Structural projects

Examples are listed below for each of the natural hazards addressed in this plan.

### Chapter Contents

1. Chapter Overview
2. Types of Potential Mitigation Strategies
3. Existing Mitigation Strategies
4. Funding Sources
5. Summary of Staff Capabilities
6. Goals, Objectives, Policies, and Activities

### Dam Failure

- ◆ Remove dams that don't serve a useful purpose
- ◆ Require the preparation of emergency action plans
- ◆ Ensure that emergency action plans are current
- ◆ Ensure that dam inspections are conducted as required by state law
- ◆ Include a dam failure in emergency planning exercises
- ◆ Minimize the level of development in a dam's hydraulic shadow in an effort to minimize damage resulting from a dam failure

### Key Terms in this Chapter

**Community Rating System (CRS)** – A voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum National Flood Insurance Programs requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from qualified community actions.

**Goal** – A statement that describes a desired condition to be achieved sometime in the future. A goal is often broad in scope, not easily measurable, and long-term in nature.

**Objective** – A specific and usually measurable intermediate end that is achievable and make progress toward a goal.

**National Flood Insurance Program** – A Federal program created in 1968 under which flood-prone areas are identified and flood insurance is made available to the owners of the property in participating communities.

**Policy** – A predetermined course of action or specific rule that an organization adopts and uses in decision-making and which when applied will help to achieve one or more of its goals or objectives.

**Repetitive loss community** – A community with one or more repetitive loss properties.

**Repetitive loss property (RLP)** – For purposes of the Community Rating System, a property for which two or more National Flood Insurance Program losses of at least \$1,000 each have been paid within any 10-year rolling period since 1978.

**Severe residential loss (SRL) property** – A residential property (1) that has at least four NFIP claim payments over \$5,000 each, when at least two such claims have occurred within any ten-year period, and the cumulative amount of such claims payments exceeds \$20,000; or (2) or which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the value of the property, when two such claims have occurred within any 10-year period.

**Safe room** – An above ground room within a building (most often homes) that is specifically designed to withstand high winds and provides occupants a safe refuge from tornadoes, hurricanes, or other high-wind events.

**Strategy** – An action or a group of actions intended to achieve a goal or objective.

**Flooding**

- ◆ Continue to enforce floodplain regulation and strengthen requirements when appropriate
- ◆ Limit development in the floodplain through local floodplain regulations or zoning
- ◆ Provide dryland access through flood-prone areas
- ◆ Retrofit legal nonconforming buildings that do not meet floodplain regulations (e.g., elevating, floodproofing)
- ◆ Purchase repetitive loss properties and remove structures (i.e., demolition or relocation)
- ◆ Raise the surface of local roads above 50-year flood elevations and arterials above 100-year flood elevations
- ◆ Enlarge the cross-section of culverts and bridges when they do not adequately carry anticipated flood flows
- ◆ Prohibit basements in new subdivisions where flooding from stormwater could be problematic
- ◆ Clean drainageways to allow a free flow of water
- ◆ Minimize impervious surfaces in a watershed so that stormwater can soak into the ground rather than contributing to flood water
- ◆ Maintain appropriate water rescue equipment
- ◆ Develop and implement appropriate evacuation procedures in flood-prone area
- ◆ Install gaging stations to better understand surface water flow regimes
- ◆ Construct stormwater facilities (e.g., detention and retention basins) to help manage stormwater
- ◆ Take steps to upgrade the National Flood Insurance Program requirements

**Ice Shoves**

- ◆ Limit development along lakeshores prone to ice shoves

**Dense Fog**

- ◆ Identify those roadways where fog is localized and install appropriate signage
- ◆ Install automated visibility warning systems to detect reduced visibility conditions

**Tornado**

- ◆ Construct storm shelters in campgrounds and mobile home parks
- ◆ Bury electrical and telephone lines and other utility cables
- ◆ Continue to enforce building codes and strengthen requirements when appropriate
- ◆ Include safety strategies for severe weather events in driver education classes

**Severe Storms/Hail**

- ◆ Encourage property owners to use building products (e.g., roofing, siding) resistant to hail damage or wind damage and anchoring devices in new construction

**Snow Storms**

- ◆ Bury electrical and telephone lines and other utility cables
- ◆ Install temporary snow fences along road ways that have experienced blowing and drifting snow
- ◆ Continue to enforce building codes and strengthen requirements when appropriate

- ◆ State and local governments can produce and distribute information to motorists relating to severe winter weather hazards
- ◆ Include safety strategies for severe weather events and winter driving in driver education classes

**Extreme Temperature**

- ◆ Establish heating and cooling centers for vulnerable populations including the elderly and homeless
- ◆ Encourage local residents to contact friends, neighbors, and other family members during periods of extreme temperature

**Drought**

- ◆ Adopt local ordinances for prioritizing water usage during drought emergencies
- ◆ Develop public wells in deep aquifers
- ◆ Maintain enough water storage capacity in public water systems
- ◆ Protect wetlands from development
- ◆ Encourage the use of water-saving devices in homes and other places where water is used
- ◆ Encourage farmers to take out crop insurance
- ◆ Protect important aquifer recharge areas from inappropriate development

**Wildland Fire**

- ◆ Maintain appropriate fire fighting equipment to effectively respond to wildland fires
- ◆ Ensure that new homes are well protected from wildland fires and have multiple routes of ingress and egress
- ◆ Provide homeowners with information on how to create a defensible space around structures
- ◆ Bury electrical and telephone lines and other utility cables
- ◆ Institute measures to reduce soil erosion following a wildland fire event
- ◆ Local governments in rural areas can require the issuance of burn permits
- ◆ Encourage property owners to conduct controlled burns as a means of controlling fuel buildup

### 3. EXISTING MITIGATION STRATEGIES

**FLOOD PROTECTION**

Although most of the dams in Walworth County were built for recreational purposes, a number of them provide attenuation of peak discharges on the watercourses where they are located. Como Lake, Delavan Lake, Green Lake, Lake Geneva, and Whitewater Lake provide substantial attenuation of peak discharges on the watercourses where they are located. Most other lakes provide little to no attenuation of peaks and therefore provided little in the way of flood protection.

There is a dam on Honey Creek within the corporate limits of East Troy. Its primary use is for recreation. It has little effect on attenuation of peak discharges and, therefore, offers very little flood protection. The Swan Creek Basin also contains flat marshy areas upstream of the city of Delavan. These areas, along with the two control structures at Mill Pond and Delavan Lake, provide significant retention of floodwaters and attenuate peak discharges within the city of Delavan. The Turtle Creek Basin has a control structure at the Comus Lake outlet which, along with the flat marshy areas upstream of the city of Delavan, provides significant natural retention of floodwaters.

## NATIONAL FLOOD INSURANCE PROGRAM

In 1968, Congress created the National Flood Insurance Program (NFIP)<sup>1</sup> to identify and map flood-prone communities and provide flood insurance to those property owners within a community that has adopted floodplain management regulations that meet minimum requirements. The Federal Insurance and Mitigation Administration, a division of the Federal Emergency Management Agency (FEMA), administers this federal program. Over 21,000 communities across the United States and its territories now participate in the NFIP.

Walworth County currently participates in the NFIP along with each of the cities and villages (Table 6-1).

According to a fact sheet produced by FEMA, the effects of non-participation in NFIP are as follows:

1. Flood insurance will no longer be available. No resident will be able to purchase a flood insurance policy.
2. No federal grants or loans for buildings may be made in identified flood hazard areas. Includes all federal agencies such as HUD, EDA, Small Business Administration, HHS, etc.
3. Only limited federal disaster assistance may be provided in identified flood hazard areas.
4. No federal mortgage insurance may be provided in identified flood hazard areas. This includes FHA, VA, Farmers Home, etc.
5. Legislative changes to Flood Disaster Protection Act, (FDPA) lifted restriction on conventional loans in non-participating communities and replaced it with the requirement that lenders (a) must notify buyer or lessee that property is in a flood area: and (b) must notify buyer or lessee that property in flood hazard area is not eligible for Federal disaster relief in a declared disaster.
6. Actuarial rates go into effect regardless or whether or not a community participates in the program. Without a local floodplain management ordinance unsafe construction today may be prohibitively expensive, and therefore unsalable, tomorrow. Such a condition could be triggered by a community's reentry in the program at a later date. Examples of reasons for re-establishing eligibility are as follows (a) New legislative body or inclination of such a body. (b) Larger share of mortgage market through FHA, VA, Farmers Home. (c) Federal grant or loan for particular project. (d) A major disaster, triggering need for disaster aid. (e) Changed political pressures.
7. Local governing body may be susceptible to some form of liability by not participating because their action: (a) denies the ability of its citizens to purchase flood and related water damage insurance, and (b) does not take positive steps to reduce the exposure of life and property in the face of authoritative scientific and technological data. Up to now, there have been no consistent court rulings along these lines.

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<sup>1</sup> The National Flood Insurance Program was created with the passage of the National Flood Insurance Act of 1968.

**Table 6-1. National Flood Insurance Program (NFIP) Status: May 15, 2021**

| Jurisdiction                    | Status                                                                                 |
|---------------------------------|----------------------------------------------------------------------------------------|
| Village                         |                                                                                        |
| Bloomfield [2]                  | Current FIRM adopted 10/02/2009                                                        |
| Darien                          | Current FIRM adopted 3/11/2022                                                         |
| East Troy                       | Current FIRM adopted 10/02/2009                                                        |
| Fontana-on-Geneva Lake          | Current FIRM adopted 09/03/2014                                                        |
| Genoa City [1]                  | Current FIRM adopted 06/12/2012                                                        |
| Mukwonago [1]                   | Current as of 10/02/2009                                                               |
| Sharon                          | Not mapped                                                                             |
| Walworth                        | Participating, but does not contain any special flood hazard areas (SFHAs), all Zone C |
| Williams Bay                    | Current FIRM adopted                                                                   |
| City                            |                                                                                        |
| Burlington [1]                  | Current FIRM adopted 05/02/2012                                                        |
| Delavan                         | Current FIRM adopted 10/02/2009                                                        |
| Elkhorn                         | Current FIRM adopted 4/15/2022                                                         |
| Lake Geneva                     | Current FIRM adopted 10/02/2009                                                        |
| Whitewater [1]                  | Current FIRM adopted 10/02/2009                                                        |
| Walworth County, unincorporated | Current FIRM adopted 10/02/2009                                                        |

Source: Federal Emergency Management Agency, Community Status Book Report <https://www.fema.gov/cis/WI.pdf>  
Data retrieved May 15, 2021 and November 15, 2022

Notes: 1. Municipality located in Walworth County and another county; data is for entire municipality  
2. The village incorporated on December 20, 2011

Participation in the NFIP is based on an agreement between a local community and the federal government that states, if a community will adopt and enforce a floodplain management ordinance to reduce future flood risks to new construction in Special Flood Hazard Areas, the federal government will make flood insurance available within the community as a financial protection against flood losses.

The Walworth County floodplain ordinance is based on a model established by the Wisconsin Department of Natural Resources. In 2008, the DNR drafted a new model ordinance. All existing floodplain ordinances need to meet the requirements.

For those jurisdictions that participate in the NFIP, property owners are able to purchase flood insurance, including those not located within a mapped floodplain area. Flood insurance pays even when no state or federal disaster is declared. Historically, federal disaster declarations have been issued in less than 50 percent of the flooding incidents.

There are two types of flood insurance. The first is a policy that insures the physical structure and the second is a policy that covers the content of the building. The standard flood insurance policy provides coverage for one building per policy. The only exception is 10 percent coverage for a detached garage. However, the total payment for flood damage to the detached garage and the house together cannot exceed the building policy limit. For coverage to apply, the garage can only be used for parking and storage. All other buildings on the premises need separate coverage. The maximum allowable limits are \$250,000 for residential properties and \$500,000 for commercial properties.



Contents are not automatically included. If contents coverage is desired, a specific amount must be named and a separate premium charged. Contents coverage limits are \$100,000 for residential policies and \$500,000 for commercial policies.

Building property coverage includes:

- ◆ The insured building and its foundation
- ◆ The electrical and plumbing systems
- ◆ Central air conditioning equipment, furnaces, and water heaters
- ◆ Refrigerators, cooking stoves, and built-in appliances such as dishwashers
- ◆ Permanently installed carpeting over an unfinished floor
- ◆ Permanently installed paneling, wallboard, bookcases, and cabinets.
- ◆ Window blinds
- ◆ Detached garages (up to 10 percent of building property coverage)
- ◆ Debris removal

***Federal disaster declarations are issued in less than 50% of the flooding incidents.***

Personal property coverage includes:

- ◆ Personal belongings such as clothing, furniture, and electronic equipment
- ◆ Curtains
- ◆ Portable and window air conditioners
- ◆ Portable microwave ovens and portable dishwashers
- ◆ Carpets not included in building coverage (see above)
- ◆ Clothes washers and dryers
- ◆ Food freezers and the food in them
- ◆ Certain valuable items such as original artwork and furs (up to \$2,500)

The cost of an annual regular flood insurance policy varies depending on the site location, age of the building, design of the building, and elevation of the building if located in a flood hazard area

Sanitary sewer backups are not covered. However, many homeowners policies do have riders to cover sewer back-ups. Sewer back-up riders can cost as little as \$30 per year.

While flood insurance coverage can significantly reduce the potential economic loss to a landowner in case of a flood disaster, flood insurance also helps reduce the cost of disaster aid to the general public. It has been shown that every \$3 paid in flood insurance claims saves \$1 in disaster assistance payments.

In July 2005, there were 63 insurance policies in Walworth County with coverage of more than \$10.4 million. As of January 2013, the number of policies stands at 103, representing an increase of 63 percent when compared to 2005. Likewise, the total coverage has substantially increased to more than \$24.6 million, representing an increase of 136 percent since 2005.

**Table 6-2. Flood Insurance Policies: March 31, 2021**

| Jurisdiction                    | Policies | Total Coverage | Total Premiums |
|---------------------------------|----------|----------------|----------------|
| Village                         |          |                |                |
| Bloomfield [2]                  | 3        | \$562,400      | \$4,332        |
| Darien                          | 0        | 0              | 0              |
| East Troy                       | 1        | \$500,000      | \$1,408        |
| Fontana-on-Geneva Lake          | 10       | \$3,500,000    | \$4,628        |
| Genoa City [1]                  | 2        | \$700,000      | \$1,464        |
| Mukwonago [1]                   | 0        | 0              | 0              |
| Sharon                          | 0        | 0              | 0              |
| Walworth                        | 2        | \$700,000      | \$986          |
| Williams Bay                    | 0        | 0              | 0              |
| City                            |          |                |                |
| Burlington [1]                  | 0        | 0              | 0              |
| Delavan                         | 2        | \$850,000      | \$3,013        |
| Elkhorn                         | 0        | 0              | 0              |
| Lake Geneva                     | 9        | \$2,365,000    | \$3,504        |
| Whitewater [1]                  | 14       | \$3,739,500    | \$10,719       |
| Walworth County, unincorporated | 67       | \$19,070,000   | \$38,559       |
| Total                           | 110      | \$31,986,900   | \$68,613       |

Source: Federal Emergency Management Agency (<http://bsa.nflipstat.fema.gov/reports/1011.htm>)  
Data retrieved March 13, 2013

## Notes:

1. Municipality located in Walworth County and another county; data for Walworth County only
2. The village incorporated on December 20, 2011

**Table 6-3. Insurance Premium Reductions for Communities in the Community Rating System**

| CRS Rating | Special Flood Hazard Area | Non-Special Flood Hazard Area |
|------------|---------------------------|-------------------------------|
| 1          | 45%                       | 10%                           |
| 2          | 40%                       | 10%                           |
| 3          | 35%                       | 10%                           |
| 4          | 30%                       | 10%                           |
| 5          | 25%                       | 10%                           |
| 6          | 20%                       | 10%                           |
| 7          | 15%                       | 5%                            |
| 8          | 10%                       | 5%                            |
| 9          | 5%                        | 5%                            |
| 10         | 0                         | 0                             |

## COMMUNITY RATING SYSTEM

The Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum requirements of the National Flood Insurance Program (NFIP). Because flood risk has been reduced, policy holders in participating communities enjoy lower flood insurance premiums than those located in a community that is not part of CRS. Flood insurance premium rates are discounted as shown in Table 6-3 based on a community's rating. A Class 1 community receives a 45 percent premium discount, while a Class 9 community receives a 5 percent discount. A Class 10 community is not participating in CRS and receives no discount. The CRS classes for local communities are based on 18 activities, organized under four categories (1) public information, (2) mapping and regulations, (3) flood damage reduction, and (4) flood preparedness. Nationwide, 1,049 communities are part of CRS, or roughly 5 percent of those who are eligible.

All of the jurisdictions in Walworth County that participate in the NFIP have a rating of 10 (Table 6-4).

## PROPERTY ACQUISITION AND STRUCTURE REMOVAL

In some instances, communities have purchased structures that have been repeatedly flooded using federal, state, and local funding. As of 2008, Walworth County and none of the local jurisdictions have used this tool. The town of Sugar Creek purchased five homes that were flooded in 2008.

## STORMREADY

StormReady is a national voluntary program, administered through local National Weather Service offices that encourages communities to take a proactive approach in developing plans to improve local hazardous weather operations and public awareness for all types of local severe weather threats<sup>2</sup>. It is intended to give communities the skills and education needed to cope with and manage potential weather-related disasters, before and during the event. By participating in StormReady, local agencies can earn recognition for their jurisdiction by meeting criteria established by the National Weather Service in partnership with federal, state, and local emergency management professionals.

The program does not replace any of the various federally or state-funded hazard mitigation programs, rather, it compliments them. The entire community - from the mayor, emergency managers, to business leaders and civic groups - can take the lead on becoming StormReady. Education and communication are a key part of the StormReady program. The Wisconsin StormReady Advisory Board, comprised of National Weather Service personnel and state, regional, and county emergency managers, reviews applications and visits the jurisdictions to verify the steps made in the process to become StormReady. The designation is only valid for two years.

In Wisconsin, there were 10 counties and 13 municipalities that are certified StormReady (Table 6-5). The city of Whitewater is the only jurisdiction in the Walworth County to be certified.

**Table 6-4. Community Rating System Rating of Selected Jurisdictions; Walworth County: October 1, 2020**

| Jurisdiction                    | CRS Rating |
|---------------------------------|------------|
| Village                         |            |
| Bloomfield [2]                  | 10         |
| Darien                          | 10         |
| East Troy                       | 10         |
| Fontana-on-Geneva Lake          | 10         |
| Genoa City [1]                  | na         |
| Mukwonago [1]                   | 10         |
| Sharon                          | 10         |
| Walworth                        | 10         |
| Williams Bay                    | na         |
| City                            |            |
| Burlington [1]                  | 10         |
| Delavan                         | 10         |
| Elkhorn                         | 10         |
| Lake Geneva                     | 10         |
| Whitewater [1]                  | 10         |
| Walworth County, unincorporated | 10         |

Notes:

1. Municipality located in Walworth County and another county
2. The village incorporated on December 20, 2011

**Table 6-5. StormReady Jurisdictions; Wisconsin 2021**

| Counties    | Communities |
|-------------|-------------|
| Brown       | Bayside     |
| Claumet     | Belleville  |
| Fond du Lac | Cedarburg   |
| Iowa        | Dousman     |
| Lincoln     | Elm Grove   |
| Oneida      | Hillsboro   |
| Racine      | Lake Delton |
| Sauk        | Lake Mills  |
| St. Croix   | New Berlin  |
| Washburn    | Reedsburg   |
|             | Viroqua     |
|             | Waupaca     |
|             | Whitewater  |

Source: [www.stormready.noaa.gov/communities.htm](http://www.stormready.noaa.gov/communities.htm)  
Data retrieved February 10, 2014

<sup>2</sup> More information about StormReady is available from the Milwaukee/Sullivan Weather Service Forecast office. [www.crh.noaa.gov/mkx/?n=stormready-mkx](http://www.crh.noaa.gov/mkx/?n=stormready-mkx)

## NOAA WEATHER RADIO ALL HAZARDS

NOAA Weather Radio (NWR) is a nationwide network of radio stations broadcasting continuous weather information direct from a nearby National Weather Service office. NWR broadcasts National Weather Service warnings, watches, forecasts, and other hazard information 24 hours a day. It is also used to broadcast warning and post-event information for all types of hazards - both natural events (e.g., severe weather, flooding) and man-made events (e.g., Amber Alerts, toxic, chemical, and biological releases, terrorist attacks). In some states, Amber alerts are not broadcast on NWR; Wisconsin is an example. The radios can be programmed to receive information specific to a certain geographic area and sound an alarm to alert users of approaching dangerous weather. NWR is the primary actuator of the Federal Communications Commission's Emergency Alert System (EAS).

*The NOAA Weather Radio network provides authoritative weather and emergency information to the public.*

As of April 18, 2013, the NWR network included more than 900 stations covering an estimated 97 percent of the U.S. population. The Milwaukee/Sullivan Weather Service Forecast office is located in the town of Sullivan and serves 20 counties in south-central and southeast Wisconsin and programs seven transmitter sites. NOAA Weather Radios are available through retail stores that sell electronic appliances, marine supply stores, truck stops, cable shopping networks, mail order catalogs, and the Internet.

## URBAN STORMWATER MANAGEMENT ORDINANCES

New urban development brings with it increases in impervious surfaces such as rooftops, driveways, and streets. As areas develop into urban land uses, there is an increase in both volume and rate of runoff. To control the rate of runoff and potential downstream increases in peak flood elevations, some communities require detention of stormwater.

Walworth County has a stormwater management ordinance and each of the cities and villages have an ordinance as well.

## EROSION AND SEDIMENT CONTROL ORDINANCES

Sediment from construction sites can deposit in local streams causing blockages that can result in potentially higher flood elevations during storm events. To control construction site erosion from construction sites, the Wisconsin Department of Commerce has adopted construction site erosion control regulations through the state Uniform Building Code. State erosion control regulations are enforced by local building inspectors. In addition to the state regulations, Walworth County has adopted a construction erosion control ordinance for new developments.

## SHORELAND ZONING

Under Wisconsin Administrative Code NR 115, counties are required to adopt a shoreland zoning ordinance that controls development within the shoreland<sup>3</sup> of lakes and streams. The shoreland-zoning ordinance establishes minimum lot sizes—10,000 square feet on public sanitary sewer and 20,000 square feet on private sanitary systems. Buildings must be setback 75 feet from the ordinary high-water mark and comply with local floodplain zoning ordinances. The ordinance regulates the cutting of trees and shrubbery within 35 feet of the ordinary high-water mark and prohibits more than 30 feet of every 100 feet to be removed. Primary uses in the shoreland-zoning district are limited to open

<sup>3</sup> A shoreland is defined as land within the following distances from the ordinary high-water mark of navigable waters: 1000 feet from a lake, pond, or flowage; and 300 feet from a river or stream or the landward side of the floodplain, whichever is greater. (NR 115.03 (8))

space, agricultural, and maintenance of piers, roadways, and public utilities. These development standards follow land when it is annexed into a city or village, unless the municipality has adopted an ordinance as strict as the county ordinance.

Walworth County has adopted an ordinance consistent with state requirements. No city or village has adopted a shoreland zoning ordinance.

### SHORELAND WETLAND ZONING

Under Wisconsin Administrative Code NR 115, counties are required to adopt a shoreland wetland zoning ordinance that creates a shoreland wetland zoning district to control the development of wetlands that are two acres or more in size within the shoreland area. Permitted uses in the shoreland wetland district are limited to:

- ◆ recreation (hiking, fishing, hunting, swimming, and boating)
- ◆ agriculture
- ◆ public roadways and railroad lines
- ◆ public utilities
- ◆ non-residential building used for aquaculture

These development standards follow land when it is annexed into a city or village, unless the municipality has adopted an ordinance as strict as the county ordinance.

Walworth County has adopted an ordinance consistent with state requirements. No city or village has adopted a shoreland-wetland zoning ordinance.

### COMPREHENSIVE PLANS

In 1999, the governor signed legislation that created a new framework for comprehensive planning in Wisconsin. By January 1, 2010, any community wanting to regulate land use must have an adopted comprehensive plan that meets minimum state requirements. Although state requirements do not require that natural hazard planning be a part of a comprehensive plan, communities do have an opportunity to consider natural hazards when devising land use plans and goals, objectives, and policies relating to land use and environmental management. Table 6-6 shows the status of these plans in the county.

**Table 6-6. Status of Comprehensive Plans in Walworth County: March 2021**

| Jurisdiction           | Status       |
|------------------------|--------------|
| Walworth County        | Update 2019  |
| Village                |              |
| Bloomfield [2]         | None         |
| Darien                 | 2009         |
| East Troy              | Updated 2019 |
| Fontana-on-Geneva Lake | Adopted 2020 |
| Genoa City [1]         | Adopted 2008 |
| Mukwonago [1]          | Updated 2019 |
| Sharon                 | Adopted 2004 |
| Walworth               | Updated 2019 |
| Williams Bay           | Adopted 2010 |
| City                   |              |
| Burlington [1]         | Not known    |
| Delavan                | Updated 2020 |
| Elkhorn                | Updated 2016 |
| Lake Geneva            | Updated 2019 |
| Whitewater [1]         | Updated 2017 |

Source: Verified April 2021

Notes:

1. Municipality located in Walworth County and another county
2. The village incorporated on December 20, 2011

### FARMLAND PRESERVATION PROGRAM

The state of Wisconsin created the Wisconsin Farmland Preservation Program in 1977 to support the efforts of counties to preserve agricultural resources. If a county has an approved agricultural preservation plan that meets the standards of Chapter 91, Wisconsin Statutes, qualified farmland owners are eligible to receive a state income tax credit. In 1978, the county board adopted an agricultural preservation plan. Aside from protecting farmland from urban development, the county's plan will help to protect natural floodplains and flood storage.

### TORNADO SIRENS

Tornado sirens are maintained by the various cities, villages, and towns in the county. It is not known how much of the county is not covered by a siren. The emergency operations plan for Walworth County identifies the procedures and resources used to provide interagency communications between responders and the procedures and resources used to provide warning to county residents in the event of a disaster.

MANAGEMENT OF FLOODED ROADWAYS

During larger flood events, some roadways in the county are blocked with water, which can create a potentially dangerous scenario for drivers, limit access to areas within the county, or cause travel delays. This section describes the ways in which flooded roads can be addressed, including roadway modification (e.g., bridge replacement and elevate roadway) and road closure.

**Bridge Replacement.** In some cases, an alternative to road inundation may be to increase the hydraulic opening of the bridge to allow more water to flow past the bridge and reduce the backwater on the upstream side of the bridge. When a bridge/culvert is scheduled for replacement due to age or roadway expansion, the bridge designers should look at the effect of the bridge design on the roadway overtopping. If feasible, the new bridge should be replaced with a structure that would meet the criteria outlined in Table 6-7.

The Wisconsin Department of Transportation (WDOT) provides design criteria for structure crossings a stream in the *Facilities Development Manual* (Procedure 13-10-1). Major structures, such as bridges and box culverts, are designed using a process of selecting a design frequency which best produces a balance between structure costs and the cost of potential flood-related damages or risks. Structures in new locations are generally designed to accommodate the 100-year event without increasing the upstream flood stages over existing conditions. Replacement structures are generally designed not to increase the headwater elevation from existing conditions.

In some situations, structure sizes may be increased to reduce the upstream flood elevations. In those cases, if the existing structure is causing upstream flood storage, the flows will need to be re-evaluated to determine if the new structure will increase downstream flows and stages. Under Wisconsin Administrative Code NR 116, if a new bridge results in upstream or downstream increases in the flood elevation greater than 0.01 feet (about 1/8”), easements from the affected landowners are required. Where feasible, roadway surfaces should be designed to provide emergency access during flood events.

**Elevation of Roadways** An alternative to roadway inundation is to raise the pavement surface to above the regional flood elevation. Placing additional fill along the roadway corridor would raise the road surface. While this alternative would help maintain public access, the raising of the road surface may increase flood elevations upstream of the fill. The fill would need to be structurally designed to withstand the hydraulic pressures of floodwaters. As roadway maintenance is scheduled, the designers should consider the alternative of roadway elevation. Roadways should only be raised where the project is cost effective.

**Road Closures During Flooding** Drowning is obviously the number one cause of flood deaths. What is surprising is the fact that more people drown in their cars than anywhere else. During flood events, the depth of the water over road surfaces is difficult to predict. Many drivers enter water they think is a few inches deep, only to find themselves in the center of a flowing stream.

The emergency operations plan for Walworth County outlines the procedures for emergency response during flood events including steps to close flooded roads and reroute traffic.

Table 6-7. Recommended Roadway Flood Protection Level

| Roadway Classification     | Recommended Protection |
|----------------------------|------------------------|
|                            | Level                  |
| Interstate and railroads   | 100-year flood         |
| State & county highway     | 50-year flood          |
| Local arterial             | 50-year flood          |
| Minor and collector street | 10-year flood          |

## PUBLIC INFORMATION

Information is one of the most important tools in helping people mitigate the potential impacts of natural hazards. To be effective, information needs to be available from several sources and be offered on an on-going basis.

By way of example, Exhibit 6-1 outlines the roles of the various organizations involved in public education with regards to floodplain issues.

### Exhibit 6-1. Organizations and Their Roles in Distributing Public Information Regarding Floodplain Management

#### Organization / Activities

##### Federal Emergency Management Agency (FEMA)

- ◆ Provides information on National Flood Insurance Program (NFIP)
- ◆ Provides training to insurance industry on implementation of NFIP
- ◆ Provides technical information on flood mitigation activities
- ◆ Maintains a national library of floodplain maps

##### Wisconsin Emergency Management

- ◆ Provides information and training in emergency management including preparedness, response, recovery, and mitigation activities

##### Wisconsin Department of Natural Resources

- ◆ Provides information on National Flood Insurance Program (NFIP)
- ◆ Provides technical information on flood mitigation activities
- ◆ Maintains a state library of floodplain maps and flood profile models
- ◆ Provides training to local zoning administrators on implementation of floodplain zoning ordinances

##### Walworth County Land Use & Resource Management Department (LURM)

- ◆ Maintains local library of floodplain maps
- ◆ Provides information on National Flood Insurance Program (NFIP)
- ◆ Provides information on county floodplain regulations

##### Local Insurance Agents

- ◆ Provides information on National Flood Insurance Program (NFIP)

##### Local Lending Agencies

- ◆ Provides information on National Flood Insurance Program (NFIP). Flood insurance is required on federally-backed mortgages for properties located in a floodplain.

##### Real Estate Agents

- ◆ Provides information on National Flood Insurance Program (NFIP)
- ◆ Required by state law to notify buyers whether or not a structure is located in a regulatory floodplain

In an effort to keep state residents informed about natural hazards, the National Weather Service and Wisconsin Emergency Management sponsors a number of public awareness campaigns, including:

- ◆ Tornado & Severe Weather Week
- ◆ Rip Current Awareness Week
- ◆ Heat Awareness Day
- ◆ Lightning Safety Week proclamations
- ◆ Winter Awareness Week
- ◆ Flood Safety Week

## 4. FUNDING SOURCES

### AVAILABLE FEDERAL FUNDING SOURCES

The Federal Emergency Management Agency administers a number of programs that fund mitigation activities at the local and state level.

**Hazard Mitigation Grant Program** The Hazard Mitigation Grant Program (HMGP) provides grants to States and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

**Flood Mitigation Assistance Program** The Flood Mitigation Assistance (FMA) program was created as part of the National Flood Insurance Reform Act (NFIRA) of 1994 with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP). FEMA provides FMA funds to assist States and communities implement measures that reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the National Flood Insurance Program.

**Pre-Disaster Mitigation Program** The Pre-Disaster Mitigation (PDM) program provides funds to states, territories, Indian tribal governments, communities, and universities for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. Funding these plans and projects reduces overall risks to the population and structures, while also reducing reliance on funding from actual disaster declarations. PDM grants are to be awarded on a competitive basis and without reference to state allocations, quotas, or other formula-based allocation of funds.

**Repetitive Flood Claims Program** The Repetitive Flood Claims (RFC) grant program was authorized by the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004, which amended the National Flood Insurance Act of 1968. Up to \$10 million is available annually for FEMA to provide RFC funds to assist States and communities reduce flood damages to insured properties that have had one or more claims to the National Flood Insurance Program. Eligible activities include acquisition of properties, and either demolition or relocation of flood-prone structures, where the property is deed restricted for open space uses in perpetuity.

**Severe Repetitive Loss Program** The Severe Repetitive Loss (SRL) grant program was authorized by the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004, which amended the National Flood Insurance Act of 1968 to provide funding to reduce or eliminate the long-term risk of flood damage to severe repetitive loss (SRL) structures insured under the National Flood Insurance Program (NFIP). The act authorized up to \$40 million for each fiscal year 2005 through 2009.

Eligible flood mitigation project activities include floodproofing (historical properties only), relocation, elevation, acquisition, mitigation reconstruction (demolition rebuild), and minor physical localized flood control projects.

## **FUNDING RECEIVED**

Walworth County has received the funding listed in Table 6-8 for the specified activities.



**Table 6-8. Federal and State Funding for Mitigation Activities: 1965–2021**

| Year | Jurisdiction    | Funded Activities                             |
|------|-----------------|-----------------------------------------------|
| 2008 | Walworth County | Preparation of initial hazard mitigation plan |
| 2012 | Walworth County | 5-year update of hazard mitigation plan       |
| 2020 | Walworth County | 5-year update of hazard mitigation plan       |

Source: Walworth County Emergency Management

## 5. REVIEW OF CAPABILITIES

This multi-jurisdictional plan covers all of the unincorporated area of Walworth County and 14 municipalities – 9 villages and 5 cities. They all have different levels of resources and personnel that could be made available in the implementation of this plan (Table 6-9).

**Table 6-9. Summary of Staff Capabilities: 2021**

|                        | Administrator | Emergency Management Staff | Community Planner |
|------------------------|---------------|----------------------------|-------------------|
| <b>Village</b>         |               |                            |                   |
| Bloomfield [2]         | No            | No                         | No                |
| Darien                 | Yes           | No                         | Contracted        |
| East Troy              | Yes           | No                         | Contracted        |
| Fontana-on-Geneva Lake | Yes           | No                         | Contracted        |
| Genoa City [1]         | No            | No                         | No                |
| Mukwonago [1]          | Yes           | No                         | Yes               |
| Sharon                 | No            | No                         | No                |
| Walworth               | Yes           | No                         | No                |
| Williams Bay           | Yes           | No                         | No                |
| <b>City</b>            |               |                            |                   |
| Burlington [1]         | Yes           | No                         | Yes               |
| Delavan                | Yes           | No                         | No                |
| Elkhorn                | Yes           | No                         | Yes               |
| Lake Geneva            | Yes           | Yes (0.5 FTE)              | No                |
| Whitewater [1]         | Yes           | Yes (1 FTE)                | Yes               |
| Walworth County        | Yes           | Yes (1.3 FTE)              | Yes (2 FTE)       |

Notes:

1. Municipality located in Walworth County and another county
2. The village incorporated on December 20, 2011

## 6. GOALS, OBJECTIVES, POLICIES, AND ACTIVITIES

This section builds off of the previous parts of the plan and presents a unified plan of action to mitigate the effects of natural hazards on property, people, and assets. It lists goals, objectives, and policies that should guide decision-makers and other officials. Goals are intended to describe an end state, usually in

general terms. In contrast, objectives describe an end state in measurable and specific terms. Policies give clear direction on what will be done to help achieve a goal and/or objective.

Following the listing of goals, objectives, and policies, a chart lists specific action items. Responsible entities are listed for each activity so that implementation is well defined.

At their meeting, the Steering Committee reviewed the goals, objectives, policies and activities listed below. Each were reviewed and updated or reconfirmed.

The activity charts are a work in progress. As items are completed, they should be deleted and new items will be added as new opportunities or issues arise. Further, depending on available resources, including funding and staff time, priorities may change.

## MAJOR ACCOMPLISHMENTS

A number of accomplishments have been achieved since the last plan was adopted in 2015 (Exhibit 6-2).

### Exhibit 6-2. Accomplishments: 2015-2021

1. More communications are bilingual (English-Spanish)

## PRIORITIZATION OF GOALS AND ACTIONS

Activities are prioritized as low, medium, or high based on the STAPLE+E approach. Exhibit 6-3 lists each of the criteria used to identify the priority. The mitigation actions with the highest priority were deemed to be the most cost effective and most compatible with the community's social and cultural values.

### Exhibit 6-3. STAPLE+E

| Criteria           | Description                                                                                                                                                                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S- Social          | Mitigation actions are acceptable to the community if they do not adversely affect a particular segment of the population, do not cause relocation of lower income people, and if they are compatible with the community's social and cultural values.                                    |
| T-Technical        | Mitigation actions are technically most effective if they provide long- term reduction of losses and have minimal secondary adverse impacts.                                                                                                                                              |
| A – Administrative | Mitigation actions are easier to implement if the jurisdiction has the necessary staffing and funding.                                                                                                                                                                                    |
| P – Political      | Mitigation actions can truly be successful if all stakeholders have been offered an opportunity to participate in the planning process and if there is public support for the action.                                                                                                     |
| L – Legal          | It is critical that the jurisdiction or implementing agency have the legal authority to implement and enforce a mitigation action.                                                                                                                                                        |
| E – Economic       | Budget constraints can significantly deter the implementation of mitigation actions. Hence, it is important to evaluate whether an action is cost-effective, as determined by a cost benefit review, and possible to fund.                                                                |
| E – Environmental  | Sustainable mitigation actions that do not have an adverse effect on the environment, that comply with Federal, State, and local environmental regulations, and that are consistent with the community's environmental goals, have mitigation benefits while being environmentally sound. |

## COST BENEFIT ANALYSIS FOR GOALS AND ACTIONS

Specific cost benefit reviews will occur for each action in each participating jurisdiction during annual budget scenarios. Most identified actions are programmatic and not capital expenditures. The impact and cost of each program will be determined on an as needed basis prior to implementation. The information provided with each action is intended to assist in the cost benefit evaluation of each action. Costs estimates, funding sources, schedules, and responsible parties are preliminary and subject to change based on fiscal conditions. Federal funding for mitigation activities can only be obtained when benefits clearly outweigh the costs.

Cost estimates are provided to help formulate funding priorities. When a project is to be undertaken, a more detailed budget should be prepared to assess a project's cost. At that time, a benefit cost analysis should be completed to show how the benefits of the project compare to anticipated costs. Federal funding for mitigation activities can only be obtained when benefits clearly outweigh the costs.

## RELATIONSHIP TO OTHER LOCAL PLANNING EFFORTS

It is strongly recommended that these goals and actions be adopted as part of local comprehensive planning efforts where appropriate, especially in areas where existing problems can be corrected and to prevent problems from occurring in newly developed areas.

## SUMMARY OF REVISIONS TO OBJECTIVES, POLICIES, AND IMPLEMENTATION ACTIVITIES

The following exhibit presents a summary of changes in objectives, policies, and implementation activities between the 2014 plan and the 2021/22 plan. Cost estimates were updated as appropriate.

**Exhibit 6-4. Summary of Changes to Objectives, Policies, and Activities in 2021/22 Plan**

| Goal                                     | Objectives | Policies  | Activities (to be verified)                                                                                                                                                                                                                        |
|------------------------------------------|------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal 1. Public Education                 | No change  | No change | Change priority of #6 from low to medium.                                                                                                                                                                                                          |
| Goal 2. Flooding                         | No change  | No change | The Village of East Troy completed a study to determine if the Mill Pond dam should be removed or updated. Removal is pending subject to final technical reviews. With completion, the Village will no longer need dam inspections as an activity. |
| Goal 3. Tornadoes                        | No change  | No change | No change                                                                                                                                                                                                                                          |
| Goal 4. Extreme Temperature              | No change  | No change | No change                                                                                                                                                                                                                                          |
| Goal 5. Severe Storms, Hail & High Winds | No change  | No change | No change                                                                                                                                                                                                                                          |
| Goal 6. Drought                          | No change  | No change | No change                                                                                                                                                                                                                                          |
| Goal 7. Wildland Fire                    | No change  | No change | No change                                                                                                                                                                                                                                          |

## UNIQUE IMPLEMENTATION ACTIVITIES

Most of the cities and villages adopting this plan have identified one or more unique implementation activity. After extensive consideration, the villages of Bloomfield and Fontana and the cities of Elkhorn and Genoa City determined that the action items generally applicable to the entire county were sufficient and that no special action items were warranted.

**Goal 1. Public Education**

Provide the public with the education they need to adequately prepare for and respond to natural hazards including dam failure, flooding, ice shoves, dense fog, tornadoes, hailstorms, thunderstorms, winter storms, extreme temperature, drought, and wildland fire.

**Objectives**

1. Strengthen emergency service preparedness and response by enhancing public education throughout the county.
2. Increase the number of households that have prepared a family emergency plan.
3. Increase the number of public outreach materials in Spanish.

**Policies**

1. Work with non-governmental organizations such as youth, service, professional, religious organizations to promote mitigation education and awareness.
2. Look for multiple and varied opportunities to disseminate educational information to county residents.

| Implementation Actions / Strategies                                                                                                                                                                                                                                | Cost Estimate (2022)    | Priority | Schedule     |              | Responsible Entity                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------|--------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                    |                         |          | 2022 to 2026 | 2027 to 2031 |                                                                                                                                                                                                                                                                                    |
| 1. Develop and implement education programs aimed at mitigating natural hazards and reducing the risk to citizens, public agencies, private property owners, businesses, and schools (e.g., Savy Seniors). <b>(2022 status – ongoing)</b>                          | \$5,000                 | Medium   | X            | X            | Walworth County Emergency Management; American Red Cross; cities of Delavan, Elkhorn, Lake Geneva, and Whitewater; villages of Bloomfield, Darien, East Troy, Fontana-on-Geneva Lake, Genoa City, Mukwonago, Sharon, Walworth, and Williams Bay                                    |
| 2. Create displays for use at public events such as the county fair, wellness fairs <b>(2022 status – ongoing effort)</b>                                                                                                                                          | Staff time and supplies | Medium   | X            |              | Walworth County Emergency Management; Walworth County Department of Health & Human Services; cities of Delavan, Elkhorn, Lake Geneva, and Whitewater; villages of Bloomfield, Darien, East Troy, Fontana-on-Geneva Lake, Genoa City, Mukwonago, Sharon, Walworth, and Williams Bay |
| 3. Work with the representatives of the public and private schools within the county to promote hazard mitigation awareness <b>(2022 status – ongoing effort)</b>                                                                                                  | Staff time              | Medium   | X            | X            | Walworth County Emergency Management; American Red Cross; Walworth County Department of Health & Human Services                                                                                                                                                                    |
| 4. Identify, improve, and sustain collaborative programs focusing on the real estate and insurance industries, public and private sector organizations, and individuals to avoid activity that increases risk to natural hazards. <b>(2022 status – no action)</b> | Staff time              | Medium   | X            |              | Walworth County Emergency Management; American Red Cross; local jurisdictions, Walworth County Department of Land Use & Resource Management                                                                                                                                        |
| 5. Develop and maintain a geographic database for natural hazard events, including location, weather conditions, and resulting damage. <b>(2022 status – ongoing effort)</b>                                                                                       | Staff time              | High     | X            |              | Walworth County Emergency Management; Walworth County Information Systems Department, Land Information Division                                                                                                                                                                    |
| 6. Provide more hazard-related information in Spanish. <b>(2022 status – ongoing)</b>                                                                                                                                                                              | Staff time              | Medium   | X            |              | Walworth County Emergency Management; Walworth County Department of Health & Human Services, Workforce Development                                                                                                                                                                 |
| 7. Work with area business representatives and citizens through our Public/Private Partnership to promote hazard mitigation awareness <b>(2022 status – ongoing effort)</b>                                                                                        | Staff time              | Medium   | X            |              | City of Lake Geneva                                                                                                                                                                                                                                                                |

**Goal 2. Flooding**

Protect the public health, safety, and welfare of county residents and public and private property during flood events.

**Objectives**

1. Minimize the impact of flooding on potentially affected structures.
2. Decrease the number of structures currently located in the 100-year floodplain that are not properly flood-proofed.
3. Minimize the amount of impervious surface in new development projects to allow more infiltration of storm water into the ground.
4. Increase public awareness of flooding.
5. Improve communication between the county and local units of government when floods occur or are likely to occur.

**Policies**

1. Continue to enforce floodplain regulations to ensure that future development in the 100-year floodplain meets established standards.
2. Support the identification and conservation of land with high flood mitigation value (e.g., wetlands, upland storage, and infiltration areas).
3. Support land acquisition and other management strategies to preserve open space for flood mitigation purposes.
4. Ensure that governmental officials and employees, county residents, and real estate agents are aware of floodplain regulations.
5. Ensure that people owning property in the 100-year floodplain, and their agents, notify buyers when selling their property.
6. Adopt standards to control the proportion of a site that can be covered with impervious surfaces.
7. Locate public infrastructure outside of the 100-year floodplain. When infrastructure has been located in the 100-year floodplain, it should be flood proofed or otherwise protected from flood water.
8. Design and properly size all new stream crossings to not create a significant upstream back-water effect.
9. Continue to enforce storm water management regulations.
10. Update flood insurance rate maps (FIRMs) when it can be shown that they are substantially inaccurate.
11. Ensure that all large dams in the county have emergency action plans and that they are up to date.
12. Undertake such activities as may be required to remain compliant with the requirements of the National Flood Insurance Program.

| Implementation Actions / Strategies                                                                                                                                                                                                                                                                                                                                  | Cost Estimate (2022) | Priority | Schedule     |              | Responsible Entity                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------|--------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                      |                      |          | 2022 to 2026 | 2027 to 2031 |                                                                                                                                                                                                                                                                      |
| 1. Identify and evaluate feasible mitigation options for those properties which may be designated as a repetitive flood property. <b>(2022 status – ongoing effort)</b>                                                                                                                                                                                              | Staff time           | Low      | X            | X            | Walworth County Emergency Management; cities of Delavan, Elkhorn, Lake Geneva, and Whitewater; villages of Bloomfield, Darien, East Troy, Fontana-on-Geneva Lake, Genoa City, Mukwonago, Sharon, Walworth, and Williams Bay                                          |
| 2. Apply for funding through the federal Hazard Mitigation Grant program, Flood Mitigation Assistance Program, and the Pre-Disaster Mitigation Program as well as any other resources that may be available to help flood proof repetitive loss sites or remove them through acquisition followed by demolition or relocation. <b>(2022 status – ongoing effort)</b> | Staff time           | Low      | X            | X            | Walworth County Emergency Management; cities of Delavan, Elkhorn, Lake Geneva, and Whitewater; villages of Bloomfield, Darien, East Troy, Fontana-on-Geneva Lake, Genoa City, Mukwonago, Sharon, Walworth, and Williams Bay                                          |
| 3. Design and budget for stormwater management facilities consistent with adopted stormwater management plans than have been or will be prepared / amended. <b>(2022 status – no action)</b>                                                                                                                                                                         | Staff time           | Medium   | X            |              | Walworth County Emergency Management; local jurisdictions as appropriate [1]                                                                                                                                                                                         |
| 4. Develop and maintain a digital inventory of bridges/culverts on a county or state road. <b>(2022 status – ongoing effort)</b>                                                                                                                                                                                                                                     | Staff time           | Medium   | X            |              | Walworth County Emergency Management; Walworth County Public Works Department, Walworth County Information Systems Department, Land Information Division                                                                                                             |
| 5. Identify those culverts and bridges that are undersized or are otherwise unable to handle expected flood flows. <b>(2022 status – no action)</b>                                                                                                                                                                                                                  | Staff time           | Medium   | X            |              | Walworth County Emergency Management; Walworth County Public Works Department, cities of Delavan, Elkhorn, Lake Geneva, and Whitewater; villages of Bloomfield, Darien, East Troy, Fontana-on-Geneva Lake, Genoa City, Mukwonago, Sharon, Walworth, and Williams Bay |

| Implementation Actions / Strategies                                                                                                                                                            | Cost Estimate (2022) | Priority | Schedule     |              | Responsible Entity                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------|--------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                |                      |          | 2022 to 2026 | 2027 to 2031 |                                                                                                                                                                                                                                                                                              |
| 6. Develop and maintain a geographic database for public roadways that are susceptible to flooding. <b>(2022 status – ongoing effort)</b>                                                      | Staff time           | Medium   | X            |              | Walworth County Emergency Management; Walworth County Public Works Department, Walworth County Information Systems Department, Land Information Division                                                                                                                                     |
| 7. Prepare a strategy to prioritize road improvements for public roadways that are susceptible to flooding. <b>(2022 status – no action)</b>                                                   | Staff time           | Medium   | X            |              | Walworth County Public Works Department; cities of Delavan, Elkhorn, Lake Geneva, and Whitewater; villages of Bloomfield, Darien, East Troy, Fontana-on-Geneva Lake, Genoa City, Mukwonago, Sharon, Walworth, and Williams Bay                                                               |
| 8. Identify undeveloped areas of the county, if any, that have flood mitigation value and develop appropriate strategies to protect them. <b>(2022 status – no action)</b>                     | Staff time           | Medium   | X            |              | Walworth County Emergency Management; Walworth County Department of Land Use & Resource Management; cities of Delavan, Elkhorn, Lake Geneva, and Whitewater; villages of Bloomfield, Darien, East Troy, Fontana-on-Geneva Lake, Genoa City, Mukwonago, Sharon, Walworth, and Williams Bay    |
| 9. Establish a framework to compile and coordinate surface water management plans and data throughout the county. <b>(2022 status – no action)</b>                                             | Staff time           | Medium   | X            |              | Walworth County Emergency Management; Wisconsin Department of Natural Resources                                                                                                                                                                                                              |
| 10. Distribute National Flood Insurance Program information. <b>(2022 status – ongoing effort)</b>                                                                                             | Staff time           | Medium   | X            | X            | Walworth County Emergency Management; Walworth County Department of Land Use & Resource Management; cities of Delavan, Elkhorn, Lake Geneva, and Whitewater; villages of Bloomfield, Darien, East Troy, Fontana-on-Geneva Lake, Genoa City, Mukwonago, Sharon, Walworth, and Williams Bay    |
| 11. Explore options for improving the ability of local units of government to report flooding, receive information, and request assistance as may be needed. <b>(2022 status – no action)</b>  | Staff time           | Medium   | X            |              | Walworth County Emergency Management                                                                                                                                                                                                                                                         |
| 12. Develop and maintain a geographic database for natural hazard events, including location, weather conditions, and resulting damage. <b>(2022 status – no action)</b>                       | Staff time           | High     | X            | X            | Walworth County Emergency Management; Walworth County Information Systems Department, Land Information Division]                                                                                                                                                                             |
| 13. Evaluate the support for and the feasibility of becoming part of the Community Rating System (CRS) to lower flood insurance premiums for property owners. <b>(2022 status – no action)</b> | Staff time           | High     | X            |              | Walworth County Emergency Management; cities of Delavan, Lake Geneva, and Whitewater; villages of Bloomfield, East Troy, Fontana-on-Geneva Lake, Genoa City, Mukwonago, Sharon, and Walworth (Note: City of Elkhorn and the villages of Darien and Williams Bay are not part of the program) |
| 14. Work with the DNR to ensure that an emergency action plan is prepared for large dams and that they are periodically updated. <b>(2022 status – no action)</b>                              | Staff time           | Medium   | X            |              | Walworth County Emergency Management                                                                                                                                                                                                                                                         |
| 15. Develop a prioritized list of areas of the county meriting detailed flood studies. <b>(2022 status – no action)</b>                                                                        | Staff time           | Low      | X            |              | Walworth County Emergency Management                                                                                                                                                                                                                                                         |

| Implementation Actions / Strategies                                                                                                                                                                                                                                                                        | Cost Estimate (2022)                     | Priority | Schedule     |              | Responsible Entity                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------|--------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                            |                                          |          | 2022 to 2026 | 2027 to 2031 |                                                                                                                                                                                                                                                                                                                      |
| 16. Ensure that privately-owned large dams are inspected consistent with state law. <b>(2022 status – no action)</b>                                                                                                                                                                                       | Staff time                               | Medium   | X            |              | Walworth County Emergency Management; local jurisdictions as appropriate [1]                                                                                                                                                                                                                                         |
| 17. Ensure that publicly-owned large dams are inspected consistent with state law. <b>(2022 status – no action)</b>                                                                                                                                                                                        | Staff time                               | Medium   | X            |              | Local jurisdictions as appropriate [1], Wisconsin Department of Natural Resources                                                                                                                                                                                                                                    |
| 18. So as to continue compliance with state and federal requirements, revise existing floodplain regulations to ensure they comply with the most recent model floodplain regulations developed by the Wisconsin Department of Natural Resources <b>(2022 status – ongoing effort)</b>                      | Staff time                               | High     | X            |              | Walworth County Department of Land Use & Resource Management; cities of Delavan, Lake Geneva, and Whitewater; villages of Bloomfield, East Troy, Fontana-on-Geneva Lake, Genoa City, Mukwonago, Sharon, and Walworth (Note: City of Elkhorn and the villages of Darien and Williams Bay are not part of the program) |
| 19. Undertake measures to address flooding within the Oak Knoll subdivision in the Village of Walworth. <b>(2022 status – no action)</b>                                                                                                                                                                   | Unknown                                  | High     | X            |              | Village of Walworth                                                                                                                                                                                                                                                                                                  |
| 20. Repair the Beulah Dam (County Highway J) <b>(2022 status – no action)</b>                                                                                                                                                                                                                              | Unknown                                  | Medium   | X            |              | Walworth County Emergency Management; local jurisdictions [1]                                                                                                                                                                                                                                                        |
| 21. Repair the Whitewater Lake Dam <b>(2022 status – no action)</b>                                                                                                                                                                                                                                        | Unknown                                  | High     | X            |              | Walworth County Emergency Management; local jurisdictions                                                                                                                                                                                                                                                            |
| 22. Conduct a study to determine feasible and cost effective solutions to minimize flooding in those lake basins with a natural outlet such as Whitewater Lake and Turtle Lake and those without a natural outlet such as Lake Lorraine. <b>(2022 status – no action)</b>                                  | Unknown                                  | Medium   | X            |              | Walworth County Emergency Management; effected towns and local jurisdictions                                                                                                                                                                                                                                         |
| 23. Identify restrictions of water flow from Turtle Lake, Turtle Valley Wildlife Area, and Turtle Creek. Identify and analyze mitigation options for those properties and roadways affected. <b>(2022 status – no action)</b>                                                                              | Unknown                                  | High     | X            |              | Walworth County Emergency Management; Towns of Sugar Creek and Richmond and other effected towns and local jurisdictions                                                                                                                                                                                             |
| 24. Address the reoccurring flooding of Chilson Road and prevent flood water from entering the sewer facility on Chilson Road. Remove trees from area by road and replace with geotextile material and rock. Also, put in a grassed waterway to help with the water flow. <b>(2022 status – no action)</b> | \$9,000 with potential for other funding | High     | X            |              | Town of Sharon; Walworth County Conservancy helped with the project design and will oversee the project                                                                                                                                                                                                              |
| 25. Conduct a study to determine feasible and cost-effective solutions to minimize flooding in the Inlet Oaks subdivision and implement a long-term solution. <b>(2022 status – no action)</b>                                                                                                             | Unknown                                  | High     | X            |              | Town of Delavan; Delavan Lake Sanitary District                                                                                                                                                                                                                                                                      |
| 26. Conduct a study to determine why there is flooding on the north side of Lake Wandewega and implement a long-term solution. <b>(2022 status – no action)</b>                                                                                                                                            | Unknown                                  | High     | X            |              | Town of Sugar Creek                                                                                                                                                                                                                                                                                                  |
| 27. Address the flooding along Potter Road, Hodges Road (near bridge area), and Bray Road (by the cross culvert near Plank Road and W3873 driveway) <b>(2022 status – no action)</b>                                                                                                                       | Unknown                                  | High     | X            |              | Town of La Fayette                                                                                                                                                                                                                                                                                                   |
| 28. Mitigate flood water at Nipersink through culvert placement and ditch improvements. <b>(2022 status – no action)</b>                                                                                                                                                                                   | \$35,000                                 | High     | X            |              | Town of Bloomfield                                                                                                                                                                                                                                                                                                   |

| Implementation Actions / Strategies                                                                                                                                                    | Cost Estimate (2022) | Priority | Schedule     |              | Responsible Entity     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------|--------------|--------------|------------------------|
|                                                                                                                                                                                        |                      |          | 2022 to 2026 | 2027 to 2031 |                        |
| 29. Continue to evaluate flooding issues along Madison Street and Wisconsin Street by the Ponds subdivision <b>(2022 status – infrastructure included in Capital Improvement Plan)</b> | \$125,000            | High     | X            |              | Village of Darien      |
| 30. Storm sewer work along George St. and Ballard St. and ditch work along Prairie St. to improve flows <b>(2022 status – no action)</b>                                               | Unknown              | Medium   | X            |              | Village of Sharon, DPW |

## Notes:

\* Indicates policies or activities that are intended to ensure continued compliance with the National Flood Insurance Program (NFIP).



**Goal 3. Tornadoes**

Lessen the effects of a tornado to the extent feasible and speed recovery following an event.

**Objectives**

1. Increase public education and awareness of the potential severity of tornadoes.
2. Minimize the amount of time that businesses damaged by a tornado are not operational.
3. Minimize the amount of time it takes to rebuild or restore dwellings damaged by a tornado.
4. Prevent injuries and death from tornadoes.

**Policies**

1. Bury overhead power and utility lines where feasible as a way to reduce power outages during all types of storm events.
2. Require that mobile homes and manufactured housing are securely anchored in place.
3. Ensure that adequate tornado shelters are available to county residents especially those living in mobile home parks.
4. Include redevelopment objectives in smart growth comprehensive plans to support post-disaster development activities.
5. Continue to support the efforts of severe weather spotters.
6. Keep the current siren system functioning and in good repair.
7. Encourage residents to obtain NOAA weather radios especially in those areas of the county that are not covered by a siren.
8. Encourage home builders and others to incorporate wind-resistant features into new home construction (e.g., anchor straps).

| Implementation Actions / Strategies                                                                                                                                                                                          | Cost Estimate (2022) | Priority | Schedule     |              | Responsible Entity                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------|--------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                              |                      |          | 2022 to 2026 | 2027 to 2031 |                                                                                                                                                                                                                                                                |
| 1. Periodically assess whether there are enough shelters to house displaced persons. <b>(2022 status – ongoing effort)</b>                                                                                                   | Staff time           | Medium   | X            | X            | Walworth County Emergency Management; American Red Cross                                                                                                                                                                                                       |
| 2. Apply for mitigation funding to purchase NOAA weather radios for county residents. <b>(2022 status – no action)</b>                                                                                                       | Staff time           | Low      | X            |              | Walworth County Emergency Management                                                                                                                                                                                                                           |
| 3. Study the feasibility of and support for adopting a local regulation which would require new mobile home parks and future expansions of existing parks to provide for a tornado shelter. <b>(2022 status – no action)</b> | Staff time           | Medium   | X            |              | Walworth County Emergency Management                                                                                                                                                                                                                           |
| 4. Develop and implement strategies for debris management. <b>(2022 status – no action)</b>                                                                                                                                  | Staff time           | Medium   | X            |              | Walworth County Emergency Management; Walworth County Public Works Department; American Red Cross                                                                                                                                                              |
| 5. Amend land development regulations to require a storm shelter in mobile home parks when the number of mobile homes exceeds a threshold as established by the jurisdiction. <b>(2022 status – no action)</b>               | Staff time           | Medium   | X            |              | Walworth County Land Use & Management Department, Walworth County Emergency Management; cities of Delavan, Elkhorn, Lake Geneva, and Whitewater; villages of Bloomfield, Darien, East Troy, Fontana-on-Geneva Lake, Genoa City, Sharon, Walworth, Williams Bay |
| 6. Install storm shelters near or in existing mobile home parks and high occupancy campgrounds. <b>(2022 status – no action)</b>                                                                                             | Staff time           | Medium   | X            |              | Mobile home park operators and campground operations with Walworth County Emergency Management                                                                                                                                                                 |
| 7. Develop and maintain a geographic database for natural hazard events, including location, weather conditions, and resulting damage. <b>(2022 status – ongoing effort)</b>                                                 | Staff time           | High     | X            |              | Walworth County Emergency Management; Walworth County Information Systems Department, Land Information Division                                                                                                                                                |
| 8. Identify opportunities for developing a joint dispatch center <b>(2022 status – Whitewater completed a study to determine options)</b>                                                                                    | Staff time           | High     | X            |              | Walworth County Emergency Management and other county departments                                                                                                                                                                                              |
| 9. Install a backup generator in the Town of Troy Town Hall/Fire Hall <b>(2022 status – no action)</b>                                                                                                                       | \$30,000             | High     | X            |              | Town of Troy                                                                                                                                                                                                                                                   |
| 10. Upgrade the command and control for outdoor sirens, update existing sirens as necessary, add new sirens as needed <b>(2022 status – no action)</b>                                                                       | Unknown              | Medium   | X            |              | City of Delavan                                                                                                                                                                                                                                                |

|     |                                                                                                        |                  |      |   |   |                                        |
|-----|--------------------------------------------------------------------------------------------------------|------------------|------|---|---|----------------------------------------|
| 11. | Continue preventative maintenance of tornado sirens ( <b>2022 status – ongoing effort</b> )            | \$1,600 per year | High | X | X | Village of East Troy Police Department |
| 12. | Reach out to camps in the town to discuss severe weather/tornado shelters ( <b>2022 status – new</b> ) | Staff time       | High | X | X | Town of East Troy                      |

**Goal 4. Extreme Temperature**

Protect the health of Walworth County residents from extreme temperature.

**Objectives**

1. Prevent deaths and injuries from extreme temperature.

**Policies**

1. Encourage volunteers to look after vulnerable individuals, especially the elderly, during times of extreme temperature.
2. Open county and other public facilities with air conditioning as appropriate for public access during periods of extreme heat.
3. Ensure that county residents are aware that there are different forms of assistance to help qualified individuals to help pay their winter heating costs.

| Implementation Actions / Strategies                                                                                                                                                                                                 | Cost Estimate (2022) | Priority | Schedule     |              | Responsible Entity                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------|--------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                     |                      |          | 2022 to 2026 | 2027 to 2031 |                                                                                                                                                                                                                                                                                    |
| 1. Develop a directory of public buildings that would be open to the public during extended heat waves. ( <b>2022 status – no action</b> )                                                                                          | Staff time           | Medium   | X            | X            | Walworth County Emergency Management; Walworth County Department of Health & Human Services                                                                                                                                                                                        |
| 2. Call a meeting of public and nonprofit organizations that may be able to mobilize a volunteer corps of individuals willing to assist vulnerable people during periods of extreme temperature. ( <b>2022 status – no action</b> ) | Staff time           | High     | X            |              | Walworth County Emergency Management; Walworth County Department of Health & Human Services                                                                                                                                                                                        |
| 3. Investigate the possibility of establishing a database of individuals who are vulnerable to extreme temperature and who have voluntarily placed their name on the call list ( <b>2022 status – no action</b> )                   | Staff time           | Medium   | X            |              | Walworth County Emergency Management; Walworth County Department of Health & Human Services; American Red Cross                                                                                                                                                                    |
| 4. Publicise available programs that help low-income residents pay for their utility expenses. ( <b>2022 status – ongoing effort</b> )                                                                                              | Staff time           | Medium   | X            |              | Walworth County Emergency Management; Walworth County Department of Health & Human Services; cities of Delavan, Elkhorn, Lake Geneva, and Whitewater; villages of Bloomfield, Darien, East Troy, Fontana-on-Geneva Lake, Genoa City, Mukwonago, Sharon, Walworth, and Williams Bay |
| 5. Develop and maintain a geographic database for natural hazard events, including location, weather conditions, and resulting damage. ( <b>2022 status – ongoing effort</b> )                                                      | Staff time           | High     | X            |              | Walworth County Emergency Management; Walworth County Information Systems Department, Land Information Division                                                                                                                                                                    |
| 6. Amend the county's emergency operations plan to address extreme temperatures. ( <b>2022 status – no action</b> )                                                                                                                 | Staff time           | Medium   | X            |              | Walworth County Emergency Management                                                                                                                                                                                                                                               |
| 7. Continue cooling center policy ( <b>2022 status – ongoing effort</b> )                                                                                                                                                           | Staff time           | High     | X            | X            | Village of East Troy                                                                                                                                                                                                                                                               |

**Goal 5. Severe Thunderstorm Winds & Hail and Non-thunderstorm High Winds**

Protect and prepare Walworth County residents from the dangers of extreme weather.

**Objectives**

1. Increase public education and awareness of the potential dangers of thunderstorms, snow storms, hail, and windstorms.

**Policies**

1. Bury overhead power and utility lines where feasible as a way to reduce power outages during all types of storm events.
2. Provide citizens with early storm warnings
3. Encourage the use of surge protectors on critical electronic equipment in governmental and critical facilities.
4. Work with utility companies to assess and to improve, when necessary, electric service reliability.
5. Work with public and private utility companies to ensure that trees are properly trimmed near utility lines.

| Implementation Actions / Strategies                                                                                                                                                                                                                                | Cost Estimate (2022) | Priority | Schedule     |              | Responsible Entity                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------|--------------|--------------|-----------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                    |                      |          | 2022 to 2026 | 2027 to 2031 |                                                                                                                 |
| 1. Continue to update and/or monitor the County's public early warning system and network. (2022 status – ongoing effort)                                                                                                                                          | Staff time           | Medium   | X            | X            | Walworth County Emergency Management; local jurisdictions                                                       |
| 2. Review local building codes to determine if revisions are needed to improve the structure's ability to withstand greater wind velocities and encourage provision of safe rooms, especially in structures that do not have a basement. (2022 status – no action) | Staff time           | Low      | X            |              | Walworth County Emergency Management; local jurisdictions                                                       |
| 3. Produce and distribute emergency preparedness information related to thunderstorms, snow storms, hailstorms, and windstorm hazards. (2022 status – ongoing effort)                                                                                              | Staff time           | Medium   | X            |              | Walworth County Emergency Management; American Red Cross; local jurisdictions                                   |
| 4. Identify and pursue funding opportunities to develop and implement local and county mitigation activities. (2022 status – no action)                                                                                                                            | Staff time           | Medium   | X            |              | Walworth County Emergency Management; American Red Cross; local jurisdictions                                   |
| 5. Install lightning grade surge protection devices for critical electronic components used by government, public service, and public safety facilities, such as warning systems, control systems, communications, and computers. (2022 status – no action)        | \$3,000              | Medium   | X            |              | Walworth County Emergency Management; American Red Cross; local jurisdictions                                   |
| 6. Provide the public with information about proven lightning safety guidelines to reduce the risk of lightning hazards. (2022 status – no action)                                                                                                                 | Staff time           | Medium   | X            |              | Walworth County Emergency Management; local jurisdictions                                                       |
| 7. Develop and implement strategies for debris management. (2022 status – no action)                                                                                                                                                                               | Staff time           | Medium   | X            |              | Walworth County Emergency Management; Walworth County Public Works, local jurisdictions                         |
| 8. Apply for mitigation funding to purchase NOAA weather radios for county residents. (2022 status – no action)                                                                                                                                                    | Staff time           | Medium   | X            |              | Walworth County Emergency Management                                                                            |
| 9. Develop and maintain a geographic database for natural hazard events, including location, weather conditions, and resulting damage. (2022 status – ongoing effort)                                                                                              | Staff time           | High     | X            |              | Walworth County Emergency Management; Walworth County Information Systems Department, Land Information Division |
| 10. Evaluate the feasibility and effectiveness of adding additional storm sirens (2022 status – no action)                                                                                                                                                         | Unknown              | Medium   | X            |              | Village of Mukwonago                                                                                            |
| 11. Maintain certification as a Weather Safe Community (NWS designation) (2022 status – ongoing effort)                                                                                                                                                            | Staff time           | Medium   | X            | X            | City of Whitewater                                                                                              |
| 12. Continue to replace outdated storm sirens (2022 status – ongoing effort)                                                                                                                                                                                       | Unknown              | Medium   | X            |              | Village of Williams Bay                                                                                         |
| 13. Continue to promote and sponsor severe weather spotter courses (2022 status – ongoing effort)                                                                                                                                                                  | Staff time           | Medium   | X            | X            | City of Lake Geneva                                                                                             |

|                                                                                         |         |        |   |                      |
|-----------------------------------------------------------------------------------------|---------|--------|---|----------------------|
| 14. Establish a storm shelter ( <b>2022 status – no action</b> )                        | Unknown | Medium | X | Village of East Troy |
| 15. Airport weather and wind shear equipment upgrade ( <b>2022 status – no action</b> ) | Unknown | Medium | X | Village of East Troy |

### Goal 6. Drought

Protect the public health, safety, and welfare of county residents during periods of drought.

#### Objectives

1. Decrease water consumption during periods of drought.
2. Minimize the economic impacts of drought on the local economy

#### Policies

1. Encourage water conservation during periods of drought.
2. Impose watering restrictions during periods of extreme drought.
3. Work with appropriate agencies to conserve water, provide drought prediction, and provide stream and groundwater monitoring.
4. Work with agencies that can assist with and promote soil health, preserve soil moisture and help to minimize the loss of the crops and topsoil in the event of a drought.
5. Continue to monitor groundwater levels to identify the status of groundwater resources and trends
6. Work with state agencies and other levels of government in developing appropriate regional strategies to address drought conditions.

| Implementation Actions / Strategies                                                                                                                                            | Cost Estimate (2022) | Priority | Schedule     |              | Responsible Entity                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------|--------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                |                      |          | 2022 to 2026 | 2027 to 2031 |                                                                                                                                                                                                                             |
| 1. Create an ordinance to prioritize or control water use during drought conditions. ( <b>2022 status – no action</b> )                                                        | Staff time           | Medium   | X            | X            | Municipalities with public water systems                                                                                                                                                                                    |
| 2. Develop a set of procedures for water distribution during drought to those in need. ( <b>2022 status – no action</b> )                                                      | Staff time           | Medium   | X            |              | Walworth County Emergency Management; cities of Delavan, Elkhorn, Lake Geneva, and Whitewater; villages of Bloomfield, Darien, East Troy, Fontana-on-Geneva Lake, Genoa City, Mukwonago, Sharon, Walworth, and Williams Bay |
| 3. Develop and maintain a geographic database for natural hazard events, including location, weather conditions, and resulting damage. ( <b>2022 status – ongoing effort</b> ) | Staff time           | High     | X            |              | Walworth County Emergency Management; Walworth County Information Systems Department, Land Information Division                                                                                                             |

**Goal 7. Wildland Fire**

Protect structures and people in Walworth County from uncontrolled wildfires.

**Objectives**

1. Decrease the number of wildland fires occurring in the county.
2. Decrease the number of acres burned from wildland fires.
3. Increase public education.

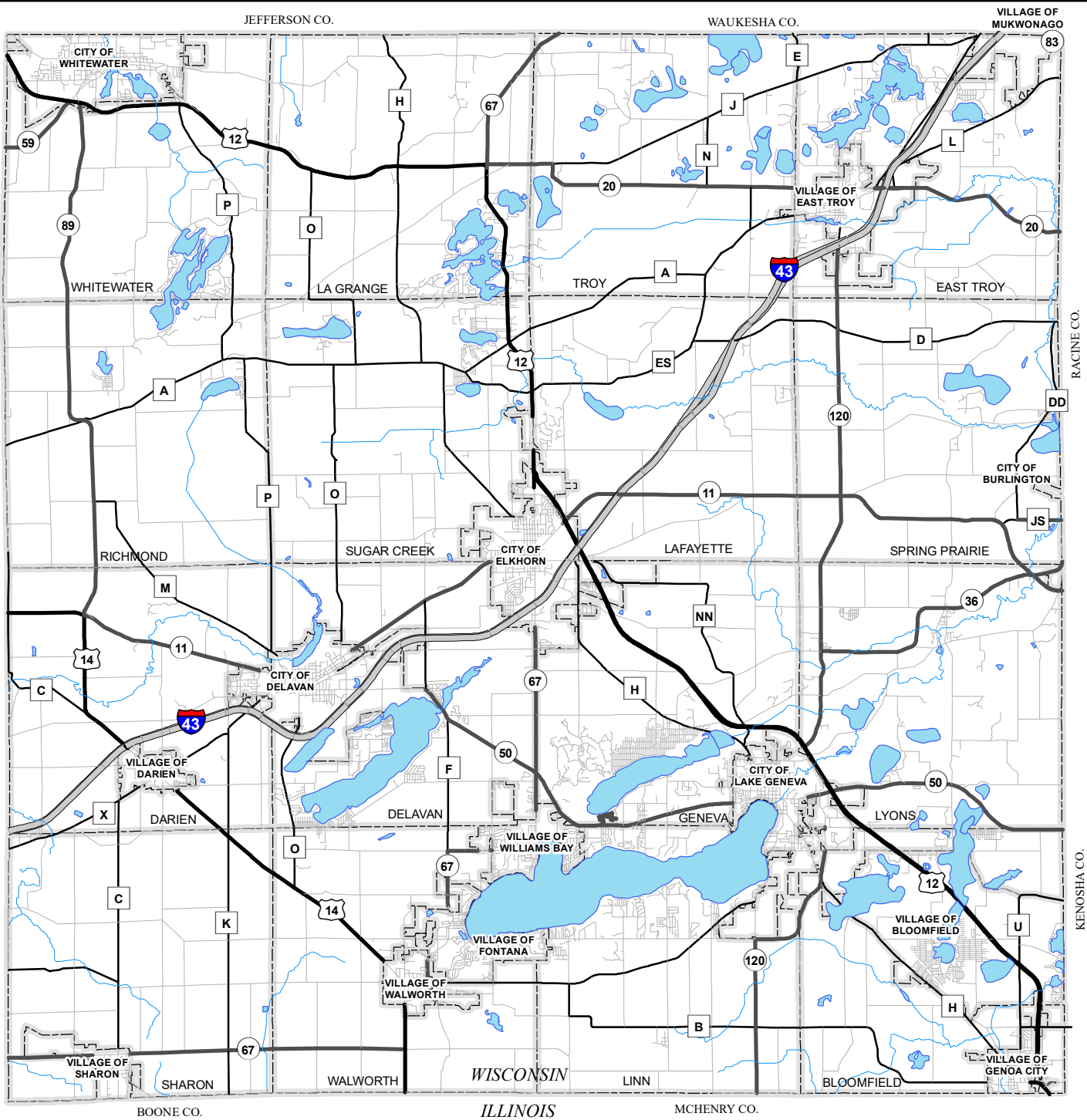
**Policies**

1. Support the use of controlled burns as a way of reducing the threat of dangerous wildland fires.
2. Enhance emergency services to increase the efficiency of wildfire response and recovery activities.
3. Keep track of wildfire events in the county to better document the extent and location of these events.

| Implementation Actions / Strategies                                                                                                                                                                                                                                               | Cost Estimate (2022) | Priority | Schedule     |              | Responsible Entity                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------|--------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                   |                      |          | 2022 to 2026 | 2027 to 2031 |                                                                                                                                                                                                                             |
| 1. Apply for federal and state grants to enhance the capability of local fire departments. <b>(2022 status – no action)</b>                                                                                                                                                       | Staff time           | Medium   | X            | X            | Walworth County Emergency Management; local fire departments                                                                                                                                                                |
| 2. Provide education to county and municipality personnel about federal cost-share and grant programs, fire protection agreements, and other related federal programs so the full array of assistance available to local agencies is understood. <b>(2022 status – no action)</b> | Staff time           | Low      | X            |              | Walworth County Emergency Management; cities of Delavan, Elkhorn, Lake Geneva, and Whitewater; villages of Bloomfield, Darien, East Troy, Fontana-on-Geneva Lake, Genoa City, Mukwonago, Sharon, Walworth, and Williams Bay |
| 3. Develop a digital database to keep track of wildfire events in the county. <b>(2022 status – no action)</b>                                                                                                                                                                    | Staff time           | Medium   | X            |              | Walworth County Emergency Management; local fire departments                                                                                                                                                                |
| 4. Develop and maintain a geographic database for natural hazard events, including location, weather conditions, and resulting damage. <b>(2022 status – ongoing effort)</b>                                                                                                      | Staff time           | High     | X            |              | Walworth County Emergency Management; Walworth County Information Systems Department; Land Information Division                                                                                                             |
| 5. Investigate the establishment of a uniform way of providing information to the public regarding issuance of burning permits. <b>(2022 status – no action)</b>                                                                                                                  | Staff time           | High     | X            |              | Walworth County Sheriff's Department; local fire departments                                                                                                                                                                |

## MAP SERIES

1. Road Network: 2021
2. Surface Water Resources: 2021
3. Campgrounds and Mobile Home Parks: 2021
4. Bridges and Dams: 2021
5. Public-Use Airports and Railroads: 2021
6. Telecommunication Facilities: 2021
7. Energy Facilities: 2021
8. Public Water and Wastewater Facilities: 2021
9. Public Safety Facilities: 2021
10. Government Facilities: 2021
11. Schools: 2021
12. Special Care Residential Facilities: 2021
13. Special Care Non-Residential Facilities: 2021
14. Health Care Facilities: 2021
15. Structures in 100-Year Floodplain: 2008



## Legend

- Local Road
- County Road
- State Highway
- US Highway
- Interstate
- Water Body
- River
- Municipal Boundary

Source: Base map from Walworth County  
Information Systems Department

0 2.5 5 Miles

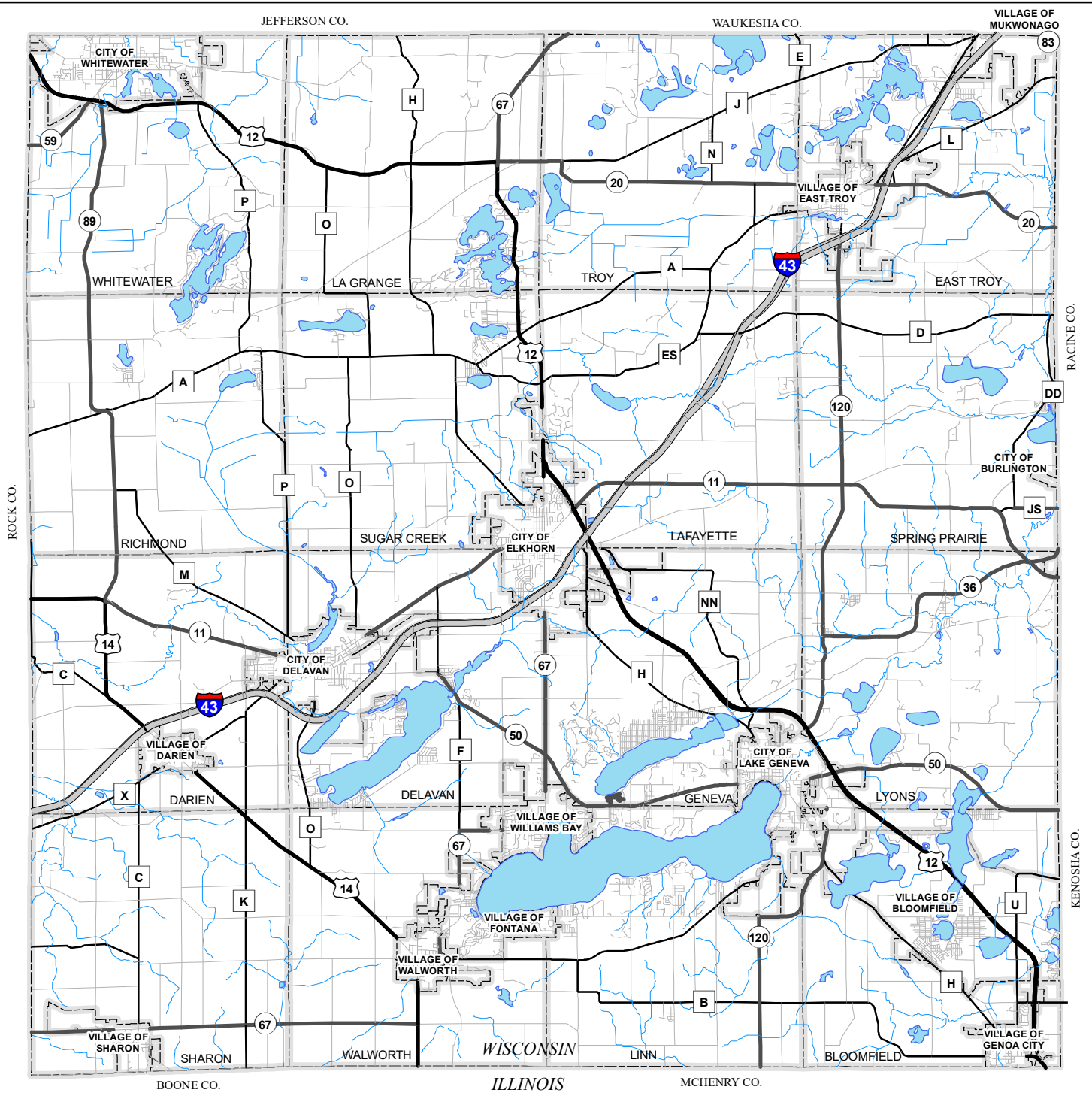


## Map 1 Road Network: 2021

### Walworth County Hazard Mitigation Plan

**CIVITEK**  
CONSULTING





## Legend

-  Water Body
-  River and Stream
-  Municipal Boundary

Source: Base map from Walworth County  
Information Systems Department

0 2.5 5 Miles



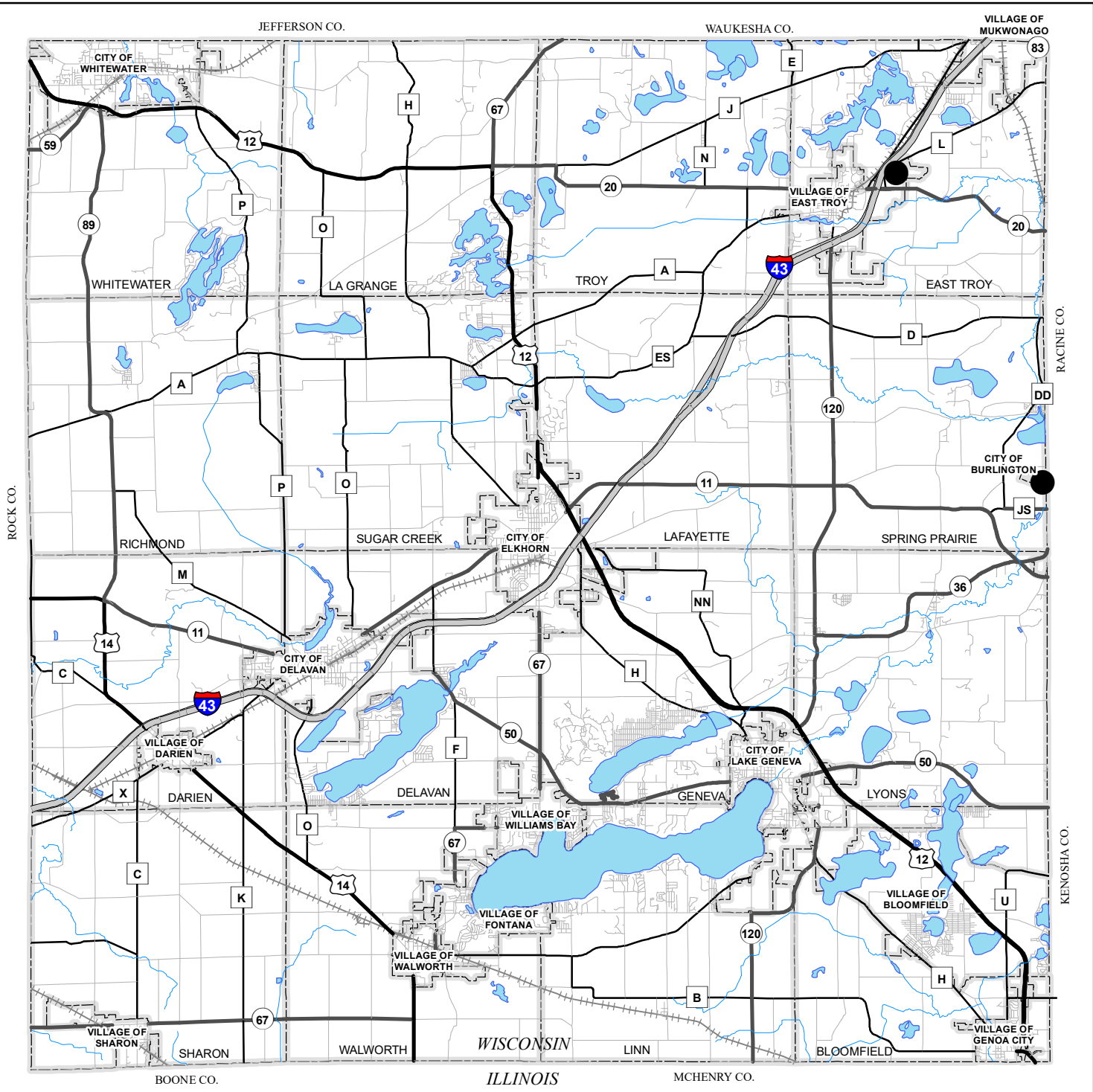
## Map 2 Surface Water Resources: 2021

### Walworth County Hazard Mitigation Plan

**CIVITEK**  
CONSULTING







## Legend

- Public-use Airport
- +++++ Railroad
- Water Body
- River
- Municipal Boundary

Source: Base map from Walworth County  
Information Systems Department

0 2.5 5 Miles

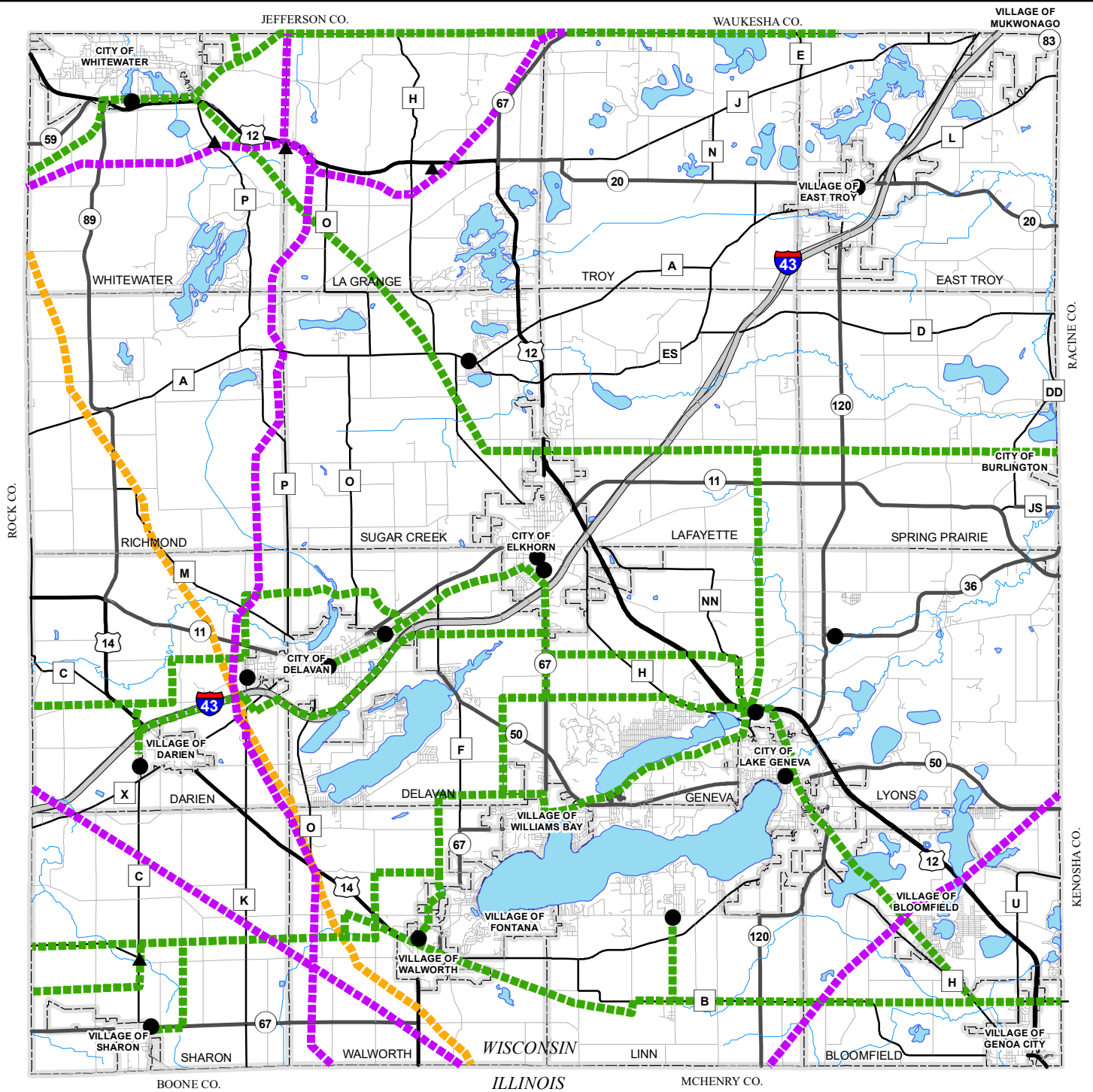


## Map 5 Public-use Airports and Railroads: 2021 Walworth County Hazard Mitigation Plan

**CIVITEK**  
CONSULTING







## Legend

- Electric Substation
- ▲ Natural Gas Facility
- Crude Oil
- Electric Transmission
- Natural Gas Line
- Water Body
- River
- Municipal Boundary

Source: Base map from Walworth County  
Information Systems Department

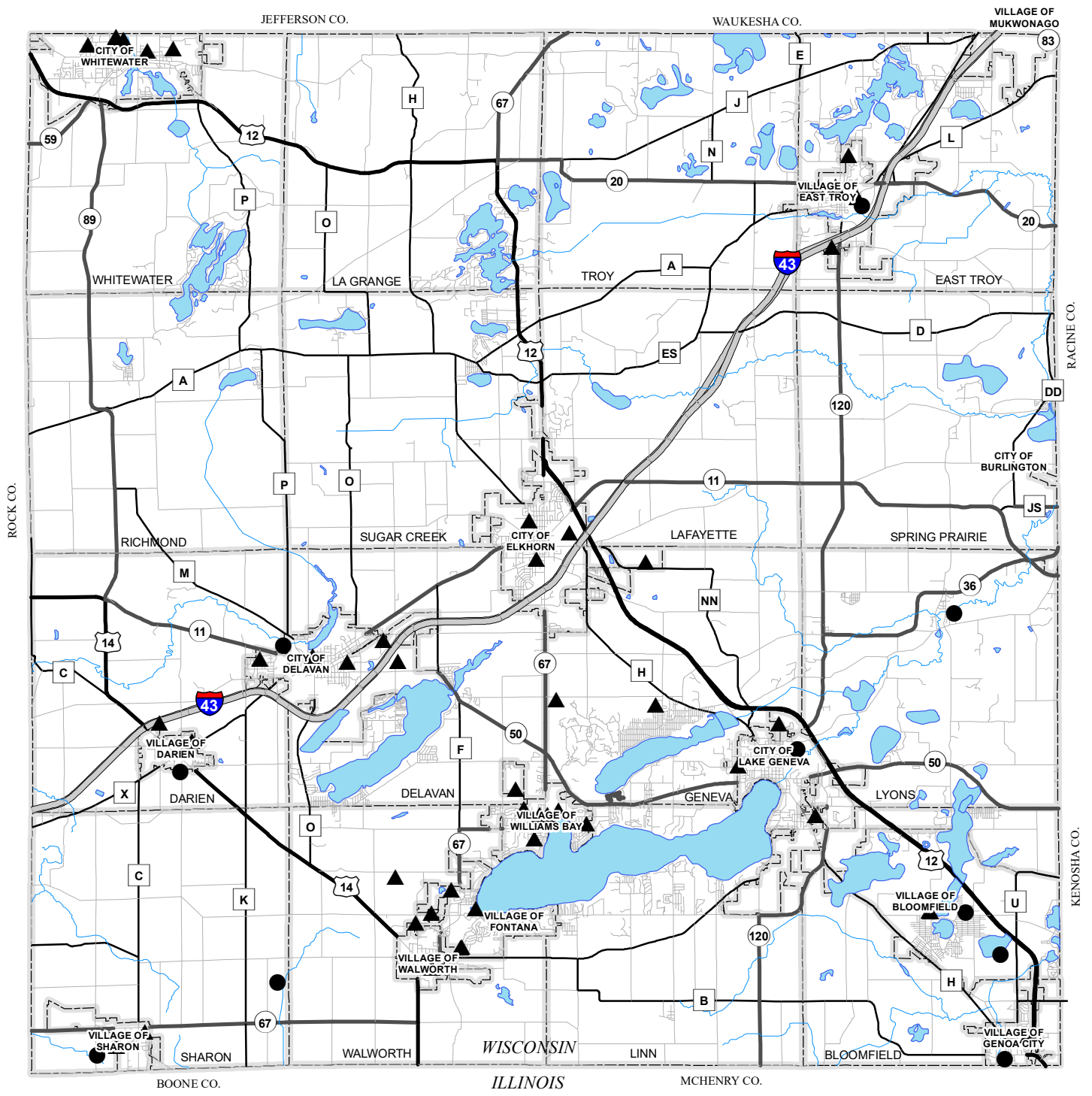
0 2.5 5 Miles



## Map 7 Energy Facilities: 2021

### Walworth County Hazard Mitigation Plan

**CIVITEK**  
CONSULTING



## Legend

- Wastewater Facility
- ▲ Water Facility
- Water Body
- River
- Municipal Boundary

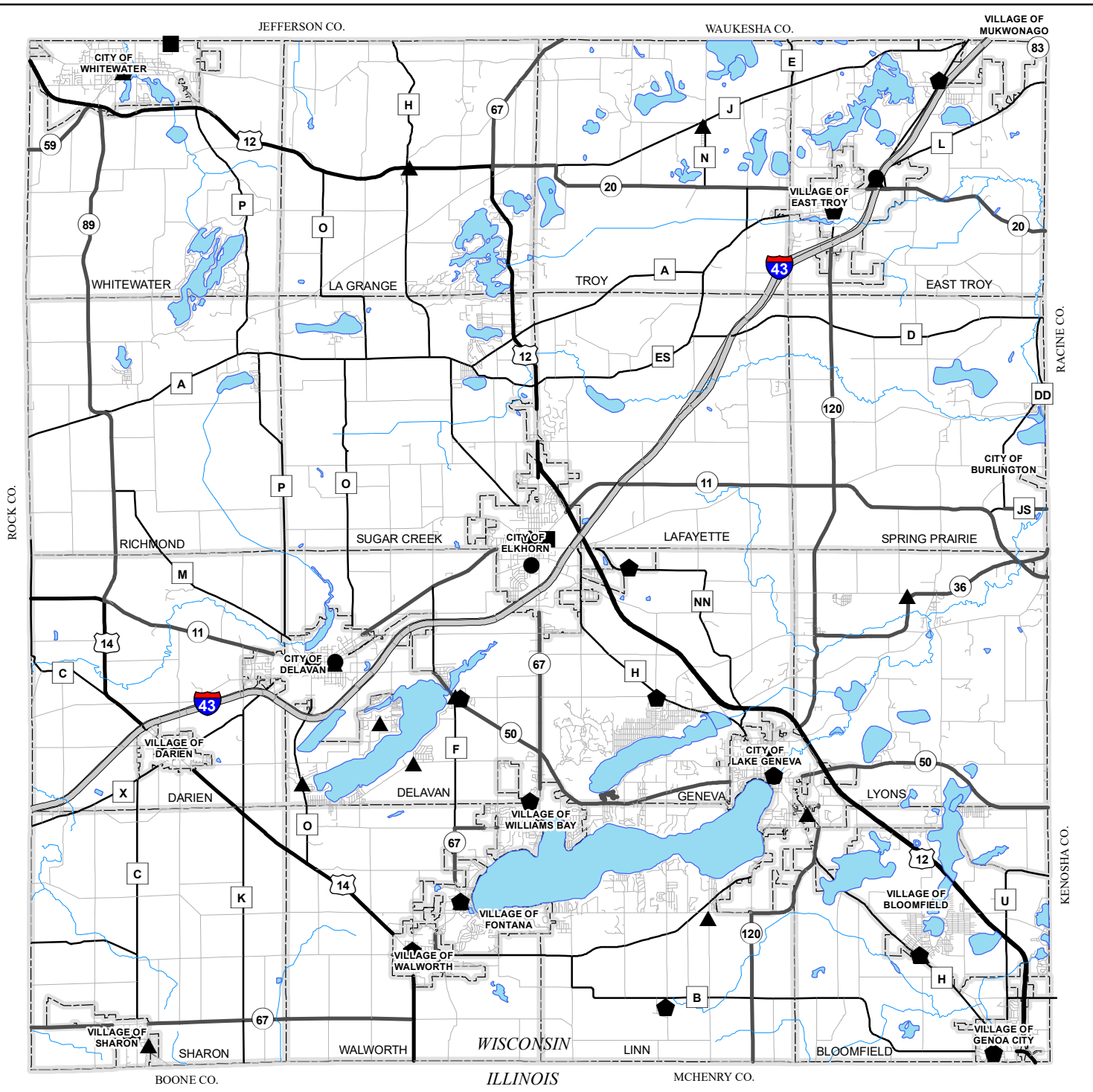
Source: Base map from Walworth County  
Information Systems Department

0 2.5 5 Miles



## Map 8 Public Water and Wastewater Facilities: 2021 Walworth County Hazard Mitigation Plan

**CIVITEK**  
CONSULTING



## Legend

- EMS Facility
- ▲ Fire Department
- National Guard
- ⬠ Police Department
- Water Body
- River
- Municipal Boundary

Source: Base map from Walworth County  
Information Systems Department

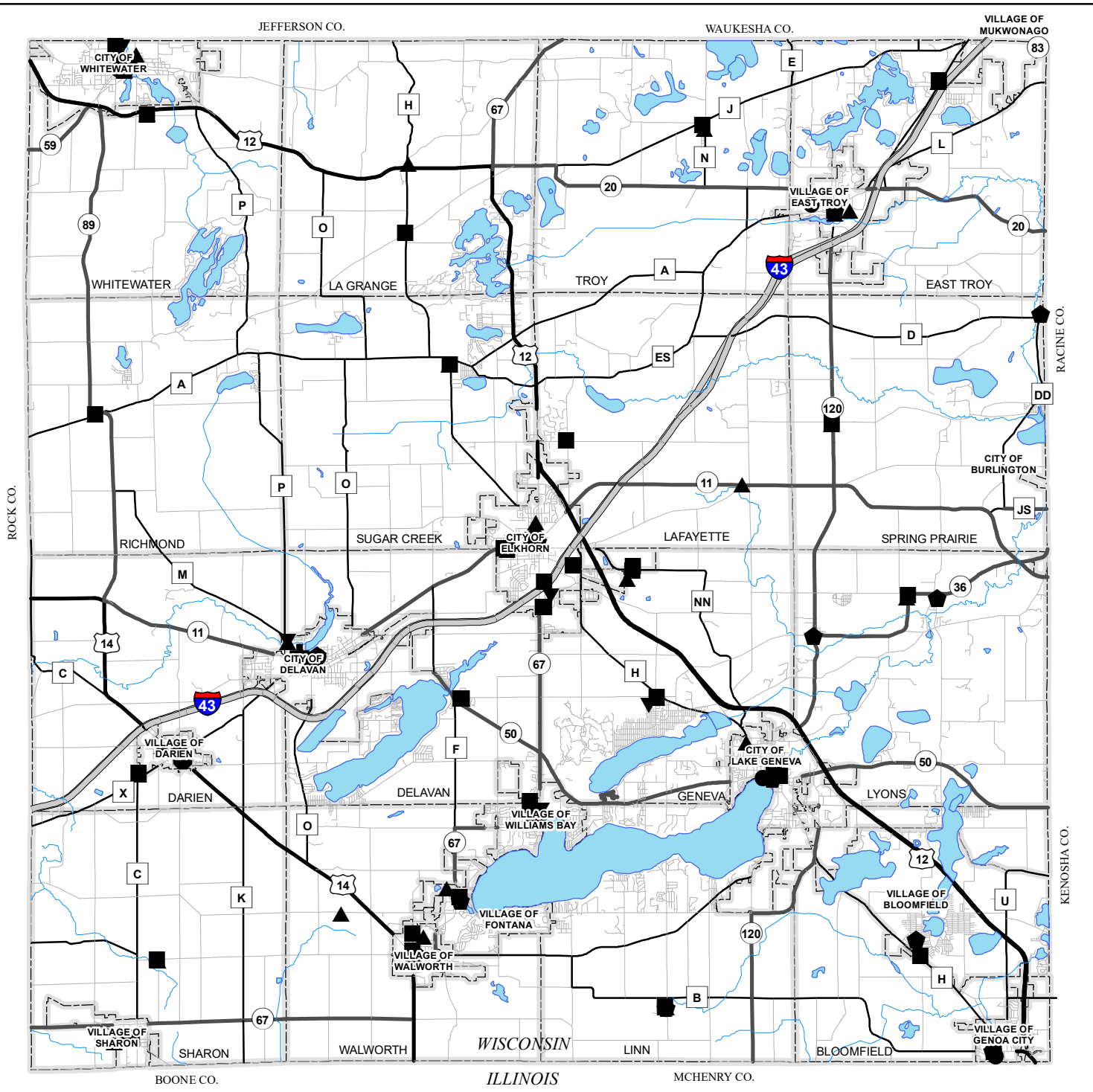
0 2.5 5 Miles



## Map 9 Public Safety Facilities: 2021

### Walworth County Hazard Mitigation Plan

**CIVITEK**  
CONSULTING



# Legend

- Library
- ▲ Municipal garage
- Municipal office and other
- ◆ Post office
- Senior center
- ▼ Utility office/yard
- Water Body
- River
- Municipal Boundary

Source: Base map from Walworth County  
Information Systems Department

0 2.5 5 Miles

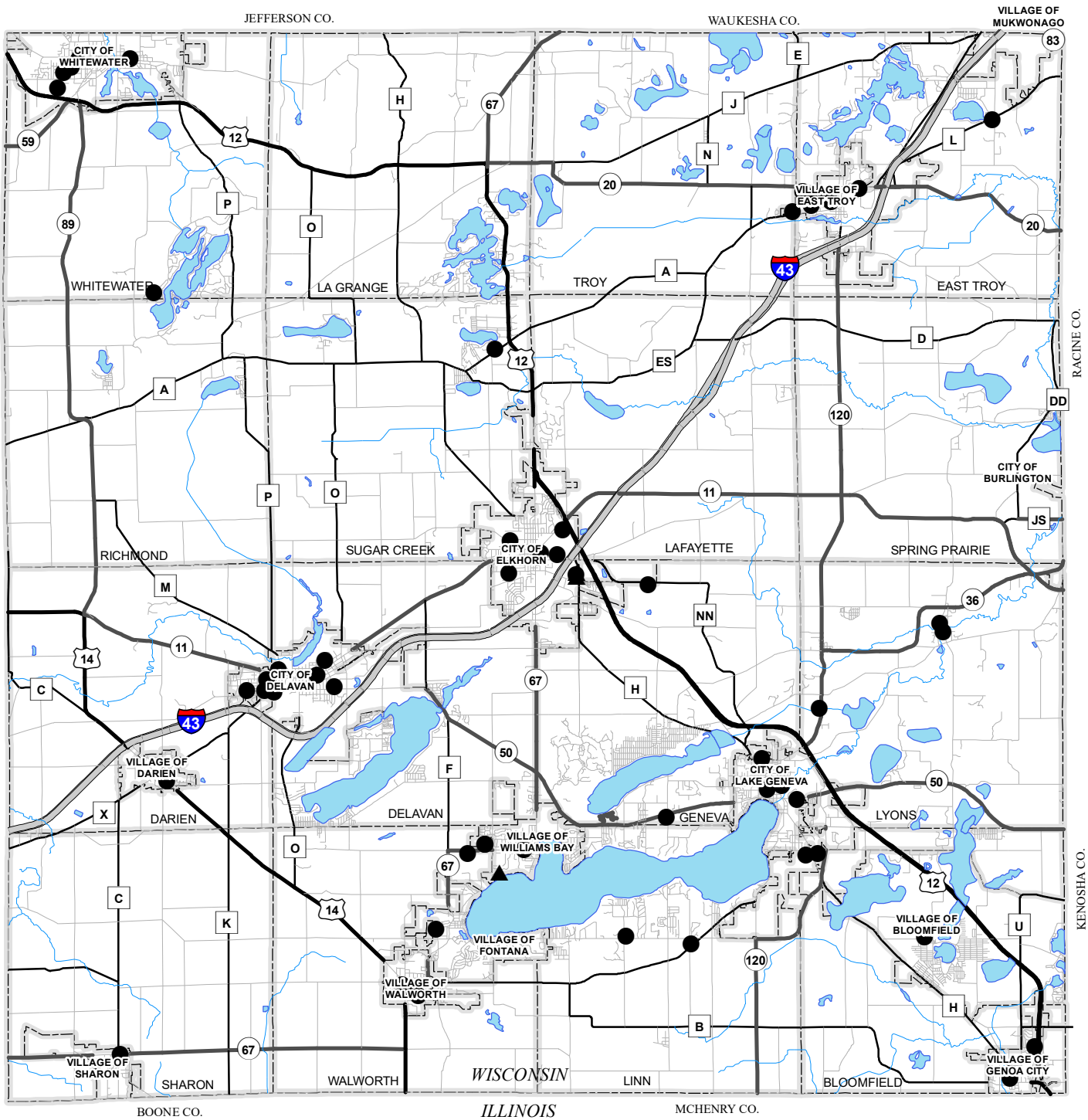


## Map 10 Government Facilities: 2021

### Walworth County Hazard Mitigation Plan

**CIVITEK**  
CONSULTING





## Legend

- K-12
- ▲ Post-Secondary
- Water Body
- River
- Municipal Boundary

Source: Base map from Walworth County  
Information Systems Department

0 2.5 5 Miles

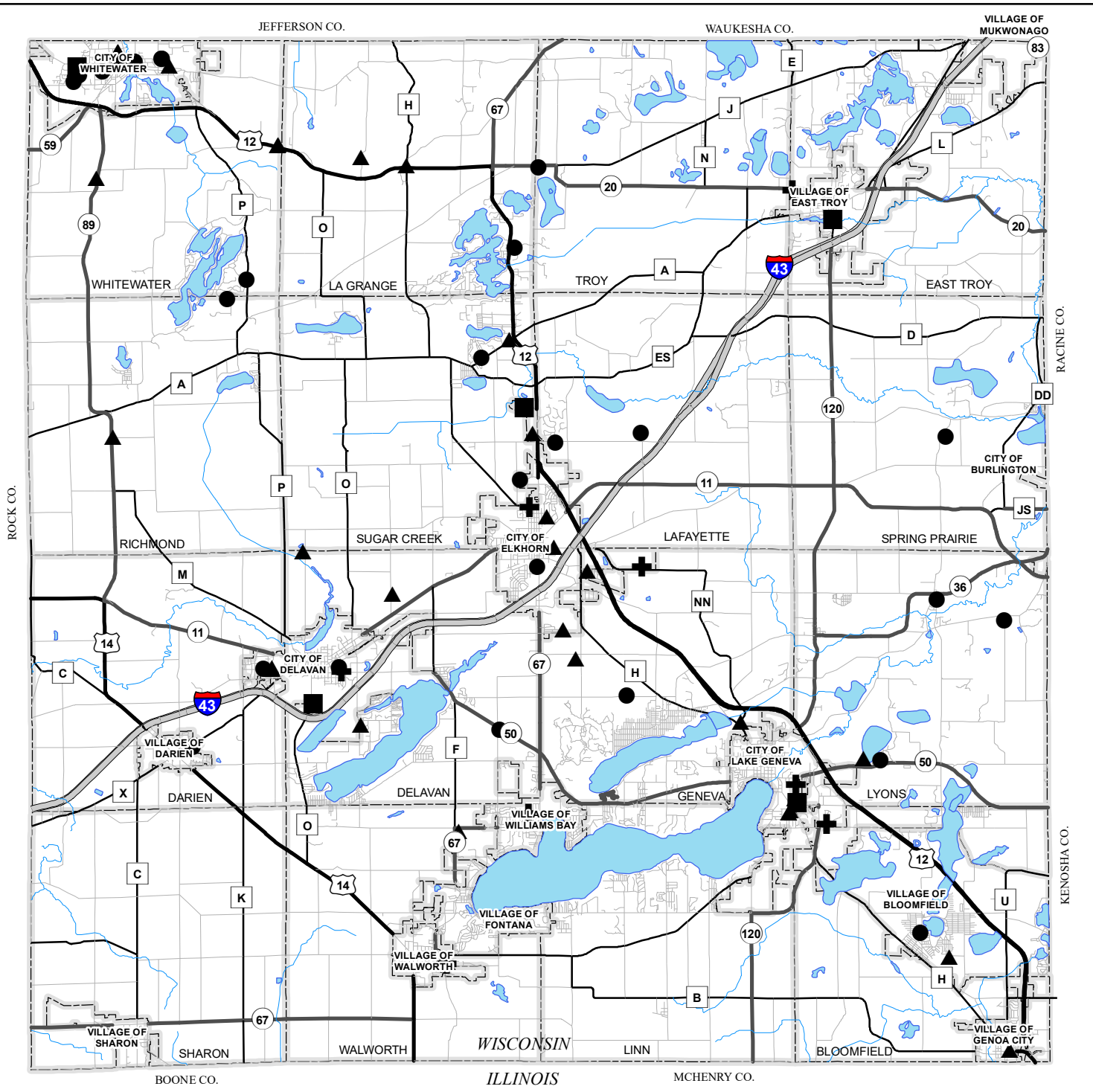


## Map 11 Schools: 2021

### Walworth County Hazard Mitigation Plan

**CIVITEK**  
CONSULTING





# Legend

- Adult family home (AFH)
- ▲ Community based residential facility (CBRF)
- ✚ Nursing home
- Residential care apartment complex (RCAC)
- Water Body
- River
- Municipal Boundary

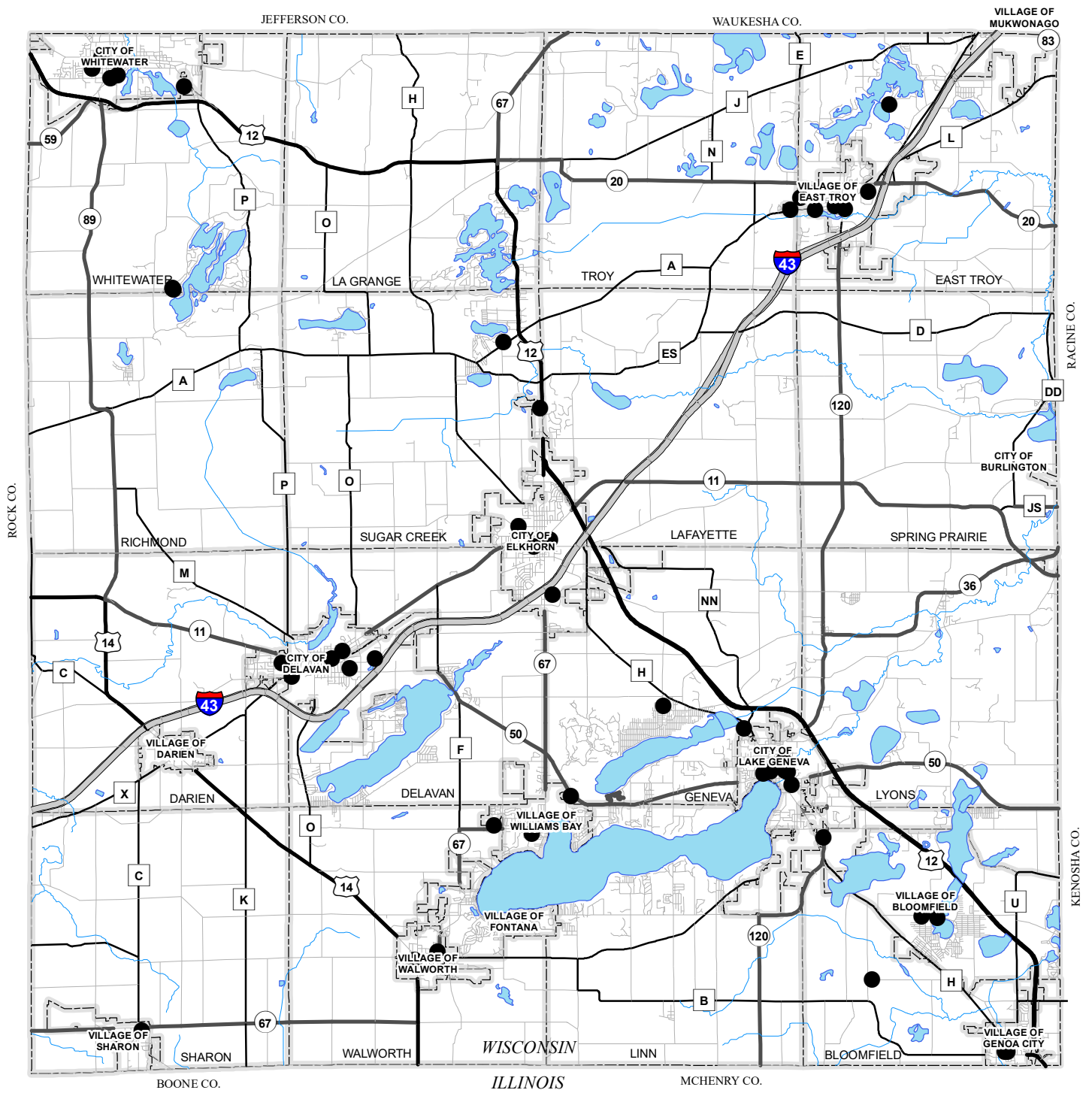
Source: Base map from Walworth County Information Systems Department

0 2.5 5 Miles



## Map 12 Special Care Residential Facilities: 2021 Walworth County Hazard Mitigation Plan

**CIVITEK**  
CONSULTING



## Legend

- Group day care
- Water Body
- River
- Municipal Boundary

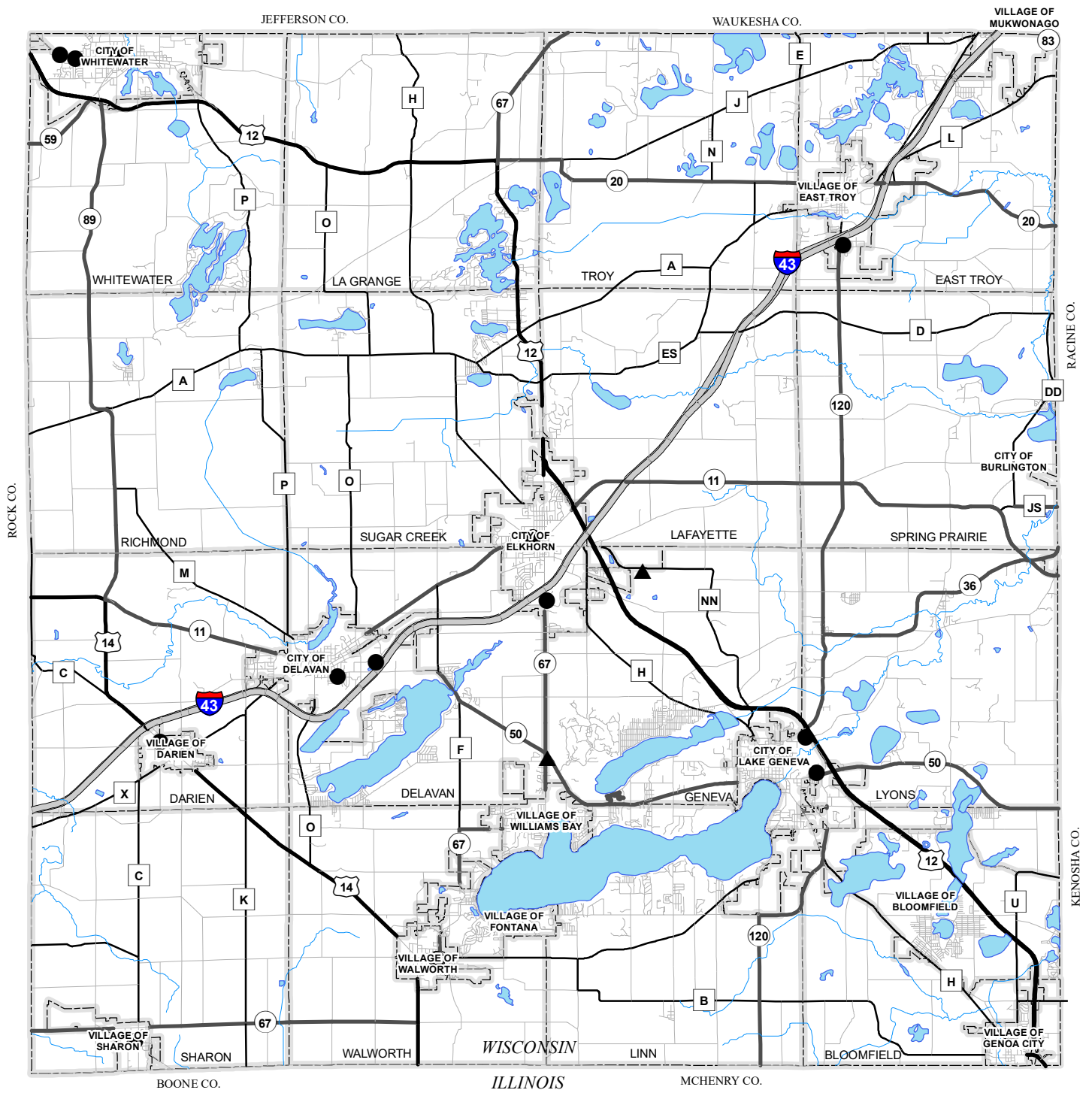
Source: Base map from Walworth County  
Information Systems Department

0 2.5 5 Miles



**Map 13**  
**Special Care**  
**Non-Residential**  
**Facilities: 2021**  
**Walworth County**  
**Hazard**  
**Mitigation Plan**

**CIVITEK**  
**CONSULTING**



# Legend

- Health care clinic
- ▲ Hospital
- Water Body
- River
- Municipal Boundary

Source: Base map from Walworth County Information Systems Department

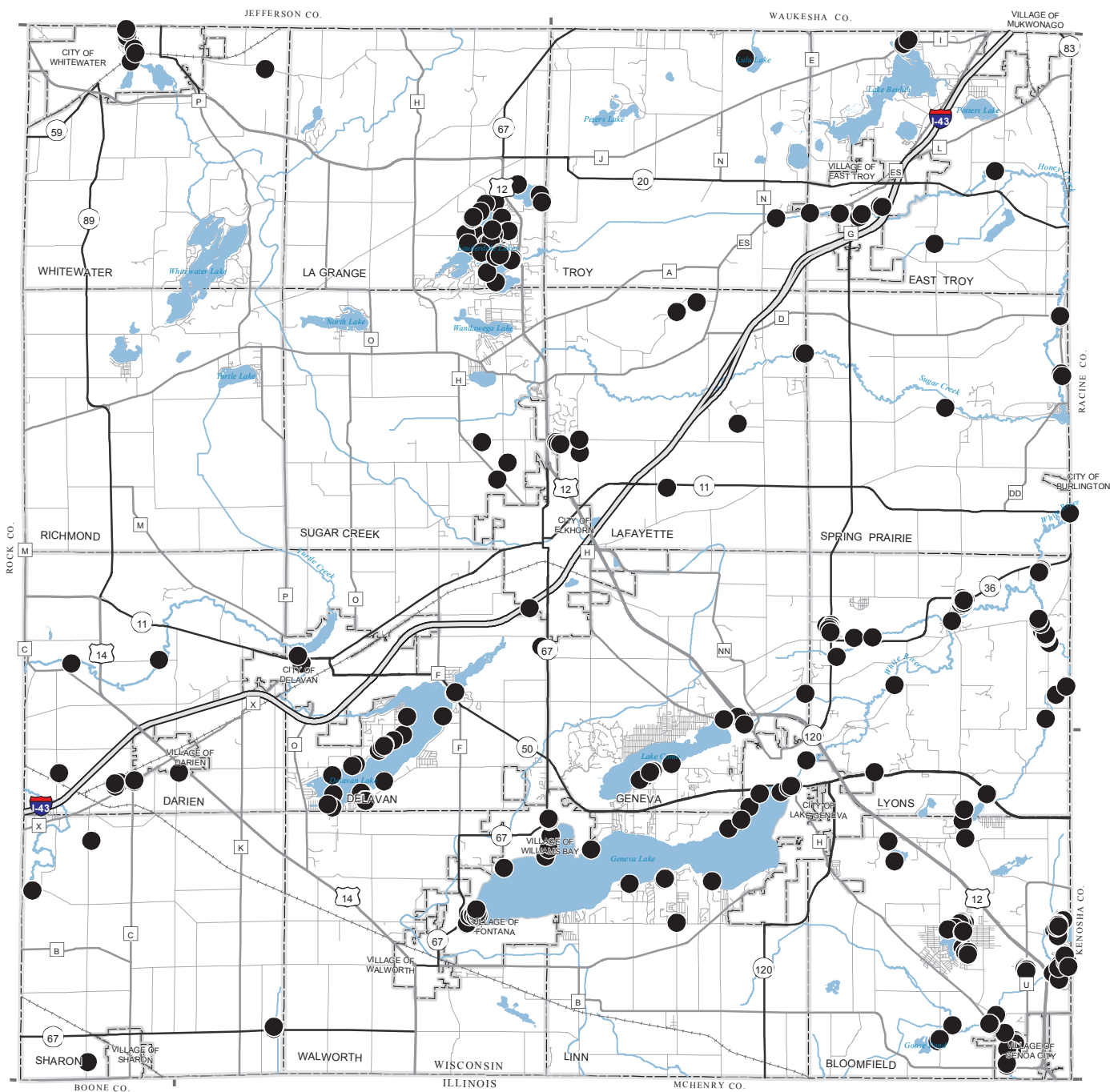
0 2.5 5 Miles



## Map 14 Health care Facilities: 2021

### Walworth County Hazard Mitigation Plan

**CIVITEK**  
CONSULTING



## Legend

● Structures in Floodplain

 Water Body

 River

 Municipal Boundary

## Map 15 Structures in 100-Year Floodplain: 2008

### Walworth County Hazard Mitigation Plan

civi  tek  
CONSULTING LLC

 PDI

Source: Base map from Walworth County  
Information Systems Department

0 1.25 2.5 5 Miles 

# PUBLIC PARTICIPATION DOCUMENTATION

|                                                                                                                                         |      |
|-----------------------------------------------------------------------------------------------------------------------------------------|------|
| Public participation plan - 2021 .....                                                                                                  | A-2  |
| Sample of initial letter to jurisdictions regarding project .....                                                                       | A-3  |
| Sample of completed form for appointment of a point of contact .....                                                                    | A-4  |
| Municipal point of contacts .....                                                                                                       | A-5  |
| Steering Committee meeting agenda – June 17, 2021 .....                                                                                 | A-6  |
| Correspondence sent to the American Red Cross and adjoining counties .....                                                              | A-7  |
| Sample of correspondence sent to the towns regarding review and comment on draft of the plan .....                                      | A-8  |
| Sample of correspondence sent to the cities and villages regarding review and comment on draft of plan .....                            | A-9  |
| Sample of completed acknowledgement form .....                                                                                          | A-10 |
| Walworth County Board Meeting Agenda - [REDACTED], 2022 .....                                                                           | A-11 |
| Correspondence to Walworth County Planning Director<br>regarding incorporating hazard mitigation plan into other planning efforts ..... | A-12 |



**Public Participation Plan (2021)**  
**Walworth County Natural Hazards Mitigation Plan 5-Year Update**

Working in concert with local municipalities, Walworth County has initiated a project to update the Walworth County hazard mitigation plan that was first adopted in 2009. The items listed below are the ways in which the County will facilitate public participation in the plan update.

- ♦ **Formation of a Steering Committee.** A steering committee will be established to guide the project and provide oversight and input. Members will include county officials and staff and local officials and representatives who wish to participate.
- ♦ **Public Notices for Steering Committee Meetings.** All Steering Committee meetings will be formally noticed and open to the public consistent with the state's open meeting law.
- ♦ **Local Government Involvement.** Each of the local governments in Walworth County will be contacted early in the process and informed about the project and asked to enter into a memorandum of understanding (MOU) with the County. Although the MOU would be non-binding, it would establish a framework for intergovernmental cooperation and coordination in terms of information sharing and give the jurisdiction the opportunity to also adopt the updated plan making it eligible for federal mitigation funding.
- ♦ **Local Jurisdiction Survey.** A set of maps, a listing of critical facilities in the jurisdiction, and a draft version of the assessment matrix used in the plan will be sent to each of the municipalities in the County. Local officials will have an opportunity to review and comment on the materials prepared up to that date.
- ♦ **Website.** Information about the project will be posted on the County's website, along with draft documents, maps, meeting notices and agendas, and project-related news.
- ♦ **Material Availability.** As various drafts are completed, copies will be sent to each of the local jurisdictions in Walworth County and other interested parties for review and comment.
- ♦ **Acknowledgement by municipalities.** Each of the cities and villages in the county will be sent a proposed copy of the plan along with a form they can use to acknowledge that they have reviewed the plan, and either recommend one or more revisions or accept the plan as drafted.
- ♦ **Public Hearing.** The Board of Supervisors will hold at least one public hearing to formally accept public comment on the proposed plan. Each of the cities and villages in the county will need to conduct separate public hearings to collect public input from within their particular jurisdiction.
- ♦ **Press Releases.** Press releases will be issued to the local media as necessary.
- ♦ **Other Means.** The County may provide other avenues for public participation and local government involvement during the course of the project.

The County Board adopted the above public participation plan on August 10, 2021, as Resolution No. 40-08/21

**Sample of Initial Letter to Jurisdictions Regarding Project****Walworth County Sheriff Office  
Emergency Management**

Daniel Schoonover, Chairperson  
Town of Bloomfield  
PO Box 609  
Pell Lake, WI 53157

Subject: Update to Walworth County's Hazards Mitigation Plan

Dear Mr. Schoonover:

In 2008, Walworth County initiated an effort to prepare a multijurisdictional hazards mitigation plan consistent with the Disaster Mitigation Act of 2000. Walworth County and a number of cities and villages in the county adopted the plan in 2009.

The county recently received a federal grant to partially fund the preparation of a five-year update to that plan. We need the involvement of all of the towns, cities, and villages in this effort to make sure we address local issues and concerns. I hope that all of the cities and villages will adopt the updated plan, because doing so will allow them to qualify to apply for federal funding for hazard mitigation projects and activities.

If your jurisdiction would like to participate, complete the enclosed memorandum of understanding and appoint one person from your jurisdiction who will (1) verify the accuracy of a list of critical facilities that will be prepared for your jurisdiction, (2) review and comment on the draft plan, and (3) serve as a liaison during this 14-month project. If that individual would like to be more involved, he or she can also volunteer to serve on a steering committee that will have a direct role in overseeing the preparation of the plan.

I hope you can see the benefits (and low cost) of participating in this project. To participate, sign the enclosed memorandum and then appoint one person to represent your jurisdiction in the process. Please mail both of the completed forms in the enclosed stamped envelope to me by December 28, 2012.

The County Board has hired Civi Tek Consulting to help prepare the plan. If you should have any questions, you may contact me at (262) 741-4616 or [jennis@co.walworth.wi.us](mailto:jennis@co.walworth.wi.us).

Additional information is posted online at [www.co.walworth.wi.us/Sheriffs%20Office/Emergency%20Management/MitigationPlan.aspx](http://www.co.walworth.wi.us/Sheriffs%20Office/Emergency%20Management/MitigationPlan.aspx).

Sincerely,  
Walworth County Emergency Management

Lieutenant John Ennis, Director

cc: Cynthia Howard, Town Clerk; PO Box 609; Pell Lake, WI 53157

**Sample of Completed Form for Appointment of Point of Contact****Appointment of Local Representative****Walworth County Hazards Mitigation Plan Update**

City of Delavan, (name of jurisdiction) hereby appoints the person identified below to assist in the preparation and review of a hazards mitigation plan for Walworth County. The appointee understands that he or she will be asked to (1) verify the accuracy of a list of critical facilities that will be prepared for your jurisdiction, (2) review and comment on the draft plan, and (3) serve as a liaison – no meetings are anticipated.

If the appointee wishes, he or she may also volunteer to serve on a steering committee that is responsible for overseeing the preparation of the plan update – one meeting is anticipated. To do so, check the box.

☐ Yes, this person is willing to serve on the steering committee.

Name: Tim O'Neill

Title (if an elected official or employee): Fire Chief

Address: P.O. Box 465

City: Delavan, WI Zip code: 53115

Daytime telephone number: 262 728 5644

Evening telephone number: 262 949 6525

Email address (if any): fdchief@ci.delavan.wi.us

Please complete this form and the memorandum of understanding and send them to John Ennis by September 22, 2020 via email at [jennis@co.walworth.wi.us](mailto:jennis@co.walworth.wi.us) or at the address listed below.

Lieutenant John Ennis, Director  
Walworth County Emergency Management  
PO Box 1004  
Elkhorn, WI 53121



### Municipal Point of Contacts

| Municipality           | Point of Contact                         |
|------------------------|------------------------------------------|
| <b>Town</b>            |                                          |
| Bloomfield             | Lloyd D. Cole, Chief of Police           |
| Darien                 | Robert Williams, Public Works Supervisor |
| Delavan                | Raymond Clark, Chief of Police           |
| East Troy              | Donald Teubel                            |
| Geneva                 | Joseph Kopecky, Town Chairman*           |
| La Grange              | Frank Taylor, Town Chairman              |
| Lafayette              | Jason Collins, Town Supervisor           |
| Linn                   | James Bushey, Chief of Police            |
| Lyons                  | Bill Mangold, Town Chairman*             |
| Richmond               | Jeff Karbash, Town Chairman*             |
| Sharon                 | Richard Brandl, Town Chairman*           |
| Spring Prairie         | Tom Bolfert, Town Supervisor*            |
| Sugar Creek            | Dale Wuttke, Town Chairman               |
| Troy                   | Thomas Lorden, Town Supervisor           |
| Walworth               | Steve Santeler, Town Supervisor          |
| Whitewater             | Lowell Hagen, Town Chairman              |
| <b>Village</b>         |                                          |
| Bloomfield             | Bill Holder, Village Trustee             |
| Darien                 | Chuck Kaufenberg, Village Trustee        |
| East Troy              | Jeremy Swendrowski, Chief of Police      |
| Fontana-on-Geneva Lake | Jeff Cates, Police Chief                 |
| Genoa City             | Bill Antti, Village President*           |
| Mukwonago              | Jeff Stein, Fire Chief                   |
| Sharon                 | Mark Ruosch, Village President*          |
| Walworth               | Joan Sallee, Village Trustee             |
| Williams Bay           | Justin Timm, Chief of Police             |
| <b>City</b>            |                                          |
| Burlington             | --                                       |
| Delavan                | Tim O'Neill, Chief of Police             |
| Elkhorn                | Bruce Lechner, Mayor*                    |
| Lake Geneva            | Charlene Klein, Mayor*                   |
| Whitewater             | Todd Lindert, EM Coordinator             |

**Steering Committee Meeting Agenda – June 17, 2021****AGENDA****Walworth County  
Hazard Mitigation Plan Update Steering Committee**

June 17, 2021, 3:00 pm

***This is an Online Meeting***

Direct link: <https://jcmicollab01.co.walworth.wi.us/call/0675173>

**Dial in:** (262) 741-7851 Extension: 7851

**Access code:** 0675173

1. Introductions
2. Certification of compliance with open meetings law
3. Public comment
4. Project description – What is a hazard mitigation plan?
5. Role of steering committee
6. Project timeline
7. Prioritize hazards in terms of importance
8. Review mitigation strategies
9. Feedback and questions
10. Set date and time for next meeting (if needed)
11. Adjourn

Note: The public may participate in this meeting and provide comment as set forth above.

## **Correspondence Sent to the American Red Cross and Adjoining Counties**

**Forthcoming**

## **Sample of Correspondence Sent to the Towns Regarding Review and Comment on Draft of the Plan**

**Forthcoming**

**Sample of Correspondence Sent to the Cities and Villages Regarding  
Review and Comment on Draft of Plan**

**Forthcoming**

### Sample of Completed Acknowledgement Form

#### Acknowledgement Letter

#### Walworth County Hazard Mitigation Plan Update

On behalf of the Town / City Village of Darien, I hereby acknowledge that I have reviewed the materials referenced below as set forth in the draft plan.

#### Table 5-24 on page 5-35

- ☒ No changes are needed  
☐ Please make changes based on the information described below.

#### Table 6-8 on page 6-14

- ☐ No changes are needed  
☒ Please make changes based on the information described below.

#### Goals, objectives, policies, and action items (page 6-17 through 6-26)

- ☒ No changes are needed  
☐ Please make changes based on the information described below.

#### Other revisions

- ☐ None  
☒ Please make changes based on the information described below.

Name: Lindsey Peterson

Title: Administrator/Clerk-Treasurer

Signature: Lindsey Peterson

Daytime telephone: 262-882-5055

Email: lpeterson@darienwi.com

Comments: (Attach additional pages if necessary.)

Please update Table 6-8 Summary of Staff Capabilities:  
 Village of Darien: Administrator-Yes, Community  
 Planner-Contracted.

In response to Pgs 6-20, item #29-Village of Darien has  
 the construction of an overflow pipe for The Ponds  
 Storm Water Pond included in the 2023 Capital  
 Improvement Plan with a cost of \$125,000. A specific  
 funding source for this project has not yet been  
 identified.

**Walworth County Board Meeting Agenda – \_\_ 2022**

**Forthcoming**

**Correspondence to Walworth County Planning Director Regarding Incorporating  
Hazard Mitigation Plan into Other Planning Efforts**

Forthcoming



# ADOPTION RESOLUTIONS FOR 2022 PLAN UPDATE

Walworth County ..... B-2

City of Delevan ..... B-3

City of Elkhorn ..... B-4

City of Lake Geneva ..... B-5

City of Whitewater ..... B-6

Village of Bloomfield ..... B-7

Village of Darien ..... B-8

Village of East Troy ..... B-9

Village of Fontana on Geneva Lake ..... B-10

Village of Genoa City ..... B-11

Village of Sharon ..... B-12

Village of Walworth ..... B-13

Village of Williams Bay ..... B-14

**Walworth County**  
**forthcoming**

**City of Delevan**

**forthcoming**

**City of Elkhorn**  
  
**forthcoming**

**City of Lake Geneva**

**forthcoming**

**City of Whitewater**

**forthcoming**

**Village of Bloomfield**

**forthcoming**

**Village of Darien**

**forthcoming**



**Village of East Troy**

**forthcoming**

**Village of Fontana on Geneva Lake**

**forthcoming**

**Village of Genoa City**

**forthcoming**

**Village of Sharon**

**forthcoming**

**Village of Walworth**

**forthcoming**

**Village of Williams Bay**

**forthcoming**

# CERTIFICATION LETTERS

Initial Certification ..... C-2

First 5-Year Update ..... C-3

Second 5-Year Update ..... C-4

## Initial Certification

STATE OF WISCONSIN \ DEPARTMENT OF MILITARY AFFAIRS  
WISCONSIN EMERGENCY MANAGEMENT2400 WRIGHT STREET  
P.O. BOX 7865  
MADISON, WISCONSIN 53707-7865

July 30, 2009

Lt. Kevin Williams  
Walworth County Emergency Management  
1770 County Rd. NN  
Elkhorn, WI 53121

Dear Mr. Williams:

It gives me great pleasure to advise that the *Walworth County Hazards Mitigation Plan* has officially been approved by the Federal Emergency Management Agency. The plan complies with the requirements of the Disaster Mitigation Act of 2000. The County and participating jurisdictions are eligible to apply for funding through the Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, the Flood Mitigation Assistance Program, and the Repetitive Flood Claims Program through July 7, 2014, for projects identified in the Plan. Per the regulations, the Plan is required to be updated and resubmitted for approval every five years to remain eligible for mitigation funding.

The attached Local Hazard Mitigation Plan Review Crosswalk includes recommended revisions for the five-year update.

Congratulations on the approval of the plan. I also want to commend the County for its commitment to mitigation and reducing future disaster losses, and I look forward to working with you in the future.

If you have any questions, please feel free to call me at 608-242-3211.

Sincerely,

ROXANNE K. GRAY  
State Hazard Mitigation Officer  
Wisconsin Division of Emergency Managementcc Paul France, Regional Emergency Management Director  
Tim Schwecke, Civi Tek Consulting

---

TELEPHONE (608) 242-3232 FACSIMILE (608) 242-3247 24-HOUR EMERGENCY HOTLINE 1-800-943-0003



## First 5-Year Update

MAR 26 2015

U.S. Department of Homeland Security  
Region V  
536 S. Clark St., 6th Floor  
Chicago, IL 60605-1509



FEMA

Ms. Katie Sommers  
State Hazard Mitigation Officer  
Wisconsin Emergency Management  
2400 Wright Street, P.O. Box 7865  
Madison, WI 53707-7865

Dear Ms. Sommers:

Thank you for submitting the adoption documentation for the Walworth County Hazard Mitigation Plan. The plan was reviewed based on the local plan criteria contained in 44 CFR Part 201, as authorized by the Disaster Mitigation Act of 2000. Walworth County met the required criteria for a multi-jurisdiction hazard mitigation plan and the plan is now approved for the County; the cities of Delevan, Elkhorn, Lake Geneva, and Whitewater; and the villages of Bloomfield, Darien, East Troy, Fontana on Geneva Lake, Genoa City, Sharon, Walworth, and Williams Bay. Please submit the adoption resolutions for any remaining jurisdictions who participated in the planning process.

The approval of this plan ensures continued availability of the full complement of Hazard Mitigation Assistance (HMA) Grants. All requests for funding, however, will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted.

We encourage Walworth County to follow the plan's schedule for monitoring and updating the plan, and continue their efforts to implement the mitigation measures. The expiration date of the Walworth County Plan is five years from the date of this letter. In order to continue project grant eligibility, the plan must be reviewed, revised as appropriate, resubmitted, and approved no later than the plan expiration date.

Please pass on our congratulations to Walworth County for this significant action. If you or the communities have any questions, please contact Rebecca Leitschuh at (312) 408-4421 or [Rebecca.Leitschuh@fema.dhs.gov](mailto:Rebecca.Leitschuh@fema.dhs.gov).

Sincerely,

/s/ Christine Stack, Director  
Mitigation Division

[www.fema.gov](http://www.fema.gov)

## Second 5-Year Update

forthcoming

# HISTORY OF ADOPTION AND AMENDMENT

| Date of Action    | Reference Number | Description of Action                                                                  |
|-------------------|------------------|----------------------------------------------------------------------------------------|
| <b>2022 Plan</b>  |                  |                                                                                        |
| [REDACTED], 2022  | [REDACTED]       | Walworth County Board adopted the countywide hazard mitigation plan update             |
| [REDACTED], 2022  | [REDACTED]       | City of Delevan adopted the countywide hazard mitigation plan update                   |
| [REDACTED], 2022  | [REDACTED]       | City of Elkhorn adopted the countywide hazard mitigation plan update                   |
| [REDACTED], 2022  | [REDACTED]       | City of Lake Geneva adopted the countywide hazard mitigation plan update               |
| [REDACTED], 2022  | [REDACTED]       | City of Whitewater adopted the countywide hazard mitigation plan update                |
| [REDACTED], 2022  | [REDACTED]       | Village of Bloomfield adopted the countywide hazard mitigation plan update             |
| [REDACTED], 2022  | [REDACTED]       | Village of Darien adopted the countywide hazard mitigation plan update                 |
| [REDACTED], 2022  | [REDACTED]       | Village of East Troy adopted the countywide hazard mitigation plan update              |
| [REDACTED], 2022  | [REDACTED]       | Village of Fontana on Geneva Lake adopted the countywide hazard mitigation plan update |
| [REDACTED], 2022  | [REDACTED]       | Village of Genoa City adopted the countywide hazard mitigation plan update             |
| [REDACTED], 2022  | [REDACTED]       | Village of Sharon adopted the countywide hazard mitigation plan update                 |
| [REDACTED], 2022  | [REDACTED]       | Village of Walworth adopted the countywide hazard mitigation plan update               |
| [REDACTED], 2022  | [REDACTED]       | Village of Williams Bay adopted the countywide hazard mitigation plan update           |
| <b>2014 Plan</b>  |                  |                                                                                        |
| January 13, 2015  | 51-12/14         | Walworth County Board adopted the countywide hazard mitigation plan update             |
| December 9, 2015  | R-643            | City of Delevan adopted the countywide hazard mitigation plan update                   |
| March 2, 2015     | 15-04            | City of Elkhorn adopted the countywide hazard mitigation plan update                   |
| December 8, 2014  | 14-R49           | City of Lake Geneva adopted the countywide hazard mitigation plan update               |
| December 2, 2014  | None             | City of Whitewater adopted the countywide hazard mitigation plan update                |
| December 14, 2014 | 2014-R-41        | Village of Bloomfield adopted the countywide hazard mitigation plan update             |
| November 17, 2014 | 14-09            | Village of Darien adopted the countywide hazard mitigation plan update                 |
| November 3, 2014  | 2014-12          | Village of East Troy adopted the countywide hazard mitigation plan update              |
| November 3, 2014  | 11-03-14-01      | Village of Fontana on Geneva Lake adopted the countywide hazard mitigation plan update |
| November 13, 2014 | 11-13-2014       | Village of Genoa City adopted the countywide hazard mitigation plan update             |
| December 9, 2014  | 12-09-14-153     | Village of Sharon adopted the countywide hazard mitigation plan update                 |
| December 8, 2014  | 2014-5           | Village of Walworth adopted the countywide hazard mitigation plan update               |
| November 17, 2014 | R-6-14           | Village of Williams Bay adopted the countywide hazard mitigation plan update           |
| <b>2009 Plan</b>  |                  |                                                                                        |
| April 21, 2009    | 03 – 04/09       | Walworth County Board adopted the countywide hazard mitigation plan                    |
| April 27, 2009    | 09-R12           | City of Lake Geneva adopted the countywide natural hazards mitigation plan             |
| May 5, 2009       | --               | City of Whitewater adopted the countywide natural hazards mitigation plan              |
| May 16, 2009      | 9-2009           | Village of East Troy adopted the countywide natural hazards mitigation plan            |

# CRITICAL FACILITIES SORTED BY TYPE: 2021

| Jurisdiction                   | Facility Name                            | Address                |
|--------------------------------|------------------------------------------|------------------------|
| <b>Adult day care (ADC)</b>    |                                          |                        |
| City of Whitewater             | Glen Adult Day Care                      | 1281 W Main Street     |
| City of Elkhorn                | Pleasant Street Country Day              | 329 N Wisconsin Street |
| City of Elkhorn                | VIP Services                             | 811 E Geneva           |
| <b>Adult family home (AFH)</b> |                                          |                        |
| Town of La Grange              | Amanda Lindner Adult Family Care         | W5069 Farm Village     |
| City of Elkhorn                | Arbor House                              | W5428 County Road A    |
| City of Whitewater             | Carrie's Home                            | 1234 W Melrose         |
| City of Whitewater             | Chris Home                               | 424 S Pleasant St      |
| City of Elkhorn                | Community Living Arrangements - Court    | 298 W Court Street     |
| Town of La Grange              | Community Living Arrangements - Dunbar   | W4911 Mallard Drive    |
| City of Elkhorn                | Community Living Arrangements - Prescott | 13 Prescott Street     |
| Town of Linn                   | Country Joy                              | N501 Zenda Road        |
| City of Whitewater             | Debbie's House                           | 241 N Queen Street     |
| Town of Lyons                  | Geneva Territory                         | 6582 Lakeside Road     |
| Town of La Grange              | Heart Prairie Way                        | W6359 Territorial Road |
| City of Whitewater             | Jennie's Place                           | 213 S Whiton Street    |
| Town of Lafayette              | Jodis Home                               | W3928 Potter Road      |
| Village of Sharon              | Johnson House                            | 216 Martin Street      |
| Town of Richmond               | Kindred Hearts Family Home               | N7227 Woodfield Lane   |
| City of Whitewater             | Koller House (The)                       | 216 S Summit Street    |
| Town of Bloomfield             | Lincoln Street Adult Family Home         | N2465 Lincoln Drive    |
| Town of Delavan                | Mabry Adult Family Home                  | 7980 Summit Drive      |
| Town of Troy                   | Mackenzie Adult Family Home              | W4855 State Road 20    |
| Town of Whitewater             | Opal House                               | N9633 Howard Road      |
| Village of Darien              | P & J Assisted Living                    | 125 E Beloit Street    |
| Town of Geneva                 | Palmer Road Adult Family Home            | W4080 Palmer Road      |
| Town of Delavan                | Pease Adult Family Home                  | 5281 State Road 50     |
| City of Whitewater             | Riverwood Adult Family Home              | 204 N Jefferson Street |
| City of Lake Geneva            | Sky Lane Home                            | 109 Sky Lane           |
| City of Delavan                | Steven's Hope and Love                   | 317 Butternut Drive    |
| City of Whitewater             | Stone Ridge Adult Family Home            | 204 N Jefferson        |
| Village of Walworth            | Valeries Home                            | 208 Madison Street     |

| Jurisdiction           | Facility Name                             | Address                   |
|------------------------|-------------------------------------------|---------------------------|
| City of Delavan        | Voskull Adult Family Home                 | 337 Bradley Avenue        |
| Village of Genoa City  | We're Just Like Family                    | W1313 Bernice Road        |
| Town of Whitewater     | White Pines                               | N7453 CTH P               |
| <b>Bridge</b>          |                                           |                           |
| Town of Delavan        | Bridge - Delavan Lake                     | STH 50                    |
| Town of Troy           | Bridge over Honey Creek                   | CTH ES                    |
| Town of Whitewater     | Bridge over Bluff Creek                   | CTH P                     |
| Town of Geneva         | Bridge over Como Creek                    | US 12                     |
| Town of Geneva         | Bridge over Como Creek                    | CTH H                     |
| Town of Geneva         | Bridge over Como Creek                    | Point                     |
| Town of Lyons          | Bridge over Como Creek                    | STH 120                   |
| Town of Bloomfield     | Bridge over East Branch Nippersink Creek  | US 12                     |
| Town of Bloomfield     | Bridge over East Branch Nippersink Creek  | CTH F                     |
| Town of Bloomfield     | Bridge over East Branch Nippersink Creek  | CTH U                     |
| Town of East Troy      | Bridge over Honey Creek                   | US Highway 20             |
| Town of Spring Prairie | Bridge over Honey Creek                   | CTH D                     |
| Town of Lyons          | Bridge over Ivanhoe Creek                 | STH 50                    |
| City of Elkhorn        | Bridge over Jackson Creek                 | S Lincoln Street (STH 67) |
| Town of Bloomfield     | Bridge over North Branch Nippersink Creek | CTH H                     |
| Town of Bloomfield     | Bridge over North Branch Nippersink Creek | CTH B                     |
| Village of Genoa City  | Bridge over North Branch Nippersink Creek | Main Street (CTH B)       |
| Town of Lyons          | Bridge over Ore Creek                     | STH 120                   |
| Town of Lyons          | Bridge over Ore Creek                     | STH 36                    |
| Town of Lyons          | Bridge over Ore Creek                     | STH 36                    |
| Town of Sharon         | Bridge over Piscasaw                      | STH 67                    |
| Town of East Troy      | Bridge over Spring Creek                  | US Highway 20             |
| Town of Lafayette      | Bridge over Sugar Creek                   | I-43 (north bound)        |
| Town of Lafayette      | Bridge over Sugar Creek                   | I-43 (south bound)        |
| Town of Lafayette      | Bridge over Sugar Creek                   | CTH ES                    |
| Town of Spring Prairie | Bridge over Sugar Creek                   | STH 120                   |
| Town of Sugar Creek    | Bridge over Sugar Creek                   | CTH H                     |
| Town of Sugar Creek    | Bridge over Sugar Creek                   | CTH ES                    |
| Town of Delavan        | Bridge over Swan Creek                    | CTH O                     |
| Town of Darien         | Bridge over Turtle Creek                  | STH 11                    |

| Jurisdiction        | Facility Name             | Address                    |
|---------------------|---------------------------|----------------------------|
| Town of Darien      | Bridge over Turtle Creek  | STH 89 US 14               |
| Town of Darien      | Bridge over Turtle Creek  | CTH C                      |
| Town of Delavan     | Bridge over Turtle Creek  | CTH P                      |
| City of Delavan     | Bridge over unnamed creek | Richmond Street            |
| City of Delavan     | Bridge over unnamed creek | Richmond Street            |
| City of Delavan     | Bridge over unnamed creek | W Walworth Avenue (STH 11) |
| City of Elkhorn     | Bridge over unnamed creek | S Lincoln Street (STH 67)  |
| City of Elkhorn     | Bridge over unnamed creek | STH 12 STH 67              |
| City of Lake Geneva | Bridge over unnamed creek | Main Street (STH 50)       |
| City of Lake Geneva | Bridge over unnamed creek | Main Street (STH 50)       |
| City of Whitewater  | Bridge over unnamed creek | US Highway 59              |
| City of Whitewater  | Bridge over unnamed creek | E Main Street              |
| Town of Bloomfield  | Bridge over unnamed creek | US 12                      |
| Town of Bloomfield  | Bridge over unnamed creek | CTH U                      |
| Town of Darien      | Bridge over unnamed creek | I-43                       |
| Town of Darien      | Bridge over unnamed creek | CTH X                      |
| Town of Darien      | Bridge over unnamed creek | CTH C                      |
| Town of Darien      | Bridge over unnamed creek | I-43                       |
| Town of Darien      | Bridge over unnamed creek | CTH C (Foundry Road)       |
| Town of Delavan     | Bridge over unnamed creek | CTH O                      |
| Town of Delavan     | Bridge over unnamed creek | I-43                       |
| Town of Delavan     | Bridge over unnamed creek | I-43                       |
| Town of East Troy   | Bridge over unnamed creek | CTH L                      |
| Town of Geneva      | Bridge over unnamed creek | CTH H                      |
| Town of Geneva      | Bridge over unnamed creek | CTH H                      |
| Town of Geneva      | Bridge over unnamed creek | US 12                      |
| Town of Geneva      | Bridge over unnamed creek | US 12                      |
| Town of Geneva      | Bridge over unnamed creek | CTH NN                     |
| Town of La Grange   | Bridge over unnamed creek | STH 12                     |
| Town of Lafayette   | Bridge over unnamed creek | I-43                       |
| Town of Lafayette   | Bridge over unnamed creek | I-43                       |
| Town of Lafayette   | Bridge over unnamed creek | STH 11                     |
| Town of Linn        | Bridge over unnamed creek | CTH B                      |
| Town of Linn        | Bridge over unnamed creek | CTH B                      |

| Jurisdiction           | Facility Name                            | Address                   |
|------------------------|------------------------------------------|---------------------------|
| Town of Linn           | Bridge over unnamed creek                | STH 120                   |
| Town of Linn           | Bridge over unnamed creek                | CTH B                     |
| Town of Lyons          | Bridge over unnamed creek                | STH 50                    |
| Town of Lyons          | Bridge over unnamed creek                | STH 36                    |
| Town of Lyons          | Bridge over unnamed creek                | STH 36                    |
| Town of Lyons          | Bridge over unnamed creek                | STH 36                    |
| Town of Sharon         | Bridge over unnamed creek                | CTH X                     |
| Town of Sharon         | Bridge over unnamed creek                | CTH B                     |
| Town of Sharon         | Bridge over unnamed creek                | CTH C                     |
| Town of Sharon         | Bridge over unnamed creek                | CTH K                     |
| Town of Sharon         | Bridge over unnamed creek                | CTH O                     |
| Town of Sharon         | Bridge over unnamed creek                | CTH B                     |
| Town of Sharon         | Bridge over unnamed creek                | CTH B                     |
| Town of Spring Prairie | Bridge over unnamed creek                | CTH DD                    |
| Town of Spring Prairie | Bridge over unnamed creek                | STH 120                   |
| Town of Spring Prairie | Bridge over unnamed creek                | CTH DD                    |
| Town of Spring Prairie | Bridge over unnamed creek                | STH 120                   |
| Town of Spring Prairie | Bridge over unnamed creek                | STH 11                    |
| Town of Spring Prairie | Bridge over unnamed creek                | STH 120                   |
| Town of Sugar Creek    | Bridge over unnamed creek                | STH 12 67                 |
| Town of Whitewater     | Bridge over unnamed creek                | STH 89                    |
| Village of Darien      | Bridge over unnamed creek                | W Beloit Street (CTH X)   |
| Village of East Troy   | Bridge over unnamed creek                | I-43 (north bound)        |
| Village of East Troy   | Bridge over unnamed creek                | I-43 (south bound)        |
| Village of East Troy   | Bridge over unnamed creek                | Church Street (CTH G)     |
| Town of Linn           | Bridge over West Branch Nippersink Creek | STH 120                   |
| Town of Lyons          | Bridge over White River                  | STH 36                    |
| Town of Spring Prairie | Bridge over White River                  | STH 11                    |
| Town of Whitewater     | Bridge over Whitewater Creek             | US Highway 59             |
| <b>Campground</b>      |                                          |                           |
| Town of Troy           | Alice Chester Center                     | N8651 Town Line Road      |
| City of Lake Geneva    | Bigfoot Beach State Park (Wis DNR)       | 1550 S Lake Shore Dr      |
| Town of East Troy      | Camp Charles Allis                       | W2035 Beulah Heights Road |
| Town of East Troy      | Camp Edwards YMCA                        | N8901 Army Lake Road      |



| Jurisdiction                                       | Facility Name                             | Address                    |
|----------------------------------------------------|-------------------------------------------|----------------------------|
| Town of Whitewater                                 | Camp Joy                                  | W7725 Kettle Moraine Drive |
| Village of Williams Bay                            | Conference Point Camp                     | 300 Conference Point Road  |
| Town of Whitewater                                 | Hickory Woods Group Camp                  | Hi-Lo Road                 |
| Village of Williams Bay                            | Holiday Home Camp                         | Holiday Avenue             |
| Town of Richmond                                   | McIntyres Resort                          | N6471 Milwaukee Road       |
| Village of Williams Bay                            | Norman B. Barr Camp                       | 483 Outing Street          |
| Town of Richmond                                   | Scenic Ridge Campground                   | W7991 R&W Townline Road    |
| Town of Richmond                                   | Snug Harbor Inn Campground on Turtle Lake | W7785 Wisconsin Parkway    |
| Town of Troy                                       | Timber Lee Christian Center               | N8705 Scout Road           |
| Town of Whitewater                                 | Whitewater Lakes-East (Wis DNR)           | N8096 Hi-Lo Road           |
| Town of Whitewater                                 | Whitewater Lakes-West (Wis DNR)           | N8095 Hi-Lo Road           |
| Town of Sugar Creek                                | Willow Run RV Condo Association           | W4945 County Road ES       |
| <b>Community based residential facility (CBRF)</b> |                                           |                            |
| Town of Lyons                                      | Artisan Lake Geneva                       | 6722 Highway 50 East       |
| City of Lake Geneva                                | Boulevard Manor                           | 945 Lake Geneva Boulevard  |
| Village of Genoa City                              | Burr Oak Manor                            | 264 Walworth Street        |
| Town of Bloomfield                                 | Casa Mia Care Center                      | W1043 Rosewood Road        |
| Town of Delavan                                    | Cobblestones                              | 4492 Cobblestone Road      |
| Town of La Grange                                  | Country Home                              | N8525 Highway H            |
| Town of La Grange                                  | Fair View                                 | W5903 STH 12               |
| City of Whitewater                                 | Fairhaven Retirement Community            | 435 W Starin Road          |
| Village of Genoa City                              | Genoa City Retirement Home                | 1201 County Road H         |
| Village of Walworth                                | Golden Years Assisted Living Residence    | 270 Ridge Road             |
| City of Whitewater                                 | Hearthstone Memory Care                   | 426 W North Street         |
| Town of Whitewater                                 | Hidden View                               | N8425 STH 89               |
| Town of Walworth                                   | Inspiration Ministries                    | N2270 Highway 67           |
| City of Whitewater                                 | Jade House                                | 1541 W Walworth Avenue     |
| Town of Sugar Creek                                | Just Like Home IV                         | W5140 County Road A        |
| Town of La Grange                                  | Kettle View                               | N8603 Duffin Road          |
| City of Elkhorn                                    | Kimberly Lane CBRF                        | 416 Kimberly Lane          |
| City of Elkhorn                                    | Kindred Hearts of Elkhorn                 | 450 E Geneva Street        |
| Town of Bloomfield                                 | Lakeside Woodland Home                    | W913 Washington Avenue     |
| City of Lake Geneva                                | Laura's Home                              | 945 Lake Geneva Boulevard  |
| Town of Geneva                                     | New Life Lodge                            | N3155 County Road H        |

| Jurisdiction           | Facility Name                            | Address                     |
|------------------------|------------------------------------------|-----------------------------|
| City of Whitewater     | Our House Senior Living                  | 945 E Chicago Street        |
| Town of Geneva         | Pinecrest of Lake Geneva                 | N3367 County Road NN        |
| Village of Darien      | Pleasant Villa for Seniors LLC           | 315 W Beloit Street         |
| Town of Geneva         | Prairie View Home                        | W4080 Palmer Road           |
| Town of Geneva         | Prairie View Home II                     | N3445 CTH NN                |
| City of Delavan        | Prairie Village North                    | 311 Turtle Creek Drive      |
| City of Delavan        | Prairie Village South                    | 315 Turtle Creek Drive      |
| Town of Richmond       | Richmond Way                             | N6032 STH 89                |
| City of Delavan        | Ridgestone Village Ltd                   | 1025 S Second Street        |
| Town of Delavan        | Rosewood Manor LLC                       | 2220 Borg Road              |
| Town of Geneva         | Runges CBRF for Developmentally Disabled | W3705 Loveland Road         |
| Town of Whitewater     | Sapphire House                           | W7332 STH 12                |
| City of Elkhorn        | Sunnyside Home                           | 1 Eastown Manor             |
| City of Whitewater     | The Glen Supportive Living               | 1281 W Main Street          |
| City of Lake Geneva    | Village Glen of Geneva Crossing          | 723 S Curtis Street         |
| Town of Delavan        | Vintage on the Ponds                     | N4901 Dam Road              |
| Town of Geneva         | Whispering Willows                       | W4517 Willow Bend Road      |
| <b>Dam</b>             |                                          |                             |
| Village of Bloomfield  | Bloomfield Wetland Restoration           | none                        |
| Town of La Grange      | Cedar Grove                              | none                        |
| City of Delavan        | Comus Lake                               | N Terrace Street (Dam Road) |
| City of Delavan        | Dam                                      | none                        |
| City of Lake Geneva    | Dam                                      | none                        |
| City of Lake Geneva    | Dam                                      | none                        |
| Town of Troy           | Donnelly                                 | none                        |
| Town of Lafayette      | Droster, Elmer                           | none                        |
| Village of East Troy   | East Troy                                | Highway 120                 |
| Town of Delavan        | Fox, George                              | none                        |
| Town of Bloomfield     | Fries, Elmer                             | none                        |
| Village of Bloomfield  | Grethe                                   | none                        |
| Town of East Troy      | Hilbourn                                 | none                        |
| Town of Spring Prairie | Honey Lake                               | none                        |
| Town of Richmond       | Jackley Dam #1                           | none                        |
| Town of Richmond       | Jackley Dam #2                           | none                        |

| Jurisdiction               | Facility Name                | Address              |
|----------------------------|------------------------------|----------------------|
| Town of Richmond           | Jackley Dam #3               | none                 |
| Town of Troy               | Kettle Moraine Estates, Corp | none                 |
| Town of East Troy          | Lake Beulah                  | none                 |
| Town of Geneva             | Lake Como (spillway)         | none                 |
| Town of Delavan            | Lake Delavan                 | none                 |
| Town of Delavan            | Lake Delavan                 | none                 |
| Town of Geneva             | Lake Geneva                  | none                 |
| Village of Bloomfield      | Lake Tombeau                 | none                 |
| Town of La Grange          | Lauderdale Lake              | none                 |
| Town of Darien             | Morrissey                    | Christie Road        |
| Town of La Grange          | Motl, Laurene                | none                 |
| City of Whitewater         | Old Paper Mill               | none                 |
| City of Whitewater         | Old Stone Mill               | none                 |
| Town of Troy               | Pabst                        | none                 |
| Town of Troy               | Pabst Diversion              | none                 |
| Town of Bloomfield         | Pell Lake                    | none                 |
| Town of East Troy          | Potters Lake                 | none                 |
| Village of Bloomfield      | Powers Lake                  | none                 |
| Town of Whitewater         | Rice Lake                    | none                 |
| Town of Spring Prairie     | Roubik, Charles J.           | none                 |
| Town of Richmond           | Turtle Lake                  | Turtle Lake Road     |
| Town of Richmond           | Turtle Valley Central Phase  | none                 |
| Town of Sugar Creek        | Turtle Valley Phase III      | none                 |
| Town of Bloomfield         | Val Sauer                    | none                 |
| Village of Bloomfield      | Warren Smadbeck              | none                 |
| Town of Whitewater         | Whitewater Lake              | none                 |
| <b>Electric substation</b> |                              |                      |
| City of Elkhorn            | Electric substation          | 600 S Lincoln Street |
| City of Elkhorn            | Electric substation          | Broad Street         |
| Town of Bloomfield         | Electric substation          | W497 CTH U           |
| Town of Darien             | Electric substation          | 2918 Foundry Road    |
| Town of Linn               | Electric substation          | N1479 Zenda Road     |
| Town of Sharon             | Electric substation          | STH 67               |
| Village of Williams Bay    | Electric substation          | Theater Road         |

| Jurisdiction                      | Facility Name                                      | Address                   |
|-----------------------------------|----------------------------------------------------|---------------------------|
| Town of Richmond                  | WE Energy Substation                               | N6229 Church Road         |
| Town of Sugar Creek               | Wisconsin Electric Co substation                   | W5567 County Road A       |
| Village of East Troy              | Wisconsin Electric Co substation                   | Byrnes Street             |
| Town of Lyons                     | Wisconsin Electric Power substation                | 7093 STH 36               |
| Town of Sugar Creek               | Wisconsin Electric substation                      | N5843 and N5825 Voss Road |
| City of Delavan                   | Wisconsin Power & Light substation                 | Wisconsin Street          |
| City of Lake Geneva               | Wisconsin Power & Light substation                 | Mill Street               |
| Town of Darien                    | Wisconsin Power & Light substation                 | N3366 CTH K               |
| Town of Delavan                   | Wisconsin Power & Light substation                 | 6396 Mound Road           |
| Town of Geneva                    | Wisconsin Power & Light substation                 | CTH NN                    |
| Village of Walworth               | Wisconsin Power & Light substation                 | 520 N Main Street         |
| Town of Whitewater                | Wisconsin Power Co substation                      | Clover Valley Road        |
| <b>EMS facility (stand alone)</b> |                                                    |                           |
| City of Delavan                   | Delavan Rescue Squad, Inc.                         | 651 Ann Street            |
| City of Elkhorn                   | Medix Ambulance Service, Inc. - Elkhorn            | 501 S Nathan Lane #3      |
| City of Lake Geneva               | Medix Ambulance Service, Inc. - Lake Geneva        | 623 Main Street           |
| Town of East Troy                 | Paratech Ambulance Service, Inc.                   | N8406 Highway ES          |
| <b>Fire department</b>            |                                                    |                           |
| Village of Bloomfield             | Bloomfield Genoa City Fire & Rescue                | N1113 Clover Road         |
| City of Delavan                   | City of Delavan Fire Department                    | 220 S 7th                 |
| Village of Darien                 | Darien Fire Department                             | 311 W Madison Street      |
| Town of East Troy                 | East Troy Area Emergency Services                  | N8400 Highway ES          |
| City of Elkhorn                   | Elkhorn Area Fire Department                       | 13 S Broad Street         |
| Village of Fontana on Geneva Lake | Fontana Volunteer Fire Department and Rescue Squad | 190 Douglas Street        |
| City of Lake Geneva               | Lake Geneva Fire Department - Station #1           | 730 Marshall Street       |
| City of Lake Geneva               | Lake Geneva Fire Station #2                        | Host Drive                |
| Town of La Grange                 | Lauderdale-La Grange Fire Department Inc.          | W6080 STH 12              |
| Town of Sharon                    | Sharon Fire and Rescue                             | 182 Park Avenue           |
| Town of Delavan                   | Town of Delavan Fire Department                    | 2000 Sage Road            |
| Town of Delavan                   | Town of Delavan Fire Department                    | 6095 Bailey Road          |
| Town of Delavan                   | Town of Delavan Fire Department                    | 2704 CTH O                |
| Town of Delavan                   | Town of Delavan Fire Department and EMS            | 5698 Town Hall Road       |
| Town of Linn                      | Town of Linn Fire/EMS                              | N1457 Hillside Road       |

| Jurisdiction            | Facility Name                                           | Address                    |
|-------------------------|---------------------------------------------------------|----------------------------|
| Town of Lyons           | Town of Lyons Fire Department                           | 6339 Hospital Road         |
| Town of Troy            | Troy Center Fire Department                             | N8870 Briggs Street        |
| Village of Walworth     | Walworth Fire Department                                | 247 N Main Street          |
| City of Whitewater      | Whitewater Volunteer Fire Department and Rescue         | 312 W Whitewater Street    |
| Village of Williams Bay | Williams Bay Volunteer Fire Department and Rescue Squad | 5 E Geneva Street          |
| <b>Group day care</b>   |                                                         |                            |
| Town of Geneva          | All About Children                                      | N3241 County Road H        |
| City of Lake Geneva     | Amy's Academy Lake Geneva                               | 601 Walworth Street        |
| Town of Whitewater      | At School Programs-Lakeview                             | W8363 RW Townline Road     |
| City of Whitewater      | At School Programs-Links Charter                        | 242 S Prince Street        |
| City of Delavan         | At School Programs-Turtle Creek                         | 1235 Creek Road            |
| City of Whitewater      | At School Programs-Washington                           | 506 E Main Street          |
| City of Delavan         | At School Programs-Wileman                              | 1001 E Geneva Street       |
| Village of East Troy    | Bright Beginnings Day Care                              | 2541 E Main Street, Unit F |
| Village of East Troy    | Bright Beginnings Day Care LLC                          | 2040 Beulah Avenue         |
| Town of Geneva          | Calvary Maranatha Preschool                             | Highway 50 and Harris Road |
| City of Delavan         | Delavan Nursery Center                                  | 115 S 7th Street           |
| Town of East Troy       | Edwards YMCA Camp                                       | N8901 Army Lake Road       |
| Town of Bloomfield      | Garden Gate Child Care Center                           | W1876 Deignan Road         |
| Village of Williams Bay | Jerris Kidz                                             | 139 Congress Street        |
| City of Lake Geneva     | Lake Geneva Day Care Center                             | 912 Geneva Street, Suite A |
| City of Lake Geneva     | Lake Geneva Montessori School                           | 912 Geneva Street          |
| City of Elkhorn         | Lakeland's Little Learners                              | 240 E Commerce Court       |
| City of Elkhorn         | Lakeland's Little Learners-Jackson                      | 13 N Jackson Street        |
| Town of Sugar Creek     | Lakeland's Little Learners-Tibbets                      | W5218 County Road A        |
| City of Whitewater      | Learning Depot                                          | 560 S Elkhorn Road         |
| City of Whitewater      | Learning Depot II                                       | 707 W Walworth             |
| Village of East Troy    | Little Angel Learning Center                            | 2141 Mill Street           |
| Village of Walworth     | Little Professors After School Care                     | 121 Beloit Street          |
| Village of Walworth     | Little Professors Learning Center                       | 125 N State Highway 67     |
| Town of Geneva          | Little Red Preschool of Lake Como                       | N3445 Como Road, Suite 5   |
| Town of Bloomfield      | Miss Vicki's (St Marys) Day Care Center                 | W1256 N Lake Shore Drive   |
| Village of East Troy    | Noahs Ark Christian Day Care Center                     | 2942 Austin Street         |
| City of Delavan         | Our Redeemer Lutheran Child Care                        | 416 W Geneva Street        |

| Jurisdiction              | Facility Name                                                | Address                                              |
|---------------------------|--------------------------------------------------------------|------------------------------------------------------|
| City of Delavan           | Preschool for Creative Learning                              | 1545 Hobbs Drive                                     |
| Town of Whitewater        | RWCFS Lakeview Head Start Center                             | W8363 RW Townline Road                               |
| City of Delavan           | RWCFS Phoenix School Head Start Ctr                          | 414 Beloit Street                                    |
| Village of Sharon         | RWCFS Sharon Community Head Start Center                     | 104 E School Street                                  |
| Village of Bloomfield     | RWCFS Star Center Head Start Center                          | W1380 Lake Geneva Highway                            |
| City of Whitewater        | RWCFS-Links Chater                                           | 242 S Prince Street                                  |
| Village of Genoa City     | Sommerschul Childcare and Learning                           | 328 Freeman Street                                   |
| City of Elkhorn           | Step Ahead Preschool Center LLC (St. John's Lutheran Church) | 104 S Broad Street                                   |
| City of Elkhorn           | TLC The Learning Curve                                       | 1950 N Wisconsin Street, Suite B                     |
| City of Elkhorn           | TLC Westside Wrap Around                                     | 222 Sunset Drive                                     |
| City of Lake Geneva       | United Child Care Center                                     | 715 Wisconsin Street                                 |
| City of Whitewater        | UW Whitewater Childrens Center                               | 800 W Main Street (Roseman Building - UW Whitewater) |
| <b>Health care clinic</b> |                                                              |                                                      |
| City of Elkhorn           | Aurora Health Center                                         | 209 E Commerce Court                                 |
| City of Delavan           | Aurora Health Center - Delavan                               | 1550 Hobbs Drive                                     |
| Village of East Troy      | Aurora Health Center - East Troy                             | 2483 Corporate Circle Drive                          |
| City of Elkhorn           | Aurora Health Center - Elkhorn                               | 20 N Church Street                                   |
| City of Lake Geneva       | Aurora Health Center - Lake Geneva                           | 146 E Geneva Square                                  |
| Village of Walworth       | Aurora Health Center - Walworth                              | 525 Kenosha Street, Suite A                          |
| Village of Darien         | Darien Medical Center (Beloit Memorial Hospital)             | 300 W Bella Vista Drive                              |
| City of Delavan           | Dean Clinic - Delavan                                        | 540 Bowers Boulevard                                 |
| City of Whitewater        | Fort HealthCare (Therapy and Sport Center)                   | 1461 W Main Street                                   |
| City of Lake Geneva       | Mercy Lake Geneva Medical Center                             | 350 Peller Road                                      |
| Village of Sharon         | Mercy Sharon Medical Center                                  | 118 Plain Street                                     |
| City of Whitewater        | Mercy Whitewater Medical Center                              | 507 W Main Street                                    |
| City of Whitewater        | Whitewater Family Practice Clinic                            | 1305 W Main Street                                   |
| <b>Hospital</b>           |                                                              |                                                      |
| Town of Geneva            | Aurora Lakeland Medical Center                               | W3985 County Road NN                                 |
| Town of Geneva            | Mercy Walworth Hospital & Medical Center                     | N2950 State Road 67                                  |
| <b>Library</b>            |                                                              |                                                      |
| City of Delavan           | Aram Public Library                                          | 404 E Walworth Street                                |
| Village of Williams Bay   | Barrett Memorial Library                                     | 65 W Geneva Street                                   |
| Village of Sharon         | Brigham Memorial Library                                     | 131 Plain Street                                     |

| Jurisdiction                           | Facility Name                                  | Address                   |
|----------------------------------------|------------------------------------------------|---------------------------|
| Village of Darien                      | Darien Public Library                          | Park Street               |
| Village of East Troy                   | East Troy Lions Public Library                 | 3094 Graydon Avenue       |
| Village of Fontana on Geneva Lake      | Fontana Public Library                         | 166 2nd Avenue            |
| Village of Genoa City                  | Genoa City Public Library                      | 126 Freeman               |
| City of Whitewater                     | Irwin L. Young Memorial Library                | 431 W Center Street       |
| City of Lake Geneva                    | Lake Geneva Public Library                     | 918 W Main Street         |
| City of Elkhorn                        | Matheson Memorial Library                      | 101 N Wisconsin Street    |
| Village of Walworth                    | Walworth Memorial Library                      | 101 Maple Avenue          |
| <b>Mobile / Manufactured home park</b> |                                                |                           |
| City of Lake Geneva                    | Brooks Timbers Court                           | 515 S Wells Street        |
| Town of Geneva                         | Coachman's Terrace Manufactured Home Community | W3540 State Road 50       |
| Town of Lyons                          | Country Estates                                | Hospital Road             |
| City of Lake Geneva                    | Lake Geneva Estates                            | 750 Lake Geneva Blvd      |
| City of Elkhorn                        | Land O' Lakes Mobile Home Court                | 473 E Geneva Street       |
| Town of Delavan                        | Ludwell Estates                                | 5614 STH 11               |
| Town of Darien                         | Pioneer Estates - Delavan                      | W7955 Creek Road          |
| Town of Bloomfield                     | Pioneer Estates - Lake Geneva                  | N2020 CTH H               |
| Village of Sharon                      | Sharon Estates                                 | Park Road                 |
| Village of East Troy                   | Skyview Terrace                                | 2742 E Main Street        |
| Town of Richmond                       | Snug Harbor Manufactured Home Community        | W7772 Wisconsin Parkway   |
| Town of Troy                           | Troy Terrace Mobile Home Park                  | N9685 Nature Road         |
| Town of Lyons                          | Unnamed park                                   | Motor Drive off of STH 36 |
| <b>Municipal garage</b>                |                                                |                           |
| City of Elkhorn                        | City of Elkhorn Garage                         | 12 E 1st Avenue           |
| City of Lake Geneva                    | City of Lake Geneva Department of Public Works | 1065 Carey Street         |
| City of Whitewater                     | City of Whitewater Streets and Parks           | W Starin Street           |
| City of Delavan                        | Delavan Grounds Maintenance Garage             | 69 W Walworth Avenue      |
| City of Delavan                        | Delavan Street Department                      | 490 Richmond Road         |
| Village of Fontana on Geneva Lake      | Fontana Public Works                           | 300 Wild Duck Road        |
| Town of Lafayette                      | Lafayette Town Garage                          | W2960 State Road 11       |
| Village of Sharon                      | Sharon Municipal Garage                        | 180 George Street         |
| Town of Darien                         | Town of Darien Municipal Garage                | N2876 Foundry Road        |
| Town of Delavan                        | Town of Delavan Highway Department             | 5621 Town Hall Road       |

| Jurisdiction                      | Facility Name                                          | Address                   |
|-----------------------------------|--------------------------------------------------------|---------------------------|
| Town of East Troy                 | Town of East Troy Municipal Garage                     | N9330 Stewart School Road |
| Town of Geneva                    | Town of Geneva Municipal Garage                        | N3496 Como Road           |
| Town of La Grange                 | Town of La Grange Highway Department                   | N8530 County Road H       |
| Town of Linn                      | Town of Linn Garage                                    | N611 Zenda Road           |
| Town of Lyons                     | Town of Lyons Highway Garage                           | 6339 Hospital Road        |
| Town of Richmond                  | Town of Richmond Municipal Garage                      | W9046 CTH A               |
| Town of Sharon                    | Town of Sharon Public Works and Garage                 | N1097 Bollinger Road      |
| Town of Spring Prairie            | Town of Spring Prairie Municipal Garage                | N6097 STH 120             |
| Town of Sugar Creek               | Town of Sugar Creek Municipal Garage                   | N6641 CTH H               |
| Town of Troy                      | Town of Troy Municipal Garage                          | N8851 County Road N       |
| Town of Walworth                  | Town of Walworth Municipal Garage                      | W6741 Brich Church Road   |
| Town of Whitewater                | Town of Whitewater Highway Department                  | W8590 Willis Ray Road     |
| Village of Darien                 | Village of Darien Municipal Garage                     | 323 W Madison Street      |
| Village of East Troy              | Village of East Troy Dept. of Public Works             | 2861 Austin Street        |
| Village of East Troy              | Village of East Troy Municipal Garage                  | 2104 Young Street         |
| Village of Walworth               | Village of Walworth Public Works Department            | 121 Badger Street         |
| Town of Geneva                    | Walworth County Public Works                           | W4097 County Road NN      |
| Village of Williams Bay           | Williams Bay Street Department                         | 230 Williams Street       |
| <b>Municipal office and other</b> |                                                        |                           |
| Village of Bloomfield             | Bloomfield Town Hall                                   | 1100 Town Hall Road       |
| City of Elkhorn                   | City of Elkhorn Parks & Recreation Department          | 200 S Devendorf Street    |
| City of Whitewater                | Community Development Authority                        | 402 W Main Street         |
| Town of Darien                    | Darien Town Hall                                       | N2826 Foundry Road        |
| Village of Darien                 | Darien Village Hall                                    | 24 E Wisconsin Street     |
| City of Delavan                   | Delavan City Hall                                      | 123 S 2nd Street          |
| Town of Delavan                   | Delavan Town Hall                                      | 5621 Town Hall Road       |
| City of Elkhorn                   | Department of Transportation Division of Motor Vehicle | 835 S Lincoln Street      |
| Town of East Troy                 | East Troy Town Hall                                    | N9330 Stewart School Road |
| Village of East Troy              | East Troy Village Hall                                 | 2015 Energy Drive         |
| City of Elkhorn                   | Elkhorn City Hall                                      | 9 S Broad Street          |
| Village of Fontana on Geneva Lake | Fontana-on-Geneva Lake Village Hall                    | 175 Valley View Drive     |
| Town of Geneva                    | Geneva Town Hall                                       | N3496 Como Road           |
| Village of Genoa City             | Genoa City Village Hall                                | 715 Walworth Street       |
| Town of La Grange                 | La Grange Town Hall                                    | N7899 County Road H       |



| Jurisdiction                | Facility Name                                                | Address                     |
|-----------------------------|--------------------------------------------------------------|-----------------------------|
| Town of Lafayette           | Lafayette Town Hall                                          | W4614 Potter Road           |
| City of Lake Geneva         | Lake Geneva City Hall                                        | 626 Geneva Street           |
| City of Lake Geneva         | Lake Geneva Water Commission                                 | 361 W Main Street           |
| Town of Linn                | Linn Town Hall                                               | W3728 Franklin Walsh Street |
| Town of Lyons               | Lyons Town Hall                                              | 6339 Hospital Road          |
| Town of Richmond            | Richmond Town Hall                                           | W9046 CTH A                 |
| Town of Sharon              | Sharon Town Hall                                             | N1097 Bollinger Road        |
| Village of Sharon           | Sharon Village Hall                                          | 125 Plain Street            |
| Town of Spring Prairie      | Spring Prairie Town Hall                                     | N6097 STH 120               |
| City of Whitewater          | Starin Park Community Building                               | 504 W Starin Street         |
| Town of Sugar Creek         | Sugar Creek Town Hall                                        | N6641 CTH H                 |
| Town of Delavan             | Town of Delavan Building Inspector Office                    | 5621 Town Hall Road         |
| Town of Walworth            | Town of Walworth Town Hall                                   | W6741 Brich Church Road     |
| Town of Troy                | Troy Town Hall                                               | N8870 Briggs Street         |
| City of Elkhorn             | USDA/Natural Resource Conservation Service                   | 225 E O'Connor Drive        |
| City of Elkhorn             | Walworth County Government Center                            | 100 W Walworth Street       |
| Town of Geneva              | Walworth County Health and Human Services                    | W4051 County Road NN        |
| City of Elkhorn             | Walworth County Judicial Center                              | 1800 County Road NN         |
| Village of Walworth         | Walworth Village Hall                                        | 227 N Main Street           |
| City of Whitewater          | Whitewater Armory                                            | 146 W North Street          |
| City of Whitewater          | Whitewater City Hall                                         | 312 W Whitewater Street     |
| Town of Whitewater          | Whitewater Town Hall                                         | W8590 Willis Ray Road       |
| Village of Williams Bay     | Williams Bay Recreation Department Office                    | 310 Elkhorn Road            |
| Village of Williams Bay     | Williams Bay Village Hall                                    | 250 Williams Street         |
| City of Elkhorn             | Wisconsin Department of Workforce Development - Jobs Service | 1000 E Centralia Street     |
| City of Elkhorn             | Wisconsin Office of the State Public Defender                | 209 E O'Connor Drive        |
| <b>National Guard</b>       |                                                              |                             |
| City of Whitewater          | Army National Guard                                          | 952 N Universal Boulevard   |
| City of Elkhorn             | Army National Guard Co 1st Bn 128th Inf                      | 401 E Fair Avenue           |
| <b>Natural gas facility</b> |                                                              |                             |
| Town of La Grange           | Guardian Pipeline gas facility                               | STH 12                      |
| Town of La Grange           | Natural gas facility                                         | W5905 STH 12                |
| Town of Lyons               | Natural gas facility                                         | Hospital Road and STH 120   |

| Jurisdiction                      | Facility Name                          | Address                     |
|-----------------------------------|----------------------------------------|-----------------------------|
| Town of Sharon                    | Natural gas facility                   | N1146 CTH C                 |
| Town of Whitewater                | Northern Natural Gas                   | W7960 Reliance Road         |
| <b>Nursing home</b>               |                                        |                             |
| Village of East Troy              | East Troy Manor                        | 3271 North Street           |
| City of Whitewater                | Fairhaven                              | 435 W Starin Road           |
| City of Lake Geneva               | Geneva Lake Manor                      | 211 S Curtis Street         |
| Village of Walworth               | Golden Years Health Care Center        | 270 Ridge Road              |
| City of Elkhorn                   | Holton Manor                           | 638 N Broad Street          |
| City of Elkhorn                   | Lakeland Health Care Center            | 1922 County Road NN         |
| Village of Williams Bay           | Williams Bay Care Center               | 146 Clover Street           |
| City of Delavan                   | Willowfield Nursing & Rehab Center     | 905 E Geneva Street         |
| <b>Police department</b>          |                                        |                             |
| Village of Bloomfield             | Bloomfield Township Police Department  | 1100 Town Hall Road         |
| Village of Darien                 | Darien Police Department               | 24 E Wisconsin Street       |
| City of Delavan                   | Delavan Police Department (DVPD)       | 123 S 2nd Street            |
| Town of Delavan                   | Delavan Township Police Department     | 5625 Town Hall Road         |
| Town of East Troy                 | East Troy Township Police Department   | N9330 Stewart School Road   |
| Village of East Troy              | East Troy Village Police Department    | 2015 Energy Drive           |
| City of Elkhorn                   | Elkhorn Police Department              | 404 N Washington Street     |
| Village of Fontana on Geneva Lake | Fontana Police Department              | 185 Douglas Street          |
| City of Lake Geneva               | Lake Geneva Police Department (LGPD)   | 626 Geneva Street           |
| Town of Linn                      | Linn Township Police Department        | W3728 Franklin Walsh Street |
| Village of Sharon                 | Sharon Police Department               | 125 Plain Street            |
| Town of Geneva                    | Town of Geneva Police Department       | N3496 Como Road             |
| City of Elkhorn                   | Walworth County Law Enforcement Center | 1770 County Road NN         |
| Village of Walworth               | Walworth Police Department             | 227 N Main Street           |
| City of Whitewater                | Whitewater Police Department           | 312 W Whitewater Street     |
| Village of Williams Bay           | Williams Bay Police Department         | 250 Williams Street         |
| <b>Post office</b>                |                                        |                             |
| Village of Darien                 | Post Office - Darien                   | 1 E Beloit Street           |
| City of Delavan                   | Post Office - Delavan                  | 335 E Walworth Avenue       |
| Village of East Troy              | Post Office - East Troy                | 2099 Mill Street            |
| City of Elkhorn                   | Post Office - Elkhorn                  | 102 E Walworth Street       |

| Jurisdiction                                     | Facility Name                    | Address                     |
|--------------------------------------------------|----------------------------------|-----------------------------|
| Village of Fontana on Geneva Lake                | Post Office - Fontana            | 185 3rd Avenue              |
| City of Lake Geneva                              | Post Office - Lake Geneva        | 672 W Main Street           |
| Town of Lyons                                    | Post Office - Lyons              | 1447 Mill Street            |
| Village of Bloomfield                            | Post Office - Pell Lake          | W1265 Park Road             |
| Village of Sharon                                | Post Office - Sharon             | 199 Walworth Street         |
| Town of Lyons                                    | Post Office - Springfield        | 7210 Springfield Road       |
| Village of Walworth                              | Post Office - Walworth           | 206 N Main Street           |
| City of Whitewater                               | Post Office - Whitewater         | 213 W Center Street         |
| Village of Williams Bay                          | Post Office - Williams Bay       | 129 N Walworth Avenue       |
| Town of Linn                                     | Post Office - Zenda              | W3724 Franklin Walsh Street |
| <b>Public-use airport</b>                        |                                  |                             |
| City of Burlington                               | Burlington Municipal Airport     | 703 Airport Drive           |
| Village of East Troy                             | East Troy Municipal Airport      | 2085 Highway L              |
| <b>Recreation</b>                                |                                  |                             |
| City of Delavan                                  | Mill Pond Rec Building           | Waterworks Drive            |
| <b>Residential care apartment complex (RCAC)</b> |                                  |                             |
| City of Lake Geneva                              | Arbor Village of Geneva Crossing | 201 Townline Road           |
| Village of East Troy                             | Brolen Park                      | 2191 Church Street          |
| Village of Walworth                              | Golden Years Retirement Village  | 270 Ridge Road              |
| Town of Walworth                                 | Inspiration Ministries           | N2270 Highway 67            |
| City of Delavan                                  | Ridgestone Court Inc             | 1025 S Second Street        |
| City of Elkhorn                                  | Ridgestone Terrace               | 291 W Evergreen Parkway     |
| Village of Williams Bay                          | Sherwood Lodge                   | 116 Cherry Street           |
| <b>School K-12</b>                               |                                  |                             |
| City of Lake Geneva                              | Badger High School               | 220 E South Street          |
| Village of Walworth                              | Big Foot High School             | 401 Devils Lane             |
| Village of Genoa City                            | Brookwood Elementary School      | 630 Kossuth Street          |
| Village of Genoa City                            | Brookwood Middle School          | 1020 Hunters Ridge          |
| Village of East Troy                             | Byrnes Elementary School         | 2043 Division Street        |
| City of Lake Geneva                              | Central-Denison Middle School    | 900 Wisconsin Street        |
| Town of Lyons                                    | Cornerstone Christian Academy    | 1553 Church Street          |
| Village of Darien                                | Darien Elementary School         | 125 S Walworth Street       |
| City of Delavan                                  | Delavan Christian School         | 848 Oak Street              |

| <b>Jurisdiction</b>               | <b>Facility Name</b>                   | <b>Address</b>            |
|-----------------------------------|----------------------------------------|---------------------------|
| City of Delavan                   | Delavan-Darien High School             | 150 Cummings Street       |
| Village of East Troy              | Doubek Elementary School               | 2040 Beulah Avenue        |
| Village of East Troy              | East Troy High School                  | 3128 Graydon Avenue       |
| Village of East Troy              | East Troy Middle School                | 3143 Graydon Avenue       |
| City of Lake Geneva               | Eastview Elementary School             | 535 Sage Street           |
| City of Elkhorn                   | Elkhorn Area High School               | 482 E Geneva Street       |
| City of Elkhorn                   | Elkhorn Area Middle School             | 627 E Court Street        |
| Town of Walworth                  | Faith Christian School                 | W5525 Highway 67          |
| City of Lake Geneva               | First Evangelical Lutheran School      | 1101 Logan Street         |
| City of Elkhorn                   | First Lutheran School (Also preschool) | 415 Devendorf Street      |
| Village of Fontana on Geneva Lake | Fontana Elementary School              | 450 S Main Street         |
| Village of East Troy              | Good Shepherd Lutheran School          | 1936 Emery Street         |
| City of Elkhorn                   | Jackson Elementary School              | 13 N Jackson              |
| City of Whitewater                | Kettle Moraine Baptist Academy         | 505 S Wisconsin Street    |
| City of Lake Geneva               | Lake Geneva Middle School              | 600 N Broomfield Road     |
| Town of Geneva                    | Lakeland School                        | W3905 CTH NN              |
| City of Elkhorn                   | Lakeland School of Walworth County     | 504 W Court Street        |
| Town of Whitewater                | Lakeview Elementary School             | W8363 RW Townline Road    |
| City of Whitewater                | Links Charter School                   | 242 S Prince Street       |
| Town of Lyons                     | Lyons Center School                    | 1622 Mill Street          |
| Town of Lyons                     | Mount Zion Christian School            | 2330 Highway 120          |
| Town of East Troy                 | Nature's Classroom Montessori School   | W1802 Highway J           |
| City of Delavan                   | Our Redeemer Lutheran School           | 416 W Geneva Street       |
| City of Delavan                   | Phoenix Middle School                  | 414 Beloit Street         |
| Village of East Troy              | Prairie View Elementary School         | 2131 Townline Road        |
| Town of Linn                      | Reek Elementary School                 | W4094 S Lake Shore Drive  |
| City of Delavan                   | Saint Andrews Parish School            | 115 S 7th Street          |
| City of Lake Geneva               | Saint Francis de Sales Grade School    | 130 W Main Street         |
| City of Elkhorn                   | Saint Patricks Grade School            | 534 Sunset Drive          |
| Village of East Troy              | Saint Pauls Lutheran School            | 2665 North Street         |
| Village of East Troy              | Saint Peters Elementary School         | 3001 Elm Street           |
| Village of Sharon                 | Sharon Community School                | 104 E School Street       |
| Village of Bloomfield             | Star Center Elementary School          | W1380 Lake Geneva Highway |
| Town of Sugar Creek               | Tibbets Elementary School              | W5218 County Road A       |

| Jurisdiction                 | Facility Name                                       | Address                    |
|------------------------------|-----------------------------------------------------|----------------------------|
| Town of Linn                 | Traver Elementary School                            | W3490 Linton Road (CTH BB) |
| City of Delavan              | Turtle Creek Elementary School                      | 1235 Creek Road            |
| Village of Walworth          | Walworth Christian School                           | 119 Phillips Avenue        |
| City of Elkhorn              | Walworth County Educational Alternative High School | 400 County Road H          |
| Village of Walworth          | Walworth Elementary and Middle School               | 121 Beloit Street          |
| City of Whitewater           | Washington Elementary School                        | 506 E Main Street          |
| City of Elkhorn              | West Side Elementary School                         | 222 N Sunset Drive         |
| City of Whitewater           | Whitewater High School                              | 534 S Elizabeth Street     |
| City of Whitewater           | Whitewater Middle School                            | 401 S Elizabeth Street     |
| City of Delavan              | Wileman Elementary School                           | 1001 E Geneva Street       |
| Village of Williams Bay      | Williams Bay Elementary School                      | 139 Congress Street        |
| Village of Williams Bay      | Williams Bay High School                            | 500 W Geneva Street        |
| Village of Williams Bay      | Williams Bay Junior High School                     | 500 W Geneva Street        |
| City of Delavan              | Wisconsin School for the Deaf                       | 311 W Walworth Avenue      |
| Town of Geneva               | Woods Elementary School                             | N2575 Snake Road           |
| <b>School Post-secondary</b> |                                                     |                            |
| City of Elkhorn              | Gateway Technical College                           | 400 County Road H          |
| Village of Williams Bay      | George Williams College of Aurora University        | 350 Constance Boulevard    |
| City of Elkhorn              | Upper Iowa University                               | 400 County Road H          |
| City of Whitewater           | UW-Whitewater                                       | Main Street                |
| <b>Senior center</b>         |                                                     |                            |
| Village of Darien            | Darien Senior Center                                | Park Street                |
| <b>Telecommunication</b>     |                                                     |                            |
| City of Whitewater           | Board of Regents, University of Wisconsin System    | none                       |
| Town of East Troy            | Communication tower                                 | N9084 Highway ES           |
| City of Delavan              | Telecommunication tower                             | Edwards Street             |
| City of Delavan              | Telecommunication tower                             | Edwards Street             |
| City of Elkhorn              | Telecommunication tower                             | Walworth Street            |
| City of Elkhorn              | Telecommunication tower                             | Walworth Street            |
| City of Elkhorn              | Telecommunication tower                             | 404 N Washington Street    |
| City of Elkhorn              | Telecommunication tower                             | McKenzie Lane              |
| City of Lake Geneva          | Telecommunication tower                             | North Bloomfield Road      |
| City of Lake Geneva          | Telecommunication tower                             | Broad Street               |

| Jurisdiction           | Facility Name           | Address                        |
|------------------------|-------------------------|--------------------------------|
| City of Lake Geneva    | Telecommunication tower | Dodge Street and Forest Street |
| City of Whitewater     | Telecommunication tower | E Commercial Avenue            |
| City of Whitewater     | Telecommunication tower | N9694 Old Highway 12           |
| Town of Bloomfield     | Telecommunication tower | North Bloomfield Road          |
| Town of Bloomfield     | Telecommunication tower | Twin Lakes Road                |
| Town of Darien         | Telecommunication tower | Old Highway 89                 |
| Town of Darien         | Telecommunication tower | West Bound Lane                |
| Town of Geneva         | Telecommunication tower | Palmer Road                    |
| Town of Geneva         | Telecommunication tower | N3403 Bird Place               |
| Town of Geneva         | Telecommunication tower | W2835 Krueger Road             |
| Town of Geneva         | Telecommunication tower | CTH H                          |
| Town of Geneva         | Telecommunication tower | none                           |
| Town of La Grange      | Telecommunication tower | W6586 Territorial Road         |
| Town of La Grange      | Telecommunication tower | STH 12 and Tamarack Road       |
| Town of Lafayette      | Telecommunication tower | CTH D                          |
| Town of Lafayette      | Telecommunication tower | E Geneva Street (CTH NN)       |
| Town of Lafayette      | Telecommunication tower | W4889 CTH ES                   |
| Town of Linn           | Telecommunication tower | W4121 CTH B                    |
| Town of Linn           | Telecommunication tower | W4328 Linton Road (CTH BB)     |
| Town of Linn           | Telecommunication tower | N1459 Hillside Road            |
| Town of Lyons          | Telecommunication tower | STH 36                         |
| Town of Lyons          | Telecommunication tower | 6060 STH 50                    |
| Town of Lyons          | Telecommunication tower | STH 50                         |
| Town of Lyons          | Telecommunication tower | STH 50                         |
| Town of Richmond       | Telecommunication tower | W8354 CTH A                    |
| Town of Richmond       | Telecommunication tower | STH 89                         |
| Town of Sharon         | Telecommunication tower | Temperance Road                |
| Town of Spring Prairie | Telecommunication tower | Spring Prairie Road            |
| Town of Spring Prairie | Telecommunication tower | STH 120                        |
| Town of Spring Prairie | Telecommunication tower | CTH D                          |
| Town of Troy           | Telecommunication tower | W2620 CTH J                    |
| Town of Troy           | Telecommunication tower | N7339 Town Line Road           |
| Town of Whitewater     | Telecommunication tower | Taylor Road and STH 59         |
| Town of Whitewater     | Telecommunication tower | W7596 STH 12                   |

| Jurisdiction                      | Facility Name                                 | Address                                             |
|-----------------------------------|-----------------------------------------------|-----------------------------------------------------|
| Village of Bloomfield             | Telecommunication tower                       | Pell Lake Drive                                     |
| Village of East Troy              | Telecommunication tower                       | 2485 or 2491 Church Street (STH 120 CTH G)          |
| Village of East Troy              | Telecommunication tower                       | Austin Street                                       |
| Village of Fontana on Geneva Lake | Telecommunication tower                       | 300 Wild Duck Road                                  |
| Village of Walworth               | Telecommunication tower                       | Townhall Road (N Main Street)                       |
| Village of Bloomfield             | Telecommunication tower (Cingular)            | Pell Lake Drive                                     |
| Town of Sharon                    | Telecommunication tower (Lakehead Pipe Line)  | SD Townline Road                                    |
| Village of Bloomfield             | Telecommunication tower (Nextel)              | W1031 Rosewood Road                                 |
| Village of East Troy              | Telecommunication tower (Nextel)              | 2029 Young Street                                   |
| Town of Walworth                  | Telecommunication tower (Nextel, Sprint)      | W Main Street                                       |
| Town of Geneva                    | Telecommunication tower (Pinnacle Towers LLC) | CTH NN                                              |
| City of Whitewater                | Telecommunication tower (U.S. Cellular)       | N Prairie Street (Winther Hall - UW Whitewater<br>) |
| Town of Whitewater                | Telecommunication tower (Walworth County)     | W8361 RW Townline Road                              |
| City of Delavan                   | Telecommunication tower (Water tower)         | Chestnut Court                                      |
| City of Lake Geneva               | Telecommunication tower (water tower)         | Host Drive                                          |
| City of Whitewater                | Telecommunication tower (water tower)         | E Cravath Street                                    |
| Town of Delavan                   | Telecommunications tower                      | STH 11                                              |
| Town of Lafayette                 | Wisconsin, State of                           | N6471 Woodridge Drive                               |
| <b>Telephone facility</b>         |                                               |                                                     |
| Village of Williams Bay           | Ameritech Telephone                           | 53 Cherry Street                                    |
| City of Lake Geneva               | AT&T telephone facility                       | 645 Main Street                                     |
| Village of East Troy              | CenturyTel Telephone facility                 | 2116 Clark Street                                   |
| Village of Sharon                 | Sharon Telephone Company                      | 105 Plain Street                                    |
| Town of Sugar Creek               | TDS Telephone substation                      | N7105 CTH H                                         |
| Town of Sugar Creek               | TDS Telephone substation                      | W5119 Kenosha Drive                                 |
| Village of Darien                 | Verizon telephone facility                    | 51 Wisconsin Street                                 |
| Town of Richmond                  | Wisconsin Telephone Company                   | N6208 Church Road                                   |
| City of Delavan                   | Wisconsin telephone facility                  | 116 S 3rd Street                                    |
| <b>Utility office/yard</b>        |                                               |                                                     |
| City of Elkhorn                   | City of Elkhorn Electric Utility Department   | 400 E Koopman Lane                                  |
| City of Whitewater                | City of Whitewater Water Division             | W Starin Street                                     |
| Town of Delavan                   | Delavan Lake Sanitary District #3             | 2990 County Road F                                  |
| City of Delavan                   | Delavan Water                                 | 488 Richmond Road                                   |

| Jurisdiction                      | Facility Name                                                         | Address                                    |
|-----------------------------------|-----------------------------------------------------------------------|--------------------------------------------|
| Town of Geneva                    | Lake Como Sanitary District Office                                    | N3420 Dell Place                           |
| Village of Williams Bay           | Williams Bay Water Department                                         | 155 Elkhorn Road                           |
| <b>Wastewater facility</b>        |                                                                       |                                            |
| City of Lake Geneva               | Lake Geneva Wastewater Treatment Plant                                | 201 Haskins Street                         |
| Village of Bloomfield             | Pell Lake Sanitary District 1                                         | W974 Pell Lake Road                        |
| Village of Bloomfield             | Pell Lake Sanitation District #1 wastewater plant                     | N1183 CTH U                                |
| Town of Lyons                     | Sanitary District #2                                                  | 5996 Clearwater Court                      |
| Town of Sharon                    | Village of Walworth and Village of Fontana Wastewater Treatment Plant | N840 Chilson Road                          |
| Town of Darien                    | Walworth County Metropolitan Sewerage District                        | 975 W Walworth Street (STH 11)             |
| Village of Darien                 | Wastewater facility                                                   | Sharon Street                              |
| Town of Sharon                    | Wastewater treatment plant                                            | N262 Saltbox Road                          |
| Village of East Troy              | Wastewater treatment plant                                            | 2104 Young Street                          |
| Village of Genoa City             | Wastewater treatment plant                                            | 1st Street                                 |
| <b>Water facility</b>             |                                                                       |                                            |
| City of Whitewater                | Ground reservoir (800,00 gallons)                                     | 308 N. Fremont Street                      |
| City of Elkhorn                   | Water reservoir and shop                                              | 410 S Broad Street                         |
| City of Delavan                   | Water tower                                                           | Chestnut Court                             |
| City of Delavan                   | Water tower                                                           | 1111 Edwards Street                        |
| City of Delavan                   | Water tower                                                           | Woolseys Street                            |
| City of Delavan                   | Water tower                                                           | E Walworth Street                          |
| City of Elkhorn                   | Water tower                                                           | CTH NN                                     |
| City of Elkhorn                   | Water tower                                                           | none                                       |
| City of Elkhorn                   | Water tower                                                           | N Church Street                            |
| City of Lake Geneva               | Water tower                                                           | Host Drive                                 |
| City of Lake Geneva               | Water tower                                                           | Center Street                              |
| City of Lake Geneva               | Water tower                                                           | Dodge Street and Forest Street             |
| Village of Darien                 | Water tower                                                           | Oak Street                                 |
| Village of Darien                 | Water tower                                                           | N Badger Parkway                           |
| Village of East Troy              | Water tower                                                           | 2485 or 2491 Church Street (STH 120 CTH G) |
| Village of East Troy              | Water tower                                                           | 2029 Young Street                          |
| Village of Fontana on Geneva Lake | Water tower                                                           | 300 Wild Duck Road                         |
| Village of Fontana on Geneva Lake | Water tower                                                           | 519 S Lakeshore                            |
| Village of Genoa City             | Water tower                                                           | Elizabeth Lane                             |



| Jurisdiction                      | Facility Name                                   | Address                        |
|-----------------------------------|-------------------------------------------------|--------------------------------|
| Village of Walworth               | Water tower                                     | Townhall Road (N Main Street)  |
| Village of Williams Bay           | Water tower                                     | Theater Road                   |
| Village of Williams Bay           | Water tower                                     | 240 Wesley Street              |
| Village of Williams Bay           | Water tower                                     | Potawatomi Road                |
| Village of Williams Bay           | Water tower                                     | Collie Street                  |
| Village of Genoa City             | Water tower                                     | Gideon Court                   |
| Town of Geneva                    | Water tower - Lake Como Sanitary District No. 1 | N3420 Dell Place               |
| Village of Bloomfield             | Water tower - Pell Lake Sanitary District       | N1555 Clover Road              |
| City of Whitewater                | Water tower (175,000 gallons)                   | N Prairie Street (Starin Park) |
| City of Whitewater                | Water tower (500,000 gallons)                   | 502 E Cravath Street           |
| Town of Geneva                    | Water tower (Geneva National - private)         | Palmer Road                    |
| Village of Fontana on Geneva Lake | Water well                                      | 504 Lake Street                |
| Village of Fontana on Geneva Lake | Water well                                      | W5962 Brick Church Road        |
| Village of Fontana on Geneva Lake | Water well                                      | W5992 Brick Church Road        |
| Village of Fontana on Geneva Lake | Water well                                      | 140 Mayflower                  |
| Village of Fontana on Geneva Lake | Water well                                      | 140 Tarrant Court              |
| Village of Sharon                 | Water well                                      | Center Street                  |
| Village of Sharon                 | Water well                                      | 178 George Street              |
| Village of Walworth               | Water well                                      | Read Street                    |
| City of Whitewater                | Water well #5                                   | 308 N. Fremont Street          |
| Village of East Troy              | Water well #5                                   | 3219 North Street              |
| Village of East Troy              | Water well #5                                   | 2028 West                      |
| City of Whitewater                | Water well #6                                   | 1130 W Carriage Drive          |
| City of Whitewater                | Water well #7                                   | N Fremont Street (Starin Park) |
| Village of East Troy              | Water well #7                                   | 2802 Oakmont                   |
| City of Whitewater                | Water well #8                                   | 951 E Commercial Avenue        |
| Village of East Troy              | Water well #8                                   | 3103 North Street              |
| City of Whitewater                | Water well #9                                   | 797 Indian Mound Parkway       |
| Village of Williams Bay           | Well #1                                         | 155 Elkhorn                    |
| Village of Williams Bay           | Well #2                                         | Olive Street                   |
| Village of Williams Bay           | Well #3                                         | N Harris Road                  |

# CRITICAL FACILITIES SORTED BY JURISDICTION: 2021

| Facility Type                               | Facility Name                       | Address                     |
|---------------------------------------------|-------------------------------------|-----------------------------|
| <b>City of Burlington</b>                   |                                     |                             |
| Public-use airport                          | Burlington Municipal Airport        | 703 Airport Drive           |
| <b>City of Delavan</b>                      |                                     |                             |
| Adult family home (AFH)                     | Steven's Hope and Love              | 317 Butternut Drive         |
| Adult family home (AFH)                     | Voskull Adult Family Home           | 337 Bradley Avenue          |
| Bridge                                      | Bridge over unnamed creek           | Richmond Street             |
| Bridge                                      | Bridge over unnamed creek           | Richmond Street             |
| Bridge                                      | Bridge over unnamed creek           | W Walworth Avenue (STH 11)  |
| Community based residential facility (CBRF) | Prairie Village North               | 311 Turtle Creek Drive      |
| Community based residential facility (CBRF) | Prairie Village South               | 315 Turtle Creek Drive      |
| Community based residential facility (CBRF) | Ridgestone Village Ltd              | 1025 S Second Street        |
| Dam                                         | Comus Lake                          | N Terrace Street (Dam Road) |
| Dam                                         | Dam                                 | none                        |
| Electric substation                         | Wisconsin Power & Light substation  | Wisconsin Street            |
| EMS facility (stand alone)                  | Delavan Rescue Squad, Inc.          | 651 Ann Street              |
| Fire department                             | City of Delavan Fire Department     | 220 S 7th                   |
| Group day care                              | At School Programs-Turtle Creek     | 1235 Creek Road             |
| Group day care                              | At School Programs-Wileman          | 1001 E Geneva Street        |
| Group day care                              | Delavan Nursery Center              | 115 S 7th Street            |
| Group day care                              | Our Redeemer Lutheran Child Care    | 416 W Geneva Street         |
| Group day care                              | Preschool for Creative Learning     | 1545 Hobbs Drive            |
| Group day care                              | RWCFS Phoenix School Head Start Ctr | 414 Beloit Street           |
| Health care clinic                          | Aurora Health Center - Delavan      | 1550 Hobbs Drive            |
| Health care clinic                          | Dean Clinic - Delavan               | 540 Bowers Boulevard        |
| Library                                     | Aram Public Library                 | 404 E Walworth Street       |
| Municipal garage                            | Delavan Grounds Maintenance Garage  | 69 W Walworth Avenue        |
| Municipal garage                            | Delavan Street Department           | 490 Richmond Road           |
| Municipal office and other                  | Delavan City Hall                   | 123 S 2nd Street            |
| Nursing home                                | Willowfield Nursing & Rehab Center  | 905 E Geneva Street         |
| Police department                           | Delavan Police Department (DVPD)    | 123 S 2nd Street            |
| Post office                                 | Post Office - Delavan               | 335 E Walworth Avenue       |
| Recreation                                  | Mill Pond Rec Building              | Waterworks Drive            |
| Residential care apartment complex (RCAC)   | Ridgestone Court Inc                | 1025 S Second Street        |
| School K-12                                 | Delavan Christian School            | 848 Oak Street              |

| Facility Type                               | Facility Name                            | Address                   |
|---------------------------------------------|------------------------------------------|---------------------------|
| School K-12                                 | Delavan-Darien High School               | 150 Cummings Street       |
| School K-12                                 | Our Redeemer Lutheran School             | 416 W Geneva Street       |
| School K-12                                 | Phoenix Middle School                    | 414 Beloit Street         |
| School K-12                                 | Saint Andrews Parish School              | 115 S 7th Street          |
| School K-12                                 | Turtle Creek Elementary School           | 1235 Creek Road           |
| School K-12                                 | Wileman Elementary School                | 1001 E Geneva Street      |
| School K-12                                 | Wisconsin School for the Deaf            | 311 W Walworth Avenue     |
| Telecommunication                           | Telecommunication tower                  | Edwards Street            |
| Telecommunication                           | Telecommunication tower                  | Edwards Street            |
| Telecommunication                           | Telecommunication tower (Water tower)    | Chestnut Court            |
| Telephone facility                          | Wisconsin telephone facility             | 116 S 3rd Street          |
| Utility office/yard                         | Delavan Water                            | 488 Richmond Road         |
| Water facility                              | Water tower                              | Chestnut Court            |
| Water facility                              | Water tower                              | 1111 Edwards Street       |
| Water facility                              | Water tower                              | Woolseys Street           |
| Water facility                              | Water tower                              | E Walworth Street         |
| <b>City of Elkhorn</b>                      |                                          |                           |
| Adult day care (ADC)                        | Pleasant Street Country Day              | 329 N Wisconsin Street    |
| Adult day care (ADC)                        | VIP Services                             | 811 E Geneva              |
| Adult family home (AFH)                     | Arbor House                              | W5428 County Road A       |
| Adult family home (AFH)                     | Community Living Arrangements - Court    | 298 W Court Street        |
| Adult family home (AFH)                     | Community Living Arrangements - Prescott | 13 Prescott Street        |
| Bridge                                      | Bridge over Jackson Creek                | S Lincoln Street (STH 67) |
| Bridge                                      | Bridge over unnamed creek                | S Lincoln Street (STH 67) |
| Bridge                                      | Bridge over unnamed creek                | STH 12 STH 67             |
| Community based residential facility (CBRF) | Kimberly Lane CBRF                       | 416 Kimberly Lane         |
| Community based residential facility (CBRF) | Kindred Hearts of Elkhorn                | 450 E Geneva Street       |
| Community based residential facility (CBRF) | Sunnyside Home                           | 1 Eastown Manor           |
| Electric substation                         | Electric substation                      | 600 S Lincoln Street      |
| Electric substation                         | Electric substation                      | Broad Street              |
| EMS facility (stand alone)                  | Medix Ambulance Service, Inc. - Elkhorn  | 501 S Nathan Lane #3      |
| Fire department                             | Elkhorn Area Fire Department             | 13 S Broad Street         |
| Group day care                              | Lakeland's Little Learners               | 240 E Commerce Court      |
| Group day care                              | Lakeland's Little Learners-Jackson       | 13 N Jackson Street       |

| Facility Type                             | Facility Name                                                | Address                          |
|-------------------------------------------|--------------------------------------------------------------|----------------------------------|
| Group day care                            | Step Ahead Preschool Center LLC (St. John's Lutheran Church) | 104 S Broad Street               |
| Group day care                            | TLC The Learning Curve                                       | 1950 N Wisconsin Street, Suite B |
| Group day care                            | TLC Westside Wrap Around                                     | 222 Sunset Drive                 |
| Health care clinic                        | Aurora Health Center                                         | 209 E Commerce Court             |
| Health care clinic                        | Aurora Health Center - Elkhorn                               | 20 N Church Street               |
| Library                                   | Matheson Memorial Library                                    | 101 N Wisconsin Street           |
| Mobile / Manufactured Home Park           | Land O' Lakes Mobile Home Court                              | 473 E Geneva Street              |
| Municipal garage                          | City of Elkhorn Garage                                       | 12 E 1st Avenue                  |
| Municipal office and other                | City of Elkhorn Parks & Recreation Department                | 200 S Devendorf Street           |
| Municipal office and other                | Department of Transportation Division of Motor Vehicle       | 835 S Lincoln Street             |
| Municipal office and other                | Elkhorn City Hall                                            | 9 S Broad Street                 |
| Municipal office and other                | USDA/Natural Resource Conservation Service                   | 225 E O'Connor Drive             |
| Municipal office and other                | Walworth County Government Center                            | 100 W Walworth Street            |
| Municipal office and other                | Walworth County Judicial Center                              | 1800 County Road NN              |
| Municipal office and other                | Wisconsin Department of Workforce Development - Job          | 1000 E Centralia Street          |
| Municipal office and other                | Wisconsin Office of the State Public Defender                | 209 E O'Connor Drive             |
| National Guard                            | Army National Guard Co 1st Bn 128th Inf                      | 401 E Fair Avenue                |
| Nursing home                              | Holton Manor                                                 | 638 N Broad Street               |
| Nursing home                              | Lakeland Health Care Center                                  | 1922 County Road NN              |
| Police department                         | Elkhorn Police Department                                    | 404 N Washington Street          |
| Police department                         | Walworth County Law Enforcement Center                       | 1770 County Road NN              |
| Post office                               | Post Office - Elkhorn                                        | 102 E Walworth Street            |
| Residential care apartment complex (RCAC) | Ridgestone Terrace                                           | 291 W Evergreen Parkway          |
| School K-12                               | Elkhorn Area High School                                     | 482 E Geneva Street              |
| School K-12                               | Elkhorn Area Middle School                                   | 627 E Court Street               |
| School K-12                               | First Lutheran School (Also preschool)                       | 415 Devendorf Street             |
| School K-12                               | Jackson Elementary School                                    | 13 N Jackson                     |
| School K-12                               | Lakeland School of Walworth County                           | 504 W Court Street               |
| School K-12                               | Saint Patricks Grade School                                  | 534 Sunset Drive                 |
| School K-12                               | Walworth County Educational Alternative High School          | 400 County Road H                |
| School K-12                               | West Side Elementary School                                  | 222 N Sunset Drive               |
| School Post-secondary                     | Gateway Technical College                                    | 400 County Road H                |
| School Post-secondary                     | Upper Iowa University                                        | 400 County Road H                |
| Telecommunication                         | Telecommunication tower                                      | Walworth Street                  |

| Facility Type                               | Facility Name                                  | Address                    |
|---------------------------------------------|------------------------------------------------|----------------------------|
| Telecommunication                           | Telecommunication tower                        | Walworth Street            |
| Telecommunication                           | Telecommunication tower                        | 404 N Washington Street    |
| Telecommunication                           | Telecommunication tower                        | McKenzie Lane              |
| Utility office/yard                         | City of Elkhorn Electric Utility Department    | 400 E Koopman Lane         |
| Water facility                              | Water reservoir and shop                       | 410 S Broad Street         |
| Water facility                              | Water tower                                    | CTH NN                     |
| Water facility                              | Water tower                                    | none                       |
| Water facility                              | Water tower                                    | N Church Street            |
| <b>City of Lake Geneva</b>                  |                                                |                            |
| Adult family home (AFH)                     | Sky Lane Home                                  | 109 Sky Lane               |
| Bridge                                      | Bridge over unnamed creek                      | Main Street (STH 50)       |
| Bridge                                      | Bridge over unnamed creek                      | Main Street (STH 50)       |
| Campground                                  | Bigfoot Beach State Park (Wis DNR)             | 1550 S Lake Shore Dr       |
| Community based residential facility (CBRF) | Boulevard Manor                                | 945 Lake Geneva Boulevard  |
| Community based residential facility (CBRF) | Laura's Home                                   | 945 Lake Geneva Boulevard  |
| Community based residential facility (CBRF) | Village Glen of Geneva Crossing                | 723 S Curtis Street        |
| Dam                                         | Dam                                            | none                       |
| Dam                                         | Dam                                            | none                       |
| Electric substation                         | Wisconsin Power & Light substation             | Mill Street                |
| EMS facility (stand alone)                  | Medix Ambulance Service, Inc. - Lake Geneva    | 623 Main Street            |
| Fire department                             | Lake Geneva Fire Department - Station #1       | 730 Marshall Street        |
| Fire department                             | Lake Geneva Fire Station #2                    | Host Drive                 |
| Group day care                              | Amy's Academy Lake Geneva                      | 601 Walworth Street        |
| Group day care                              | Lake Geneva Day Care Center                    | 912 Geneva Street, Suite A |
| Group day care                              | Lake Geneva Montessori School                  | 912 Geneva Street          |
| Group day care                              | United Child Care Center                       | 715 Wisconsin Street       |
| Health care clinic                          | Aurora Health Center - Lake Geneva             | 146 E Geneva Square        |
| Health care clinic                          | Mercy Lake Geneva Medical Center               | 350 Peller Road            |
| Library                                     | Lake Geneva Public Library                     | 918 W Main Street          |
| Mobile / Manufactured home park             | Brooks Timbers Court                           | 515 S Wells Street         |
| Mobile / Manufactured Home Park             | Lake Geneva Estates                            | 750 Lake Geneva Blvd       |
| Municipal garage                            | City of Lake Geneva Department of Public Works | 1065 Carey Street          |
| Municipal office and other                  | Lake Geneva City Hall                          | 626 Geneva Street          |
| Municipal office and other                  | Lake Geneva Water Commission                   | 361 W Main Street          |

| Facility Type                               | Facility Name                          | Address                        |
|---------------------------------------------|----------------------------------------|--------------------------------|
| Nursing home                                | Geneva Lake Manor                      | 211 S Curtis Street            |
| Police department                           | Lake Geneva Police Department (LGPD)   | 626 Geneva Street              |
| Post office                                 | Post Office - Lake Geneva              | 672 W Main Street              |
| Residential care apartment complex (RCAC)   | Arbor Village of Geneva Crossing       | 201 Townline Road              |
| School K-12                                 | Badger High School                     | 220 E South Street             |
| School K-12                                 | Central-Denison Middle School          | 900 Wisconsin Street           |
| School K-12                                 | Eastview Elementary School             | 535 Sage Street                |
| School K-12                                 | First Evangelical Lutheran School      | 1101 Logan Street              |
| School K-12                                 | Lake Geneva Middle School              | 600 N Broomfield Road          |
| School K-12                                 | Saint Francis de Sales Grade School    | 130 W Main Street              |
| Telecommunication                           | Telecommunication tower                | North Bloomfield Road          |
| Telecommunication                           | Telecommunication tower                | Broad Street                   |
| Telecommunication                           | Telecommunication tower                | Dodge Street and Forest Street |
| Telecommunication                           | Telecommunication tower (water tower)  | Host Drive                     |
| Telephone facility                          | AT&T telephone facility                | 645 Main Street                |
| Wastewater facility                         | Lake Geneva Wastewater Treatment Plant | 201 Haskins Street             |
| Water facility                              | Water tower                            | Host Drive                     |
| Water facility                              | Water tower                            | Center Street                  |
| Water facility                              | Water tower                            | Dodge Street and Forest Street |
| <b>City of Whitewater</b>                   |                                        |                                |
| Adult day care (ADC)                        | Glen Adult Day Care                    | 1281 W Main Street             |
| Adult family home (AFH)                     | Carrie's Home                          | 1234 W Melrose                 |
| Adult family home (AFH)                     | Chris Home                             | 424 S Pleasant St              |
| Adult family home (AFH)                     | Debbie's House                         | 241 N Queen Street             |
| Adult family home (AFH)                     | Jennie's Place                         | 213 S Whiton Street            |
| Adult family home (AFH)                     | Koller House (The)                     | 216 S Summit Street            |
| Adult family home (AFH)                     | Riverwood Adult Family Home            | 204 N Jefferson Street         |
| Adult family home (AFH)                     | Stone Ridge Adult Family Home          | 204 N Jefferson                |
| Bridge                                      | Bridge over unnamed creek              | US Highway 59                  |
| Bridge                                      | Bridge over unnamed creek              | E Main Street                  |
| Community based residential facility (CBRF) | Fairhaven Retirement Community         | 435 W Starin Road              |
| Community based residential facility (CBRF) | Hearthstone Memory Care                | 426 W North Street             |
| Community based residential facility (CBRF) | Jade House                             | 1541 W Walworth Avenue         |
| Community based residential facility (CBRF) | Our House Senior Living                | 945 E Chicago Street           |

| Facility Type                               | Facility Name                                    | Address                                                   |
|---------------------------------------------|--------------------------------------------------|-----------------------------------------------------------|
| Community based residential facility (CBRF) | The Glen Supportive Living                       | 1281 W Main Street                                        |
| Dam                                         | Old Paper Mill                                   | none                                                      |
| Dam                                         | Old Stone Mill                                   | none                                                      |
| Fire department                             | Whitewater Volunteer Fire Department and Rescue  | 312 W Whitewater Street                                   |
| Group day care                              | At School Programs-Links Charter                 | 242 S Prince Street                                       |
| Group day care                              | At School Programs-Washington                    | 506 E Main Street                                         |
| Group day care                              | Learning Depot                                   | 560 S Elkhorn Road                                        |
| Group day care                              | Learning Depot II                                | 707 W Walworth                                            |
| Group day care                              | RWCFS-Links Chater                               | 242 S Prince Street                                       |
| Group day care                              | UW Whitewater Childrens Center                   | 800 W Main Street (Roseman Building - UW W<br>Whitewater) |
| Health care clinic                          | Fort HealthCare (Therapy and Sport Center)       | 1461 W Main Street                                        |
| Health care clinic                          | Mercy Whitewater Medical Center                  | 507 W Main Street                                         |
| Health care clinic                          | Whitewater Family Practice Clinic                | 1305 W Main Street                                        |
| Library                                     | Irwin L. Young Memorial Library                  | 431 W Center Street                                       |
| Municipal garage                            | City of Whitewater Streets and Parks             | W Starin Street                                           |
| Municipal office and other                  | Community Development Authority                  | 402 W Main Street                                         |
| Municipal office and other                  | Starin Park Community Building                   | 504 W Starin Street                                       |
| Municipal office and other                  | Whitewater Armory                                | 146 W North Street                                        |
| Municipal office and other                  | Whitewater City Hall                             | 312 W Whitewater Street                                   |
| National Guard                              | Army National Guard                              | 952 N Universal Boulevard                                 |
| Nursing home                                | Fairhaven                                        | 435 W Starin Road                                         |
| Police department                           | Whitewater Police Department                     | 312 W Whitewater Street                                   |
| Post office                                 | Post Office - Whitewater                         | 213 W Center Street                                       |
| School K-12                                 | Kettle Moraine Baptist Academy                   | 505 S Wisconsin Street                                    |
| School K-12                                 | Links Charter School                             | 242 S Prince Street                                       |
| School K-12                                 | Washington Elementary School                     | 506 E Main Street                                         |
| School K-12                                 | Whitewater High School                           | 534 S Elizabeth Street                                    |
| School K-12                                 | Whitewater Middle School                         | 401 S Elizabeth Street                                    |
| School Post-secondary                       | UW-Whitewater                                    | Main Street                                               |
| Telecommunication                           | Board of Regents, University of Wisconsin System | none                                                      |
| Telecommunication                           | Telecommunication tower                          | E Commercial Avenue                                       |
| Telecommunication                           | Telecommunication tower                          | N9694 Old Highway 12                                      |
| Telecommunication                           | Telecommunication tower (U.S. Cellular)          | N Prairie Street (Winther Hall - UW Whitewater<br>)       |
| Telecommunication                           | Telecommunication tower (water tower)            | E Cravath Street                                          |



| Facility Type                               | Facility Name                             | Address                        |
|---------------------------------------------|-------------------------------------------|--------------------------------|
| Utility office/yard                         | City of Whitewater Water Division         | W Starin Street                |
| Water facility                              | Ground reservoir (800,00 gallons)         | 308 N. Fremont Street          |
| Water facility                              | Water tower (175,000 gallons)             | N Prairie Street (Starin Park) |
| Water facility                              | Water tower (500,000 gallons)             | 502 E Cravath Street           |
| Water facility                              | Water well #5                             | 308 N. Fremont Street          |
| Water facility                              | Water well #6                             | 1130 W Carriage Drive          |
| Water facility                              | Water well #7                             | N Fremont Street (Starin Park) |
| Water facility                              | Water well #8                             | 951 E Commercial Avenue        |
| Water facility                              | Water well #9                             | 797 Indian Mound Parkway       |
| <b>Town of Bloomfield</b>                   |                                           |                                |
| Adult family home (AFH)                     | Lincoln Street Adult Family Home          | N2465 Lincoln Drive            |
| Bridge                                      | Bridge over East Branch Nippersink Creek  | US 12                          |
| Bridge                                      | Bridge over East Branch Nippersink Creek  | CTH F                          |
| Bridge                                      | Bridge over East Branch Nippersink Creek  | CTH U                          |
| Bridge                                      | Bridge over North Branch Nippersink Creek | CTH H                          |
| Bridge                                      | Bridge over North Branch Nippersink Creek | CTH B                          |
| Bridge                                      | Bridge over unnamed creek                 | US 12                          |
| Bridge                                      | Bridge over unnamed creek                 | CTH U                          |
| Community based residential facility (CBRF) | Casa Mia Care Center                      | W1043 Rosewood Road            |
| Community based residential facility (CBRF) | Lakeside Woodland Home                    | W913 Washington Avenue         |
| Dam                                         | Fries, Elmer                              | none                           |
| Dam                                         | Pell Lake                                 | none                           |
| Dam                                         | Val Sauer                                 | none                           |
| Electric substation                         | Electric substation                       | W497 CTH U                     |
| Group day care                              | Garden Gate Child Care Center             | W1876 Deignan Road             |
| Group day care                              | Miss Vicki's (St Marys) Day Care Center   | W1256 N Lake Shore Drive       |
| Mobile / Manufactured home park             | Pioneer Estates - Lake Geneva             | N2020 CTH H                    |
| Telecommunication                           | Telecommunication tower                   | North Bloomfield Road          |
| Telecommunication                           | Telecommunication tower                   | Twin Lakes Road                |
| <b>Town of Darien</b>                       |                                           |                                |
| Bridge                                      | Bridge over Turtle Creek                  | STH 11                         |
| Bridge                                      | Bridge over Turtle Creek                  | STH 89 US 14                   |
| Bridge                                      | Bridge over Turtle Creek                  | CTH C                          |
| Bridge                                      | Bridge over unnamed creek                 | I-43                           |

| Facility Type                               | Facility Name                                  | Address                        |
|---------------------------------------------|------------------------------------------------|--------------------------------|
| Bridge                                      | Bridge over unnamed creek                      | CTH X                          |
| Bridge                                      | Bridge over unnamed creek                      | CTH C                          |
| Bridge                                      | Bridge over unnamed creek                      | I-43                           |
| Bridge                                      | Bridge over unnamed creek                      | CTH C (Foundry Road)           |
| Dam                                         | Morrissey                                      | Christie Road                  |
| Electric substation                         | Electric substation                            | 2918 Foundry Road              |
| Electric substation                         | Wisconsin Power & Light substation             | N3366 CTH K                    |
| Mobile / Manufactured home park             | Pioneer Estates - Delavan                      | W7955 Creek Road               |
| Municipal garage                            | Town of Darien Municipal Garage                | N2876 Foundry Road             |
| Municipal office and other                  | Darien Town Hall                               | N2826 Foundry Road             |
| Telecommunication                           | Telecommunication tower                        | Old Highway 89                 |
| Telecommunication                           | Telecommunication tower                        | West Bound Lane                |
| Wastewater facility                         | Walworth County Metropolitan Sewerage District | 975 W Walworth Street (STH 11) |
| <b>Town of Delavan</b>                      |                                                |                                |
| Adult family home (AFH)                     | Mabry Adult Family Home                        | 7980 Summit Drive              |
| Adult family home (AFH)                     | Pease Adult Family Home                        | 5281 State Road 50             |
| Bridge                                      | Bridge - Delavan Lake                          | STH 50                         |
| Bridge                                      | Bridge over Swan Creek                         | CTH O                          |
| Bridge                                      | Bridge over Turtle Creek                       | CTH P                          |
| Bridge                                      | Bridge over unnamed creek                      | CTH O                          |
| Bridge                                      | Bridge over unnamed creek                      | I-43                           |
| Bridge                                      | Bridge over unnamed creek                      | I-43                           |
| Community based residential facility (CBRF) | Cobblestones                                   | 4492 Cobblestone Road          |
| Community based residential facility (CBRF) | Rosewood Manor LLC                             | 2220 Borg Road                 |
| Community based residential facility (CBRF) | Vintage on the Ponds                           | N4901 Dam Road                 |
| Dam                                         | Fox, George                                    | none                           |
| Dam                                         | Lake Delavan                                   | none                           |
| Dam                                         | Lake Delavan                                   | none                           |
| Electric substation                         | Wisconsin Power & Light substation             | 6396 Mound Road                |
| Fire department                             | Town of Delavan Fire Department                | 2000 Sage Road                 |
| Fire department                             | Town of Delavan Fire Department                | 6095 Bailey Road               |
| Fire department                             | Town of Delavan Fire Department                | 2704 CTH O                     |
| Fire department                             | Town of Delavan Fire Department and EMS        | 5698 Town Hall Road            |
| Mobile / Manufactured Home Park             | Ludwell Estates                                | 5614 STH 11                    |

| Facility Type                               | Facility Name                             | Address                   |
|---------------------------------------------|-------------------------------------------|---------------------------|
| Municipal garage                            | Town of Delavan Highway Department        | 5621 Town Hall Road       |
| Municipal office and other                  | Delavan Town Hall                         | 5621 Town Hall Road       |
| Municipal office and other                  | Town of Delavan Building Inspector Office | 5621 Town Hall Road       |
| Police department                           | Delavan Township Police Department        | 5625 Town Hall Road       |
| Telecommunication                           | Telecommunications tower                  | STH 11                    |
| Utility office/yard                         | Delavan Lake Sanitary District #3         | 2990 County Road F        |
| <b>Town of East Troy</b>                    |                                           |                           |
| Bridge                                      | Bridge over Honey Creek                   | US Highway 20             |
| Bridge                                      | Bridge over Spring Creek                  | US Highway 20             |
| Bridge                                      | Bridge over unnamed creek                 | CTH L                     |
| Campground                                  | Camp Charles Allis                        | W2035 Beulah Heights Road |
| Campground                                  | Camp Edwards YMCA                         | N8901 Army Lake Road      |
| Dam                                         | Hilbourn                                  | none                      |
| Dam                                         | Lake Beulah                               | none                      |
| Dam                                         | Potters Lake                              | none                      |
| EMS facility (stand alone)                  | Paratech Ambulance Service, Inc.          | N8406 Highway ES          |
| Fire department                             | East Troy Area Emergency Services         | N8400 Highway ES          |
| Group day care                              | Edwards YMCA Camp                         | N8901 Army Lake Road      |
| Municipal garage                            | Town of East Troy Municipal Garage        | N9330 Stewart School Road |
| Municipal office and other                  | East Troy Town Hall                       | N9330 Stewart School Road |
| Police department                           | East Troy Township Police Department      | N9330 Stewart School Road |
| School K-12                                 | Nature's Classroom Montessori School      | W1802 Highway J           |
| Telecommunication                           | Communication tower                       | N9084 Highway ES          |
| <b>Town of Geneva</b>                       |                                           |                           |
| Adult family home (AFH)                     | Palmer Road Adult Family Home             | W4080 Palmer Road         |
| Bridge                                      | Bridge over Como Creek                    | US 12                     |
| Bridge                                      | Bridge over Como Creek                    | CTH H                     |
| Bridge                                      | Bridge over Como Creek                    | Point                     |
| Bridge                                      | Bridge over unnamed creek                 | CTH H                     |
| Bridge                                      | Bridge over unnamed creek                 | CTH H                     |
| Bridge                                      | Bridge over unnamed creek                 | US 12                     |
| Bridge                                      | Bridge over unnamed creek                 | US 12                     |
| Bridge                                      | Bridge over unnamed creek                 | CTH NN                    |
| Community based residential facility (CBRF) | New Life Lodge                            | N3155 County Road H       |

| Facility Type                               | Facility Name                                   | Address                    |
|---------------------------------------------|-------------------------------------------------|----------------------------|
| Community based residential facility (CBRF) | Pinecrest of Lake Geneva                        | N3367 County Road NN       |
| Community based residential facility (CBRF) | Prairie View Home                               | W4080 Palmer Road          |
| Community based residential facility (CBRF) | Prairie View Home II                            | N3445 CTH NN               |
| Community based residential facility (CBRF) | Runges CBRF for Developmentally Disabled        | W3705 Loveland Road        |
| Community based residential facility (CBRF) | Whispering Willows                              | W4517 Willow Bend Road     |
| Dam                                         | Lake Como (spillway)                            | none                       |
| Dam                                         | Lake Geneva                                     | none                       |
| Electric substation                         | Wisconsin Power & Light substation              | CTH NN                     |
| Group day care                              | All About Children                              | N3241 County Road H        |
| Group day care                              | Calvary Maranatha Preschool                     | Highway 50 and Harris Road |
| Group day care                              | Little Red Preschool of Lake Como               | N3445 Como Road, Suite 5   |
| Hospital                                    | Aurora Lakeland Medical Center                  | W3985 County Road NN       |
| Hospital                                    | Mercy Walworth Hospital & Medical Center        | N2950 State Road 67        |
| Mobile / Manufactured Home Park             | Coachman's Terrace Manufactured Home Community  | W3540 State Road 50        |
| Municipal garage                            | Town of Geneva Municipal Garage                 | N3496 Como Road            |
| Municipal garage                            | Walworth County Public Works                    | W4097 County Road NN       |
| Municipal office and other                  | Geneva Town Hall                                | N3496 Como Road            |
| Municipal office and other                  | Walworth County Health and Human Services       | W4051 County Road NN       |
| Police department                           | Town of Geneva Police Department                | N3496 Como Road            |
| School K-12                                 | Lakeland School                                 | W3905 CTH NN               |
| School K-12                                 | Woods Elementary School                         | N2575 Snake Road           |
| Telecommunication                           | Telecommunication tower                         | Palmer Road                |
| Telecommunication                           | Telecommunication tower                         | N3403 Bird Place           |
| Telecommunication                           | Telecommunication tower                         | W2835 Krueger Road         |
| Telecommunication                           | Telecommunication tower                         | CTH H                      |
| Telecommunication                           | Telecommunication tower                         | none                       |
| Telecommunication                           | Telecommunication tower (Pinnacle Towers LLC)   | CTH NN                     |
| Utility office/yard                         | Lake Como Sanitary District Office              | N3420 Dell Place           |
| Water facility                              | Water tower - Lake Como Sanitary District No. 1 | N3420 Dell Place           |
| Water facility                              | Water tower (Geneva National - private)         | Palmer Road                |
| <b>Town of La Grange</b>                    |                                                 |                            |
| Adult family home (AFH)                     | Amanda Lindner Adult Family Care                | W5069 Farm Village         |
| Adult family home (AFH)                     | Community Living Arrangements - Dunbar          | W4911 Mallard Drive        |
| Adult family home (AFH)                     | Heart Prairie Way                               | W6359 Territorial Road     |

| Facility Type                               | Facility Name                             | Address                  |
|---------------------------------------------|-------------------------------------------|--------------------------|
| Bridge                                      | Bridge over unnamed creek                 | STH 12                   |
| Community based residential facility (CBRF) | Country Home                              | N8525 Highway H          |
| Community based residential facility (CBRF) | Fair View                                 | W5903 STH 12             |
| Community based residential facility (CBRF) | Kettle View                               | N8603 Duffin Road        |
| Dam                                         | Cedar Grove                               | none                     |
| Dam                                         | Lauderdale Lake                           | none                     |
| Dam                                         | Motl, Laurene                             | none                     |
| Fire department                             | Lauderdale-La Grange Fire Department Inc. | W6080 STH 12             |
| Municipal garage                            | Town of La Grange Highway Department      | N8530 County Road H      |
| Municipal office and other                  | La Grange Town Hall                       | N7899 County Road H      |
| Natural gas facility                        | Guardian Pipeline gas facility            | STH 12                   |
| Natural gas facility                        | Natural gas facility                      | W5905 STH 12             |
| Telecommunication                           | Telecommunication tower                   | W6586 Territorial Road   |
| Telecommunication                           | Telecommunication tower                   | STH 12 and Tamarack Road |
| <b>Town of Lafayette</b>                    |                                           |                          |
| Adult family home (AFH)                     | Jodis Home                                | W3928 Potter Road        |
| Bridge                                      | Bridge over Sugar Creek                   | I-43 (north bound)       |
| Bridge                                      | Bridge over Sugar Creek                   | I-43 (south bound)       |
| Bridge                                      | Bridge over Sugar Creek                   | CTH ES                   |
| Bridge                                      | Bridge over unnamed creek                 | I-43                     |
| Bridge                                      | Bridge over unnamed creek                 | I-43                     |
| Bridge                                      | Bridge over unnamed creek                 | STH 11                   |
| Dam                                         | Droster, Elmer                            | none                     |
| Municipal garage                            | Lafayette Town Garage                     | W2960 State Road 11      |
| Municipal office and other                  | Lafayette Town Hall                       | W4614 Potter Road        |
| Telecommunication                           | Telecommunication tower                   | CTH D                    |
| Telecommunication                           | Telecommunication tower                   | E Geneva Street (CTH NN) |
| Telecommunication                           | Telecommunication tower                   | W4889 CTH ES             |
| Telecommunication                           | Wisconsin, State of                       | N6471 Woodridge Drive    |
| <b>Town of Linn</b>                         |                                           |                          |
| Adult family home (AFH)                     | Country Joy                               | N501 Zenda Road          |
| Bridge                                      | Bridge over unnamed creek                 | CTH B                    |
| Bridge                                      | Bridge over unnamed creek                 | CTH B                    |
| Bridge                                      | Bridge over unnamed creek                 | STH 120                  |

| Facility Type                               | Facility Name                            | Address                     |
|---------------------------------------------|------------------------------------------|-----------------------------|
| Bridge                                      | Bridge over unnamed creek                | CTH B                       |
| Bridge                                      | Bridge over West Branch Nippersink Creek | STH 120                     |
| Electric substation                         | Electric substation                      | N1479 Zenda Road            |
| Fire department                             | Town of Linn Fire/EMS                    | N1457 Hillside Road         |
| Municipal garage                            | Town of Linn Garage                      | N611 Zenda Road             |
| Municipal office and other                  | Linn Town Hall                           | W3728 Franklin Walsh Street |
| Police department                           | Linn Township Police Department          | W3728 Franklin Walsh Street |
| Post office                                 | Post Office - Zenda                      | W3724 Franklin Walsh Street |
| School K-12                                 | Reek Elementary School                   | W4094 S Lake Shore Drive    |
| School K-12                                 | Traver Elementary School                 | W3490 Linton Road (CTH BB)  |
| Telecommunication                           | Telecommunication tower                  | W4121 CTH B                 |
| Telecommunication                           | Telecommunication tower                  | W4328 Linton Road (CTH BB)  |
| Telecommunication                           | Telecommunication tower                  | N1459 Hillside Road         |
| <b>Town of Lyons</b>                        |                                          |                             |
| Adult family home (AFH)                     | Geneva Territory                         | 6582 Lakeside Road          |
| Bridge                                      | Bridge over Como Creek                   | STH 120                     |
| Bridge                                      | Bridge over Ivanhoe Creek                | STH 50                      |
| Bridge                                      | Bridge over Ore Creek                    | STH 120                     |
| Bridge                                      | Bridge over Ore Creek                    | STH 36                      |
| Bridge                                      | Bridge over Ore Creek                    | STH 36                      |
| Bridge                                      | Bridge over unnamed creek                | STH 50                      |
| Bridge                                      | Bridge over unnamed creek                | STH 36                      |
| Bridge                                      | Bridge over unnamed creek                | STH 36                      |
| Bridge                                      | Bridge over unnamed creek                | STH 36                      |
| Bridge                                      | Bridge over White River                  | STH 36                      |
| Community based residential facility (CBRF) | Artisan Lake Geneva                      | 6722 Highway 50 East        |
| Electric substation                         | Wisconsin Electric Power substation      | 7093 STH 36                 |
| Fire department                             | Town of Lyons Fire Department            | 6339 Hospital Road          |
| Mobile / Manufactured Home Park             | Country Estates                          | Hospital Road               |
| Mobile / Manufactured Home Park             | Unnamed park                             | Motor Drive off of STH 36   |
| Municipal garage                            | Town of Lyons Highway Garage             | 6339 Hospital Road          |
| Municipal office and other                  | Lyons Town Hall                          | 6339 Hospital Road          |
| Natural gas facility                        | Natural gas facility                     | Hospital Road and STH 120   |
| Post office                                 | Post Office - Lyons                      | 1447 Mill Street            |

| Facility Type                               | Facility Name                             | Address                 |
|---------------------------------------------|-------------------------------------------|-------------------------|
| Post office                                 | Post Office - Springfield                 | 7210 Springfield Road   |
| School K-12                                 | Cornerstone Christian Academy             | 1553 Church Street      |
| School K-12                                 | Lyons Center School                       | 1622 Mill Street        |
| School K-12                                 | Mount Zion Christian School               | 2330 Highway 120        |
| Telecommunication                           | Telecommunication tower                   | STH 36                  |
| Telecommunication                           | Telecommunication tower                   | 6060 STH 50             |
| Telecommunication                           | Telecommunication tower                   | STH 50                  |
| Telecommunication                           | Telecommunication tower                   | STH 50                  |
| Wastewater facility                         | Sanitary District #2                      | 5996 Clearwater Court   |
| <b>Town of Richmond</b>                     |                                           |                         |
| Adult family home (AFH)                     | Kindred Hearts Family Home                | N7227 Woodfield Lane    |
| Campground                                  | McIntyres Resort                          | N6471 Milwaukee Road    |
| Campground                                  | Scenic Ridge Campground                   | W7991 R&W Townline Road |
| Campground                                  | Snug Harbor Inn Campground on Turtle Lake | W7785 Wisconsin Parkway |
| Community based residential facility (CBRF) | Richmond Way                              | N6032 STH 89            |
| Dam                                         | Jackley Dam #1                            | none                    |
| Dam                                         | Jackley Dam #2                            | none                    |
| Dam                                         | Jackley Dam #3                            | none                    |
| Dam                                         | Turtle Lake                               | Turtle Lake Road        |
| Dam                                         | Turtle Valley Central Phase               | none                    |
| Electric substation                         | WE Energy Substation                      | N6229 Church Road       |
| Mobile / Manufactured Home Park             | Snug Harbor Manufactured Home Community   | W7772 Wisconsin Parkway |
| Municipal garage                            | Town of Richmond Municipal Garage         | W9046 CTH A             |
| Municipal office and other                  | Richmond Town Hall                        | W9046 CTH A             |
| Telecommunication                           | Telecommunication tower                   | W8354 CTH A             |
| Telecommunication                           | Telecommunication tower                   | STH 89                  |
| Telephone facility                          | Wisconsin Telephone Company               | N6208 Church Road       |
| <b>Town of Sharon</b>                       |                                           |                         |
| Bridge                                      | Bridge over Piskasaw                      | STH 67                  |
| Bridge                                      | Bridge over unnamed creek                 | CTH X                   |
| Bridge                                      | Bridge over unnamed creek                 | CTH B                   |
| Bridge                                      | Bridge over unnamed creek                 | CTH C                   |
| Bridge                                      | Bridge over unnamed creek                 | CTH K                   |
| Bridge                                      | Bridge over unnamed creek                 | CTH O                   |

| Facility Type                               | Facility Name                                                         | Address              |
|---------------------------------------------|-----------------------------------------------------------------------|----------------------|
| Bridge                                      | Bridge over unnamed creek                                             | CTH B                |
| Bridge                                      | Bridge over unnamed creek                                             | CTH B                |
| Electric substation                         | Electric substation                                                   | STH 67               |
| Fire department                             | Sharon Fire and Rescue                                                | 182 Park Avenue      |
| Municipal garage                            | Town of Sharon Public Works and Garage                                | N1097 Bollinger Road |
| Municipal office and other                  | Sharon Town Hall                                                      | N1097 Bollinger Road |
| Natural gas facility                        | Natural gas facility                                                  | N1146 CTH C          |
| Telecommunication                           | Telecommunication tower                                               | Temperance Road      |
| Telecommunication                           | Telecommunication tower (Lakehead Pipe Line)                          | SD Townline Road     |
| Wastewater facility                         | Village of Walworth and Village of Fontana Wastewater Treatment Plant | N840 Chilson Road    |
| Wastewater facility                         | Wastewater treatment plant                                            | N262 Saltbox Road    |
| <b>Town of Spring Prairie</b>               |                                                                       |                      |
| Bridge                                      | Bridge over Honey Creek                                               | CTH D                |
| Bridge                                      | Bridge over Sugar Creek                                               | STH 120              |
| Bridge                                      | Bridge over unnamed creek                                             | CTH DD               |
| Bridge                                      | Bridge over unnamed creek                                             | STH 120              |
| Bridge                                      | Bridge over unnamed creek                                             | CTH DD               |
| Bridge                                      | Bridge over unnamed creek                                             | STH 120              |
| Bridge                                      | Bridge over unnamed creek                                             | STH 11               |
| Bridge                                      | Bridge over unnamed creek                                             | STH 120              |
| Bridge                                      | Bridge over White River                                               | STH 11               |
| Dam                                         | Honey Lake                                                            | none                 |
| Dam                                         | Roubik, Charles J.                                                    | none                 |
| Municipal garage                            | Town of Spring Prairie Municipal Garage                               | N6097 STH 120        |
| Municipal office and other                  | Spring Prairie Town Hall                                              | N6097 STH 120        |
| Telecommunication                           | Telecommunication tower                                               | Spring Prairie Road  |
| Telecommunication                           | Telecommunication tower                                               | STH 120              |
| Telecommunication                           | Telecommunication tower                                               | CTH D                |
| <b>Town of Sugar Creek</b>                  |                                                                       |                      |
| Bridge                                      | Bridge over Sugar Creek                                               | CTH H                |
| Bridge                                      | Bridge over Sugar Creek                                               | CTH ES               |
| Bridge                                      | Bridge over unnamed creek                                             | STH 12 67            |
| Campground                                  | Willow Run RV Condo Association                                       | W4945 County Road ES |
| Community based residential facility (CBRF) | Just Like Home IV                                                     | W5140 County Road A  |



| Facility Type                               | Facility Name                            | Address                   |
|---------------------------------------------|------------------------------------------|---------------------------|
| Dam                                         | Turtle Valley Phase III                  | none                      |
| Electric substation                         | Wisconsin Electric Co substation         | W5567 County Road A       |
| Electric substation                         | Wisconsin Electric substation            | N5843 and N5825 Voss Road |
| Group day care                              | Lakeland's Little Learners-Tibbets       | W5218 County Road A       |
| Municipal garage                            | Town of Sugar Creek Municipal Garage     | N6641 CTH H               |
| Municipal office and other                  | Sugar Creek Town Hall                    | N6641 CTH H               |
| School K-12                                 | Tibbets Elementary School                | W5218 County Road A       |
| Telephone facility                          | TDS Telephone substation                 | N7105 CTH H               |
| Telephone facility                          | TDS Telephone substation                 | W5119 Kenosha Drive       |
| <b>Town of Troy</b>                         |                                          |                           |
| Adult family home (AFH)                     | Mackenzie Adult Family Home              | W4855 State Road 20       |
| Bridge                                      | Bridge over Honey Creek                  | CTH ES                    |
| Campground                                  | Alice Chester Center                     | N8651 Town Line Road      |
| Campground                                  | Timber Lee Christian Center              | N8705 Scout Road          |
| Dam                                         | Donnelly                                 | none                      |
| Dam                                         | Kettle Moraine Estates, Corp             | none                      |
| Dam                                         | Pabst                                    | none                      |
| Dam                                         | Pabst Diversion                          | none                      |
| Fire department                             | Troy Center Fire Department              | N8870 Briggs Street       |
| Mobile / Manufactured home park             | Troy Terrace Mobile Home Park            | N9685 Nature Road         |
| Municipal garage                            | Town of Troy Municipal Garage            | N8851 County Road N       |
| Municipal office and other                  | Troy Town Hall                           | N8870 Briggs Street       |
| Telecommunication                           | Telecommunication tower                  | W2620 CTH J               |
| Telecommunication                           | Telecommunication tower                  | N7339 Town Line Road      |
| <b>Town of Walworth</b>                     |                                          |                           |
| Community based residential facility (CBRF) | Inspiration Ministries                   | N2270 Highway 67          |
| Municipal garage                            | Town of Walworth Municipal Garage        | W6741 Brich Church Road   |
| Municipal office and other                  | Town of Walworth Town Hall               | W6741 Brich Church Road   |
| Residential care apartment complex (RCAC)   | Inspiration Ministries                   | N2270 Highway 67          |
| School K-12                                 | Faith Christian School                   | W5525 Highway 67          |
| Telecommunication                           | Telecommunication tower (Nextel, Sprint) | W Main Street             |
| <b>Town of Whitewater</b>                   |                                          |                           |
| Adult family home (AFH)                     | Opal House                               | N9633 Howard Road         |
| Adult family home (AFH)                     | White Pines                              | N7453 CTH P               |

| Facility Type                               | Facility Name                             | Address                    |
|---------------------------------------------|-------------------------------------------|----------------------------|
| Bridge                                      | Bridge over Bluff Creek                   | CTH P                      |
| Bridge                                      | Bridge over unnamed creek                 | STH 89                     |
| Bridge                                      | Bridge over Whitewater Creek              | US Highway 59              |
| Campground                                  | Camp Joy                                  | W7725 Kettle Moraine Drive |
| Campground                                  | Hickory Woods Group Camp                  | Hi-Lo Road                 |
| Campground                                  | Whitewater Lakes-East (Wis DNR)           | N8096 Hi-Lo Road           |
| Campground                                  | Whitewater Lakes-West (Wis DNR)           | N8095 Hi-Lo Road           |
| Community based residential facility (CBRF) | Hidden View                               | N8425 STH 89               |
| Community based residential facility (CBRF) | Sapphire House                            | W7332 STH 12               |
| Dam                                         | Rice Lake                                 | none                       |
| Dam                                         | Whitewater Lake                           | none                       |
| Electric substation                         | Wisconsin Power Co substation             | Clover Valley Road         |
| Group day care                              | At School Programs-Lakeview               | W8363 RW Townline Road     |
| Group day care                              | RWCFS Lakeview Head Start Center          | W8363 RW Townline Road     |
| Municipal garage                            | Town of Whitewater Highway Department     | W8590 Willis Ray Road      |
| Municipal office and other                  | Whitewater Town Hall                      | W8590 Willis Ray Road      |
| Natural gas facility                        | Northern Natural Gas                      | W7960 Reliance Road        |
| School K-12                                 | Lakeview Elementary School                | W8363 RW Townline Road     |
| Telecommunication                           | Telecommunication tower                   | Taylor Road and STH 59     |
| Telecommunication                           | Telecommunication tower                   | W7596 STH 12               |
| Telecommunication                           | Telecommunication tower (Walworth County) | W8361 RW Townline Road     |
| <b>Village of Bloomfield</b>                |                                           |                            |
| Dam                                         | Bloomfield Wetland Restoration            | none                       |
| Dam                                         | Grethe                                    | none                       |
| Dam                                         | Lake Tombeau                              | none                       |
| Dam                                         | Powers Lake                               | none                       |
| Dam                                         | Warren Smadbeck                           | none                       |
| Fire department                             | Bloomfield Genoa City Fire & Rescue       | N1113 Clover Road          |
| Group day care                              | RWCFS Star Center Head Start Center       | W1380 Lake Geneva Highway  |
| Municipal office and other                  | Bloomfield Town Hall                      | 1100 Town Hall Road        |
| Police department                           | Bloomfield Township Police Department     | 1100 Town Hall Road        |
| Post office                                 | Post Office - Pell Lake                   | W1265 Park Road            |
| School K-12                                 | Star Center Elementary School             | W1380 Lake Geneva Highway  |
| Telecommunication                           | Telecommunication tower                   | Pell Lake Drive            |

| Facility Type                               | Facility Name                                     | Address                     |
|---------------------------------------------|---------------------------------------------------|-----------------------------|
| Telecommunication                           | Telecommunication tower (Cingular)                | Pell Lake Drive             |
| Telecommunication                           | Telecommunication tower (Nextel)                  | W1031 Rosewood Road         |
| Wastewater facility                         | Pell Lake Sanitary District 1                     | W974 Pell Lake Road         |
| Wastewater facility                         | Pell Lake Sanitation District #1 wastewater plant | N1183 CTH U                 |
| Water facility                              | Water tower - Pell Lake Sanitary District         | N1555 Clover Road           |
| <b>Village of Darien</b>                    |                                                   |                             |
| Adult family home (AFH)                     | P & J Assisted Living                             | 125 E Beloit Street         |
| Bridge                                      | Bridge over unnamed creek                         | W Beloit Street (CTH X)     |
| Community based residential facility (CBRF) | Pleasant Villa for Seniors LLC                    | 315 W Beloit Street         |
| Fire department                             | Darien Fire Department                            | 311 W Madison Street        |
| Health care clinic                          | Darien Medical Center (Beloit Memorial Hospital)  | 300 W Bella Vista Drive     |
| Library                                     | Darien Public Library                             | Park Street                 |
| Municipal garage                            | Village of Darien Municipal Garage                | 323 W Madison Street        |
| Municipal office and other                  | Darien Village Hall                               | 24 E Wisconsin Street       |
| Police department                           | Darien Police Department                          | 24 E Wisconsin Street       |
| Post office                                 | Post Office - Darien                              | 1 E Beloit Street           |
| School K-12                                 | Darien Elementary School                          | 125 S Walworth Street       |
| Senior center                               | Darien Senior Center                              | Park Street                 |
| Telephone facility                          | Verizon telephone facility                        | 51 Wisconsin Street         |
| Wastewater facility                         | Wastewater facility                               | Sharon Street               |
| Water facility                              | Water tower                                       | Oak Street                  |
| Water facility                              | Water tower                                       | N Badger Parkway            |
| <b>Village of East Troy</b>                 |                                                   |                             |
| Bridge                                      | Bridge over unnamed creek                         | I-43 (north bound)          |
| Bridge                                      | Bridge over unnamed creek                         | I-43 (south bound)          |
| Bridge                                      | Bridge over unnamed creek                         | Church Street (CTH G)       |
| Dam                                         | East Troy                                         | Highway 120                 |
| Electric substation                         | Wisconsin Electric Co substation                  | Byrnes Street               |
| Group day care                              | Bright Beginnings Day Care                        | 2541 E Main Street, Unit F  |
| Group day care                              | Bright Beginnings Day Care LLC                    | 2040 Beulah Avenue          |
| Group day care                              | Little Angel Learning Center                      | 2141 Mill Street            |
| Group day care                              | Noahs Ark Christian Day Care Center               | 2942 Austin Street          |
| Health care clinic                          | Aurora Health Center - East Troy                  | 2483 Corporate Circle Drive |
| Library                                     | East Troy Lions Public Library                    | 3094 Graydon Avenue         |

| Facility Type                             | Facility Name                                      | Address                                    |
|-------------------------------------------|----------------------------------------------------|--------------------------------------------|
| Mobile / Manufactured Home Park           | Skyview Terrace                                    | 2742 E Main Street                         |
| Municipal garage                          | Village of East Troy Dept. of Public Works         | 2861 Austin Street                         |
| Municipal garage                          | Village of East Troy Municipal Garage              | 2104 Young Street                          |
| Municipal office and other                | East Troy Village Hall                             | 2015 Energy Drive                          |
| Nursing home                              | East Troy Manor                                    | 3271 North Street                          |
| Police department                         | East Troy Village Police Department                | 2015 Energy Drive                          |
| Post office                               | Post Office - East Troy                            | 2099 Mill Street                           |
| Public-use airport                        | East Troy Municipal Airport                        | 2085 Highway L                             |
| Residential care apartment complex (RCAC) | Brolen Park                                        | 2191 Church Street                         |
| School K-12                               | Byrnes Elementary School                           | 2043 Division Street                       |
| School K-12                               | Doubek Elementary School                           | 2040 Beulah Avenue                         |
| School K-12                               | East Troy High School                              | 3128 Graydon Avenue                        |
| School K-12                               | East Troy Middle School                            | 3143 Graydon Avenue                        |
| School K-12                               | Good Shepherd Lutheran School                      | 1936 Emery Street                          |
| School K-12                               | Prairie View Elementary School                     | 2131 Townline Road                         |
| School K-12                               | Saint Pauls Lutheran School                        | 2665 North Street                          |
| School K-12                               | Saint Peters Elementary School                     | 3001 Elm Street                            |
| Telecommunication                         | Telecommunication tower                            | 2485 or 2491 Church Street (STH 120 CTH G) |
| Telecommunication                         | Telecommunication tower                            | Austin Street                              |
| Telecommunication                         | Telecommunication tower (Nextel)                   | 2029 Young Street                          |
| Telephone facility                        | CenturyTel Telephone facility                      | 2116 Clark Street                          |
| Wastewater facility                       | Wastewater treatment plant                         | 2104 Young Street                          |
| Water facility                            | Water tower                                        | 2485 or 2491 Church Street (STH 120 CTH G) |
| Water facility                            | Water tower                                        | 2029 Young Street                          |
| Water facility                            | Water well #5                                      | 3219 North Street                          |
| Water facility                            | Water well #5                                      | 2028 West                                  |
| Water facility                            | Water well #7                                      | 2802 Oakmont                               |
| Water facility                            | Water well #8                                      | 3103 North Street                          |
| <b>Village of Fontana on Geneva Lake</b>  |                                                    |                                            |
| Fire department                           | Fontana Volunteer Fire Department and Rescue Squad | 190 Douglas Street                         |
| Library                                   | Fontana Public Library                             | 166 2nd Avenue                             |
| Municipal garage                          | Fontana Public Works                               | 300 Wild Duck Road                         |
| Municipal office and other                | Fontana-on-Geneva Lake Village Hall                | 175 Valley View Drive                      |
| Police department                         | Fontana Police Department                          | 185 Douglas Street                         |

| Facility Type                               | Facility Name                             | Address                 |
|---------------------------------------------|-------------------------------------------|-------------------------|
| Post office                                 | Post Office - Fontana                     | 185 3rd Avenue          |
| School K-12                                 | Fontana Elementary School                 | 450 S Main Street       |
| Telecommunication                           | Telecommunication tower                   | 300 Wild Duck Road      |
| Water facility                              | Water tower                               | 300 Wild Duck Road      |
| Water facility                              | Water tower                               | 519 S Lakeshore         |
| Water facility                              | Water well                                | 504 Lake Street         |
| Water facility                              | Water well                                | W5962 Brick Church Road |
| Water facility                              | Water well                                | W5992 Brick Church Road |
| Water facility                              | Water well                                | 140 Mayflower           |
| Water facility                              | Water well                                | 140 Tarrant Court       |
| <b>Village of Genoa City</b>                |                                           |                         |
| Adult family home (AFH)                     | We're Just Like Family                    | W1313 Bernice Road      |
| Bridge                                      | Bridge over North Branch Nippersink Creek | Main Street (CTH B)     |
| Community based residential facility (CBRF) | Burr Oak Manor                            | 264 Walworth Street     |
| Community based residential facility (CBRF) | Genoa City Retirement Home                | 1201 County Road H      |
| Group day care                              | Sommerschool Childcare and Learning       | 328 Freeman Street      |
| Library                                     | Genoa City Public Library                 | 126 Freeman             |
| Municipal office and other                  | Genoa City Village Hall                   | 715 Walworth Street     |
| School K-12                                 | Brookwood Elementary School               | 630 Kossuth Street      |
| School K-12                                 | Brookwood Middle School                   | 1020 Hunters Ridge      |
| Wastewater facility                         | Wastewater treatment plant                | 1st Street              |
| Water facility                              | Water tower                               | Elizabeth Lane          |
| Water facility                              | Water tower                               | Gideon Court            |
| <b>Village of Sharon</b>                    |                                           |                         |
| Adult family home (AFH)                     | Johnson House                             | 216 Martin Street       |
| Group day care                              | RWCFS Sharon Community Head Start Center  | 104 E School Street     |
| Health care clinic                          | Mercy Sharon Medical Center               | 118 Plain Street        |
| Library                                     | Brigham Memorial Library                  | 131 Plain Street        |
| Mobile / Manufactured Home Park             | Sharon Estates                            | Park Road               |
| Municipal garage                            | Sharon Municipal Garage                   | 180 George Street       |
| Municipal office and other                  | Sharon Village Hall                       | 125 Plain Street        |
| Police department                           | Sharon Police Department                  | 125 Plain Street        |
| Post office                                 | Post Office - Sharon                      | 199 Walworth Street     |
| School K-12                                 | Sharon Community School                   | 104 E School Street     |

| Facility Type                               | Facility Name                                           | Address                       |
|---------------------------------------------|---------------------------------------------------------|-------------------------------|
| Telephone facility                          | Sharon Telephone Company                                | 105 Plain Street              |
| Water facility                              | Water well                                              | Center Street                 |
| Water facility                              | Water well                                              | 178 George Street             |
| <b>Village of Walworth</b>                  |                                                         |                               |
| Adult family home (AFH)                     | Valeries Home                                           | 208 Madison Street            |
| Community based residential facility (CBRF) | Golden Years Assisted Living Residence                  | 270 Ridge Road                |
| Electric substation                         | Wisconsin Power & Light substation                      | 520 N Main Street             |
| Fire department                             | Walworth Fire Department                                | 247 N Main Street             |
| Group day care                              | Little Professors After School Care                     | 121 Beloit Street             |
| Group day care                              | Little Professors Learning Center                       | 125 N State Highway 67        |
| Health care clinic                          | Aurora Health Center - Walworth                         | 525 Kenosha Street, Suite A   |
| Library                                     | Walworth Memorial Library                               | 101 Maple Avenue              |
| Municipal garage                            | Village of Walworth Public Works Department             | 121 Badger Street             |
| Municipal office and other                  | Walworth Village Hall                                   | 227 N Main Street             |
| Nursing home                                | Golden Years Health Care Center                         | 270 Ridge Road                |
| Police department                           | Walworth Police Department                              | 227 N Main Street             |
| Post office                                 | Post Office - Walworth                                  | 206 N Main Street             |
| Residential care apartment complex (RCAC)   | Golden Years Retirement Village                         | 270 Ridge Road                |
| School K-12                                 | Big Foot High School                                    | 401 Devils Lane               |
| School K-12                                 | Walworth Christian School                               | 119 Phillips Avenue           |
| School K-12                                 | Walworth Elementary and Middle School                   | 121 Beloit Street             |
| Telecommunication                           | Telecommunication tower                                 | Townhall Road (N Main Street) |
| Water facility                              | Water tower                                             | Townhall Road (N Main Street) |
| Water facility                              | Water well                                              | Read Street                   |
| <b>Village of Williams Bay</b>              |                                                         |                               |
| Campground                                  | Conference Point Camp                                   | 300 Conference Point Road     |
| Campground                                  | Holiday Home Camp                                       | Holiday Avenue                |
| Campground                                  | Norman B. Barr Camp                                     | 483 Outing Street             |
| Electric substation                         | Electric substation                                     | Theater Road                  |
| Fire department                             | Williams Bay Volunteer Fire Department and Rescue Squad | 5 E Geneva Street             |
| Group day care                              | Jerris Kidz                                             | 139 Congress Street           |
| Library                                     | Barrett Memorial Library                                | 65 W Geneva Street            |
| Municipal garage                            | Williams Bay Street Department                          | 230 Williams Street           |
| Municipal office and other                  | Williams Bay Recreation Department Office               | 310 Elkhorn Road              |

| Facility Type                             | Facility Name                                | Address                 |
|-------------------------------------------|----------------------------------------------|-------------------------|
| Municipal office and other                | Williams Bay Village Hall                    | 250 Williams Street     |
| Nursing home                              | Williams Bay Care Center                     | 146 Clover Street       |
| Police department                         | Williams Bay Police Department               | 250 Williams Street     |
| Post office                               | Post Office - Williams Bay                   | 129 N Walworth Avenue   |
| Residential care apartment complex (RCAC) | Sherwood Lodge                               | 116 Cherry Street       |
| School K-12                               | Williams Bay Elementary School               | 139 Congress Street     |
| School K-12                               | Williams Bay High School                     | 500 W Geneva Street     |
| School K-12                               | Williams Bay Junior High School              | 500 W Geneva Street     |
| School Post-secondary                     | George Williams College of Aurora University | 350 Constance Boulevard |
| Telephone facility                        | Ameritech Telephone                          | 53 Cherry Street        |
| Utility office/yard                       | Williams Bay Water Department                | 155 Elkhorn Road        |
| Water facility                            | Water tower                                  | Theater Road            |
| Water facility                            | Water tower                                  | 240 Wesley Street       |
| Water facility                            | Water tower                                  | Potawatomi Road         |
| Water facility                            | Water tower                                  | Collie Street           |
| Water facility                            | Well #1                                      | 155 Elkhorn             |
| Water facility                            | Well #2                                      | Olive Street            |
| Water facility                            | Well #3                                      | N Harris Road           |

## WEATHER-RELATED EVENTS; WALWORTH COUNTY: 1950 THROUGH MAY 2019

| Event Type | Record Number [1] | Location         | Date       | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|------------|-------------------|------------------|------------|-----------|-------------------|---------------------|---------------------|-----------------|
| Drought    | 348               | Southern WI      | 8/1/2002   | n/a       | 0                 | 0                   | 0                   | \$4.4M          |
|            | 367               | South Eastern WI | 8/1/2003   | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 369               | Southern WI      | 9/1/2003   | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 370               | Southern WI      | 10/1/2003  | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 370               | Southern WI      | 11/1/2003  | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 374               | Southern WI      | 12/1/2003  | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 413               | Southern WI      | 7/1/2005   | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 424               | Southern WI      | 8/1/2005   | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 427               | Southern WI      | 9/1/2005   | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 435               | Southern WI      | 10/1/2005  | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 436               | Southern WI      | 11/1/2005  | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 478               | South Eastern WI | 7/1/2007   | n/a       | 0                 | 0                   | 0                   | \$50K           |
|            | -                 | Walworth County  | 7/1/2007   | n/a       | 0                 | 0                   | 0                   | \$50K           |
|            | -                 | Walworth County  | 7/1/2012   | n/a       | 0                 | 0                   | 0                   | 0               |
|            | -                 | Walworth County  | 10/1/2012  | n/a       | 0                 | 0                   | 0                   | 0               |
|            | -                 | Walworth County  | 11/1/2012  | n/a       | 0                 | 0                   | 0                   | 0               |
| Heat [6]   | 104               | Statewide        | 6/14/1994  | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 115               | Statewide        | 6/17/1995  | n/a       | 9 / 0             | 0                   | 0                   | 0               |
|            | 116               | Statewide        | 7/13/1995  | n/a       | 57 / 0            | 0                   | 0                   | 0               |
|            | 137               | Statewide        | 10/12/1995 | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 227               | Southern WI      | 11/23/1998 | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 228               | Southern WI      | 12/1/1998  | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 250               | Southern WI      | 7/4/1999   | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 251               | Southern WI      | 7/23/1999  | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 253               | Southern WI      | 7/29/1999  | n/a       | 8 / 0             | 0                   | 0                   | 0               |
|            | 254               | South Central WI | 11/8/1999  | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 255               | Southern WI      | 11/13/1999 | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 309               | Southern WI      | 7/21/2001  | n/a       | 2 / 0             | 0                   | 0                   | 0               |
|            | 312               | South Eastern WI | 7/31/2001  | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 314               | Southern WI      | 8/6/2001   | n/a       | 4 / 0             | 0                   | 0                   | 0               |
|            | 336               | Southern WI      | 4/15/2002  | n/a       | 1 / 0             | 0                   | 0                   | 0               |
|            | 341               | Walworth         | 6/20/2002  | n/a       | 1 / 0             | 0                   | 0                   | 0               |
|            | 342               | South Eastern WI | 6/22/2002  | n/a       | 1 / 0             | 0                   | 0                   | 0               |
|            | 343               | Southern WI      | 6/30/2002  | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 344               | Southern WI      | 7/1/2002   | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 345               | Southern WI      | 7/8/2002   | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 346               | Southern WI      | 7/21/2002  | n/a       | 0                 | 0                   | 0                   | 0               |
|            | 420               | Southern WI      | 7/24/2005  | n/a       | 0                 | 0                   | 0                   | 0               |



| Event Type           | Record Number [1] | Location         | Date       | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|----------------------|-------------------|------------------|------------|-----------|-------------------|---------------------|---------------------|-----------------|
| Heat – continued     | 457               | South Central WI | 7/16/2006  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | 461               | Southern WI      | 7/30/2006  | n/a       | 0                 | 40 / 0              | 0                   | 0               |
|                      | 462               | Southern WI      | 8/1/2006   | n/a       | 2 / 0             | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 6/23/2009  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 8/11/2010  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 7/17/2011  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 7/21/2011  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 6/28/2012  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 7/3/2012   | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 7/16/2012  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 7/23/2012  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 7/25/2012  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 7/16/2013  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 7/21/2016  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 6/16/2018  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 6/29/2018  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 7/4/2018   | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 7/19/2019  | n/a       | 0                 | 0                   | 0                   | 0               |
| Extreme Cold         | 95                | Statewide        | 1/13/1994  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | 141               | Statewide        | 12/9/1995  | n/a       | 2 [1]             | 21 / 0              | 0                   | 0               |
|                      | 143               | Walworth         | 1/9/1996   | n/a       | 1 / 1             | 0                   | 0                   | 0               |
|                      | 145               | Walworth         | 1/18/1996  | n/a       | 1 / 1             | 0                   | 0                   | 0               |
|                      | 148               | Southern WI      | 1/30/1996  | n/a       | 2 / 0             | 0                   | 0                   | 0               |
|                      | 149               | Southern WI      | 1/31/1996  | n/a       | 0                 | 10 / 0              | 0                   | 0               |
|                      | 150               | Southern WI      | 2/1/1996   | n/a       | 4 / 0             | 18 / 0              | 0                   | 0               |
|                      | 166               | South Central WI | 1/17/1997  | n/a       | 0                 | 3 / 0               | \$20K               | 0               |
|                      | 230               | Southern WI      | 1/5/1999   | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | 437               | Southern WI      | 12/18/2005 | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | 442               | Southern WI      | 2/17/2006  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | 443               | Southern WI      | 2/18/2006  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 2/3/2007   | n/a       | 0                 | 0                   | \$2K                | 0               |
|                      | -                 | Walworth County  | 1/19/2008  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | 493               | South Eastern WI | 1/30/2008  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 2/10/2008  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 12/21/2008 | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 1/14/2009  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 1/15/2009  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 1/21/2011  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 1/6/2014   | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | -                 | Walworth County  | 1/29/2019  | n/a       | 0                 | 0                   | 0                   | 0               |
| Flood/Flash Flooding | 133               | Whitewater       | 8/16/1995  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | 157               | Walworth         | 6/17/1996  | n/a       | 0                 | 0                   | \$200K              | \$24M           |
|                      | 215               | Sharon           | 6/26/1998  | n/a       | 0                 | 0                   | 0                   | 0               |
|                      | 222               | Delevan          | 8/5/1998   | n/a       | 0                 | 0                   | 0                   | 0               |

| Event Type                              | Record Number [1] | Location         | Date       | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|-----------------------------------------|-------------------|------------------|------------|-----------|-------------------|---------------------|---------------------|-----------------|
| <b>Flood/Flash Flooding – continued</b> | 223               | Whitewater       | 8/5/1998   | n/a       | 0                 | 0                   | \$30K               | 0               |
|                                         | 224               | Whitewater       | 8/5/1998   | n/a       | 0                 | 0                   | \$100K              | 0               |
|                                         | 248               | South Eastern WI | 6/13/1999  | n/a       | 0                 | 0                   | \$900K              | 0               |
|                                         | 249               | Delevan          | 6/28/1999  | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 276               | Walworth         | 6/13/2000  | n/a       | 0                 | 0                   | \$850K              | \$500K          |
|                                         | 277               | Lake Geneva      | 6/13/2000  | n/a       | 0                 | 4                   | \$350K              | \$300K          |
|                                         | 282               | Richmond         | 7/2/2000   | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 284               | Pell Lake        | 7/10/2000  | n/a       | 0                 | 0                   | \$346K              | \$300K          |
|                                         | 297               | Southern WI      | 2/9/2001   | n/a       | 0                 | 0                   | \$325K              | 0               |
|                                         | 351               | East Troy        | 8/12/2002  | n/a       | 0                 | 0                   | \$5K                | 0               |
|                                         | 356               | Walworth         | 9/19/2002  | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 388               | Walworth County  | 6/1/2004   | n/a       | 0                 | 0                   | \$500K              | \$3M            |
|                                         | 446               | Delevan          | 3/13/2006  | n/a       | 0                 | 0                   | \$40K               | 0               |
|                                         | 484               | Sharon           | 8/19/2007  | n/a       | 0                 | 0                   | \$150K              | 0               |
|                                         | 485               | Whitewater       | 8/22/2007  | n/a       | 0                 | 0                   | \$150K              | \$200K          |
|                                         | -                 | Whitewater       | 6/8/2008   | n/a       | 0                 | 0                   | \$150K              | \$1M            |
|                                         | -                 | Delavan          | 6/12/2008  | n/a       | 0                 | 0                   | \$525.6K            | \$4.25M         |
|                                         | -                 | Whitewater       | 06/19/2009 | n/a       | 0                 | 0                   | \$10K               | 0               |
|                                         | -                 | Sharon           | 6/26/2013  | n/a       | 0                 | 0                   | \$4K                | \$2K            |
|                                         | -                 | La Grange        | 7/12/2017  | n/a       | 0                 | 0                   | \$10M               | \$30K           |
|                                         | -                 | La Grange        | 7/12/2017  | n/a       | 0                 | 0                   | \$1K                | \$1K            |
|                                         | -                 | Whitewater       | 2/20/2018  | n/a       | 0                 | 0                   | \$5K                | 0               |
|                                         | -                 | Sharon           | 9/12/2019  | n/a       | 0                 | 0                   | \$15K               | 0               |
|                                         | -                 | Genoa City       | 9/13/2019  | n/a       | 0                 | 0                   | \$20K               | 0               |
|                                         | -                 | Richmond         | 4/29/2020  | n/a       | 0                 | 0                   | \$50K               | 0               |
| <b>Dense Fog [7]</b>                    | 256               | South Central WI | 11/13/1999 | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 257               | Walworth County  | 12/3/1999  | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 258               | South Central WI | 12/12/1999 | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 259               | Southern WI      | 1/9/2000   | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 261               | Southern WI      | 2/25/2000  | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 264               | Southern WI      | 3/21/2000  | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 287               | South Central WI | 8/23/2000  | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 288               | South Central WI | 8/24/2000  | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 292               | Walworth County  | 10/24/2000 | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 293               | South Central WI | 10/24/2000 | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 296               | South Central WI | 1/12/2001  | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 298               | South Central WI | 2/24/2001  | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 299               | Southern WI      | 3/22/2001  | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 301               | Southern WI      | 4/7/2001   | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 304               | South Eastern WI | 5/24/2001  | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 308               | South Central WI | 7/19/2001  | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 311               | Southern WI      | 7/30/2001  | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 313               | Southern WI      | 8/3/2001   | n/a       | 0                 | 0                   | 0                   | 0               |
|                                         | 317               | South Central WI | 8/22/2001  | n/a       | 0                 | 0                   | 0                   | 0               |

| Event Type            | Record Number [1] | Location         | Date       | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|-----------------------|-------------------|------------------|------------|-----------|-------------------|---------------------|---------------------|-----------------|
| Dense Fog – continued | 322               | Walworth County  | 9/29/2001  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 323               | South Central WI | 10/22/2001 | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 327               | South Central WI | 11/15/2001 | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 328               | South Eastern WI | 12/2/2001  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 331               | Southern WI      | 2/20/2002  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 335               | Southern WI      | 4/13/2002  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 354               | South Central WI | 9/6/2002   | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 359               | Southern WI      | 3/20/2003  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 360               | South Central WI | 3/23/2003  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 378               | Southern WI      | 2/26/2004  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 393               | South Central WI | 10/12/2004 | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 395               | South Central WI | 12/9/2004  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 398               | Southern WI      | 12/29/2004 | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 400               | Southern WI      | 1/11/2005  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 428               | South Central WI | 9/4/2005   | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 438               | South Central WI | 12/27/2005 | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 439               | South Eastern WI | 1/3/2006   | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 444               | South Central WI | 3/9/2006   | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 448               | South Central WI | 3/29/2006  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 450               | Southern WI      | 5/9/2006   | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 467               | Southern WI      | 9/14/2006  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 468               | South Central WI | 9/15/2006  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 12/11/2006 | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 12/21/2006 | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 3/9/2007   | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 3/23/2007  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 475               | South Central WI | 3/25/2007  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 6/1/2007   | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 486               | South Eastern WI | 10/1/2007  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | 488               | South Central WI | 12/19/2007 | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 12/21/2007 | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 1/5/2008   | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 2/4/2008   | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 9/21/2008  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 12/26/2008 | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 2/9/2009   | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 3/7/2009   | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 4/30/2009  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 9/4/2009   | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 9/10/2009  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 9/12/2009  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 3/7/2010   | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 3/10/2009  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 5/21/2010  | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 12/30/2010 | n/a       | 0                 | 0                   | 0                   | 0               |
|                       | -                 | Walworth County  | 2/2/2012   | n/a       | 0                 | 0                   | 0                   | 0               |

| Event Type                   | Record Number [1] | Location        | Date       | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|------------------------------|-------------------|-----------------|------------|-----------|-------------------|---------------------|---------------------|-----------------|
| <b>Dense Fog – continued</b> | -                 | Walworth County | 2/15/2012  | n/a       | 0                 | 0                   | 0                   | 0               |
|                              | -                 | Walworth County | 3/24/2012  | n/a       | 0                 | 0                   | 0                   | 0               |
|                              | -                 | Walworth County | 10/22/2012 | n/a       | 0                 | 0                   | 0                   | 0               |
|                              | -                 | Walworth County | 11/16/2012 | n/a       | 0                 | 0                   | 0                   | 0               |
|                              | -                 | Walworth County | 11/20/2012 | n/a       | 0                 | 0                   | 0                   | 0               |
|                              | -                 | Walworth County | 12/1/2012  | n/a       | 0                 | 0                   | 0                   | 0               |
|                              | -                 | Walworth County | 12/3/2012  | n/a       | 0                 | 0                   | 0                   | 0               |
|                              | -                 | Walworth County | 12/3/2013  | n/a       | 0                 | 0                   | 0                   | 0               |
| <b>Funnel Cloud</b>          | 125               | Elkhorn         | 8/9/1995   | n/a       | 0                 | 0                   | 0                   | 0               |
|                              | 183               | Lake Geneva     | 7/18/1997  | n/a       | 0                 | 0                   | 0                   | 0               |
|                              | 221               | Williams Bay    | 8/5/1998   | n/a       | 0                 | 0                   | 0                   | 0               |
|                              | 244               | Fontana         | 6/10/1999  | n/a       | 0                 | 0                   | 0                   | 0               |
|                              | 268               | East Troy       | 5/8/2000   | n/a       | 0                 | 0                   | 0                   | 0               |
|                              | 403               | Delevan         | 5/19/2005  | n/a       | 0                 | 0                   | 0                   | 0               |
|                              | 125               | Elkhorn         | 8/9/1995   | n/a       | 0                 | 0                   | 0                   | 0               |
|                              | -                 | Troy Center     | 07/22/2010 | n/a       | 0                 | 0                   | 0                   | 0               |
| <b>Hail [8]</b>              | 15                | Walworth County | 8/3/1967   | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 26                | Walworth County | 7/3/1975   | 1.75 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 29                | Walworth County | 9/4/1977   | 1.75 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 32                | Walworth County | 9/4/1979   | 1.75 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 40                | Walworth County | 7/16/1980  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 41                | Walworth County | 7/16/1980  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 42                | Walworth County | 7/16/1980  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 45                | Walworth County | 7/20/1980  | 2.50 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 46                | Walworth County | 7/20/1980  | 2.00 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 47                | Walworth County | 9/30/1981  | 1.75 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 62                | Walworth County | 9/22/1986  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 63                | Walworth County | 5/21/1987  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 64                | Walworth County | 5/21/1987  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 79                | Walworth County | 3/13/1990  | 1.75 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 101               | Menomonee       | 6/11/1994  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 113               | Fontana         | 6/7/1995   | 1.75 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 172               | Genoa City      | 5/18/1997  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 188               | East Troy       | 8/3/1997   | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 225               | Delevan         | 9/6/1998   | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 242               | Whitewater      | 6/10/1999  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 247               | Richmond        | 6/11/1999  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 262               | Lake Geneva     | 3/8/2000   | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 263               | Whitewater      | 3/8/2000   | 0.88 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 266               | Darien          | 4/19/2000  | 2.00 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 267               | East Troy       | 5/8/2000   | 1.25 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 269               | Lake Geneva     | 5/8/2000   | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 270               | East Troy       | 5/18/2000  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                              | 271               | Lyons           | 5/18/2000  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |

| Event Type       | Record Number [1] | Location           | Date       | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|------------------|-------------------|--------------------|------------|-----------|-------------------|---------------------|---------------------|-----------------|
| Hail – continued | 272               | Pell Lake          | 5/18/2000  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 273               | Richmond           | 5/18/2000  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 279               | Tibbet             | 6/30/2000  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 280               | Darien             | 6/30/2000  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 281               | Darien             | 6/30/2000  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 303               | East Troy          | 5/14/2001  | 0.88 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 324               | Darien             | 10/23/2001 | 1.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 325               | Lyons              | 10/23/2001 | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 333               | La Grange          | 3/9/2002   | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 347               | Delavan            | 8/1/2002   | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 348               | Spring Prairie     | 8/1/2002   | 1.25 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 355               | Whitewater         | 9/9/2002   | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 363               | Delavan            | 7/6/2003   | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 379               | Whitewater         | 3/1/2004   | 1.50 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 402               | East Troy          | 3/30/2005  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 405               | Delavan            | 6/4/2005   | 1.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 406               | Honey Creek        | 6/4/2005   | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 418               | East Troy          | 7/23/2005  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 425               | East Troy          | 8/18/2005  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 433               | Lake Geneva        | 9/22/2005  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 434               | Pell Lake          | 9/22/2005  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 445               | Lake Geneva        | 3/11/2006  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 452               | Lake Geneva        | 5/17/2006  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 453               | Darien             | 5/17/2006  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 465               | Fontana            | 8/25/2006  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 466               | Lyons              | 8/25/2006  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 470               | Little Prairie     | 10/2/2006  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 471               | La Grange          | 10/2/2006  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 479               | Whitewater         | 7/9/2007   | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 481               | Spring Prairie     | 7/9/2007   | 0.88 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 482               | Williams Bay       | 7/9/2007   | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 490               | Zenda              | 1/7/2008   | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | 501               | Sharon             | 4/25/2008  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Walworth (County?) | 6/6/2008   | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Lake Geneva        | 6/12/2008  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | La Grange          | 7/23/2009  | 0.75 in.  | 0                 | 0                   | 0                   | \$2K            |
|                  | -                 | Allen Grove        | 9/21/2010  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Darien             | 9/21/2010  | 0.88 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Delavan Lake       | 9/21/2010  | 0.88 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | East Troy          | 9/21/2010  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Whitewater         | 5/22/2011  | 1.25 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Richmond           | 5/22/2011  | 1.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Williams Bay       | 6/12/2013  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Williams Bay       | 6/12/2013  | 0.88 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Eagle              | 7/21/2013  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |

| Event Type       | Record Number [1] | Location        | Date      | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|------------------|-------------------|-----------------|-----------|-----------|-------------------|---------------------|---------------------|-----------------|
| Hail - continued | -                 | Richmond        | 8/30/2013 | 1.50 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Delavan         | 8/30/2013 | 1.50 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Delavan         | 8/30/2013 | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Delavan Airport | 5/12/2014 | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Elkhorn         | 5/12/2014 | 1.50 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Genoa City      | 6/17/2014 | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Genoa City      | 6/17/2014 | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Whitewater      | 6/18/2014 | 1.25 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Lake Geneva     | 4/9/2015  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Genoa City      | 4/9/2015  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Pell Lake       | 4/9/2015  | 1.50 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Elkhorn         | 5/28/2016 | 0.88 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Lake Geneva     | 5/17/2017 | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | East Troy       | 6/19/2017 | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Lake Beulah     | 7/6/2017  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Bowers          | 7/6/2017  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Lake Geneva     | 7/15/2017 | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Pell Lake       | 7/15/2017 | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Pell Lake       | 7/15/2017 | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Pell Lake       | 7/15/2017 | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Genoa City      | 7/15/2017 | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Genoa City      | 7/16/2017 | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Elkhorn         | 7/23/2017 | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Darien          | 5/2/2018  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Fontana         | 5/2/2018  | 1.00 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Williams Bay    | 5/2/2018  | 1.25 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Williams Bay    | 5/2/2018  | 2.50 in.  | 0                 | 0                   | \$1K                | 0               |
|                  | -                 | Zenda           | 5/2/2018  | 1.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Pell Lake       | 5/2/2018  | 1.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Pell Lake       | 5/2/2018  | 1.50 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Genoa City      | 5/2/2018  | 1.25 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Genoa City      | 5/2/2018  | 1.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Genoa City      | 5/14/2018 | 0.88 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Como            | 6/1/2019  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Lake Geneva     | 6/1/2019  | 1.25 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Elkhorn         | 6/1/2019  | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Como            | 6/24/2019 | 0.75 in.  | 0                 | 0                   | 0                   | 0               |
| Heavy Rain       | 178               | Lake Geneva     | 6/30/1997 | n/a       | 0                 | 0                   | \$4K                | 0               |
|                  | 320               | Genoa City      | 9/18/2001 | n/a       | 0                 | 0                   | 0                   | 0               |
|                  | 372               | Elkhorn         | 11/1/2003 | n/a       | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Darien          | 7/12/2008 | n/a       | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Elkhorn         | 5/12/2014 | n/a       | 0                 | 0                   | 0                   | 0               |
|                  | -                 | Elkhorn Airport | 5/12/2014 | n/a       | 0                 | 0                   | 0                   | 0               |
| High Wind [9]    | 170               | Walworth County | 4/6/1997  | 70 kts.   | 0                 | 0                   | \$120K              | 0               |

| Event Type            | Record Number [1] | Location         | Date       | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|-----------------------|-------------------|------------------|------------|-----------|-------------------|---------------------|---------------------|-----------------|
| High Wind - continued | 199               | Southern WI      | 3/8/1998   | 50 kts.   | 0                 | 0                   | \$215K / 150K       | 0               |
|                       | 226               | Southern WI      | 11/10/1998 | 50 kts.   | 4 / 0             | 14 / 1              | \$10.4M / 300K      | \$1.6M / 0      |
|                       | 300               | Southern WI      | 4/7/2001   | 71 kts.   | 0                 | 1                   | 0                   | 0               |
|                       | 302               | Southern WI      | 4/11/2001  | 58 kts.   | 0                 | 0                   | 0                   | 0               |
|                       | 334               | South Central WI | 3/9/2002   | 50 kts.   | 0                 | 0                   | \$73K               | 0               |
|                       | 373               | Walworth County  | 11/12/2003 | 56 kts.   | 0                 | 0                   | \$10K               | 0               |
|                       | -                 | Walworth County  | 10/26/2010 | 51 kts.   | 0                 | 0                   | \$15K               | 0               |
|                       | -                 | Walworth County  | 2/19/2016  | 53 kts.   | 0                 | 0                   | \$30K               | 0               |
|                       | -                 | Walworth County  | 3/16/2016  | 50 kts.   | 0                 | 0                   | \$7K                | 0               |
|                       | -                 | Walworth County  | 3/8/2017   | 50 kts.   | 0                 | 0                   | \$10K               | 0               |
| Lightning             | 111               | Williams Bay     | 6/6/1995   | n/a       | 0                 | 1                   | 0                   | 0               |
|                       | 120               | Walworth         | 7/27/1995  | n/a       | 0                 | 1                   | 0                   | 0               |
|                       | 132               | Walworth         | 8/9/1995   | n/a       | 0                 | 1                   | 0                   | 0               |
|                       | 179               | Delavan          | 7/18/1997  | n/a       | 0                 | 0                   | \$3K                | 0               |
|                       | 187               | Allen Grove      | 7/27/1997  | n/a       | 0                 | 0                   | \$10K               | 0               |
|                       | 189               | Elkhorn          | 9/19/1997  | n/a       | 0                 | 0                   | \$50K               | 0               |
|                       | 190               | Elkhorn          | 9/19/1997  | n/a       | 0                 | 1                   | 0                   | 0               |
|                       | 191               | Sharon           | 9/19/1997  | n/a       | 0                 | 0                   | \$10K               | 0               |
|                       | 192               | Walworth         | 9/19/1997  | n/a       | 0                 | 0                   | \$40K               | 0               |
|                       | 194               | Lake Geneva      | 9/19/1997  | n/a       | 0                 | 0                   | \$50K               | 0               |
|                       | 195               | Walworth         | 9/19/1997  | n/a       | 0                 | 0                   | \$100K              | 0               |
|                       | 234               | Williams Bay     | 5/16/1999  | n/a       | 0                 | 0                   | \$3K                | 0               |
|                       | 235               | Williams Bay     | 5/16/1999  | n/a       | 0                 | 0                   | \$3K                | 0               |
|                       | 241               | Elkhorn          | 6/10/1999  | n/a       | 0                 | 3                   | 0                   | 0               |
|                       | 291               | Walworth         | 9/11/2000  | n/a       | 0                 | 0                   | \$10K               | 0               |
|                       | 350               | Whitewater       | 8/9/2002   | n/a       | 0                 | 0                   | \$20K               | 0               |
|                       | 365               | East Troy        | 7/6/2003   | n/a       | 0                 | 8                   | 0                   | 0               |
|                       | 367               | East Troy        | 7/31/2003  | n/a       | 0                 | 2                   | 0                   | 0               |
|                       | 408               | Lyons            | 6/11/2005  | n/a       | 0                 | 0                   | \$15K               | 0               |
|                       | 455               | La Grange        | 6/26/2006  | n/a       | 0                 | 0                   | \$2K                | 0               |
|                       | 456               | La Grange        | 6/26/2006  | n/a       | 0                 | 0                   | \$1K                | 0               |
|                       | 463               | Delavan          | 8/2/2006   | n/a       | 0                 | 0                   | \$50K               | 0               |
|                       | 464               | Lake Geneva      | 8/24/2006  | n/a       | 0                 | 0                   | \$10K               | 0               |
|                       | -                 | Whitewater       | 4/25/2008  | n/a       | 0                 | 0                   | \$100K              | 0               |
|                       | -                 | Lake Geneva      | 5/2/2008   | n/a       | 0                 | 0                   | \$10K               | 0               |
| Strong Wind [10]      | 196               | Whitewater       | 9/29/1997  | 43 kts.   | 0                 | 0                   | 0                   | 0               |
|                       | 274               | Southern WI      | 5/24/2000  | 26 kts.   | 0                 | 0                   | \$3K                | 0               |
|                       | 321               | South Eastern WI | 9/19/2001  | 49 kts.   | 0                 | 0                   | 0                   | 0               |
|                       | 326               | Southern WI      | 10/24/2001 | 49 kts.   | 0                 | 0                   | 0                   | 0               |
|                       | 329               | Southern WI      | 12/5/2001  | 26 kts.   | 0                 | 0                   | \$105K              | 0               |
|                       | 383               | Southern WI      | 3/7/2004   | 34 kts.   | 0                 | 0                   | \$33K               | 0               |
|                       | 384               | Southern WI      | 3/14/2004  | 39 kts.   | 0                 | 0                   | \$52K               | 0               |
|                       | 385               | Southern WI      | 4/18/2004  | 43 kts.   | 0                 | 0                   | \$280K              | 0               |

| Event Type                     | Record Number [1] | Location         | Date       | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|--------------------------------|-------------------|------------------|------------|-----------|-------------------|---------------------|---------------------|-----------------|
| <b>Strong Wind – continued</b> | 396               | Southern WI      | 12/12/2004 | 40 kts.   | 0                 | 0                   | \$34K               | 0               |
|                                | 441               | Southern WI      | 1/24/2006  | 39 kts.   | 0                 | 0                   | \$100K              | 0               |
|                                | 447               | Southern WI      | 3/13/2006  | 39 kts.   | 0                 | 0                   | \$65K               | 0               |
|                                | 449               | South Central WI | 3/31/2006  | 39 kts.   | 0                 | 0                   | \$40K               | 0               |
|                                | 451               | Southern WI      | 5/11/2006  | 36 kts.   | 0                 | 0                   | \$20K               | 0               |
|                                | -                 | Walworth County  | 2/22/2007  | 39 kts.   | 0                 | 0                   | \$2K                | 0               |
|                                | -                 | Walworth County  | 5/24/2007  | 39 kts.   | 0                 | 0                   | \$2K                | 0               |
|                                | -                 | Walworth County  | 8/27/2007  | 39 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | -                 | Walworth County  | 11/5/2007  | 39 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 489               | South Central WI | 12/23/2007 | 39 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | -                 | Walworth County  | 4/26/2008  | 44 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | -                 | Walworth County  | 11/26/2008 | 26 kts.   | 0                 | 0                   | \$2K                | 0               |
|                                | -                 | Walworth County  | 9/27/2009  | 43 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | -                 | Walworth County  | 10/6/2009  | 39 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | -                 | Walworth County  | 5/5/2010   | 39 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | -                 | Walworth County  | 9/7/2010   | 39 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | -                 | Walworth County  | 9/24/2010  | 39 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | -                 | Walworth County  | 1/1/2011   | 39 kts.   | 0                 | 0                   | \$4K                | 0               |
|                                | -                 | Walworth County  | 2/18/2011  | 26 kts.   | 0                 | 0                   | \$2K                | 0               |
|                                | -                 | Walworth County  | 4/15/2011  | 39 kts.   | 0                 | 0                   | \$3K                | 0               |
|                                | -                 | Walworth County  | 5/15/2011  | 39 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | -                 | Walworth County  | 9/29/2011  | 39 kts.   | 0                 | 0                   | \$2K                | 0               |
|                                | -                 | Walworth County  | 10/19/2011 | 39 kts.   | 0                 | 0                   | \$2K                | 0               |
|                                | -                 | Walworth County  | 11/13/2011 | 26 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | -                 | Walworth County  | 1/1/2012   | 28 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | -                 | Walworth County  | 6/18/2012  | 39 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | -                 | Walworth County  | 11/11/2012 | 41 kts.   | 0                 | 0                   | \$3K                | 0               |
|                                | -                 | Walworth County  | 1/18/2013  | 27 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | -                 | Walworth County  | 1/19/2013  | 41 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | -                 | Walworth County  | 4/11/2013  | 39 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | -                 | Walworth County  | 12/23/2015 | 43 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | -                 | Walworth County  | 12/4/2017  | 39 kts.   | 0                 | 0                   | \$4K                | 0               |
|                                | -                 | Walworth County  | 10/20/2018 | 39 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | -                 | Walworth County  | 2/24/2019  | 40 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | -                 | Walworth County  | 11/27/2019 | 42 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | -                 | Walworth County  | 4/30/2020  | 39 kts.   | 0                 | 0                   | \$0.1K              | 0               |
| <b>Thunderstorm Winds [11]</b> | 2                 | Walworth County  | 7/3/1955   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 5                 | Walworth County  | 8/3/1960   | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 7                 | Walworth County  | 7/19/1963  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 8                 | Walworth County  | 7/19/1963  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 11                | Walworth County  | 3/21/1966  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 12                | Walworth County  | 3/21/1966  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 17                | Walworth County  | 7/12/1969  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 18                | Walworth County  | 7/16/1969  | 50 kts.   | 0                 | 0                   | 0                   | 0               |



| Event Type                     | Record Number [1] | Location        | Date       | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|--------------------------------|-------------------|-----------------|------------|-----------|-------------------|---------------------|---------------------|-----------------|
| Thunderstorm Winds – continued | 19                | Walworth County | 7/17/1969  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 21                | Walworth County | 6/1/1971   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 24                | Walworth County | 6/16/1973  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 25                | Walworth County | 6/20/1974  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 27                | Walworth County | 6/12/1976  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 28                | Walworth County | 8/13/1976  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 33                | Walworth County | 9/4/1979   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 35                | Walworth County | 7/5/1980   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 36                | Walworth County | 7/15/1980  | 69 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 37                | Walworth County | 7/15/1980  | 69 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 38                | Walworth County | 7/15/1980  | 69 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 39                | Walworth County | 7/15/1980  | 69 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 43                | Walworth County | 7/16/1980  | 61 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 44                | Walworth County | 7/16/1980  | 61 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 48                | Walworth County | 7/3/1983   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 49                | Walworth County | 7/17/1983  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 50                | Walworth County | 7/18/1983  | 61 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 51                | Walworth County | 7/19/1983  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 52                | Walworth County | 7/19/1983  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 53                | Walworth County | 7/19/1983  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 54                | Walworth County | 8/16/1983  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 55                | Walworth County | 8/27/1983  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 56                | Walworth County | 9/6/1983   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 57                | Walworth County | 6/6/1984   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 58                | Walworth County | 7/9/1984   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 59                | Walworth County | 9/9/1985   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 60                | Walworth County | 6/27/1986  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 61                | Walworth County | 7/6/1986   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 65                | Walworth County | 5/21/1987  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 66                | Walworth County | 8/16/1987  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 67                | Walworth County | 8/16/1987  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 68                | Walworth County | 8/16/1987  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 70                | Walworth County | 8/4/1988   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 71                | Walworth County | 8/18/1988  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 72                | Walworth County | 4/25/1989  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 73                | Walworth County | 6/26/1989  | 50 kts.   | 0                 | 3                   | 0                   | 0               |
|                                | 74                | Walworth County | 6/26/1989  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 75                | Walworth County | 7/27/1989  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 76                | Walworth County | 7/27/1989  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 77                | Walworth County | 8/4/1989   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 78                | Walworth County | 8/5/1989   | 61 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 81                | Walworth County | 6/29/1990  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 82                | Walworth County | 10/14/1990 | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 83                | Walworth County | 3/27/1991  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 84                | Walworth County | 7/7/1991   | 50 kts.   | 0                 | 0                   | 0                   | 0               |

| Event Type                     | Record Number [1] | Location        | Date       | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|--------------------------------|-------------------|-----------------|------------|-----------|-------------------|---------------------|---------------------|-----------------|
| Thunderstorm Winds – continued | 86                | Walworth County | 7/7/1991   | 50 kts.   | 0                 | 1                   | 0                   | 0               |
|                                | 87                | Walworth County | 7/7/1991   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 88                | Walworth County | 9/9/1991   | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 89                | Walworth County | 6/17/1992  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 90                | Walworth County | 6/17/1992  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 91                | Walworth County | 6/17/1992  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 102               | Sharon          | 6/11/1994  | 60 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 103               | Sharon          | 6/11/1994  | 50 kts.   | 0                 | 0                   | \$5K                | \$5K            |
|                                | 109               | Walworth        | 4/18/1995  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 110               | Walworth        | 6/6/1995   | 50 kts.   | 0                 | 0                   | \$40K               | 0               |
|                                | 112               | Lake Geneva     | 6/7/1995   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 114               | Delavan         | 6/7/1995   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 117               | Elkhorn         | 7/15/1995  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 118               | Delavan         | 7/27/1995  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 119               | Spring Prairie  | 7/27/1995  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 121               | Whitewater      | 8/9/1995   | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 122               | Whitewater      | 8/9/1995   | 50 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | 123               | Troy Center     | 8/9/1995   | 50 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | 124               | Lake Geneva     | 8/9/1995   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 126               | East Troy       | 8/9/1995   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 127               | La Grange       | 8/9/1995   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 128               | Elkhorn         | 8/9/1995   | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 129               | East Troy       | 8/9/1995   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 130               | Lake Geneva     | 8/9/1995   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 131               | Spring Prairie  | 8/9/1995   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 134               | Whitewater      | 8/28/1995  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 135               | Elkhorn         | 8/28/1995  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 136               | Genoa City      | 8/28/1995  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 151               | Sharon          | 4/19/1996  | 50 kts.   | 0                 | 0                   | \$300K              | 0               |
|                                | 152               | Genoa City      | 4/19/1996  | 50 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | 153               | Millard         | 6/2/1996   | 50 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 154               | Delavan         | 6/2/1996   | 50 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | 155               | Walworth        | 6/2/1996   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 156               | Troy Center     | 6/2/1996   | 50 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | 158               | Whitewater      | 8/19/1996  | 50 kts.   | 0                 | 0                   | \$20K               | 0               |
|                                | 159               | Darien          | 8/19/1996  | 50 kts.   | 0                 | 0                   | \$150K              | 0               |
|                                | 160               | East Troy       | 10/29/1996 | 50 kts.   | 0                 | 0                   | \$20K               | 0               |
|                                | 161               | Lake Geneva     | 10/29/1996 | 50 kts.   | 0                 | 0                   | \$20K               | 0               |
|                                | 162               | Delavan         | 10/29/1996 | 50 kts.   | 0                 | 0                   | \$25K               | 0               |
|                                | 163               | Genoa City      | 10/29/1996 | 50 kts.   | 0                 | 0                   | \$15K               | 0               |
|                                | 167               | Walworth        | 4/5/1997   | 50 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | 168               | Whitewater      | 4/5/1997   | 50 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 169               | Allen Grove     | 4/5/1997   | 50 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 173               | Walworth        | 6/15/1997  | 50 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 174               | East Troy       | 6/21/1997  | 50 kts.   | 0                 | 0                   | \$2K                | 0               |

| Event Type                     | Record Number [1] | Location    | Date      | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|--------------------------------|-------------------|-------------|-----------|-----------|-------------------|---------------------|---------------------|-----------------|
| Thunderstorm Winds – continued | 175               | Darien      | 6/24/1997 | 50 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 176               | Lake Geneva | 6/24/1997 | 50 kts.   | 0                 | 0                   | \$4K                | 0               |
|                                | 177               | Delavan     | 6/24/1997 | 56 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 180               | Delavan     | 7/18/1997 | 50 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 181               | Pell Lake   | 7/18/1997 | 50 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 184               | Darien      | 7/26/1997 | 50 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 185               | East Troy   | 7/26/1997 | 50 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 186               | Lake Geneva | 7/26/1997 | 50 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 193               | Sharon      | 9/19/1997 | 50 kts.   | 0                 | 0                   | \$250K              | 0               |
|                                | 200               | Walworth    | 5/15/1998 | 50 kts.   | 0                 | 0                   | \$12K               | 0               |
|                                | 201               | Elkhorn     | 5/15/1998 | 50 kts.   | 0                 | 0                   | \$4K                | 0               |
|                                | 202               | Sharon      | 5/15/1998 | 50 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 203               | La Grange   | 5/15/1998 | 50 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 204               | Lake Geneva | 5/15/1998 | 50 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 205               | Elkhorn     | 5/28/1998 | 68 kts.   | 0                 | 0                   | \$2K                | 0               |
|                                | 206               | Lake Geneva | 5/28/1998 | 50 kts.   | 0                 | 0                   | \$3K                | 0               |
|                                | 207               | Whitewater  | 5/28/1998 | 50 kts.   | 0                 | 0                   | \$4K                | 0               |
|                                | 208               | East Troy   | 5/31/1998 | 50 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 209               | Walworth    | 5/31/1998 | 50 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 210               | Darien      | 6/18/1998 | 50 kts.   | 0                 | 0                   | \$2K                | 0               |
|                                | 211               | Elkhorn     | 6/18/1998 | 50 kts.   | 0                 | 0                   | \$3K                | 0               |
|                                | 212               | Walworth    | 6/18/1998 | 50 kts.   | 0                 | 0                   | \$27K               | 0               |
|                                | 213               | Elkhorn     | 6/25/1998 | 60 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 214               | Lake Geneva | 6/25/1998 | 50 kts.   | 0                 | 0                   | \$3K                | 0               |
|                                | 216               | Elkhorn     | 6/27/1998 | 52 kts.   | 0                 | 0                   | \$4K                | 0               |
|                                | 217               | Delavan     | 7/20/1998 | 52 kts.   | 0                 | 0                   | \$2K                | 0               |
|                                | 218               | Lake Geneva | 7/20/1998 | 87 kts.   | 0                 | 2                   | \$1.5M              | 0               |
|                                | 219               | Elkhorn     | 7/21/1998 | 87 kts.   | 0                 | 12                  | \$1.9M              | \$105K          |
|                                | 220               | Sharon      | 7/21/1998 | 50 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 231               | Whitewater  | 2/11/1999 | 50 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 232               | Walworth    | 2/11/1999 | 50 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 236               | Walworth    | 5/17/1999 | 50 kts.   | 0                 | 0                   | \$3K                | 0               |
|                                | 237               | Darien      | 6/6/1999  | 50 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 238               | East Troy   | 6/6/1999  | 50 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 239               | Elkhorn     | 6/6/1999  | 50 kts.   | 0                 | 0                   | \$8K                | 0               |
|                                | 240               | Elkhorn     | 6/10/1999 | 50 kts.   | 0                 | 0                   | \$15K               | 0               |
|                                | 243               | Delavan     | 6/10/1999 | 50 kts.   | 0                 | 1                   | \$10K               | 0               |
|                                | 245               | Lake Geneva | 6/10/1999 | 50 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 246               | Lake Geneva | 6/11/1999 | 50 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 252               | Walworth    | 7/23/1999 | 57 kts.   | 0                 | 0                   | \$2K                | 0               |
|                                | 275               | Genoa City  | 6/1/2000  | 50 kts.   | 0                 | 0                   | \$50K               | 0               |
|                                | 278               | La Grange   | 6/13/2000 | 50 kts.   | 0                 | 0                   | \$25K               | 0               |
|                                | 283               | Delavan     | 7/10/2000 | 50 kts.   | 0                 | 0                   | \$3K                | 0               |
|                                | 285               | East Troy   | 8/5/2000  | 50 kts.   | 0                 | 0                   | \$2K                | 0               |
|                                | 286               | Fontana     | 8/6/2000  | 50 kts.   | 0                 | 0                   | \$2K                | 0               |

| Event Type                     | Record Number [1] | Location       | Date      | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|--------------------------------|-------------------|----------------|-----------|-----------|-------------------|---------------------|---------------------|-----------------|
| Thunderstorm Winds – continued | 289               | Whitewater     | 9/11/2000 | 50 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | 290               | Elkhorn        | 9/11/2000 | 50 kts.   | 0                 | 0                   | \$2K                | 0               |
|                                | 305               | East Troy      | 6/11/2001 | 55 kts.   | 0                 | 0                   | \$25K               | 0               |
|                                | 306               | Walworth       | 6/11/2001 | 52 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 307               | Delavan        | 6/14/2001 | 54 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 310               | Zenda          | 7/22/2001 | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 315               | Richmond       | 8/9/2001  | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 316               | Spring Prairie | 8/9/2001  | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 318               | Linton         | 9/3/2001  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 319               | Walworth       | 9/7/2001  | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 337               | Whitewater     | 4/18/2002 | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 338               | East Troy      | 6/3/2002  | 56 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 339               | Fontana        | 6/3/2002  | 56 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | 340               | Sharon         | 6/10/2002 | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 352               | Richmond       | 8/21/2002 | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 353               | Elkhorn        | 8/21/2002 | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 357               | Darien         | 10/4/2002 | 58 kts.   | 0                 | 0                   | \$25K               | 0               |
|                                | 364               | Delavan        | 7/6/2003  | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 366               | Whitewater     | 7/15/2003 | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 380               | Como           | 3/5/2004  | 52 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 381               | La Grange      | 3/5/2004  | 56 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 382               | La Grange      | 3/5/2004  | 52 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 386               | La Grange      | 5/21/2004 | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 387               | Lake Geneva    | 5/23/2004 | 65 kts.   | 0                 | 0                   | \$50K               | 0               |
|                                | 389               | Whitewater     | 6/23/2004 | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 391               | Delavan        | 8/27/2004 | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 392               | Pell Lake      | 8/27/2004 | 61 kts.   | 0                 | 0                   | \$30K               | 0               |
|                                | 404               | Tibbet         | 5/27/2005 | 43 kts.   | 0                 | 0                   | \$20K               | 0               |
|                                | 407               | Allen Grove    | 6/11/2005 | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 409               | Fontana        | 6/11/2005 | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 410               | Whitewater     | 6/11/2005 | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 411               | Sharon         | 6/30/2005 | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 412               | Delavan        | 6/30/2005 | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 414               | East Troy      | 7/23/2005 | 56 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 415               | La Grange      | 7/23/2005 | 52 kts.   | 0                 | 0                   | \$3K                | 0               |
|                                | 416               | Spring Prairie | 7/23/2005 | 56 kts.   | 0                 | 0                   | \$3K                | 0               |
|                                | 416               | Spring Prairie | 7/23/2005 | 56 kts.   | 0                 | 0                   | \$3K                | 0               |
|                                | 417               | Whitewater     | 7/23/2005 | 52 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 419               | East Troy      | 7/23/2005 | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 421               | Tibbet         | 7/25/2005 | 65 kts.   | 0                 | 0                   | \$250K              | 0               |
|                                | 422               | Whitewater     | 7/25/2005 | 56 kts.   | 0                 | 0                   | \$3K                | 0               |
|                                | 423               | Tibbet         | 7/25/2005 | 52 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 426               | La Grange      | 8/18/2005 | 56 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 429               | Elkhorn        | 9/13/2005 | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 430               | Delavan        | 9/13/2005 | 61 kts.   | 0                 | 0                   | 0                   | 0               |

| Event Type                     | Record Number [1] | Location       | Date       | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|--------------------------------|-------------------|----------------|------------|-----------|-------------------|---------------------|---------------------|-----------------|
| Thunderstorm Winds – continued | 431               | La Grange      | 9/13/2005  | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 432               | Whitewater     | 9/13/2005  | 61 kts.   | 0                 | 1                   | 0                   | 0               |
|                                | 454               | Lake Geneva    | 6/21/2006  | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 458               | Zenda          | 7/17/2006  | 52 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 459               | Darien         | 7/20/2006  | 52 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | 460               | Lake Geneva    | 7/20/2006  | 52 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 469               | Little Prairie | 10/2/2006  | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 476               | Sharon         | 6/1/2007   | 56 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 477               | Elkhorn        | 6/7/2007   | 65 kts.   | 0                 | 0                   | \$15K               | 0               |
|                                | 480               | Delavan        | 7/9/2007   | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 483               | Genoa City     | 7/10/2007  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 490               | Sharon         | 1/7/2008   | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 416               | Spring Prairie | 7/23/2005  | 56 kts.   | 0                 | 0                   | \$3K                | 0               |
|                                | 417               | Whitewater     | 7/23/2005  | 52 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 419               | East Troy      | 7/23/2005  | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 421               | Tibbet         | 7/25/2005  | 65 kts.   | 0                 | 0                   | \$250K              | 0               |
|                                | 422               | Whitewater     | 7/25/2005  | 56 kts.   | 0                 | 0                   | \$3K                | 0               |
|                                | 423               | Tibbet         | 7/25/2005  | 52 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 426               | La Grange      | 8/18/2005  | 56 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                | 429               | Elkhorn        | 9/13/2005  | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 430               | Delavan        | 9/13/2005  | 61 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 431               | La Grange      | 9/13/2005  | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 432               | Whitewater     | 9/13/2005  | 61 kts.   | 0                 | 1                   | 0                   | 0               |
|                                | 454               | Lake Geneva    | 6/21/2006  | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 458               | Zenda          | 7/17/2006  | 52 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 459               | Darien         | 7/20/2006  | 52 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | 460               | Lake Geneva    | 7/20/2006  | 52 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 469               | Little Prairie | 10/2/2006  | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 476               | Sharon         | 6/1/2007   | 56 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | 477               | Elkhorn        | 6/7/2007   | 65 kts.   | 0                 | 0                   | \$15K               | 0               |
|                                | 480               | Delavan        | 7/9/2007   | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 483               | Genoa City     | 7/10/2007  | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | 490               | Sharon         | 1/7/2008   | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Delavan        | 6/5/2008   | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Genoa City     | 6/6/2008   | 50 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | -                 | Williams Bay   | 6/6/2008   | 63 kts.   | 0                 | 0                   | \$25K               | 0               |
|                                | -                 | Richmond       | 6/8/2008   | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Sharon         | 6/8/2008   | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Delavan        | 6/12/2008  | 54 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Elkhorn        | 6/12/2008  | 50 kts.   | 0                 | 0                   | \$30K               | 0               |
|                                | -                 | East Troy      | 6/12/2008  | 78 kts.   | 0                 | 0                   | \$150K              | 0               |
|                                | -                 | Whitewater     | 7/10/2008  | 56 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | -                 | Darien         | 7/10/2008  | 65 kts.   | 0                 | 0                   | \$100K              | 0               |
|                                | -                 | Richmond       | 7/12/2008  | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Whitewater     | 06/08/2009 | 56 kts.   | 0                 | 0                   | \$30K               | 0               |

| Event Type                     | Record Number [1] | Location        | Date       | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|--------------------------------|-------------------|-----------------|------------|-----------|-------------------|---------------------|---------------------|-----------------|
| Thunderstorm Winds – continued | -                 | Troy Center     | 06/08/2009 | 56 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | -                 | Millard         | 06/19/2009 | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Elkhorn         | 06/19/2009 | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Whitewater      | 06/25/2009 | 54 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Lake Geneva     | 08/09/2009 | 65 kts.   | 0                 | 0                   | \$15K               | 0               |
|                                | -                 | East Troy       | 08/09/2009 | 57 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Delavan         | 08/09/2009 | 64 kts.   | 0                 | 0                   | \$25K               | 0               |
|                                | -                 | Delavan         | 06/18/2010 | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Lake Geneva     | 06/18/2010 | 56 kts.   | 0                 | 0                   | \$25K               | 0               |
|                                | -                 | Lake Geneva     | 06/18/2010 | 55 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | East Troy       | 06/21/2010 | 65 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Whitewater      | 07/22/2010 | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Walworth        | 08/20/2010 | 50 kts.   | 0                 | 0                   | \$25K               | 0               |
|                                | -                 | Delavan         | 08/20/2010 | 50 kts.   | 0                 | 0                   | \$25K               | 0               |
|                                | -                 | Whitewater      | 05/22/2011 | 52 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | -                 | Elkhorn         | 05/22/2011 | 52 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | -                 | Lyons           | 05/22/2011 | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Walworth County | 06/08/2011 | 70 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Walworth County | 06/08/2011 | 54 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Walworth County | 06/08/2011 | 65 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Walworth County | 06/21/2011 | 52 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Delavan         | 07/11/2011 | 70 kts.   | 0                 | 0                   | \$100K              | 0               |
|                                | -                 | Tibbet          | 07/11/2011 | 56 kts.   | 0                 | 0                   | \$800K              | 0               |
|                                | -                 | Lake Geneva     | 07/11/2011 | 56 kts.   | 0                 | 0                   | \$8K                | 0               |
|                                | -                 | Como            | 07/23/2011 | 50 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Delavan Airport | 08/02/2011 | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Williams Bay    | 08/02/2011 | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Pell Lake       | 05/20/2012 | 56 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | -                 | Sharon          | 07/24/2012 | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Lake Geneva     | 07/24/2012 | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | La Grange       | 07/30/2012 | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | Delavan         | 5/30/2013  | 61 kts.   | 0                 | 0                   | \$100K              | 0               |
|                                | -                 | East Troy       | 7/21/2013  | 52 kts.   | 0                 | 0                   | \$7K                | 0               |
|                                | -                 | Whitewater      | 7/21/2013  | 52 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | -                 | La Grange       | 7/21/2013  | 52 kts.   | 0                 | 0                   | \$7K                | 0               |
|                                | -                 | Delavan Lake    | 8/22/2013  | 50 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | -                 | Lake Beulah     | 8/30/2013  | 56 kts.   | 0                 | 0                   | 0                   | 0               |
|                                | -                 | East Troy       | 8/30/2013  | 52 kts.   | 0                 | 0                   | \$4K                | 0               |
|                                | -                 | Delavan         | 8/30/2013  | 56 kts.   | 0                 | 0                   | \$70K               | 0               |
|                                | -                 | Richmond        | 6/17/2014  | 50 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | -                 | Clover Vly Ar   | 6/17/2014  | 55 kts.   | 0                 | 0                   | \$20K               | 0               |
|                                | -                 | Darien          | 6/30/2014  | 55 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                | -                 | Elkhorn         | 6/30/2014  | 55 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                | -                 | Clover Vly Ar   | 4/29/2015  | 50 kts.   | 0                 | 0                   | \$2K                | 0               |
|                                | -                 | Richmond        | 5/26/2015  | 50 kts.   | 0                 | 0                   | \$1K                | 0               |

| Event Type                            | Record Number [1] | Location         | Date      | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|---------------------------------------|-------------------|------------------|-----------|-----------|-------------------|---------------------|---------------------|-----------------|
| <b>Thunderstorm Winds – continued</b> | -                 | Whitewater       | 6/22/2015 | 61 kts.   | 0                 | 0                   | \$2K                | 0               |
|                                       | -                 | Clover Vly Arpt  | 7/13/2015 | 55 kts.   | 0                 | 0                   | \$20K               | 0               |
|                                       | -                 | Darien           | 7/18/2015 | 55 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                       | -                 | Delavan          | 8/2/2015  | 55 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                       | -                 | Delavan Arpt     | 8/2/2015  | 60 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                       | -                 | Sharon           | 8/17/2015 | 55 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                       | -                 | Little Prairie   | 7/21/2016 | 50 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                       | -                 | La Grange        | 9/7/2016  | 50 kts.   | 0                 | 0                   | \$7K                | 0               |
|                                       | -                 | Zenda            | 3/7/2017  | 56 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                       | -                 | Delavan          | 4/20/2017 | 52 kts.   | 0                 | 0                   | \$5K                | 0               |
|                                       | -                 | Whitewater       | 5/17/2017 | 65 kts.   | 0                 | 0                   | \$100K              | 0               |
|                                       | -                 | Walworth         | 5/17/2017 | 70 kts.   | 0                 | 0                   | \$15K               | 0               |
|                                       | -                 | Walworth         | 6/29/2017 | 52 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                       | -                 | Pell Lake        | 6/29/2017 | 52 kts.   | 0                 | 0                   | \$10K               | 0               |
|                                       | -                 | Williams Bay     | 5/2/2018  | 52 kts.   | 0                 | 0                   | \$1K                | 0               |
|                                       | -                 | Williams Bay     | 6/27/2019 | 50 kts.   | 0                 | 0                   | \$2K                | 0               |
|                                       | -                 | Pell Lake        | 6/27/2019 | 52 kts.   | 0                 | 0                   | \$2K                | 0               |
|                                       | -                 | Delavan          | 6/30/2019 | 56 kts.   | 0                 | 0                   | \$15K               | 0               |
|                                       | -                 | La Grange        | 8/7/2019  | 61 kts.   | 0                 | 0                   | \$20K               | 0               |
|                                       | -                 | Lake Geneva Lake | 9/10/2019 | 61 kts.   | 0                 | 0                   | \$2K                | 0               |
| <b>Tornado [12,13]</b>                | 1                 | Walworth County  | 4/18/1955 | F2        | 0                 | 1                   | \$250K              | 0               |
|                                       | 3                 | Walworth County  | 4/19/1957 | F2        | 0                 | 0                   | \$250K              | 0               |
|                                       | 4                 | Walworth County  | 6/6/1959  | Unknown   | 0                 | 0                   | 0                   | 0               |
|                                       | 6                 | Walworth County  | 9/22/1961 | F2        | 0                 | 1                   | \$25K               | 0               |
|                                       | 9                 | Walworth County  | 4/11/1965 | F1        | 0                 | 0                   | \$250K              | 0               |
|                                       | 10                | Walworth County  | 4/11/1965 | F1        | 0                 | 0                   | \$25K               | 0               |
|                                       | 13                | Walworth County  | 3/21/1966 | F2        | 0                 | 1                   | \$2.5M              | 0               |
|                                       | 14                | Walworth County  | 6/10/1967 | F1        | 0                 | 0                   | \$250K              | 0               |
|                                       | 16                | Walworth County  | 5/27/1968 | F0        | 0                 | 0                   | \$25K               | 0               |
|                                       | 20                | Walworth County  | 5/9/1970  | F1        | 0                 | 0                   | \$25K               | 0               |
|                                       | 22                | Walworth County  | 7/14/1972 | F1        | 0                 | 0                   | \$250K              | 0               |
|                                       | 23                | Walworth County  | 9/28/1972 | F2        | 0                 | 0                   | \$250K              | 0               |
|                                       | 30                | Walworth County  | 6/20/1978 | Unknown   | 0                 | 0                   | 0                   | 0               |
|                                       | 31                | Walworth County  | 8/15/1978 | Unknown   | 0                 | 0                   | 0                   | 0               |
|                                       | 34                | Walworth County  | 6/6/1980  | F2        | 0                 | 0                   | \$250K              | 0               |
|                                       | 69                | Walworth County  | 7/16/1988 | F1        | 0                 | 0                   | \$25K               | 0               |
|                                       | 80                | Walworth County  | 6/2/1990  | F1        | 0                 | 0                   | \$25K               | 0               |
|                                       | 85                | Walworth County  | 7/7/1991  | F0        | 0                 | 0                   | 0                   | 0               |
|                                       | 92                | Walworth County  | 9/2/1992  | F1        | 0                 | 0                   | \$25K               | 0               |
|                                       | -                 | Sharon-Walworth  | 6/26/1993 | F0        | 0                 | 0                   | \$3K                | \$40K           |
|                                       | -                 | Genoa City       | 7/5/1993  | F1        | 0                 | 0                   | \$200K              | \$30K           |
|                                       | 181               | Sharon           | 7/18/1997 | F0        | 0                 | 0                   | 0                   | 0               |
|                                       | 390               | Whitewater       | 6/23/2004 | F1        | 0                 | 0                   | \$5K                | 0               |
|                                       | 492               | Pell Lake        | 1/7/2008  | EF1       | 0                 | 0                   | \$100K              | 0               |

| Event Type                 | Record Number [1] | Location         | Date       | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|----------------------------|-------------------|------------------|------------|-----------|-------------------|---------------------|---------------------|-----------------|
| <b>Tornado - continued</b> | -                 | Walworth         | 11/22/2010 | EF1       | 0                 | 0                   | \$1M                | 0               |
|                            | -                 | Richmond         | 7/18/2015  | EF1       | 0                 | 0                   | \$80K               | \$1K            |
|                            | -                 | Lake Geneva      | 8/18/2015  | EF1       | 0                 | 0                   | \$100K              | 0               |
|                            | -                 | Delavan          | 8/20/2018  | EF0       | 0                 | 0                   | \$15K               | 0               |
| <b>Winter Storms [14]</b>  | 93                | Statewide        | 1/13/1993  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 94                | Southern WI      | 1/5/1994   | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 96                | Statewide        | 1/26/1994  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 97                | South Eastern WI | 2/12/1994  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 98                | Southern WI      | 2/22/1994  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 99                | Southern WI      | 2/25/1994  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 105               | Southern WI      | 12/5/1994  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 106               | Statewide        | 1/19/1995  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 107               | Southern WI      | 2/26/1995  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 138               | South Eastern WI | 11/11/1995 | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 139               | Southern WI      | 11/26/1995 | n/a       | 0                 | 1                   | 0                   | 0               |
|                            | 140               | Statewide        | 12/8/1995  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 142               | Southern WI      | 12/13/1995 | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 144               | South Central WI | 1/16/1996  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 146               | South Central WI | 1/23/1996  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 147               | Southern WI      | 1/29/1996  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 164               | South Central WI | 12/25/1996 | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 165               | Southern WI      | 1/16/1997  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 171               | South Central WI | 4/11/1997  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 197               | Walworth County  | 11/14/1997 | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 198               | Southern WI      | 1/8/1998   | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 229               | Southern WI      | 1/2/1999   | n/a       | 0                 | 5                   | \$11K               | 0               |
|                            | 233               | South Central WI | 3/9/1999   | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 260               | Walworth County  | 2/18/2000  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 265               | South Central WI | 4/7/2000   | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 294               | South Central WI | 12/11/2000 | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 295               | South Central WI | 12/18/2000 | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 330               | Walworth County  | 1/31/2002  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 332               | Southern WI      | 3/2/2002   | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 358               | South Central WI | 2/3/2003   | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 360               | Southern WI      | 4/4/2003   | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 362               | Southern WI      | 4/7/2003   | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 375               | Southern WI      | 1/4/2004   | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 376               | Southern WI      | 1/16/2004  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 377               | Southern WI      | 2/8/2004   | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 394               | South Central WI | 11/30/2004 | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 397               | South Eastern WI | 12/18/2004 | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 399               | Southern WI      | 1/6/2005   | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 401               | Southern WI      | 1/22/2005  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | 440               | Walworth County  | 1/20/2006  | n/a       | 0                 | 0                   | 0                   | 0               |
|                            | -                 | Walworth County  | 11/10/2006 | n/a       | 0                 | 0                   | 0                   | 0               |



| Event Type                | Record Number [1] | Location         | Date       | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|---------------------------|-------------------|------------------|------------|-----------|-------------------|---------------------|---------------------|-----------------|
| Winter Storms – continued | -                 | Walworth County  | 12/1/2006  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 1/12/2007  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 1/14/2007  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 1/21/2007  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | 472               | South Eastern WI | 2/23/2007  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | 473               | Walworth County  | 2/24/2007  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | 474               | Walworth County  | 2/25/2007  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 3/2/2007   | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 4/11/2007  | n/a       | 0                 | 0                   | \$10K               | 0               |
|                           | -                 | Walworth County  | 11/2/2007  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 12/4/2007  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 12/11/2007 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 12/15/2007 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 12/28/2007 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | 487               | South Central WI | 12/1/2007  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 1/21/2008  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | 493               | Southern WI      | 1/29/2008  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | 495               | Walworth County  | 1/31/2008  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | 496               | Walworth County  | 2/1/2008   | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | 497               | South Eastern WI | 2/3/2008   | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | 498               | South Central WI | 2/5/2008   | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 2/9/2008   | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 2/11/2008  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | 499               | Walworth County  | 2/17/2008  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | 500               | South Central WI | 2/25/2008  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 3/21/2008  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 11/24/2008 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 11/30/2008 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 12/1/2008  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 12/3/2008  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 12/8/2008  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 12/16/2008 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 12/18/2008 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 12/21/2008 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 12/23/2008 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 12/24/2008 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 12/25/2008 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 12/27/2008 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 1/3/2009   | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 1/9/2009   | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 1/12/2009  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 1/13/2009  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 1/21/2009  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 1/26/2009  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County  | 3/28/2009  | n/a       | 0                 | 0                   | 0                   | 0               |

| Event Type                | Record Number [1] | Location        | Date       | Magnitude | Direct Deaths [2] | Direct Injuries [3] | Property Damage [4] | Crop Damage [5] |
|---------------------------|-------------------|-----------------|------------|-----------|-------------------|---------------------|---------------------|-----------------|
| Winter Storms – continued | -                 | Walworth County | 12/8/2009  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 12/23/2009 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 1/7/2010   | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 2/8/2010   | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 3/19/2010  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 12/3/2010  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 12/9/2010  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 12/11/2010 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 12/20/2010 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 1/17/2011  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 2/1/2011   | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 2/6/2011   | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 2/21/2011  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 12/29/2011 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 1/12/2012  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 1/17/2012  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 1/20/2012  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 2/23/2012  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 3/2/2012   | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 12/20/2012 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 2/7/2013   | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 2/26/2013  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 3/5/2013   | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 12/22/2013 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 2/1/2015   | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 11/20/2015 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 12/28/2015 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 12/10/2016 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 12/16/2016 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 1/22/2018  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 2/8/2018   | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 11/25/2018 | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 1/18/2019  | n/a       | 0                 | 0                   | 0                   | 0               |
|                           | -                 | Walworth County | 2/11/2019  | n/a       | 0                 | 0                   | 0                   | 0               |

Source: National Climatic Data Center database accessed on November 9, 2012 <http://www.ncdc.noaa.gov/stormevents/>

- Note:
1. Records numbers are not assigned for the more recent records
  2. The first number denotes the number of deaths attributed to the event and the second number is the number of deaths specifically in Walworth County.
  3. The first number denotes the number of injuries attributed to the event and the second number is the number of injuries specifically in Walworth County.
  4. In some cases, it was possible to disaggregate the overall event to identify the property damage just in Walworth County. In such instances, the first number is the total property damage and the second number is specifically for Walworth County.
  5. In some cases, it was possible to disaggregate the overall event to identify the property damage just in Walworth County. In such instances, the first number is the total property damage and the second number is specifically for Walworth County.
  6. Heat is defined as a Heat Index Value of 105-110 degrees Fahrenheit for 3 hours or more during the day or 75 degrees or higher at night for a 24-hour period.
  7. Dense fog is defined as visibility less than ¼ mile
  8. Large hail is ¾ inch in diameter or larger
  9. High wind is defined as non-thunderstorm sustained wind 40 mph or more for 1 hour or more or any gust 58 mph or higher
  10. Strong wind is defined as non-thunderstorm sustained wind 30 mph or more for 1 hour or more or any gust 45-57 mph
  11. Thunderstorm wind is defined as winds of 58 mph or greater

12. The location for some events is denoted by direction from the center of a nearby community and distance.
13. Tornadoes through the end of 2006 were rated on the Fujita Tornado Scale. Beginning January 1, 2007, the Enhanced Fujita Tornado scale was used.
14. Heavy snow or blizzard is defined as 6 inches of snow or more in 12 hours or less or 8 inches or more in 24 hours or less

## METHODOLOGY FOR ESTIMATING FLOOD DAMAGE (2008)

**Overview** – This narrative is intended to document the resources, process, and assumptions used in estimating how much damage would occur to buildings during a 100-year flood in 2008. Although flood damages were calculated for each building in the floodplain, it should be emphasized that the total calculated damage estimate was prepared to compare damage from flooding to damage caused by other natural hazards. This was done to help decision makers set priorities and devise appropriate mitigation activities.

**Resources Used** – Walworth County has a well-developed geographic information system (GIS) with a topographic relief map with two-foot contour intervals and an orthographic base with a resolution of two feet. The GIS system also includes property tax information for every parcel in the county.

Beginning in 2006, the Federal Emergency Management Agency, in collaboration with the Wisconsin Department of Natural Resources, initiated a multi-year effort to create and adopt digital flood insurance rate maps (FIRMs) for Walworth County and the municipalities. Preliminary FIRM maps were produced as part of that effort and were made available in November, 2007. It is anticipated that the County and local municipalities will adopt the maps by March 16, 2009. Because the preliminary FIRMs represented the best available data at the time, they were used in this project.

**Methodology and Assumptions** – The approach was straight forward – identify buildings located within the 100-year floodplain and estimate how much damage each would suffer during a 100-year flood. Initially, a query was used to identify those parcels that were located, in whole or in part, in the 100-year floodplain. The consultant then viewed each of those parcels to determine if a principal building (e.g., house, commercial building, industrial building) was located within the 100-year floodplain. In some cases, a single parcel had more than one building in the floodplain. For example, there were many parcels that had a house with a detached garage. To determine which of the buildings is the principal building, the consultant viewed the orthographic map and considered the size of the buildings and proximity to driveways or other access points.

Once the relevant structures were located, they were “clipped” by the preliminary 100-year floodplain polygon in order to derive the actual structure area that is within the floodplain. A point was located on the approximate center of the clipped principal building to identify it and its location. The elevation of the ground at the point was derived from the relief map. It was assumed that the first floor was 18 inches above the ground elevation.

The closest flood levels at each of the points were derived from the preliminary flood data and surface elevation. Accuracy was ensured by extrapolating and summarizing only elevations that were nearest to the intended structures that intersected or were within the 100-year floodplain. The first floor elevation and flood elevation were then compared. The extent of damage for each principal building was expressed as a percent based on standardized flood loss tables prepared by the Federal Emergency Management Agency. For this analysis, damage estimates for one- or two-story buildings with basements were used (Table H-1).

**Table H-1. Percent of Building Damaged Based on Extent of Flooding**

| First Floor<br>Flood Depth (feet) | Percent of<br>Building Damaged |
|-----------------------------------|--------------------------------|
| -2                                | 4                              |
| -1                                | 8                              |
| 0                                 | 11                             |
| 1                                 | 15                             |
| 2                                 | 20                             |
| 3                                 | 23                             |
| 4                                 | 28                             |
| 5                                 | 33                             |
| 6                                 | 38                             |
| 7                                 | 44                             |
| 8                                 | 49                             |
| >8                                | 51                             |

Source: Based on Table 3 of *Resource Guide to All Hazards Mitigation Planning in Wisconsin*, 2003. Wisconsin Emergency Management

## ESTIMATED FLOOD DAMAGE TO BUILDINGS: 2008

| Jurisdiction     | Land Use        | Market Value of Structure | Percent Damage | 100-Year Flood Damage |
|------------------|-----------------|---------------------------|----------------|-----------------------|
| Bloomfield, Town | Residential     | \$95,200                  | 20%            | \$19,040              |
| Bloomfield, Town | Residential     | \$88,900                  | 20%            | \$17,780              |
| Bloomfield, Town | Residential     | \$60,600                  | 20%            | \$12,120              |
| Bloomfield, Town | Residential     | \$9,400                   | 20%            | \$1,880               |
| Bloomfield, Town | Residential     | \$130,100                 | 15%            | \$19,515              |
| Bloomfield, Town | Residential     | \$24,600                  | 20%            | \$4,920               |
| Bloomfield, Town | Residential     | \$103,800                 | 20%            | \$20,760              |
| Bloomfield, Town | Residential     | \$110,000                 | 20%            | \$22,000              |
| Bloomfield, Town | Residential     | \$71,700                  | 20%            | \$14,340              |
| Bloomfield, Town | Swamp and Waste | \$110,000                 | 20%            | \$22,000              |
| Bloomfield, Town | Residential     | \$126,000                 | 15%            | \$18,900              |
| Bloomfield, Town | Residential     | \$44,400                  | 20%            | \$8,880               |
| Bloomfield, Town | Residential     | \$99,600                  | 20%            | \$19,920              |
| Bloomfield, Town | Residential     | \$27,000                  | 20%            | \$5,400               |
| Bloomfield, Town | Residential     | \$62,300                  | 20%            | \$12,460              |
| Bloomfield, Town | Residential     | \$130,200                 | 15%            | \$19,530              |
| Bloomfield, Town | Residential     | \$52,300                  | 15%            | \$7,845               |
| Bloomfield, Town | Residential     | \$105,000                 | 33%            | \$34,650              |
| Bloomfield, Town | Residential     | \$107,700                 | 20%            | \$21,540              |
| Bloomfield, Town | Residential     | \$105,400                 | 15%            | \$15,810              |
| Bloomfield, Town | Mercantile      | \$279,800                 | 15%            | \$41,970              |
| Bloomfield, Town | Residential     | \$79,000                  | 20%            | \$15,800              |
| Bloomfield, Town | Residential     | \$199,500                 | 15%            | \$29,925              |
| Bloomfield, Town | Residential     | \$139,100                 | 20%            | \$27,820              |
| Bloomfield, Town | Residential     | \$132,400                 | 15%            | \$19,860              |
| Bloomfield, Town | Residential     | \$132,900                 | 20%            | \$26,580              |
| Bloomfield, Town | Residential     | \$246,300                 | 51%            | \$125,610             |
| Bloomfield, Town | Residential     | \$189,600                 | 23%            | \$43,608              |
| Bloomfield, Town | Residential     | \$167,100                 | 20%            | \$33,420              |
| Bloomfield, Town | Residential     | \$298,800                 | 15%            | \$44,820              |
| Bloomfield, Town | Residential     | \$67,100                  | 15%            | \$10,065              |
| Bloomfield, Town | Residential     | \$53,600                  | 20%            | \$10,720              |
| Bloomfield, Town | Swamp and Waste | \$150,200                 | 15%            | \$22,530              |
| Bloomfield, Town | Residential     | \$500                     | 15%            | \$75                  |
| Bloomfield, Town | Residential     | \$222,800                 | 28%            | \$62,384              |
| Bloomfield, Town | Residential     | \$539,000                 | 20%            | \$107,800             |
| Bloomfield, Town | Residential     | \$23,500                  | 20%            | \$4,700               |
| Bloomfield, Town | Residential     | \$117,600                 | 23%            | \$27,048              |
| Bloomfield, Town | Mercantile      | \$113,900                 | 15%            | \$17,085              |
| Bloomfield, Town | Residential     | \$709,000                 | 15%            | \$106,350             |
| Bloomfield, Town | Residential     | \$52,900                  | 20%            | \$10,580              |
| Bloomfield, Town | Residential     | \$89,800                  | 20%            | \$17,960              |
| Bloomfield, Town | Residential     | \$80,200                  | 20%            | \$16,040              |
| Bloomfield, Town | Residential     | \$364,000                 | 20%            | \$72,800              |
| Bloomfield, Town | Residential     | \$111,500                 | 20%            | \$22,300              |
| Bloomfield, Town | Residential     | \$97,500                  | 20%            | \$19,500              |
| Bloomfield, Town | Residential     | \$271,200                 | 15%            | \$40,680              |
| Bloomfield, Town | Residential     | \$62,100                  | 20%            | \$12,420              |
| Bloomfield, Town | Residential     | \$102,000                 | 15%            | \$15,300              |
| Bloomfield, Town | Residential     | \$107,400                 | 20%            | \$21,480              |
| Bloomfield, Town | Residential     | \$62,100                  | 20%            | \$12,420              |
| Bloomfield, Town | Residential     | \$40,400                  | 15%            | \$6,060               |

| Jurisdiction     | Land Use      | Market Value of Structure | Percent Damage | 100-Year Flood Damage |
|------------------|---------------|---------------------------|----------------|-----------------------|
| Bloomfield, Town | Residential   | \$52,700                  | 15%            | \$7,905               |
| Bloomfield, Town | Residential   | \$79,000                  | 15%            | \$11,850              |
| Bloomfield, Town | Residential   | \$148,200                 | 15%            | \$22,230              |
| Bloomfield, Town | Residential   | \$47,200                  | 23%            | \$10,856              |
| Bloomfield, Town | Residential   | \$56,800                  | 23%            | \$13,064              |
| Bloomfield, Town | Residential   | \$91,500                  | 20%            | \$18,300              |
| Bloomfield, Town | Residential   | \$74,600                  | 15%            | \$11,190              |
| Bloomfield, Town | Mercantile    | \$92,500                  | 20%            | \$18,500              |
| Bloomfield, Town | Mercantile    | \$131,100                 | 20%            | \$26,220              |
| Bloomfield, Town | Residential   | \$120,200                 | 20%            | \$24,040              |
| Bloomfield, Town | Residential   | \$64,100                  | 20%            | \$12,820              |
|                  |               | <b>\$7,924,900.00</b>     |                | <b>\$1,541,975.00</b> |
| Darien, Town     | Manufacturing | \$6,777,050               | 20%            | \$1,355,410           |
| Darien, Town     | Manufacturing | \$6,777,050               | 20%            | \$1,355,410           |
| Darien, Town     | Agriculture   | \$56,300                  | 20%            | \$11,260              |
| Darien, Town     | Mercantile    | \$13,554,000              | 33%            | \$4,472,800           |
| Darien, Town     | Agriculture   | \$9,200                   | 33%            | \$3,036               |
| Darien, Town     | Residential   | \$124,200                 | 20%            | \$24,840              |
| Darien, Town     | Residential   | \$46,900                  | 15%            | \$7,035               |
| Darien, Town     | Agriculture   | \$32,600                  | 20%            | \$6,520               |
|                  |               | <b>\$27,377,300.00</b>    |                | <b>\$7,236,311.00</b> |
| Darien, Village  | Residential   | \$132,000                 | 20%            | \$26,400              |
|                  |               |                           |                | <b>\$26,400</b>       |
| Delavan, City    | Residential   | \$217,400                 | 15%            | \$32,610              |
| Delavan, City    | Mercantile    | \$43,700                  | 23%            | \$10,051              |
|                  |               | <b>\$261,100.00</b>       |                | <b>\$42,661.00</b>    |
| Delavan, Town    | Residential   | \$384,000                 | 15%            | \$57,600              |
| Delavan, Town    | Residential   | \$107,400                 | 20%            | \$21,480              |
| Delavan, Town    | Residential   | \$279,700                 | 15%            | \$41,955              |
| Delavan, Town    | Residential   | \$118,800                 | 20%            | \$23,760              |
| Delavan, Town    | Residential   | \$253,900                 | 23%            | \$58,397              |
| Delavan, Town    | Residential   | \$112,300                 | 20%            | \$22,460              |
| Delavan, Town    | Residential   | \$105,300                 | 20%            | \$21,060              |
| Delavan, Town    | Residential   | \$142,600                 | 15%            | \$21,390              |
| Delavan, Town    | Residential   | \$116,400                 | 23%            | \$26,772              |
| Delavan, Town    | Residential   | \$171,500                 | 15%            | \$25,725              |
| Delavan, Town    | Residential   | \$150,200                 | 20%            | \$30,040              |
| Delavan, Town    | Residential   | \$115,000                 | 38%            | \$43,700              |
| Delavan, Town    | Residential   | \$122,600                 | 15%            | \$18,390              |
| Delavan, Town    | Residential   | \$133,600                 | 33%            | \$44,088              |
| Delavan, Town    | Residential   | \$140,800                 | 20%            | \$28,160              |
| Delavan, Town    | Residential   | \$166,400                 | 20%            | \$33,280              |
| Delavan, Town    | Residential   | \$66,000                  | 33%            | \$21,780              |
| Delavan, Town    | Residential   | \$170,500                 | 38%            | \$64,790              |
| Delavan, Town    | Residential   | \$89,600                  | 28%            | \$25,088              |
| Delavan, Town    | Residential   | \$158,000                 | 20%            | \$31,600              |
| Delavan, Town    | Residential   | \$100,000                 | 20%            | \$20,000              |
| Delavan, Town    | Residential   | \$80,800                  | 23%            | \$18,584              |
| Delavan, Town    | Residential   | \$160,800                 | 23%            | \$36,984              |
| Delavan, Town    | Residential   | \$75,800                  | 23%            | \$17,434              |
| Delavan, Town    | Residential   | \$72,000                  | 51%            | \$36,720              |
| Delavan, Town    | Residential   | \$154,500                 | 49%            | \$75,705              |

| Jurisdiction                    | Land Use      | Market Value of Structure | Percent Damage | 100-Year Flood Damage |
|---------------------------------|---------------|---------------------------|----------------|-----------------------|
| Delavan, Town                   | Residential   | \$46,200                  | 23%            | \$10,626              |
| Delavan, Town                   | Residential   | \$116,500                 | 20%            | \$23,300              |
| Delavan, Town                   | Residential   | \$145,900                 | 33%            | \$48,147              |
| Delavan, Town                   | Residential   | \$126,200                 | 20%            | \$25,240              |
| Delavan, Town                   | Residential   | \$76,200                  | 20%            | \$15,240              |
| Delavan, Town                   | Residential   | \$126,400                 | 20%            | \$25,280              |
| Delavan, Town                   | Residential   | \$164,400                 | 20%            | \$32,880              |
| Delavan, Town                   | Residential   | \$88,000                  | 20%            | \$17,600              |
| Delavan, Town                   | Residential   | \$96,000                  | 15%            | \$14,400              |
| Delavan, Town                   | Residential   | \$957,500                 | 20%            | \$191,500             |
| Delavan, Town                   | Mercantile    | \$13,400                  | 20%            | \$2,680               |
| Delavan, Town                   | Mercantile    | \$201,500                 | 15%            | \$30,225              |
| Delavan, Town                   | Residential   | \$131,200                 | 20%            | \$26,240              |
| Delavan, Town                   | Residential   | \$112,000                 | 20%            | \$22,400              |
| Delavan, Town                   | Residential   | \$312,500                 | 23%            | \$71,875              |
| Delavan, Town                   | Residential   | \$59,000                  | 20%            | \$11,800              |
| Delavan, Town                   | Residential   | \$125,100                 | 20%            | \$25,020              |
| Delavan, Town                   | Residential   | \$301,500                 | 20%            | \$60,300              |
| Delavan, Town                   | Residential   | \$466,800                 | 49%            | \$228,730             |
| Delavan, Town                   | Residential   | \$574,300                 | 20%            | \$114,860             |
| Delavan, Town                   | Residential   | \$464,300                 | 20%            | \$92,860              |
| Delavan, Town                   | Residential   | \$341,700                 | 15%            | \$51,255              |
| Delavan, Town                   | Mercantile    | \$37,500                  | 20%            | \$7,500               |
| Delavan, Town                   | Residential   | \$79,100                  | 20%            | \$15,820              |
| Delavan, Town                   | Residential   | \$763,700                 | 20%            | \$152,740             |
| Delavan, Town                   | Residential   | \$308,400                 | 20%            | \$61,680              |
| Delavan, Town                   | Other Land    | \$191,100                 | 20%            | \$38,220              |
|                                 |               | <b>\$10,174,900.00</b>    |                | <b>\$2,285,360.00</b> |
| East Troy, Town                 | Residential   | \$54,700                  | 38%            | \$20,786              |
| East Troy, Town                 | Residential   | \$229,800                 | 20%            | \$45,960              |
| East Troy, Town                 | Residential   | \$151,400                 | 20%            | \$30,280              |
| East Troy, Town                 | Other Land    | \$317,100                 | 20%            | \$63,420              |
| East Troy, Town                 | Agriculture   | \$198,600                 | 20%            | \$39,720              |
| East Troy, Town                 | Other Land    | \$145,900                 | 23%            | \$33,557              |
|                                 |               | <b>\$1,097,500.00</b>     |                | <b>\$233,723.00</b>   |
| East Troy, Village              | Residential   | \$166,500                 | 15%            | \$24,975              |
| East Troy, Village              | Manufacturing | \$120,000                 | 20%            | \$24,000              |
| East Troy, Village              | Mercantile    | \$135,800                 | 15%            | \$20,370              |
| East Troy, Village              | Mercantile    | \$135,800                 | 20%            | \$27,160              |
|                                 |               | <b>\$558,100.00</b>       |                | <b>\$96,505.00</b>    |
| Elkhorn , City                  | County Land   | \$163,600                 | 15%            | \$24,540              |
| Fontana-on-Geneva Lake, Village | Residential   | \$26,950                  | 20%            | \$5,390               |
| Fontana-on-Geneva Lake, Village | Residential   | \$26,950                  | 20%            | \$5,390               |
| Fontana-on-Geneva Lake, Village | Residential   | \$26,950                  | 15%            | \$4,043               |
| Fontana-on-Geneva Lake, Village | Residential   | \$26,950                  | 20%            | \$5,390               |
| Fontana-on-Geneva Lake, Village | Residential   | \$26,950                  | 20%            | \$5,390               |
| Fontana-on-Geneva Lake, Village | Residential   | \$26,950                  | 20%            | \$5,390               |
| Fontana-on-Geneva Lake, Village | Residential   | \$74,100                  | 20%            | \$14,820              |
| Fontana-on-Geneva Lake, Village | Residential   | \$74,100                  | 20%            | \$14,820              |
| Fontana-on-Geneva Lake, Village | Other Land    | \$575,100                 | 20%            | \$115,020             |
| Fontana-on-Geneva Lake, Village | Residential   | \$99,400                  | 23%            | \$22,862              |
| Fontana-on-Geneva Lake, Village | Residential   | \$575,100                 | 20%            | \$115,020             |
| Fontana-on-Geneva Lake, Village | Other Land    | \$575,100                 | 20%            | \$115,020             |

| Jurisdiction                    | Land Use        | Market Value of Structure | Percent Damage | 100-Year Flood Damage |
|---------------------------------|-----------------|---------------------------|----------------|-----------------------|
| Fontana-on-Geneva Lake, Village | Other Land      | \$575,100                 | 20%            | \$115,020             |
| Fontana-on-Geneva Lake, Village | Mercantile      | \$55,200                  | 15%            | \$8,280               |
|                                 |                 | <b>\$2,764,900.00</b>     |                | <b>\$551,855.00</b>   |
| Geneva, Town                    | Residential     | \$151,200                 | 20%            | \$30,240              |
| Geneva, Town                    | Residential     | \$212,300                 | 20%            | \$42,460              |
| Geneva, Town                    | Residential     | \$348,500                 | 20%            | \$69,700              |
| Geneva, Town                    | Residential     | \$180,100                 | 20%            | \$36,020              |
| Geneva, Town                    | Residential     | \$299,800                 | 20%            | \$59,960              |
| Geneva, Town                    | Residential     | \$109,500                 | 20%            | \$21,900              |
| Geneva, Town                    | Residential     | \$227,800                 | 20%            | \$45,560              |
| Geneva, Town                    | Residential     | \$75,000                  | 20%            | \$15,000              |
| Geneva, Town                    | Residential     | \$142,300                 | 20%            | \$28,460              |
| Geneva, Town                    | Residential     | \$36,000                  | 20%            | \$7,200               |
| Geneva, Town                    | Residential     | \$95,800                  | 20%            | \$19,160              |
| Geneva, Town                    | Residential     | \$322,000                 | 20%            | \$64,400              |
| Geneva, Town                    | Residential     | \$71,000                  | 20%            | \$14,200              |
| Geneva, Town                    | Residential     | \$58,000                  | 15%            | \$8,700               |
| Geneva, Town                    | Mercantile      | \$85,000                  | 20%            | \$17,000              |
| Geneva, Town                    | Mercantile      | \$85,000                  | 20%            | \$17,000              |
| Geneva, Town                    | Mercantile      | \$1,171,300               | 15%            | \$175,700             |
| Geneva, Town                    | Mercantile      | \$220,000                 | 20%            | \$44,000              |
|                                 |                 | <b>\$3,890,600.00</b>     |                | <b>\$716,660.00</b>   |
| Lafayette, Town                 | Residential     | \$75,500                  | 20%            | \$15,100              |
| Lafayette, Town                 | Residential     | \$53,000                  | 20%            | \$10,600              |
| Lafayette, Town                 | Residential     | \$195,000                 | 15%            | \$29,250              |
| Lafayette, Town                 | Residential     | \$85,000                  | 20%            | \$17,000              |
| Lafayette, Town                 | Mercantile      | \$4,843,500               | 20%            | \$968,700             |
| Lafayette, Town                 | Other           | \$4,500                   | 20%            | \$900                 |
| Lafayette, Town                 | Residential     | \$197,000                 | 20%            | \$39,400              |
| Lafayette, Town                 | Residential     | \$191,500                 | 20%            | \$38,300              |
| Lafayette, Town                 | Residential     | \$262,500                 | 20%            | \$52,500              |
| Lafayette, Town                 | Swamp and Waste | \$86,500                  | 11%            | \$9,515               |
|                                 |                 | <b>\$5,994,000.00</b>     |                | <b>\$1,181,265.00</b> |
| LaGrange, Town                  | Residential     | \$545,300                 | 15%            | \$81,795              |
| LaGrange, Town                  | Residential     | \$355,200                 | 23%            | \$81,696              |
| LaGrange, Town                  | Residential     | \$228,600                 | 20%            | \$45,720              |
| LaGrange, Town                  | Residential     | \$186,200                 | 20%            | \$37,240              |
| LaGrange, Town                  | Residential     | \$141,300                 | 28%            | \$39,564              |
| LaGrange, Town                  | Residential     | \$55,900                  | 20%            | \$11,180              |
| LaGrange, Town                  | Residential     | \$23,400                  | 51%            | \$11,934              |
| LaGrange, Town                  | Residential     | \$225,900                 | 20%            | \$45,180              |
| LaGrange, Town                  | Residential     | \$180,100                 | 23%            | \$41,423              |
| LaGrange, Town                  | Residential     | \$122,700                 | 20%            | \$24,540              |
| LaGrange, Town                  | Residential     | \$15,500                  | 20%            | \$3,100               |
| LaGrange, Town                  | Other Land      | \$203,700                 | 20%            | \$40,740              |
| LaGrange, Town                  | Other Land      | \$199,300                 | 15%            | \$29,895              |
| LaGrange, Town                  | Residential     | \$372,700                 | 20%            | \$74,540              |
| LaGrange, Town                  | Residential     | \$441,600                 | 20%            | \$88,320              |
| LaGrange, Town                  | Residential     | \$151,900                 | 20%            | \$30,380              |
| LaGrange, Town                  | Residential     | \$324,100                 | 20%            | \$64,820              |
| LaGrange, Town                  | Residential     | \$440,700                 | 15%            | \$66,105              |
| LaGrange, Town                  | Residential     | \$124,700                 | 20%            | \$24,940              |
| LaGrange, Town                  | Residential     | \$113,800                 | 20%            | \$22,760              |
| LaGrange, Town                  | Residential     | \$135,900                 | 11%            | \$14,949              |



| Jurisdiction      | Land Use    | Market Value of Structure | Percent Damage | 100-Year Flood Damage |
|-------------------|-------------|---------------------------|----------------|-----------------------|
| LaGrange, Town    | Residential | \$165,200                 | 20%            | \$33,040              |
| LaGrange, Town    | Residential | \$188,600                 | 15%            | \$28,290              |
| LaGrange, Town    | Residential | \$227,800                 | 44%            | \$100,230             |
| LaGrange, Town    | Residential | \$210,000                 | 20%            | \$42,000              |
| LaGrange, Town    | Residential | \$140,100                 | 20%            | \$28,020              |
| LaGrange, Town    | Residential | \$79,100                  | 15%            | \$11,865              |
| LaGrange, Town    | Residential | \$157,300                 | 20%            | \$31,460              |
| LaGrange, Town    | Other Land  | \$346,900                 | 23%            | \$79,787              |
| LaGrange, Town    | Residential | \$157,700                 | 15%            | \$23,655              |
| LaGrange, Town    | Residential | \$244,000                 | 20%            | \$48,800              |
| LaGrange, Town    | Residential | \$278,100                 | 20%            | \$55,620              |
| LaGrange, Town    | Residential | \$406,700                 | 20%            | \$81,340              |
| LaGrange, Town    | Residential | \$451,800                 | 20%            | \$90,360              |
| LaGrange, Town    | Residential | \$867,800                 | 23%            | \$199,590             |
| LaGrange, Town    | Residential | \$451,800                 | 20%            | \$90,360              |
| LaGrange, Town    | Residential | \$175,400                 | 20%            | \$35,080              |
| LaGrange, Town    | Residential | \$207,600                 | 20%            | \$41,520              |
| LaGrange, Town    | Residential | \$272,000                 | 20%            | \$54,400              |
| LaGrange, Town    | Residential | \$226,400                 | 20%            | \$45,280              |
| LaGrange, Town    | Residential | \$83,600                  | 20%            | \$16,720              |
| LaGrange, Town    | Residential | \$200,200                 | 20%            | \$40,040              |
|                   |             | <b>\$10,126,600.00</b>    |                | <b>\$2,058,278.00</b> |
| Lake Geneva, City | Mercantile  | \$1,121,500               | 20%            | \$224,300             |
| Lake Geneva, City | Other Land  | \$93,700                  | 15%            | \$14,055              |
| Lake Geneva, City | Mercantile  | \$210,700                 | 23%            | \$48,461              |
| Lake Geneva, City | Residential | \$1,096,500               | 20%            | \$219,300             |
| Lake Geneva, City | Mercantile  | \$270,500                 | 20%            | \$54,100              |
| Lake Geneva, City | Other Land  | \$1,321,700               | 20%            | \$264,340             |
| Lake Geneva, City | Other Land  | \$114,800                 | 20%            | \$22,960              |
|                   |             | <b>\$4,229,400.00</b>     |                | <b>\$847,516.00</b>   |
| Linn, Town        | Residential | \$233,700                 | 20%            | \$46,740              |
| Linn, Town        | Residential | \$125,200                 | 15%            | \$18,780              |
| Linn, Town        | Residential | \$1,867,500               | 44%            | \$821,700             |
| Linn, Town        | Residential | \$1,682,400               | 20%            | \$336,480             |
| Linn, Town        | Residential | \$1,181,700               | 38%            | \$449,050             |
| Linn, Town        | Residential | \$203,000                 | 20%            | \$40,600              |
| Linn, Town        | Residential | \$2,953,200               | 20%            | \$590,640             |
|                   |             | <b>\$8,246,700.00</b>     |                | <b>\$2,303,990.00</b> |
| Lyons, Town       | Residential | \$57,300                  | 20%            | \$11,460              |
| Lyons, Town       | Residential | \$167,300                 | 51%            | \$85,323              |
| Lyons, Town       | Mercantile  | \$53,000                  | 20%            | \$10,600              |
| Lyons, Town       | Mercantile  | \$243,000                 | 15%            | \$36,450              |
| Lyons, Town       | Mercantile  | \$488,200                 | 51%            | \$248,980             |
| Lyons, Town       | Mercantile  | \$488,200                 | 51%            | \$248,980             |
| Lyons, Town       | Mercantile  | \$92,200                  | 20%            | \$18,440              |
| Lyons, Town       | Mercantile  | \$23,050                  | 20%            | \$4,610               |
| Lyons, Town       | Agriculture | \$191,800                 | 15%            | \$28,770              |
| Lyons, Town       | Residential | \$91,900                  | 28%            | \$25,732              |
| Lyons, Town       | Residential | \$102,500                 | 20%            | \$20,500              |
| Lyons, Town       | Residential | \$13,614                  | 20%            | \$2,723               |
| Lyons, Town       | Residential | \$13,614                  | 28%            | \$3,812               |
| Lyons, Town       | Residential | \$13,614                  | 20%            | \$2,723               |
| Lyons, Town       | Residential | \$13,614                  | 23%            | \$3,131               |
| Lyons, Town       | Residential | \$13,614                  | 20%            | \$2,723               |

| Jurisdiction         | Land Use        | Market Value of Structure | Percent Damage | 100-Year Flood Damage |
|----------------------|-----------------|---------------------------|----------------|-----------------------|
| Lyons, Town          | Residential     | \$13,614                  | 20%            | \$2,723               |
| Lyons, Town          | Residential     | \$13,614                  | 15%            | \$2,042               |
| Lyons, Town          | Residential     | \$143,600                 | 28%            | \$40,208              |
| Lyons, Town          | Residential     | \$98,200                  | 23%            | \$22,586              |
| Lyons, Town          | Agriculture     | \$104,400                 | 28%            | \$29,232              |
| Lyons, Town          | Residential     | \$24,500                  | 20%            | \$4,900               |
| Lyons, Town          | Residential     | \$53,800                  | 20%            | \$10,760              |
| Lyons, Town          | Residential     | \$109,800                 | 20%            | \$21,960              |
| Lyons, Town          | Residential     | \$76,200                  | 20%            | \$15,240              |
| Lyons, Town          | Residential     | \$153,400                 | 15%            | \$23,010              |
| Lyons, Town          | Residential     | \$139,900                 | 15%            | \$20,985              |
| Lyons, Town          | Residential     | \$128,200                 | 15%            | \$19,230              |
| Lyons, Town          | Residential     | \$111,200                 | 23%            | \$25,576              |
| Lyons, Town          | Residential     | \$158,600                 | 15%            | \$23,790              |
| Lyons, Town          | Residential     | \$143,700                 | 15%            | \$21,555              |
| Lyons, Town          | Residential     | \$126,100                 | 15%            | \$18,915              |
| Lyons, Town          | Residential     | \$155,700                 | 20%            | \$31,140              |
| Lyons, Town          | Residential     | \$162,700                 | 23%            | \$37,421              |
| Lyons, Town          | Residential     | \$121,300                 | 28%            | \$33,964              |
| Lyons, Town          | Residential     | \$129,500                 | 20%            | \$25,900              |
| Lyons, Town          | Residential     | \$159,000                 | 20%            | \$31,800              |
| Lyons, Town          | Residential     | \$111,800                 | 20%            | \$22,360              |
| Lyons, Town          | Residential     | \$158,500                 | 20%            | \$31,700              |
| Lyons, Town          | Residential     | \$145,400                 | 20%            | \$29,080              |
| Lyons, Town          | Residential     | \$128,700                 | 20%            | \$25,740              |
| Lyons, Town          | Residential     | \$152,400                 | 20%            | \$30,480              |
| Lyons, Town          | Residential     | \$129,700                 | 15%            | \$19,455              |
| Lyons, Town          | Residential     | \$149,200                 | 23%            | \$34,316              |
| Lyons, Town          | Residential     | \$150,700                 | 15%            | \$22,605              |
| Lyons, Town          | Residential     | \$133,300                 | 15%            | \$19,995              |
| Lyons, Town          | Agriculture     | \$47,550                  | 20%            | \$9,510               |
| Lyons, Town          | Swamp and Waste | \$500                     | 20%            | \$100                 |
| Lyons, Town          | Agriculture     | \$47,550                  | 20%            | \$9,510               |
| Lyons, Town          | Other Land      | \$102,100                 | 20%            | \$20,420              |
| Lyons, Town          | Mercantile      | \$23,050                  | 15%            | \$3,458               |
| Lyons, Town          | Mercantile      | \$23,050                  | 15%            | \$3,458               |
| Lyons, Town          | Mercantile      | \$23,050                  | 15%            | \$3,458               |
| Lyons, Town          | Residential     | \$66,100                  | 20%            | \$13,220              |
| Lyons, Town          | Residential     | \$84,000                  | 20%            | \$16,800              |
| Lyons, Town          | Residential     | \$42,000                  | 15%            | \$6,300               |
| Lyons, Town          | Residential     | \$29,700                  | 20%            | \$5,940               |
| Lyons, Town          | Residential     | \$103,000                 | 20%            | \$20,600              |
| Lyons, Town          | Residential     | \$900                     | 20%            | \$180                 |
| Lyons, Town          | Agriculture     | \$60,500                  | 20%            | \$12,100              |
| Lyons, Town          | Residential     | \$75,000                  | 20%            | \$15,000              |
| Lyons, Town          | Mercantile      | \$10,800                  | 20%            | \$2,160               |
| Lyons, Town          | Agriculture     | \$96,100                  | 20%            | \$19,220              |
|                      |                 | <b>\$6,488,198.00</b>     |                | <b>\$1,615,059.00</b> |
| Sharon, Town         | Other Land      | \$36,900                  | 20%            | \$7,380               |
| Sharon, Town         | Residential     | \$200,700                 | 15%            | \$30,105              |
| Sharon, Town         | Agriculture     | \$145,100                 | 20%            | \$29,020              |
| Sharon, Town         | Agriculture     | \$145,100                 | 20%            | \$29,020              |
| Sharon, Town         | Residential     | \$103,500                 | 20%            | \$20,700              |
|                      |                 | <b>\$631,300.00</b>       |                | <b>\$116,225.00</b>   |
| Spring Prairie, Town | Residential     | \$66,000                  | 20%            | \$13,200              |

| Jurisdiction         | Land Use        | Market Value of Structure | Percent Damage | 100-Year Flood Damage |
|----------------------|-----------------|---------------------------|----------------|-----------------------|
| Spring Prairie, Town | Swamp and Waste | \$215,800                 | 20%            | \$43,160              |
| Spring Prairie, Town | Residential     | \$87,400                  | 20%            | \$17,480              |
| Spring Prairie, Town | Residential     | \$101,000                 | 15%            | \$15,150              |
| Spring Prairie, Town | Residential     | \$81,600                  | 15%            | \$12,240              |
| Spring Prairie, Town | Residential     | \$92,000                  | 15%            | \$13,800              |
| Spring Prairie, Town | Residential     | \$90,000                  | 20%            | \$18,000              |
| Spring Prairie, Town | Residential     | \$78,000                  | 20%            | \$15,600              |
|                      |                 | <b>\$811,800.00</b>       |                | <b>\$148,630.00</b>   |
| Sugar Creek, Town    | Residential     | \$143,700                 | 15%            | \$21,555              |
| Sugar Creek, Town    | Residential     | \$147,100                 | 23%            | \$33,833              |
| Sugar Creek, Town    | Residential     | \$147,100                 | 20%            | \$29,420              |
| Sugar Creek, Town    | Agriculture     | \$67,400                  | 15%            | \$10,110              |
| Sugar Creek, Town    | Agriculture     | \$108,100                 | 20%            | \$21,620              |
|                      |                 | <b>\$613,400.00</b>       |                | <b>\$116,538.00</b>   |
| Troy , Town          | Other Land      | \$153,500                 | 20%            | \$30,700              |
| Troy , Town          | Residential     | \$112,400                 | 20%            | \$22,480              |
|                      |                 | <b>\$265,900.00</b>       |                | <b>\$53,180.00</b>    |
| Whitewater, City     | Other Land      | \$101,700                 | 15%            | \$15,255              |
| Whitewater, City     | Residential     | \$137,200                 | 15%            | \$20,580              |
| Whitewater, City     | Residential     | \$68,000                  | 15%            | \$10,200              |
| Whitewater, City     | Residential     | \$139,100                 | 15%            | \$20,865              |
| Whitewater, City     | Residential     | \$82,300                  | 20%            | \$16,460              |
| Whitewater, City     | Residential     | \$130,900                 | 15%            | \$19,635              |
| Whitewater, City     | Residential     | \$142,300                 | 20%            | \$28,460              |
| Whitewater, City     | Residential     | \$66,400                  | 20%            | \$13,280              |
| Whitewater, City     | Residential     | \$101,900                 | 20%            | \$20,380              |
| Whitewater, City     | Residential     | \$127,900                 | 20%            | \$25,580              |
| Whitewater, City     | Residential     | \$112,000                 | 15%            | \$16,800              |
| Whitewater, City     | Residential     | \$101,700                 | 15%            | \$15,255              |
| Whitewater, City     | Residential     | \$126,600                 | 15%            | \$18,990              |
| Whitewater, City     | Residential     | \$61,900                  | 20%            | \$12,380              |
| Whitewater, City     | Residential     | \$54,100                  | 20%            | \$10,820              |
| Whitewater, City     | Residential     | \$82,000                  | 15%            | \$12,300              |
| Whitewater, City     | Residential     | \$138,300                 | 15%            | \$20,745              |
| Whitewater, City     | Residential     | \$122,200                 | 20%            | \$24,440              |
| Whitewater, City     | Residential     | \$131,200                 | 20%            | \$26,240              |
| Whitewater, City     | Residential     | \$68,600                  | 20%            | \$13,720              |
| Whitewater, City     | Residential     | \$82,300                  | 20%            | \$16,460              |
| Whitewater, City     | Residential     | \$157,200                 | 20%            | \$31,440              |
| Whitewater, City     | Residential     | \$36,900                  | 20%            | \$7,380               |
| Whitewater, City     | Other           | \$139,100                 | 20%            | \$27,820              |
|                      |                 | <b>\$2,511,800.00</b>     |                | <b>\$445,485.00</b>   |
| Whitewater , Town    | Residential     | \$208,800                 | 15%            | \$31,320              |
| Whitewater , Town    | Residential     | \$49,800                  | 20%            | \$9,960               |
|                      |                 | <b>\$258,600.00</b>       |                | <b>\$41,280.00</b>    |
|                      |                 |                           | <b>Total</b>   | <b>\$21,683,406</b>   |



# VILLAGE OF WILLIAMS BAY

250 Williams Street | PO Box 580 | Williams Bay | WI | 53191 | williamsbay.org  
Phone: 262-245-2700

## UNOFFICIAL MINUTES WATER AND SEWER COMMITTEE WEDNESDAY, MAY 10, 2023, AT 6:30 PM VILLAGE HALL COUNCIL ROOM

### Call to Order

Meeting was called to order by Chairman Umans at 6:50pm

### Roll Call

Trustees Umans and Jaramillo

Excused: Trustee Vlach

Also Present: President Duncan, Trustee D'Alessandro, Russell and Wright, Administrator Lothspeich, Treasurer Peterzell, Director of Public Works Edwards, Police Chief Timm, Recreation Director Rowland and Engineer Snyder.

### Meeting Minutes

Jaramillo/Umans motion to approve the meeting minutes of April 12, 2023, with corrections. Unanimously carried.

### Hydro Corp Residential and Commercial Cross Connection Contract Renewal

The Committee reviewed the proposal for residential cross connection inspections. The proposal is for 2 years at an annual cost of \$16,212 and includes (456) Initial inspection, and up to (478) total inspections over a two (2) year contract period. The total inspections include all initial inspections, compliance, and reinspection's.

The Committee reviewed the proposal for commercial cross connection inspections. The proposal is for 2 years at an annual cost of \$5,508 and includes (60) Initial inspection, and up to (76) total inspections over a two (2) year contract period. The total inspections include all initial inspections, compliance, and reinspection's. Jaramillo/Umans motion to recommend Village Board approval of the renewal contracts. Unanimously carried. Wright stated that the contracts will need to go to the Finance & Personnel Committee for recommendation.

### Consideration of a proposal from Southeastern Wisconsin Regional Planning Commission (SEWRPC) to study and properly locate and map the Southwick Creek

Snyder stated that the Southwick Creek floodplain was originally modeled and delineated by Southeastern Wisconsin Regional Planning Commission (SEWRPC) staff in 1983. This 1983 work is still reflected in the current effective FEMA mapping for Southwick Creek. The Village's treatment plant was completed in 1985, and the floodplains were not updated at that time, so the plant is shown in the FEMA regulatory floodway for Southwick Creek. The Committee reviewed the proposal from SEWRPC to update the floodplain mapping for \$28,000, (2) detailed hydrologic analysis for \$6,000, and (3) Federal Emergency Management Agency Letter of Map Amendment (LOMA) for \$8,000. Umans/Jaramillo motion to recommend Village approval of SEWRPC to conduct the study. Unanimously carried. Umans/Jaramillo motion to recommend Village Board approval of the funding of the study with borrowed funds previously allocated to Southwick Creek realignment. Unanimously carried.

### Village Engineer's Report: East-West Route 67 and other Village Water & Sewer Replacement Cost Estimates

Snyder stated that the water mains in this section of roadway are from the early 1930's and are at the end of their useful life and have hydrants and valves that need replacement. A new 12-inch water main will increase the available fire flow to the downtown, former elementary school area, and the intersecting streets. The planned location is under the westbound parking lane. The proposed water main should increase the available fire flow along this route

to meet Insurance Services Office (ISO) standards for commercial areas. The estimated cost for improvements is \$4,100,000.

Snyder stated that the sanitary sewer in this section of roadway is vitrified clay pipe installed prior to 1962. Although it is in average condition and needs maintenance, the section between Williams Street and Walworth Avenue need repair. The estimated cost for the sanitary sewer improvements is \$617,000.

It was the consensus of the Committee to have Snyder contact WDOT to have the water main and sanitary sewer improvements included in the project plans.

Umans discussed the Well 2 inspection and pump replacement and Well 3 inspection and pump upgrades that were not included in the water operating budget or the current borrowing. He stated that the estimated cost for Well 2 is \$250,000 and Well 3 is \$300,000. He stated that the borrowed funds for Southwick Creek realignment should be reallocated towards funding these projects.

### **Adjourn**

Umans/Jaramillo motion to adjourn at 7:11pm. Unanimously carried.

/s/ Lori Peternell, Village Treasurer

*These are not official minutes until approved by the Water and Sewer Committee*

# Compliance Maintenance Annual Report

Williams Bay Sewage Collection System

Last Updated: Reporting For:  
5/16/2023 2022

## Financial Management

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---|
| 1. Provider of Financial Information<br>Name: <input type="text" value="Lori Peternell"/><br>Telephone: <input type="text" value="(262)245-2700"/> (XXX) XXX-XXXX<br>E-Mail Address (optional): <input type="text" value="treasurer@vi.williamsbay.org"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |   |
| 2. Treatment Works Operating Revenues<br>2.1 Are User Charges or other revenues sufficient to cover O&M expenses for your wastewater treatment plant AND/OR collection system ?<br>● Yes (0 points) <input type="checkbox"/> <input type="checkbox"/><br>○ No (40 points)<br>If No, please explain:<br><input type="text"/><br>2.2 When was the User Charge System or other revenue source(s) last reviewed and/or revised?<br>Year: <input type="text" value="2020"/><br>● 0-2 years ago (0 points) <input type="checkbox"/> <input type="checkbox"/><br>○ 3 or more years ago (20 points) <input type="checkbox"/> <input type="checkbox"/><br>○ N/A (private facility)<br>2.3 Did you have a special account (e.g., CFWP required segregated Replacement Fund, etc.) or financial resources available for repairing or replacing equipment for your wastewater treatment plant and/or collection system?<br>● Yes (0 points)<br>○ No (40 points) |  | 0 |
| REPLACEMENT FUNDS [PUBLIC MUNICIPAL FACILITIES SHALL COMPLETE QUESTION 3]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |   |
| 3. Equipment Replacement Funds<br>3.1 When was the Equipment Replacement Fund last reviewed and/or revised?<br>Year: <input type="text" value="2021"/><br>● 1-2 years ago (0 points) <input type="checkbox"/> <input type="checkbox"/><br>○ 3 or more years ago (20 points) <input type="checkbox"/> <input type="checkbox"/><br>○ N/A<br>If N/A, please explain:<br><input type="text"/><br>3.2 Equipment Replacement Fund Activity<br>3.2.1 Ending Balance Reported on Last Year's CMAR \$ <input type="text" value="123,152.75"/><br>3.2.2 Adjustments - if necessary (e.g. earned interest, audit correction, withdrawal of excess funds, increase making up previous shortfall, etc.) \$ <input type="text" value="0.00"/><br>3.2.3 Adjusted January 1st Beginning Balance \$ <input type="text" value="123,152.75"/><br>3.2.4 Additions to Fund (e.g. portion of User Fee, earned interest, etc.) + \$ <input type="text" value="9,409.69"/>  |  |   |

# Compliance Maintenance Annual Report

Williams Bay Sewage Collection System

Last Updated: Reporting For:  
5/16/2023 2022

3.2.5 Subtractions from Fund (e.g., equipment replacement, major repairs - use description box 3.2.6.1 below\*)

- \$ 0.00

3.2.6 Ending Balance as of December 31st for CMAR Reporting Year

\$ 132,562.44

All Sources: This ending balance should include all Equipment Replacement Funds whether held in a bank account(s), certificate(s) of deposit, etc.

3.2.6.1 Indicate adjustments, equipment purchases, and/or major repairs from 3.2.5 above.

3.3 What amount should be in your Replacement Fund? \$ 132,562.44

0

Please note: If you had a CWWP loan, this amount was originally based on the Financial Assistance Agreement (FAA) and should be regularly updated as needed. Further calculation instructions and an example can be found by clicking the SectionInstructions link under Info header in the left-side menu.

3.3.1 Is the December 31 Ending Balance in your Replacement Fund above, (#3.2.6) equal to, or greater than the amount that should be in it (#3.3)?

☒ Yes

☐ No

If No, please explain.

## 4. Future Planning

4.1 During the next ten years, will you be involved in formal planning for upgrading, rehabilitating, or new construction of your treatment facility or collection system?

☐ Yes - If Yes, please provide major project information, if not already listed below. ☐ ☐

☒ No

| Project # | Project Description                      | Estimated Cost | Approximate Construction Year |
|-----------|------------------------------------------|----------------|-------------------------------|
| 1         | Lift Station 3 (Harris Road) Replacement | \$900,000      | 2023                          |
| 2         | Harris Road Force Main                   | \$1,000,000    | 2024                          |

## 5. Financial Management General Comments

## ENERGY EFFICIENCY AND USE

## 6. Collection System

### 6.1 Energy Usage

6.1.1 Enter the monthly energy usage from the different energy sources:

### **COLLECTION SYSTEM PUMPAGE: Total Power Consumed**

Number of Municipally Owned Pump/Lift Stations: 8

# Compliance Maintenance Annual Report

Williams Bay Sewage Collection System

Last Updated: Reporting For:  
5/16/2023 2022

|           | Electricity Consumed<br>(kWh) | Natural Gas Consumed<br>(therms) |
|-----------|-------------------------------|----------------------------------|
| January   | 10,059                        | 177                              |
| February  | 8,853                         | 146                              |
| March     | 10,076                        | 102                              |
| April     | 9,278                         | 54                               |
| May       | 7,273                         | 33                               |
| June      | 6,585                         | 30                               |
| July      | 5,786                         | 42                               |
| August    | 6,810                         | 52                               |
| September | 6,338                         | 28                               |
| October   | 6,709                         | 28                               |
| November  | 8,703                         | 31                               |
| December  | 9,861                         | 80                               |
| Total     | 96,331                        | 803                              |
| Average   | 8,028                         | 67                               |

6.1.2 Comments:

## 6.2 Energy Related Processes and Equipment

6.2.1 Indicate equipment and practices utilized at your pump/lift stations (Check all that apply):

- ☐ Comminution or Screening
- ☒ Extended Shaft Pumps
- ☐ Flow Metering and Recording
- ☐ Pneumatic Pumping
- ☒ SCADA System
- ☐ Self-Priming Pumps
- ☒ Submersible Pumps
- ☐ Variable Speed Drives
- ☐ Other:

6.2.2 Comments:

## 6.3 Has an Energy Study been performed for your pump/lift stations?

● No

○ Yes

Year:

By Whom:

Describe and Comment:



# Compliance Maintenance Annual Report

Williams Bay Sewage Collection System

Last Updated:    Reporting For:  
5/16/2023                      **2022**

|                                                                                                                    |  |
|--------------------------------------------------------------------------------------------------------------------|--|
| 6.4 Future Energy Related Equipment                                                                                |  |
| 6.4.1 What energy efficient equipment or practices do you have planned for the future for your pump/lift stations? |  |
| Pumps, flowmeter, and SCADA at Harris Road LS Replacement                                                          |  |

|                                      |     |
|--------------------------------------|-----|
| Total Points Generated               | 0   |
| Score (100 - Total Points Generated) | 100 |
| Section Grade                        | A   |

# Compliance Maintenance Annual Report

Williams Bay Sewage Collection System

Last Updated: Reporting For:  
5/16/2023 2022

## Sanitary Sewer Collection Systems

### 1. Capacity, Management, Operation, and Maintenance (CMOM) Program

#### 1.1 Do you have a CMOM program that is being implemented?

- ☒ Yes
- ☐ No

If No, explain:

#### 1.2 Do you have a CMOM program that contains all the applicable components and items according to Wisc. Adm Code NR 210.23 (4)?

- ☒ Yes
- ☐ No (30 points)
- ☐ N/A

If No or N/A, explain:

#### 1.3 Does your CMOM program contain the following components and items? (check the components and items that apply)

##### ☒ Goals [NR 210.23 (4)(a)]

Describe the major goals you had for your collection system last year:

Did you accomplish them?

- ☒ Yes
- ☐ No

If No, explain:

##### ☒ Organization [NR 210.23 (4) (b)] ☐ ☐

Does this chapter of your CMOM include:

- ☒ Organizational structure and positions (eg. organizational chart and position descriptions)
- ☒ Internal and external lines of communication responsibilities
- ☒ Person(s) responsible for reporting overflow events to the department and the public

##### ☒ Legal Authority [NR 210.23 (4) (c)]

What is the legally binding document that regulates the use of your sewer system?

Village Ordinance 295

If you have a Sewer Use Ordinance or other similar document, when was it last reviewed and revised? (MM/DD/YYYY) 2010-02-15

Does your sewer use ordinance or other legally binding document address the following:

- ☒ Private property inflow and infiltration
  - ☒ New sewer and building sewer design, construction, installation, testing and inspection
  - ☐ Rehabilitated sewer and lift station installation, testing and inspection
  - ☐ Sewage flows satellite system and large private users are monitored and controlled, as necessary
  - ☒ Fat, oil and grease control
  - ☒ Enforcement procedures for sewer use non-compliance
  - ☒ Operation and Maintenance [NR 210.23 (4) (d)]
- Does your operation and maintenance program and equipment include the following:
- ☐ Equipment and replacement part inventories
  - ☒ Up-to-date sewer system map
  - ☒ A management system (computer database and/or file system) for collection system information for O&M activities, investigation and rehabilitation

# Compliance Maintenance Annual Report

Williams Bay Sewage Collection System

Last Updated: Reporting For:

5/16/2023

2022

- ☒ A description of routine operation and maintenance activities (see question 2 below)
- ☒ Capacity assessment program
- ☒ Basement back assessment and correction
- ☒ Regular O&M training

☒ Design and Performance Provisions [NR 210.23 (4) (e)] ☐ ☐

What standards and procedures are established for the design, construction, and inspection of the sewer collection system, including building sewers and interceptor sewers on private property?

- ☒ State Plumbing Code, DNR NR 110 Standards and/or local Municipal Code Requirements
- ☒ Construction, Inspection, and Testing
- ☐ Others:

☒ Overflow Emergency Response Plan [NR 210.23 (4) (f)] ☐ ☐

Does your emergency response capability include:

- ☒ Responsible personnel communication procedures
- ☒ Response order, timing and clean-up
- ☒ Public notification protocols
- ☒ Training
- ☒ Emergency operation protocols and implementation procedures

☒ Annual Self-Auditing of your CMOM Program [NR 210.23 (5)] ☐ ☐

☒ Special Studies Last Year (check only those that apply):

- ☒ Infiltration/Inflow (I/I) Analysis
- ☒ Sewer System Evaluation Survey (SSES)
- ☐ Sewer Evaluation and Capacity Management Plan (SECAP)
- ☒ Lift Station Evaluation Report
- ☐ Others:

0

## 2. Operation and Maintenance

2.1 Did your sanitary sewer collection system maintenance program include the following maintenance activities? Complete all that apply and indicate the amount maintained.

|                           |                                 |                           |
|---------------------------|---------------------------------|---------------------------|
| Cleaning                  | <input type="text" value="17"/> | % of system/year          |
| Root removal              | <input type="text" value="2"/>  | % of system/year          |
| Flow monitoring           | <input type="text" value="4"/>  | % of system/year          |
| Smoke testing             | <input type="text" value="0"/>  | % of system/year          |
| Sewer line televising     | <input type="text" value="18"/> | % of system/year          |
| Manhole inspections       | <input type="text" value="17"/> | % of system/year          |
| Lift station O&M          | <input type="text" value="40"/> | # per L.S./year           |
| Manhole rehabilitation    | <input type="text" value="0"/>  | % of manholes rehabbed    |
| Mainline rehabilitation   | <input type="text" value="0"/>  | % of sewer lines rehabbed |
| Private sewer inspections | <input type="text" value="50"/> | % of system/year          |
| Private sewer I/I removal | <input type="text" value="0"/>  | % of private services     |

# Compliance Maintenance Annual Report

## Williams Bay Sewage Collection System

Last Updated: Reporting For:

5/16/2023

2022

River or water crossings  % of pipe crossings evaluated or maintained

Please include additional comments about your sanitary sewer collection system below:

Completed review of private sewer system for 695 Cedar Point Drive; the remaining private sewer system is east of this location. Narrowed clearwater sources to LS 4 and LS 5 collection systems and are removing sources as time allows.

### 3. Performance Indicators

3.1 Provide the following collection system and flow information for the past year.

|                                    |                                                          |
|------------------------------------|----------------------------------------------------------|
| <input type="text" value="36.75"/> | Total actual amount of precipitation last year in inches |
| <input type="text" value="36.0"/>  | Annual average precipitation (for your location)         |
| <input type="text" value="29.5"/>  | Miles of sanitary sewer                                  |
| <input type="text" value="8"/>     | Number of lift stations                                  |
| <input type="text" value="0"/>     | Number of lift station failures                          |
| <input type="text" value="0"/>     | Number of sewer pipe failures                            |
| <input type="text" value="0"/>     | Number of basement backup occurrences                    |
| <input type="text" value="0"/>     | Number of complaints                                     |
| <input type="text" value=".5515"/> | Average daily flow in MGD (if available)                 |
| <input type="text" value=".6560"/> | Peak monthly flow in MGD (if available)                  |
| <input type="text" value="2.8"/>   | Peak hourly flow in MGD (if available)                   |

3.2 Performance ratios for the past year:

|                                   |                                                      |
|-----------------------------------|------------------------------------------------------|
| <input type="text" value="0.00"/> | Lift station failures (failures/year)                |
| <input type="text" value="0.00"/> | Sewer pipe failures (pipe failures/sewer mile/yr)    |
| <input type="text" value="0.00"/> | Sanitary sewer overflows (number/sewer mile/yr)      |
| <input type="text" value="0.00"/> | Basement backups (number/sewer mile)                 |
| <input type="text" value="0.00"/> | Complaints (number/sewer mile)                       |
| <input type="text" value="1.2"/>  | Peaking factor ratio (Peak Monthly:Annual Daily Avg) |
| <input type="text" value="5.1"/>  | Peaking factor ratio (Peak Hourly:Annual Daily Avg)  |

### 4. Overflows

#### LIST OF SANITARY SEWER (SSO) AND TREATMENT FACILITY (TFO) OVERFLOWS REPORTED \*\*

| Date          | Location | Cause | Estimated Volume |
|---------------|----------|-------|------------------|
| None reported |          |       |                  |

\*\* If there were any SSOs or TFOs that are not listed above, please contact the DNR and stop work on this section until corrected.

### 5. Infiltration / Inflow (I/I)

5.1 Was infiltration/inflow (I/I) significant in your community last year?

● Yes

○ No

If Yes, please describe:

Average BOD and Suspended Solids to treatment facility is lower than expected. We have narrowed the source-- collection systems for LS 4 and LS 5.

5.2 Has infiltration/inflow and resultant high flows affected performance or created problems in your collection system, lift stations, or treatment plant at any time in the past year?

Last Updated: 5/16/2023      Reporting For: **2022**

Leak repair when time allows. Replaced two blocks of gravity sanitary sewer in Elkhorn Road; this section of sewer is below lake level.

**A**

# Compliance Maintenance Annual Report

Williams Bay Sewage Collection System

Last Updated: Reporting For:  
5/16/2023 2022

## Grading Summary

WPDES No: 0047341

| SECTIONS                                | LETTER GRADE | GRADE POINTS | WEIGHTING FACTORS | SECTION POINTS |
|-----------------------------------------|--------------|--------------|-------------------|----------------|
| Financial                               | A            | 4            | 1                 | 4              |
| Collection                              | A            | 4            | 3                 | 12             |
| <b>TOTALS</b>                           |              |              | <b>4</b>          | <b>16</b>      |
| <b>GRADE POINT AVERAGE (GPA) = 4.00</b> |              |              |                   |                |

Notes:

A = Voluntary Range (Response Optional)

B = Voluntary Range (Response Optional)

C = Recommendation Range (Response Required)

D = Action Range (Response Required)

F = Action Range (Response Required)

# Compliance Maintenance Annual Report

Williams Bay Sewage Collection System

Last Updated: Reporting For:  
5/16/2023 2022

## Resolution or Owner's Statement

Name of Governing  
Body or Owner:

Village of Williams Bay

Date of Resolution or  
Action Taken:

2023-06-19

Resolution Number:

R-12-23

Date of Submittal:

### ACTIONS SET FORTH BY THE GOVERNING BODY OR OWNER RELATING TO SPECIFIC CMAR SECTIONS (Optional for grade A or B. Required for grade C, D, or F):

Financial Management: Grade = A

Collection Systems: Grade = A

(Regardless of grade, response required for Collection Systems if SSOs were reported)

### ACTIONS SET FORTH BY THE GOVERNING BODY OR OWNER RELATING TO THE OVERALL GRADE POINT AVERAGE AND ANY GENERAL COMMENTS

(Optional for G.P.A. greater than or equal to 3.00, required for G.P.A. less than 3.00)

**G.P.A. = 4.00**



# VILLAGE OF WILLIAMS BAY

250 Williams Street | PO Box 580 | Williams Bay | WI | 53191 | williamsbay.org  
Phone: 262-245-2700

## **Village of Williams Bay Wisconsin Department of Natural Resources NR 208 – Compliance Maintenance Resolution for 2022 R-12-23**

**WHEREAS**, it is a requirement under a Wisconsin Pollutant Discharge Elimination System (WPDES) permit issued by the Wisconsin Department of Natural Resources to file a Compliance Maintenance Annual Report (CMAR) for its wastewater treatment/wastewater collection system under Wisconsin Administrative Code NR 208; and

**WHEREAS**, it is necessary to acknowledge that the governing body has reviewed the Compliance Maintenance Annual Report (CMAR) with Financial and Collection Section grades of 4.0; and

**WHEREAS**, it is only necessary to provide recommendations or an action response plan for all individual CMAR section grades of "C" or less and/or an overall grade point average of <3.00.

**NOW THEREFORE BE IT RESOLVED**, the Village Board of Trustees, of the Village of Williams Bay, has reviewed and approved for submission the CMAR, as required by Wisconsin Administrative Code NR208.

Approved by the Village Board of the Village of Williams Bay this  
\_\_\_\_\_ day of \_\_\_\_\_ 2023.

VILLAGE OF WILLIAMS BAY

By: \_\_\_\_\_

William Duncan, President

Attest: \_\_\_\_\_

Tina Kolls, Clerk



**VILLAGE OF WILLIAMS BAY, WISCONSIN  
WATER PLANT MODIFICATIONS FOR CORROSION CONTROL  
WDNR PROJECT #4938-03 PRV AND SERVICE PUMP MODIFICATIONS  
DESIGN AND CONSTRUCTION ENGINEERING SERVICES  
WORK ORDER**

**ENGINEERS' PROJECT NO. 221778.01 / 221778.61**

**Project Description:**

Provide engineering services for water plant modifications identified in the November 21, 2022 Engineer's Report for the "Water Plant Modifications – Copper Corrosion Action Plan". The Wisconsin Department of Natural Resources (WDNR) has identified this component as Project #4938-03 on the May 12, 2023 Safe Drinking Water Loan Program Project Priority List. See attached Exhibit A.

**Engineering Services:**

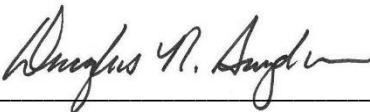
Specific Engineering services are described in the Master Engineering Services Agreement between the Owner and Engineers dated October 16, 2017. A detailed scope of services for this Project is listed in Attachment A of this Work Order.

**Compensation:**

Compensation for the services will be in accordance with the Master Engineering Services Agreement dated October 16, 2017. The Owner shall pay the Engineer for the services performed or furnished under Attachment A, a lump sum amount of **\$75,000** for design and a lump sum amount of **\$32,000** for construction.

Submitted by: **Baxter & Woodman, Inc.**

By:



Douglas R. Snyder, P.E.

Title: Vice President

Date: May 31, 2023

Approved: **Village of Williams Bay, WI**

By:

William B. Duncan

Title: President

Date:

Attest:

Tina Kolls, Clerk

**Additional Comments:** The engineering assistance needed to obtain the WDNR approval of the corrosion control study was paid separately.

## Project Description

Provide engineering services for water plant modifications identified in the November 21, 2022 Engineer's Report for the "Water Plant Modifications – Copper Corrosion Action Plan". The Wisconsin Department of Natural Resources (WDNR) has identified this component as Project #4938-03 on the May 12, 2023 Safe Drinking Water Loan Program Project Priority List. See attached Exhibit A.

The scope of this component includes the remodeling of the service pump room, replacement of the service pumps, installation of a flow controlled pressure reducing valve, installation of process piping and metering, and water main connections to the recent S.T.H. 67 utility improvements. The service pumps will deliver water to the upper pressure zone. The pressure reducing valve will provide water to the lower pressure zone and act as a filter backwash supply.

## Scope of Services – Design

The following scope of services details the anticipated tasks necessary to successfully complete this Project:

1. PROJECT MANAGEMENT – Plan, schedule, and control the activities that must be performed to complete the Project. These activities include, but are not limited to, budget, schedule, and scope. Confer with Owner staff and project team to ensure the goals of the Project are achieved. Attend up to two meetings.
2. SITE VISITS – Conduct site visits by designers to determine remodeling requirements.
3. TOPOGRAPHIC SURVEY – Perform topographic survey to develop base sheets for project plan drawings and confirm dimensions. In addition, obtain data or record indicating locations of underground utilities.
4. PRELIMINARY AND FINAL DESIGN – Prepare Design Documents consisting of drawings showing the general scope, extent, and character of construction work to be furnished and performed by the Contractors selected by the Owner.
5. CIVIL, STRUCTURAL, AND ELECTRICAL DESIGN – Provide a design of the station metering, piping, valves, electric, and control upgrades.
6. WDNR LOAN APPLICATION ASSISTANCE – Provide assistance for the engineering aspects of the Safe Drinking Water Loan Application due at the WDNR on June 30, 2023.

7. AGENCY SUBMITTALS – Submit the Design Documents to the Wisconsin Department of Natural Resources and Public Service Commission of Wisconsin for their review and approval of the Project.
8. BIDDING DOCUMENTS – Prepare for review and approval by the Owner and its legal counsel the forms of Construction Contract Documents consisting of Advertisement for Bids, Bidder Instructions, Bid Form, Agreement, Performance Bond Form, Payment Bond Form, General Conditions, and Supplementary Conditions and specifications, where appropriate, based upon documents prepared by the Engineers Joint Contract Document Committee (EJCDC).
9. QUALITY CONTROL REVIEWS – Conduct peer review and constructability review of the Design Documents.
10. ENGINEERS' OPINION OF PROBABLE COST – Prepare an opinion of the probable construction cost prior to the bid opening.
11. ASSIST BIDDING – Provide documents for bidding and assist the Owner in solicitation of bids from as many qualified bidders as possible, attend the bid opening, evaluate, and tabulate the bids received, and prepare a recommendation letter to the Owner for their action.

#### **Scope of Services – Construction**

The following scope of services details the anticipated tasks necessary to successfully complete this Project:

1. Act as the Owner's representative with duties, responsibilities, and limitations of authority as assigned in the construction contract documents.
2. CONSTRUCTION ADMINISTRATION
  - A. Prepare Award Letter, Agreement, Contract Documents, Performance/Payment Bonds, and Notice to Proceed. Receive Contractor insurance documents.
  - B. Attend and prepare minutes for the preconstruction conference and review the Contractor's proposed construction schedule and list of subcontractors.
  - C. Attend periodic construction progress meetings.
  - D. Shop drawing and submittal review by Engineer shall apply only to the items in the submissions and only for the purpose of assessing, if upon installation or incorporation in the Project, they are generally consistent with the construction documents. Owner agrees that the contractor is solely responsible for the submissions (regardless of the format in which provided, i.e., hard copy or

electronic transmission) and for compliance with the contract documents. Owner further agrees that the Engineer's review and action in relation to these submissions shall not constitute the provision of means, methods, techniques, sequencing or procedures of construction or extend to safety programs or precautions. Engineer's consideration of a component does not constitute acceptance of the assembled item.

- E. Review construction record drawings for completeness prior to submission to CADD.
- F. Prepare construction contract change orders and work directives when authorized by the Owner.
- G. Review the Contractor's requests for payments as construction work progresses and advise the Owner of amounts due and payable to the Contractor in accordance with the terms of the construction contract documents.
- H. Research and prepare written response by Engineer to request for information from the Owner and Contractor.
- I. Project manager or other office staff visit site as needed.

3. FIELD OBSERVATION – Part Time

- A. Engineer will provide a Resident Project Representative at the construction site on a periodic part-time basis from the Engineer's office of not more than eight (8) hours per regular weekday, not including legal holidays as deemed necessary by the Engineer, to assist the Contractor with interpretation of the Drawings and Specifications, to observe in general if the Contractor's work is in conformity with the Final Design Documents, and to monitor the Contractor's progress as related to the Construction Contract date of completion.
- B. Through standard, reasonable means, Engineer will become generally familiar with observable completed work. If the Engineer observes completed work that is inconsistent with the construction documents, that information shall be communicated to the contractor and Owner to address. Engineer shall not supervise, direct, control, or have charge or authority over any contractor's work, nor shall the Engineer have authority over or be responsible for the means, methods, techniques, sequences, or procedures of construction selected or used by any contractor, or the safety precautions and programs incident thereto, for security or safety at the site, nor for any failure of any contractor to comply with laws and regulations applicable to such contractor's furnishing and performing of its work. Engineer neither guarantees the performance of any contractor nor assumes responsibility for any contractor's failure to furnish and perform the work in accordance with the contract documents, which contractor is solely responsible for its errors, omissions, and failure to carry out the work. Engineer shall not be responsible for the acts or omissions of any contractor, subcontractor, or supplier, or of any of their agents or

employees or any other person, (except Engineer's own agents, employees, and consultants) at the site or otherwise furnishing or performing any work; or for any decision made regarding the contract documents, or any application, interpretation, or clarification, of the contract documents, other than those made by the Engineer.

- C. Part-Time Field Observation provides that the Resident Project Representative will make intermittent site visits to observe the progress and quality of Contractor's executed Work. Part-Time Field Observation does not guarantee the Engineer will observe or comment on work completed by the contractor at times the Resident Project Representative is not present on site. Such visits and observations by the Resident Project Representative, if any, are not intended to be exhaustive or to extend to every aspect of Contractor's Work in progress or to involve detailed inspections of Contractor's Work in progress beyond the responsibilities specifically assigned to Engineer in this Agreement and the Contract Documents, but rather are to be limited to spot checking, selective sampling, and similar methods of general observation of the Work based on Engineer's exercise of professional judgment as assisted by the Resident Project Representative, if any.
- D. Provide the necessary base lines, benchmarks, and reference points to enable the Contractor to proceed with the work.
- E. Keep a daily record of the Contractor's work on those days that the Engineers are at the construction site including notations on the nature and cost of any extra work and provide weekly reports to the Owner of the construction progress and working days charged against the Contractor's time for completion.

#### 4. SUBSTANTIAL COMPLETION OF PROJECT

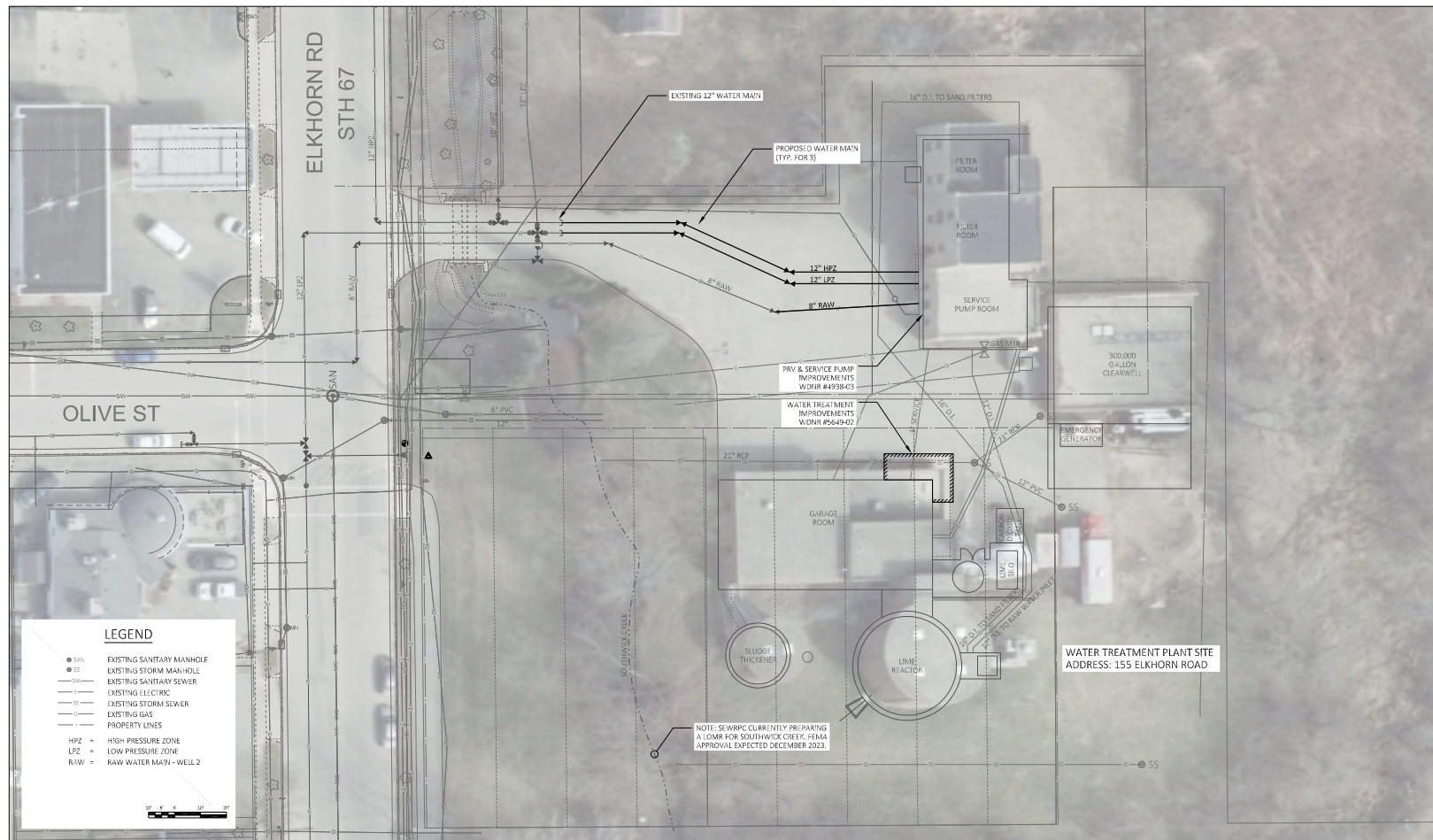
- A. Provide construction inspection services when notified by the Contractor that the Project is substantially complete. Prepare written punch lists during substantial completion inspections.
- B. Prepare Certificate of Substantial Completion.

#### 5. COMPLETION OF PROJECT

- A. Provide construction inspection services when notified by the Contractor that the Project is complete. Prepare written punch lists during final completion inspections.
- B. Review the Contractor's written guarantees and issue a Notice of Acceptability for the Project by the Owner.
- C. Review the Contractor's requests for final payment and advise the Owner of the amounts due and payable to the Contractor in accordance with the terms of the construction contract documents.

- D. Prepare construction record drawings which show field measured dimensions of the completed work which the Engineers consider significant and provide the Owner with an electronic copy within ninety (90) days of the Project completion.

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**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-31-23**

**A RESOLUTION AUTHORIZING BAXTER & WOODMAN WATER PLANT WORK ORDER  
(COPPER CORROSION CONTROL – SERVICE PUMP MODIFICATIONS)**

**WHEREAS**, Village Engineer Baxter & Woodman provided the attached Work Order 221778.01/221778.61 for Design and Construction Engineering Services for WDNR Project #4938-03 Service Pump Modifications (“Work Order”); and

**WHEREAS**, Work Order scope includes the remodeling of the service pump room, replacement of the service pumps, installation of a flow-controlled pressure reducing valve, installation of process piping and metering, and water main connections to the recent S.T.H. 67 utility improvements. The service pumps will deliver water to the upper pressure zone. The pressure reducing valve will provide water to the lower pressure zone and act as a filter backwash supply; and

**WHEREAS**, Work Order Compensation for the services the Village shall pay the Engineer for the services performed or furnished a lump sum amount of \$75,000 for design and a lump sum amount of \$32,000 for construction; and

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Water & Sewer and Finance & Personnel Committees determined that it is in the best interests of the Village to **[not] [authorize]** Work Order; and

**WHEREAS**, on June 19, 2023, the Village of Williams Village Board, as recommended by the Water & Sewer and Finance & Personnel Committees, have determined that it is in the best interests of the Village and its residents to **[not] [authorize]** the Work Order.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended proposal and authorizes an agreement, therefore.

Approved by the Village Board of the Village of Williams Bay this 19<sup>th</sup> day of June 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk



**VILLAGE OF WILLIAMS BAY, WISCONSIN  
WATER PLANT MODIFICATIONS FOR CORROSION CONTROL  
WDNR PROJECT #5649-02 – CHLORINATION MODIFICATIONS  
DESIGN AND CONSTRUCTION ENGINEERING SERVICES  
WORK ORDER**

**ENGINEERS' PROJECT NO. 221778.00 / 221778.60**

**Project Description:**

Provide engineering services for water plant modifications identified in the November 21, 2022 Engineer's Report for the "Water Plant Modifications – Copper Corrosion Action Plan". The Wisconsin Department of Natural Resources (WDNR) has identified this component as Project #5649-02 on the May 12, 2023 Safe Drinking Water Loan Program Project Priority. See attached Exhibit A.

**Engineering Services:**

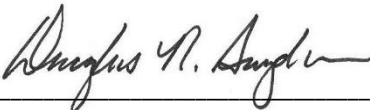
Specific Engineering services are described in the Master Engineering Services Agreement between the Owner and Engineers dated October 16, 2017. A detailed scope of services for this Project is listed in Attachment A of this Work Order.

**Compensation:**

Compensation for the services will be in accordance with the Master Engineering Services Agreement dated October 16, 2017. The Owner shall pay the Engineer for the services performed or furnished under Attachment A, a lump sum amount of **\$65,000** for design and a lump sum amount of **\$33,000** for construction.

Submitted by: **Baxter & Woodman, Inc.**

By:



Douglas R. Snyder, P.E.

Title: Vice President

Date: May 31, 2023

Approved: **Village of Williams Bay, WI**

By:

William B. Duncan

Title: President

Date:

Attest:

Tina Kolls, Clerk

**Additional Comments:** The engineering assistance needed to obtain the WDNR approval of the corrosion control study was paid separately.

## Project Description

Provide engineering services for water plant modifications identified in the November 21, 2022 Engineer's Report for the "Water Plant Modifications – Copper Corrosion Action Plan". The Wisconsin Department of Natural Resources (WDNR) has identified this component as Project #5649-02 on the May 12, 2023 Safe Drinking Water Loan Program Project Priority. See attached Exhibit A.

The scope of this component includes an addition to the south building at 155 Elkhorn Road to store and inject liquid chlorine before and after the gravity filters and includes chemical pumps, chlorine analyzers, structural components, and controls.

## Scope of Services - Design

The following scope of services details the anticipated tasks necessary to successfully complete this Project:

1. PROJECT MANAGEMENT - Plan, schedule, and control the activities that must be performed to complete the Project. These activities include, but are not limited to, budget, schedule, and scope. Confer with Owner staff and project team to ensure the goals of the Project are achieved. Attend up to two meetings.
2. SITE VISITS - Conduct site visits by designers to determine remodeling requirements.
3. TOPOGRAPHIC SURVEY – Perform topographic survey to develop base sheets for project plan drawings and confirm dimensions. In addition, obtain data or record indicating locations of underground utilities.
4. PRELIMINARY AND FINAL DESIGN – Prepare Design Documents consisting of drawings showing the general scope, extent, and character of construction work to be furnished and performed by the Contractors selected by the Owner.
5. CIVIL, STRUCTURAL, AND ELECTRICAL DESIGN - Provide a design of the station metering, piping, valves, electric, and control upgrades.
6. WDNR LOAN APPLICATION ASSISTANCE – Provide assistance for the engineering aspects of the Safe Drinking Water Loan Application due at the WDNR by June 30, 2023.
7. AGENCY SUBMITTALS - Submit the Design Documents to the Wisconsin Department of Natural Resources and Public Service Commission of Wisconsin for their review and approval of the Project.

8. BIDDING DOCUMENTS - Prepare for review and approval by the Owner and its legal counsel the forms of Construction Contract Documents consisting of Advertisement for Bids, Bidder Instructions, Bid Form, Agreement, Performance Bond Form, Payment Bond Form, General Conditions, and Supplementary Conditions and specifications, where appropriate, based upon documents prepared by the Engineers Joint Contract Document Committee (EJCDC).
9. QUALITY CONTROL REVIEWS - Conduct peer review and constructability review of the Design Documents.
10. ENGINEERS' OPINION OF PROBABLE COST - Prepare an opinion of the probable construction cost prior to the bid opening.
11. ASSIST BIDDING - Provide documents for bidding and assist the Owner in solicitation of bids from as many qualified bidders as possible, attend the bid opening, evaluate, and tabulate the bids received, and prepare a recommendation letter to the Owner for their action.

#### **Scope of Services - Construction**

The following scope of services details the anticipated tasks necessary to successfully complete this Project:

1. Act as the Owner's representative with duties, responsibilities, and limitations of authority as assigned in the construction contract documents.
2. CONSTRUCTION ADMINISTRATION
  - A. Prepare Award Letter, Agreement, Contract Documents, Performance/Payment Bonds, and Notice to Proceed. Receive Contractor insurance documents.
  - B. Attend and prepare minutes for the preconstruction conference and review the Contractor's proposed construction schedule and list of subcontractors.
  - C. Attend periodic construction progress meetings.
  - D. Shop drawing and submittal review by Engineer shall apply only to the items in the submissions and only for the purpose of assessing, if upon installation or incorporation in the Project, they are generally consistent with the construction documents. Owner agrees that the contractor is solely responsible for the submissions (regardless of the format in which provided, i.e., hard copy or electronic transmission) and for compliance with the contract documents. Owner further agrees that the Engineer's review and action in relation to these submissions shall not constitute the provision of means, methods, techniques, sequencing or procedures of construction or extend to

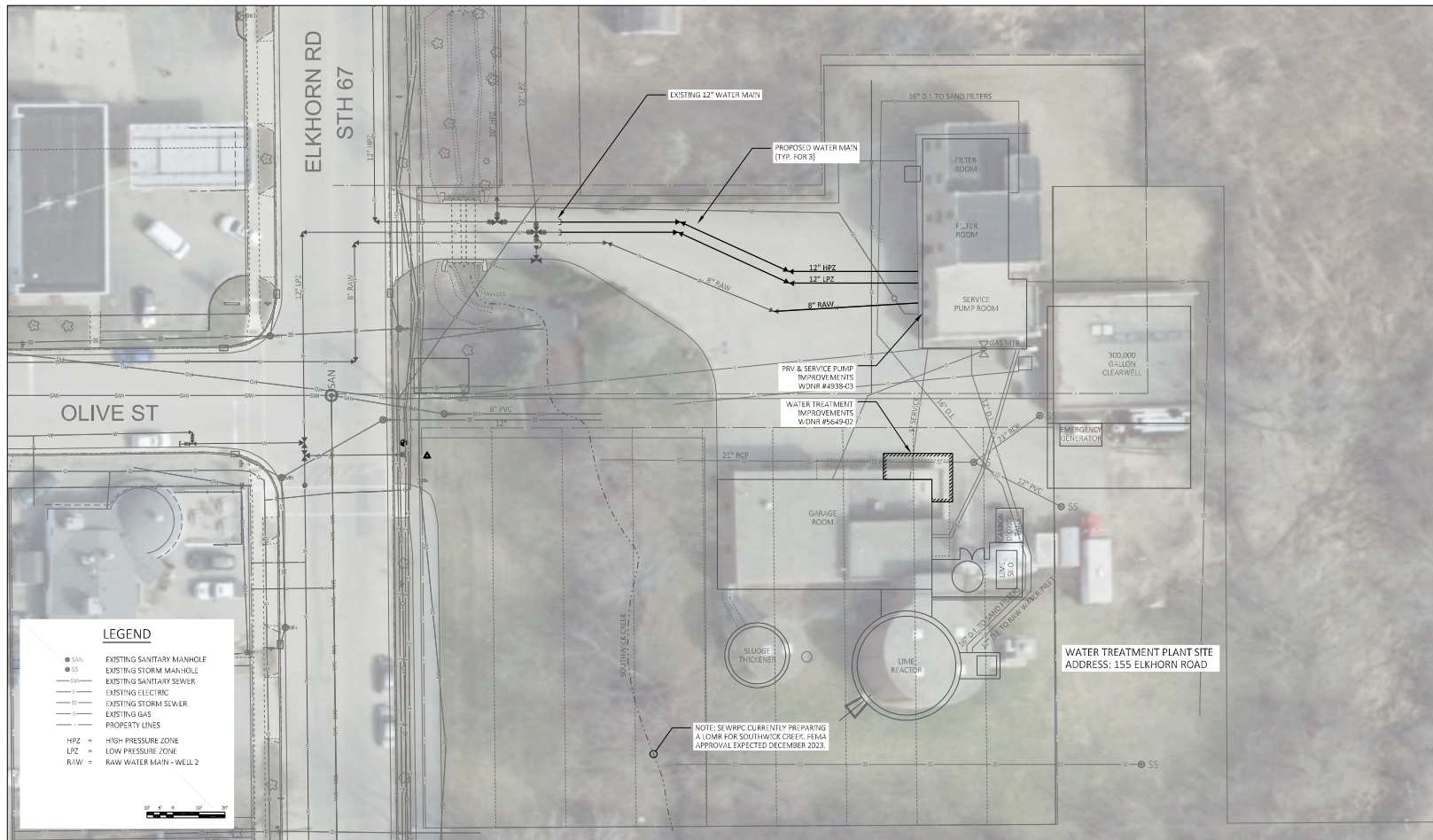
safety programs of precautions. Engineer's consideration of a component does not constitute acceptance of the assembled item.

- E. Review construction record drawings for completeness prior to submission to CADD.
- F. Prepare construction contract change orders and work directives when authorized by the Owner.
- G. Review the Contractor's requests for payments as construction work progresses and advise the Owner of amounts due and payable to the Contractor in accordance with the terms of the construction contract documents.
- H. Research and prepare written response by Engineer to request for information from the Owner and Contractor.
- I. Project manager or other office staff visit site as needed.

3. FIELD OBSERVATION – Part Time

- A. Engineer will provide a Resident Project Representative at the construction site on a periodic part-time basis from the Engineer's office of not more than eight (8) hours per regular weekday, not including legal holidays as deemed necessary by the Engineer, to assist the Contractor with interpretation of the Drawings and Specifications, to observe in general if the Contractor's work is in conformity with the Final Design Documents, and to monitor the Contractor's progress as related to the Construction Contract date of completion.
- B. Through standard, reasonable means, Engineer will become generally familiar with observable completed work. If the Engineer observes completed work that is inconsistent with the construction documents, that information shall be communicated to the contractor and Owner to address. Engineer shall not supervise, direct, control, or have charge or authority over any contractor's work, nor shall the Engineer have authority over or be responsible for the means, methods, techniques, sequences, or procedures of construction selected or used by any contractor, or the safety precautions and programs incident thereto, for security or safety at the site, nor for any failure of any contractor to comply with laws and regulations applicable to such contractor's furnishing and performing of its work. Engineer neither guarantees the performance of any contractor nor assumes responsibility for any contractor's failure to furnish and perform the work in accordance with the contract documents, which contractor is solely responsible for its errors, omissions, and failure to carry out the work. Engineer shall not be responsible for the acts or omissions of any contractor, subcontractor, or supplier, or of any of their agents or employees or any other person, (except Engineer's own agents, employees, and consultants) at the site or otherwise furnishing or performing any work; or for any decision made regarding the contract documents, or any application, interpretation, or clarification, of the contract documents, other than those made by the Engineer.

- C. Part-Time Field Observation provides that the Resident Project Representative will make intermittent site visits to observe the progress and quality of Contractor's executed Work. Part-Time Field Observation does not guarantee the Engineer will observe or comment on work completed by the contractor at times the Resident Project Representative is not present on site. Such visits and observations by the Resident Project Representative, if any, are not intended to be exhaustive or to extend to every aspect of Contractor's Work in progress or to involve detailed inspections of Contractor's Work in progress beyond the responsibilities specifically assigned to Engineer in this Agreement and the Contract Documents, but rather are to be limited to spot checking, selective sampling, and similar methods of general observation of the Work based on Engineer's exercise of professional judgment as assisted by the Resident Project Representative, if any.
  - D. Provide the necessary base lines, benchmarks, and reference points to enable the Contractor to proceed with the work.
  - E. Keep a daily record of the Contractor's work on those days that the Engineers are at the construction site including notations on the nature and cost of any extra work and provide weekly reports to the Owner of the construction progress and working days charged against the Contractor's time for completion.
4. SUBSTANTIAL COMPLETION OF PROJECT
- A. Provide construction inspection services when notified by the Contractor that the Project is substantially complete. Prepare written punch lists during substantial completion inspections.
  - B. Prepare Certificate of Substantial Completion.
5. COMPLETION OF PROJECT
- A. Provide construction inspection services when notified by the Contractor that the Project is complete. Prepare written punch lists during final completion inspections.
  - B. Review the Contractor's written guarantees and issue a Notice of Acceptability for the Project by the Owner.
  - C. Review the Contractor's requests for final payment and advise the Owner of the amounts due and payable to the Contractor in accordance with the terms of the construction contract documents.
  - D. Prepare construction record drawings which show field measured dimensions of the completed work which the Engineers consider significant and provide the Owner with an electronic copy within ninety (90) days of the Project completion.



NOTE: AERIAL IMAGE IS SHIPPED.

**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-30-23**

**A RESOLUTION AUTHORIZING BAXTER & WOODMAN WATER PLANT WORK ORDER  
(COPPER CORROSION CONTROL – CHLORINE MODIFICATIONS)**

**WHEREAS**, Village Engineer Baxter & Woodman provided the attached Work Order 221778.00/221778.60 for Design and Construction Engineering Services for WDNR Project #5649-02 and Chlorine Modifications (“Work Order”); and

**WHEREAS**, Work Order scope includes an addition to the south building at 155 Elkhorn Road to store and inject liquid chlorine before and after the gravity filters and includes chemical pumps, chlorine analyzers, structural components, and controls.; and

**WHEREAS**, Work Order Compensation for the services the Village shall pay the Engineer for the services performed or furnished a lump sum amount of \$65,000 for design and a lump sum amount of \$33,000 for construction.

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Water & Sewer and Finance & Personnel Committees determined that it is in the best interests of the Village to **[not] [authorize]** Work Order; and

**WHEREAS**, on June 19, 2023, the Village of Williams Village Board, as recommended by the Water & Sewer and Finance & Personnel Committees, have determined that it is in the best interests of the Village and its residents to **[not] [authorize]** the Work Order.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended proposal and authorizes an agreement, therefore.

Approved by the Village Board of the Village of Williams Bay this 19<sup>th</sup> day of June 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk



# Environmental Loans Deadlines and Due Dates During SFYs 2023-2024

| Safe Drinking Water Loan Program (SDWLP) |          | Clean Water Fund Program (CWFP)                                                      |
|------------------------------------------|----------|--------------------------------------------------------------------------------------|
| 2022                                     | July 1   | Start of State Fiscal Year 2023 (SFY 23)                                             |
|                                          | July 30  | SFY 23 priority score reevaluation requests due                                      |
|                                          | July 31  | ALL required documentation due for SFY 22 projects                                   |
|                                          | Sep. 28  | SFY 22 final loan closing date                                                       |
|                                          | Sep. 30  | Last recommended date for submitting rate applications to PSC for SFY 23 projects    |
|                                          | Oct. 31  | SFY 24 notice of Intent to Apply (ITA) deadline                                      |
|                                          | Autumn   | SFY 23 Funding List published                                                        |
| 2023                                     | Spring   | SFY 24 Project Priority List (PPL) published                                         |
|                                          | April 30 | Last recommended date for opening bids on SFY 23 projects                            |
|                                          | May 31   | Executed construction contracts due for SFY 23 projects                              |
|                                          | June 15  | PSC-approved rate order due for SFY 23 projects                                      |
|                                          | June 30  | SFY 24 Application deadline, whether competing for Principal Forgiveness (PF) or not |
|                                          |          | • Priority score reevaluation requests due within 30 days                            |
|                                          | July 1   | Start of State Fiscal Year 2024 (SFY 24)                                             |
|                                          | July 31  | ALL required documentation due for SFY 23 projects                                   |
|                                          | Sep. 27  | SFY 23 final loan closing date                                                       |
|                                          | Sep. 30  | Last recommended date for submitting rate applications to PSC for SFY 24 projects    |
| 2024                                     | Oct. 31  | SFY 25 notice of Intent to Apply (ITA) deadline                                      |
|                                          | Autumn   | SFY 24 Funding List published                                                        |
|                                          | Spring   | SFY 25 Project Priority List (PPL) published                                         |
|                                          | April 30 | Last recommended date for opening bids on SFY 24 projects                            |
|                                          | May 31   | Executed construction contracts due for SFY 24 projects                              |
|                                          | June 15  | PSC-approved rate order due for SFY 24 projects                                      |
|                                          | June 30  | SFY 25 Application deadline, whether competing for Principal Forgiveness (PF) or not |
|                                          |          | • Priority score reevaluation requests due within 30 days                            |
|                                          | July 1   | Start of State Fiscal Year 2025 (SFY 25)                                             |

Note: When a deadline falls on a weekend, that deadline, by statute, is extended to Monday.

The SDWLP application and loan closing deadlines are set in the corresponding state fiscal year Intended Use Plan (IUP). Submit plans and specifications to DNR Drinking Water and Groundwater as well as with the SDWLP application.

CWFP applications are accepted year-round for projects *not* seeking Principal Forgiveness (PF). Submit plans and specifications to DNR Water Quality as well as with the CWFP application. For both PF and non-PF CWFP projects, the loan must close within eight months following the date of the application acceptance notification.







# INTEREST RATES

The Clean Water Fund Program (CWFP) and Safe Drinking Water Loan Program (SDWLP) provide subsidy to bring interest rates on loans down from the market rate established by the Wisconsin Department of Administration (DOA) to the reduced interest rates described in the table shown below. The fixed interest rate applied to the loan is based on the market rate in effect on the day the municipal governing body signs the financial assistance agreement (FAA).

## INTEREST RATE DETERMINATION

| PROJECT TYPE                                                                                                                                                                                                                                                          | % of MARKET RATE | ≤ 20 YR TERM | 21-30 YR TERM |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|---------------|
| <b>CWFP and SDWLP</b><br>For eligible projects of municipalities not meeting the financial need criteria.                                                                                                                                                             | 55%              | 2.145%       | 2.255%        |
| <b>CWFP and SDWLP</b><br>For eligible projects of disadvantaged municipalities meeting the following financial need criteria: <ul style="list-style-type: none"><li>&lt; 10,000 population; and</li><li>≤ 80% of Wisconsin's Median Household Income (MHI).</li></ul> | 33%              | 1.287%       | 1.353%        |
| <b>CWFP</b><br>For eligible projects of extremely disadvantaged municipalities meeting the following financial need criteria: <ul style="list-style-type: none"><li>&lt; 1,000 population; and</li><li>≤ 65% of Wisconsin's MHI.</li></ul>                            | 0%               | 0%           | 0%            |
| <b>CWFP</b><br>For the portion of eligible projects for receiving and storing septage and capacity for treating septage, and non-traditional pilot projects, e.g., water quality trading.                                                                             | 0%               | 0%           | 0%            |
| <b>MARKET RATE</b> (effective 04/01/2023)                                                                                                                                                                                                                             | 100%             | 3.900%       | 4.100%        |

This table shows determination of the loan interest rate by project type, based on the current market rate.

Effective April 1, 2023, the market rate for loans of 20 years or less will remain at 3.90% and the market rate for loans longer than 20 years and of up to 30 years will remain at 4.10%.

## MARKET RATE

On a quarterly basis, DOA assesses the market rates on which the program subsidies are based. The market rate for loans with terms longer than 20 years will be slightly higher than the market rate for 20-year loans. Note that DOA reserves the right to make an increase, if needed, to market rates at any time

**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-28-23**

**A RESOLUTION AUTHORIZING APPLICATIONS FOR SAFE DRINKING WATER LOAN PROGRAM  
(WATER PLANT COPPER CORROSION CONTROL)**

**WHEREAS**, on October 17, 2022, as recommended by the Water & Sewer Committee, the Village of Williams Bay Village Board authorized Village Engineer Baxter & Woodman ("Village Engineer") to file the Intent To Apply with the Wisconsin Department of Natural Resources ("WDNR") for Safe Drinking Water Loan Program ("SDWLP") to fund Copper Corrosion Control Water Plant Modifications to the Village of Williams Bay Water Plant which includes: (1) Service Pump Modifications Design & Construction and (2) Chlorination Modifications Design & Construction ("Copper Corrosion Action Plan"); and

**WHEREAS**, on May 12, 2023, the WDNR identified these components as Projects #4938-03 and #5649-02 respectively on the Safe Drinking Water Loan Program Project Priority List; and

**WHEREAS**, the SDWLP provides subsidy to bring interest rates on loans down from the market rate established by the Wisconsin Department of Administration (DOA) to the reduced fixed interest rates based on the market rate in effect on the day the Village Board signs the Financial Assistance Agreement (FAA); and

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Water & Sewer and Finance & Personnel Committees determined that it is in the best interests of the Village to **[not] [authorize]** the Village Engineer to assist the Village Treasurer to enter and submit applications for SDWLP for the Copper Corrosion Control Action Plan; and

**WHEREAS**, on June 19, 2023, the Village of Williams Village Board, as recommended by the Water & Sewer and Finance & Personnel Committees, have determined that it is in the best interests of the Village and its residents to **[not] [authorize]** the applications.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended proposal and authorizes an agreement, therefore.

Approved by the Village Board of the Village of Williams Bay this 19<sup>th</sup> day of June 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk

**VILLAGE OF WILLIAMS BAY, WISCONSIN  
WATER PLANT LOMR ASSISTANCE TO  
SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION  
ENGINEERING SERVICES  
WORK ORDER**

**ENGINEERS' PROJECT NO. 2325347.00**

**Project Description:**

The Owner is entering into a contract with the Southeastern Wisconsin Regional Planning Commission (SEWRPC) based on a letter to the Owner dated May 9, 2023. The SEWRPC scope of work describes responsibilities of the Owner. The Engineer is completing the responsibilities listed for the Owner.

**Engineering Services:**

Specific Engineering services are described in the Master Engineering Services Agreement between the Owner and Engineers dated October 16, 2017. A detailed scope of services for this Project is listed in Attachment A of this Work Order.

**Compensation:**

Compensation for the services will be in accordance with the Master Engineering Services Agreement dated October 16, 2017. The Owner shall pay the Engineer for the services performed or furnished under Attachment A, based upon the Engineer's standard hourly billing rates actual work time performed plus reimbursement of out-of-pocket expenses including travel, which in total will not exceed **\$8,000**.

Submitted by: **Baxter & Woodman, Inc.**

By: \_\_\_\_\_

Douglas R. Snyder, P.E.

Title: Vice President

Date: May 12, 2023

Approved: **Village of Williams Bay, WI**

By: \_\_\_\_\_

William B. Duncan

Title: President

Date: \_\_\_\_\_

Attest: \_\_\_\_\_

Tina Kolls, Clerk

**Additional Comments:** None.

---

## Project Description

The Owner is entering into a contract with the Southeastern Wisconsin Regional Planning Commission (SEWRPC) based on a letter to the Owner dated May 9, 2023. The SEWRPC scope of work describes responsibilities of the Owner. The Engineer is completing the responsibilities listed for the Owner.

## Scope of Services

The following scope of services details the anticipated tasks necessary to successfully complete this Project:

1. PROJECT MANAGEMENT - Plan, schedule, and control the activities that must be performed to complete the Project. These activities include, but are not limited to, budget, schedule, and scope. Confer with Owner staff and project team to ensure the goals of the Project are achieved.
2. SITE VISITS AND DATA COLLECTION – Provide survey or plan set data for the nine (9) hydraulic structures along Southwick Creek listed below. Data needed includes upstream and downstream invert elevations at the structure and culvert or bridge opening dimensions (i.e. diameter, width, depth, low chord elevation). Also provide the vertical datum information (NGVD29 or NAVD88) for survey data.
  - A. Mouth of the Creek; provide a cross section at the mouth or at the nearby pedestrian bridge following dredging.
  - B. Two pedestrian bridges.
  - C. Three driveway crossings.
  - D. Two long pipe enclosures.
  - E. STH 67.
3. Assist SEWRPC in submitting the Federal Emergency Management Agency (FEMA) Letter of Map Revision (LOMR). The Owner will pay the application fee.

P:\WLMSP\2325347-Water Plant LOMR\Contracts\Work Order 2325347.00.docx

**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-33-23**

**A RESOLUTION AUTHORIZING PROPOSAL FOR ENGINEERING SUPPORT OF  
WATERPLANT FLOOD MAPPING - BAXTER & WOODMAN WORK ORDER**

**WHEREAS**, the Village of Williams Bay contracts with Baxter and Woodman, Inc. (Baxter) as Village Engineer for the Village; and

**WHEREAS**, the Village of Williams Bay water plant is currently shown as being located with the Southwick Creek floodway/floodplain which negatively impacts the Village's water plant; and

**WHEREAS**, on May 15, 2023, the Village Board approved Resolution R-14-23 authorizing the letter agreement with the Southeastern Wisconsin Regional Planning Commission (SEWRPC) at a cost not to exceed \$42,000, funded by water/sewer borrowed funds; and

**WHEREAS**, Baxter provided the attached May 12, 2023, Work Order 2325347.00 (WO) for Water Plant LOMR Assistance to provide the following scope of services; including: project management, site visits and data collection and assist SEWRPC in submitting the FEMA LOMR). The Village agrees to pay Baxter not to exceed \$8,000 funded by water borrowed funds that were previously allocated for Southwick Creek realignment; and

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Water & Sewer and Finance & Personnel Committees determined that it is in the best interests of the Village to **[not] [authorize]** Work Order; and

**WHEREAS**, on June 19, 2023, the Village of Williams Village Board, as recommended by the Water & Sewer and Finance & Personnel Committees, have determined that it is in the best interests of the Village and its residents to **[not] [authorize]** the Work Order.

**WHEREAS**, the Village Board of the Village of Williams Bay, being fully advised in the premises, have determined that it is in the best interests of the Village and its residents to approve the recommended proposal.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended proposal and authorizes an agreement, therefore.

Approved by the Village Board of the Village of Williams Bay this 19<sup>th</sup> day of June 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk

# Environmental Loans Deadlines and Due Dates During SFYs 2023-2024

| Safe Drinking Water Loan Program (SDWLP) |          | Clean Water Fund Program (CWFP)                                                                                                                                                                  |
|------------------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2022                                     | July 1   | Start of State Fiscal Year 2023 (SFY 23)                                                                                                                                                         |
|                                          | July 30  | SFY 23 priority score reevaluation requests due                                                                                                                                                  |
|                                          | July 31  | ALL required documentation due for SFY 22 projects                                                                                                                                               |
|                                          | Sep. 28  | SFY 22 final loan closing date                                                                                                                                                                   |
|                                          | Sep. 30  | Last recommended date for submitting rate applications to PSC for SFY 23 projects                                                                                                                |
|                                          | Oct. 31  | SFY 24 notice of Intent to Apply (ITA) deadline                                                                                                                                                  |
|                                          | Autumn   | SFY 23 Funding List published                                                                                                                                                                    |
| 2023                                     | Spring   | SFY 24 Project Priority List (PPL) published                                                                                                                                                     |
|                                          | April 30 | Last recommended date for opening bids on SFY 23 projects                                                                                                                                        |
|                                          | May 31   | Executed construction contracts due for SFY 23 projects                                                                                                                                          |
|                                          | June 15  | PSC-approved rate order due for SFY 23 projects                                                                                                                                                  |
|                                          | June 30  | SFY 24 Application deadline, whether competing for Principal Forgiveness (PF) or not <ul style="list-style-type: none"> <li>• Priority score reevaluation requests due within 30 days</li> </ul> |
|                                          | July 1   | Start of State Fiscal Year 2024 (SFY 24)                                                                                                                                                         |
|                                          | July 31  | ALL required documentation due for SFY 23 projects                                                                                                                                               |
|                                          | Sep. 27  | SFY 23 final loan closing date                                                                                                                                                                   |
|                                          | Sep. 30  | Last recommended date for submitting rate applications to PSC for SFY 24 projects                                                                                                                |
|                                          | Oct. 31  | SFY 25 notice of Intent to Apply (ITA) deadline                                                                                                                                                  |
| 2024                                     | Autumn   | SFY 24 Funding List published                                                                                                                                                                    |
|                                          | Spring   | SFY 25 Project Priority List (PPL) published <ul style="list-style-type: none"> <li>• Priority score objections deadline within 30 days</li> </ul>                                               |
|                                          | April 30 | Last recommended date for opening bids on SFY 24 projects                                                                                                                                        |
|                                          | May 31   | Executed construction contracts due for SFY 24 projects                                                                                                                                          |
|                                          | June 15  | PSC-approved rate order due for SFY 24 projects                                                                                                                                                  |
|                                          | June 30  | SFY 25 Application deadline, whether competing for Principal Forgiveness (PF) or not <ul style="list-style-type: none"> <li>• Priority score reevaluation requests due within 30 days</li> </ul> |
|                                          | July 1   | Start of State Fiscal Year 2025 (SFY 25)                                                                                                                                                         |

Note: When a deadline falls on a weekend, that deadline, by statute, is extended to Monday.

The SDWLP application and loan closing deadlines are set in the corresponding state fiscal year Intended Use Plan (IUP). Submit plans and specifications to DNR Drinking Water and Groundwater as well as with the SDWLP application.

CWFP applications are accepted year-round for projects *not* seeking Principal Forgiveness (PF). Submit plans and specifications to DNR Water Quality as well as with the CWFP application. For both PF and non-PF CWFP projects, the loan must close within eight months following the date of the application acceptance notification.





# INTEREST RATES

The Clean Water Fund Program (CWFP) and Safe Drinking Water Loan Program (SDWLP) provide subsidy to bring interest rates on loans down from the market rate established by the Wisconsin Department of Administration (DOA) to the reduced interest rates described in the table shown below. The fixed interest rate applied to the loan is based on the market rate in effect on the day the municipal governing body signs the financial assistance agreement (FAA).

## INTEREST RATE DETERMINATION

| PROJECT TYPE                                                                                                                                                                                                                                                          | % of MARKET RATE | ≤ 20 YR TERM | 21-30 YR TERM |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|---------------|
| <b>CWFP and SDWLP</b><br>For eligible projects of municipalities not meeting the financial need criteria.                                                                                                                                                             | 55%              | 2.145%       | 2.255%        |
| <b>CWFP and SDWLP</b><br>For eligible projects of disadvantaged municipalities meeting the following financial need criteria: <ul style="list-style-type: none"><li>&lt; 10,000 population; and</li><li>≤ 80% of Wisconsin's Median Household Income (MHI).</li></ul> | 33%              | 1.287%       | 1.353%        |
| <b>CWFP</b><br>For eligible projects of extremely disadvantaged municipalities meeting the following financial need criteria: <ul style="list-style-type: none"><li>&lt; 1,000 population; and</li><li>≤ 65% of Wisconsin's MHI.</li></ul>                            | 0%               | 0%           | 0%            |
| <b>CWFP</b><br>For the portion of eligible projects for receiving and storing septage and capacity for treating septage, and non-traditional pilot projects, e.g., water quality trading.                                                                             | 0%               | 0%           | 0%            |
| <b>MARKET RATE</b> (effective 04/01/2023)                                                                                                                                                                                                                             | 100%             | 3.900%       | 4.100%        |

This table shows determination of the loan interest rate by project type, based on the current market rate.

Effective April 1, 2023, the market rate for loans of 20 years or less will remain at 3.90% and the market rate for loans longer than 20 years and of up to 30 years will remain at 4.10%.

## MARKET RATE

On a quarterly basis, DOA assesses the market rates on which the program subsidies are based. The market rate for loans with terms longer than 20 years will be slightly higher than the market rate for 20-year loans. Note that DOA reserves the right to make an increase, if needed, to market rates at any time



**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-29-23**

**A RESOLUTION AUTHORIZING APPLICATION FOR CLEAN WATER FUND PROGRAM  
(LIFT STATION 3 REMODEL)**

**WHEREAS**, on October 17, 2022, as recommended by the Water & Sewer Committee, the Village of Williams Bay Village Board authorized Village Engineer Baxter & Woodman ("Village Engineer") to file the Intent To Apply (ITA) with the Wisconsin Department of Natural Resources ("WDNR") for Clean Water Fund Program ("CWFP") to fund remodeling to the Village of Williams Bay Lift Station 3 which includes: wet wells, pumps, controls, stand-by generator, automatic transfer switch, and site improvements; and

**WHEREAS**, on May 12, 2023, the WDNR identified these components as Project #5643-01 on the Clean Water Fund Program Project Priority List; and

**WHEREAS**, the CWFP provides subsidy to bring interest rates on loans down from the market rate established by the Wisconsin Department of Administration (DOA) to the reduced fixed interest rates based on the market rate in effect on the day the Village Board signs the Financial Assistance Agreement (FAA); and

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Water & Sewer and Finance & Personnel Committees determined that it is in the best interests of the Village to **[not] [authorize]** the Village Engineer to assist the Village Treasurer to enter and submit application for CWFP for the Lift Station 3 Remodel; and

**WHEREAS**, on June 19, 2023, the Village of Williams Village Board, as recommended by the Water & Sewer and Finance & Personnel Committees, have determined that it is in the best interests of the Village and its residents to **[not] [authorize]** the application.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended proposal and authorizes an agreement, therefore.

Approved by the Village Board of the Village of Williams Bay this 19<sup>th</sup> day of June 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk



# VILLAGE OF WILLIAMS BAY

250 Williams Street | PO Box 580 | Williams Bay | WI | 53191 | williamsbay.org  
Phone: 262-245-2700

## UNOFFICIAL MINUTES PARKS AND LAKEFRONT COMMITTEE WEDNESDAY, MAY 10, 2023, AT 6:30 PM VILLAGE HALL COUNCIL ROOM

### Call to Order

Meeting was called to order by Chairman Russell at 6:40pm

### Roll Call

Present: Trustees Russell, Wright and Umans

Also Present: President Duncan, Trustees D'Alessandro and Jaramillo, Administrator Lothspeich, Treasurer Peternell, Director of Public Works Edwards, Police Chief Timm, Recreation Director Rowland, Library Director Schnupp, and Engineer Snyder.

### Meeting Minutes

Umans/Wright motion to approve meeting minutes of April 12, 2023. Russell abstained; motion carried.

### Williams Bay Fine Art and Crafts Fest Edgewater Park Use Application for July 28-30, 2023

Wright/Umans motion to recommend Village Board approval of the Williams Bay Fine Art and Crafts Fest Edgewater Park Use Application for July 28-30, 2023. Unanimously carried.

### Williams Bay Lion Corn and Brat Fest Edgewater Park Use Application for August 11-13, 2023

The Committee mentioned that the Lions Club will need to apply for a Temporary Class B license and operator's license prior to the event. Umans/Wright motion to recommend Village Board approval of the Williams Bay Lion Corn and Brat Fest Edgewater Park Use Application for August 11-13, 2023. Unanimously carried.

### Library Bench specifications

Schnupp discussed the benches that are being donated to the Barrett Memorial Library for information purposes only.

### Adjourn

Umans/Wright motion to adjourn at 6:44pm. Unanimously carried.

/s/ Lori Peternell, Village Treasurer

*These are not official minutes until approved by the Parks and Lakefront Committee*



## EDGEWATER PARK USE AND POLICY CONTRACT

The Village of Williams Bay will allow use of the park, shelter building, some park equipment, electricity, water and sewer, natural gas and waiver of alcoholic beverage license fees.

### IN RETURN THE UNDERSIGNED AGREES TO THE FOLLOWING:

1) You must specify, in writing, your purpose for using the park with date and time requested and documentation for the event a minimum of four (4) weeks prior to the event.

2) Organizations requesting the park must be non-profit, civic-minded Williams Bay based groups or have a constituency composed primarily of Williams Bay residents. Organization must also possess liability and worker's compensation insurance as required by the Village Board for your particular event.

3) A Five Hundred Dollar (\$500.00) refundable deposit shall accompany this signed contract to assure compliance with the following rules governing use of the park.

4) Organization using the Park agrees to repair or replace any items broken, stolen or lost, such as mops, brooms or cleaning equipment; lights or bathroom fixtures, lawn turf, etc., during the time the Park is used.

5) Organization using the Park must keep the park clean and orderly during your event, including allowing others to freely access the park and the bathrooms. Also, agrees to pick up litter as it accumulates and clean rest rooms during the time of your event. All clean up must be performed by 10:00 AM of the day following the event unless specifically changed by the Village Administrator.

7) Organization must supply chairs, garbage receptacles and dumpster and must be responsible for removing trash and garbage at close of event and to leave that portion of the park in a clean manner. All park tables shall be returned to their original placement in the park.

8) These rules apply to beer and/or wine sales. Beer and/or Wine requests must be submitted to the Village Clerk a minimum of four (4) weeks prior to the event.

- a) Use of alcoholic beverages on village property is prohibited. However, when fermented malt beverages and/or wine are to be sold and/or served at any event authorized by the village board, a valid license shall be obtained and the provisions of village ordinance Chapter 8.01 shall be in full compliance. The license must be held by the person who filed the original application and shall be presented to any law enforcement officer upon request. Prior to the issuance of a license, the applicant must attend a pre-event informational meeting to be held prior to the Village Board meeting preceding this event with the Chief of Police and the Director of Public Works. This meeting is required as specific requirements are to be met for license approval that will be outlined and reviewed.
- b) It is expected that an organization issued such a license will post in one or more conspicuous locations, including sales outlet, signs disclosing that no fermented malt beverages or wine will be served to any underage person or any person without adequate age identification.
- c) A fence is to be installed around the licensed premises to control ingress and egress with designated personnel posted at the entrance for the purpose of checking age identification.
- d) No underage person is allowed to assist in the sale of beer and/or wine, nor are they allowed to loiter in the area of beer/wine sales.
- e) There shall be one point of sale only. Licensee shall comply with regulations specified in Wisconsin Statutes for Class "B" licenses.
- f) A list of those serving alcoholic beverages at this event must accompany this contract.



## Page 2 EDGEWATER PARK USE AND POLICY CONTRACT

9) All group members must be informed and agree to abide by these rules prior to the occurrence of the event.

10) Any organization requesting use of the kitchen must contact the Lions Club at [williamsbaylionsclub@gmail.com](mailto:williamsbaylionsclub@gmail.com) to arrange for inspection of equipment available for use.

After approval of a park request has been granted, the Village Board, Village Administrator, Chief of Police, or Public Works Director may revoke same if it is deemed that such action is justified by an actual or potential emergency due to weather, fire, riot, administrative or clerical error or likelihood of a breach of the peace.

The applicant agrees by signing this Park Application that the security deposit, when required, shall be held by the Village of Williams Bay, and may be applied to property damage to the premises resulting during the time of the activity or may be forfeited as a result of police action required at the activity. The Village may also seek further action to recover damages to the occupied premises. The applicant agrees not to use the premises for any unlawful activity including those posted in the parks, and also agrees to abide by park rules, regulations and ordinances of the Village of Williams Bay.

The applicant agrees to indemnify the Village and hold it harmless for all expenses, liability and claims of any kind arising out of harm to or activities of attendees to the event. For certain events, the Village may require the applicant to file evidence of insurance in force or other evidence of adequate financial responsibility. The Village may also require the applicant to provide trained security personnel at the event.

### Indemnification:

Prior to approving any application for reserved use of any village facility, the village may require the applicant to file evidence of good and sufficient sureties, insurance in force or other evidence of adequate financial responsibility, protecting third parties as may be injured or damaged and naming the Village of Williams Bay as an additional insured, in any amount depending upon the likelihood of injury or damage as a direct and proximate result of the reserved use sufficient to indemnify the Village and such third parties as may be injured or damaged thereby, caused by the applicant, its agents or participants.

### General Information

Name: DAVID BURBROUGH Organization: WILLIAMS BAY FIRE DEPT  
Address: 5 EAST GENOVA ST WILMS BAY  
Phone: 1-262-203-0301 Email: DAVIDBURBROUGH@PANDORA.COM  
Title of Event: 57TH ANNUAL CHICKEN ROAST  
Date(s) requested: 7-14-15-16-2023 Is event open to public? (circle one) ☒ YES ☐ NO

Summary of Event including the approximate number of attendees:

ANNUAL FUNDRAISER FOR BUILDING MAINTENANCE  
1200 TO 1500 PEOPLE ATTENDING

### Contact Information (if different than above)

Name: \_\_\_\_\_ Organization: \_\_\_\_\_

Address: \_\_\_\_\_





## Page 3 EDGEWATER PARK USE AND POLICY CONTRACT

Phone: \_\_\_\_\_ Email: \_\_\_\_\_



**STATEMENT CONCERNING LIABILITY AND WORKER'S COMPENSATION INSURANCE FOR USE OF EDGEWATER PARK**

We hereby acknowledge and confirm that the undersigned non-profit group or organization, together with all of its members, are not acting or serving in the service of the Village of Williams Bay in any respect in connection with the use we are about to make of or event we are about to hold in Edgewater Park. Our organization, including all members thereof, is not acting under any contract of hire, express or implied with the Village of Williams Bay nor is our organization, or any members thereof serving the Village of Williams Bay as an independent contractor. Our organization, including all members thereof, will not employ any other persons or firms in connection with the use we are about to make of or event we are about to hold in Edgewater Park as our use or event will be run using our membership or immediate family members of our membership only. This statement is made to clarify and confirm that our organization, including all members thereof, is not subject to Worker's Compensation coverage of the Village of Williams Bay.

We further acknowledge and confirm that the undersigned non-profit group or organization has liability insurance coverage of at least \$1,000,000 (one million dollars) and liquor liability insurance coverage (if applicable) in the same amount of coverage provided to it by its parent organization as set forth below that does provide liability insurance coverage to our local group or organization for the use or event about to take place under our exclusive control in Edgewater Park. We acknowledge that we are responsible, and all of our members and our member's immediate family who may also be participating in our event, for the safe and careful conduct of our event. As an express condition of our event therein under our exclusive use and control we do hereby agree to indemnify the Village of Williams Bay and all of its officials, agents and employees against all liability or loss that the Village of Williams Bay may sustain as a result of claims, demands, costs or judgments arising from the use or event we are about to hold in Edgewater Park.

DATED this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

Group or organization \_\_\_\_\_

Our liability insurance provided by: \_\_\_\_\_

**(a certificate of insurance is attached hereto naming the Village of Williams Bay as an additional named insured)**

Signed by: \_\_\_\_\_

President or other authorized signatory

**VILLAGE USE ONLY**

Date application received: \_\_\_\_\_ Received by: \_\_\_\_\_

All documentation attached? yes/no

Date and time of pre-event informational meeting: \_\_\_\_\_

Committee approval? yes/no Date: \_\_\_\_\_

Village Board approval? yes/no Date: \_\_\_\_\_

Comments:

**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-21-23**

**A RESOLUTION APPROVING EDGEWATER PARK USE APPLICATION**

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Parks and Lakefront Committee determined that it is in the best interests of the Village and its residents to authorize approval of the attached Edgewater Park Use Application:

**(1.) Williams Bay Fire Department 57<sup>th</sup> Annual Chicken Roast**

**WHEREAS**, the Village Board of the Village of Williams Bay, being fully advised in the premises, have determined that it is in the best interests of the Village and its residents to approve the recommended Edgewater Park Use Application.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, upon recommendation by the Parks and Lakefront Committee, do hereby ordain approval of this Edgewood Park Use Application:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended Application and authorizes the event, therefore.

Approved by the Village Board of the Village of Williams Bay this \_\_\_\_ day of \_\_\_\_ 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk



# VILLAGE OF WILLIAMS BAY

*Office of the Village Clerk*

## Memo

To: Parks and Lakefront Committee  
From: Tina Kolls, Village Clerk  
Date: May 30, 2023  
RE: Edgewater Park Use and Policy Contract

Upon receipt of the Edgewater Park Use and Policy Contract from the William Forbeck Research Foundation for the Yoga Class and Family Fun for June 24, 2023, I noticed that the address for the Foundation was Carbondale, CO. I informed the applicant that the contract states:

2) Organizations requesting the park must be non-profit, civic-minded Williams Bay based groups or have a constituency composed primarily of Williams Bay residents. Organization must also possess liability and worker's compensation insurance as required by the Village Board for your particular event.

The applicant stated that they have many donors in the Williams Bay area and that many of the attendees would be from Williams Bay.

I just wanted to make you aware of the conversation I had with the applicant on this matter.





## EDGEWATER PARK USE AND POLICY CONTRACT

The Village of Williams Bay will allow use of the park, shelter building, some park equipment, electricity, water and sewer, natural gas and waiver of alcoholic beverage license fees.

### IN RETURN THE UNDERSIGNED AGREES TO THE FOLLOWING:

- 1) You must specify, in writing, your purpose for using the park with date and time requested and documentation for the event a minimum of four (4) weeks prior to the event.
- 2) Organizations requesting the park must be non-profit, civic-minded Williams Bay based groups or have a constituency composed primarily of Williams Bay residents. Organization must also possess liability and worker's compensation insurance as required by the Village Board for your particular event.
- 3) A Five Hundred Dollar (\$500.00) refundable deposit shall accompany this signed contract to assure compliance with the following rules governing use of the park.
- 4) Organization using the Park agrees to repair or replace any items broken, stolen or lost, such as mops, brooms or cleaning equipment; lights or bathroom fixtures, lawn turf, etc., during the time the Park is used.
- 5) Organization using the Park must keep the park clean and orderly during your event, including allowing others to freely access the park and the bathrooms. Also, agrees to pick up litter as it accumulates and clean rest rooms during the time of your event. All clean up must be performed by 10:00 AM of the day following the event unless specifically changed by the Village Administrator.
- 7) Organization must supply chairs, garbage receptacles and dumpster and must be responsible for removing trash and garbage at close of event and to leave that portion of the park in a clean manner. All park tables shall be returned to their original placement in the park.
- 8) These rules apply to beer and/or wine sales. Beer and/or Wine requests must be submitted to the Village Clerk a minimum of four (4) weeks prior to the event.
  - a) Use of alcoholic beverages on village property is prohibited. However, when fermented malt beverages and/or wine are to be sold and/or served at any event authorized by the village board, a valid license shall be obtained and the provisions of village ordinance Chapter 8.01 shall be in full compliance. The license must be held by the person who filed the original application and shall be presented to any law enforcement officer upon request. Prior to the issuance of a license, the applicant must attend a pre-event informational meeting to be held prior to the Village Board meeting preceding this event with the Chief of Police and the Director of Public Works. This meeting is required as specific requirements are to be met for license approval that will be outlined and reviewed.
  - b) It is expected that an organization issued such a license will post in one or more conspicuous locations, including sales outlet, signs disclosing that no fermented malt beverages or wine will be served to any underage person or any person without adequate age identification.
  - c) A fence is to be installed around the licensed premises to control ingress and egress with designated personnel posted at the entrance for the purpose of checking age identification.
  - d) No underage person is allowed to assist in the sale of beer and/or wine, nor are they allowed to loiter in the area of beer/wine sales.
  - e) There shall be one point of sale only. Licensee shall comply with regulations specified in Wisconsin Statutes for Class "B" licenses.
  - f) A list of those serving alcoholic beverages at this event must accompany this contract.



## Page 2 EDGEWATER PARK USE AND POLICY CONTRACT

9) All group members must be informed and agree to abide by these rules prior to the occurrence of the event.

10) Any organization requesting use of the kitchen must contact the Lions Club at nelsonbruce@aol.com to arrange for inspection of equipment available for use.

After approval of a park request has been granted, the Village Board, Village Administrator, Chief of Police, or Public Works Director may revoke same if it is deemed that such action is justified by an actual or potential emergency due to weather, fire, riot, administrative or clerical error or likelihood of a breach of the peace.

The applicant agrees by signing this Park Application that the security deposit, when required, shall be held by the Village of Williams Bay, and may be applied to property damage to the premises resulting during the time of the activity or may be forfeited as a result of police action required at the activity. The Village may also seek further action to recover damages to the occupied premises. The applicant agrees not to use the premises for any unlawful activity including those posted in the parks, and also agrees to abide by park rules, regulations and ordinances of the Village of Williams Bay.

The applicant agrees to indemnify the Village and hold it harmless for all expenses, liability and claims of any kind arising out of harm to or activities of attendees to the event. For certain events, the Village may require the applicant to file evidence of insurance in force or other evidence of adequate financial responsibility. The Village may also require the applicant to provide trained security personnel at the event.

### Indemnification:

Prior to approving any application for reserved use of any village facility, the village may require the applicant to file evidence of good and sufficient sureties, insurance in force or other evidence of adequate financial responsibility, protecting third parties as may be injured or damaged and naming the Village of Williams Bay as an additional insured, in any amount depending upon the likelihood of injury or damage as a direct and proximate result of the reserved use sufficient to indemnify the Village and such third parties as may be injured or damaged thereby, caused by the applicant, its agents or participants.

### General Information

Name: Marla Schrager Organization: William Guy Forbeck Research Foundation

Address: PO Box 1033, Carbondale, CO 81623

Phone: 312-420-6846 Email: marla@wgfrf.org

Title of Event: Yoga Class and Family Fun

Date(s) requested: June 24 Is event open to public? (circle one) **YES** NO

### Summary of Event including the approximate number of attendees:

Partnering with Yoga Lake Geneva and Green Grocer, the Foundation with roots in Lake Geneva, Colorado and South Carolina, will host a family friendly yoga class for donors (40% in the WI/IL area), survivors, family members and the general population in Williams Bay. We are anticipating 20-30 participants. Coffee, non-alcoholic beverages and snacks will be provided. The event will be held from 8a - 10a. Kids activities will also be incorporated.

### Contact Information (if different than above)

Name: Marla Schrager Organization: William Guy Forbeck Research Foundation

Address: 160 Palmer Place, Lake Geneva, WI 53147

Revised 11/21/2022

Applicant initials MS



Page 3 EDGEWATER PARK USE AND POLICY CONTRACT

Phone: 312-420-6846 Email: marla@wgfrf.org



**STATEMENT CONCERNING LIABILITY AND WORKER'S COMPENSATION INSURANCE FOR USE OF EDGEWATER PARK**

We hereby acknowledge and confirm that the undersigned non-profit group or organization, together with all of its members, are not acting or serving in the service of the Village of Williams Bay in any respect in connection with the use we are about to make of or event we are about to hold in Edgewater Park. Our organization, including all members thereof, is not acting under any contract of hire, express or implied with the Village of Williams Bay nor is our organization, or any members thereof serving the Village of Williams Bay as an independent contractor. Our organization, including all members thereof, will not employ any other persons or firms in connection with the use we are about to make of or event we are about to hold in Edgewater Park as our use or event will be run using our membership or immediate family members of our membership only. This statement is made to clarify and confirm that our organization, including all members thereof, is not subject to Worker's Compensation coverage of the Village of Williams Bay.

We further acknowledge and confirm that the undersigned non-profit group or organization has liability insurance coverage of at least \$1,000,000 (one million dollars) and liquor liability insurance coverage (if applicable) in the same amount of coverage provided to it by its parent organization as set forth below that does provide liability insurance coverage to our local group or organization for the use or event about to take place under our exclusive control in Edgewater Park. We acknowledge that we are responsible, and all of our members and our member's immediate family who may also be participating in our event, for the safe and careful conduct of our event. As an express condition of our event therein under our exclusive use and control we do hereby agree to indemnify the Village of Williams Bay and all of its officials, agents and employees against all liability or loss that the Village of Williams Bay may sustain as a result of claims, demands, costs or judgments arising from the use or event we are about to hold in Edgewater Park.

DATED this 25 day of May, 2023

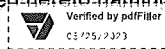
Group or organization William Guy Forbeck Research Foundation

Our liability insurance provided by: To be provided

(a certificate of insurance is attached hereto naming the Village of Williams Bay as an additional named insured)

Signed by: Marla Schrage

President or other authorized signatory



**VILLAGE USE ONLY**

Date application received: \_\_\_\_\_ Received by: \_\_\_\_\_

All documentation attached? yes/no

Date and time of pre-event informational meeting: \_\_\_\_\_

Committee approval? yes/no Date: \_\_\_\_\_

Village Board approval? yes/no Date: \_\_\_\_\_

Comments: \_\_\_\_\_

**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-22-23**

**A RESOLUTION APPROVING EDGEWATER PARK USE APPLICATION**

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Parks and Lakefront Committee determined that it is in the best interests of the Village and its residents to authorize approval of the attached Edgewater Park Use Application:

**(1.) William Guy Forbeck Research Foundation Yoga Class and Family Fun**

**WHEREAS**, the Village Board of the Village of Williams Bay, being fully advised in the premises, have determined that it is in the best interests of the Village and its residents to approve the recommended Edgewater Park Use Application.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, upon recommendation by the Parks and Lakefront Committee, do hereby ordain approval of this Edgewood Park Use Application:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended Application and authorizes the event, therefore.

Approved by the Village Board of the Village of Williams Bay this \_\_\_\_ day of \_\_\_\_ 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk



# VILLAGE OF WILLIAMS BAY

*Office of the Village Clerk*

## Memo

To: Parks and Lakefront Committee  
From: Tina Kolls, Village Clerk  
Date: May 31, 2023  
RE: Edgewater Park Use and Policy Contract

The Applicant Joe Vyhnanek is requesting that the Village of Williams Bay waive the \$500.00 deposit for this event. Vyhnanek explained that this is a non-profit organization whose main goal is youth programs and character development.

**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-26-23**

**A RESOLUTION APPROVING EDGEWATER PARK USE APPLICATION**

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Parks and Lakefront Committee determined that it is in the best interests of the Village and its residents to authorize approval of the attached Edgewater Park Use Application:

**(1.) Williams Bay Boy Scout Pack 237**

**WHEREAS**, the Village Board of the Village of Williams Bay, being fully advised in the premises, have determined that it is in the best interests of the Village and its residents to approve the recommended Edgewater Park Use Application.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, upon recommendation by the Parks and Lakefront Committee, do hereby ordain approval of this Edgewood Park Use Application:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended Application and authorizes the event, therefore.

Approved by the Village Board of the Village of Williams Bay this \_\_\_\_ day of \_\_\_\_ 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk



## EDGEWATER PARK USE AND POLICY CONTRACT

The Village of Williams Bay will allow use of the park, shelter building, some park equipment, electricity, water and sewer, natural gas and waiver of alcoholic beverage license fees.

### IN RETURN THE UNDERSIGNED AGREES TO THE FOLLOWING:

- 1) You must specify, in writing, your purpose for using the park with date and time requested and documentation for the event a minimum of four (4) weeks prior to the event.
- 2) Organizations requesting the park must be non-profit, civic-minded Williams Bay based groups or have a constituency composed primarily of Williams Bay residents. Organization must also possess liability and worker's compensation insurance as required by the Village Board for your particular event.
- 3) A Five Hundred Dollar (\$500.00) refundable deposit shall accompany this signed contract to assure compliance with the following rules governing use of the park.
- 4) Organization using the Park agrees to repair or replace any items broken, stolen or lost, such as mops, brooms or cleaning equipment; lights or bathroom fixtures, lawn turf, etc., during the time the Park is used.
- 5) Organization using the Park must keep the park clean and orderly during your event, including allowing others to freely access the park and the bathrooms. Also, agrees to pick up litter as it accumulates and clean rest rooms during the time of your event. All clean up must be performed by 10:00 AM of the day following the event unless specifically changed by the Village Administrator.
- 7) Organization must supply chairs, garbage receptacles and dumpster and must be responsible for removing trash and garbage at close of event and to leave that portion of the park in a clean manner. All park tables shall be returned to their original placement in the park.
- 8) These rules apply to beer and/or wine sales. Beer and/or Wine requests must be submitted to the Village Clerk a minimum of four (4) weeks prior to the event.
  - a) Use of alcoholic beverages on village property is prohibited. However, when fermented malt beverages and/or wine are to be sold and/or served at any event authorized by the village board, a valid license shall be obtained and the provisions of village ordinance Chapter 8.01 shall be in full compliance. The license must be held by the person who filed the original application and shall be presented to any law enforcement officer upon request. Prior to the issuance of a license, the applicant must attend a pre-event informational meeting to be held prior to the Village Board meeting preceding this event with the Chief of Police and the Director of Public Works. This meeting is required as specific requirements are to be met for license approval that will be outlined and reviewed.
  - b) It is expected that an organization issued such a license will post in one or more conspicuous locations, including sales outlet, signs disclosing that no fermented malt beverages or wine will be served to any underage person or any person without adequate age identification.
  - c) A fence is to be installed around the licensed premises to control ingress and egress with designated personnel posted at the entrance for the purpose of checking age identification.
  - d) No underage person is allowed to assist in the sale of beer and/or wine, nor are they allowed to loiter in the area of beer/wine sales.
  - e) There shall be one point of sale only. Licensee shall comply with regulations specified in Wisconsin Statutes for Class "B" licenses.
  - f) A list of those serving alcoholic beverages at this event must accompany this contract.





## Page 2 EDGEWATER PARK USE AND POLICY CONTRACT

9) All group members must be informed and agree to abide by these rules prior to the occurrence of the event.

10) Any organization requesting use of the kitchen must contact the Lions Club at [williamsbaylionsclub@gmail.com](mailto:williamsbaylionsclub@gmail.com) to arrange for inspection of equipment available for use.

After approval of a park request has been granted, the Village Board, Village Administrator, Chief of Police, or Public Works Director may revoke same if it is deemed that such action is justified by an actual or potential emergency due to weather, fire, riot, administrative or clerical error or likelihood of a breach of the peace.

The applicant agrees by signing this Park Application that the security deposit, when required, shall be held by the Village of Williams Bay, and may be applied to property damage to the premises resulting during the time of the activity or may be forfeited as a result of police action required at the activity. The Village may also seek further action to recover damages to the occupied premises. The applicant agrees not to use the premises for any unlawful activity including those posted in the parks, and also agrees to abide by park rules, regulations and ordinances of the Village of Williams Bay.

The applicant agrees to indemnify the Village and hold it harmless for all expenses, liability and claims of any kind arising out of harm to or activities of attendees to the event. For certain events, the Village may require the applicant to file evidence of insurance in force or other evidence of adequate financial responsibility. The Village may also require the applicant to provide trained security personnel at the event.

### Indemnification:

Prior to approving any application for reserved use of any village facility, the village may require the applicant to file evidence of good and sufficient sureties, insurance in force or other evidence of adequate financial responsibility, protecting third parties as may be injured or damaged and naming the Village of Williams Bay as an additional insured, in any amount depending upon the likelihood of injury or damage as a direct and proximate result of the reserved use sufficient to indemnify the Village and such third parties as may be injured or damaged thereby, caused by the applicant, its agents or participants.

### General Information

Name: JOE VYHNANEK Organization: BOY SCOUT PACK 237

Address: 439 FROST DR. WILLIAMS BAY, WI 53191

Phone: 602-568-1442 Email: WBLUB SCOUTPACK237@GMAIL.COM

Title of Event: BLUE + GOLD CEROMONY

Date(s) requested: 06/20/23 Is event open to public? (circle one) YES ☐ NO ☒

Summary of Event including the approximate number of attendees:

AWARDS CEROMONY AND DINNER FOR CUB SCOUTS.

### Contact Information (if different than above)

Name: \_\_\_\_\_ Organization: \_\_\_\_\_

Address: \_\_\_\_\_



## Page 3 EDGEWATER PARK USE AND POLICY CONTRACT

Phone: \_\_\_\_\_ Email: \_\_\_\_\_



**STATEMENT CONCERNING LIABILITY AND WORKER'S COMPENSATION INSURANCE FOR USE OF EDGEWATER PARK**

We hereby acknowledge and confirm that the undersigned non-profit group or organization, together with all of its members, are not acting or serving in the service of the Village of Williams Bay in any respect in connection with the use we are about to make of or event we are about to hold in Edgewater Park. Our organization, including all members thereof, is not acting under any contract of hire, express or implied with the Village of Williams Bay nor is our organization, or any members thereof serving the Village of Williams Bay as an independent contractor. Our organization, including all members thereof, will not employ any other persons or firms in connection with the use we are about to make of or event we are about to hold in Edgewater Park as our use or event will be run using our membership or immediate family members of our membership only. This statement is made to clarify and confirm that our organization, including all members thereof, is not subject to Worker's Compensation coverage of the Village of Williams Bay.

We further acknowledge and confirm that the undersigned non-profit group or organization has liability insurance coverage of at least \$1,000,000 (one million dollars) and liquor liability insurance coverage (if applicable) in the same amount of coverage provided to it by its parent organization as set forth below that does provide liability insurance coverage to our local group or organization for the use or event about to take place under our exclusive control in Edgewater Park. We acknowledge that we are responsible, and all of our members and our member's immediate family who may also be participating in our event, for the safe and careful conduct of our event. As an express condition of our event therein under our exclusive use and control we do hereby agree to indemnify the Village of Williams Bay and all of its officials, agents and employees against all liability or loss that the Village of Williams Bay may sustain as a result of claims, demands, costs or judgments arising from the use or event we are about to hold in Edgewater Park.

DATED this 30 day of MAY, 2023

Group or organization CUB/SCOUT PACK 237

Our liability insurance provided by: \_\_\_\_\_

(a certificate of insurance is attached hereto naming the Village of Williams Bay as an additional named insured)

Signed by: \_\_\_\_\_  
President or other authorized signatory

**VILLAGE USE ONLY**

Date application received: \_\_\_\_\_ Received by: \_\_\_\_\_

All documentation attached? yes/no

Date and time of pre-event informational meeting: \_\_\_\_\_

Committee approval? yes/no Date: \_\_\_\_\_

Village Board approval? yes/no Date: \_\_\_\_\_

Comments:



# VILLAGE OF WILLIAMS BAY

*Office of the Village Clerk*

## Memo

To: Parks & Lakefront Committee  
From: Tina Kolls, Village Clerk  
Date: May 30, 2023  
Re: Boat Slips

When working to fill the open boat slips for the 2023 season, I ran into a situation where the next person on the waiting list owns only commercial property. They were allowed to get on the waiting list per Resolution R-4-18. Our Boat Slip Lease, however, states that you must be an owner of improved residential real estate.

Per the attached memo it appears that it may have been the intent in 2018 to allow commercial property owners to be able to get a boat slip however, the lease was never changed.

I have one boat slip in limbo awaiting a decision.



## **VILLAGE PIER BOAT SLIP WAITING LIST**

### **RESOLUTION**

#### **R - 4 - 18**

WHEREAS, the Village of Williams Bay has had a long-term policy regarding its pier boat slip leases and the establishment of a waiting list for those residents wanting a pier boat slip when none are available and the rules for said residents in obtaining a pier boat slip when one is vacant, and

WHEREAS, the Village has come to realize that it is necessary to render these long-term policies in writing to ensure said policies are administered fairly and consistently now and in the years to come, and

WHEREAS, for the purpose of this resolution, the term “resident” shall include the owner of improved or vacant residential real estate and the owner of improved or vacant commercial real estate located in the Village, and

NOW, THEREFORE, IT IS HEREBY RESOLVED that the following steps and procedures will be taken regarding the Village Pier Boat Slip Waiting List:

1. Only Williams Bay residents and their spouses may enter their name on the Pier Boat Slip Waiting List. If the property is recorded under a Trust, then only the principal Trustee and their spouse may jointly enter their name on the Village Pier Boat Slip Waiting List. If the property is recorded in the name of an entity such as a corporation, LLC, LLP or partnership, then only one individual holding an ownership interest in that entity and their spouse may jointly enter their name on the Village Pier Boat Slip Waiting List.
2. When an individual’s name comes to the top of the waiting list, they must meet the boat slip lease criteria to enter into a lease or must go to the bottom of the list. Once offered a lease, the individual has 14 days to enter into the lease with the Village or will forfeit their space on the waiting list.
3. A resident already owning a lease with the Village may enter their name on one waiting list for a different size pier boat slip, but once they obtain that pier boat slip, they must surrender the current pier boat slip they possess (a resident cannot lease two pier boat slips at one time.)

APPROVED by the Village Board of the Village of Williams Bay this 19th day of March, 2018.

#### **VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Elizabeth Gasparac, Clerk



williamsbay.org

# VILLAGE OF WILLIAMS BAY

P.O. Box 580 • 250 Williams Street  
Williams Bay, WI 53191  
P: (262) 245-2700 • F: (262) 245-2705

## 2023 BOAT SLIP LEASE AGREEMENT

THIS INDENTURE made this **1st day of April 2023**, by and between the Village of Williams Bay (herein referred to as "Lessor") and **first name, last name**, whose residential street address in the Village of Williams Bay is **village address** (herein referred to as "Lessee").

### WITNESSETH:

1. **Lease.** Lessor leases to Lessee a specified boat slip on a Village owned pier, more specifically, being identified as slip number **slip number** such slip being located on a village owned piers. This lease is for a term of one (1) summer season commencing on the first date of the summer season, or on the date of this lease if after such date and terminating October 31, 2023, at 12:00 noon. A summer season is defined for 2023, as commencing when the piers are installed in Geneva Lake annually in the spring and **after the piers are painted by the Village** and ending when the municipal piers are removed from Geneva Lake in the fall, or October 31st at 12:00 noon, whichever first occurs annually. Lessee agrees to remove his/her boat prior to the end of each summer season. Lessor is not responsible for boats not removed annually at the end of the summer season.
2. **Rent.** Lessee agrees to pay to Lessor as rent for the slip identified above the total sum in advance as stated in Schedule A attached hereto and made part of this Lease. All such rent payments shall be made payable to and delivered to the Village of Williams Bay Treasurer whose address is P.O. Box 580, Williams Bay, Wisconsin 53191 with 2 attachments: **copy of current Wisconsin boat registration card and this signed lease.**
3. **Use of Slip.** Lessee agrees to use the leased slip for the purpose of securing watercraft registered to the Lessee in the State of Wisconsin. **A copy of the current Wisconsin registration must be sent in with the annual lease payment.** Lessee also agrees not to engage in any unlawful activity on or around the leased slip and to comply with all Village Ordinances and Resolutions at all times. Lessee agrees to comply with all *Conditions for Use* as stated in Schedule B, and *Tie Down Instructions* as stated in Schedule C", attached hereto and made part of this lease. No watercraft larger than 18 feet will be allowed to use the leased slip on any slip at the Village owned pier. No watercraft larger than 21 feet will be allowed to use the leased slip on slips numbered one (1) through thirteen (13) (inclusive) on the East pier and numbered fourteen (14) through twenty-six (26) (inclusive) on the West pier. No watercraft larger than 23 feet will be allowed to use the leased slip on slips numbered one (1) through thirteen (13) (inclusive) on the West pier and numbered fourteen (14) through twenty-six (26) (inclusive) on the East pier. No watercraft larger than 24 feet will be allowed to use the leased slip on slips numbered twenty-seven (27) through thirty-nine (39) (inclusive) on either the East or West piers. Length over-all includes all attachments or appurtenances to said watercraft. In all cases watercraft, must be able to fit into the slip without causing damage thereto. Personal watercraft such as jet-skis, wave-runners and the like are not permitted. Lessee shall not assign this Lease, or sublet or grant any concessions or license to use the slip or any part thereof to anyone. The slip shall be available upon commencement of the summer season on the year(s) covered by this Lease and said slip shall be vacated no later than October 31 at noon of each year covered by this lease. Any and all damages to said slip other than normal wear

and tear are the responsibility of the Lessee. The Lessee agrees to, in the event of damage to said slip, promptly pay for the cost of repair of said slip. Such repairs shall be performed by the Lessor and costs incurred for said repair will be billed to the Lessee. Prompt payment means payment within 30 days of the billing date. The leased slip shall not lie dormant (with no boat in the leased slip) for more than thirty (30) days per summer season without Lessee receiving prior written permission from Lessor. Lessee's failure to secure prior written permission will result in the Lessee surrendering their leased slip in accordance with section eight of this lease.

4. Residency Required at All Times. As a material condition of this Lease, Lessee is at all times during the term of this Lease will remain a resident of Lessor. Municipal pier slips are available for lease in accordance with the written priority policy established by the Village Board to residents only. A resident is defined in said written policy as an owner of improved residential real estate located within the corporate limits of the Village of Williams Bay. If Lessee ceases to be an owner of improved real estate within the corporate limits of the Village of Williams Bay, then the lease shall end on the date residency ceases for that summer season and Lessee must remove his/her boat immediately. Lessor will prorate any prepaid rentals and refund unused rentals to Lessee for termination of this Lease due to loss of resident status.
5. Repair, Maintenance, and Housekeeping. Lessor agrees to provide normal and ordinary maintenance and repair to the leased slip at its own discretion and cost. Lessee agrees to keep the lease slip clear of all garbage and litter.
6. Alterations and Improvements. Lessee is specifically prohibited from altering, adding to, subtracting from, or otherwise changing the leased slip. Further, no lockboxes, gates, and other structures will be permitted with the exception of approved marine bumpers and approved solar-powered boat lifts. Boat Lifts must be solar-powered and the boat cradle of the lift, including any attachments such as guides or bumpers, cannot extend above the decking or walkway of the pier. Solar battery boxes for approved boat lifts cannot be installed on the pier and, like the boat cradle, cannot extend above the decking or walkway of the pier. Furthermore, said boat lifts must be approved by the Lessor prior to installation by the Lessee's contractor. Installation and removal of approved boat lifts shall comply with section one (1) of this lease. To coordinate the placement of boat lifts with Village owned piers, installation, *EXCEPT INITIAL INSTALLATION*, and removal of approved boat lifts shall be performed at Lessee's cost by the same contractor as the Lessor contracts with for that given year. Winter storage of boat lifts shall be permitted only in Village owned storage area, and shall be at Lessee's expense.
7. Indemnification. Lessee agrees to indemnify and hold harmless the Lessor for any damage to the property (which includes the Lessee's watercraft) and/or person of the Lessee, the Lessee's family, agents, invitees, guests or companions, occurring at or around the leased slip.
8. Default and Termination. If any default is made in the performance of or compliance with any term or condition of this Lease, the Lease, at the option of the Lessor, shall terminate and be forfeited. Lessee shall be given ten (10) days written notice of intent to terminate due to any default or breach. Termination and forfeiture of the Lease shall not result if, within five (5) days of receipt of such notice of intent to terminate, Lessee corrects the default or breach to the satisfaction of the Lessor. The failure of Lessor to insist on a strict performance of any of the terms and conditions hereof shall be deemed a waiver of the rights and remedies that Lessor may have regarding that specific instance only, and shall not be deemed a waiver of any subsequent breach or default in any of the terms and conditions of this Lease.

9. Voluntary Termination by Lessee. In the event Lessee desires to terminate this Lease and surrender the slip prior to the expiration of the term of this Lease, all rentals paid shall not be refundable.
10. Surrender of Slip. At the expiration of the Lease term, Lessee shall quit and surrender the leased slip in as good a state and condition as it was in at the commencement of this Lease, reasonable use and wear excepted.
11. Option to Renew. A resident existing Lessee has a first right of refusal for entry into a new Lease for succeeding terms providing such Lessee continues to be a resident and their boat is in their name on the registration. Lessor retains the right to modify the terms and conditions including the rental amounts in its offer of renewal. All renewals will be made in accordance with the current policy resolution of the Village Board concerning such renewals.
12. Total Agreement. This Lease includes the provisions of the current policy resolution of the Village Board which are incorporated herein by reference. In the event of a conflict between the provisions of this Lease and the written policy resolution, the provisions of the written policy resolution shall control.
13. Applicable Law. This Lease agreement shall be governed and construed in accordance with the laws of the State of Wisconsin.
14. Severability. Should any section of this Lease be held unlawful, unconstitutional, or otherwise invalid, all remaining terms of said Lease shall remain in force.
15. I have read and understand I will adhere to all terms and conditions of the 2023 Boat Slip Lease Agreement as well as Schedule A, *Schedule of Prices for 2023*, Schedule B, *Conditions for Use*, and Schedule C, *Tie Down Instructions*.

**VILLAGE OF WILLIAMS BAY**

**SLIP HOLDER**

Village President \_\_\_\_\_ Lessee \_\_\_\_\_

Village Clerk \_\_\_\_\_ Lessee \_\_\_\_\_



## Slip Holder Information

Lease will be returned if this section is not filled in resulting in potential loss of slip

|                       |                                |
|-----------------------|--------------------------------|
| Name _____            | Slip Number _____              |
|                       | Make _____                     |
| Mailing Address _____ | Length _____                   |
|                       | Wisconsin Registration # _____ |
| Village Address _____ | email _____                    |
| Best phone _____      | Optional phone _____           |

## SCHEDULE A Schedule of Prices for 2023

Use the table below to fill out the Fee Calculator section at the bottom of the page

| Section A: Boat Slip Fees                                                   |                                                                                                            |        |                                                                |            |
|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|--------|----------------------------------------------------------------|------------|
| Boat Length*                                                                | Slip Size                                                                                                  | Slip # | Slip Location                                                  | Fee        |
| No larger than 18'                                                          |                                                                                                            | 1-12   | Municipal Pier<br>Require a solar powered lift (see Section B) | \$2,060.00 |
| No larger than 21'                                                          | 24' Slip                                                                                                   | 1-13   | East Pier                                                      | \$2,300.00 |
|                                                                             |                                                                                                            | 14-26  | West Pier                                                      |            |
| No larger than 23'                                                          | 26' Slip                                                                                                   | 1-13   | West Pier                                                      | \$2,470.00 |
|                                                                             |                                                                                                            | 14-26  | East Pier                                                      |            |
| No larger than 24'                                                          | 28' Slip                                                                                                   | 27-39  | East and West Piers                                            | \$2,550.00 |
| *Boat length as stated on Boat Registration                                 |                                                                                                            |        |                                                                |            |
| Section B: Authorized Solar-Powered Boat Lift Installation and Removal Fees |                                                                                                            |        |                                                                |            |
| Event                                                                       | Note                                                                                                       |        |                                                                | Fee        |
| Installation                                                                | Initial installation must be done by Lessee's vendor.<br>Future installations are done by Lessor's vendor. |        |                                                                | \$225.00   |
| Removal                                                                     |                                                                                                            |        |                                                                | \$225.00   |
| Section C: Storage of Boat Lifts on Village Property                        |                                                                                                            |        |                                                                |            |
|                                                                             |                                                                                                            |        |                                                                | Fee        |
| Lessee's are required to store boat lifts on Village Property               |                                                                                                            |        |                                                                | \$125.00   |

| Fee Calculator    |               |                               |                                     |
|-------------------|---------------|-------------------------------|-------------------------------------|
| Section           | Event         | Fee (includes 5.5% sales tax) | Notes                               |
| A                 | Boat Slip Fee |                               |                                     |
| B                 | Installation  |                               | Must be filled in if boat lift used |
| B                 | Removal       |                               | Must be filled in if boat lift used |
| C                 | Storage       |                               | Must be filled in if boat lift used |
| Total Due (A+B+C) |               |                               |                                     |

## **SCHEDULE B**

### **Conditions for Use**

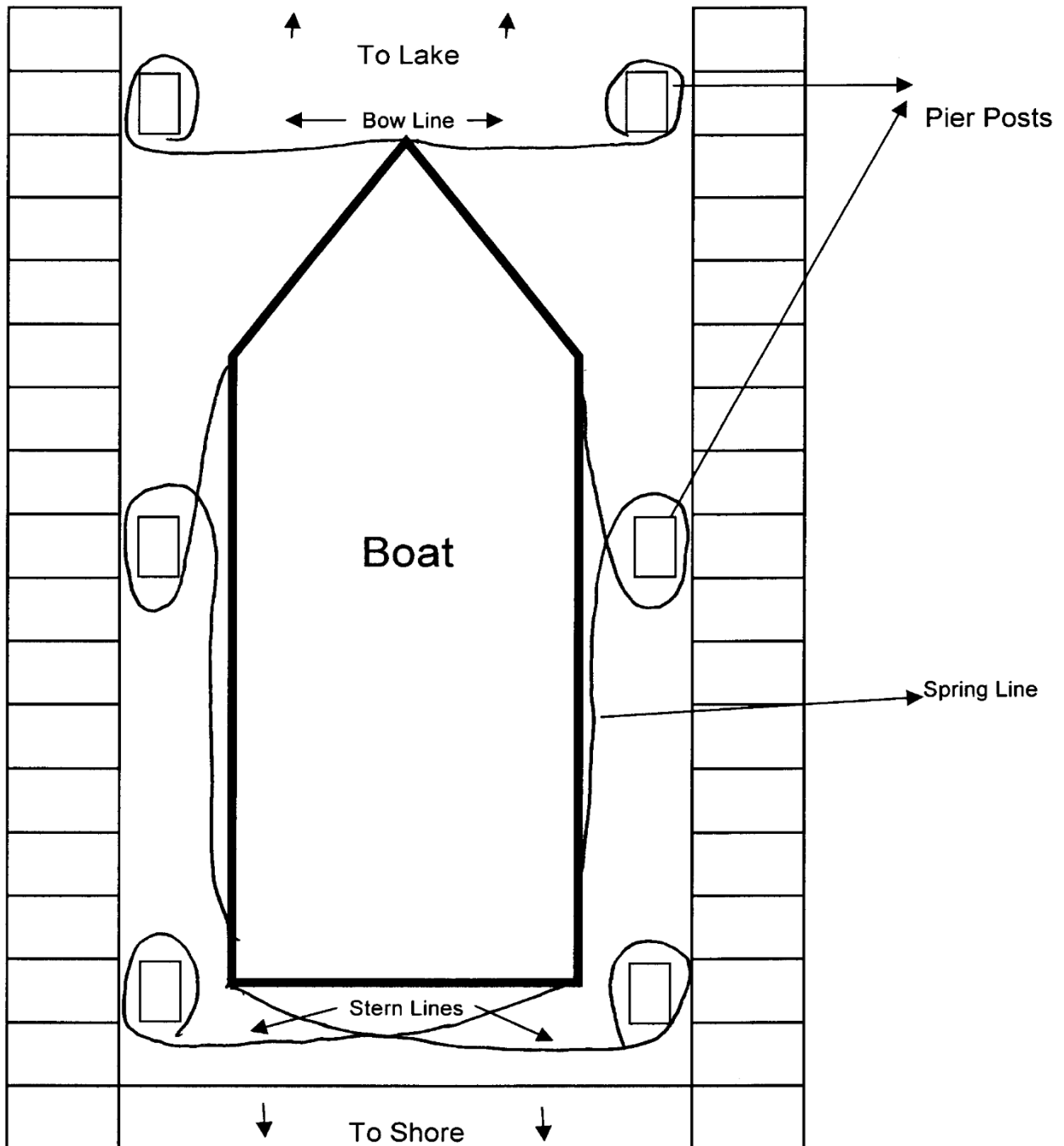
**Each person that leases a ramp or slip shall obey the following regulations.**

1. Only the boat registered to the leaseholder may use the ramp or slip. No ramp or slip may be subleased.
2. The boat shall be registered in the State of Wisconsin.
3. No boat gear or equipment, or other litter may be left on the dock.
4. No dock boxes, ladders or wagons, to move gear, may be left on the dock.
5. Dock lines may be coiled and left on the pier when the ramp or slip is empty. No cleats or eye hooks may be used. Lines must be tied at the lowest point on the horse. Line size should be 1/2 inch for smaller boats and 5/8 inch for larger boats. Rubber snubbers are helpful to reduce shock. **This section not applicable to those lessees using a Village-approved boat lift.**
6. No boat or any equipment attached to the boat may extend outside of the ramp or slip or overhang onto the public pier.
7. Only approved marine bumpers will be allowed. A sample of the approved bumper is at the Village Hall. This can be purchased at any marine supply store. Installation of the approved bumper must be supervised by the Harbor Master. Only galvanized roofing nails may be used to secure the approved bumpers. THESE BUMPERS MAY NOT, IN ANY INSTANCE, BLOCK ACCESS TO BOLTS, NUTS OR PIER HARDWARE. ACCESS IS ESSENTIAL FOR PIER INSTALLATION AND REMOVAL.
8. No alcohol will be permitted on the pier. No drinking in the boat while it is docked at the pier.
9. All park regulations apply to and shall be enforced on the piers at all times.
10. No overnight use of the boat is permitted while the boat is affixed to the pier.
11. It is suggested that all electronic equipment and other valuables shall be removed from the boat when the boat is not in use.
12. No utilities are provided and no long electrical cords are permitted, including the use of generators. The Village does not have and will not have any outlet boxes for this use.
13. All boats must be moored with the bow of the boat facing south, or away from the shore. **This section not applicable to those lessees using a Village-approved boat lift.**
14. No running or bicycles are permitted on the pier at any time. Swimming is not permitted from the pier or from any ramp or slip.
15. **No fueling of boats, or transporting of fuel on municipally-owned piers and slips,** with the exception of mobile fueling stations that have received approval from the Wisconsin Department of Commerce, the Wisconsin Department of Natural Resources and can provide a Certificate of Insurance listing the Village of Williams Bay as an additional insured. The above-mentioned documentation must be on file with the Village of Williams Bay Clerk.
16. Keep the pier clean. Containers are provided for all trash.
17. Lessee is specifically prohibited from altering, adding to, subtracting from, or otherwise changing the leased slip. Further, no lockboxes, gates, and other structures will be permitted with the exception of approved marine bumpers and approved solar-powered boat lifts. Boat Lifts must be solar-powered and the boat cradle of the lift, including any attachments such as guides or bumpers, cannot extend above the decking or walkway of the pier. Solar battery boxes for approved boat lifts cannot be installed on the pier and, like the boat cradle, cannot extend above the decking or walkway of the pier. Furthermore, said boat lifts must be approved by the Lessor prior to installation by the Lessee's contractor. Installation and removal of approved boat lifts shall comply with section one (1) of this lease. To coordinate the placement of boat lifts with Village owned piers, installation, *EXCEPT INITIAL INSTALLATION*, and removal of approved boat lifts shall be performed at Lessee's cost by the same contractor as the Lessor contracts with for that given year. Winter storage of boat lifts shall be permitted only in Village owned storage area, and shall be at Lessee's expense.
18. Please report any broken dock lines or other damage observed to the Harbor Master.

## SCHEDULE C

### Tie Down Instructions

Tie-down instructions not applicable to ramp lessees.



# Memo

To: Village Trustees

From: James Weiss

cc: N/A

Date: March 13, 2018

Re: Pier Slip Resolution and Lease

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At the COW meeting we have on the agenda an item to review our current Pier Slip Lease resolution and our Boat Slip Lease. Both current documents are included for your reference and review. The office is looking for your review and input to ensure both documents work together and to avoid any confusion. Below I will outline some of the concerns or questions the office staff currently has discussed.

The resolution references the name “taxpayer” throughout the document. Does taxpayer include people who own any property in the Village, i.e. commercial, residential or vacant land? The reason we ask is in the lease, in paragraph 4, it states the requirement to lease a slip is to be the owner of improved residential real estate. I will note there are currently commercial property owners on the wait list who do not own residential property in the Village.

If we reference the term “Taxpayer” should we reference Real Estate Tax Payer to exclude a tenant who only pays personal property tax to the Village also are commercial properties and vacant land taxpayers eligible?

Should the Resolution be more specific to state that an individual can only be on one waiting list. (We have separate waiting lists for different size slips as well as ramps and the kayak rack). If an individual owns multiple properties in the village can they be on multiple lists or is it a limit of one waiting list per individual regardless of how many properties they own in the Village?

In Paragraph 12 of the Lease, Total Agreement states if there is a conflict between the lease and the Resolution the Resolution will control. Is this acceptable? If so then I believe the Resolution should become an attachment to the Lease. This has not been included in the past. I know this is a lot to digest, but the office felt greater clarification and direction from the Trustees is needed to ensure a smooth process with our pier slips in the Village.



**VILLAGE OF FONTANA  
APPLICATION FOR A MOORING LEASE**

Today's Date: \_\_\_\_\_

**OWNER/USER INFORMATION**

Boat Owner Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Home Phone: (\_\_\_\_) \_\_\_\_\_ Work Phone: (\_\_\_\_) \_\_\_\_\_ Cell: (\_\_\_\_) \_\_\_\_\_

E-mail Address: \_\_\_\_\_ Do You Own Property in the Village? \_\_\_\_\_

Fontana Address: \_\_\_\_\_ Property Tax Key Number: \_\_\_\_\_

Local Telephone Number: (\_\_\_\_) \_\_\_\_\_

Boat Name: \_\_\_\_\_ Year Built: \_\_\_\_\_

Boat Type:    ☐ Outboard            ☐ Dingy            ☐ Rowboat        ☐ Inboard        ☐ Canoe  
                  ☐ Sailboat            ☐ In/Out Board        ☐ Kayak        ☐ Jet Ski

Over-All-Length: \_\_\_\_\_ Beam: \_\_\_\_\_ Draft: \_\_\_\_\_

State Registration or U.S. Documentation #: \_\_\_\_\_

Name and phone number of boat service company to call in case of an emergency: \_\_\_\_\_

\_\_\_\_\_

Boat Insurance Co: \_\_\_\_\_ Insurance Exp. Date: \_\_\_\_\_

I, the undersigned, hereby apply for a Mooring Lease, certify that all the information above attached is true, and correct to the best of my knowledge, and that this Application is made with full knowledge and understanding of the Rules and Conditions set forth on the back of this application.

\_\_\_\_\_  
Applicant Name/Date (Please Print)

Signature: \_\_\_\_\_

Please mail completed Application to:

Village of Fontana  
P.O. Box 200, Fontana, WI 53125

## **RULES AND CONDITIONS FOR APPLICATION**

1. A photocopy of the craft's current **Wisconsin** State registration, (2) photocopy of valid Certificate of Insurance, and (3) photograph of actual craft, must be on file for final application approval.
2. Seasonal occupancy of mooring space in the Village of Fontana shall be assigned to boat owners according to the following priority system: (a) On current waiting list as of November 20, 2002 which is on file at the Village Hall and the Village website at [www.villageoffontana.com](http://www.villageoffontana.com); (b) Year round Village of Fontana resident (taxpayer and registered voter); (c) Part time Village of Fontana resident (taxpayer but resident and voter in another municipality); (d) Fontana Property Owners of Buildable Vacant Tax Parcels, Dockominiums, and Condo/Hotel Unit owners; (e) Non-resident in which application is only considered if all above priorities are satisfied. **Please note that rates are doubled for non-residents.**
  - a. For purposes of this application a Village of Fontana Resident shall be limited to the owner of an interest in a Village residential tax parcel or an interest in an entity which owns a Village residential tax parcel.
  - b. No more than one application may be approved on behalf of any one Village buildable tax parcel.
3. If applicant purchases a new/used craft other than what is listed on this application, the applicant shall notify the Village Hall within seven (7) days after the purchase is complete to update this Application.
4. If any information contained in this application changes, the applicant shall notify the Village Hall before entering into a Lease Agreement with the Village.
5. Please make checks payable to: Village of Fontana or pay using [www.certifiedpayments.com](http://www.certifiedpayments.com), bureau code 7658002, Miscellaneous Fee. (Fees include 5.5% State & County Sales Tax.) Enclose fee with signed agreement and **all** required boat documentation.

|                            |                                |                                                              |
|----------------------------|--------------------------------|--------------------------------------------------------------|
| Shore-Station 24-foot Slip | \$3,240.00                     | <b>Please note that rates are doubled for non-residents.</b> |
| Shore Station 26-foot Slip | \$3,505.00                     |                                                              |
| Ramp                       | \$360.00 (non-motorized craft) |                                                              |
| Ramp                       | \$715.00 (motorized craft)     |                                                              |



## VILLAGE OF FONTANA

### 2023 MOORING LEASE AGREEMENT

Today's Date: May 8, 2023

Assigned Mooring Facility: «Type»

Name (Lessee): «First\_Name» «Last\_Name»

Mailing Address: «Other\_Address»

City: «City» State «State» Zip Code: «Zip»

Home Phone: «Fontana\_Phone» Cell: «Cell\_Phone»

E-mail Address: «EmailAddress» Fontana Property Tax Key: «Tax\_Key»

Fontana Address: «Fontana\_Address»

Boat Name: «Boat\_Name» Year Built: «Year\_Built»

Boat Make/Model: «Make\_and\_Model»

Boat Type: ☐ Outboard ☐ Dingy ☐ Row Boat ☐ Inboard ☐ Canoe  
☐ Sail Boat ☐ In/Out Board ☐ Kayak ☐ Jet Ski ☐ Paddleboard

Over-All-Length: «Hull\_Length» Beam: Draft:

State Registration or U.S. Documentation #: «Reg\_Number» Expires: «Reg\_Expires»

Name and phone number of boat service company to call in case of an emergency: «Boat\_Service\_Info»

Boat Insurance Co: «Boat\_Ins\_Co» Insurance Exp. Date: «Ins\_Expires»

In consideration of the issuance of this Lease to me, I hereby agree to comply with all applicable ordinances of the Village of Fontana, applicable laws of the State of Wisconsin and rules and orders of the Wisconsin Department of Natural Resources, as well as the terms and conditions of this Agreement attached hereto. I agree that this Lease Agreement is for the use of the Lessee only in the lease of shore-station, buoy, or ramp. Its use by anyone other than the lessee is strictly prohibited and will result in immediate cancellation of this Agreement and forfeiture of all fees collected. I agree that if the lessee is found in non-compliance to any of the listed rules, terms, and conditions, the lessee will be notified either in person and/or by registered letter and will have seven (7) days upon receipt of letter to remove said watercraft and/or shore-station from its slip, buoy, or ramp. If the lessee is found in non-compliance with any eviction order, the lessee, by agreeing to this Agreement, gives permission and authorization to the Village of Fontana by way of its authorities to remove the watercraft and/or shore-station and place it into suitable storage at the owner's expense on behalf of the lessee.

**Right to Appeal:** As a Village of Fontana resident and taxpayer, you have the right to appear before the Village of Fontana Harbor Committee for a hearing to appeal any disciplinary action taken by the Village of Fontana or its authorized agents regarding any violations of terms or rules of this Lease Agreement.

**I HAVE READ AND ACCEPT THE TERMS OF THIS AGREEMENT INCLUDING ALL TERMS AND CONDITIONS NOTED ON THE REVERSE SIDE OF THIS LEASE AGREEMENT.**

\_\_\_\_\_  
Signature of Authorized Owner

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Authorized Village Official

\_\_\_\_\_  
Date

## TERMS AND CONDITIONS FOR LEASE AGREEMENT

1. (1) A photocopy of craft's current **Wisconsin** State registration, (2) photocopy of valid Certificate of Insurance, (3) photograph of actual craft, must be on file for final lease approval.
2. This AGREEMENT becomes effective upon receipt of all necessary submittal documents and upon its execution by both the lessee and lessor. **Use and occupancy of the mooring facilities becomes effective as soon as facilities are readied (usually before May 31 of each year)** and is dependent upon when the ice melts from the lake and good weather both of which are needed for installation of piers and equipment.
3. All terms and conditions contained in the Village of Fontana Application for a Mooring Lease are incorporated into the Lease Agreement and the Lessee is subject to those terms and conditions.
4. All mooring lease agreements and renewals are to be reviewed and renewed on a yearly basis.
5. If leased mooring space is vacated for more than 15 days, the lessee shall notify the Village Hall contact as to reason for the vacancy. If a shore-station is to be left vacant for 15 days or more, elevate lift and padlock wheel. In the event the leased mooring space is vacant for more than 15 days between June 15<sup>th</sup> and Labor Day, and notification and approval from the committee was not granted, the mooring space shall be deemed vacated and reassigned to a new tenant. There shall be no refund to the lessee; however, the lessee may reapply for a slip and be placed on the waiting list upon receipt of a deposit.
6. **All craft must be removed from mooring facilities by October 15<sup>th</sup> of each year.** The Village of Fontana reserves the right to have watercraft removed after this date at owner's expense.
7. The Village of Fontana is not responsible for any damage or theft of personal property while watercraft is moored on leased mooring space.
8. Any sub-leasing, renting, or allowing anyone to use your assigned leased space is strictly prohibited and is in direct violation of this AGREEMENT and will be dealt with appropriately as listed under VIOLATIONS OF THIS AGREEMENT below. Only watercraft owned by the lessee and as described within this AGREEMENT will be permitted.
9. If lessee purchases a new/used craft other than what is listed on this application, the lessee shall notify the Village Hall within seven (7) days after the purchase is complete to update this AGREEMENT. Space may be transferred to a different boat of the same owner, subject to the approval of the Village of Fontana.
10. No more than one mooring space shall be assigned on behalf of any one Village buildable tax parcel, and no more than one mooring space shall be assigned to any one individual regardless of how many buildable tax parcels are owned.
11. Transfer of ownership of watercraft. Mooring space shall be assigned to the person whose name appears on the contract and for the boat listed (person means natural person, not corporation or partnership). Space will not be transferred to another person, except an estate may continue to use the mooring space until the completion of the season. As long as the person is a property owner in Village of Fontana, a surviving spouse or lineal heir or descendant may continue to a mooring lease space as long as these rules are complied with and upon approval by the Village of Fontana Lakefront and Harbor Committee.
12. All leased mooring spaces are designed specifically for the purpose to moor watercraft and are not to be used for any other purpose.
13. **RAMP SPACES:** All ramp spaces are 8-feet-long by 4-feet-wide. The water craft that occupies a ramp space cannot be any wider than 4 feet. If a water craft is wider than 4 feet, the Village has the right to remove the craft at the owner's expense.
14. **STORAGE BOXES/CONTAINERS:** All ramp and pier slip storage boxes or containers must be white in color and must be confined within the boundaries of the ramp or slip.
15. No overnight sleeping in watercraft or food preparation is allowed, such as cooking on stoves or grills.
16. **SHORE-STATIONS:** Lessee understands that all shore-stations are individually owned and are the personal property and responsibility of the lessee. The shore-station fee includes all winter storage fees, placement in water, and removal of shore-station for one (1) calendar year. As an owner of your shore-station, it is your responsibility to keep all equipment in safe working order. Furthermore:
  - A. Any repairs, replacement or parts, or replacement of existing shore-stations must be made with the approval of the Village of Fontana in order to conform to and maintain the standards set by the Village of Fontana for community piers and designated leased slips.
  - B. The Village of Fontana reserves the right through its authorized agents to conduct inspections of any equipment at any



time, and to declare any equipment unsafe for use or occupancy, and has full authority to red-tag for repair or immediate replacement of any part of your equipment or require the full replacement of any shore-station deemed unsafe for use within the Village of Fontana leased pier space areas.

- C. Transfer of ownership of shore-station. A new lessee is under no obligation to purchase a used shore-station from a lessee (tenant) that previously occupied the slip. It is solely up to a new lessee to decide to purchase a used shore-station from the previous tenant, if both parties can reach a purchase agreement. (In general, the average working life expectancy of a shore-station is 10-12 years. Establishing a purchase price for a used shore-station may be made by deducting 10% of its original purchase price for each year it's been in service), or a new lessee may purchase another shore-station (new is preferred) as long as it conforms to the existing shore-station of the Village of Fontana. The shore-station of the previous lessee will be immediately removed from the water or storage area and placed in a non-Village location at that owner's expense.
- D. Abandonment of shore-station. A shore-station will be deemed abandoned by its owner if the owner does not respond to a certified Village of Fontana letter of intent requesting information as to what the owner intends to do with their shore-station. If there is no reply within seven (7) days upon receipt of this letter, the shore-station will be deemed an abandoned structure within the riparian waters of the Village of Fontana, or upon Village owned property, and will be removed by an authorized Village of Fontana servicing agent which can be then sold, or otherwise, by that servicing agent to cover any expenses of its removal and/or of its storage. The Village of Fontana reserves the right to charge the previous shore station owner any additional expenses that may occur in its removal from Village of Fontana property.

# CITY OF LAKE GENEVA

626 Geneva Street  
Lake Geneva, WI 53147  
(262) 248-3673  
[www.cityoflakegeneva.gov](http://www.cityoflakegeneva.gov)



## CITY OF LAKE GENEVA WAITLIST EXPLANATION

### **Buoy and Boat Slip Inventory:**

The City of Lake Geneva currently has available for seasonal rentals the following buoys and boat stalls/slips:

- Lagoon
  - 31 boat stalls
- West End Pier
  - 50 boat stalls
- Riviera
  - 10 boat stalls
- West End (Library Park) Buoys
  - 56 buoys
- Riviera Buoys
  - 4 Buoys

### **Waitlist Order:**

The waitlist order is determined by the City of Lake Geneva Ordinance, Section 90-199. The Ordinance can be found on the city website listed above.

“The rental authority shall rent boat stalls and buoys to applicants in the following order”:

1. “Renters of boat stall and buoys” – referring to Current Lessees (**CL**)
2. “City resident on the waiting lists. Resident means a person who has maintained his place of permanent abode in the City for a period of 30 days immediately preceding his application for an approval. Domiciliary intent is required to establish that a person is maintaining his place of permanent abode in the City. Mere ownership of property is not sufficient to establish domiciliary intent. Evidence of domiciliary intent includes, without limitation, the location where the person votes, pays personal income taxes or obtains a driver’s license.” (**R**)
3. “Nonresident property owners of the City on the waiting list” (**NRPO**)
4. “Nonresidents of the City on the waiting list” (**NR**)

### **Types of Waitlists:**

Waitlists will be maintained based on the following:

- Buoy requests
  - West End (Library/Elm Park)
  - Riviera
- Stalls/Slips
  - 20' Slips – Lagoon
  - 24' Slips – West Pier
  - 26' Slips – West Pier
  - 28' Slips – Riviera
- Current Lessee Requests
  - Different Buoy
  - Different Slip
  - Riviera Slip/Buoy

### **Waitlist Application Process:**

Waitlist Applications are divided into 3 separate categories:

1. KAYAK WAITLIST APPLICATION – This application is available to anyone (**NEW and CURRENT LESSEES**) wishing to apply for a kayak/paddleboard space in accordance with the City Ordinance. Application must be presented along with supporting documentation and the appropriate fee. Each person can only apply for one (1) slot. Individuals within a family must apply separately. Five dollar (\$5.00) fee is required for each slot application.
2. West End BUOY, RIVIERA BUOY and Riviera SLIP WAITLIST APPLICATION – This application is for individuals **NEW** to the application process and who are **NOT** currently leasing a buoy or boat slip from the City of Lake Geneva. The Riviera BUOY, Riviera SLIP and West End BUOY waitlists are separate lists. An individual may apply to one (1) or all three (3) waitlists. A separate fifty dollar (\$50.00) fee applies to each request.
3. CURRENT LESSEE WAITLIST APPLICATION – This application is for individuals that are currently leasing a buoy or boat slip from the City of Lake Geneva. This form eliminates the need to indicate a request on the annual RENTERS INFORMATION FORM. An applicant can select and designate a slip size (one selection only), a move to a different location (Lagoon or WE buoy) and request to be on the Riviera Buoy waitlist.

### **Waitlist Status:**

Status on each waitlist is determined by:

- Priority order as indicated above
- Date application documents and payment was processed and a receipt generated
- As openings become available the individual at the top of the respective waitlist will be notified. Applicants will be contacted by phone and/or by letter. Conversations or voicemail will be followed up with an email outlining the conversation. Voicemail messages left with the applicant will be followed up with a letter sent via USPS.

Applicants will have the time frame as outlined within the City Ordinance to accept or decline the offer.

- If the applicant accepts, a new lease agreement will be sent and appropriate fees invoiced
  - The applicants status will become “Current Lessee” (CL) upon submittal of all required documents and payment of fees. If at that time, as a CL, the individual has an additional waitlist request, the CL will be added to the waitlist on the date his lease was accepted and processed
    - Example: Applicant was on the City waitlist requesting either a buoy or slip. Original application date was Jan 1, 2015. A buoy is accepted and processed on Jan 1, 2021. The applicant joins the slip waitlist with the CL classification as of the date the buoy lease was processed, Jan 1, 2021.
- If the applicant declines or fails to respond within the allotted time frame, the applicant will be removed from the respective waitlist and will need to re-apply at a future date and pay the appropriate fees.

May 12, 2023

David Lothspeich, Administrator  
Village of Williams Bay  
250 Williams Street  
Williams Bay, WI 53191

***Subject: Project Approach - Tennis and Basketball at Theatre Road Park***

Dear Mr. Lothspeich,

This letter details a possible approach for the tennis and basketball courts at the Theatre Road Park. The intended approach is as follows:

- Supplement the existing bid documents that were prepared by staff with site plans that include provisions for drainage, light poles, pavement joints, and pavement underdrain system. Also include performance standards for the lighting that allow for alternate manufacturers and include the Village standard agreement and general conditions for the construction contract and the available geotechnical explorations showing the topsoil and 60 inches of underlying soft clay at the site.
- Prepare a bid form that allows for two separate contracts: A sitework contract and an electrical contract. In addition, an alternate bid on the electrical contract would allow the Village to delete the luminaires, poles, conductors, and lighting controls if the project cost is higher than desired.
- Obtain bids by June 22, 2023, for action at the July 3, 2023, committee meeting.
- The courts could be operational, with or without the lights--depending on bid price and project budget, as early as October 1, 2023.

The Village obtained the enclosed bids for the tennis and basketball courts at Theatre Road Park in December of 2022. We first became involved with this project (same time as David Bretl – Interim Administrator) when we were asked at the February 2023 Park and Recreation Committee meeting if we recommend approval of the low bid from Scherrer Construction Company (Scherrer). At that point in time, we had not seen the bid package or the bid results. The Interim Administrator provided the attached (less the attachments) summary of project activities in the enclosed February 21, 2023, memo. Since then, we contacted Scherrer and confirmed that Scherrer is aware that their bid expired and that they are not willing to sign the Village's standard agreement with general conditions for the construction contract. It is our understanding that the project was never awarded to Scherrer.

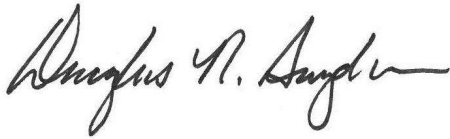
Enclosed are the site plans we intend to use to obtain bids. Please note that the tennis courts dimensions were modified to match the 2022 Sport Court Design Guide published by the Wisconsin Asphalt Pavement Association, as described in the memo from the Interim Administrator. Also enclosed is a lighting brochure from EA Sports provides guidance on the needed illuminance, number of fixtures, and pole height based on type of usage for both the exterior tennis basketball court. We plan to require the manufacturer to illuminate the courts to club level usage standards. We plan to limit the system controls to dimmers, mechanical timers, and zoning, but welcome your input until the project advertisement deadline of June 2, 2023. The poles will be standard square powder-coated steel with a height between 25 and 30 feet, like those outside the Village Hall. Some poles will have one LED luminaire, others may have more.

We will forward an engineering work order for design, bidding, and construction for your consideration. Please note that we are already proceeding with the design to allow for completion in 2023.

Please call if you have any questions.

Sincerely,

BAXTER & WOODMAN, INC.  
CONSULTING ENGINEERS



**DRAFT**

Douglas R. Snyder, P.E.

DRS/drs

Encs.

C/encs.: Dave Rowland, Recreation Director  
Wayne Edwards, DPW

P:\WLMSV\230496-TENNIS AND BASKETBAL\MEMO TO COMMITTEE.DOC

Exhibit A

VILLAGE OF WILLIAMS BAY, WI

BID OPENING

BID# WB-2022-02

DATE: 12-2-2022

TIME: 12:15pm

| VENDOR                      | AMOUNT           | BID BOND Y/N |
|-----------------------------|------------------|--------------|
| 1. <u>Wolf Paving</u>       | <u>\$255,673</u> | <u>Y</u>     |
| 2. <u>Payne &amp; Dolan</u> | <u>\$470,000</u> | <u>Y</u>     |
| 3. <u>Scherrer Const.</u>   | <u>\$219,500</u> | <u>Y</u>     |
| 4. <u>Tenex Contractors</u> | <u>\$399,950</u> | <u>Y</u>     |
| 5. _____                    |                  |              |
| 6. _____                    |                  |              |
| 7. _____                    |                  |              |
| 8. _____                    |                  |              |



# VILLAGE OF WILLIAMS BAY

To: Doug Snyder

From: Dave Bretl

Date: 2/21/2023

RE: Tennis Courts

1. It does appear that the project was properly advertised, and bids were publicly opened. The bid tab is attached as Exhibit A.
2. The bid specifications did not provide a form of the contract to be executed; hence the two-page contract from Sherrer. Exhibit B
3. The Village's bid specs are attached as Exhibit C as well as two Addenda which appear to have been prepared after contractors raised issues. Apparently two diagrams were distributed as part of the bid package (Exhibit D and E).
4. Some of the specs, such as "six light fixtures mounted on poles" provide little guidance.
5. I am not sure if the paving specs. make sense and would appreciate your review.
6. The bid of Payne & Dolan is attached (Exhibit F) raises two salient points in terms of the desirability of raising the courts as well as the size of the Court. The Wisconsin Asphalt Pavement Association (WAPA) recommends that double tennis courts be paved to dimensions of 120 by 114. Our drawing appears to show dimensions of 122 by 110. I spoke to the Recreation Director who indicated that the Village is not interested in hosting tournament play, so as I read the WAPA guide I think we might be okay- 12 feet between the courts and 12 feet to each fence, but I would appreciate it if you could double check. The guide is attached as Exhibit G. Orientation is a design issue as well. I can't tell from the drawing, but I believe North/South is preferred so players aren't looking into the sun.
7. Before I reach out to Sherrer and find out if they would be willing to execute an Engineers Joint Contract form, I would appreciate your insight as to how to proceed. My

250 Williams Street | PO Box 580 | Williams Bay | WI | 53191 | USA | [williamsbay.org](http://williamsbay.org)  
Phone: 262-245-2700 | Fax: 262-245-2705



main concerns are whether the tennis courts will be under water a majority of the year and/or dark at night given the lighting specs. It seems to me that if the courts have to be raised a foot (unless Scherrer is planning to do this- we don't know but it was not required-this might be a game-changer. At a minimum it would seem that we would need to get Scherrer's plan and then begin to negotiate an acceptable design. Alternatively, we could rebid. If the costs of changes would exceed 15 percent of the bid, I would say rebidding with a proper set of specifications would be in order. Let me know your thoughts.



SOURCE OF TOPO - WALWORTH COUNTY GIS

SITE OWNER - VILLAGE OF WILLIAMS BAY

BENCHMARK: CONCRETE MONUMENT  
WITH SEWRPC BRASS CAP  
ELEV = 1017.06 (SHOT)

THEATRE RD

THEATRE ROAD PARK

HORIZONTAL STAKING REFERENCE:  
EDGE OF EXISTING BUILDING

BENCHMARK: CONCRETE COVER  
ELEV = 1012.51

CONTRACTOR STORAGE AREA

FENCE

BASKETBALL

TENNIS

36" PASSAGE  
GATE IN FENCE

VILLAGE OF WILLIAMS BAY  
TOWN OF DELAVAN

MAINTAIN ACCESS

SEE SITE PLAN FOR GRADING DETAILS.

## OVERALL PLAN

TENNIS & BASKETBALL COURTS  
VILLAGE OF WILLIAMS BAY, WISCONSIN

**BAXTER & WOODMAN**  
Consulting Engineers

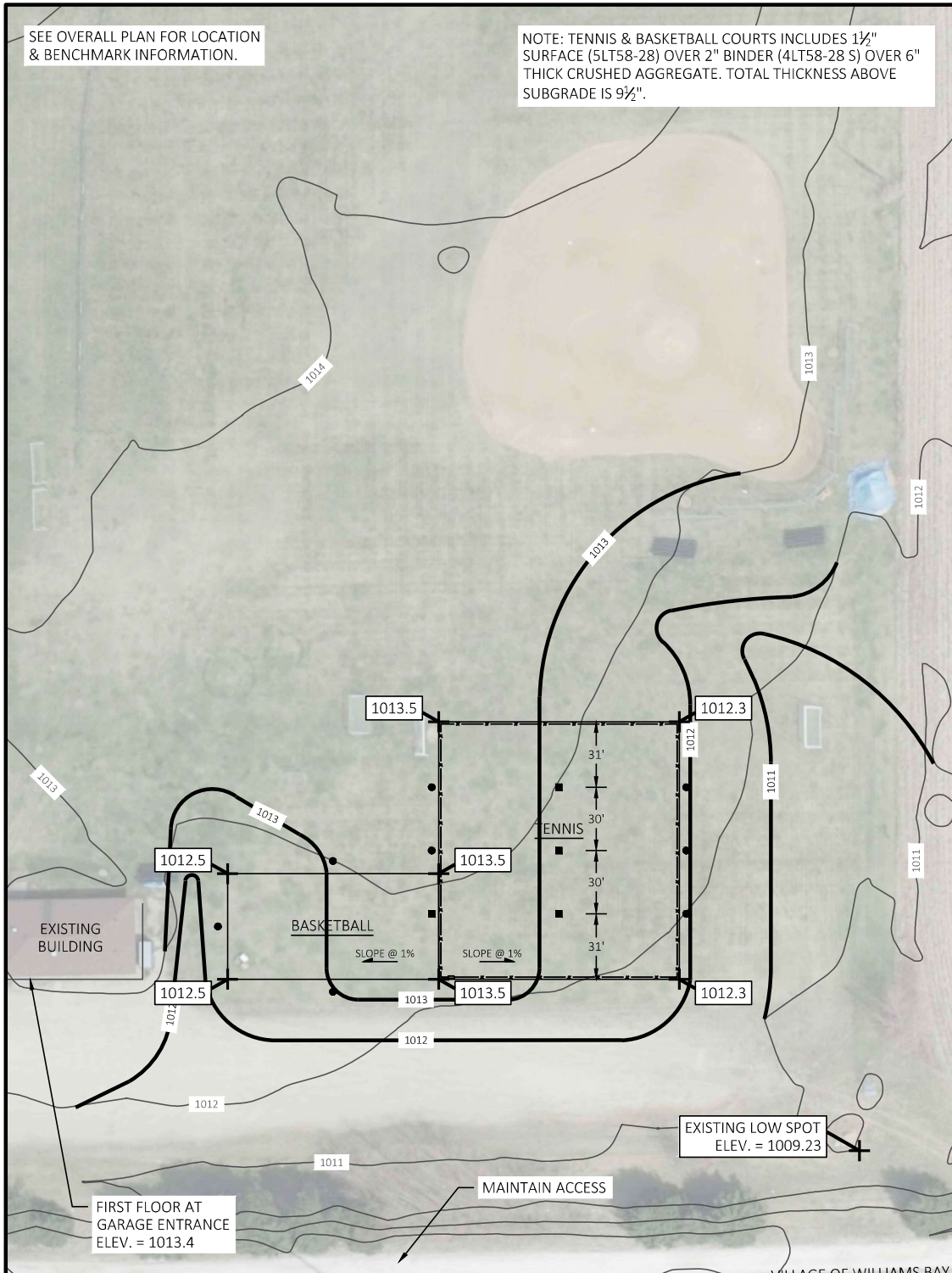
DATE: 05/11/2023 P.N.: 230496

**PRELIMINARY**

SHEET 1 OF 4

SEE OVERALL PLAN FOR LOCATION  
& BENCHMARK INFORMATION.

NOTE: TENNIS & BASKETBALL COURTS INCLUDES 1½"  
SURFACE (5LT58-28) OVER 2" BINDER (4LT58-28 S) OVER 6"  
THICK CRUSHED AGGREGATE. TOTAL THICKNESS ABOVE  
SUBGRADE IS 9½".



### LEGEND

- 1013.5 FINAL GRADE SPOT ELEVATION
- CHAIN LINK FENCE ON PERIMETER OF TENNIS COURT
- 1012 FINAL CONTOUR
- 1012 EXISTING CONTOUR
- LIGHT POLE W/ FOUNDATION, SINGLE LUMINAIRE  
SEE DETAIL SHEET 4 - TYPE 1 - UNPAVED AREA
- LIGHT POLE W/ FOUNDATION, DOUBLE LUMINAIRE  
SEE DETAIL SHEET 4 - TYPE 1 - IN PAVEMENT

### SITE PLAN

TENNIS & BASKETBALL COURTS  
VILLAGE OF WILLIAMS BAY, WISCONSIN

**BAXTER & WOODMAN**  
Consulting Engineers

DATE: 05/11/2023 P.N.: 230496

**PRELIMINARY**

SHEET 2 OF 4

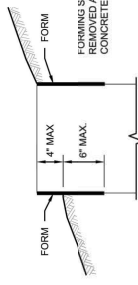






## SDD 9C2 Concrete Bases, Types 1, 2, 5 & 6

FORM DEPTH SHALL BE  
NO MORE THAN 6" BELOW  
GRADE ON THE LOWER  
SIDE OF BASE



### FORMING DETAIL

| QUANTITY<br>REQUIREMENTS                        | CONCRETE BASE TYPE |
|-------------------------------------------------|--------------------|
| APPROX. CUBIC<br>YARDS OF CONCRETE              | 1 2 5 & 6          |
| APPROX. CUBIC<br>YARDS OF HOOP<br>BAR STEEL     | 0.40 0.57 0.40     |
| APPROX. CUBIC<br>YARDS OF VERTICAL<br>BAR STEEL | NONE 23 18         |

### GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONCRETE BASE TYPES SHALL BE SHOWN ON THE PLANS

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUD INSTALLED FOR FUTURE CABLE USE. THE EXIT STUD SHALL BE USED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1" MIN. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS PLACED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION.

WHEN REQUIRED TO CONNECT NON-METALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BASE. CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING CONDUCTOR. ALL DE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING CONDUCTOR (GROUND ROD) FOR TYPE 2, TYPE 5 AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER ALL BASE TYPES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4 INCH "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1/40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. THE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

THE MINIMUM DEPTH OF CONDUIT EXTING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL OF THE ENGINEER.

(4) 1" DIA. X 3' - 6" ANCHOR RODS.

(4) 1" DIA. X 5' - 0" ANCHOR RODS.

(6) NO. 6 X 6' - 0" BAR STEEL REINFORCEMENT.

(7) NO. 4 X 5' - 1" BAR STEEL REINFORCEMENT @ 1' - 0" C - C.

(4) 1" DIA. X 3' - 6" ANCHOR RODS.

(6) NO. 4 X 4' - 5" BAR STEEL REINFORCEMENT.

(5) NO. 4 X 5' - 1" BAR STEEL REINFORCEMENT @ 1' - 0" C - C.

EXOTHERMIC CONNECTION TO EQUIPMENT GROUNDING CONDUCTOR

ANY ANCHOR ROD PROJECTION SHORTER THAN 2 1/2" OR LONGER THAN 3 1/2" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

FOR NON - BREAKAWAY INSTALLATIONS, 4 1/2" x 4 ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS, ROBERT SCREEN REQUIRED.

### CONCRETE BASES TYPES 1, 2, 5, & 6

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

APPROVED

May 2019

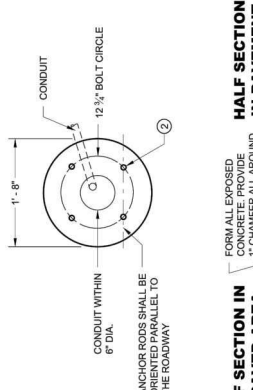
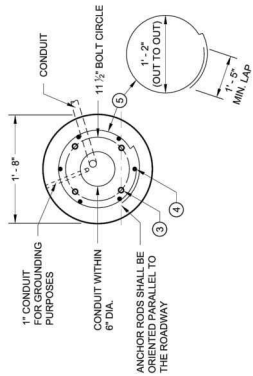
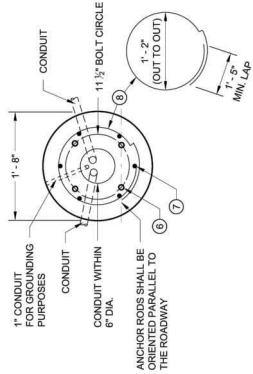
DATE

STATE ELECTRICAL ENGINEER

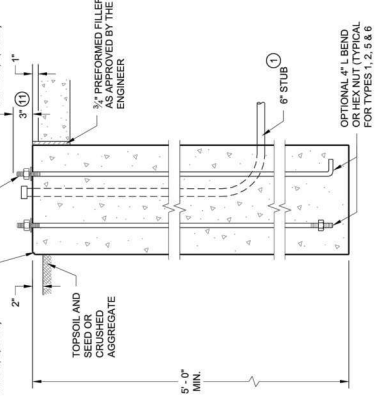
RS/ Ahmed Darrabshah

DATE

STATE ELECTRICAL ENGINEER



### HALF SECTION IN UNPAVED AREA (TYPICAL FOR TYPES 1, 2, 5 & 6)



### TYPE 1

### TYPE 2

### TYPE 5 & 6

### CONCRETE BASES

SDD 09C02 - 09

DATE: 05/11/2023 P.N.: 230496

PRELIMINARY

BAXTER & WOODMAN  
Consulting Engineers

SHEET 4 OF 4





# *Sports Brochure*

# TABLE OF CONTENTS

- **1** The Pro Sports Tech Advantage
- **3** Scoreboards and Effects Lighting
- **4** Indoor Tennis
- **5** Outdoor Tennis
- **6** Pickleball
- **7.** Baseball, Soccer, and Football
- **9.** Outdoor Lighting Systems
- **10.** Golf, Volleyball, and Basketball
- **11.** Indoor Basketball and Hockey

# PRO SPORTS TECH ADVANTAGE

## WHO WE ARE

### Your Premier Sports Lighting Experts

We are dedicated to building the best sports fixtures. We raw fabricate most of our components and source worldwide for the best parts. Our light fixtures are assembled by hand, ensuring that each fixture will illuminate your facility, field, arena or stadium perfectly. Each of our fixtures are assembled right here in Colorado, USA. Create an experience your guests will never forget with our high powered sports lighting, dynamic effects and event experience lighting designed for your venue.

#### Construction Superiority

- Unparalleled heat sink technology, maximizing light output and efficiency. FEA thermal reporting and TM21 reports available.
- Cast aluminum housing with MAXcoat powdercoat finish for harsh environments.
- Designed with a sloped and tapered housing making it difficult for snow and rain to collect and pool regardless of fixture orientation and tilt.
- All internal high temperature coated wiring. System design features no exposed wires or components.
- Low EPA and weight correlation to output making retrofitting easy without structural engineering.

#### Maintenance Ease

- Fully field replaceable components for all parts.
- Full set of parts provided with system purchase.
- Field upgradeable for for future technology advances.



1 Module



2 Module



3 Module



4 Module



#### Optical Precision

- ULTRAstar high impact tempered glass to maximize optic performance and improve efficiency. Glass testing documentation available.
- Scalable CRI up to 97 for crystal clear 8k broadcasting
- Optics arrays which feature varied independent board optics making pole kicker and ball tracker lights unnecessary, saving cost.

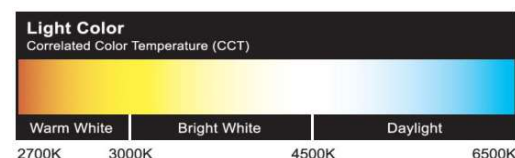
#### Controls Beyond

- 0-10v dimming, DMX, mesh, and wireless fixture and system control options available, please contact for details.
- IOT and AV integration capability
- Field adjustable remote drivers can be mounted with fixture bracketing or in separate pole, catwalk or nearby mounted enclosures.

#### System Warranty & Design

- Lowest total cost of ownership of any sports fixture and system at the professional level.
- 5 year warranty standard, 10-30 year warranty available with system builds.
- 200,000 hour LEDs, 100,000 hour drivers, actual rating will depend on fixture build and ambient temperature of installation.
- Designed, Engineered and Manufactured in Colorado, USA.

#### CCT Scale for Reference





## SERVICES WE PROVIDE

### Custom Quotations

For each new project we do we provide a custom quotation with a breakdown of products. This allows us to provide you with completely transparent, factory direct pricing.

### 3D Modeling

- Realistic and Accurate Design Modeling (Free!).
- Coverage maps.
- Isolation area designs.
- Video presentations of 3d models with detailed light breakouts.

### Installation Management

- Licensed EC/GC project management.
- Stamped engineered drawings.
- Stamped loading calculations.
- Full turnkey projects.

### Project Support

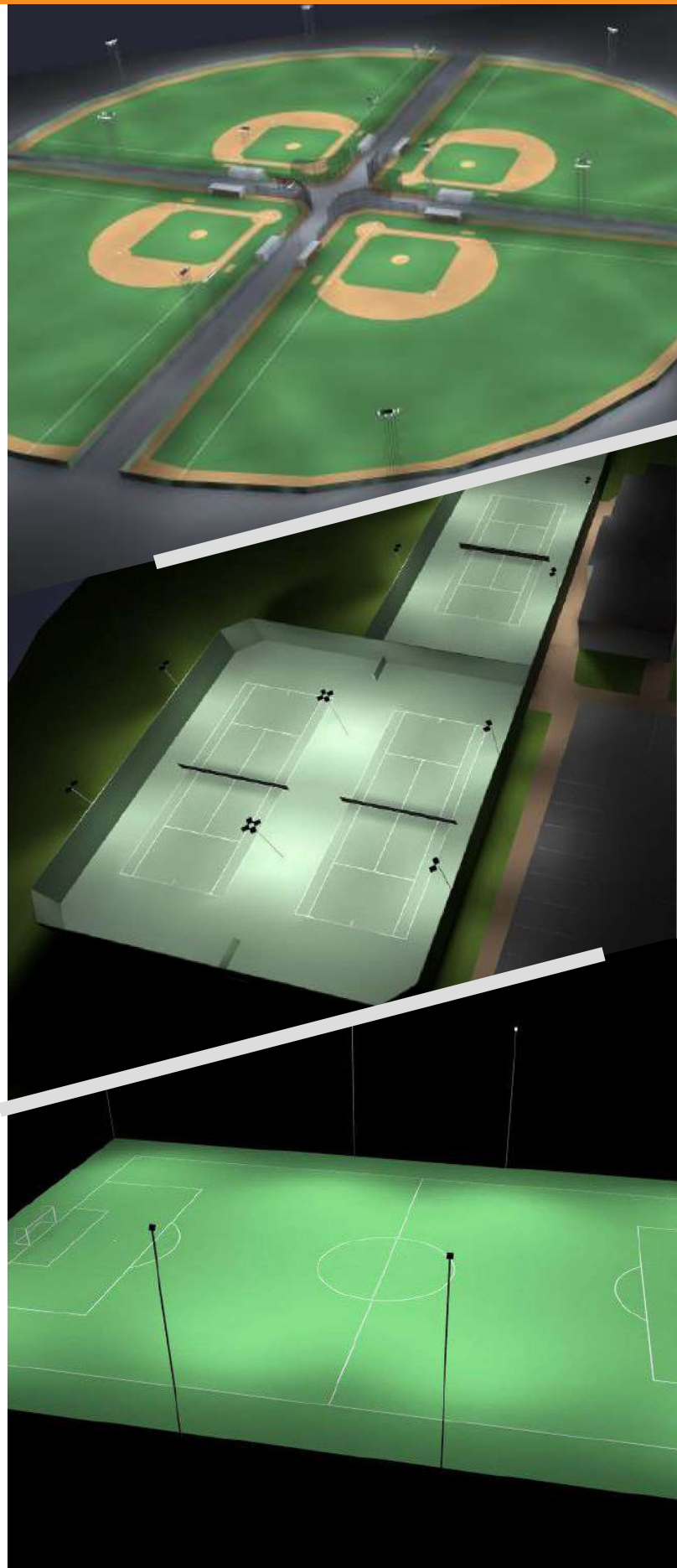
- We provide detailed aiming diagrams and lighting maps.

### During Project

- On-site and remote support.
- Post project - email, text, video chat, phone and on site support.
- Unrivalled dedication to each project.

### Post Project

- Scene creation.
- Subscription based content creation with monthly or event based designs.
- Admin monitoring.



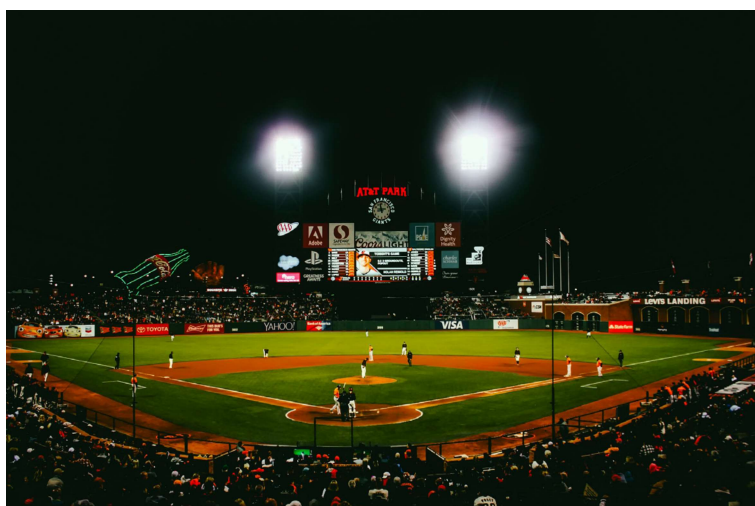


# SCOREBOARDS AND EFFECTS LIGHTING



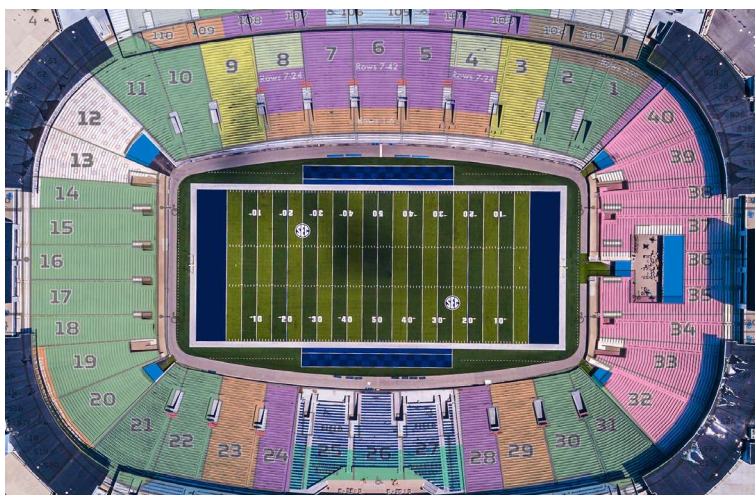
## Scoreboards and Video Boards

We provide the most advanced scoreboards and video boards for your venue. Our scoreboards that can be easily programmed to highlight players and show the score, while our advanced video boards can be used for high quality graphics to create beautiful visualizations during concerts or other events.



## Color Effects System

Create color effects inside and outside of your stadium with our unique color effects system. We can program this system to map seats in your stadium so your guests know exactly where their section is, as well as illuminate the exterior of your building.



## Projection Systems

Transform any surface, field, floor, roof or wall with a custom projection system. Visuals can mimic wood, metal doors, art pieces, various prints, and incorporate mixed perspective tricks and animations to immerse viewers in a different world.



## Infrared Interactive Applications

Incorporate your audience into the fun and get them involved with specific stadium seats designed to light up when an infrared beam is aimed onto it. This process can be used on single areas or scaled out to the entire stadium to create a light show like no other.



# INDOOR TENNIS



## Indirect System

The **SUNflare** Indirect LED fixture system is a single point suspended high bay arrangement. The super high lumen output lumen is designed for indoor athletic facilities where glare can be problematic. The fixture uses patented heat sink technology to drive more light without adding weight. The fixture allows greater spacing and less fixtures in recreational settings. It's also perfect for professional sports facilities creating professional light levels without disrupting play. As an added benefit, customized and interchangeable graphics displays are included with the system increasing branding or providing revenue generating opportunities.

## 3 Key System Advantages

1. Ultra low glare system capability
2. Professional level systems
3. Ideal for high level competition up to Tour Pro level



## Semi Direct System

The Semi Direct system uses 8' linear fixtures with diffused lensing to minimize glare and maximize lighting in a situation where lower roof heights and indirect light is not possible. The system requires more distribution points and lower outputs as to not interfere with high level play. This is a great system for facilities looking to keep expenses minimal while increasing light levels and efficiency

## Arena System

Our arena system uses our **DIAMONDpro** light. The high precision reflector optics minimize glare and maximize targeted light within the court. Arena projects require the highest standard possible and this package delivers the most complete lighting in the industry. With infinite control capabilities, AV tie ins, and custom RGB capabilities, we can turn any tennis arena into a true sporting performance venue.

## EA Technologies - Pro Sports Tech Indoor Tennis Systems

### Lighting Standards For Outdoor Courts

| Court Type (Pole/Fixture)                                                                        | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | ITF/USTA Class Rating | Usage                |
|--------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------|----------------------------|----------------|-----------------------|----------------------|
| Class 1 ITF   | > 750/69.6                        | >4000                 | >80                        | <1.5           | ITF 1                 | Lower Professional   |
| Class 2 ITF   | >500/46.4                         | >4000                 | >65                        | <1.5           | ITF 2                 | Club/Competitive     |
| Class 3 ITF   | >300/27.8                         | >4000                 | >60                        | <2.0           | ITF 3                 | Recreation           |
| Class 1 USTA  | >1345/125                         | Not Specified         | 80                         | <1.5           | USTA 1                | Upper Professional   |
| Class 2 USTA  | >807/75                           | Not Specified         | 70                         | <1.7           | USTA 2                | Club/Competitive     |
| Class 3 USTA  | >538/50                           | Not Specified         | 70                         | <2.0           | USTA 3                | Club/Competitive/Rec |

### Indirect System - SUNflare

| Fixture Output | Fixture Count | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | ITF/USTA Class Rating | Usage           |
|----------------|---------------|-----------------------------------|-----------------------|----------------------------|----------------|-----------------------|-----------------|
| Low 400w       | 12            | >200/20                           | 5000                  | 80                         | <2.0           | ITF 3                 | Recreation      |
| High 700w      | 8             | >300/30                           | 5000                  | 80                         | <2.0           | ITF2                  | Recreation/Club |
| High 700w      | 12            | >500/50                           | 5000                  | 80                         | <2.0           | ITF 1/USTA 3          | Club/Lower Pro  |
| Super 930w     | 12            | >500/50                           | 5000                  | 80                         | <2.0           | ITF 1/USTA 3          | Club/Lower Pro  |

### Semi Direct System - Linear 8' High Bays

| Fixture Output | Fixture Count | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | ITF/USTA Class Rating | Usage          |
|----------------|---------------|-----------------------------------|-----------------------|----------------------------|----------------|-----------------------|----------------|
| DP 2 - 760w    | 8             | >400/40                           | 5000                  | 80                         | <2.0           | ITF 2                 | Club           |
| DP 3 - 1140w   | 8             | >600/60                           | 5000                  | 80                         | <2.0           | ITF 1/USTA 3          | Club/Lower Pro |

### Arena System - DIAMONDpro

| Fixture Output | Fixture Count | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | ITF/USTA Class Rating | Usage                                                                                                                                                                       |
|----------------|---------------|-----------------------------------|-----------------------|----------------------------|----------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Super 800w     | 8             | >800/80                           | 5000                  | 80                         | <1.3           | ITF 1/USTA 2          |                                                                                        |
| DP 3 - 1140w   | 8             | >1250/125                         | 5000                  | 90                         | <1.2           | ITF 1/USTA 1          |   |
| DP 3 - 1140w   | 12            | >1800/175                         | 5000                  | 90                         | <1.2           | ITF 1/USTA 1          |                                                                                        |

# OUTDOOR TENNIS



## EA Technologies - Pro Sports Tech Tennis Systems

### Lighting Standards For Outdoor Courts

| Court Type (Pole/Fixture) | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | ITF/USTA Class Rating | Usage                |
|---------------------------|-----------------------------------|-----------------------|----------------------------|----------------|-----------------------|----------------------|
| Class 1 ITF               | > 500/46.4                        | >4000                 | >80                        | <1.5           | ITF 1                 | Lower Professional   |
| Class 2 ITF               | >300/27.8                         | >4000                 | >65                        | <1.5           | ITF 2                 | Club/Competitive     |
| Class 3 ITF               | >200/18.5                         | >4000                 | >60                        | <2.0           | ITF 3                 | Recreation           |
| Class 1 USTA              | >1345/125                         | Not Specified         | Not Specified              | <1.5           | USTA 1                | Upper Professional   |
| Class 2 USTA              | >807/75                           | Not Specified         | Not Specified              | <1.7           | USTA 2                | Club/Competitive     |
| Class 3 USTA              | >538/50                           | Not Specified         | Not Specified              | <2.0           | USTA 3                | Club/Competitive/Rec |

### Single Court - Pole Height Varies from 18-25'

| Fixture Output | Fixture Count | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | ITF/USTA Class Rating | Usage                                                                                |
|----------------|---------------|-----------------------------------|-----------------------|----------------------------|----------------|-----------------------|--------------------------------------------------------------------------------------|
| Low 250w       | 6             | >200/20                           | 5000                  | 80                         | <2.0           | ITF 3                 | Recreation                                                                           |
| Mid 400w       | 6             | >300/30                           | 5000                  | 80                         | <2.0           | ITF2                  | Recreation/Club                                                                      |
| High 600w      | 6             | >500/50                           | 5000                  | 80                         | <2.0           | ITF 1/USTA 3          | Club/Lower Pro                                                                       |
| Super 800w     | 6             | >650/65                           | 5000                  | 80                         | <2.0           | ITF 1/USTA 3          | Lower Pro                                                                            |
| Low 250w       | 8             | >250/25                           | 5000                  | 80                         | <1.5           | ITF 3                 | Recreation                                                                           |
| Mid 400w       | 8             | >400/40                           | 5000                  | 80                         | <1.5           | ITF 2                 | Club                                                                                 |
| High 600w      | 8             | >600/60                           | 5000                  | 80                         | <1.5           | ITF 1/USTA 3          | Club/Lower Pro                                                                       |
| Super 800w     | 8             | >800/80                           | 5000                  | 80                         | <1.5           | ITF 1/USTA 2          |  |

### Double Court - Pole Height Varies from 30-39'

| Fixture Output | Fixture Count | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | ITF/USTA Class Rating | Usage                                                                                |
|----------------|---------------|-----------------------------------|-----------------------|----------------------------|----------------|-----------------------|--------------------------------------------------------------------------------------|
| DP 2 - 760w    | 8             | >400/40                           | 5000                  | 80                         | <2.0           | ITF 2                 | Club                                                                                 |
| DP 3 - 1140w   | 8             | >600/60                           | 5000                  | 80                         | <2.0           | ITF 1/USTA 3          | Club/Lower Pro                                                                       |
| DP 2 - 760w    | 12            | >600/60                           | 5000                  | 80                         | <1.5           | ITF 1/USTA 3          | Club/Lower Pro                                                                       |
| DP 3 - 1140w   | 12            | >800/80                           | 5000                  | 80                         | <1.5           | ITF 1/USTA 2          |  |

### Single Stadium Court - Pole Height Varies from 30-60'

| Fixture Output | Fixture Count | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | ITF/USTA Class Rating | Usage                                                                                                                                                                     |
|----------------|---------------|-----------------------------------|-----------------------|----------------------------|----------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Super 800w     | 8             | >800/80                           | 5000                  | 80                         | <1.3           | ITF 1/USTA 2          |                                                                                       |
| DP 3 - 1140w   | 8             | >1250/125                         | 5000                  | 90                         | <1.2           | ITF 1/USTA 1          |   |
| DP 3 - 1140w   | 12            | >1800/175                         | 5000                  | 90                         | <1.2           | ITF 1/USTA 1          |                                                                                       |

## System Advantages

- Court design places poles in areas which are cost effective and advantageous to competitive play.
- Design maximizes light illuminance inside of the court primary playing area (PPA), while minimizing spill outside of court area.
- Ultra low glare with full cut off optics
- High lumen per watt increases efficiency and reduces energy costs
- 100,000 hour life reduces maintenance costs to zero, with a possible 90+ year usability (at 3 hours per day/365 days/year)
- Instant on (no warm up period) increasing playing time, reducing energy costs and keeping court times on schedule
- 5 year warranty, 10 year warranty on system builds with controls

## System Controls

- Fully Dimmable
- Motion activation available
- Wifi Controller available with remote operation
- Mechanical Timer with Astrological Timer Override Available
- Court Zoning Systems Available with Central Controller



# PICKLEBALL

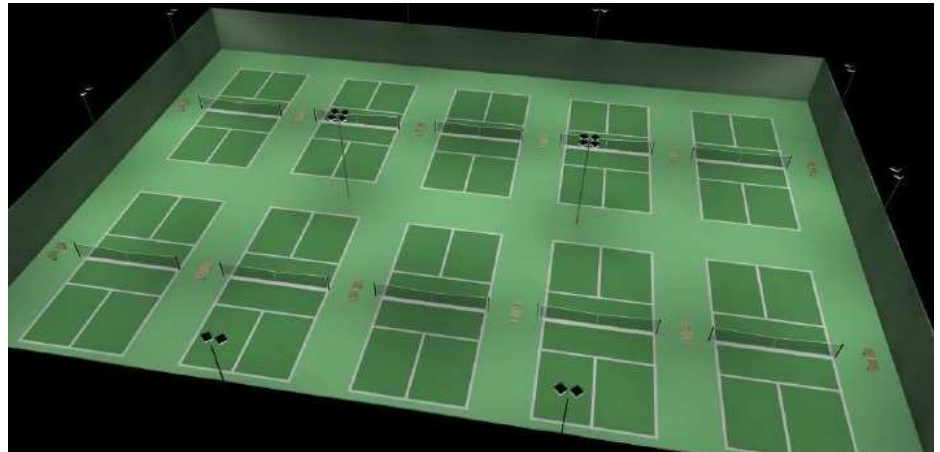


## System Advantages

- Court design places poles in areas which are cost effective and advantageous to competitive play.
- Design maximizes light illuminance inside of the court primary playing area (PPA), while minimizing spill outside of court area.
- Ultra low glare with full cut off optics
- High lumen per watt increases efficiency and reduces energy costs
- 100,000 hour life reduces maintenance costs to zero, with a possible 90+ year usability (at 3 hours per day/365 days/year)
- Instant on (no warm up period) increasing playing time, reducing energy costs and keeping court times on schedule
- 5 year warranty, 10 year warranty on system builds with controls

## System Controls

- Fully Dimmable  
Motion activation available Wifi Controller available with remote operation.
- Mechanical Timer with Astrological Timer Override Available.
- Court Zoning Systems Available with Central Controller.



## EA Technologies - Pro Sports Tech Pickleball Systems

### Lighting Standards For Outdoor Courts

| Court Type (Pole/Fixture) | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | Usage            |
|---------------------------|-----------------------------------|-----------------------|----------------------------|----------------|------------------|
| Class 1 Pro               | > 500/46.4                        | >4000                 | >80                        | <1.5           | Lower Pro        |
| Class 2 Club              | >300/27.8                         | >4000                 | >65                        | <1.5           | Club/Competitive |
| Class 3 Recreation        | >200/18.5                         | >4000                 | >60                        | <2.0           | Recreation       |

### Single Court - Pole Height Varies from 14-25'

| Fixture Output | Fixture Count | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | Usage           |
|----------------|---------------|-----------------------------------|-----------------------|----------------------------|----------------|-----------------|
| Low 250w       | 4             | >200/20                           | 5000                  | 80                         | <2.0           | Recreation      |
| Mid 400w       | 4             | >300/30                           | 5000                  | 80                         | <2.0           | Recreation/Club |
| High 600w      | 4             | >500/50                           | 5000                  | 80                         | <2.0           | Club/Lower Pro  |
| Super 800w     | 4             | >650/65                           | 5000                  | 80                         | <2.0           | Lower Pro       |

### Quad Court - Pole Height Varies from 30-39'

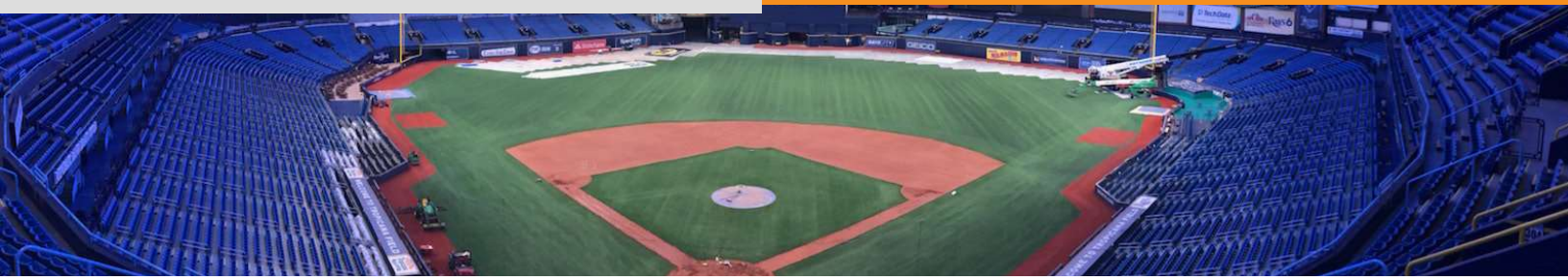
| Fixture Output | Fixture Count | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | Usage          |
|----------------|---------------|-----------------------------------|-----------------------|----------------------------|----------------|----------------|
| DP 2 - 760w    | 8             | >400/40                           | 5000                  | 80                         | <2.0           | Club           |
| DP 3 - 1140w   | 8             | >600/60                           | 5000                  | 80                         | <2.0           | Club/Lower Pro |
| DP 2 - 760w    | 12            | >600/60                           | 5000                  | 80                         | <1.5           | Club/Lower Pro |
| DP 3 - 1140w   | 12            | >800/80                           | 5000                  | 80                         | <1.5           | Pro            |

### Single Stadium Court - Pole Height Varies from 30-60'

| Fixture Output | Fixture Count | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | Usage |
|----------------|---------------|-----------------------------------|-----------------------|----------------------------|----------------|-------|
| Super 800w     | 8             | >1200/120                         | 5000                  | 80                         | <1.3           | Pro   |
| DP 3 - 1140w   | 8             | >2000/200                         | 5000                  | 90                         | <1.2           | Pro   |



# BASEBALL, SOCCER, AND FOOTBALL



## System Design

### LED

Our **DIAMONDpro** LED system is unsurpassed in the industry both in design and performance. Our LED fixture allows for maximum output with precision reflector optics in a scalable system. The system is a fully enclosed system with no exposed wires, which ensures maximum longevity in the harshest conditions.

All items are fully field replaceable. Extra parts are provided with system purchase. The system can be configured as either integrated or remote driver operation. System design uses variable deep set beam optics to maximize field coverage and maintains excellent fly ball visibility without the use of up lights. No shielding is required to comply with cutoff and spill tolerances.

*System advantage: Long Sustained Life, Consistent Light Levels, Precision targeted optics, Fully field replaceable components, Fully enclosed*

### HID

This system is for the budget conscious program who is looking to get lights onto a field. The light quality is still very good. The upside is the ultra low upfront cost. The downside is that typical relamp/reballast life cycle is about 5,000 hours. The system also use more energy and requires a warm up and hot restrike period. Despite the downside most facilities would still benefit from this system as it is often difficult to pay back the cost difference for LED.

*System advantage: Low Upfront Cost, Maintains Light Standards*



## System Advantages

- Court design places poles in areas which are cost effective and advantageous to competitive play.
- Design maximizes light illuminance inside of the court primary playing area (PPA), while minimizing spill outside of court area.
- Ultra low glare with full cut off optics
- High lumen per watt increases efficiency and reduces energy costs
- 100,000 hour life reduces maintenance costs to zero, with a possible 90+ year usability (at 3 hours per day/365 days/year)
- Instant on (no warm up period) increasing playing time, reducing energy costs and keeping court times on schedule
- 5 year warranty, 10 year warranty on system builds with controls

## System Controls

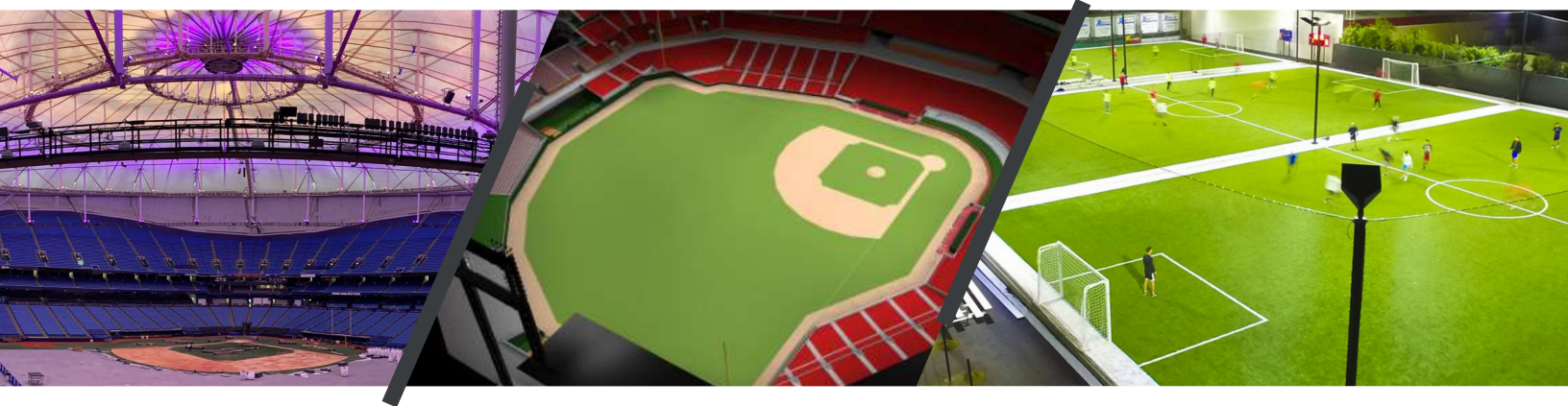
- Fully Dimmable as a group or individually controlled
- System options either 2.4 ghz mesh or Wired/Wireless DMX
- 2 way addressable
- DMX options with theater control board, RGB integration, scoreboard/AV integration, projection system integration
- Remote access with remote work stations  
Wifi controller available with remote operation
- Email, text, online chat, phone and on-site support available
- On site system group training
- Static and dynamic scene setups available with system purchase
- Scene and AV content provided either per request or by subscription



# OUTDOOR LIGHTING SYSTEMS

## EA Technologies - Pro Sports Tech Baseball Systems

| Baseball Lighting Standards      |             |                                          |                             |                                  |                                        |                         |                  |       |
|----------------------------------|-------------|------------------------------------------|-----------------------------|----------------------------------|----------------------------------------|-------------------------|------------------|-------|
| Level                            |             | Illuminance<br>Infield/<br>Outfield (FC) | Color<br>Temperature<br>(K) | Color<br>Rendering<br>Index (Ra) | Uniformity<br>Infield/<br>Outfield (U) | Vertical<br>Illuminance | Fixture<br>Count | Poles |
| Recreation                       |             | 30/20                                    | 5000                        | >70                              | <2.0/2.5                               | NA                      | Varies           | 4/6   |
| Little League - High School      |             | 50/30                                    | 5000                        | >80                              | <2.0/2.5                               | NA                      | Varies           | 4/6   |
| Collegiate                       |             | 70/50                                    | 5000                        | >80                              | <1.5/2.0                               | NA                      | Varies           | 6/8   |
| Minor League - Collegiate TV     |             | 100/70                                   | 5000                        | >80                              | <1.5/2.0                               | 70/40                   | Varies           | 6/8   |
| Pro - MLB                        |             | 250/225/200                              | 5000                        | >95                              | <1.2/1.3/1.5                           | 175/150/125             | Varies           | 8     |
| Pro Sports Tech Lighting Systems |             |                                          |                             |                                  |                                        |                         |                  |       |
| Field Size<br>(L/C/R)            | Technology  | Illuminance<br>Infield/<br>Outfield (FC) | Color<br>Temperature<br>(K) | Color<br>Rendering<br>Index (Ra) | Uniformity<br>Infield/<br>Outfield (U) | Vertical<br>Illuminance | Fixture<br>Count | Poles |
| 200/200/200                      | HID         | >50/30                                   | 4000                        | 70                               | <1.5/2.0                               | NA                      | 20               | 4/6   |
| 200/200/200                      | DP2/DP3 LED | >55/33                                   | 5000                        | 80-97                            | <1.5/2.0                               | NA                      | 18               | 4/6   |
| 300/300/300                      | HID         | >50/30                                   | 4000                        | 70                               | <1.5/2.0                               | NA                      | 48               | 6     |
| 300/300/300                      | DP2/DP3 LED | >55/33                                   | 5000                        | 80-97                            | <1.5/2.0                               | NA                      | 36               | 6     |
| 350/400/350                      | DP2/DP3 LED | >55/33                                   | 5000                        | 80-97                            | <1.5/2.0                               | NA                      | 36               | 6     |
| Minor                            | DP3 LED     | >125/100                                 | 5000                        | 90                               | <1.3/1.5                               | 80/50                   | >100             | 6     |
| Pro - MLB                        | DP4 LED     | >300/275/250                             | 5000                        | 97                               | <1.1/1.2/1.3                           | >225/200/175            | >400             | 8     |



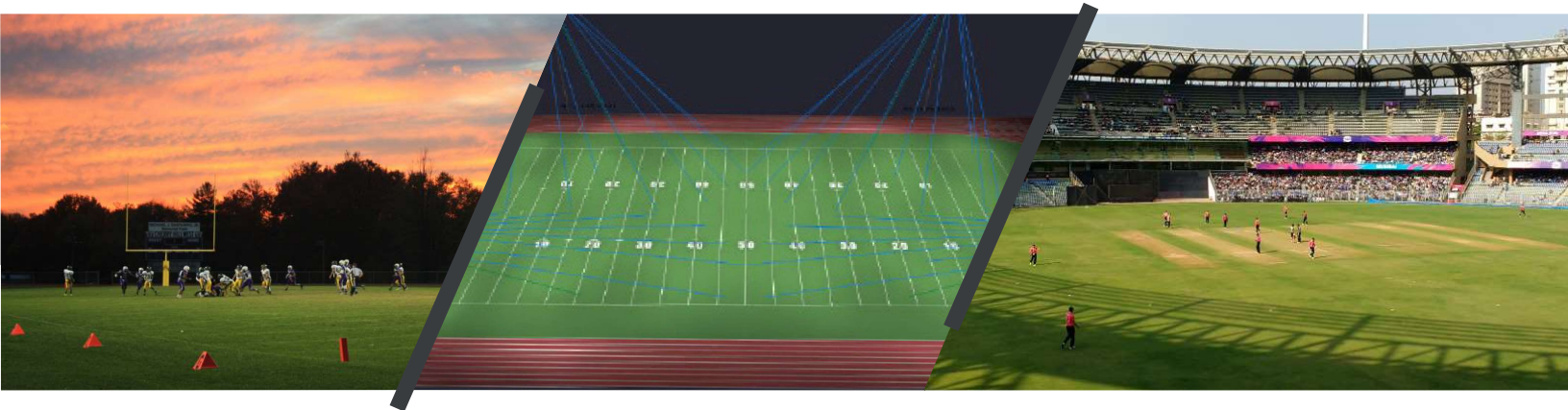
## EA Technologies - Pro Sports Tech Soccer Systems

| Football Lighting Standards      |                  |                       |                            |                            |                                  |                      |               |       |
|----------------------------------|------------------|-----------------------|----------------------------|----------------------------|----------------------------------|----------------------|---------------|-------|
| Level                            | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U)             | Vertical Illuminance             | Fixture Count        | Poles         |       |
| Recreation - High School         | 30               | 5000                  | >70                        | <2.5                       | NA                               | Varies               | 4             |       |
| Collegiate                       | 50               | 5000                  | >80                        | <1.5                       | NA                               | Varies               | 6             |       |
| Collegiate TV                    | 100              | 5000                  | >80                        | <1.5                       | 70/40                            | Varies               | 6             |       |
| Pro - FIFA World Cup             | 200              | 5000                  | >95                        | <1.2                       | 150/100                          | Varies               | 8             |       |
| Pro Sports Tech Lighting Systems |                  |                       |                            |                            |                                  |                      |               |       |
| Level                            | Technology       | Illuminance (FC)      | Color Temperature (K)      | Color Rendering Index (Ra) | Uniformity Infield/ Outfield (U) | Vertical Illuminance | Fixture Count | Poles |
| Recreation                       | HID              | >30                   | 4000                       | 70                         | <2.0                             | NA                   | 32            | 4     |
| Recreation                       | DP2/DP3 LED      | >33                   | 5000                       | 80-90                      | <2.0                             | NA                   | 28            | 4     |
| Collegiate                       | DP2/DP3 LED      | >55                   | 5000                       | 80-97                      | <1.5                             | NA                   | 40            | 6     |
| College TV                       | DP3 LED          | >125                  | 5000                       | 90                         | <1.3                             | 75/50                | >100          | 6     |
| Pro - FIFA World Cup             | DP4 LED          | >250                  | 5000                       | 97                         | <1.1                             | >200/150             | >200          | 8     |

# OUTDOOR LIGHTING SYSTEMS

## EA Technologies - Pro Sports Tech Football Systems

| Football Lighting Standards      |             |                  |                       |                            |                                  |                      |               |       |
|----------------------------------|-------------|------------------|-----------------------|----------------------------|----------------------------------|----------------------|---------------|-------|
| Level                            |             | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U)                   | Vertical Illuminance | Fixture Count | Poles |
| Recreation - Youth               |             | 30               | 5000                  | >70                        | <2.5                             | NA                   | Varies        | 4     |
| High School                      |             | 50               | 5000                  | >80                        | <2.0                             | NA                   | Varies        | 4/6   |
| Collegiate                       |             | 50               | 5000                  | >80                        | <1.5                             | NA                   | Varies        | 6     |
| Collegiate TV                    |             | 100              | 5000                  | >80                        | <1.5                             | 70/40                | Varies        | 8     |
| Bowl - PRO - NFL                 |             | 200              | 5000                  | >95                        | <1.2                             | 150/100              | Varies        | 8     |
| Pro Sports Tech Lighting Systems |             |                  |                       |                            |                                  |                      |               |       |
| Level                            | Technology  | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity Infield/ Outfield (U) | Vertical Illuminance | Fixture Count | Poles |
| Recreation                       | HID         | >30              | 4000                  | 70                         | <2.0                             | NA                   | 44            | 4     |
| Recreation                       | DP2/DP3 LED | >33              | 5000                  | 80-97                      | <2.0                             | NA                   | 22            | 4     |
| High School                      | HID         | >50              | 4000                  | 70                         | <2.0                             | NA                   | 72            | 4     |
| HighSchool                       | DP2/DP3 LED | >55              | 5000                  | 80-97                      | <1.5                             | NA                   | 40            | 4/6   |
| Collegiate                       | DP2/DP3 LED | >55              | 5000                  | 80-97                      | <1.5                             | NA                   | 40            | 6     |
| College TV                       | DP3 LED     | >125             | 5000                  | 90                         | <1.3                             | 75/50                | >100          | 6     |
| Bowl - Pro- NFL                  | DP4 LED     | >250             | 5000                  | 97                         | <1.1                             | >200/150             | >200          | 8     |



## EA Technologies - Pro Sports Tech Cricket Systems

| Cricket Lighting Standards       |             |                  |                       |                            |                                  |                      |               |       |
|----------------------------------|-------------|------------------|-----------------------|----------------------------|----------------------------------|----------------------|---------------|-------|
| Level                            |             | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U)                   | Vertical Illuminance | Fixture Count | Poles |
| Recreation                       |             | 30               | 5000                  | >70                        | <2.5                             | NA                   | Varies        | 4     |
| Semi-Pro                         |             | 50               | 5000                  | >80                        | <1.5                             | NA                   | Varies        | 6     |
| Pro - Big Bash - World Cup       |             | 200              | 5000                  | >95                        | <1.2                             | 150/100              | Varies        | 8     |
| Pro Sports Tech Lighting Systems |             |                  |                       |                            |                                  |                      |               |       |
| Level                            | Technology  | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity Infield/ Outfield (U) | Vertical Illuminance | Fixture Count | Poles |
| Recreation                       | HID         | >30              | 4000                  | 70                         | <2.0                             | NA                   | 32            | 4     |
| Recreation                       | DP2/DP3 LED | >33              | 5000                  | 80-90                      | <2.0                             | NA                   | 28            | 4     |
| Semi-Pro                         | DP2/DP3 LED | >55              | 5000                  | 80-97                      | <1.5                             | NA                   | 48            | 6     |
| Pro - Big Bash - World Cup       | DP3/DP4 LED | >250             | 5000                  | 97                         | <1.1                             | >200/150             | >200          | 6     |



# GOLF, VOLLEYBALL, BASKETBALL



## EA Technologies - Pro Sports Tech Golf Range Systems

| Golf Lighting Standards          |                  |                       |                            |                            |                                  |                      |               |       |
|----------------------------------|------------------|-----------------------|----------------------------|----------------------------|----------------------------------|----------------------|---------------|-------|
| Level                            | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U)             | Vertical Illuminance             | Fixture Count        | Poles         |       |
| Recreation                       | 20               | 5000                  | >70                        | <3.0                       | NA                               | Varies               | 4             |       |
| Pro                              | 70               | 5000                  | >80                        | <2.0                       | 50                               | Varies               | 4             |       |
| Pro Sports Tech Lighting Systems |                  |                       |                            |                            |                                  |                      |               |       |
| Level                            | Technology       | Illuminance (FC)      | Color Temperature (K)      | Color Rendering Index (Ra) | Uniformity Infield/ Outfield (U) | Vertical Illuminance | Fixture Count | Poles |
| Recreation                       | DP2/DP3 LED      | >33                   | 5000                       | 80-90                      | <3.0                             | NA                   | 16            | 4     |
| Pro                              | DP2/DP3 LED      | >75                   | 5000                       | 95                         | <2.0                             | >50                  | 32            | 4     |

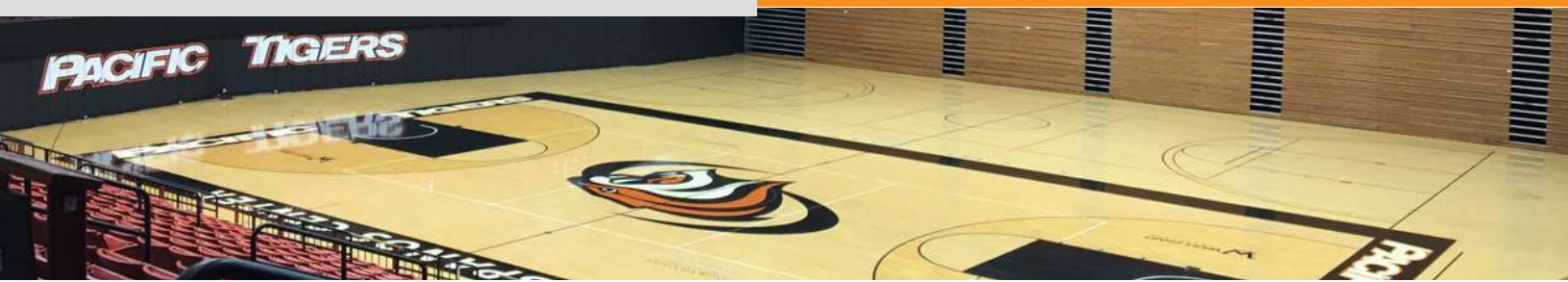
## EA Technologies - Pro Sports Tech Volleyball Systems

| Volleyball Lighting Standards    |                  |                       |                            |                            |                                  |                      |               |       |
|----------------------------------|------------------|-----------------------|----------------------------|----------------------------|----------------------------------|----------------------|---------------|-------|
| Level                            | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U)             | Vertical Illuminance             | Fixture Count        | Poles         |       |
| Recreation                       | 30               | 5000                  | >70                        | <2.0                       | NA                               | Varies               | 4             |       |
| Pro                              | 70               | 5000                  | >80                        | <1.5                       | 50                               | Varies               | 4             |       |
| Pro Sports Tech Lighting Systems |                  |                       |                            |                            |                                  |                      |               |       |
| Level                            | Technology       | Illuminance (FC)      | Color Temperature (K)      | Color Rendering Index (Ra) | Uniformity Infield/ Outfield (U) | Vertical Illuminance | Fixture Count | Poles |
| Recreation                       | DP2/DP3 LED      | >33                   | 5000                       | 80-90                      | <2.0                             | NA                   | 8             | 4     |
| Pro                              | DP2/DP3 LED      | >75                   | 5000                       | 95                         | <1.3                             | >50                  | 16            | 4     |

## EA Technologies - Pro Sports Tech Outdoor Basketball Systems

| Outdoor Basketball Lighting Standards |             |                  |                       |                            |                                  |                      |               |       |
|---------------------------------------|-------------|------------------|-----------------------|----------------------------|----------------------------------|----------------------|---------------|-------|
| Level                                 |             | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U)                   | Vertical Illuminance | Fixture Count | Poles |
| Recreation                            |             | 20               | 5000                  | >70                        | <3.0                             | NA                   | Varies        | 4     |
| Pro                                   |             | 70               | 5000                  | >80                        | <1.5                             | 50                   | Varies        | 4     |
| Pro Sports Tech Lighting Systems      |             |                  |                       |                            |                                  |                      |               |       |
| Level                                 | Technology  | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity Infield/ Outfield (U) | Vertical Illuminance | Fixture Count | Poles |
| Recreation                            | Low 250w    | >22              | 5000                  | 80-90                      | <2.5                             | NA                   | 4             | 4     |
| Pro                                   | DP2/DP3 LED | >75              | 5000                  | 95                         | <1.3                             | >50                  | 12            | 4     |

# INDOOR BASKETBALL AND HOCKEY



## System Design

### High Bay

Whether it's a simple high bay system for a high school gym or a variable high bay design for a collegiate or pro facility, we can adapt our fixtures to any scene. Simple gyms that only need a cost effective solution are typically designed with large spacing and higher intensity lights to cut down on material and installation cost. Higher profile projects typically use a combination of 2-4 output types to create a fading theater effect. The verticals pop for 8k television with the highest CRI available.

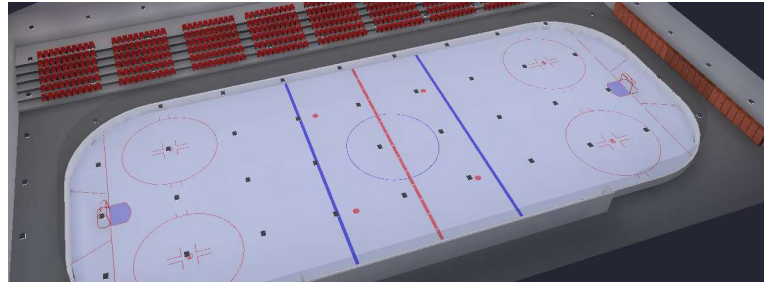
The system can be further integrated into control systems to achieve some fun effects.

### Arena

Having designed the most complex arena project in the world we are filled with both simple and complex ideas that can make any arena explode with excitement. Our DIAMONDpro fixture with it's modular design allows for placement and aiming using both variable output and optics to maintain a simplistic install but achieve a complex design concept.

Further integrations are limitless featuring RGB static and Dynamic effect lighting, projection systems, scoreboard integrations, infrared activated seat lighting and seat mapping design.

Content subscription packages available.



## System Advantages

- Modular fixture designs allow for variable outputs and precise aiming while still utilizing a singular design.
- Theater effect or full crowd lighting effects possible.
- Ultra low glare with full cut off optics
- Highest CRI available for crisp 8k resolution
- High lumen per watt increases efficiency and reduces energy costs
- 100,000 hour life reduces maintenance costs to zero
- Instant on (no warm up period) increasing playing time, reducing energy costs and keeping court times on schedule
- 5 year warranty, 10 year warranty on system builds with controls

## System Controls

- Fully Dimmable as a group or individually controlled
- System options either 2.4 ghz mesh or Wired/Wireless DMX
- 2 way addressable
- DMX options with theater control board, RGB integration, scoreboard/AV integration, projection system integration
- Remote access with remote work stations
- Wifi controller available with remote operation
- Email, text, online chat, phone and on-site support available
- On site system group training
- Static and dynamic scene setups available with system purchase
- Scene and AV content provided either per request or by subscription

# INDOOR BASKETBALL AND HOCKEY



## EA Technologies - Pro Sports Tech Basketball Systems

### Indoor Basketball Lighting Standards

| Level              | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | Vertical Illuminance | Fixture Count |
|--------------------|------------------|-----------------------|----------------------------|----------------|----------------------|---------------|
| Recreation - Youth | 30               | 4000                  | >70                        | <2.5           | NA                   | Varies        |
| High School        | 50               | 4000                  | >80                        | <2.0           | NA                   | Varies        |
| Collegiate         | 50               | 4000                  | >80                        | <1.5           | NA                   | Varies        |
| Collegiate TV      | 100              | 4000                  | >80                        | <1.5           | 70/40                | Varies        |
| Pro - NBA          | 200              | 4000                  | >95                        | <1.2           | 150/100              | Varies        |

### Pro Sports Tech Lighting Systems

| Level        | Technology  | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity Infield/ Outfield (U) | Vertical Illuminance | Fixture Count |
|--------------|-------------|------------------|-----------------------|----------------------------|----------------------------------|----------------------|---------------|
| Recreation   | SFD LED     | >55              | 4000                  | 80-97                      | <1.5                             | NA                   | 20            |
| High School  | SFD LED     | >75              | 4000                  | 80-97                      | <1.5                             | NA                   | 30            |
| Collegiate   | SFD LED     | >110             | 4000                  | 80-97                      | <1.5                             | 75/50                | 40            |
| College - TV | DP2/DP3 LED | >125             | 4000                  | 90                         | <1.3                             | 75/50                | >60           |
| Pro - NBA    | DP2/DP3 LED | >250             | 4000                  | 97                         | <1.1                             | >200/150             | >100          |

## EA Technologies - Pro Sports Tech Hockey Systems

### Hockey Lighting Standards

| Level                | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | Vertical Illuminance | Fixture Count |
|----------------------|------------------|-----------------------|----------------------------|----------------|----------------------|---------------|
| Recreation - Youth   | 50               | 5000                  | >70                        | <2.5           | NA                   | Varies        |
| High School          | 75               | 5000                  | >80                        | <1.5           | NA                   | Varies        |
| Collegiate           | 100              | 5000                  | >80                        | <1.3           | NA                   | Varies        |
| Collegiate TV        | 100              | 5000                  | >80                        | <1.3           | 100/60               | Varies        |
| Pro - NHL - Olympics | 200              | 5000                  | >95                        | <1.2           | 150/100              | Varies        |

### Pro Sports Tech Lighting Systems

| Level                | Technology  | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity Infield/ Outfield (U) | Vertical Illuminance | Fixture Count |
|----------------------|-------------|------------------|-----------------------|----------------------------|----------------------------------|----------------------|---------------|
| Recreation           | DP2/DP3 LED | >55              | 5000                  | 80-97                      | <2.0                             | NA                   | 22            |
| High School          | DP2/DP3 LED | >85              | 5000                  | 80-97                      | <1.5                             | NA                   | 40            |
| Collegiate           | DP2/DP3 LED | >115             | 5000                  | 80-97                      | <1.5                             | 70/50                | 40            |
| College TV           | DP3 LED     | >150             | 5000                  | 90                         | <1.3                             | 110/70               | >100          |
| Pro - NHL - Olympics | DP4 LED     | >250             | 5000                  | 97                         | <1.1                             | >200/150             | >200          |

**VILLAGE OF WILLIAMS BAY, WISCONSIN  
TENNIS AND BASKETBALL COURTS - THEATRE ROAD PARK  
DESIGN AND CONSTRUCTION ENGINEERING SERVICES  
WORK ORDER**

**ENGINEERS' PROJECT NO. 0230496.00**

**Project Description:**

Provide engineering design and construction services for the planned tennis and basketball courts at Theatre Road Park. See the May 12, 2023, Project Approach – Tennis and Basketball at Theatre Road Park.

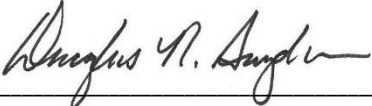
**Engineering Services:**

Specific Engineering services are described in the Master Engineering Services Agreement between the Owner and Engineers dated October 16, 2017. A detailed scope of services for this Project is listed in Attachment A of this Work Order. Manpower requirements and a fee summary are listed in Attachment B.

**Compensation:**

Compensation for the services will be in accordance with the Master Engineering Services Agreement dated October 16, 2017. The Owner shall pay the Engineer for the services performed or furnished under Attachment A, a lump sum of **\$15,600**.

Submitted by: **Baxter & Woodman, Inc.**

By:  \_\_\_\_\_

Douglas R. Snyder, P.E.

Title: Vice President

Date: May 12, 2023

Approved: **Village of Williams Bay, WI**

By: \_\_\_\_\_

William B. Duncan

Title: President

Date: \_\_\_\_\_

Attest: \_\_\_\_\_

Tina Kolls, Clerk

**Additional Comments:** None.



## Project Description

Provide engineering design and construction services for the planned tennis and basketball courts at Theatre Road Park. See the May 12, 2023 Project Approach – Tennis and Basketball at Theatre Road Park.

## Scope of Services - Design

The following scope of services details the anticipated tasks necessary to successfully complete this Project:

1. PROJECT MANAGEMENT - Plan, schedule, and control the activities that must be performed to complete the Project. These activities include, but are not limited to, budget, schedule, and scope. Confer with Owner staff and project team to ensure the goals of the Project are achieved.
2. SITE VISITS - Conduct site visits by designers to determine scope requirements.
3. PRELIMINARY AND FINAL DESIGN – Prepare Design Documents consisting of drawings showing the general scope, extent, and character of construction work to be furnished and performed by the Contractors selected by the Owner.
4. BIDDING DOCUMENTS - Prepare for review and approval by the Owner and its legal counsel the forms of Construction Contract Documents consisting of Advertisement for Bids, Bidder Instructions, Bid Form, Agreement, Performance Bond Form, Payment Bond Form, General Conditions, and Supplementary Conditions and specifications, where appropriate, based upon documents prepared by the Engineers Joint Contract Document Committee (EJCDC).
5. QUALITY CONTROL REVIEWS - Conduct peer review and constructability review of the Design Documents.
6. ENGINEERS' OPINION OF PROBABLE COST - Prepare an opinion of the probable construction cost prior to the bid opening.
7. ASSIST BIDDING - Provide documents for bidding and assist the Owner in solicitation of bids from as many qualified bidders as possible, attend the bid opening, evaluate, and tabulate the bids received, and prepare a recommendation letter to the Owner for their action.

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### Scope of Services - Construction

The following scope of services details the anticipated tasks necessary to successfully complete this Project:

1. Act as the Owner's representative with duties, responsibilities, and limitations of authority as assigned in the construction contract documents.
2. CONSTRUCTION ADMINISTRATION
  - A. Prepare Award Letter, Agreement, Contract Documents, Performance/Payment Bonds, and Notice to Proceed. Receive Contractor insurance documents.
  - B. Attend and prepare minutes for the preconstruction conference and review the Contractor's proposed construction schedule and list of subcontractors.
  - C. Attend periodic construction progress meetings.
  - D. Shop drawing and submittal review by Engineer shall apply only to the items in the submissions and only for the purpose of assessing, if upon installation or incorporation in the Project, they are generally consistent with the construction documents. Owner agrees that the contractor is solely responsible for the submissions (regardless of the format in which provided, i.e., hard copy or electronic transmission) and for compliance with the contract documents. Owner further agrees that the Engineer's review and action in relation to these submissions shall not constitute the provision of means, methods, techniques, sequencing or procedures of construction or extend to safety programs or precautions. Engineer's consideration of a component does not constitute acceptance of the assembled item.
  - E. Review construction record drawings for completeness prior to submission to CADD.
  - F. Prepare construction contract change orders and work directives when authorized by the Owner.
  - G. Review the Contractor's requests for payments as construction work progresses and advise the Owner of amounts due and payable to the Contractor in accordance with the terms of the construction contract documents.
  - H. Research and prepare written response by Engineer to request for information from the Owner and Contractor.
  - I. Project manager or other office staff visit site as needed.

3. FIELD OBSERVATION – Part Time

- A. Engineer will provide a Resident Project Representative at the construction site on a periodic part-time basis from the Engineer' office of not more than eight (8) hours per regular weekday, not including legal holidays as deemed necessary by the Engineer, to assist the Contractor with interpretation of the Drawings and Specifications, to observe in general if the Contractor's work is in conformity with the Final Design Documents, and to monitor the Contractor's progress as related to the Construction Contract date of completion.
- B. Through standard, reasonable means, Engineer will become generally familiar with observable completed work. If the Engineer observes completed work that is inconsistent with the construction documents, that information shall be communicated to the contractor and Owner to address. Engineer shall not supervise, direct, control, or have charge or authority over any contractor's work, nor shall the Engineer have authority over or be responsible for the means, methods, techniques, sequences, or procedures of construction selected or used by any contractor, or the safety precautions and programs incident thereto, for security or safety at the site, nor for any failure of any contractor to comply with laws and regulations applicable to such contractor's furnishing and performing of its work. Engineer neither guarantees the performance of any contractor nor assumes responsibility for any contractor's failure to furnish and perform the work in accordance with the contract documents, which contractor is solely responsible for its errors, omissions, and failure to carry out the work. Engineer shall not be responsible for the acts or omissions of any contractor, subcontractor, or supplier, or of any of their agents or employees or any other person, (except Engineer's own agents, employees, and consultants) at the site or otherwise furnishing or performing any work; or for any decision made regarding the contract documents, or any application, interpretation, or clarification, of the contract documents, other than those made by the Engineer.
- C. Part-Time Field Observation provides that the Resident Project Representative will make intermittent site visits to observe the progress and quality of Contractor's executed Work. Part-Time Field Observation does not guarantee the Engineer will observe or comment on work completed by the contractor at times the Resident Project Representative is not present on site. Such visits and observations by the Resident Project Representative, if any, are not intended to be exhaustive or to extend to every aspect of Contractor's Work in progress or to involve detailed inspections of Contractor's Work in progress beyond the responsibilities specifically assigned to Engineer in this Agreement and the Contract Documents, but rather are to be limited to spot checking, selective sampling, and similar methods of general observation of the Work based on Engineer's exercise of professional judgment as assisted by the Resident Project Representative, if any.

- 
- D. Provide the necessary base lines, benchmarks, and reference points to enable the Contractor to proceed with the work.
  - E. Keep a daily record of the Contractor's work on those days that the Engineers are at the construction site including notations on the nature and cost of any extra work and provide weekly reports to the Owner of the construction progress and working days charged against the Contractor's time for completion.
4. SUBSTANTIAL COMPLETION OF PROJECT
- A. Provide construction inspection services when notified by the Contractor that the Project is substantially complete. Prepare written punch lists during substantial completion inspections.
  - B. Prepare Certificate of Substantial Completion.
5. COMPLETION OF PROJECT
- A. Provide construction inspection services when notified by the Contractor that the Project is complete. Prepare written punch lists during final completion inspections.
  - B. Review the Contractor's written guarantees and issue a Notice of Acceptability for the Project by the Owner.
  - C. Review the Contractor's requests for final payment and advise the Owner of the amounts due and payable to the Contractor in accordance with the terms of the construction contract documents.
  - D. Prepare construction record drawings which show field measured dimensions of the completed work which the Engineers consider significant and provide the Owner with an electronic copy within ninety (90) days of the Project completion.

P:\WLMSV\230496-Tennis and Basketball\Contracts\Work Order 230496.00.docx



## Hours, Budget & Compensation

| Village of Williams Bay                                              |                                        |             |                    |                  |                 |                    |
|----------------------------------------------------------------------|----------------------------------------|-------------|--------------------|------------------|-----------------|--------------------|
| Plan Number: 230496.00                                               |                                        |             |                    |                  |                 |                    |
| Plan Name: WLMSV - Tennis and Basketball Courts at Theatre Road Park |                                        |             |                    |                  |                 |                    |
| Level                                                                | Emp                                    | Planned Hrs | Planned Labor Bill | Compensation Fee | Reimb Allowance | Total Compensation |
| Overall Project Total                                                |                                        | 85.00       | 15,072.15          | 15,200.00        | 400.00          | 15,600.00          |
| GM700 Plan Preparation                                               |                                        | 55.00       | 9,169.35           | 9,200.00         | 0.00            | 9,200.00           |
|                                                                      |                                        |             |                    |                  |                 |                    |
|                                                                      | Julie Crayton                          | 2.00        | 180.00             |                  |                 |                    |
|                                                                      | Michael Hudspeth - Electrical Engineer | 25.00       | 4,625.00           |                  |                 |                    |
|                                                                      | Jordan Sharpe                          | 16.00       | 1,509.40           |                  |                 |                    |
|                                                                      | Douglas Snyder                         | 12.00       | 2,854.95           |                  |                 |                    |
| GM750 Bidding and Award                                              |                                        | 8.00        | 1,260.00           | 1,300.00         | 50.00           | 1,300.00           |
|                                                                      |                                        |             |                    |                  |                 |                    |
|                                                                      | Julie Crayton                          | 4.00        | 360.00             |                  |                 |                    |
|                                                                      | Douglas Snyder                         | 4.00        | 900.00             |                  |                 |                    |
| GM790 Construction Admin and Site Visits                             |                                        | 22.00       | 4,642.80           | 4,700.00         | 350.00          | 4,700.00           |
|                                                                      |                                        |             |                    |                  |                 |                    |
|                                                                      | Julie Crayton                          | 4.00        | 360.00             |                  |                 |                    |
|                                                                      | Douglas Snyder                         | 18.00       | 4,282.80           |                  |                 |                    |

**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-34-23**

**A RESOLUTION AUTHORIZING BAXTER & WOODMAN THEATER ROAD PARK WORK ORDER  
(TENNIS & BASKETBALL COURTS)**

**WHEREAS**, Village Engineer Baxter & Woodman provided the attached Work Order 0230496.00 for Design and Construction Engineering Services for Theater Road Park – Tennis & Basketball Courts (“Work Order”); and

**WHEREAS**, Work Order scope includes Project Management; Site Visits, Preliminary and Final Design, Bidding Documents, Quality Control Reviews, Engineer’s Opinion of Probable Cost and Assist Bidding with Village compensating Baxter for the services performed or furnished a lump sum of \$15,600; and

**WHEREAS**, on June 5, 2023, the Village of Williams Parks & Lakefront and Finance & Personnel Committees determined that it is in the best interests of the Village to **[not] [authorize]** Work Order; and

**WHEREAS**, on June 19, 2023, the Village of Williams Village Board, as recommended by the Water & Sewer and Finance & Personnel Committees, have determined that it is in the best interests of the Village and its residents to **[not] [authorize]** the Work Order.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended proposal and authorizes an agreement, therefore.

Approved by the Village Board of the Village of Williams Bay this 19<sup>th</sup> day of June 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk

## **Recreation Department Director Report by Dave Rowland 6/1/2023**

- Truck-A-Palooza was a great success! We had over 400 people attend the event and fun was had by all. The Police Department, Library and the School all partnered together to put this event on with us. The main question from people that attended the event was if this was going to be an annual event. Talking with the departments, we plan on making this event an annual event.
- Baseball & Softball season is well underway, and all our teams are in the middle of their seasons. The main issue that we have run into is a struggle for umpires. In the offseason we will look at increasing the pay per game.
- Summer Kickoff Bash was another great success with the Police Department, Library and the School! The Williams Bay Women's Civic League donated the obstacle course for this event for the first time and there was a line that never stopped for two hours! There was free food provided by the Police Department and the Library provided all the games and entertainment. The Gravity of Youth provided live music. This year's bash was the most successful in terms of participation numbers with more than 500 people!
- The biggest feedback that we received at the kickoff bash was looking at day-long summer camps for next year for grades K-3. I will look at the costs and staffing of providing a 10-week summer day camp for 2024.
- Our summer camps that we have offered so far this summer have been filling up fast! We are not currently offering as many camps as we did in years past because we are still searching for a summer assistant. We again must look at the base rate of the hourly wage for this employee. We are very low compared to most job opportunities around the county.
- T-Ball and Coach Pitch practices will soon be starting up on June 1 and will run through July 13 at Theatre Road.
- Jody is starting to research the costs of starting up a Williams Bay Soccer Club run by the Williams Bay Recreation Department. He should have a cost breakdown by the end of June.

| 2023           | January | February | March | April | May  | June | July | August | September | October | November | December | YTD   |
|----------------|---------|----------|-------|-------|------|------|------|--------|-----------|---------|----------|----------|-------|
| Tot            | 0       | 0        | 0     | 0     | 0    |      |      |        |           |         |          |          | 0     |
| Youth          | 32      | 0        | 0     | 0     | 0    |      |      |        |           |         |          |          | 32    |
| Youth Sport    | 114     | 179      | 155   | 70    | 800  |      |      |        |           |         |          |          | 1318  |
| Family         | 0       | 114      | 0     | 400   | 500  |      |      |        |           |         |          |          | 1014  |
| Adult          | 134     | 127      | 159   | 55    | 110  |      |      |        |           |         |          |          | 585   |
| Senior         | 65      | 110      | 125   | 79    | 58   |      |      |        |           |         |          |          | 437   |
| Monthly Totals | 345     | 530      | 439   | 604   | 1468 |      |      |        |           |         |          |          | 3,386 |
| YTD            | 345     | 875      | 1314  | 1918  | 3386 |      |      |        |           |         |          |          |       |

| 2022           | January | February | March | April | May | June | July | August | September | October | November | December | YTD   |
|----------------|---------|----------|-------|-------|-----|------|------|--------|-----------|---------|----------|----------|-------|
| Tot            |         |          |       |       |     |      |      |        |           | 0       | 0        | 0        | 0     |
| Youth          |         |          |       |       |     |      |      |        |           | 0       | 18       | 23       | 41    |
| Youth Sport    |         |          |       |       |     |      |      |        |           | 48      | 27       | 115      | 190   |
| Family         |         |          |       |       |     |      |      |        |           | 928     | 0        | 58       | 986   |
| Adult          |         |          |       |       |     |      |      |        |           | 105     | 79       | 155      | 339   |
| Senior         |         |          |       |       |     |      |      |        |           | 70      | 65       | 45       | 180   |
| Monthly Totals |         |          |       |       |     |      |      |        |           | 1,151   | 189      | 396      | 1,736 |
| YTD            |         |          |       |       |     |      |      |        |           | 1,151   | 1,340    | 1,736    |       |



# VILLAGE OF WILLIAMS BAY

250 Williams Street | PO Box 580 | Williams Bay | WI | 53191 | williamsbay.org  
Phone: 262-245-2700

## UNOFFICIAL MINUTES FINANCE AND PERSONNEL COMMITTEE WEDNESDAY, MAY 10, 2023, AT 6:30 PM VILLAGE HALL COUNCIL ROOM

### Call to Order

Meeting was called to order by Chairman Wright at 7:12pm

### Roll Call

Trustees Wright, D'Alessandro, and Umans

Also Present: President Duncan, Trustees Jaramillo, Russell and Vlach, Administrator Lothspeich, Treasurer Peternell, Director of Public Works Edwards, Police Chief Timm, Recreation Director Rowland and Engineer Snyder.

### Meeting Minutes

D'Alessandro/Umans motion to approve meeting minutes of April 12, 2023. Unanimously carried.

### Assessment Services Proposal

Peternell provided an update on the assessment proposals that were received. The Village received (2) proposals for assessment services; Associated Appraisal and Accurate.

- Associated Appraisal has been the Village's assessor since 2017 and provided a 3-year proposal (maintenance only) at a compensation rate of \$20,000 per year. This includes all assessment services, such as; open book & board of review expenses, assessment software, web hosting of assessment data, postage and mailing services and personal property accounts. I reached out to the references listed in their proposal and received a response from 2 of them, with favorable recommendations.

- Accurate provided a 3-year proposal (maintenance only) at a compensation rate of \$18,000 per year. This includes all assessment services, such as; open book & board of review expenses, assessment software, web hosting of assessment data, postage and mailing services and personal property accounts. I reached out to the references listed in the proposal and all 5 responded with favorable recommendations.

D'Alessandro/Umans motion to recommend Village Board approval of Accurate's proposal for assessment services for years 2024-2026 beginning January 1, 2024. Unanimously carried.

### First National Bank & Trust Banking Agreement Renewal

D'Alessandro/Umans motion to recommend Village Board approval of the First National Bank & Trust banking agreement renewal for the period of June 6, 2023, through June 6, 2025. Unanimously carried.

### Wisconsin Retirement System (WRS) Unfunded Liability

Discussion was held regarding the WRS unfunded liability. Peternell stated that when the Village became a member of WRS, they were required to pay a "Prior Service Liability" for employees being enrolled in the plan. They had the option of paying the lump sum or paying it monthly as a percentage of payroll. The Village has been paying it monthly, which is included in the employer pension portion contribution. In addition to the prior service liability, the Village is being assessed interest on the outstanding amount, currently at 6.8%. The auditor has recommended that the Village pay off the outstanding amount to remove the liability, which in turn will reduce the additional employer pension contribution amount from the annual budget. Peternell recommended utilizing contingency funds to pay the balance of the Unfunded Actuarial Accrued Liability. Wright/Umans motion to recommend Village Board approval to pay the balance of the Unfunded Actuarial Accrued Liability utilizing contingency funds. Unanimously carried.

**Integral Lakes Management (ILM) invoice for Southwick Creek Dredging Permit**

Wright stated that as part of the dredging project, ILM obtained the required permits with the WDNR and has submitted an invoice in the amount of \$5,878.21. Wright stated that the funding source will be the same as the engineering contract with Baxter Woodman that was approved on May 1, 2023. Umans/D'Alessandro motion to recommend Village Board approval of the ILM invoice in the amount of \$5,878.21 to be paid from borrowed funds. Unanimously carried.

**Consideration of a proposal from Southeastern Wisconsin Regional Planning Commission (SEWRPC) to study and properly locate and map the Southwick Creek**

Snyder stated that the Southwick Creek floodplain was originally modeled and delineated by Southeastern Wisconsin Regional Planning Commission (SEWRPC) staff in 1983. This 1983 work is still reflected in the current effective FEMA mapping for Southwick Creek. The Village's treatment plant was completed in 1985, and the floodplains were not updated at that time, so the plant is shown in the FEMA regulatory floodway for Southwick Creek. The Committee reviewed the proposal from SEWRPC to update the floodplain mapping for \$28,000, (2) detailed hydrologic analysis for \$6,000, and (3) Federal Emergency Management Agency Letter of Map Amendment (LOMA) for \$8,000. Umans/D'Alessandro motion to recommend Village Board approval of the Southeastern Wisconsin Regional Planning Commission (SEWRPC) to study and properly locate and map the Southwick Creek in the amount of \$42,000 to be paid from borrowed funds allocated to Southwick Creek. Unanimously carried.

**Treasurer Report**

Peternell stated that she, Administrator Lothspeich, and Trustee Wright met with the auditor to review the 2022 draft financial statements. Discussion was held regarding the \$498K of Village debt service fund that has been on the books for many years and predates the current Treasurer. The auditor recommends utilizing it to make for a 2023 principal and interest payment. By doing this, a 2023 budget amendment will need to be done to reduce the levy amount for debt service and those levy funds can be utilized for a project authorized by the Village Board. This would be a one-time event and will not affect how the levy limit is calculated in the following years. Wright/D'Alessandro motion to recommend Village Board approval of making a one-time debt service payment. Unanimously carried.

Another topic of discussion was to create a separate fund to track the EMS costs so that it provides greater transparency in tracking the referendum levy amount and the yearly expenses. A new fund was created for 2022 and the financial statements reflect this change. A budget amendment will be made in 2023 to move the revenue and expenditures from the General Fund to the EMS Fund.

**Monthly activity of Borrowing projects**

The Committee reviewed the to date spending of the borrowed funds.

**Adjourn**

D'Alessandro/Umans motion to adjourn at 7:41pm. Unanimously carried.

/s/ Lori Peternell, Village Treasurer

*These are not official minutes until approved by the Finance & Personnel Committee*

# PROPOSAL

## CROSS-CONNECTION CONTROL SERVICES

### Village of Williams Bay

250 Williams St.  
Williams Bay, WI 53191

April 4, 2023

## KEEPING DRINKING WATER SAFE FOR INDUSTRIES AND MUNICIPALITIES

For over 30 years, HydroCorp™ has been dedicated to safe drinking water for companies and communities across North America. Fortune 500 firms, metropolitan centers, utilities, small towns and businesses – all rely on HydroCorp to protect their water systems, averting backflow contamination and the acute health risks and financial liabilities it incurs.



Cross-Connection Control /

Backflow Prevention

Water Meter Change Out & Installation  
Services

Legionella Prevention & Control

Water System Surveys / Flow Diagrams

Pipe System Mapping & Labeling

Regulatory Compliance Assistance /  
Documentation



**CORPORATE OFFICE**  
5700 CROOKS RD SUITE 100  
TROY MI 48098  
800.315.4305 TOLL FREE  
262.264.6402 PHONE

**PROJECT CONSULTANT:** Craig Wolf  
612-850-8939 CELL  
cwolf@hydrocorpinc.com EMAIL



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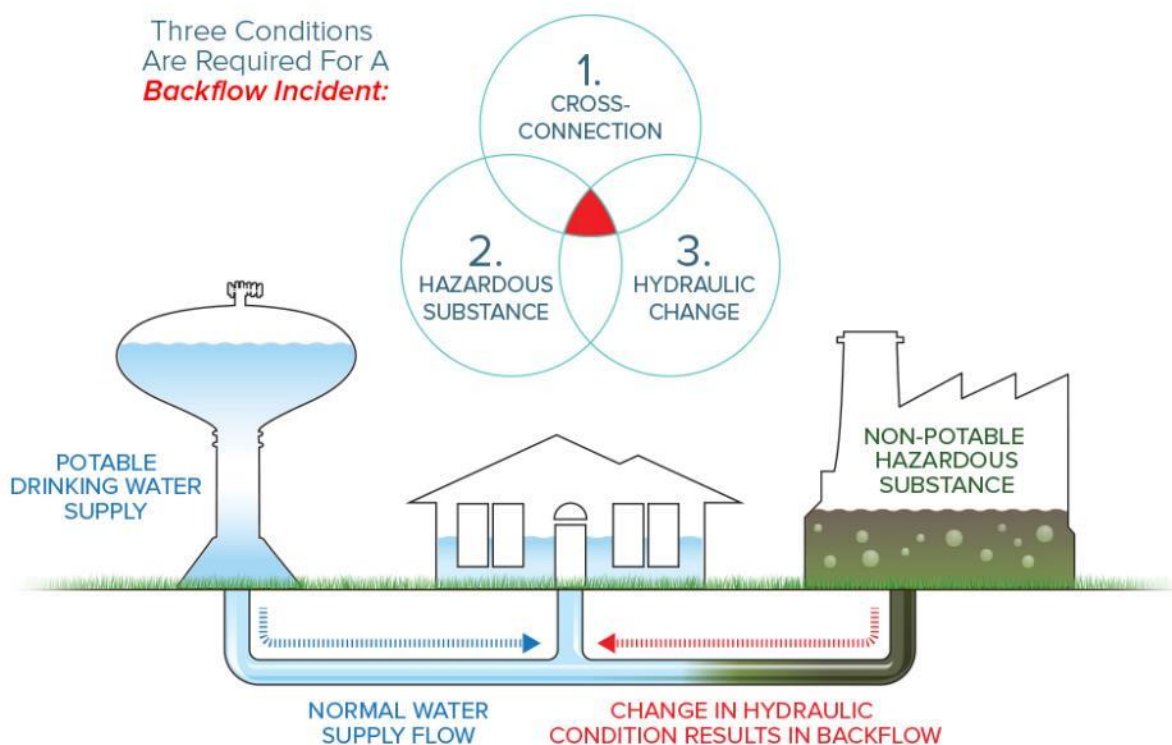




## 1. INTRODUCTION

### 1.1. Definitions

- Backflow – the undesirable reversal of flow of liquid, gas or other substance in a piping system.
- Backflow Preventer – an assembly, device, or method that prevents backflow.
- Cross-Connection – an actual connection or a potential connection between any part of a potable water system and any other environment that would allow substances to enter the potable water system.
- Cross-Connection Control – a program to eliminate cross-connections or to prevent them from causing a public health threat.
- Cross-Connection Control Survey – the review of the plumbing system to determine the existence of potential or actual cross-connections and to assess the degree of hazard of protected and unprotected cross-connections.



### 1.2. Common Cross-Connection Hazards

- Garden Hose connections with missing backflow preventers.
- Water Softener discharge lines directly connected to drain piping.
- Boilers with missing or inappropriate backflow preventers.
- Improperly installed or Backflow Prevention Assemblies missing test documentation.

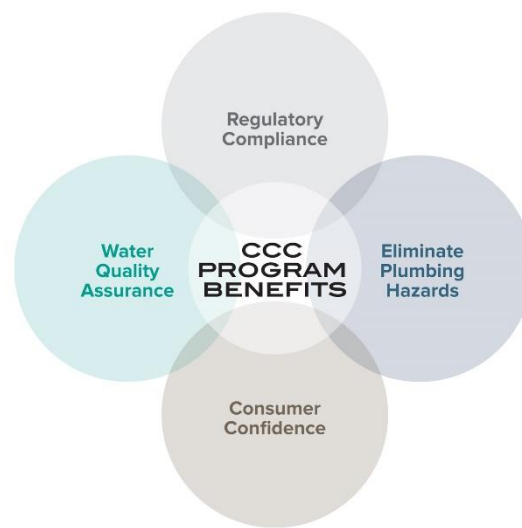


- Toilets with faulty or unapproved anti-siphon fill valves.
- Lawn Irrigation systems with missing or inappropriate backflow preventers.
- Restaurant equipment connected to water supply with missing backflow preventers.
- Dental office equipment with missing backflow preventers.
- Fire Sprinkler systems with missing or inappropriate backflow preventers.
- Chemical mixing systems in janitorial closets with missing backflow preventers.

## 2. PROJECT WORK PLAN

### 2.1. Purpose of a Cross-Connection Control Program

- Protect the water supply from backflow & public health and safety.
- Comply with state and local regulations (WI-DNR 810.15).
- Minimize risk and liability.
- Eliminate hazardous cross-connections to the drinking water supply.

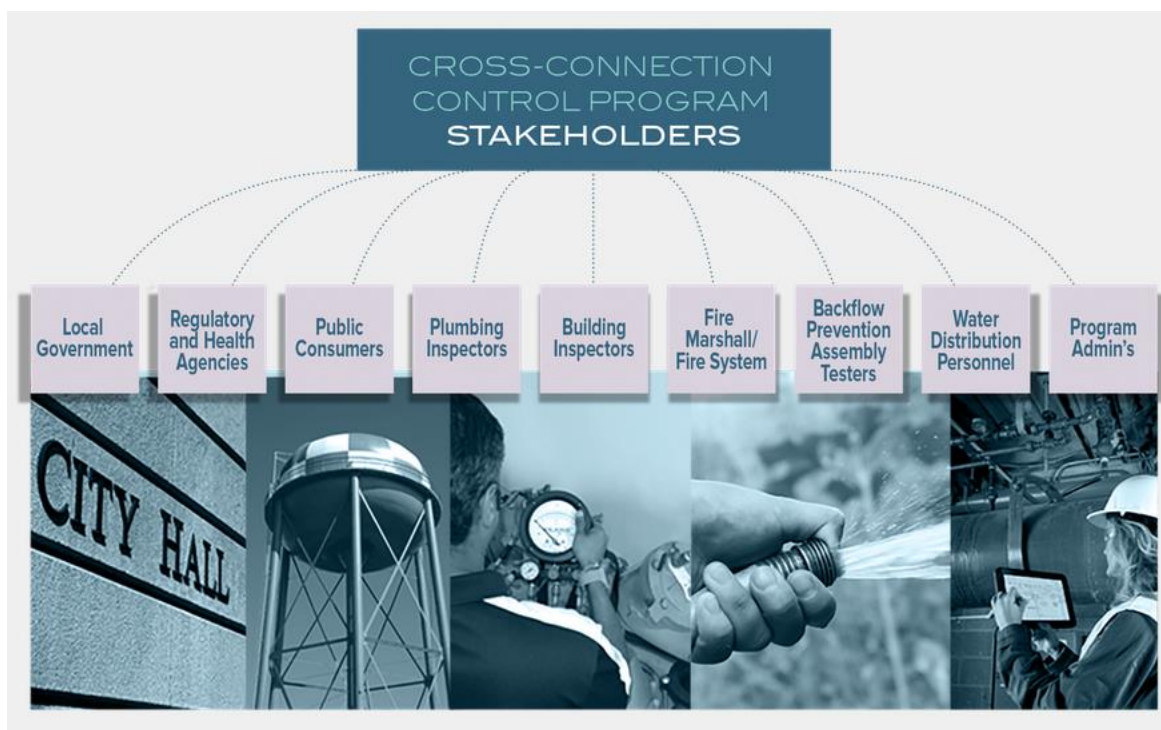


### 2.2. Meeting the Cross-Connection Control Program Objectives

- Providing cross-connection consultation to the **Village of Williams Bay**.
- Developing a written comprehensive Cross-Connection Control Plan.
- Routinely inspecting water customers for cross-connections or potential cross-connections.
- Maintaining cross-connection control records.
- Notifying water customers of violations and corrective action instructions.
- Providing water customer non-compliance status to the water utility.
- Providing public education.

### 2.3. Stakeholders

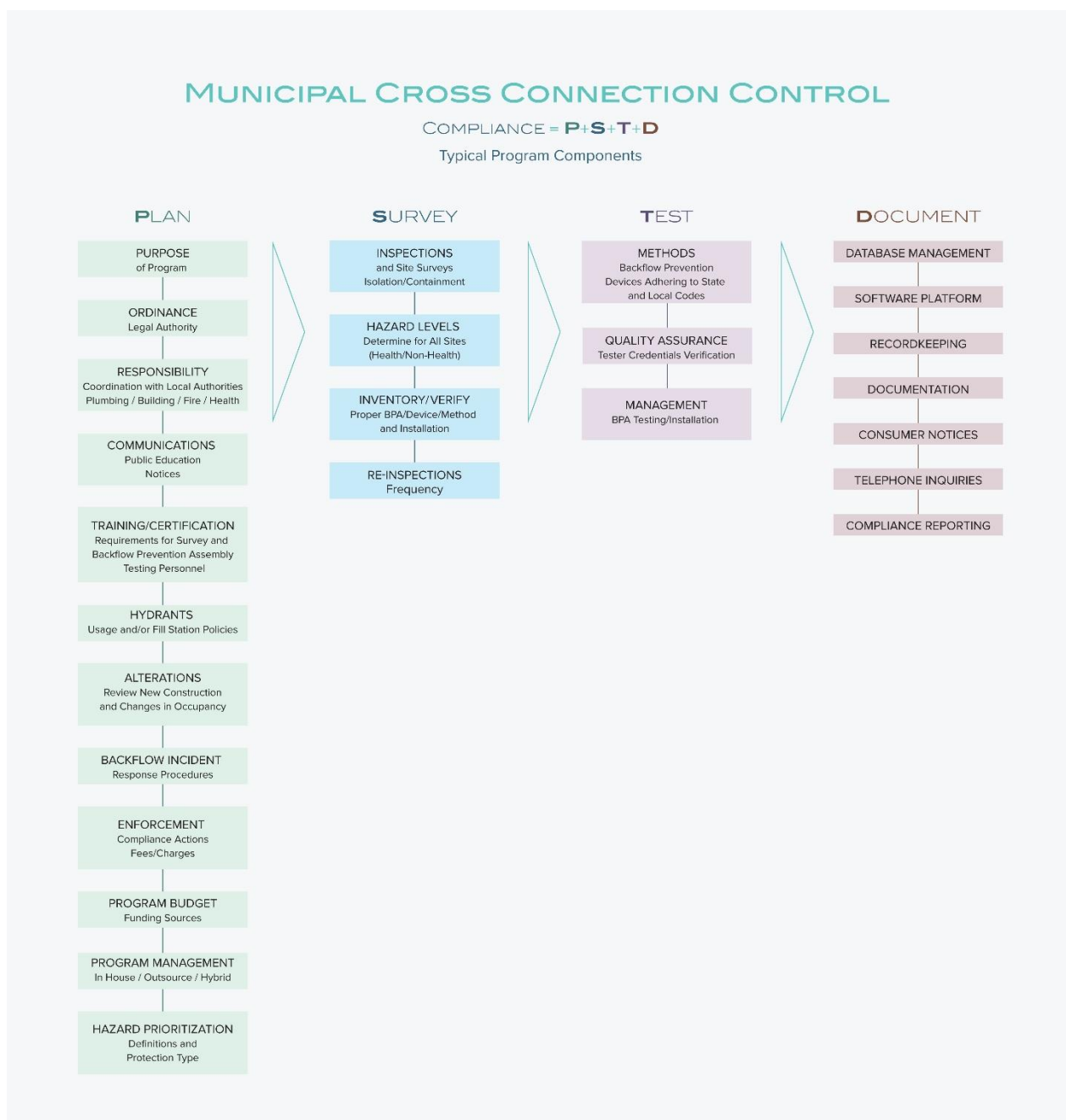
HydroCorp recognizes that many different stakeholders will be affected by a Cross-Connection Control Program. The following chart illustrates the various agencies, internal staff and external people that have an impact on overall program success and compliance.



HydroCorp strives to maintain a good working relationship and clearly communicate the goals of a Cross-Connection Control Program with all of the above stakeholders. We understand that our staff interaction in the community and with regulatory agencies is an extension of your positive community image. HydroCorp has maintained an excellent working relationship with local Mayors, City Managers, plumbing and building officials, health inspectors and others in order to provide them with a simple and clear understanding of the impact of a Cross-Connection Control program, regulations and the need to protect the drinking water supply from contamination.



## 2.4. Cross-Connection Control Plan Components





### 3. CROSS CONNECTION INSPECTION PROCESS

#### 3.1. Inspections/Surveys

The water connections and plumbing systems of all water customers or accounts shall be initially inspected for the presence of cross connections. As a result of the initial inspection, a detailed record of each account shall be established.

Inspections shall consist of entering a facility from the point where water service enters the facility (usually the meter) and tracing the piping to each end point of use. Using standardized inspection forms, the inspector shall identify and note the location and nature of any direct and potential cross connections, location and details of backflow prevention devices & assemblies, and other pertinent program information. Inspectors having proper identification shall be permitted to enter the building/premises at reasonable times for the purpose of cross connection inspections. If the inspector is refused proper access or if customer plumbing is untraceable, the Village will assume a cross connection is present and take the necessary action to ensure the public water supply is protected.

The highest priority for inspections shall be placed on facilities that pose a high degree of hazard, that have a high probability that backflow will occur, or are known/suspected to have cross connections.

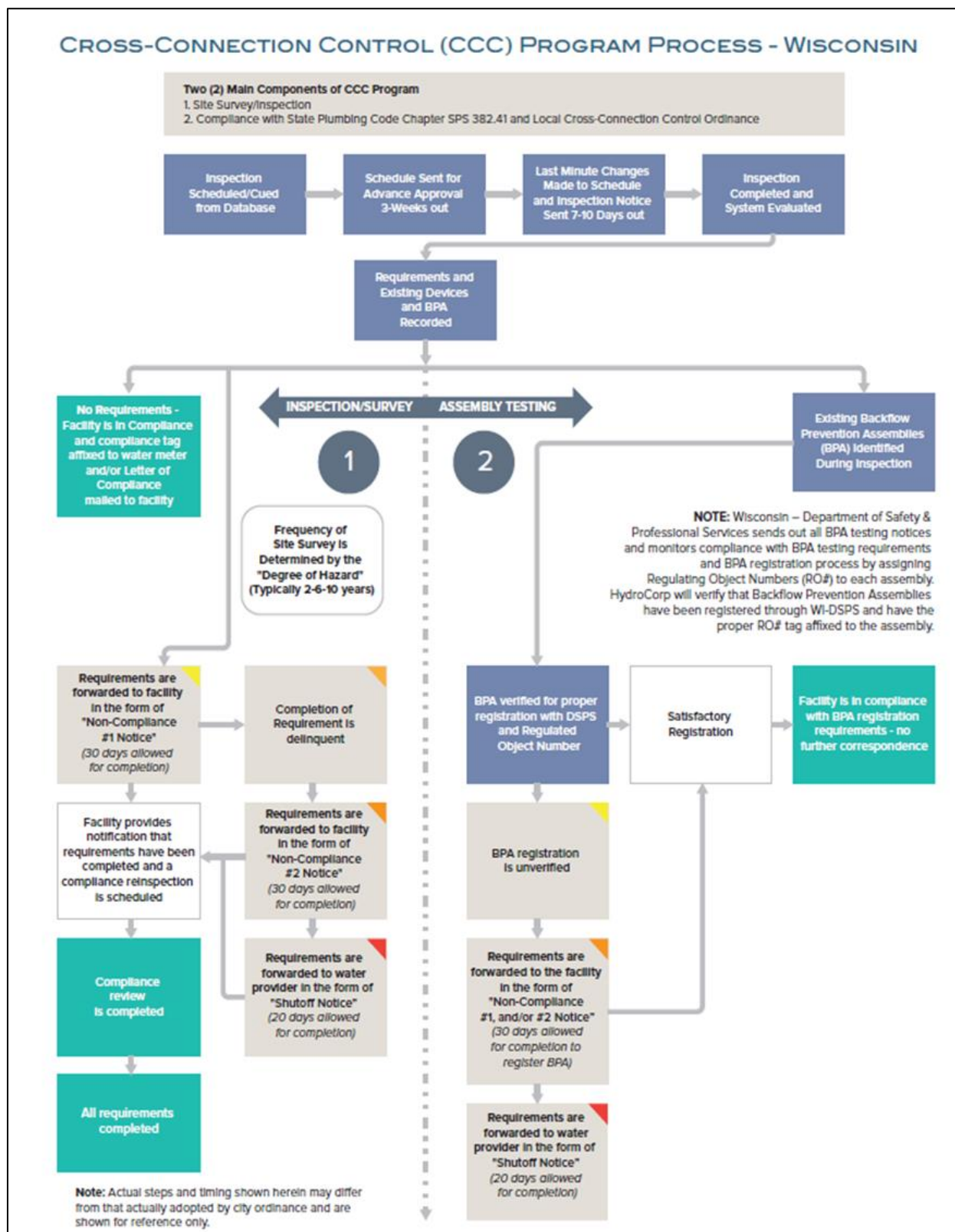
Once initial inspections are complete, a re-inspection frequency shall be determined for each account based on the degree of hazard/risk and potential for backflow in accordance with the requirements of the Village of Williams Bay Cross-Connection Control Plan. Accounts with an alternative frequency will require DNR Approval in writing. If requested, HydroCorp will develop an alternative frequency inspection schedule on behalf of the water utility and submit to DNR for final approval.

#### 3.2. Definitions

- Initial Inspection – the first time a HydroCorp representative inspects a facility for cross connections. Degree of Hazard is assigned and/or verified during this facility visit. The Degree of Hazard will dictate future re-inspection frequency/schedule of facility, (facility will be either compliant or non-compliant after this inspection).
- Compliance Inspection – subsequent visit by a HydroCorp representative to a facility that was non-compliant during the Initial Inspection to verify that corrective action was completed and meets the program requirements.
- Re-Inspection – Revisit by a HydroCorp representative to a facility that was previously inspected. The re-inspection frequency/schedule is based on the degree of hazard assigned to the facility during the initial inspection (Re-Inspection cycle/frequency to be determined when Plan is developed).



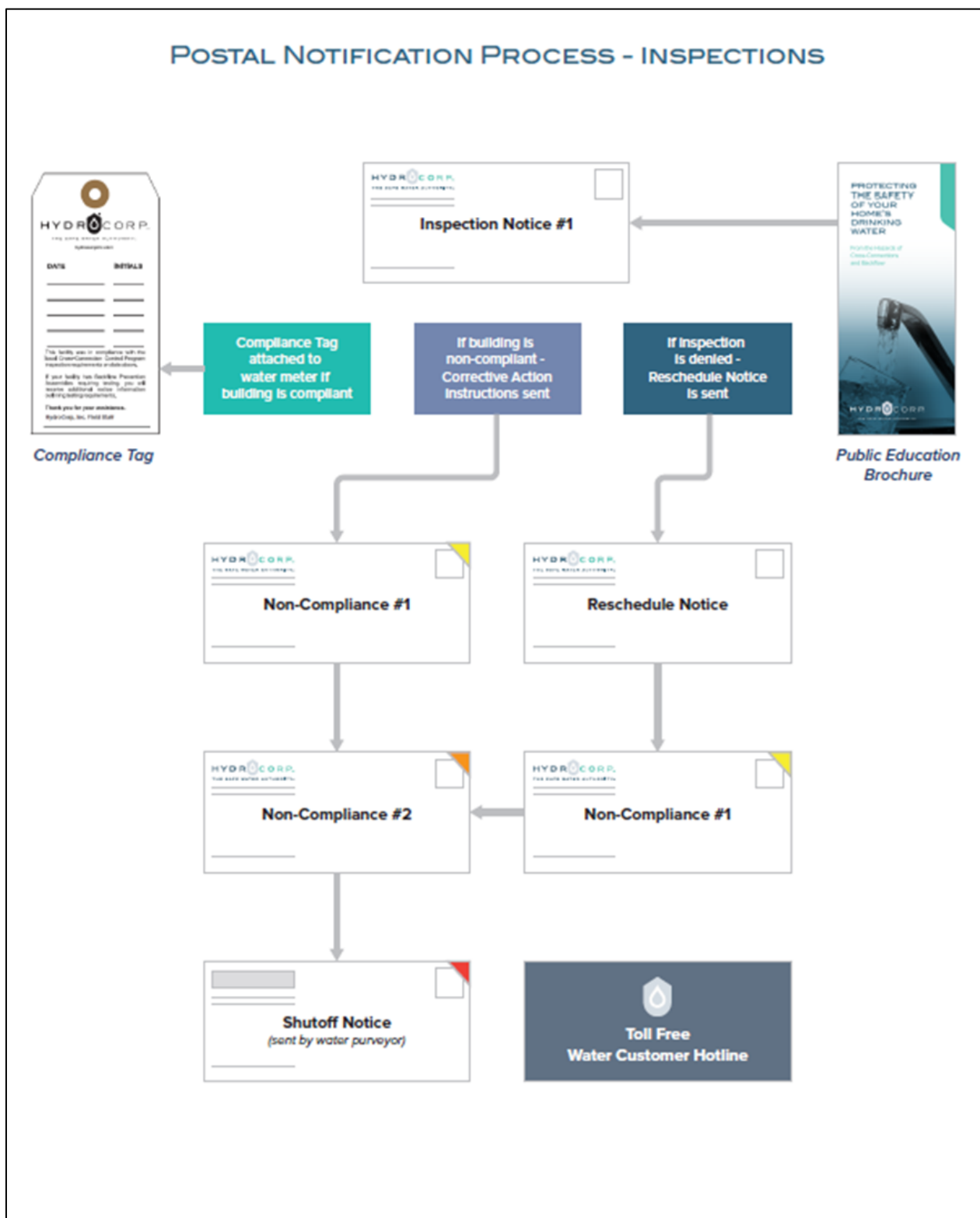
### 3.3. CCC Program Process







### 3.4. Postal Notification Process - Inspections





## 4. WATER CUSTOMER CARE AND ADMINISTRATION PROCESS

### 4.1. Program Data

The most critical element of a Cross-Connection Control Program is data integrity. Without accurate data, the Cross-Connection Control program will experience customer service, administrative, and reporting issues and also result in field survey inefficiencies.

### 4.2. Database Software

HydroCorp utilizes a proprietary software program – HydroSoft™ to manage Cross-Connection Control Program data. All program data captured shall remain the property of the Village of Williams Bay. All of our Client Data is secured on our Application Server, which is behind both a Hardware and a Software Firewall.

Standard reports include the following:

- Inspections scheduled, completed, overdue and compliance status
- Custom queries, data exports and reports as needed
- DNR Annual Report

### 4.3. Information Technology (I/T)

HydroCorp has a dedicated team member responsible for Information Technology (I/T) infrastructure for internal (staff) needs as well as external (client) communication and reporting needs. We also have a dedicated person responsible for new client start up and database implementation in order to insure we have the most accurate information possible at any given point in time.

We have continually invested in both hardware infrastructure (Network Servers, Client Workstations, Firewalls and Tablet P.C.'s for Field Inspectors) and software in order to leverage technology in the workplace and to improve customer service and assist in lowering our costs to our clients. HydroCorp has a contracted service agreement with a local I/T Company that performs monthly routine system maintenance and monitors our infrastructure/servers for optimum performance and reliability.

### 4.4. Program Data Backup and Storage

All of our Client Data is secured on our Application Server, which is behind both a Hardware and a Software Firewall. The Application Server is backed up twice a day. 5 copies of the backup are then created and stored at 3 separate locations. 3 of the 5 backup copies are stored locally. One is on the application server itself, one is on our File server, and one is backed up to a Network Attached Storage (NAS) device. Having 3 local backup copies stored on the different machines means that in the unlikely event of a hardware malfunction, we can recover the data very quickly. Additionally, we backup the data to our backup server located in our Corporate Office, and we employ a secure on-line backup service that stores 2 copies of our backup at two independent locations.





#### 4.5. Public Awareness Education

In the initial implementation phase of the Cross-Connection Control Program, Public Education on the topic should remain in the community spotlight. HydroCorp will provide a specialized speaker to participate/present at a town hall/public meeting engagement if requested. Press release information will be offered in digital format to the Village of Williams Bay for local distribution to local media resources & website if requested. Further, public education brochures will be available in electronic format for download and can be posted on the Village of Williams Bay web site.



Further Public Education resources including brochures and video files can be found at <http://www.hydrocorpinc.com/resources/links/>



## 5. EXECUTIVE SUMMARY, PROJECT FEES/COST

Based on your current program, HydroCorp™ will provide the following services to the **Village of Williams Bay**. This project is a continued effort for an ongoing Cross-Connection Control Program and will provide the **Village of Williams Bay** with the necessary data and information to maintain compliance with the Wisconsin Department of Natural Resources (DNR) Water Bureau Cross Connection Control Regulations. Once this project has been approved and accepted by the **Village of Williams Bay** and HydroCorp, you may expect completion of the following elements within a two (2) year period. The components of the project include:

- A. Perform initial inspections of (60) Non-Residential water services and up to (76) inspections within the Village served by the public water supply for cross-connections. Compliance follow up visits shall be completed by HydroCorp and are included in the total inspections.
- B. Inspections will be conducted in accordance with the DNR Water Bureau Cross Connection Control regulations. Inspectors will survey exposed piping and utilize Isolation/Point of Use inventory method of surveying as supported by the State of Wisconsin Plumbing Code – SPS 382.41.
- C. HydroCorp will document existing backflow prevention devices and assemblies and verify proper installation and/or suggest corrective actions if devices and/or assemblies need to be installed to prevent cross-connections. Documentation to include make, model, size, manufacturer, serial number, location and regulated object number if applicable. In lieu of surveying residential kitchens and bathrooms, an educational brochure will be provided as allowed by DNR regulation NR 810.15.
- D. Notify each building owner prior to each inspection via postal letter with opportunity to schedule a specific time of inspection via the Hydro Designs Inc. Provide ongoing support for water customer scheduling and questions via the Hydro Designs Inc. WI office toll free 800# phone line, fax, or email.
- E. Provide Water Utility and building owner with a detailed corrective action report for each non-compliant facility, in most cases, water utility personnel can perform effective follow up compliance inspections.
- F. Perform administrative functions including: answering water user telephone calls, scheduling of inspections, mailing of all notices, verification of corrective action(s) requirements, and general customer service and program education inquiries by an individual trained in Cross-Connection Control Program Management.
- G. Generate and document the required program data and compliance status using proprietary Software Data Management Program. Submit comprehensive management reports on a quarterly basis and prepare the State of Wisconsin, DNR Water Bureau Annual Cross Connection Control Program Activity Report.
- H. Conduct an annual review meeting to discuss overall program status and recommendations.
- I. Assist the Village with a community wide public relations program including general awareness brochures and web site cross connection control program overview content and resources.
- J. Provide ongoing support via phone, fax, internet, text or email.



## PRICING/PROPOSED FEES

HydroCorp to complete inspections, appointments, customer care service and program administration. Compliance/follow up inspections and administration related to compliance/follow up inspections included.

**PRICING:**

\_\_\_\_\_ **Initial Inspections of 60 non-residential services connections and an overall total of up to 76 inspections including follow up compliance inspections.**

\_\_\_\_\_ **\$11,016.00 dollars.**

HydroCorp will invoice monthly in equal installments upon receipt of signed contract/agreement

**Submitted by:** HYDROCORP- CORPORATE OFFICE- 5700 CROOKS RD SUITE 100 TROY MI 48098

Craig Wolf | 612-850-8939 | cwolf@hydrocorpinc.com

**Accepted by:**

X \_\_\_\_\_

Village/Utility Representative (Signature)

\_\_\_\_\_

Date

\_\_\_\_\_  
Printed Name / Title



## 6. BACKGROUND

### 6.1. The HydroCorp Promise

HydroCorp is the Safe Water Authority.™ It is our duty to provide the most precise and comprehensive technical services in the industry. It also means delivering those services with expert knowledge, professionalism, and sensitivity to budgets and schedules – the highest standard of water safety oversight, combined with the highest value.

The Result – Your water system is compliant. Your risk and exposure are reduced. Your water – and your people – are protected.

### 6.2. Company Overview

- Founded in 1983 and incorporated in 1988.
- The firm has grown from two employees to a staff of over 40 full time associates in multiple states. Average tenure with the company is 7 years and employee turnover is less than 10%.
- HydroCorp Conducts over 25,000 on site, Cross-Connection Control Inspections **annually**.
- HydroCorp provided Cross-Connection Control Program Management Services to over 240 communities in several states including: Michigan, Wisconsin, Delaware, Maryland, Virginia, Florida and Minnesota. We still have our first customer!
- Our highly trained staff works in an efficient manner in order to achieve maximum productivity and keep program costs affordable. We have a detailed **system** and **process** that each of our field inspectors follow in order to meet productivity and quality assurance goals.
- Our municipal inspection team is committed to providing outstanding customer service to the water users in each of the communities we serve. We teach and train customer service skills in addition to the technical skills since our team members act as representatives of the community that we service.
- Our municipal inspection team has attended training classes and received certification from the following recognized Cross Connection Control Programs: UF TREEO, UW-Madison, USC – Foundation for Cross Connection Control and Hydraulic Research, American Backflow Prevention Association (ABPA), and American Society for Sanitary Engineering (ASSE). We invest heavily in internal and external training with our team members to ensure that each Field Service and Administrative team member has the skills and abilities to meet the needs of our clients.
- Our administrative staff can answer most technical calls related to the cross-connection control program and have attended basic cross-connection control training classes.
- HydroCorp staff and company are active members in many water industry associations including:
  - American Water Works Association (AWWA) | AWWA – Wisconsin Chapter
  - National Rural Water Association (NRWA) | Wisconsin Rural Water Association
  - American Public Works Association (APWA)
- HydroCorp is not a Plumbing Company and does not utilize existing staff to perform backflow prevention assembly testing, repair or plumbing related services.



### 6.3. Office Address & Contact Information

|                                                 |                                                                                    |
|-------------------------------------------------|------------------------------------------------------------------------------------|
| <b>Regional Office:</b>                         | HYDROCORP – MIDWEST OFFICE<br>2665 S MOORLAND RD SUITE 209<br>NEW BERLIN WI 53151  |
| <b>Contact:</b>                                 | Craig Wolf                                                                         |
| <b>Telephone:</b>                               | 612-850-8939                                                                       |
| <b>Email:</b>                                   | <a href="mailto:cwolf@hydrocorpinc.com">cwolf@hydrocorpinc.com</a>                 |
| <b>Corporate Office:<br/>(Remit to Address)</b> | HYDROCORP – CORPORATE OFFICE<br>5700 CROOKS ROAD SUITE 100<br>TROY MI 48098        |
| <b>Telephone:</b>                               | 800.690.6651 or 248.250.5000                                                       |
| <b>Legal Status:</b>                            | S-Corporation, 1988   E.I.D. 38-2810008                                            |
|                                                 |  |



WI Office (Above) Corporate Office (Below)



## 7. PROJECT REFERENCES

- City of Marshfield, 1210 S Oak St, Marshfield, WI 54449 | John Richmond, Water Utility Manager, [john.richmond@MarshfieldUtilities.org](mailto:john.richmond@MarshfieldUtilities.org) | 715-898-2170
- City of Chetek, 1125 Railroad Ave., Chetek, WI 54728 | Dan Knapp, Director-Public Works, [chetekcs@chibardun.net](mailto:chetekcs@chibardun.net) | 715-924-4236
- Sturgeon Bay Utilities, 230 E. Vine St, Sturgeon Bay, WI 53235-007 | Cliff White, Superintendent, [cwhite@wppienergy.org](mailto:cwhite@wppienergy.org) | 920-746-2820



## 8. PROJECT TEAM QUALIFICATIONS

### Corporate Officers



**Larry J. La Bute**, Founder & CEO - Chairman of the Board of Directors. Mr. La Bute founded the company in 1983 to improve the safety of drinking water systems. He graduated from Oakland University with a B.S. in Management and received his Master's degree from S.S. Cyril & Methodius Seminary. Prior to founding HydroCorp, Mr. LaBute successfully founded and ran a water treatment equipment manufacturing company for 12 years.



**Mark L. Martin**, CPA & Chief Financial Officer. Mr. Martin joined HydroCorp in early 2007 and is a seasoned business executive experienced in working with growing small and mid-size companies across a broad range of industries. Mark received a B.S. in Accounting from Michigan State University in 1980 and is also a 10-year board member of Haiti Outreach Mission.



**Glenn Adamus**, COO. A member of the HydroCorp team for the past fourteen years, Glenn has managed various water quality analysis projects related to process water and potable water systems on HydroCorp's behalf, including Stage 2 DBPR, Lead and Copper Rule, water distribution system/quality characterization studies, water main/system disinfections, legionella risk assessment and monitoring, and industry compliance monitoring. He has also performed and managed numerous cross connection control surveys/consulting projects for large industry and public water systems throughout the United States.



**Paul Patterson**, Senior Vice President. Mr. Patterson joined HydroCorp, Inc. in 2004, and is responsible for operational oversight of over 200 Cross-Connection Control Programs throughout Michigan, Delaware, Maryland, Florida, Wisconsin and Virginia. Before joining HydroCorp, Mr. Patterson was a member of the U.S. Air Force, where he assisted in the implementation of a stateside installation Cross-Connection Control Program. Paul is an ASSE Certified Instructor for Backflow Assembly Testing Certification and regularly presents at regional water industry association conferences.





## Staff Bios Continued



**Dave Cardinal**, Vice President, Municipal Division. Dave has over twenty years' experience as a water professional and has a successful record of accomplishments in the cross-connection control industry. Experienced in program development, project management, developing and conducting employee education and training programs, developing and instructing State certified education and training classes, quality assurance, customer service, and client satisfaction. He is responsible for establishing business practices, field operation procedures, and administrative functions related to cross connection control program management. Dave is an ASSE Certified Instructor for multiple ASSE Certifications related to Cross-Connection Control and Backflow Prevention. Dave also has been a speaker at numerous Water Industry Conferences.



**Craig Wolf**, New Cross-Connection Control Program development in the Midwest Region. Since 2009 at HydroCorp, he was responsible for identification of hazards and deficiencies and determining proper recommendations for over 130 municipal client cross-connection control programs in Wisconsin. He also generated inspection reports and protection recommendations for over 3,000 individual facility surveys of cross-connections. Certified by ASSE for Cross-Connection Control Surveying, Craig applies years of field experience to offering solutions for public water systems that are cost effective. In the past 4 years, Craig has been focused on client retention efforts, and developing new Cross Connection Control Programs for Municipal Water Systems around the region.



**Ryan Hensley**, Administrative Account Manager – Municipal Division. As an Administrative Account Manager Ryan Hensley is responsible for providing administrative support to field surveyors, regional managers and division directors with all components associated with managing a comprehensive cross connection control program, in addition to providing highest level of customer service to our municipal clients. Ryan has been a member of the HydroCorp team for over 10 years and is an ASSE 5150 certified Backflow Prevention Program Administrator.

He is an advanced user of the HydroSoft data management program & responsible for providing day to day tech support to the entire staff and external clients. Ryan also assists in the planning, testing & training of HydroSoft for clients and end users.

### Field Inspectors/Surveyors/Technicians

HydroCorp invests continuously in educational training and development of its team members. All of the HydroCorp Field Inspectors assigned to this project are certified in Cross-Connection Control Surveying and Backflow Prevention Program Management through one the following programs:

# PROFESSIONAL SERVICE AGREEMENT

This agreement, made and entered into this May 1<sup>st</sup>, 2023 by and between the Village of Williams Bay organized and existing under the laws of the State of Wisconsin, referred to as “Utility”, and HydroCorp™ a Michigan Corporation, referred to as “HydroCorp”.

WHEREAS, the Utility supplies potable water throughout its corporate boundary to property owners; and desires to enter into a professional services contract for cross connection control program inspection, reporting and management services.

WHEREAS, HydroCorp is experienced in and capable of supplying professional inspection of potable water distribution systems and cross connection control program management to the Utility and the Utility desires to engage HydroCorp to act as its independent contractor in its cross connection control program.

WHEREAS, the Utility has the authority under the laws of the State of Wisconsin and its local governing body to enter into this professional services contract.

NOW THEREFORE, in consideration of the mutual agreements herein contained, and subject to the terms and conditions herein stated, the parties agree as follows:

## ARTICLE I. Purpose

During the term of this Agreement, the Utility agrees to engage HydroCorp as an independent contractor to inspect and document its findings on its potable water distribution system in public, commercial and industrial facilities within the community. Each party to this Agreement agrees that it will cooperate in good faith with the other, its agents, and subcontractors to facilitate the performance of the mutual obligations set forth in this Agreement. Both Parties to this Agreement recognize and acknowledge that the information presented to them is complete and accurate, yet due to the inaccessible nature of water piping or due to access constraints within water users’ facilities, complete and accurate data is not always available.

## ARTICLE II. Scope of Services

The scope of services to be provided by HydroCorp under this Agreement will include the inspections/surveys, program administration, answering telephone call inquiries, scheduling of inspections, program compliance review, public education materials, preparation of quarterly management reports, and annual cross connection reports with respect to the facilities to the extent specifically set forth in this Article II (hereinafter the “Scope of Services”). Should other reports/services be included within the Scope of Services, the same shall be appended to this Agreement as Exhibit 1.

**2.1 PROGRAM REVIEW/PROGRAM START UP MEETING.** HydroCorp will conduct a Program Startup Meeting for the Cross-Connection Control/Backflow Prevention Program. Items for discussion/review will include the following:

- Review state & local regulations
- Review and/or provide assistance in establishing local Cross-Connection Control Ordinance
- Review/establish wording and timeliness for program notifications including:
  - Inspection Notice
  - Compliance Notice
  - Non-Compliance Notices 1-2, Penalty Notices
- Special Program Notices
- Electronic use of notices/program information
- Obtain updated facility listing, address information and existing program data from Utility
- Prioritize Inspections (City buildings, schools, high hazard facilities, special circumstances.)
- Review/establish procedure for vacant facilities





- Establish facility inspection schedule
- Review/establish procedures and protocol for addressing specific hazards
- Review/establish high hazard, complex facilities and large industrial facility inspection/containment procedures including supplemental information/notification that may be requested from these types of facilities in order to achieve program compliance.
- Review/establish program reporting procedures including electronic reporting tools
- Review/establish educational and public awareness brochures

**2.2 INSPECTIONS.** HydroCorp will perform initial inspections, compliance inspections, and re-inspections at individual industrial, commercial, institutional facilities and miscellaneous water users within the utility served by the public water supply for cross-connections. Inspections will be conducted in accordance with Wisconsin Department of Natural Resources (DNR) Cross Connection Control Rules.

- *Initial Inspection* – the first time a HydroCorp representative inspects a facility for cross connections. Degree of Hazard will be assigned and/or verified during this facility visit. The Degree of Hazard will dictate future re-inspection frequency/schedule of facility, (facility will be either compliant or non-compliant after this inspection).
- *Compliance Inspection* – subsequent visit by a HydroCorp representative to a facility that was non-compliant during the *Initial Inspection* to verify that corrective action was completed and meets the program requirements.
- *Re-Inspection* – Revisit by a HydroCorp representative to a facility that was previously inspected. The re-inspection frequency/schedule is based on the degree of hazard assigned to the facility during the initial inspection (two, six or ten year re-inspection cycle).

**2.3 INSPECTION SCHEDULE.** HydroCorp shall determine and coordinate the inspection schedule. Inspection personnel will check in/out on a daily basis with the Utility's designated contact person. The initial check in will include a list of inspections scheduled. An exit interview will include a list of inspections completed.

**2.4 PROGRAM DATA.** HydroCorp will generate and document the required program data for the Facility Types listed in the Scope of Services using the HydroCorp Software Data Management Program. Program Data shall remain property of the Utility; however, the HydroCorp Software Data Management program shall remain the property of HydroCorp and can be purchased for an additional fee. Data services will include:

- Prioritize and schedule inspections
- Notify users of inspections, backflow device installation and testing requirements if applicable
- Monitor inspection compliance using the HydroCorp online software management program. (Note: WI Department of Safety & Professional Services (DSPS) manages backflow prevention assembly testing notification and compliance.)
- Maintain program to comply with all DNR regulations

**2.5 MANAGEMENT REPORTS.** HydroCorp will submit comprehensive management reports in electronic, downloadable format on a quarterly & annual basis to the Utility. Reports to include the following information:

- Name, location and date of inspections
- Number of facilities inspected/surveyed
- Number of facilities compliant/non-compliant

**2.6 REVIEW OF CROSS-CONNECTION CONTROL ORDINANCE.** HydroCorp will review or assist in the development of a cross-connection control ordinance. Items for review include:

- Code adoption references, standard operational procedures, program notice documentation, reporting procedures and preference standards.
- Penalties for noncompliance.



- 2.7 VACUUM BREAKERS.** Utility will provide up to six (6) ASSE approved hose bibb vacuum breakers or anti-frost hose bibb vacuum breakers per facility as required, in order to place a facility into immediate compliance at the time of inspection if no other cross-connections are identified.
- 2.8 PUBLIC RELATIONS PROGRAM.** HydroCorp will assist the Utility with a community-wide public relations program including general awareness brochures and website cross connection control program content.
- 2.9 SUPPORT.** HydroCorp will provide ongoing support via phone, fax, text, website or email for the contract period.
- 2.10 FACILITY TYPES.** The facility types included in the program are as follows:
- Industrial
  - Institutional
  - Commercial
  - Miscellaneous Water users
  - Multifamily
- Complex Facilities.** Large industrial and high hazard complexes or facilities may require inspection/survey services outside the scope of this Agreement. (HydroCorp typically allows a maximum of up to three (3) hours of inspection time per facility.) An independent cross connection control survey (at the business owner's expense) may be required at these larger/complex facilities and the results submitted to the Utility to help verify program compliance.
- 2.11 INSPECTION TERMS.** HydroCorp will perform **(60) Initial inspection, and up to (76)** total inspections over a **two (2)** year contract period. The total inspections include all initial inspections, compliance and re-inspections. *Vacant facilities that have been provided to HydroCorp, scheduled no show or refusal of onsite inspection will count as an inspection/site visit for purposes of the contract.*
- 2.12 COMPLIANCE WITH DEPARTMENT OF NATURAL RESOURCES ADMINISTRATIVE CODE.** HydroCorp will assist in compliance with DNR and Wisconsin Administrative Code cross connection control program requirements for all commercial, industrial, institutional, multifamily and public authority facilities.
- 2.13 POLICY MANUAL.** HydroCorp will review and/or develop a comprehensive cross connection control policy manual/plan and submit to WI-DNR for approval on behalf of the Utility.
- 2.14 INVENTORY.** HydroCorp shall inventory all accessible (ground level) backflow prevention assemblies and devices. Documentation will include: location, size, make, model and serial number if applicable.
- 2.15 DATA MANAGEMENT.** HydroCorp shall provide data management and program notices for all inspection services throughout the contract period.
- 2.16 ANNUAL YEAR END REVIEW.** HydroCorp will conduct an on-site annual year-end review meeting to discuss overall program status and specific program recommendations.
- 2.17 CROSS CONNECTION CONTROL BROCHURES.** HydroCorp will provide approximately **76** cross-connection control educational brochures for the duration of the Agreement.
- 2.18 INSURANCE.** HydroCorp will provide all required copies of general liability, workers compensation and errors and omissions insurance naming the Utility as an additional insured if required.



### ARTICLE III. Responsibilities of the Utility

- 3.1 UTILITY'S REPRESENTATIVE.** On or before the date services are to commence under this Agreement, the Utility shall designate an authorized representative ("Authorized Representative") to administer this Agreement.
- 3.2 COMPLIANCE WITH LAWS.** The Utility, with the technical and professional assistance of HydroCorp, shall comply with all applicable local, state, and federal laws, codes, ordinances, and regulations as they pertain to the water inspection and testing, and shall pay for any capital improvements needed to bring the water treatment and delivery system into compliance with the aforementioned laws.
- 3.3 NOTICE OF LITIGATION.** In the event that the Utility or HydroCorp has or receives notice of or undertakes the prosecution of any actions, claims, suits, administrative proceedings, investigations or other proceedings in connection with this Agreement, the party receiving such notice or undertaking of such prosecution shall give the other party timely notice of such proceedings and will inform the other party in advance of all hearings regarding such proceedings
- 3.4 FACILITY LISTING.** The Utility must provide HydroCorp a complete list of facilities to be inspected, including facility name, type of service connection, address, contact person, and phone number, (if available). *Electronic file format such as Microsoft Excel, etc. is required. An additional one-time fee to manually enter facility listing will be charged at the rate of \$80.00 per hour. Incorrect facility addresses will be returned to the Utility contact and corrected address will be requested.*
- 3.5 LETTERHEAD/LOGO.** The Utility will provide HydroCorp with an electronic file copy of the utility logo or utility letterhead and all envelopes for the mailing of all official program correspondence only. (300 dpi in either .eps, or other high quality image format for printing.)

### ARTICLE IV. Term, Compensation and Changes in Scope of Services

- 4.1 TERM AND TERMINATION TERM.** Services by HydroCorp under this Agreement shall commence on **May 1<sup>st</sup>, 2023** and end **two (2) years** from such date, unless this Agreement is renewed or terminated as provided herein. The terms of this Agreement shall be valid only upon the execution of this Agreement within ninety (90) days of its receipt. Failure to execute this Agreement within the ninety (90) day period shall deem the proposed terms void.
- 4.2 RENEWAL.** Upon the expiration of this two-year agreement the Utility will have the option to automatically renew for a one (1) year term. Any increases in pricing for the one-year renewal will be equal to the annual Consumer Price Index as measured in the local/regional area at the time of renewal.
- 4.3 TERMINATION.** The Utility or HydroCorp may terminate this Agreement at any time and on any date in the initial and renewal terms of this Agreement, with or without any cause, by giving written notice of such intent to terminate to the other party at least thirty (30) days prior to the effective date of termination. Notice of the intent to terminate shall be given in writing by personal service, by an authorized agent, or by certified mail, return receipt requested. The Utility shall pay the balance of any outstanding accounts for work performed by HydroCorp.
- 4.4 BASE COMPENSATION.** From the Beginning thirty (30) days after execution of this Agreement, the Utility shall pay HydroCorp as compensation ("Base Compensation") for labor, equipment, material, supplies, and utilities provided and the services performed pursuant to this Agreement, the sum of **\$459.00** per month, **\$5,508.00** annually for a **two (2)** year contract period totaling **\$11,016.00**.
- 4.5 PAYMENT OF INVOICES.** Upon presentation of invoices by HydroCorp, all payments including base and other compensation shall be due and payable on the first day of each month (due date) after the month for which services have been rendered. All such payments shall be made no later than thirty (30) days after the due date. Failure to pay shall be deemed a default under this Agreement. For any payment to HydroCorp which is not



made within thirty (30) calendar days after the due date, HydroCorp, shall receive interest at one and one-half (1½) percent per month on the unpaid balance.

- 4.6 CHANGES IN SCOPE OF SERVICES.** In the event that the Utility requests and HydroCorp consents to perform additional work or services involving the consulting, management, operation, maintenance, and repair of the Utility's water delivery system where such services or work exceeds or changes the Scope of Services contemplated under this Agreement, HydroCorp shall be provided additional compensation. Within thirty (30) calendar days from the date of notice of such additional work or services, the parties shall mutually agree upon an equitable sum for additional compensation. This amount shall be added to the monthly sum effective at the time of change in scope. Changes in the Scope of Service include, but are not limited to, requests for additional service by the Utility or additional costs incurred in meeting new or changed government regulations or reporting requirements.
- 4.7 CLIENT CONFIDENTIALITY.** Disclosure of all communications between HydroCorp and the Utility regarding business practices and other methods and forms of doing business is subject to the provisions of Wisconsin Public Records Law, Chapter 19, Wis. Stats. HydroCorp agrees to make available for inspection and copying all records (as defined in sec. 19.32 (2), Wis. Stats.) in its possession created, produced, collected or otherwise related to this Agreement to the same extent as if the records were maintained by the Utility. HydroCorp expressly acknowledges and agrees that its obligations concerning Public Records Law and compliance under this Agreement should not be limited by copyright, license, privacy and/or confidentiality except as authorized under the Public Records Law.
- 4.8 ACCESSIBILITY.** Backflow prevention device information will be completed in full only when the identifying information (i.e. data plate, brass tag, etc.) is accessible and visible from ground level or from a fixed platform/mezzanine.
- 4.9 CONFINED SPACES.** – HydroCorp personnel will not enter confined spaces.

## ARTICLE V. Risk Management and General Provisions

- 5.1 INFORMATION.** Both Parties to this Agreement recognize and acknowledge that the information presented to them is complete to the best of their knowledge, yet due to the inaccessible nature of water piping or lack of access provided by property owner/water user, complete accurate data is not always available. Cross-connection control inspection and results are documented as of a specific date. The property owner and/or water user may make modifications to the potable water system after the inspection date that may impact compliance with the program.
- 5.2 LIMITATION OF LIABILITY.** HydroCorp's liability to the Utility for any loss, damage, claim, or expense of any kind or nature caused directly or indirectly by the performance or non-performance of obligations pursuant to this Agreement shall be limited to general money damages in an amount not to exceed or within the limits of the insurance coverage provided hereunder. HydroCorp shall in no event be liable for indirect or consequential damages, including but not limited to, loss of profits, loss of revenue, or loss of facilities, based upon contract, negligence, or any other cause of action.

- 5.3 HYDROCORP INSURANCE.** HydroCorp currently maintains the following insurance coverage's and limits:

|                                              | Occurrence  | Aggregate   |
|----------------------------------------------|-------------|-------------|
| Comprehensive General Liability              | \$1 Million | \$2 Million |
| Excess Umbrella Liability                    | \$5 Million | \$5 Million |
| Automobile Liability (Combined Single Limit) | \$1 Million |             |
| Worker's Compensation/ Employer's Liability  | \$1 Million |             |
| Errors and Omissions                         | \$2 Million | \$2 Million |

Within thirty (30) calendar days of the start of the project, HydroCorp shall furnish the Utility with satisfactory proof of such insurance, and each policy will require a 30-day notice of cancellation to be given



to the Utility while this Agreement is in effect. The Utility shall be named as an additional insured according to its interest under the general liability policy during the term of this Agreement.

- 5.4 UTILITY INSURANCE.** The Utility will maintain liability insurance on an all risk basis and including extended coverage for matters set forth in this Agreement.
- 5.5 RELATIONSHIP.** The relationship of HydroCorp to the Utility is that of independent contractor and not one of employment. None of the employees or agents of HydroCorp shall be considered employees of the Utility. For the purposes of all state, local, and federal laws and regulations, the Utility shall exercise primary management, and operational and financial decision-making authority.
- 5.6 ENTIRE AGREEMENT AMENDMENTS.** This Agreement contains the entire Agreement between the Utility and HydroCorp, and supersedes all prior or contemporaneous communications, representations, understandings, or agreements. This Agreement may be modified only by a written amendment signed by both parties.
- 5.7 HEADINGS, ATTACHMENTS, AND EXHIBITS.** The heading contained in this Agreement is for reference only and shall not in any way affect the meaning or interpretation of this Agreement. The Attachments and Exhibits to this Agreement shall be construed as integral parts of this Agreement.
- 5.8 WAIVER.** The failure on the part of either party to enforce its rights as to any provision of this Agreement shall not be construed as a waiver of its rights to enforce such provisions in the future.
- 5.9 ASSIGNMENT.** This Agreement shall not be assigned by either party without the prior written consent of the other unless such assignment shall be to the affiliate or successor of either party.
- 5.10 FORCE MAJEURE.** A party's performance under this Agreement shall be excused if, and to the extent that, the party is unable to perform because of actions due to causes beyond its reasonable control such as, but not limited to, Acts of God, the acts of civil or military authority, loss of potable water sources, water system contamination, floods, quarantine restrictions, riot, strikes, commercial impossibility, fires, explosions, bombing, and all such interruptions of business, casualties, events, or circumstances reasonably beyond the control of the party obligated to perform, whether such other causes are related or unrelated, similar or dissimilar, to any of the foregoing. In the event of any such force majeure, the party unable to perform shall promptly notify the other party of the existence of such force majeure and shall be required to resume performance of its obligations under this Agreement upon the termination of the aforementioned force majeure.
- 5.11 AUTHORITY TO CONTRACT.** Each party warrants and represents that it has authority to enter into this Agreement and to perform the obligations, including any payment obligations, under this Agreement.
- 5.12 GOVERNING LAW AND VENUE.** This Agreement shall be governed by and construed in accordance with the laws of the State of Wisconsin, regardless of the fact that any of the parties hereto may be or may become a resident of a different state or jurisdiction. Any suit or action arising shall be filed in a court of competent jurisdiction within the State of Wisconsin, venue by the presiding County. The parties hereby consent to the personal jurisdiction of said court within the State of Wisconsin.
- 5.13 COUNTERPARTS.** This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original and all of which together shall be deemed to be one and the same instrument.
- 5.14 NOTICES.** All notices, requests, demands, payments and other communications which are required or may be given under this Agreement shall be in writing and shall be deemed to have been duly given if delivered personally or sent by nationally recognized overnight carrier, or mailed by certified mail, postage prepaid, return receipt requested, as follows:



If to HydroCorp:

HydroCorp  
c/o Craig Wolf  
5700 Crooks Road, Ste. 100  
Troy, MI 48337  
(612) 850-8939

If to Utility:

Village of Williams Bay  
250 Williams St.  
Williams Bay, WI 53191

- 5.15 **SEVERABILITY.** Should any part of this Agreement for any reason, be declared invalid or void, such declaration will not affect the remaining portion, which will remain in full force and effect as if the Agreement has been executed with the invalid portion eliminated.

#### **SIGNATURES**

IN WITNESS WHEREOF, the parties have duly executed this Agreement effective as of the date first above written.

#### **VILLAGE OF WILLIAMS BAY**

\_\_\_\_\_  
By:  
Title:

**HydroCorp**



\_\_\_\_\_  
By: Craig Wolf



---

# Appendix

## Specific Qualifications & Experience

**HydroCorp™** is a professional service organization that specializes in Cross Connection Control Programs. Cross Connection Control Program Management & Training is the main core and focus of our business. We are committed to providing water utilities and local communities with a cost effective and professionally managed cross connection control program in order to assist in protecting the public water supply.

- HydroCorp conducts over 30,000 Cross Connection Control Inspections **annually**.
- HydroCorp tracks and manages over 35,000+ backflow prevention assemblies for our Municipal client base.
- Our highly trained staff works in an efficient manner in order to achieve maximum productivity and keep program costs affordable. We have a detailed **system** and **process** that each of our field inspectors follow in order to meet productivity and quality assurance goals.
- Our municipal inspection team is committed to providing outstanding customer service to the water users in each of the communities we serve. We teach and train customer service skills in addition to the technical skills since our team members act as representatives of the community that we service.
- Our municipal inspection team has attended training classes and received certification from the following recognized Cross Connection Control Programs: UF TREEO, UW-Madison, and USC – Foundation for Cross Connection Control and Hydraulic Research, American Backflow Prevention Association (ABPA), American Society for Sanitary Engineering (ASSE). HydroCorp recognizes the importance of Professional Development and Learning. We invest heavily in internal and external training with our team members to ensure that each Field Service and Administrative team member has the skills and abilities to meet the needs of our clients.
- We have a trained administrative staff to handle client needs, water user questions and answer telephone calls in a professional, timely and courtesy manner. Our administrative staff can answer most technical calls related to the cross connection control program and have attended basic cross connection control training classes.
- HydroCorp currently serves over 200 communities in Michigan, Wisconsin, Maryland, Delaware, Virginia & Florida. We still have our first customer!
- HydroCorp and its' staff are active members in many water industry associations including: National Rural Water Association, State Rural Water Associations, National AWWA, State AWWA Groups, HydroCorp is committed to assisting these organizations by providing training classes, seminars and assistance in the area of Cross Connection Control.
- Several Fortune 500 companies have relied on HydroCorp to provide Cross Connection Control Surveys, Program Management & Reporting to assist in meeting state/local regulations as well as internal company guidelines.





# RESIDENTIAL PROPOSAL

## CROSS-CONNECTION CONTROL SERVICES

### Village of Williams Bay

250 Williams St.  
Williams Bay, WI 53191

April 4, 2023

## KEEPING DRINKING WATER SAFE FOR INDUSTRIES AND MUNICIPALITIES

For over 30 years, HydroCorp™ has been dedicated to safe drinking water for companies and communities across North America. Fortune 500 firms, metropolitan centers, utilities, small towns and businesses – all rely on HydroCorp to protect their water systems, averting backflow contamination and the acute health risks and financial liabilities it incurs.



Cross-Connection Control /

Backflow Prevention

Water Meter Change Out & Installation  
Services

Legionella Prevention & Control

Water System Surveys / Flow Diagrams

Pipe System Mapping & Labeling

Regulatory Compliance Assistance /  
Documentation



**CORPORATE OFFICE**  
5700 CROOKS RD SUITE 100  
TROY MI 48098  
800.315.4305 TOLL FREE  
262.264.6402 PHONE

**PROJECT CONSULTANT:** Craig Wolf  
612-850-8939 CELL  
cwolf@hydrocorpinc.com EMAIL





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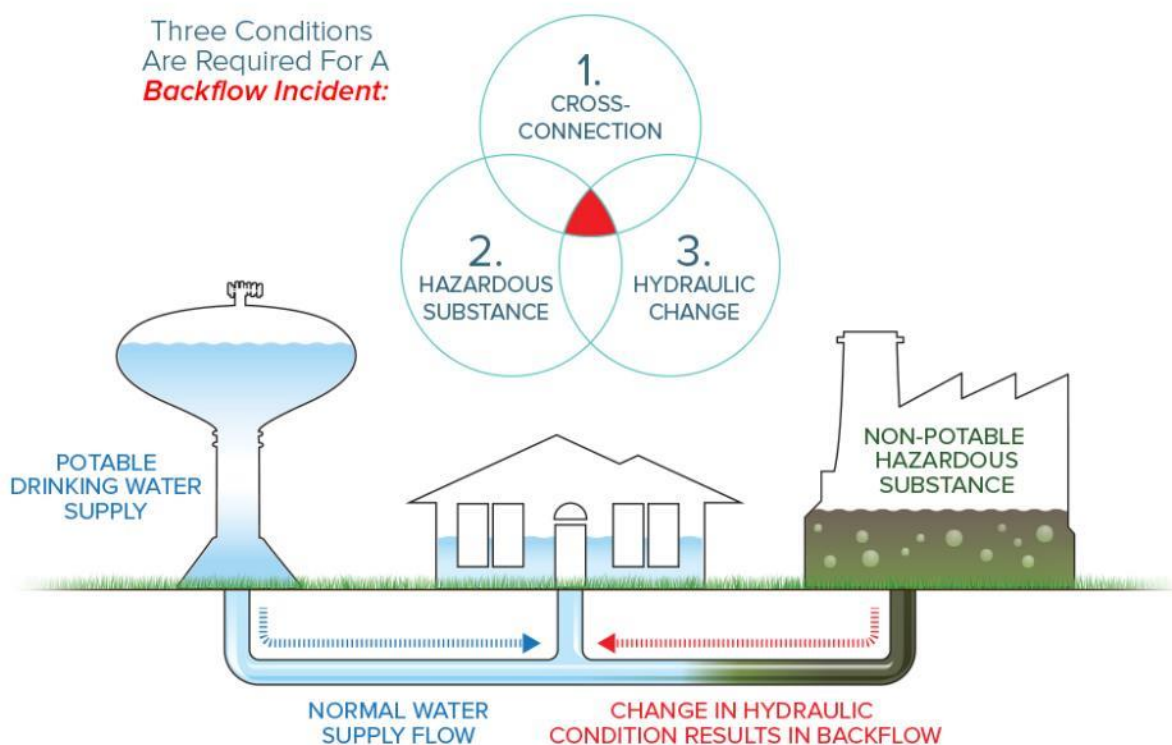
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## 1. INTRODUCTION

### 1.1. Definitions

- Backflow – the undesirable reversal of flow of liquid, gas or other substance in a piping system.
- Backflow Preventer – an assembly, device, or method that prevents backflow.
- Cross-Connection – an actual connection or a potential connection between any part of a potable water system and any other environment that would allow substances to enter the potable water system.
- Cross-Connection Control – a program to eliminate cross-connections or to prevent them from causing a public health threat.
- Cross-Connection Control Survey – the review of the plumbing system to determine the existence of potential or actual cross-connections and to assess the degree of hazard of protected and unprotected cross-connections.



### 1.2. Common Cross-Connection Hazards

- Garden Hose connections with missing backflow preventers.
- Water Softener discharge lines directly connected to drain piping.
- Boilers with missing or inappropriate backflow preventers.
- Improperly installed or Backflow Prevention Assemblies missing test documentation.

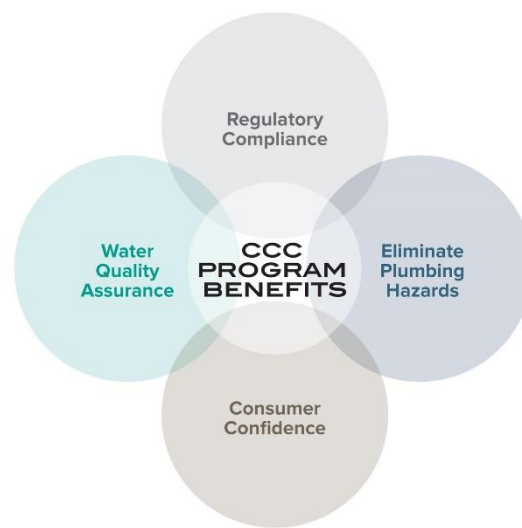


- Toilets with faulty or unapproved anti-siphon fill valves.
- Lawn Irrigation systems with missing or inappropriate backflow preventers.
- Restaurant equipment connected to water supply with missing backflow preventers.
- Dental office equipment with missing backflow preventers.
- Fire Sprinkler systems with missing or inappropriate backflow preventers.
- Chemical mixing systems in janitorial closets with missing backflow preventers.

## 2. PROJECT WORK PLAN

### 2.1. Purpose of a Cross-Connection Control Program

- Protect the water supply from backflow & public health and safety.
- Comply with state and local regulations (WI-DNR 810.15).
- Minimize risk and liability.
- Eliminate hazardous cross-connections to the drinking water supply.

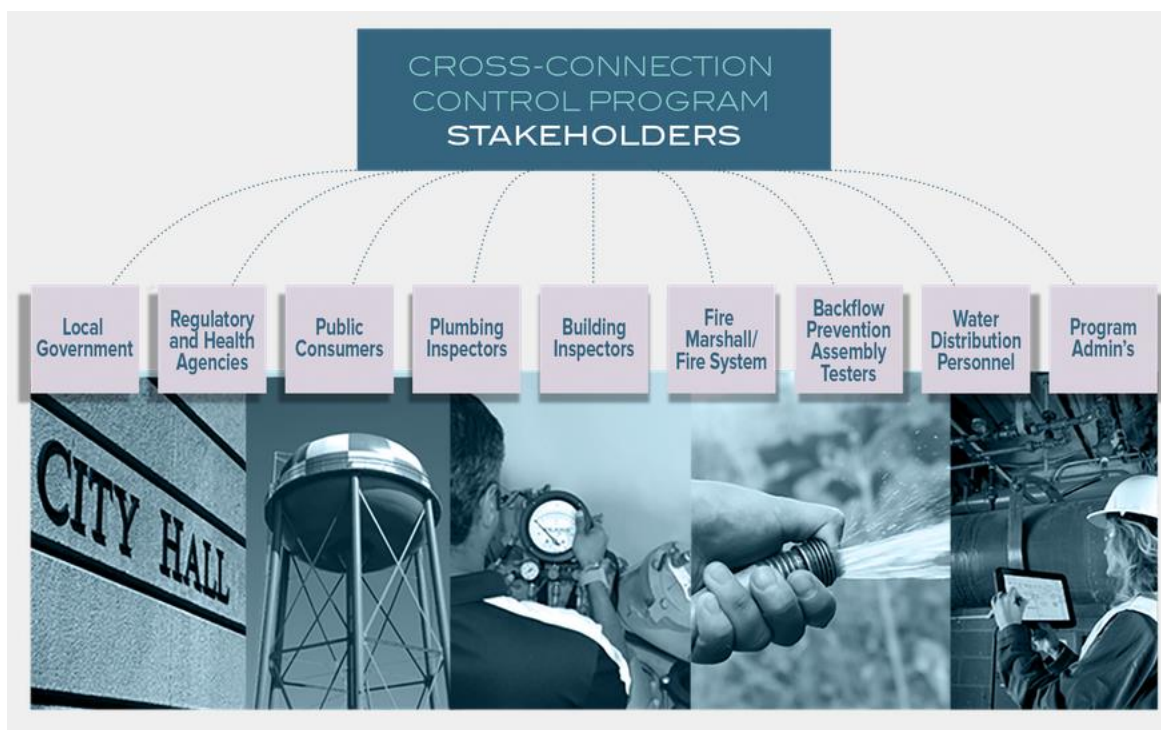


### 2.2. Meeting the Cross-Connection Control Program Objectives

- Providing cross-connection consultation to the **Village of Williams Bay**.
- Developing a written comprehensive Cross-Connection Control Plan.
- Routinely inspecting water customers for cross-connections or potential cross-connections.
- Maintaining cross-connection control records.
- Notifying water customers of violations and corrective action instructions.
- Providing water customer non-compliance status to the water utility.
- Providing public education.

### 2.3. Stakeholders

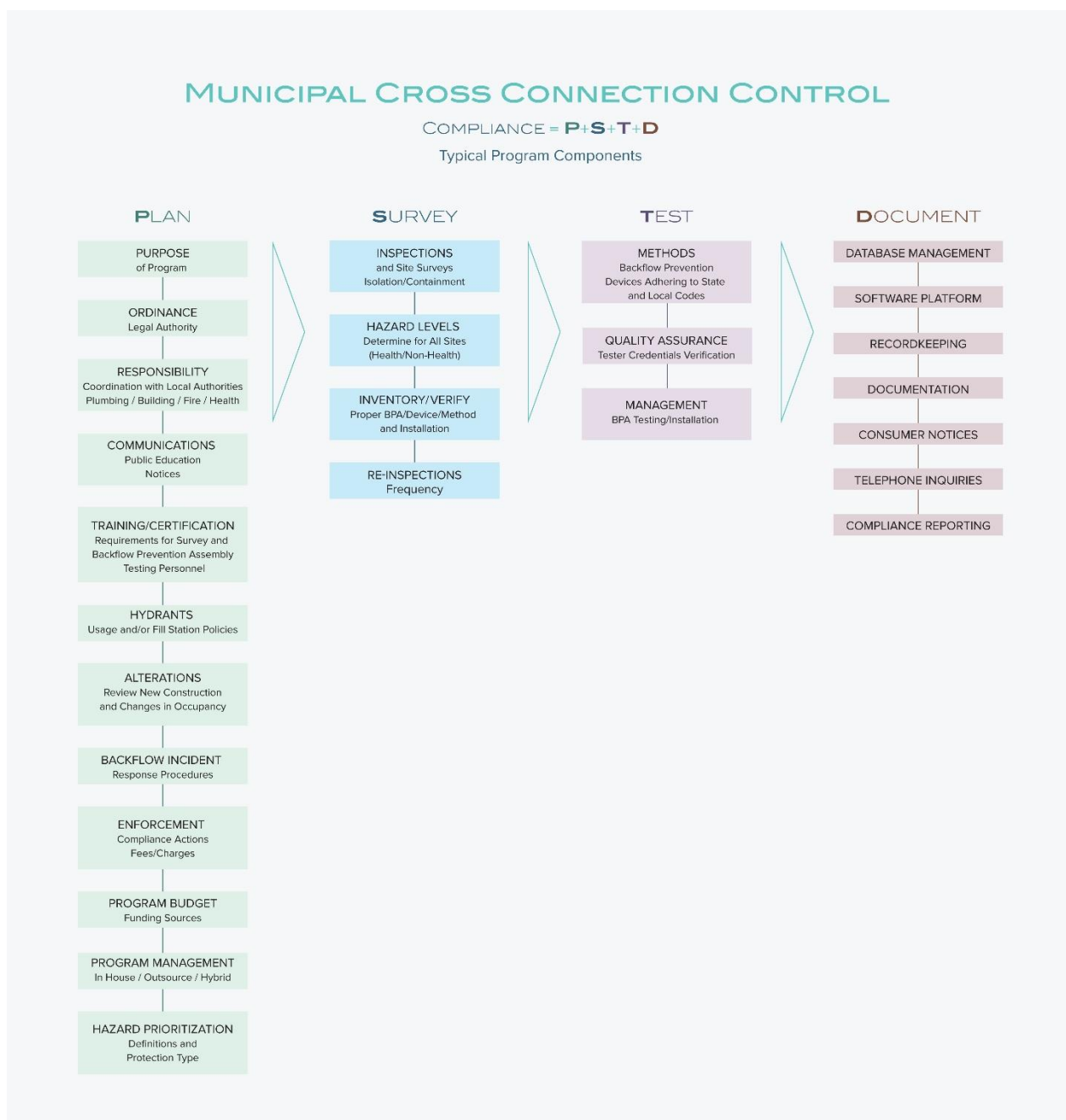
HydroCorp recognizes that many different stakeholders will be affected by a Cross-Connection Control Program. The following chart illustrates the various agencies, internal staff and external people that have an impact on overall program success and compliance.



HydroCorp strives to maintain a good working relationship and clearly communicate the goals of a Cross-Connection Control Program with all of the above stakeholders. We understand that our staff interaction in the community and with regulatory agencies is an extension of your positive community image. HydroCorp has maintained an excellent working relationship with local Mayors, City Managers, plumbing and building officials, health inspectors and others in order to provide them with a simple and clear understanding of the impact of a Cross-Connection Control program, regulations and the need to protect the drinking water supply from contamination.



## 2.4. Cross-Connection Control Plan Components





### 3. CROSS CONNECTION INSPECTION PROCESS

#### 3.1. Inspections/Surveys

The water connections and plumbing systems of all water customers or accounts shall be initially inspected for the presence of cross connections. As a result of the initial inspection, a detailed record of each account shall be established.

Inspections shall consist of entering a facility from the point where water service enters the facility (usually the meter) and tracing the piping to each end point of use. Using standardized inspection forms, the inspector shall identify and note the location and nature of any direct and potential cross connections, location and details of backflow prevention devices & assemblies, and other pertinent program information. Inspectors having proper identification shall be permitted to enter the building/premises at reasonable times for the purpose of cross connection inspections. If the inspector is refused proper access or if customer plumbing is untraceable, the Village will assume a cross connection is present and take the necessary action to ensure the public water supply is protected.

The highest priority for inspections shall be placed on facilities that pose a high degree of hazard, that have a high probability that backflow will occur, or are known/suspected to have cross connections.

Once initial inspections are complete, a re-inspection frequency shall be determined for each account based on the degree of hazard/risk and potential for backflow in accordance with the requirements of the Village of Williams Bay Cross-Connection Control Plan. Accounts with an alternative frequency will require DNR Approval in writing. If requested, HydroCorp will develop an alternative frequency inspection schedule on behalf of the water utility and submit to DNR for final approval.

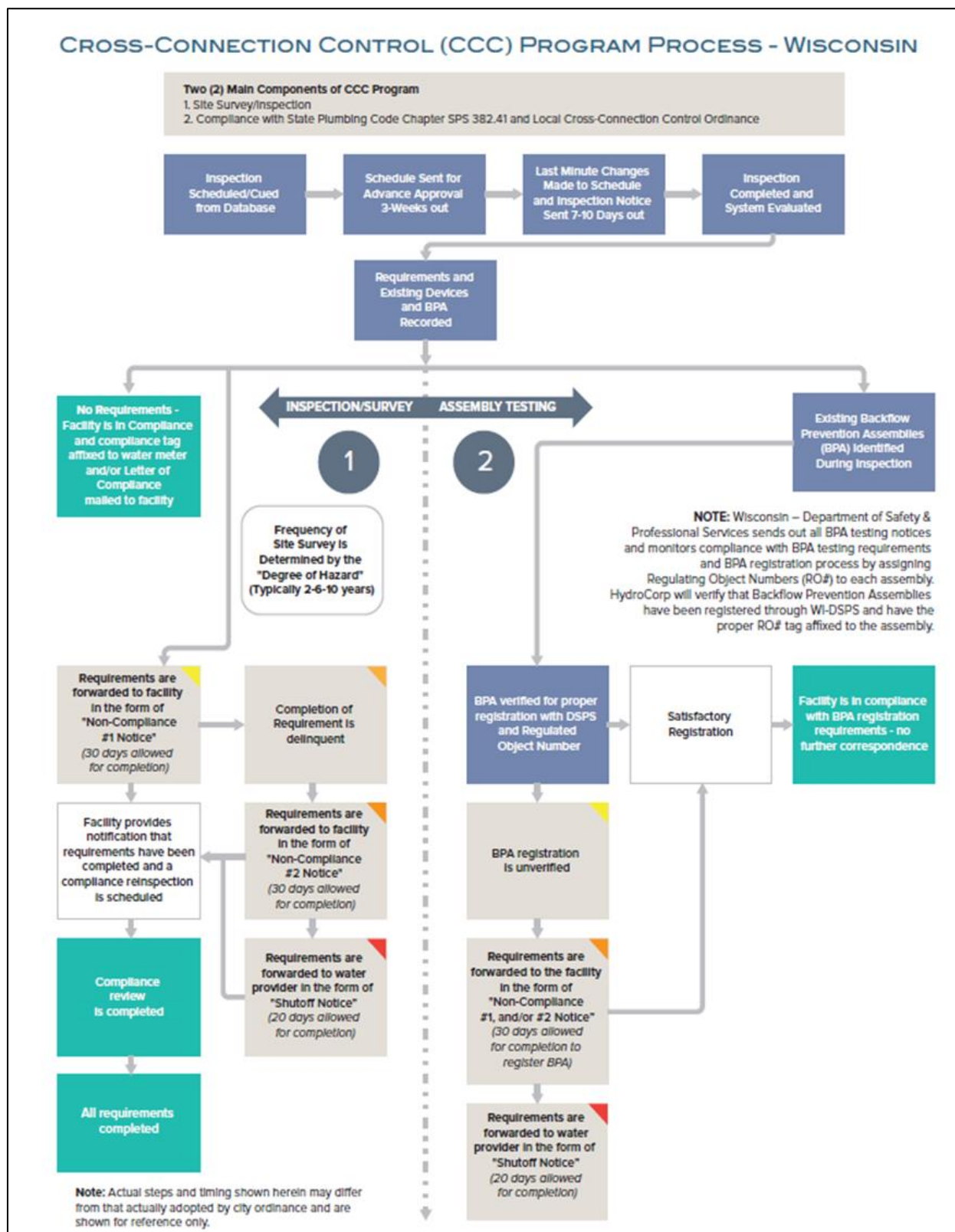
#### 3.2. Definitions

- Initial Inspection – the first time a HydroCorp representative inspects a facility for cross connections. Degree of Hazard is assigned and/or verified during this facility visit. The Degree of Hazard will dictate future re-inspection frequency/schedule of facility, (facility will be either compliant or non-compliant after this inspection).
- Compliance Inspection – subsequent visit by a HydroCorp representative to a facility that was non-compliant during the Initial Inspection to verify that corrective action was completed and meets the program requirements.
- Re-Inspection – Revisit by a HydroCorp representative to a facility that was previously inspected. The re-inspection frequency/schedule is based on the degree of hazard assigned to the facility during the initial inspection (Re-Inspection cycle/frequency to be determined when Plan is developed).



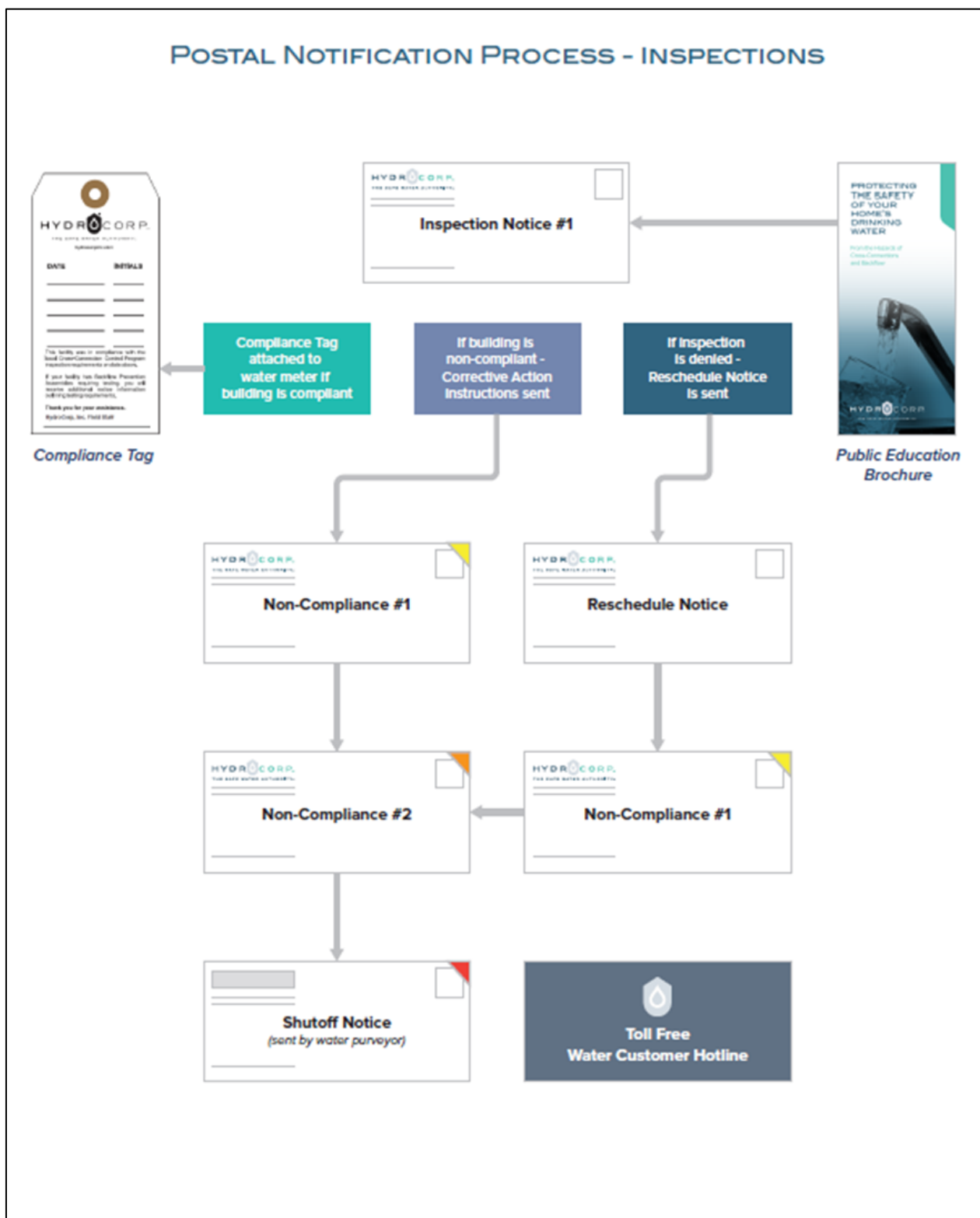


### 3.3. CCC Program Process





### 3.4. Postal Notification Process - Inspections







## 4. WATER CUSTOMER CARE AND ADMINISTRATION PROCESS

### 4.1. Program Data

The most critical element of a Cross-Connection Control Program is data integrity. Without accurate data, the Cross-Connection Control program will experience customer service, administrative, and reporting issues and also result in field survey inefficiencies.

### 4.2. Database Software

HydroCorp utilizes a proprietary software program – HydroSoft™ to manage Cross-Connection Control Program data. All program data captured shall remain the property of the Village of Williams Bay. All of our Client Data is secured on our Application Server, which is behind both a Hardware and a Software Firewall.

Standard reports include the following:

- Inspections scheduled, completed, overdue and compliance status
- Custom queries, data exports and reports as needed
- DNR Annual Report

### 4.3. Information Technology (I/T)

HydroCorp has a dedicated team member responsible for Information Technology (I/T) infrastructure for internal (staff) needs as well as external (client) communication and reporting needs. We also have a dedicated person responsible for new client start up and database implementation in order to insure we have the most accurate information possible at any given point in time.

We have continually invested in both hardware infrastructure (Network Servers, Client Workstations, Firewalls and Tablet P.C.'s for Field Inspectors) and software in order to leverage technology in the workplace and to improve customer service and assist in lowering our costs to our clients. HydroCorp has a contracted service agreement with a local I/T Company that performs monthly routine system maintenance and monitors our infrastructure/servers for optimum performance and reliability.

### 4.4. Program Data Backup and Storage

All of our Client Data is secured on our Application Server, which is behind both a Hardware and a Software Firewall. The Application Server is backed up twice a day. 5 copies of the backup are then created and stored at 3 separate locations. 3 of the 5 backup copies are stored locally. One is on the application server itself, one is on our File server, and one is backed up to a Network Attached Storage (NAS) device. Having 3 local backup copies stored on the different machines means that in the unlikely event of a hardware malfunction, we can recover the data very quickly. Additionally, we backup the data to our backup server located in our Corporate Office, and we employ a secure on-line backup service that stores 2 copies of our backup at two independent locations.



#### 4.5. Public Awareness Education

In the initial implementation phase of the Cross-Connection Control Program, Public Education on the topic should remain in the community spotlight. HydroCorp will provide a specialized speaker to participate/present at a town hall/public meeting engagement if requested. Press release information will be offered in digital format to the Village of Williams Bay for local distribution to local media resources & website if requested. Further, public education brochures will be available in electronic format for download and can be posted on the Village of Williams Bay web site.



Further Public Education resources including brochures and video files can be found at <http://www.hydrocorpinc.com/resources/links/>



## 5. EXECUTIVE SUMMARY, PROJECT FEES/COST

Based on your current program, HydroCorp™ will provide the following services to the **Village of Williams Bay**. This project is a continued effort for an ongoing Cross-Connection Control Program and will provide the **Village of Williams Bay** with the necessary data and information to maintain compliance with the Wisconsin Department of Natural Resources (DNR) Water Bureau Cross Connection Control Regulations. Once this project has been approved and accepted by the **Village of Williams Bay** and HydroCorp, you may expect completion of the following elements within a two (2) year period. The components of the project include:

- A. Perform inspections of (478) residential inspections within the Village served by the public water supply for cross-connections. Compliance follow up visits shall be completed by HydroCorp and are included in the total inspections.
- B. Inspections will be conducted in accordance with the DNR Water Bureau Cross Connection Control regulations. Inspectors will survey exposed piping and utilize Isolation/Point of Use inventory method of surveying as supported by the State of Wisconsin Plumbing Code – SPS 382.41.
- C. HydroCorp will document existing backflow prevention devices and assemblies and verify proper installation and/or suggest corrective actions if devices and/or assemblies need to be installed to prevent cross-connections. Documentation to include make, model, size, manufacturer, serial number, location and regulated object number if applicable. In lieu of surveying residential kitchens and bathrooms, an educational brochure will be provided as allowed by DNR regulation NR 810.15.
- D. Notify each building owner prior to each inspection via postal letter with opportunity to schedule a specific time of inspection via the Hydro Designs Inc. Provide ongoing support for water customer scheduling and questions via the Hydro Designs Inc. WI office toll free 800# phone line, fax, or email.
- E. Online Appointment page for water customers to make their own appointments.
- F. Provide Water Utility and building owner with a detailed corrective action report for each non-compliant facility, in most cases, water utility personnel can perform effective follow up compliance inspections.
- G. Perform administrative functions including: answering water user telephone calls, scheduling of inspections, mailing of all notices, verification of corrective action(s) requirements, and general customer service and program education inquiries by an individual trained in Cross-Connection Control Program Management.
- H. Generate and document the required program data and compliance status using proprietary Software Data Management Program. Submit comprehensive management reports on a quarterly basis and prepare the State of Wisconsin, DNR Water Bureau Annual Cross Connection Control Program Activity Report.
- I. Conduct an annual review meeting to discuss overall program status and recommendations.
- J. Assist the Village with a community wide public relations program including general awareness brochures and web site cross connection control program overview content and resources.
- K. Provide ongoing support via phone, fax, internet, text or email.



## PRICING/PROPOSED FEES

HydroCorp to complete inspections, appointments, customer care service and program administration.  
Compliance/follow up inspections and administration related to compliance/follow up inspections included.

**PRICING:**

\_\_\_\_\_ **Inspections of 478 residential services connections, Including follow up compliance inspections.**

\_\_\_\_\_ **\$32,424.00 dollars.**

HydroCorp will invoice monthly in equal installments upon receipt of signed contract/agreement

**Submitted by:** HYDROCORP- CORPORATE OFFICE- 5700 CROOKS RD SUITE 100 TROY MI 48098

Craig Wolf | 612-850-8939 | cwolf@hydrocorpinc.com

**Accepted by:**

X \_\_\_\_\_

Village/Utility Representative (Signature)

\_\_\_\_\_

Date

\_\_\_\_\_  
Printed Name / Title



## 6. BACKGROUND

### 6.1. The HydroCorp Promise

HydroCorp is the Safe Water Authority.™ It is our duty to provide the most precise and comprehensive technical services in the industry. It also means delivering those services with expert knowledge, professionalism, and sensitivity to budgets and schedules – the highest standard of water safety oversight, combined with the highest value.

The Result – Your water system is compliant. Your risk and exposure are reduced. Your water – and your people – are protected.

### 6.2. Company Overview

- Founded in 1983 and incorporated in 1988.
- The firm has grown from two employees to a staff of over 40 full time associates in multiple states. Average tenure with the company is 7 years and employee turnover is less than 10%.
- HydroCorp Conducts over 25,000 on site, Cross-Connection Control Inspections **annually**.
- HydroCorp provided Cross-Connection Control Program Management Services to over 240 communities in several states including: Michigan, Wisconsin, Delaware, Maryland, Virginia, Florida and Minnesota. We still have our first customer!
- Our highly trained staff works in an efficient manner in order to achieve maximum productivity and keep program costs affordable. We have a detailed **system** and **process** that each of our field inspectors follow in order to meet productivity and quality assurance goals.
- Our municipal inspection team is committed to providing outstanding customer service to the water users in each of the communities we serve. We teach and train customer service skills in addition to the technical skills since our team members act as representatives of the community that we service.
- Our municipal inspection team has attended training classes and received certification from the following recognized Cross Connection Control Programs: UF TREEO, UW-Madison, USC – Foundation for Cross Connection Control and Hydraulic Research, American Backflow Prevention Association (ABPA), and American Society for Sanitary Engineering (ASSE). We invest heavily in internal and external training with our team members to ensure that each Field Service and Administrative team member has the skills and abilities to meet the needs of our clients.
- Our administrative staff can answer most technical calls related to the cross-connection control program and have attended basic cross-connection control training classes.
- HydroCorp staff and company are active members in many water industry associations including:
  - American Water Works Association (AWWA) | AWWA – Wisconsin Chapter
  - National Rural Water Association (NRWA) | Wisconsin Rural Water Association
  - American Public Works Association (APWA)
- HydroCorp is not a Plumbing Company and does not utilize existing staff to perform backflow prevention assembly testing, repair or plumbing related services.



### 6.3. Office Address & Contact Information

|                                                 |                                                                                   |
|-------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>Regional Office:</b>                         | HYDROCORP – MIDWEST OFFICE<br>2665 S MOORLAND RD SUITE 209<br>NEW BERLIN WI 53151 |
| <b>Contact:</b>                                 | Craig Wolf                                                                        |
| <b>Telephone:</b>                               | 612-850-8939                                                                      |
| <b>Email:</b>                                   | <a href="mailto:cwolf@hydrocorpinc.com">cwolf@hydrocorpinc.com</a>                |
| <b>Corporate Office:<br/>(Remit to Address)</b> | HYDROCORP – CORPORATE OFFICE<br>5700 CROOKS ROAD SUITE 100<br>TROY MI 48098       |
| <b>Telephone:</b>                               | 800.690.6651 or 248.250.5000                                                      |
| <b>Legal Status:</b>                            | S-Corporation, 1988   E.I.D. 38-2810008                                           |



WI Office (Above) Corporate Office (Below)



## 7. PROJECT REFERENCES

- City of Marshfield, 1210 S Oak St, Marshfield, WI 54449 | John Richmond, Water Utility Manager, [john.richmond@MarshfieldUtilities.org](mailto:john.richmond@MarshfieldUtilities.org) | 715-898-2170
- City of Chetek, 1125 Railroad Ave., Chetek, WI 54728 | Dan Knapp, Director-Public Works, [chetekcs@chibardun.net](mailto:chetekcs@chibardun.net) | 715-924-4236
- Sturgeon Bay Utilities, 230 E. Vine St, Sturgeon Bay, WI 53235-007 | Cliff White, Superintendent, [cwhite@wppienergy.org](mailto:cwhite@wppienergy.org) | 920-746-2820





## 8. PROJECT TEAM QUALIFICATIONS

### Corporate Officers



**Larry J. La Bute**, Founder & CEO - Chairman of the Board of Directors. Mr. La Bute founded the company in 1983 to improve the safety of drinking water systems. He graduated from Oakland University with a B.S. in Management and received his Master's degree from S.S. Cyril & Methodius Seminary. Prior to founding HydroCorp, Mr. LaBute successfully founded and ran a water treatment equipment manufacturing company for 12 years.



**Mark L. Martin**, CPA & Chief Financial Officer. Mr. Martin joined HydroCorp in early 2007 and is a seasoned business executive experienced in working with growing small and mid-size companies across a broad range of industries. Mark received a B.S. in Accounting from Michigan State University in 1980 and is also a 10-year board member of Haiti Outreach Mission.



**Glenn Adamus**, COO. A member of the HydroCorp team for the past fourteen years, Glenn has managed various water quality analysis projects related to process water and potable water systems on HydroCorp's behalf, including Stage 2 DBPR, Lead and Copper Rule, water distribution system/quality characterization studies, water main/system disinfections, legionella risk assessment and monitoring, and industry compliance monitoring. He has also performed and managed numerous cross connection control surveys/consulting projects for large industry and public water systems throughout the United States.



**Paul Patterson**, Senior Vice President. Mr. Patterson joined HydroCorp, Inc. in 2004, and is responsible for operational oversight of over 200 Cross-Connection Control Programs throughout Michigan, Delaware, Maryland, Florida, Wisconsin and Virginia. Before joining HydroCorp, Mr. Patterson was a member of the U.S. Air Force, where he assisted in the implementation of a stateside installation Cross-Connection Control Program. Paul is an ASSE Certified Instructor for Backflow Assembly Testing Certification and regularly presents at regional water industry association conferences.



## Staff Bios Continued



**Dave Cardinal**, Vice President, Municipal Division. Dave has over twenty years' experience as a water professional and has a successful record of accomplishments in the cross-connection control industry. Experienced in program development, project management, developing and conducting employee education and training programs, developing and instructing State certified education and training classes, quality assurance, customer service, and client satisfaction. He is responsible for establishing business practices, field operation procedures, and administrative functions related to cross connection control program management. Dave is an ASSE Certified Instructor for multiple ASSE Certifications related to Cross-Connection Control and Backflow Prevention. Dave also has been a speaker at numerous Water Industry Conferences.



**Craig Wolf**, New Cross-Connection Control Program development in the Midwest Region. Since 2009 at HydroCorp, he was responsible for identification of hazards and deficiencies and determining proper recommendations for over 130 municipal client cross-connection control programs in Wisconsin. He also generated inspection reports and protection recommendations for over 3,000 individual facility surveys of cross-connections. Certified by ASSE for Cross-Connection Control Surveying, Craig applies years of field experience to offering solutions for public water systems that are cost effective. In the past 4 years, Craig has been focused on client retention efforts, and developing new Cross Connection Control Programs for Municipal Water Systems around the region.



**Ryan Hensley**, Administrative Account Manager – Municipal Division. As an Administrative Account Manager Ryan Hensley is responsible for providing administrative support to field surveyors, regional managers and division directors with all components associated with managing a comprehensive cross connection control program, in addition to providing highest level of customer service to our municipal clients. Ryan has been a member of the HydroCorp team for over 10 years and is an ASSE 5150 certified Backflow Prevention Program Administrator.

He is an advanced user of the HydroSoft data management program & responsible for providing day to day tech support to the entire staff and external clients. Ryan also assists in the planning, testing & training of HydroSoft for clients and end users.

### Field Inspectors/Surveyors/Technicians

HydroCorp invests continuously in educational training and development of its team members. All of the HydroCorp Field Inspectors assigned to this project are certified in Cross-Connection Control Surveying and Backflow Prevention Program Management through one the following programs:



# PROFESSIONAL SERVICE AGREEMENT

This agreement, made and entered into this May 1<sup>st</sup>, 2023 by and between the Village of Williams Bay organized and existing under the laws of the State of Wisconsin, referred to as “Utility”, and HydroCorp™ a Michigan Corporation, referred to as “HydroCorp”.

WHEREAS, the Utility supplies potable water throughout its corporate boundary to property owners; and desires to enter into a professional services contract for cross connection control program inspection, reporting and management services.

WHEREAS, HydroCorp is experienced in and capable of supplying professional inspection of potable water distribution systems and cross connection control program management to the Utility and the Utility desires to engage HydroCorp to act as its independent contractor in its cross connection control program.

WHEREAS, the Utility has the authority under the laws of the State of Wisconsin and its local governing body to enter into this professional services contract.

NOW THEREFORE, in consideration of the mutual agreements herein contained, and subject to the terms and conditions herein stated, the parties agree as follows:

## ARTICLE I. Purpose

During the term of this Agreement, the Utility agrees to engage HydroCorp as an independent contractor to inspect and document its findings on its potable water distribution system in public, commercial and industrial facilities within the community. Each party to this Agreement agrees that it will cooperate in good faith with the other, its agents, and subcontractors to facilitate the performance of the mutual obligations set forth in this Agreement. Both Parties to this Agreement recognize and acknowledge that the information presented to them is complete and accurate, yet due to the inaccessible nature of water piping or due to access constraints within water users’ facilities, complete and accurate data is not always available.

## ARTICLE II. Scope of Services

The scope of services to be provided by HydroCorp under this Agreement will include the inspections/surveys, program administration, answering telephone call inquiries, scheduling of inspections, program compliance review, public education materials, preparation of quarterly management reports, and annual cross connection reports with respect to the facilities to the extent specifically set forth in this Article II (hereinafter the “Scope of Services”). Should other reports/services be included within the Scope of Services, the same shall be appended to this Agreement as Exhibit 1.

**2.1 PROGRAM REVIEW/PROGRAM START UP MEETING.** HydroCorp will conduct a Program Startup Meeting for the Cross-Connection Control/Backflow Prevention Program. Items for discussion/review will include the following:

- Review state & local regulations
- Review and/or provide assistance in establishing local Cross-Connection Control Ordinance
- Review/establish wording and timeliness for program notifications including:
  - Inspection Notice
  - Compliance Notice
  - Non-Compliance Notices 1-2, Penalty Notices
- Special Program Notices
- Electronic use of notices/program information
- Obtain updated facility listing, address information and existing program data from Utility
- Prioritize Inspections (City buildings, schools, high hazard facilities, special circumstances.)
- Review/establish procedure for vacant facilities



- Establish facility inspection schedule
- Review/establish procedures and protocol for addressing specific hazards
- Review/establish high hazard, complex facilities and large industrial facility inspection/containment procedures including supplemental information/notification that may be requested from these types of facilities in order to achieve program compliance.
- Review/establish program reporting procedures including electronic reporting tools
- Review/establish educational and public awareness brochures

**2.2 INSPECTIONS.** HydroCorp will perform initial inspections, compliance inspections, and re-inspections at individual industrial, commercial, institutional facilities and miscellaneous water users within the utility served by the public water supply for cross-connections. Inspections will be conducted in accordance with Wisconsin Department of Natural Resources (DNR) Cross Connection Control Rules.

- *Initial Inspection* – the first time a HydroCorp representative inspects a facility for cross connections. Degree of Hazard will be assigned and/or verified during this facility visit. The Degree of Hazard will dictate future re-inspection frequency/schedule of facility, (facility will be either compliant or non-compliant after this inspection).
- *Compliance Inspection* – subsequent visit by a HydroCorp representative to a facility that was non-compliant during the *Initial Inspection* to verify that corrective action was completed and meets the program requirements.
- *Re-Inspection* – Revisit by a HydroCorp representative to a facility that was previously inspected. The re-inspection frequency/schedule is based on the degree of hazard assigned to the facility during the initial inspection (two, six or ten year re-inspection cycle).

**2.3 INSPECTION SCHEDULE.** HydroCorp shall determine and coordinate the inspection schedule. Inspection personnel will check in/out on a daily basis with the Utility's designated contact person. The initial check in will include a list of inspections scheduled. An exit interview will include a list of inspections completed.

**2.4 PROGRAM DATA.** HydroCorp will generate and document the required program data for the Facility Types listed in the Scope of Services using the HydroCorp Software Data Management Program. Program Data shall remain property of the Utility; however, the HydroCorp Software Data Management program shall remain the property of HydroCorp and can be purchased for an additional fee. Data services will include:

- Prioritize and schedule inspections
- Notify users of inspections, backflow device installation and testing requirements if applicable
- Monitor inspection compliance using the HydroCorp online software management program. (Note: WI Department of Safety & Professional Services (DSPS) manages backflow prevention assembly testing notification and compliance.)
- Maintain program to comply with all DNR regulations

**2.5 MANAGEMENT REPORTS.** HydroCorp will submit comprehensive management reports in electronic, downloadable format on a quarterly & annual basis to the Utility. Reports to include the following information:

- Name, location and date of inspections
- Number of facilities inspected/surveyed
- Number of facilities compliant/non-compliant

**2.6 REVIEW OF CROSS-CONNECTION CONTROL ORDINANCE.** HydroCorp will review or assist in the development of a cross-connection control ordinance. Items for review include:

- Code adoption references, standard operational procedures, program notice documentation, reporting procedures and preference standards.
- Penalties for noncompliance.



- 2.7 VACUUM BREAKERS.** Utility will provide up to six (6) ASSE approved hose bill vacuum breakers or anti-frost hose bibb vacuum breakers per facility as required, in order to place a facility into immediate compliance at the time of inspection if no other cross-connections are identified.
- 2.8 PUBLIC RELATIONS PROGRAM.** HydroCorp will assist the Utility with a community-wide public relations program including general awareness brochures and website cross connection control program content.
- 2.9 SUPPORT.** HydroCorp will provide ongoing support via phone, fax, text, website or email for the contract period.
- 2.10 FACILITY TYPES.** The facility types included in the program are as follows:
- Residential
- 2.11 INSPECTION TERMS.** HydroCorp will perform (478) total inspections over a two (2) year contract period. The total inspections include all initial inspections, compliance and re-inspections. *Vacant facilities that have been provided to HydroCorp, scheduled no show or refusal of onsite inspection will count as an inspection/site visit for purposes of the contract.*
- 2.12 COMPLIANCE WITH DEPARTMENT OF NATURAL RESOURCES ADMINISTRATIVE CODE.** HydroCorp will assist in compliance with DNR and Wisconsin Administrative Code cross connection control program requirements for all residential facilities.
- 2.13 POLICY MANUAL.** HydroCorp will review and/or develop a comprehensive cross connection control policy manual/plan and submit to WI-DNR for approval on behalf of the Utility.
- 2.14 INVENTORY.** HydroCorp shall inventory all accessible (ground level) backflow prevention assemblies and devices. Documentation will include: location, size, make, model and serial number if applicable.
- 2.15 DATA MANAGEMENT.** HydroCorp shall provide data management and program notices for all inspection services throughout the contract period.
- 2.16 ANNUAL YEAR END REVIEW.** HydroCorp will conduct an on-site annual year-end review meeting to discuss overall program status and specific program recommendations.
- 2.17 CROSS CONNECTION CONTROL BROCHURES.** HydroCorp will provide approximately 478 cross-connection control educational brochures for the duration of the Agreement.
- 2.18 INSURANCE.** HydroCorp will provide all required copies of general liability, workers compensation and errors and omissions insurance naming the Utility as an additional insured if required.



### ARTICLE III. Responsibilities of the Utility

- 3.1 UTILITY'S REPRESENTATIVE.** On or before the date services are to commence under this Agreement, the Utility shall designate an authorized representative ("Authorized Representative") to administer this Agreement.
- 3.2 COMPLIANCE WITH LAWS.** The Utility, with the technical and professional assistance of HydroCorp, shall comply with all applicable local, state, and federal laws, codes, ordinances, and regulations as they pertain to the water inspection and testing, and shall pay for any capital improvements needed to bring the water treatment and delivery system into compliance with the aforementioned laws.
- 3.3 NOTICE OF LITIGATION.** In the event that the Utility or HydroCorp has or receives notice of or undertakes the prosecution of any actions, claims, suits, administrative proceedings, investigations or other proceedings in connection with this Agreement, the party receiving such notice or undertaking of such prosecution shall give the other party timely notice of such proceedings and will inform the other party in advance of all hearings regarding such proceedings
- 3.4 FACILITY LISTING.** The Utility must provide HydroCorp a complete list of facilities to be inspected, including facility name, type of service connection, address, contact person, and phone number, (if available). *Electronic file format such as Microsoft Excel, etc. is required. An additional one-time fee to manually enter facility listing will be charged at the rate of \$80.00 per hour. Incorrect facility addresses will be returned to the Utility contact and corrected address will be requested.*
- 3.5 LETTERHEAD/LOGO.** The Utility will provide HydroCorp with an electronic file copy of the utility logo or utility letterhead and all envelopes for the mailing of all official program correspondence only. (300 dpi in either .eps, or other high quality image format for printing.)

### ARTICLE IV. Term, Compensation and Changes in Scope of Services

- 4.1 TERM AND TERMINATION TERM.** Services by HydroCorp under this Agreement shall commence on **May 1<sup>st</sup>, 2023** and end **two (2) years** from such date, unless this Agreement is renewed or terminated as provided herein. The terms of this Agreement shall be valid only upon the execution of this Agreement within ninety (90) days of its receipt. Failure to execute this Agreement within the ninety (90) day period shall deem the proposed terms void.
- 4.2 RENEWAL.** Upon the expiration of this two-year agreement the Utility will have the option to automatically renew for a one (1) year term. Any increases in pricing for the one-year renewal will be equal to the annual Consumer Price Index as measured in the local/regional area at the time of renewal.
- 4.3 TERMINATION.** The Utility or HydroCorp may terminate this Agreement at any time and on any date in the initial and renewal terms of this Agreement, with or without any cause, by giving written notice of such intent to terminate to the other party at least thirty (30) days prior to the effective date of termination. Notice of the intent to terminate shall be given in writing by personal service, by an authorized agent, or by certified mail, return receipt requested. The Utility shall pay the balance of any outstanding accounts for work performed by HydroCorp.
- 4.4 BASE COMPENSATION.** From the Beginning thirty (30) days after execution of this Agreement, the Utility shall pay HydroCorp as compensation ("Base Compensation") for labor, equipment, material, supplies, and utilities provided and the services performed pursuant to this Agreement, the sum of **\$1,351.00** per month, **\$16,212.00** annually for a **two (2)** year contract period totaling **\$32,424.00**.
- 4.5 PAYMENT OF INVOICES.** Upon presentation of invoices by HydroCorp, all payments including base and other compensation shall be due and payable on the first day of each month (due date) after the month for which services have been rendered. All such payments shall be made no later than thirty (30) days after the due date. Failure to pay shall be deemed a default under this Agreement. For any payment to HydroCorp which is not



made within thirty (30) calendar days after the due date, HydroCorp, shall receive interest at one and one-half (1½) percent per month on the unpaid balance.

- 4.6 CHANGES IN SCOPE OF SERVICES.** In the event that the Utility requests and HydroCorp consents to perform additional work or services involving the consulting, management, operation, maintenance, and repair of the Utility's water delivery system where such services or work exceeds or changes the Scope of Services contemplated under this Agreement, HydroCorp shall be provided additional compensation. Within thirty (30) calendar days from the date of notice of such additional work or services, the parties shall mutually agree upon an equitable sum for additional compensation. This amount shall be added to the monthly sum effective at the time of change in scope. Changes in the Scope of Service include, but are not limited to, requests for additional service by the Utility or additional costs incurred in meeting new or changed government regulations or reporting requirements.
- 4.7 CLIENT CONFIDENTIALITY.** Disclosure of all communications between HydroCorp and the Utility regarding business practices and other methods and forms of doing business is subject to the provisions of Wisconsin Public Records Law, Chapter 19, Wis. Stats. HydroCorp agrees to make available for inspection and copying all records (as defined in sec. 19.32 (2), Wis. Stats.) in its possession created, produced, collected or otherwise related to this Agreement to the same extent as if the records were maintained by the Utility. HydroCorp expressly acknowledges and agrees that its obligations concerning Public Records Law and compliance under this Agreement should not be limited by copyright, license, privacy and/or confidentiality except as authorized under the Public Records Law.
- 4.8 ACCESSIBILITY.** Backflow prevention device information will be completed in full only when the identifying information (i.e. data plate, brass tag, etc.) is accessible and visible from ground level or from a fixed platform/mezzanine.
- 4.9 CONFINED SPACES.** – HydroCorp personnel will not enter confined spaces.

## ARTICLE V. Risk Management and General Provisions

- 5.1 INFORMATION.** Both Parties to this Agreement recognize and acknowledge that the information presented to them is complete to the best of their knowledge, yet due to the inaccessible nature of water piping or lack of access provided by property owner/water user, complete accurate data is not always available. Cross-connection control inspection and results are documented as of a specific date. The property owner and/or water user may make modifications to the potable water system after the inspection date that may impact compliance with the program.
- 5.2 LIMITATION OF LIABILITY.** HydroCorp's liability to the Utility for any loss, damage, claim, or expense of any kind or nature caused directly or indirectly by the performance or non-performance of obligations pursuant to this Agreement shall be limited to general money damages in an amount not to exceed or within the limits of the insurance coverage provided hereunder. HydroCorp shall in no event be liable for indirect or consequential damages, including but not limited to, loss of profits, loss of revenue, or loss of facilities, based upon contract, negligence, or any other cause of action.
- 5.3 HYDROCORP INSURANCE.** HydroCorp currently maintains the following insurance coverage's and limits:
- |                                              | Occurrence  | Aggregate   |
|----------------------------------------------|-------------|-------------|
| Comprehensive General Liability              | \$1 Million | \$2 Million |
| Excess Umbrella Liability                    | \$5 Million | \$5 Million |
| Automobile Liability (Combined Single Limit) | \$1 Million |             |
| Worker's Compensation/ Employer's Liability  | \$1 Million |             |
| Errors and Omissions                         | \$2 Million | \$2 Million |

Within thirty (30) calendar days of the start of the project, HydroCorp shall furnish the Utility with satisfactory proof of such insurance, and each policy will require a 30-day notice of cancellation to be given



to the Utility while this Agreement is in effect. The Utility shall be named as an additional insured according to its interest under the general liability policy during the term of this Agreement.

- 5.4 UTILITY INSURANCE.** The Utility will maintain liability insurance on an all risk basis and including extended coverage for matters set forth in this Agreement.
- 5.5 RELATIONSHIP.** The relationship of HydroCorp to the Utility is that of independent contractor and not one of employment. None of the employees or agents of HydroCorp shall be considered employees of the Utility. For the purposes of all state, local, and federal laws and regulations, the Utility shall exercise primary management, and operational and financial decision-making authority.
- 5.6 ENTIRE AGREEMENT AMENDMENTS.** This Agreement contains the entire Agreement between the Utility and HydroCorp, and supersedes all prior or contemporaneous communications, representations, understandings, or agreements. This Agreement may be modified only by a written amendment signed by both parties.
- 5.7 HEADINGS, ATTACHMENTS, AND EXHIBITS.** The heading contained in this Agreement is for reference only and shall not in any way affect the meaning or interpretation of this Agreement. The Attachments and Exhibits to this Agreement shall be construed as integral parts of this Agreement.
- 5.8 WAIVER.** The failure on the part of either party to enforce its rights as to any provision of this Agreement shall not be construed as a waiver of its rights to enforce such provisions in the future.
- 5.9 ASSIGNMENT.** This Agreement shall not be assigned by either party without the prior written consent of the other unless such assignment shall be to the affiliate or successor of either party.
- 5.10 FORCE MAJEURE.** A party's performance under this Agreement shall be excused if, and to the extent that, the party is unable to perform because of actions due to causes beyond its reasonable control such as, but not limited to, Acts of God, the acts of civil or military authority, loss of potable water sources, water system contamination, floods, quarantine restrictions, riot, strikes, commercial impossibility, fires, explosions, bombing, and all such interruptions of business, casualties, events, or circumstances reasonably beyond the control of the party obligated to perform, whether such other causes are related or unrelated, similar or dissimilar, to any of the foregoing. In the event of any such force majeure, the party unable to perform shall promptly notify the other party of the existence of such force majeure and shall be required to resume performance of its obligations under this Agreement upon the termination of the aforementioned force majeure.
- 5.11 AUTHORITY TO CONTRACT.** Each party warrants and represents that it has authority to enter into this Agreement and to perform the obligations, including any payment obligations, under this Agreement.
- 5.12 GOVERNING LAW AND VENUE.** This Agreement shall be governed by and construed in accordance with the laws of the State of Wisconsin, regardless of the fact that any of the parties hereto may be or may become a resident of a different state or jurisdiction. Any suit or action arising shall be filed in a court of competent jurisdiction within the State of Wisconsin, venue by the presiding County. The parties hereby consent to the personal jurisdiction of said court within the State of Wisconsin.
- 5.13 COUNTERPARTS.** This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original and all of which together shall be deemed to be one and the same instrument.
- 5.14 NOTICES.** All notices, requests, demands, payments and other communications which are required or may be given under this Agreement shall be in writing and shall be deemed to have been duly given if delivered personally or sent by nationally recognized overnight carrier, or mailed by certified mail, postage prepaid, return receipt requested, as follows:



If to HydroCorp:

HydroCorp  
c/o Craig Wolf  
5700 Crooks Road, Ste. 100  
Troy, MI 48337  
(612) 850-8939

If to Utility:

Village of Williams Bay  
250 Williams St.  
Williams Bay, WI 53191

- 5.15 **SEVERABILITY.** Should any part of this Agreement for any reason, be declared invalid or void, such declaration will not affect the remaining portion, which will remain in full force and effect as if the Agreement has been executed with the invalid portion eliminated.

#### **SIGNATURES**

IN WITNESS WHEREOF, the parties have duly executed this Agreement effective as of the date first above written.

#### **VILLAGE OF WILLIAMS BAY**

\_\_\_\_\_  
By:  
Title:

**HydroCorp**



\_\_\_\_\_  
By: Craig Wolf



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# Appendix

## Specific Qualifications & Experience

**HydroCorp™** is a professional service organization that specializes in Cross Connection Control Programs. Cross Connection Control Program Management & Training is the main core and focus of our business. We are committed to providing water utilities and local communities with a cost effective and professionally managed cross connection control program in order to assist in protecting the public water supply.

- HydroCorp conducts over 30,000 Cross Connection Control Inspections **annually**.
- HydroCorp tracks and manages over 35,000+ backflow prevention assemblies for our Municipal client base.
- Our highly trained staff works in an efficient manner in order to achieve maximum productivity and keep program costs affordable. We have a detailed **system** and **process** that each of our field inspectors follow in order to meet productivity and quality assurance goals.
- Our municipal inspection team is committed to providing outstanding customer service to the water users in each of the communities we serve. We teach and train customer service skills in addition to the technical skills since our team members act as representatives of the community that we service.
- Our municipal inspection team has attended training classes and received certification from the following recognized Cross Connection Control Programs: UF TREEO, UW-Madison, and USC – Foundation for Cross Connection Control and Hydraulic Research, American Backflow Prevention Association (ABPA), American Society for Sanitary Engineering (ASSE). HydroCorp recognizes the importance of Professional Development and Learning. We invest heavily in internal and external training with our team members to ensure that each Field Service and Administrative team member has the skills and abilities to meet the needs of our clients.
- We have a trained administrative staff to handle client needs, water user questions and answer telephone calls in a professional, timely and courtesy manner. Our administrative staff can answer most technical calls related to the cross connection control program and have attended basic cross connection control training classes.
- HydroCorp currently serves over 200 communities in Michigan, Wisconsin, Maryland, Delaware, Virginia & Florida. We still have our first customer!
- HydroCorp and its' staff are active members in many water industry associations including: National Rural Water Association, State Rural Water Associations, National AWWA, State AWWA Groups, HydroCorp is committed to assisting these organizations by providing training classes, seminars and assistance in the area of Cross Connection Control.
- Several Fortune 500 companies have relied on HydroCorp to provide Cross Connection Control Surveys, Program Management & Reporting to assist in meeting state/local regulations as well as internal company guidelines.





**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-25-23**

**A RESOLUTION APPROVING AGREEMENTS FOR RENEWAL OF RESIDENTIAL AND COMMERCIAL  
CROSS CONNECTION CONTROL PROGRAM WITH HYDRO CORP.**

**WHEREAS**, to protect public water systems, the State of Wisconsin mandates that municipalities have an active cross-connection control services program; and

**WHEREAS**, the Village of Williams Bay contracts with Hydro Corp (Hydro) for the Village water system cross-connection control services for residential and commercial buildings; and

**WHEREAS**, Hydro submitted the attached Professional Services Agreements (Agreements) proposal to continue to provide these services; and

**WHEREAS**, on May 10, 2023, the Village of Williams Bay Water & Sewer Committee determined that it is in the best interests of the Village and its residents to authorize approval of the residential and commercial proposals from Hydro (478 residential for \$32,424 and 76 commercial for \$11,016); and

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Finance & Personnel Committee determined that it is in the best interests of the Village to **[approve] [not approve]** the Agreement; and

**WHEREAS**, the Village Board of the Village of Williams Bay, being fully advised in the premises, have determined that it is in the best interests of the Village and its residents to **[approve] [not approve]** the Agreements.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended proposal and authorizes an agreement, therefore.

Approved by the Village Board of the Village of Williams Bay this 19<sup>th</sup> day of June 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk



# Agreement for Assessment Services

Prepared for:

**Village of Williams Bay**

By:

Accurate Appraisal, LLC

## Section I

### Agreement for Maintenance Assessment Services

Provided by Accurate Appraisal LLC.

For

Village of Williams Bay, Walworth County WI  
for the assessment years of 2024-2026

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 2023.

Fee for services rendered:

**2024-2026- Maintenance**

Accurate shall be paid an annual sum of:

**\$18,000**

Scott McFarlane

5/15/2023

Scott McFarlane  
Member  
Accurate Appraisal LLC

Date

\_\_\_\_\_  
Authorized Client Signature

\_\_\_\_\_  
Date

## Section II

### Contract Details

**Municipality: Village of Williams Bay**

|                       | <b>BLENDED CONTRACT</b>                                        |
|-----------------------|----------------------------------------------------------------|
| Assessor Services     | 2024 – Maintenance<br>2025 – Maintenance<br>2026 – Maintenance |
| CAMA Software         | Included                                                       |
| Community Education   | Included                                                       |
| Payments              | Monthly Installments                                           |
| Term of Contract      | 3 years                                                        |
| <b>Total Contract</b> | <b>\$54,000</b>                                                |

Assessment services to be completed by August 31<sup>st</sup> each year unless otherwise agreed upon by both parties.



### **Section III**

This agreement made this \_\_\_\_\_ day of \_\_\_\_\_, 2023 by and between the Village of Williams Bay, Walworth County, State of Wisconsin, party of the first part, hereinafter referred to as "Client",

**AND**

ACCURATE APPRAISAL LLC., PO BOX 415, MENASHA, WI 54952, party of the second part, hereinafter referred to as "Accurate or Assessor".

#### **BASIC SCOPE OF SERVICES**

Assessor understands that the project requires the maintenance services of all taxable and non-taxable real property within the corporate limits of the Village of Williams Bay. This data will be noted on the individual property record cards. All data and programs gathered by Accurate is the property of the Village of Williams Bay, no fees will apply for any transfer of data from the assessor to the municipality should the contract expire.

All work will be carried out and all forms, materials and supplies utilized by Assessor in this project shall conform to, and be carried out in accordance with, the Wisconsin Statutes. The values to be determined shall be the present true and actual value of each parcel of real property as that term is used in Chapter 70 of the Wisconsin Statutes. They shall be based upon recognized methods of appraisal and conform to Uniform Standards of Professional Appraisal Practices, as required by Wisconsin Statutes for the licensing and certification of all individuals involved in the appraisal of real estate.

Accurate shall provide the Client with assessing services by Wisconsin Department of Revenue Certified Personnel for the 2024 – 2026 assessment years which includes the following:

1. Accurate shall update and maintain 100% real property assessment records for the Client. Said service shall include all assessing services so as to comply with all applicable Wisconsin statutes, codes, rules, and/or regulations, including the assessment of all new construction, remodeling, additions and changes relating to improvements removed for any reason such as fire, demolition, etc. through building

permits. Accurate shall reapportion value brought about through property splits.

2. Accurate shall prepare and mail personal property post cards from a list supplied by the Client of the accounts to be assessed by January 15<sup>th</sup> of each year. Accurate will analyze returned statements of personal property from the merchants in order to establish the proper assessment. Accurate will host online educational materials for the filer on the assessor's website.
3. Accurate shall, without additional expense to the Client, be required to attend Open Book and all Board of Review meetings and shall be responsible for defending all assessments. The Open Book meeting shall be conducted as needed. The meetings shall be scheduled by Accurate with the Clerk. The Open Book meetings shall be completed no later than the agreement date specified in Section II of this agreement.
4. Accurate shall enter real estate and personal property assessments in the current assessment roll so that it may be submitted to the Board of Review.
5. Accurate shall retain the right to employ additional certified personnel at Accurate's expense as deemed necessary to complete the assessment roll in a timely manner. Responsibility for the content and accuracy of the assessment roll regardless of the use of other personnel shall, however, rest with Accurate.
6. The Client's responsibilities will be to supply Accurate with adequate office space in or near the Client's Hall. Items to be mailed such as, but not limited to, assessor's final report and personal property post cards will be the responsibility of Accurate.
7. The Client shall not receive compensation from Accurate for sharing and charging back of taxes due to palpable errors which may be recompensed through State of Wisconsin statute 74.33. A submission of refunded or rescinded taxes should be submitted by the client before October 1 of each year to State of Wisconsin.

8. The Client will hold harmless Accurate from third claims and liabilities due to the assessment of property except claims or liabilities, which result from the intentional or negligent acts or omissions of Accurate, its employees, agents and representatives, shall be the responsibility of Accurate.
9. This agreement between Williams Bay and Accurate shall be for a total of 3 assessment years. The contract will begin on January 1<sup>st</sup>, 2024 and end December 31<sup>st</sup>, 2026, unless an agreed upon extension contract is signed before the contract expires. It is expected the work will commence with the mailing of personal property post cards and be completed after the final adjournment of the Board of Review and any necessary follow up questions and/or work because of appeals of Board of Review decisions.
10. Accurate shall submit monthly invoices based upon a percentage complete. The Client reserves the right to retain a 10% holdback pending completion of all terms and conditions of the contract.
11. Accurate shall provide advice and opinion for assessment matters and will defend values through the appeal process beyond the Open Book and Board of Review.
12. Accurate shall complete its Open Book hearings under this agreement no later than the agreement date, specified in Section II of this agreement, except for delays caused by the Client, county, or state. Accurate may request a thirty-day extension to the contract upon written agreement with the Client.
13. Accurate shall maintain full insurance coverage to protect and hold harmless the Client. Limits of liability shall not be less than the amounts listed below in this contract:

## INSURANCE COVERAGE

### General Liability

|                       |              |
|-----------------------|--------------|
| General Aggregate     | \$ 4,000,000 |
| Each Occurrence       | \$ 2,000,000 |
| Personal & Adv Injury | \$ 2,000,000 |
| Products-Comp/Op Agg  | \$ 4,000,000 |
| Fire Damage           | \$ 300,000   |
| Medical Expense       | \$ 10,000    |

14. Accurate shall consider the market approach, income approach, or cost approach in the valuation of all land and improvements where applicable.
15. Accurate shall use Computer Assisted Mass Appraisal software to accurately provide the Client with records of the maintenance services provided. For both residential and commercial valuations, Accurate's Assessing Software will be utilized following market data, Volume II of the Assessor manual and Marshall & Swift cost tables. The yearly maintenance fee associated with the use of either program will be at no additional cost to the Client. The data will be available to the public on [www.accurateassessor.com](http://www.accurateassessor.com); building data and appointment scheduling will also be available at no additional expense to the Client.
16. Photographs of all new improved parcels will be taken digitally at no additional expense to the Client.
17. All expenses incurred by Accurate during the contract such as postage, phone calls, etc., will be at no additional expense to the Client.
18. Accurate shall meet with the village administrator or his/her designee at least 4 times per year, or an agreed upon schedule to discuss the progress of the work performed.
19. Accurate shall provide and update the village administrator or his/her designee of all personnel assigned. Copies of each personnel's certificate shall be supplied to the village administrator or his/her designee



20. Accurate will implement a public education plan to build understanding of the assessment process with taxpayers and the Client. The Client and Accurate shall work to maintain good public relations throughout the assessment program.

**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-23-23**

**A RESOLUTION AUTHORIZING CONTRACT FOR VILLAGE ASSESSOR SERVICES  
(ACCURATE APPRAISAL, LLC)**

**WHEREAS**, the Village of Williams Bay (Village) sent out Request For Proposal (RFP) for Village Assessment services; and

**WHEREAS**, the Village received two proposals for assessment services, one of which was from Accurate Appraisal, LLC (Accurate); and

**WHEREAS**, on May 10, 2023, the Village of Williams Bay Finance and Personnel Committee determined that it is in the best interests of the Village and its residents to recommend approval of the proposal from Accurate; and

**WHEREAS**, on May 15, 2023, the Village Board of the Village of Williams Bay, being fully advised in the premises, approved the recommended proposal.

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Finance & Personnel Committee determined that it is in the best interests of the Village to **[approve] [not approve]** the 3-year Maintenance Contract for assessment years 2024, 2025, and 2026 at \$18,000 annually; and

**WHEREAS**, the Village Board of the Village of Williams Bay, being fully advised in the premises, have determined that it is in the best interests of the Village and its residents to **[approve] [not approve]** the Contract.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended proposal and authorizes an agreement, therefore.

Approved by the Village Board of the Village of Williams Bay this 19<sup>th</sup> day of June 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk

Baker Tilly US, LLP  
777 E Wisconsin Ave, 32nd Fl  
Milwaukee, WI 53202-5313

T: +1 (414) 777 5500  
F: +1 (414) 777 5555

bakertilly.com

May 22, 2023

Ms. Lori Peternell  
Village Treasurer  
Village of Williams Bay  
250 Williams Street  
Williams Bay, Wisconsin 53191

Dear Ms. Peternell:

Thank you for using Baker Tilly US, LLP (Baker Tilly, we, our) as your auditors.

The purpose of this letter (the Engagement Letter) is to confirm our understanding of the terms and objectives of our engagement and the nature of the services we will provide as independent accountants of the Village of Williams Bay (Client, you, your).

### **Service and Related Report**

We will audit the basic financial statements of the Village of Williams Bay as of and for the year ended December 31, 2023, 2024, 2025, 2026 and 2027, and the related notes to the financial statements. Upon completion of our audit, we will provide the Village of Williams Bay with our audit report on the financial statements and supplemental information referred to below. If, for any reasons caused by or relating to the affairs or management of the Village of Williams Bay, we are unable to complete the audit or are unable to or have not formed an opinion, or if we determine in our professional judgment the circumstances necessitate, we may withdraw and decline to issue a report as a result of this engagement.

The following supplementary information accompanying the financial statements will also be subjected to the auditing procedures applied in our audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America, and our auditor's report will provide an opinion on it in relation to the financial statements as a whole.

- > Combining and Individual Fund Financial Statements

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Accounting standards generally accepted in the United States of America provide for certain required supplementary information (RSI), such as management's discussion and analysis, to supplement the Village of Williams Bay's basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. As part of our engagement, we will apply certain limited procedures to the Village of Williams Bay's RSI in accordance with auditing standards generally accepted in the United States of America. These limited procedures will consist of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's response to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We will not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance. The following RSI is required by generally accepted accounting principles and will be subjected to certain limited procedures, but will not be audited:

- > Budget Comparison Schedules
- > Pension - related schedules

Our report does not include reporting on key audit matters.

### **Our Responsibilities and Limitations**

The objective of a financial statement audit is the expression of an opinion on the financial statements. We will be responsible for performing that audit in accordance with auditing standards generally accepted in the United States of America (GAAS). These standards require that we plan and perform our audit to obtain reasonable, rather than absolute assurance about whether the financial statements are free of material misstatement, whether caused by error or fraud. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. A misstatement is considered material if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user based on the financial statements. The audit will include examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit does not relieve management and those charged with governance of their responsibilities. Our audit is limited to the period covered by our audit and does not extend to any later periods during which we are not engaged as auditor.

The audit will include obtaining an understanding of the Village of Williams Bay and its environment, including internal controls, sufficient to assess the risks of material misstatement of the financial statements and to determine the nature, timing and extent of further audit procedures. An audit is not designed to provide assurance on internal controls or to identify deficiencies in internal control. However, during the audit, we will communicate to management and those charged with governance internal control matters that are required to be communicated under professional standards.

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We are also responsible for determining that those charged with governance are informed about certain other matters related to the conduct of the audit, including (i) our responsibility under GAAS, (ii) an overview of the planned scope and timing of the audit, and (iii) significant findings from the audit, which include (a) our views about the qualitative aspects of your significant accounting practices, accounting estimates, and financial statement disclosures; (b) difficulties encountered in performing the audit; (c) uncorrected misstatements and material corrected misstatements that were brought to the attention of management as a result of auditing procedures; and (d) other significant and relevant findings or issues (e.g., any disagreements with management about matters that could be significant to your financial statements or our report thereon, consultations with other independent accountants, issues discussed prior to our retention as independent auditors, fraud and illegal acts, and all significant deficiencies and material weaknesses identified during the audit). Lastly, we are responsible for ensuring that those charged with governance receive copies of certain written communications between us and management including written communications on accounting, auditing, internal controls or operational matters and representations that we are requesting from management.

The audit will not be planned or conducted in contemplation of reliance of any specific third party or with respect to any specific transaction. Therefore, items of possible interest to a third party will not be specifically addressed and matters may exist that would be addressed differently by a third party, possibly in connection with a specific transaction.

### **Management's Responsibilities**

Our audit will be conducted on the basis that the Organization's management and, when appropriate, those charged with governance, acknowledge and understand that they have responsibility:

- > For the preparation and fair presentation of the financial statements and supplementary information in accordance with accounting principles generally accepted in the United States of America;
- > For the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements and supplementary information that are free from material misstatement, whether due to fraud or error; and
- > To provide us with:
  - Access to all information of which management is aware that is relevant to the preparation and fair presentation of the financial statements and supplementary information such as records, documentation, and other matters;
  - Additional information that we may request from management for the purpose of the audit; and
  - Unrestricted access to persons within the Organization from whom we determine it necessary to obtain audit evidence

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You are responsible for the preparation of the supplementary information in conformity with GAAP. You agree to include our report on the supplementary information in any document that contains, and indicates that we have reported on, the supplementary information. You also agree to include the audited financial statements with any presentation of the supplementary information that includes our report thereon. Your responsibilities include acknowledging to us in the representation letter that (a) you are responsible for presentation of the supplementary information in accordance with GAAP; (b) that you believe the supplementary information, including its form and content, is fairly presented in accordance with GAAP; (c) that the methods of measurement or presentation have not changed from those used in the prior period (or, if they have changed, the reasons for such changes); and (d) you have disclosed to us any significant assumptions or interpretations underlying the measurement or presentation of the supplementary information.

Management is responsible for (i) adjusting the basic financial statements to correct material misstatements and for affirming to us in a management representation letter that the effects of any uncorrected misstatements aggregated by us during the current engagement and pertaining to the latest period under audit are immaterial, both individually and in the aggregate, to the basic financial statements taken as a whole, and (ii) notifying us of all material weaknesses, including other significant deficiencies, in the design or operation of your internal control over financial reporting that are reasonably likely to adversely affect your ability to record, process, summarize and report external financial data reliably in accordance with GAAP. Management is also responsible for identifying and ensuring that the Village of Williams Bay complies with the laws and regulations applicable to its activities.

As part of our audit process, we will request from management and, when appropriate, those charge with governance written confirmation concerning representations made to us in connection with the audit.

Baker Tilly is not a municipal advisor as defined in Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act or under Section 15B of the Securities Exchange Act of 1934 (the Act). Baker Tilly is not recommending an action to the Village of Williams Bay; is not acting as an advisor to you and does not owe a fiduciary duty pursuant to Section 15B of the Act to you with respect to the information and material contained in the deliverables issued under this engagement. Any municipal advisory services would only be performed by Baker Tilly Municipal Advisors LLC (BTMA) pursuant to a separate engagement letter between you and BTMA. You should discuss any information and material contained in the deliverables with any and all internal and external advisors and experts that you deem appropriate before acting on this information or material.

### **Nonattest Services**

Prior to or as part of our audit engagement, it may be necessary for us to perform certain nonattest services.

Nonattest services that we will be providing are as follows:

- > Financial statement preparation
- > Adjusting journal entries
- > Compiled regulatory reports (State Financial Report Form C and Annual Public Service Commission Report)
- > Civic Systems Software

None of these nonattest services constitute an audit under generally accepted auditing standards.

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We will not perform any management functions or make management decisions on your behalf with respect to any nonattest services we provide.

In connection with our performance of any nonattest services, you agree that you will:

- > Continue to make all management decisions and perform all management functions, including approving all journal entries and general ledger classifications when they are submitted to you.
- > Designate an employee with suitable skill, knowledge, and/or experience, preferably within senior management, to oversee the services we perform.
- > Evaluate the adequacy and results of the nonattest services we perform.
- > Accept responsibility for the results of our nonattest services.
- > Establish and maintain internal controls, including monitoring ongoing activities related to the nonattest function.

On a periodic basis, as needed, we will meet with you to discuss your accounting records and the management implications of your financial statements. We will notify you, in writing, of any matters that we believe you should be aware of and will meet with you upon request.

In addition to the audit services discussed above, we will compile the annual Financial Report Form to the Wisconsin Department of Revenue and the Public Service Commission Annual Report. See Addendums A and B attached, which are an integral part of this Engagement Letter.

### **Other Documents**

If you intend to reproduce or publish the financial statements in an annual report or other information (excluding official statements), and make reference to our firm name in connection therewith, you agree to publish the financial statements in their entirety. In addition, you agree to provide us, for our approval and consent, proofs before printing and final materials before distribution.

If you intend to reproduce or publish the financial statements in an official statement, unless we establish a separate agreement to be involved in the issuance, any official statements issued by the Village of Williams Bay must contain a statement that Baker Tilly is not associated with the official statement, which shall read "Baker Tilly US, LLP, our independent auditor, has not been engaged to perform and has not performed, since the date of its report included herein, any procedures on the financial statements addressed in that report. Baker Tilly US, LLP, has also not performed any procedures relating to this official statement."

With regard to the electronic dissemination of audited financial statements, including financial statements published electronically on your Internet website, you understand that electronic sites are a means to distribute information and, therefore, we are not required to read the information contained in these sites or to consider the consistency of other information in the electronic site with the original document.

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The documentation for this engagement, including the workpapers, is the property of Baker Tilly and constitutes confidential information. We may have a responsibility to retain the documentation for a period of time sufficient to satisfy any applicable legal or regulatory requirements for records retention. Baker Tilly does not retain any original client records and we will return such records to you at the completion of the services rendered under this engagement. When such records are returned to you, it is the Village of Williams Bay's responsibility to retain and protect its accounting and other business records for future use, including potential review by any government or other regulatory agencies. By your signature below, you acknowledge and agree that, upon the expiration of the documentation retention period, Baker Tilly shall be free to destroy our workpapers related to this engagement. If we are required by law, regulation or professional standards to make certain documentation available to regulators, the Village of Williams Bay hereby authorizes us to do so.

### **Timing and Fees**

Completion of our work is subject to, among other things, (i) appropriate cooperation from the Village of Williams Bay's personnel, including timely preparation of necessary schedules, (ii) timely responses to our inquiries, and (iii) timely communication of all significant accounting and financial reporting matters. When and if for any reason the Village of Williams Bay is unable to provide such schedules, information, and assistance, Baker Tilly and you may mutually revise the fee to reflect additional services, if any, required of us to complete the audit. Delays in the issuance of our audit report beyond the date that was originally contemplated may require us to perform additional auditing procedures which will likely result in additional fees.

Certain changes in the Village of Williams Bay's business or within its accounting department may result in additional fees not contemplated as part of the original engagement quote provided below. Examples of such changes include but are not limited to: implementation of new general ledger software or a new chart of accounts; the creation of new funds, departments or component units; other significant changes in operations; new financing arrangements or modifications to existing financing arrangements; significant new federal or state funding; government combinations; significant new employment agreements; complex research matters; and significant subsequent events. Any additional fees associated with these business or accounting changes would not be expected to be recurring in nature.

For certain transactions or changes in operations or conditions, financial reporting and/or auditing standards may require us to utilize the services of internal or external valuation specialists. This includes matters such as government combinations, impairment evaluations, and going concern evaluation, among other potential needs for specialists. The time and cost of such services are not included in the fee estimate provided below.

Revisions to the scope of our work will be communicated to you and may be set forth in the form of an "Amendment to Existing Engagement Letter." In addition, if we discover compliance issues that require us to perform additional procedures and/or provide assistance with these matters, fees at our standard hourly rates apply.



| Year | Financial<br>Audit * | State Report | PSC Report | Totals    |
|------|----------------------|--------------|------------|-----------|
| 2023 | \$ 36,500            | \$ 2,750     | \$ 2,750   | \$ 42,000 |
| 2024 | 38,500               | 2,800        | 2,800      | 44,100    |
| 2025 | 40,500               | 2,850        | 2,850      | 46,200    |
| 2026 | 42,500               | 2,900        | 2,900      | 48,300    |
| 2027 | 44,500               | 2,950        | 2,950      | 50,400    |

\* Fees related to the financial audit should be split 60% to Village, 20% to Water and 20% Sewer.

Our fees above are based on current implemented GASB standards. Any future standards that are deemed material and require implementation by the Village we will pass along incurred costs for assistance in implementation and additional audit steps required. We will detail out on corresponding bills the related costs for these standards to ensure transparency and understanding in bill provided. Please note, general consulting and discussion around how the Village can / should implement these standards will not be billed. Our fees above also assume that you will prepare all requested workpapers and that your financial records and supporting workpapers will not need to be materially corrected. If entries are identified and/or workpapers need to be completed or updated you will be billed additionally for time incurred. Invoices for these fees will be rendered each month as work progresses and are payable on presentation. In addition to professional fees, our invoices will include our standard administrative charge, plus travel and subsistence and other out-of-pocket expenses related to the engagement. A charge of 1.5 percent per month shall be imposed on accounts not paid within thirty (30) days of receipt of our statement for services provided. In accordance with our firm policies, work may be suspended if your account becomes thirty (30) days or more overdue and will not be resumed until your account is paid in full. If we elect to terminate our services for nonpayment, our engagement will be deemed to have been completed upon written notice of termination, even if we have not completed our report. You will be obligated to compensate us for all time expended and to reimburse us for all out-of-pocket expenditures through the date of termination. In the event that collection procedures are required, the Village of Williams Bay agrees to be responsible for all expenses of collection including related attorneys' fees.

We may use temporary contract staff to perform certain tasks on your engagement and will bill for that time at the rate that corresponds to Baker Tilly staff providing a similar level of service. Upon request, we will be happy to provide details on training, supervision and billing arrangements we use in connection with these professionals. Additionally, we may from time to time, and depending on the circumstances, use service providers (e.g., to act as a specialist or audit an element of the financial statements) in serving your account. We may share confidential information about you with these contract staff and service providers, but remain committed to maintaining the confidentiality and security of your information. Accordingly, we maintain internal policies, procedures and safeguards to protect the confidentiality of your personal information. In addition, we will secure confidentiality agreements with all contract staff and service providers to maintain the confidentiality of your information and we will take reasonable precautions to determine that they have appropriate procedures in place to prevent the unauthorized release of your confidential information to others. In the event that we are unable to secure an appropriate confidentiality agreement, you will be asked to provide your consent prior to the sharing of your confidential information with the contract staff or third-party service provider. Furthermore, the firm will remain responsible for the work provided by any such contract staff or third-party service providers.

To the extent the services require Baker Tilly receive personal data or personal information from Client, Baker Tilly may process any personal data or personal information, as those terms are defined in applicable privacy laws, in accordance with the requirements of the applicable privacy law relevant to the processing in providing services hereunder. Applicable privacy laws may include any local, state, federal or international laws, standards, guidelines, policies or regulations governing the collection, use, disclosure, sharing or other processing of personal data or personal information with which Baker Tilly or its Clients must comply. Such privacy laws may include (i) the EU General Data Protection Regulation 2016/679 (GDPR); (ii) the California Consumer Privacy Act of 2018 (CCPA); and/or (iii) other laws regulating marketing communications, requiring security breach notification, imposing minimum security requirements, requiring the secure disposal of records and other similar requirements applicable to the processing of personal data or personal information. Baker Tilly is acting as a Service Provider/Data Processor in relation to Client personal data and personal information, as those terms are defined respectively under the CCPA/GDPR. Client is responsible for notifying Baker Tilly of any data privacy laws the data provided to Baker Tilly is subject to and Client represents and warrants it has all necessary authority (including any legally required consent from data subjects) to transfer such information and authorize Baker Tilly to process such information in connection with the services described herein. Client agrees that Baker Tilly has the right to generate aggregated/de-identified data from the accounting and financial data provided by Client to be used for Baker Tilly business purposes and with the outputs owned by Baker Tilly. For clarity, Baker Tilly will only disclose aggregated/de-identified data in a form that does not identify Client, Client employees, or any other individual or business entity and that is stripped of all persistent identifiers. Client is not responsible for Baker Tilly's use of aggregated/de-identified data.

Baker Tilly has established information security related operational requirements that support the achievement of our information security commitments, relevant information security related laws and regulations, and other information security related system requirements. Such requirements are communicated in Baker Tilly's policies and procedures, system design documentation and contracts with customers. Information security policies have been implemented that define our approach to how systems and data are protected. Client is responsible for providing timely written notification to Baker Tilly of any additions, changes or removals of access for Client personnel to Baker Tilly provided systems or applications. If Client becomes aware of any known or suspected information security or privacy related incidents or breaches related to this agreement, Client should timely notify Baker Tilly via email at [dataprotectionofficer@bakertilly.com](mailto:dataprotectionofficer@bakertilly.com).

Any additional services that may be requested, and we agree to provide, may be the subject of a separate engagement letter.

We may be required to disclose confidential information to federal, state and international regulatory bodies or a court in criminal or other civil litigation. In the event that we receive a request from a third party (including a subpoena, summons or discovery demand in litigation) calling for the production of information, we will promptly notify the Village of Williams Bay, unless otherwise prohibited. In the event we are requested by the Village of Williams Bay or required by government regulation, subpoena or other legal process to produce our engagement working papers or our personnel as witnesses with respect to services rendered to the Village of Williams Bay, so long as we are not a party to the proceeding in which the information is sought, we may seek reimbursement for our professional time and expenses, as well as the fees and legal expenses, incurred in responding to such a request.

We may be required to disclose confidential information with respect to complying with certain professional obligations, such as peer review programs. All participants in such peer review programs are bound by the same confidentiality requirements as Baker Tilly and its employees. Baker Tilly will not be required to notify the Village of Williams Bay if disclosure of confidential information is necessary for peer review purposes.

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Our fees are based on known circumstances at the time of this Engagement Letter. Should circumstances change significantly during the course of this engagement, we will discuss with you the need for any revised audit fees. This can result from changes at the Village of Williams Bay, such as the turnover of key accounting staff, the addition of new funds or significant federal or state programs or changes that affect the amount of audit effort from external sources, such as new accounting and auditing standards that become effective that increase the scope of our audit procedures. Lastly, see comment above related to the implementation of future auditing standards.

We would expect to continue to perform our services under the arrangements discussed above from year to year, unless for some reason you or we find that some change is necessary. We will, of course, be happy to provide the Village of Williams Bay with any other services you may find necessary or desirable.

### **Resolution of Disagreements**

In the unlikely event that differences concerning services or fees should arise that are not resolved by mutual agreement, both parties agree to attempt in good faith to settle the dispute by mediation administered by the American Arbitration Association (AAA) under its mediation rules for professional accounting and related services disputes before resorting to litigation or any other dispute-resolution procedure. Each party shall bear their own expenses from mediation.

If mediation does not settle the dispute or claim, then the parties agree that the dispute or claim shall be settled by binding arbitration. The arbitration proceeding shall take place in the city in which the Baker Tilly office providing the relevant services is located, unless the parties mutually agree to a different location. The proceeding shall be governed by the provisions of the Federal Arbitration Act (FAA) and will proceed in accordance with the then current Arbitration Rules for Professional Accounting and Related Disputes of the AAA, except that no pre hearing discovery shall be permitted unless specifically authorized by the arbitrator. The arbitrator will be selected from Judicate West, AAA, Judicial Arbitration & Mediation Services (JAMS), the Center for Public Resources or any other internationally or nationally recognized organization mutually agreed upon by the parties. Potential arbitrator names will be exchanged within fifteen (15) days of the parties' agreement to settle the dispute or claim by binding arbitration, and arbitration will thereafter proceed expeditiously. Any issue concerning the extent to which any dispute is subject to arbitration, or concerning the applicability, interpretation, or enforceability of any of these procedures, shall be governed by the FAA and resolved by the arbitrators. The arbitration will be conducted before a single arbitrator, experienced in accounting and auditing matters. The arbitrator shall have no authority to award nonmonetary or equitable relief and will not have the right to award punitive damages or statutory awards. Furthermore, in no event shall the arbitrator have power to make an award that would be inconsistent with the Engagement Letter or any amount that could not be made or imposed by a court deciding the matter in the same jurisdiction. The award of the arbitration shall be in writing and shall be accompanied by a well reasoned opinion. The award issued by the arbitrator may be confirmed in a judgment by any federal or state court of competent jurisdiction. Discovery shall be permitted in arbitration only to the extent, if any, expressly authorized by the arbitrator(s) upon a showing of substantial need. Each party shall be responsible for their own costs associated with the arbitration, except that the costs of the arbitrator shall be equally divided by the parties. Both parties agree and acknowledge that they are each giving up the right to have any dispute heard in a court of law before a judge and a jury, as well as any appeal. The arbitration proceeding and all information disclosed during the arbitration shall be maintained as confidential, except as may be required for disclosure to professional or regulatory bodies or in a related confidential arbitration. The arbitrator(s) shall apply the limitations period that would be applied by a court deciding the matter in the same jurisdiction, including the contractual limitations set forth in this Engagement Letter, and shall have no power to decide the dispute in any manner not consistent with such limitations period. The arbitrator(s) shall be empowered to interpret the applicable statutes of limitations.

Our services shall be evaluated solely on our substantial conformance with the terms expressly set forth herein, including all applicable professional standards. Any claim of nonconformance must be clearly and convincingly shown.

### **Limitation on Damages and Indemnification**

The liability (including attorney's fees and all other costs) of Baker Tilly and its present or former partners, principals, agents or employees related to any claim for damages relating to the services performed under this Engagement Letter shall not exceed the fees paid to Baker Tilly for the portion of the work to which the claim relates, except to the extent finally determined to have resulted from the willful misconduct or fraudulent behavior of Baker Tilly relating to such services. This limitation of liability is intended to apply to the full extent allowed by law, regardless of the grounds or nature of any claim asserted, including the negligence of either party. Additionally, in no event shall either party be liable for any lost profits, lost business opportunity, lost data, consequential, special, incidental, exemplary or punitive damages, delays or interruptions arising out of or related to this Engagement Letter even if the other party has been advised of the possibility of such damages.

As Baker Tilly is performing the services solely for your benefit, you will indemnify Baker Tilly, its subsidiaries and their present or former partners, principals, employees, officers and agents against all costs, fees, expenses, damages and liabilities (including attorney's fees and all defense costs) associated with any third-party claim, relating to or arising as a result of the services, or this Engagement Letter.

Because of the importance of the information that you provide to Baker Tilly with respect to Baker Tilly's ability to perform the services, you hereby release Baker Tilly and its present and former partners, principals, agents and employees from any liability, damages, fees, expenses and costs, including attorney's fees, relating to the services, that arise from or relate to any information, including representations by management, provided by you, its personnel or agents, that is not complete, accurate or current, whether or not management knew or should have known that such information was not complete, accurate or current.

Each party recognizes and agrees that the warranty disclaimers and liability and remedy limitations in this Engagement Letter are material bargained for bases of this Engagement Letter and that they have been taken into account and reflected in determining the consideration to be given by each party under this Engagement Letter and in the decision by each party to enter into this Engagement Letter.

The terms of this section shall apply regardless of the nature of any claim asserted (including, but not limited to, contract, tort or any form of negligence, whether of you, Baker Tilly or others), but these terms shall not apply to the extent finally determined to be contrary to the applicable law or regulation. These terms shall also continue to apply after any termination of this Engagement Letter.

You accept and acknowledge that any legal proceedings arising from or in conjunction with the services provided under this Engagement Letter must be commenced within twelve (12) months after the performance of the services for which the action is brought, without consideration as to the time of discovery of any claim or any other statutes of limitations or repose.

### **Other Matters**

Neither this Engagement Letter, any claim, nor any rights or licenses granted hereunder may be assigned, delegated or subcontracted by either party without the written consent of the other party. Either party may assign and transfer this Engagement Letter to any successor that acquires all or substantially all of the business or assets of such party by way of merger, consolidation, other business reorganization or the sale of interest or assets, provided that the party notifies the other party in writing of such assignment and the successor agrees in writing to be bound by the terms and conditions of this Engagement Letter.

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Our dedication to client service is carried out through our employees who are integral in meeting this objective. In recognition of the importance of our employees, it is hereby agreed that the Village of Williams Bay will not solicit our employees for employment or enter into an independent contractor arrangement with any individual who is or was an employee of Baker Tilly for a period of twelve (12) months following the date of the conclusion of this engagement. If the Village of Williams Bay violates this nonsolicitation clause, the Village of Williams Bay agrees to pay to Baker Tilly a fee equal to the hired person's annual salary at the time of the violation so as to reimburse Baker Tilly for the costs of hiring and training a replacement.

The services performed under this Agreement do not include the provision of legal advice and Baker Tilly makes no representations regarding questions of legal interpretation. Client should consult with its attorneys with respect to any legal matters or items that require legal interpretation under federal, state or other type of law or regulation.

Baker Tilly US, LLP, trading as Baker Tilly, is an independent member of Baker Tilly International. Baker Tilly International Limited is an English company. Baker Tilly International provides no professional services to clients. Each member firm is a separate and independent legal entity and each describes itself as such. Baker Tilly US, LLP is not Baker Tilly International's agent and does not have the authority to bind Baker Tilly International or act on Baker Tilly International's behalf. None of Baker Tilly International, Baker Tilly US, LLP, nor any of the other member firms of Baker Tilly International has any liability for each other's acts or omissions. The name Baker Tilly and its associated logo is used under license from Baker Tilly International Limited.

This Engagement Letter and any applicable online terms and conditions or terms of use ("Online Terms") related to online products or services made available to Village of Williams Bay by Baker Tilly ("Online Offering") constitute the entire agreement between the Village of Williams Bay and Baker Tilly regarding the services described in this Engagement Letter and supersedes and incorporates all prior or contemporaneous representations, understandings or agreements, and may not be modified or amended except by an agreement in writing signed between the parties hereto. For clarity and avoidance of doubt, the terms of this Engagement Letter govern Baker Tilly's provision of the services described herein, and the Online Terms govern Village of Williams Bay's use of the Online Offering. This Engagement Letter's provisions shall not be deemed modified or amended by the conduct of the parties.

The provisions of this Engagement Letter, which expressly or by implication are intended to survive its termination or expiration, will survive and continue to bind both parties, including any successors or assignees. If any provision of this Engagement Letter is declared or found to be illegal, unenforceable or void, then both parties shall be relieved of all obligations arising under such provision, but if the remainder of this Engagement Letter shall not be affected by such declaration or finding and is capable of substantial performance, then each provision not so affected shall be enforced to the extent permitted by law or applicable professional standards.

If because of a change in the Village of Williams Bay's status or due to any other reason, any provision in this Engagement Letter would be prohibited by, or would impair our independence under laws, regulations or published interpretations by governmental bodies, commissions or other regulatory agencies, such provision shall, to that extent, be of no further force and effect and this agreement shall consist of the remaining portions.

This agreement shall be governed by and construed in accordance with the laws of the state of Wisconsin, without giving effect to the provisions relating to conflict of laws.

Ms. Lori Peternell  
Village of Williams Bay

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We appreciate the opportunity to be of service to you.

If there are any questions regarding this Engagement Letter, please contact Paul J. Frantz, the engagement partner on this engagement who is responsible for the overall supervision and review of the engagement and determining that the engagement has been completed in accordance with professional standards. Paul J. Frantz is available at 414 777 5506, or at paul.frantz@bakertilly.com.

Sincerely,

BAKER TILLY US, LLP

A handwritten signature in black ink that reads "Baker Tilly US, LLP". The script is cursive and fluid, with the letters "B", "T", and "L" being particularly large and stylized.

Enclosure

The services and terms as set forth in this Engagement Letter are agreed to by:

---

Official's Name

---

Official's Signature

---

Title

---

Date

## ADDENDUM A

We will perform the following services:

1. We will compile, from information you provide, the annual Financial Report Form to the Wisconsin Department of Revenue, for the year ended December 31, 2023. Upon completion of the compilation of the annual Financial Report Form, we will provide you with our accountants' compilation report. If for any reason caused by or relating to affairs or management of the Village of Williams Bay, we are unable to complete the compilation or if we determine in our professional judgment the circumstances necessitate, we may withdraw and decline to submit the annual Financial Report Form to you as a result of this engagement.

Our report on the annual Financial Report Form of the Village of Williams Bay is presently expected to read as follows:

Management is responsible for the 2023 Financial Report Form C for the year ended December 31, 2023 included in the accompanying prescribed form. We have performed a compilation engagement in accordance with *Statements on Standards for Accounting and Review Services* promulgated by the Accounting and Review Services Committee of the American Institute of Certified Public Accountants. We did not audit or review the 2023 financial report form C included in the accompanying prescribed form, nor were we required to perform any procedures to verify the accuracy or completeness of the information provided by the management. Accordingly, we do not express an opinion, a conclusion, nor provide any form of assurance on the 2023 Financial Report form C included in the prescribed form.

The Financial Report Form C included in the accompanying prescribed form is presented in accordance with the requirements of the Wisconsin Department of Revenue, and is not intended to be a presentation in accordance with accounting principles generally accepted in the United States of America.

This report is intended solely for the information and use of the Wisconsin Department of Revenue and is not intended to be and should not be used by anyone other than this specified party.

### Our Responsibilities and Limitations

We will be responsible for performing the compilation in accordance with *Statements on Standards for Accounting and Review Services* established by the American Institute of Certified Public Accountants. The objective of a compilation is to assist management in presenting financial information in the form of financial statements. We will utilize information that is the representation of management without undertaking to obtain or provide any assurance that there are no material modifications that should be made to the financial statements in order for the statements to be in conformity with GAAP.

Our engagement cannot be relied upon to disclose errors, fraud or other illegal acts that may exist and, because of the limited nature of our work, detection is highly unlikely. However, we will inform the appropriate level of management of any material errors, and of any evidence that fraud may have occurred. In addition, we will report to you any evidence or information that comes to our attention during the performance of our compilation procedures regarding illegal acts that may have occurred, unless they are clearly inconsequential. We have no responsibility to identify and communicate deficiencies in your internal control as part of this Engagement Letter.

## **Management's Responsibilities**

The Village of Williams Bay's management is responsible for the financial statements referred to above. In this regard, management is responsible for (i) the preparation and fair presentation of the Financial Report Form C included in the form prescribed by the Wisconsin Department of Revenue, (ii) designing, implementing, and maintaining internal control relevant to the preparation and fair presentation of the Financial Report Form C, (iii) preventing and detecting fraud, (iv) identifying and ensuring that you comply with the laws and regulations applicable to its activities, and (v) making all financial records and related information available to us. Management also is responsible for identifying and ensuring that you comply with the laws and regulations applicable to its activities.

Management is responsible for providing us with the information necessary for the compilation of the financial statements and the completeness and the accuracy of that information and for making your personnel available to whom we may direct inquiries regarding the compilation. We may make specific inquiries of management and others about the representations embodied in the financial statements.



## ADDENDUM B

We will perform the following services:

2. We will compile, from information you provide, the Public Service Commission Annual Report, including the balance sheets of the Williams Bay Municipal Water, an enterprise fund of the Village of Williams Bay, as of December 31, 2023 and 2022, and the related statements of income and retained earnings for the years then ended and the supplemental schedules as of and for the year ended December 31, 2023. Upon completion of the Public Service Commission Annual Report, we will provide you with our accountants' compilation report. If for any reason caused by or relating to affairs or management of the Village of Williams Bay, we are unable to complete the compilation or if we determine in our professional judgment the circumstances necessitate, we may withdraw and decline to submit the Public Service Commission Annual Report to you as a result of this engagement.

Our report on the Public Service Commission Annual Report of the Village of Williams Bay is presently expected to read as follows:

Management is responsible for the balance sheets of the Williams Bay Municipal Water, an enterprise fund of the Village of Williams Bay, as of December 31, 2023 and 2022, and the related statements of income and retained earnings for the years then ended and the supplemental schedules as of and for the year ended December 31, 2023 included in the accompany prescribed form. We have performed a compilation engagement in accordance with *Statements on Standards of Accounting and Review Services* promulgated by the Accounting and Review Services Committee of the American Institute of Certified Public Accountants. We did not audit or review the financial statements included in the accompanying prescribed form, nor were we required to perform any procedures to verify the accuracy or completeness of the information provided by management. Accordingly, we do not express an opinion, a conclusion, nor provide any form of assurance on these financial statements included in the prescribed form.

These financial statements included in the accompanying prescribed form are presented in accordance with the requirements of the Public Service Commission of Wisconsin, and are not intended to be a presentation in accordance with accounting principles generally accepted in the United States of America.

This report is intended solely for the information and use of the Public Service Commission of Wisconsin and is not intended to be and should not be used by anyone other than this specified party.

### Our Responsibilities and Limitations

We will be responsible for performing the compilation in accordance with *Statements on Standards for Accounting and Review Services* established by the American Institute of Certified Public Accountants. The objective of a compilation is to assist management in presenting financial information in the form of financial statements. We will utilize information that is the representation of management without undertaking to obtain or provide any assurance that there are no material modifications that should be made to the financial statements in order for the statements to be in conformity with GAAP.

Our engagement cannot be relied upon to disclose errors, fraud or other illegal acts that may exist and, because of the limited nature of our work, detection is highly unlikely. However, we will inform the appropriate level of management of any material errors, and of any evidence that fraud may have occurred. In addition, we will report to you any evidence or information that comes to our attention during the performance of our compilation procedures regarding illegal acts that may have occurred, unless they are clearly inconsequential. We have no responsibility to identify and communicate deficiencies in your internal control as part of this Engagement Letter.

## **Management's Responsibilities**

The Village of Williams Bay's management is responsible for the financial statements referred to above. In this regard, management is responsible for (i) the preparation and fair presentation of the financial statements included in the form prescribed by the Public Service Commission of Wisconsin, (ii) designing, implementing and maintaining internal control relevant to the preparation and fair presentation of the financial statements, (iii) preventing and detecting fraud, (iv) identifying and ensuring that you comply with the laws and regulations applicable to its activities, and (v) making all financial records and related information available to us. Management also is responsible for identifying and ensuring that you comply with the laws and regulations applicable to its activities.

Management is responsible for providing us with the information necessary for the compilation of the financial statements and the completeness and the accuracy of that information and for making your personnel available to whom we may direct inquiries regarding the compilation. We may make specific inquiries of management and others about the representations embodied in the financial statements.

**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-27-23**

**A RESOLUTION APPROVING AN  
ENGAGEMENT LETTER FOR CONTINUED AUDITING SERVICES FROM BAKER TILLY, LLP**

**WHEREAS**, the Village of Williams Bay contracts with Baker Tilly, LLP ("***Baker Tilly***") as financial adviser desires to the Village; and

**WHEREAS**, in 2018 the Village of Williams Bay determined that it is in the best interests of the Village and its residents to authorize approval of the auditing services from Baker Tilly; and

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Finance & Personnel Committee determined considered the Baker Tilly Audit Engagement Letter ("***Proposal***") dated May 22, 2023 to audit basic financial statements of the Village of Williams Bay for the five (5) years ending in December 31, 2023 through December 31, 2028 and determined that it is in the best interests of the Village to recommend to **[approve] [not approve]** the Proposal; and

**WHEREAS**, the Village Board of the Village of Williams Bay, being fully advised in the premises, have determined that it is in the best interests of the Village and its residents to **[approve] [not approve]** the Proposal to continue and retain Baker Tilly as set forth in the Proposal attached to this Resolution as Exhibit A;

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended Proposal and authorizes an agreement therefore.

Approved by the Village Board of the Village of Williams Bay this 19<sup>th</sup> day of June, 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk

**EXHIBIT A**  
**Audit Engagement Letter (Proposal)**  
**(Baker Tilly, LLP)**

DRAFT



## VILLAGE OF WILLIAMS BAY

**TO:** FINANCE & PERSONNEL COMMITTEE  
**FROM:** DAVID A. LOTH SPEICH, VILLAGE ADMINISTRATOR  
**DATE:** MAY 31, 2023  
**RE:** MUNICIPAL JUDGE OFFICIAL BOND

Wisconsin Statute Sec. 755.03 requires that all Municipal Judge provide an official bond with the Village. Village Code Section 22-1D requires that the Municipal Judge provide an official bond with the amount of the official bond established by the Village Board. Statute also calls for the governing body to pay the costs for this coverage. The Village has not been able to locate any prior record of the Village Board establishing this dollar amount. Village Attorney Mark Schroeder reviewed the statute and determined that our current insurance policy employee dishonesty coverage provision cannot be used in lieu of the official bond.

As the Village's records are not clear and the official bond is necessary, the Village purchased a \$10,000 official bond (minimum amount purchased for \$101) for the Municipal Judge for this year as an interim measure while the Village Board establishes the required bond amount. The enclosed draft resolution is provided for your consideration with the minimum official bond amount of \$10,000 bracketed if the Committee determines that the bond amount should be something more than the minimum available.

### Village Code - Bond; Oath.

(1) The Municipal Judge shall execute and file with the Clerk of the Courts for Walworth County the oath prescribed by § 757.02, Wis. Stats., and an official bond in such amount as shall be fixed by resolution of the Village Board.

### Wis. Statute 755.03 - Oath and bond.

(1) The judge shall, after election or appointment, take and file the official oath as prescribed in s. [757.02](#) (1) and at the same time, if required to do so by a city's, village's, or town's governing body, execute and file an official bond in an amount to be fixed by the governing body. If the governing body does not require the judge to execute and file an official bond, the governing body shall obtain a dishonesty insurance policy or other appropriate insurance policy that covers the judge, in an amount fixed by the governing body, in lieu of the bond requirement. The governing body shall pay the costs of the bond or insurance policy. No judge may act as such until he or she has complied with the requirements of sub. (2).

**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-35-23**

**A RESOLUTION ESTABLISHING THE MINIMUM OFFICIAL BOND FOR MUNICIPAL JUDGE**

**WHEREAS**, Wis. Statute 755.03 – ‘Oath and Bond’ requires that the Municipal Judge, if required to do so by a city’s, village’s, or town’s governing body, execute and file an official bond in an amount to be fixed by the governing body with the governing body paying the costs of the bond; and

**WHEREAS**, Williams Bay Village Code - Chapter 22. ‘Court, Municipal Judge Bond’ requires that the Municipal Judge shall execute and file with the Clerk of the Courts for Walworth County an official bond in such amount as shall be fixed by resolution of the Village Board; and

**WHEREAS**, as required by Village Code the Village Board desires to set the amount of the official bond for the Municipal Judge at **[\$10,000]**; and

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Finance and Personnel Committee determined that it is in the best interests of the Village and its residents to recommend approval of establishing the official bond for the Municipal Judge at **[\$10,000]**; and

**WHEREAS**, the Village Board of the Village of Williams Bay, being fully advised in the premises, have determined that it is in the best interests of the Village and its residents to approve the recommendation.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommendation, therefore.

Approved by the Village Board of the Village of Williams Bay this 19<sup>th</sup> day of June 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk



## MEMORANDUM

**DATE:** JUNE 5, 2023  
**TO:** FINANCE & PERSONNEL COMMITTEE  
**FROM:** LORI PETERNELL, VILLAGE TREASURER  
**RE:** WATER PLANT MODIFICATION - COPPER CORROSION ACTION PLAN  
- BAXTER WOODMAN WORK ORDER 221778.01/221778.61 - SERVICE PUMP MODIFICATIONS DESIGN & CONSTRUCTION  
- BAXTER WOODMAN WORK ORDER 221778.01/221778.60 - CHLORINATION MODIFICATIONS DESIGN & CONSTRUCTION  
- SAFE WATER DRINKING FUND LOAN APPLICATION(S)

In October 2022, the Village filed a Notice of Intent to Apply (ITA) with the WIDNR for the Safe Water Drinking Water Project. The WIDNR created (2) projects on their Project Priority List, so if the Village moves forward with applying for the loan, there will need to be two separate applications. These applications are due by June 30th and the projects need to be in biddable condition. The engineer estimates approximately \$3,000 to assist the Village Treasurer with the application process (*including the Clean Water Fund loan application*).

The Village will need to decide if they want to apply for the SWDLP or use the existing funds from the borrowing. The interest rate for the 20-year projects on the current borrowing is 4%. The rate for a 20 year SWDLP is 3.90% and the 30 year rate is 4.10%.

Another thing the Village will need to consider if they move forward with the SWDLP, the \$2,800,000 allocated to the water plant modifications would be available for a project(s) that was not included in this borrowing. It would need to be a project scheduled in the next 3-5 years. As we are currently working on implementing the Capital Improvement Plan, this would be the time to identify some projects.

**VILLAGE OF WILLIAMS BAY, WISCONSIN  
WATER PLANT MODIFICATIONS FOR CORROSION CONTROL  
WDNR PROJECT #4938-03 PRV AND SERVICE PUMP MODIFICATIONS  
DESIGN AND CONSTRUCTION ENGINEERING SERVICES  
WORK ORDER**

**ENGINEERS' PROJECT NO. 221778.01 / 221778.61**

**Project Description:**

Provide engineering services for water plant modifications identified in the November 21, 2022 Engineer's Report for the "Water Plant Modifications – Copper Corrosion Action Plan". The Wisconsin Department of Natural Resources (WDNR) has identified this component as Project #4938-03 on the May 12, 2023 Safe Drinking Water Loan Program Project Priority List. See attached Exhibit A.

**Engineering Services:**

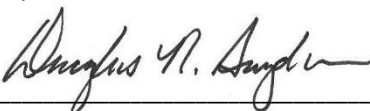
Specific Engineering services are described in the Master Engineering Services Agreement between the Owner and Engineers dated October 16, 2017. A detailed scope of services for this Project is listed in Attachment A of this Work Order.

**Compensation:**

Compensation for the services will be in accordance with the Master Engineering Services Agreement dated October 16, 2017. The Owner shall pay the Engineer for the services performed or furnished under Attachment A, a lump sum amount of **\$75,000** for design and a lump sum amount of **\$32,000** for construction.

Submitted by: **Baxter & Woodman, Inc.**

By:



Douglas R. Snyder, P.E.

Title: Vice President

Date: May 31, 2023

Approved: **Village of Williams Bay, WI**

By:

William B. Duncan

Title: President

Date:

Attest:

Tina Kolls, Clerk

**Additional Comments:** The engineering assistance needed to obtain the WDNR approval of the corrosion control study was paid separately.



## Project Description

Provide engineering services for water plant modifications identified in the November 21, 2022 Engineer's Report for the "Water Plant Modifications – Copper Corrosion Action Plan". The Wisconsin Department of Natural Resources (WDNR) has identified this component as Project #4938-03 on the May 12, 2023 Safe Drinking Water Loan Program Project Priority List. See attached Exhibit A.

The scope of this component includes the remodeling of the service pump room, replacement of the service pumps, installation of a flow controlled pressure reducing valve, installation of process piping and metering, and water main connections to the recent S.T.H. 67 utility improvements. The service pumps will deliver water to the upper pressure zone. The pressure reducing valve will provide water to the lower pressure zone and act as a filter backwash supply.

## Scope of Services – Design

The following scope of services details the anticipated tasks necessary to successfully complete this Project:

1. PROJECT MANAGEMENT – Plan, schedule, and control the activities that must be performed to complete the Project. These activities include, but are not limited to, budget, schedule, and scope. Confer with Owner staff and project team to ensure the goals of the Project are achieved. Attend up to two meetings.
2. SITE VISITS – Conduct site visits by designers to determine remodeling requirements.
3. TOPOGRAPHIC SURVEY – Perform topographic survey to develop base sheets for project plan drawings and confirm dimensions. In addition, obtain data or record indicating locations of underground utilities.
4. PRELIMINARY AND FINAL DESIGN – Prepare Design Documents consisting of drawings showing the general scope, extent, and character of construction work to be furnished and performed by the Contractors selected by the Owner.
5. CIVIL, STRUCTURAL, AND ELECTRICAL DESIGN – Provide a design of the station metering, piping, valves, electric, and control upgrades.
6. WDNR LOAN APPLICATION ASSISTANCE – Provide assistance for the engineering aspects of the Safe Drinking Water Loan Application due at the WDNR on June 30, 2023.

7. AGENCY SUBMITTALS – Submit the Design Documents to the Wisconsin Department of Natural Resources and Public Service Commission of Wisconsin for their review and approval of the Project.
8. BIDDING DOCUMENTS – Prepare for review and approval by the Owner and its legal counsel the forms of Construction Contract Documents consisting of Advertisement for Bids, Bidder Instructions, Bid Form, Agreement, Performance Bond Form, Payment Bond Form, General Conditions, and Supplementary Conditions and specifications, where appropriate, based upon documents prepared by the Engineers Joint Contract Document Committee (EJCDC).
9. QUALITY CONTROL REVIEWS – Conduct peer review and constructability review of the Design Documents.
10. ENGINEERS' OPINION OF PROBABLE COST – Prepare an opinion of the probable construction cost prior to the bid opening.
11. ASSIST BIDDING – Provide documents for bidding and assist the Owner in solicitation of bids from as many qualified bidders as possible, attend the bid opening, evaluate, and tabulate the bids received, and prepare a recommendation letter to the Owner for their action.

#### **Scope of Services – Construction**

The following scope of services details the anticipated tasks necessary to successfully complete this Project:

1. Act as the Owner's representative with duties, responsibilities, and limitations of authority as assigned in the construction contract documents.
2. CONSTRUCTION ADMINISTRATION
  - A. Prepare Award Letter, Agreement, Contract Documents, Performance/Payment Bonds, and Notice to Proceed. Receive Contractor insurance documents.
  - B. Attend and prepare minutes for the preconstruction conference and review the Contractor's proposed construction schedule and list of subcontractors.
  - C. Attend periodic construction progress meetings.
  - D. Shop drawing and submittal review by Engineer shall apply only to the items in the submissions and only for the purpose of assessing, if upon installation or incorporation in the Project, they are generally consistent with the construction documents. Owner agrees that the contractor is solely responsible for the submissions (regardless of the format in which provided, i.e., hard copy or

electronic transmission) and for compliance with the contract documents. Owner further agrees that the Engineer's review and action in relation to these submissions shall not constitute the provision of means, methods, techniques, sequencing or procedures of construction or extend to safety programs or precautions. Engineer's consideration of a component does not constitute acceptance of the assembled item.

- E. Review construction record drawings for completeness prior to submission to CADD.
- F. Prepare construction contract change orders and work directives when authorized by the Owner.
- G. Review the Contractor's requests for payments as construction work progresses and advise the Owner of amounts due and payable to the Contractor in accordance with the terms of the construction contract documents.
- H. Research and prepare written response by Engineer to request for information from the Owner and Contractor.
- I. Project manager or other office staff visit site as needed.

3. FIELD OBSERVATION – Part Time

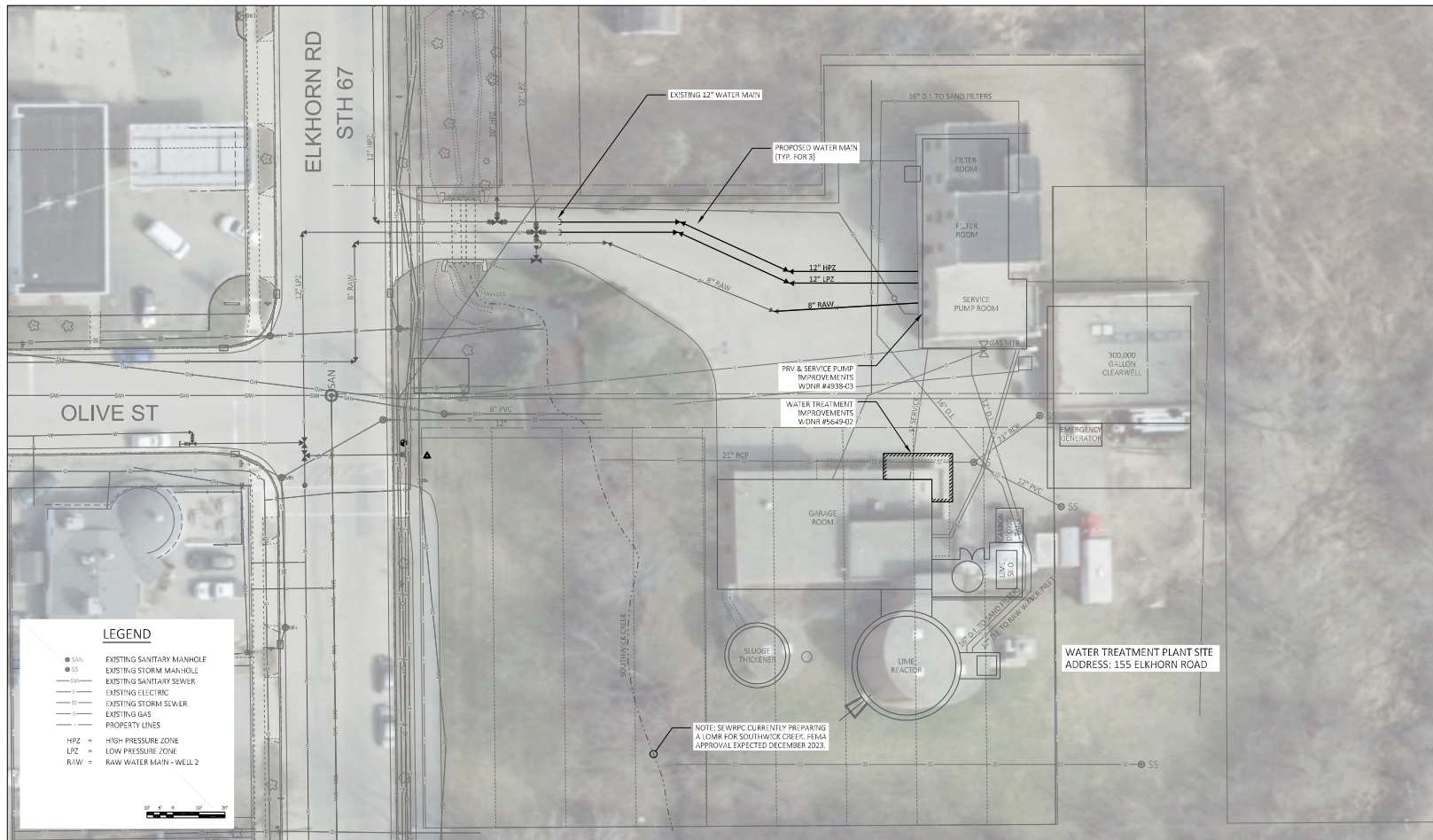
- A. Engineer will provide a Resident Project Representative at the construction site on a periodic part-time basis from the Engineer's office of not more than eight (8) hours per regular weekday, not including legal holidays as deemed necessary by the Engineer, to assist the Contractor with interpretation of the Drawings and Specifications, to observe in general if the Contractor's work is in conformity with the Final Design Documents, and to monitor the Contractor's progress as related to the Construction Contract date of completion.
- B. Through standard, reasonable means, Engineer will become generally familiar with observable completed work. If the Engineer observes completed work that is inconsistent with the construction documents, that information shall be communicated to the contractor and Owner to address. Engineer shall not supervise, direct, control, or have charge or authority over any contractor's work, nor shall the Engineer have authority over or be responsible for the means, methods, techniques, sequences, or procedures of construction selected or used by any contractor, or the safety precautions and programs incident thereto, for security or safety at the site, nor for any failure of any contractor to comply with laws and regulations applicable to such contractor's furnishing and performing of its work. Engineer neither guarantees the performance of any contractor nor assumes responsibility for any contractor's failure to furnish and perform the work in accordance with the contract documents, which contractor is solely responsible for its errors, omissions, and failure to carry out the work. Engineer shall not be responsible for the acts or omissions of any contractor, subcontractor, or supplier, or of any of their agents or

employees or any other person, (except Engineer's own agents, employees, and consultants) at the site or otherwise furnishing or performing any work; or for any decision made regarding the contract documents, or any application, interpretation, or clarification, of the contract documents, other than those made by the Engineer.

- C. Part-Time Field Observation provides that the Resident Project Representative will make intermittent site visits to observe the progress and quality of Contractor's executed Work. Part-Time Field Observation does not guarantee the Engineer will observe or comment on work completed by the contractor at times the Resident Project Representative is not present on site. Such visits and observations by the Resident Project Representative, if any, are not intended to be exhaustive or to extend to every aspect of Contractor's Work in progress or to involve detailed inspections of Contractor's Work in progress beyond the responsibilities specifically assigned to Engineer in this Agreement and the Contract Documents, but rather are to be limited to spot checking, selective sampling, and similar methods of general observation of the Work based on Engineer's exercise of professional judgment as assisted by the Resident Project Representative, if any.
  - D. Provide the necessary base lines, benchmarks, and reference points to enable the Contractor to proceed with the work.
  - E. Keep a daily record of the Contractor's work on those days that the Engineers are at the construction site including notations on the nature and cost of any extra work and provide weekly reports to the Owner of the construction progress and working days charged against the Contractor's time for completion.
4. SUBSTANTIAL COMPLETION OF PROJECT
- A. Provide construction inspection services when notified by the Contractor that the Project is substantially complete. Prepare written punch lists during substantial completion inspections.
  - B. Prepare Certificate of Substantial Completion.
5. COMPLETION OF PROJECT
- A. Provide construction inspection services when notified by the Contractor that the Project is complete. Prepare written punch lists during final completion inspections.
  - B. Review the Contractor's written guarantees and issue a Notice of Acceptability for the Project by the Owner.
  - C. Review the Contractor's requests for final payment and advise the Owner of the amounts due and payable to the Contractor in accordance with the terms of the construction contract documents.

- D. Prepare construction record drawings which show field measured dimensions of the completed work which the Engineers consider significant and provide the Owner with an electronic copy within ninety (90) days of the Project completion.

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NOTE: AERIAL IMAGE IS SHIFTED.

**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-31-23**

**A RESOLUTION AUTHORIZING BAXTER & WOODMAN WATER PLANT WORK ORDER  
(COPPER CORROSION CONTROL – SERVICE PUMP MODIFICATIONS)**

**WHEREAS**, Village Engineer Baxter & Woodman provided the attached Work Order 221778.01/221778.61 for Design and Construction Engineering Services for WDNR Project #4938-03 Service Pump Modifications (“Work Order”); and

**WHEREAS**, Work Order scope includes the remodeling of the service pump room, replacement of the service pumps, installation of a flow-controlled pressure reducing valve, installation of process piping and metering, and water main connections to the recent S.T.H. 67 utility improvements. The service pumps will deliver water to the upper pressure zone. The pressure reducing valve will provide water to the lower pressure zone and act as a filter backwash supply; and

**WHEREAS**, Work Order Compensation for the services the Village shall pay the Engineer for the services performed or furnished a lump sum amount of \$75,000 for design and a lump sum amount of \$32,000 for construction; and

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Water & Sewer and Finance & Personnel Committees determined that it is in the best interests of the Village to **[not] [authorize]** Work Order; and

**WHEREAS**, on June 19, 2023, the Village of Williams Village Board, as recommended by the Water & Sewer and Finance & Personnel Committees, have determined that it is in the best interests of the Village and its residents to **[not] [authorize]** the Work Order.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended proposal and authorizes an agreement, therefore.

Approved by the Village Board of the Village of Williams Bay this 19<sup>th</sup> day of June 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk

**VILLAGE OF WILLIAMS BAY, WISCONSIN  
WATER PLANT MODIFICATIONS FOR CORROSION CONTROL  
WDNR PROJECT #5649-02 – CHLORINATION MODIFICATIONS  
DESIGN AND CONSTRUCTION ENGINEERING SERVICES  
WORK ORDER**

**ENGINEERS' PROJECT NO. 221778.00 / 221778.60**

**Project Description:**

Provide engineering services for water plant modifications identified in the November 21, 2022 Engineer's Report for the "Water Plant Modifications – Copper Corrosion Action Plan". The Wisconsin Department of Natural Resources (WDNR) has identified this component as Project #5649-02 on the May 12, 2023 Safe Drinking Water Loan Program Project Priority. See attached Exhibit A.

**Engineering Services:**

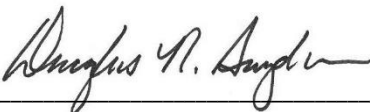
Specific Engineering services are described in the Master Engineering Services Agreement between the Owner and Engineers dated October 16, 2017. A detailed scope of services for this Project is listed in Attachment A of this Work Order.

**Compensation:**

Compensation for the services will be in accordance with the Master Engineering Services Agreement dated October 16, 2017. The Owner shall pay the Engineer for the services performed or furnished under Attachment A, a lump sum amount of **\$65,000** for design and a lump sum amount of **\$33,000** for construction.

Submitted by: **Baxter & Woodman, Inc.**

By:



Douglas R. Snyder, P.E.

Title: Vice President

Date: May 31, 2023

Approved: **Village of Williams Bay, WI**

By:

William B. Duncan

Title: President

Date:

Attest:

Tina Kolls, Clerk

**Additional Comments:** The engineering assistance needed to obtain the WDNR approval of the corrosion control study was paid separately.



## Project Description

Provide engineering services for water plant modifications identified in the November 21, 2022 Engineer's Report for the "Water Plant Modifications – Copper Corrosion Action Plan". The Wisconsin Department of Natural Resources (WDNR) has identified this component as Project #5649-02 on the May 12, 2023 Safe Drinking Water Loan Program Project Priority. See attached Exhibit A.

The scope of this component includes an addition to the south building at 155 Elkhorn Road to store and inject liquid chlorine before and after the gravity filters and includes chemical pumps, chlorine analyzers, structural components, and controls.

## Scope of Services - Design

The following scope of services details the anticipated tasks necessary to successfully complete this Project:

1. PROJECT MANAGEMENT - Plan, schedule, and control the activities that must be performed to complete the Project. These activities include, but are not limited to, budget, schedule, and scope. Confer with Owner staff and project team to ensure the goals of the Project are achieved. Attend up to two meetings.
2. SITE VISITS - Conduct site visits by designers to determine remodeling requirements.
3. TOPOGRAPHIC SURVEY – Perform topographic survey to develop base sheets for project plan drawings and confirm dimensions. In addition, obtain data or record indicating locations of underground utilities.
4. PRELIMINARY AND FINAL DESIGN – Prepare Design Documents consisting of drawings showing the general scope, extent, and character of construction work to be furnished and performed by the Contractors selected by the Owner.
5. CIVIL, STRUCTURAL, AND ELECTRICAL DESIGN - Provide a design of the station metering, piping, valves, electric, and control upgrades.
6. WDNR LOAN APPLICATION ASSISTANCE – Provide assistance for the engineering aspects of the Safe Drinking Water Loan Application due at the WDNR by June 30, 2023.
7. AGENCY SUBMITTALS - Submit the Design Documents to the Wisconsin Department of Natural Resources and Public Service Commission of Wisconsin for their review and approval of the Project.

8. BIDDING DOCUMENTS - Prepare for review and approval by the Owner and its legal counsel the forms of Construction Contract Documents consisting of Advertisement for Bids, Bidder Instructions, Bid Form, Agreement, Performance Bond Form, Payment Bond Form, General Conditions, and Supplementary Conditions and specifications, where appropriate, based upon documents prepared by the Engineers Joint Contract Document Committee (EJCDC).
9. QUALITY CONTROL REVIEWS - Conduct peer review and constructability review of the Design Documents.
10. ENGINEERS' OPINION OF PROBABLE COST - Prepare an opinion of the probable construction cost prior to the bid opening.
11. ASSIST BIDDING - Provide documents for bidding and assist the Owner in solicitation of bids from as many qualified bidders as possible, attend the bid opening, evaluate, and tabulate the bids received, and prepare a recommendation letter to the Owner for their action.

#### **Scope of Services - Construction**

The following scope of services details the anticipated tasks necessary to successfully complete this Project:

1. Act as the Owner's representative with duties, responsibilities, and limitations of authority as assigned in the construction contract documents.
2. CONSTRUCTION ADMINISTRATION
  - A. Prepare Award Letter, Agreement, Contract Documents, Performance/Payment Bonds, and Notice to Proceed. Receive Contractor insurance documents.
  - B. Attend and prepare minutes for the preconstruction conference and review the Contractor's proposed construction schedule and list of subcontractors.
  - C. Attend periodic construction progress meetings.
  - D. Shop drawing and submittal review by Engineer shall apply only to the items in the submissions and only for the purpose of assessing, if upon installation or incorporation in the Project, they are generally consistent with the construction documents. Owner agrees that the contractor is solely responsible for the submissions (regardless of the format in which provided, i.e., hard copy or electronic transmission) and for compliance with the contract documents. Owner further agrees that the Engineer's review and action in relation to these submissions shall not constitute the provision of means, methods, techniques, sequencing or procedures of construction or extend to

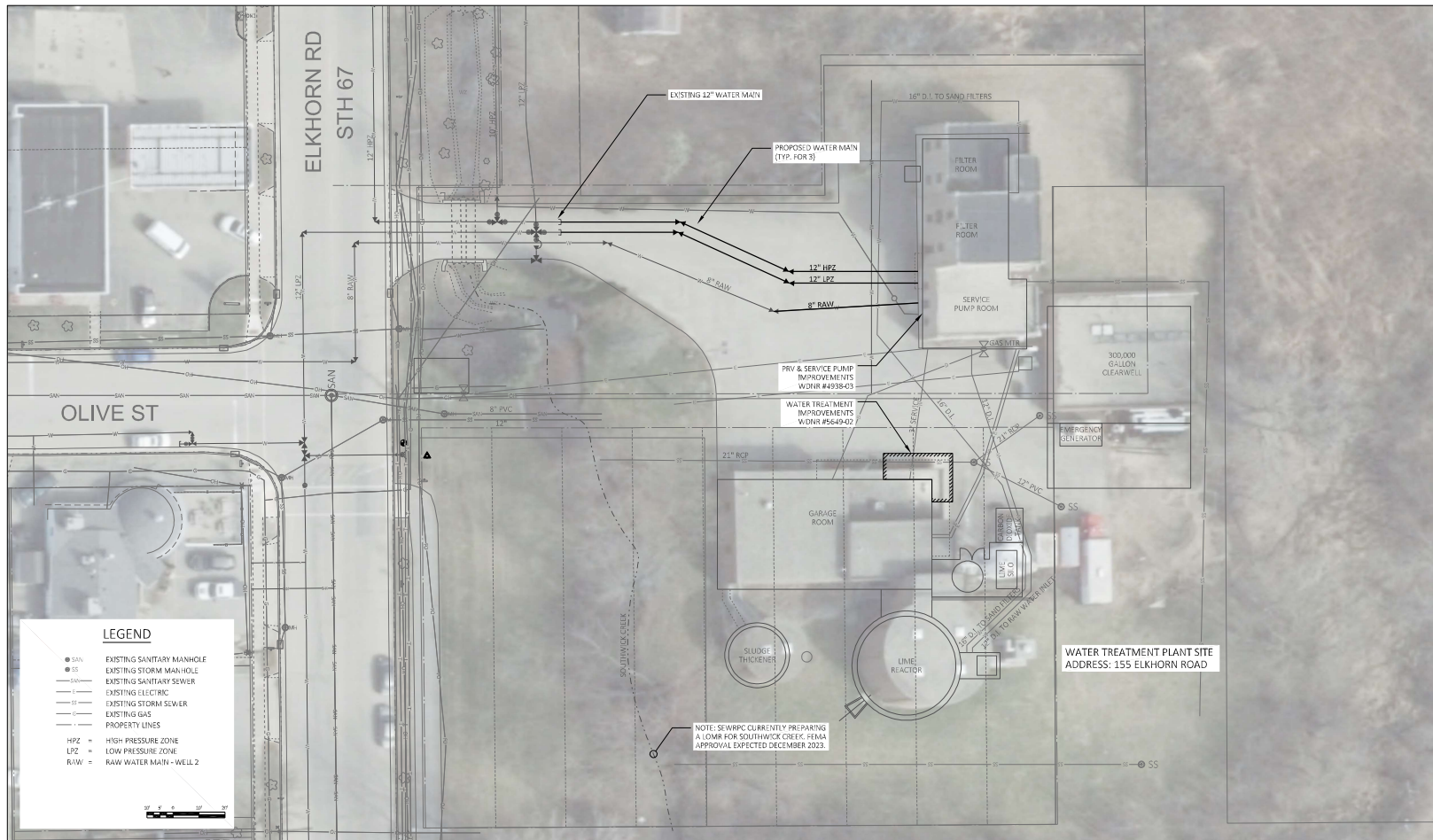
safety programs of precautions. Engineer's consideration of a component does not constitute acceptance of the assembled item.

- E. Review construction record drawings for completeness prior to submission to CADD.
- F. Prepare construction contract change orders and work directives when authorized by the Owner.
- G. Review the Contractor's requests for payments as construction work progresses and advise the Owner of amounts due and payable to the Contractor in accordance with the terms of the construction contract documents.
- H. Research and prepare written response by Engineer to request for information from the Owner and Contractor.
- I. Project manager or other office staff visit site as needed.

3. FIELD OBSERVATION – Part Time

- A. Engineer will provide a Resident Project Representative at the construction site on a periodic part-time basis from the Engineer's office of not more than eight (8) hours per regular weekday, not including legal holidays as deemed necessary by the Engineer, to assist the Contractor with interpretation of the Drawings and Specifications, to observe in general if the Contractor's work is in conformity with the Final Design Documents, and to monitor the Contractor's progress as related to the Construction Contract date of completion.
- B. Through standard, reasonable means, Engineer will become generally familiar with observable completed work. If the Engineer observes completed work that is inconsistent with the construction documents, that information shall be communicated to the contractor and Owner to address. Engineer shall not supervise, direct, control, or have charge or authority over any contractor's work, nor shall the Engineer have authority over or be responsible for the means, methods, techniques, sequences, or procedures of construction selected or used by any contractor, or the safety precautions and programs incident thereto, for security or safety at the site, nor for any failure of any contractor to comply with laws and regulations applicable to such contractor's furnishing and performing of its work. Engineer neither guarantees the performance of any contractor nor assumes responsibility for any contractor's failure to furnish and perform the work in accordance with the contract documents, which contractor is solely responsible for its errors, omissions, and failure to carry out the work. Engineer shall not be responsible for the acts or omissions of any contractor, subcontractor, or supplier, or of any of their agents or employees or any other person, (except Engineer's own agents, employees, and consultants) at the site or otherwise furnishing or performing any work; or for any decision made regarding the contract documents, or any application, interpretation, or clarification, of the contract documents, other than those made by the Engineer.

- C. Part-Time Field Observation provides that the Resident Project Representative will make intermittent site visits to observe the progress and quality of Contractor's executed Work. Part-Time Field Observation does not guarantee the Engineer will observe or comment on work completed by the contractor at times the Resident Project Representative is not present on site. Such visits and observations by the Resident Project Representative, if any, are not intended to be exhaustive or to extend to every aspect of Contractor's Work in progress or to involve detailed inspections of Contractor's Work in progress beyond the responsibilities specifically assigned to Engineer in this Agreement and the Contract Documents, but rather are to be limited to spot checking, selective sampling, and similar methods of general observation of the Work based on Engineer's exercise of professional judgment as assisted by the Resident Project Representative, if any.
  - D. Provide the necessary base lines, benchmarks, and reference points to enable the Contractor to proceed with the work.
  - E. Keep a daily record of the Contractor's work on those days that the Engineers are at the construction site including notations on the nature and cost of any extra work and provide weekly reports to the Owner of the construction progress and working days charged against the Contractor's time for completion.
4. SUBSTANTIAL COMPLETION OF PROJECT
- A. Provide construction inspection services when notified by the Contractor that the Project is substantially complete. Prepare written punch lists during substantial completion inspections.
  - B. Prepare Certificate of Substantial Completion.
5. COMPLETION OF PROJECT
- A. Provide construction inspection services when notified by the Contractor that the Project is complete. Prepare written punch lists during final completion inspections.
  - B. Review the Contractor's written guarantees and issue a Notice of Acceptability for the Project by the Owner.
  - C. Review the Contractor's requests for final payment and advise the Owner of the amounts due and payable to the Contractor in accordance with the terms of the construction contract documents.
  - D. Prepare construction record drawings which show field measured dimensions of the completed work which the Engineers consider significant and provide the Owner with an electronic copy within ninety (90) days of the Project completion.



NOTE: AERIAL IMAGE IS SHIFTED.

**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-30-23**

**A RESOLUTION AUTHORIZING BAXTER & WOODMAN WATER PLANT WORK ORDER  
(COPPER CORROSION CONTROL – CHLORINE MODIFICATIONS)**

**WHEREAS**, Village Engineer Baxter & Woodman provided the attached Work Order 221778.00/221778.60 for Design and Construction Engineering Services for WDNR Project #5649-02 and Chlorine Modifications (“Work Order”); and

**WHEREAS**, Work Order scope includes an addition to the south building at 155 Elkhorn Road to store and inject liquid chlorine before and after the gravity filters and includes chemical pumps, chlorine analyzers, structural components, and controls.; and

**WHEREAS**, Work Order Compensation for the services the Village shall pay the Engineer for the services performed or furnished a lump sum amount of \$65,000 for design and a lump sum amount of \$33,000 for construction.

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Water & Sewer and Finance & Personnel Committees determined that it is in the best interests of the Village to **[not] [authorize]** Work Order; and

**WHEREAS**, on June 19, 2023, the Village of Williams Village Board, as recommended by the Water & Sewer and Finance & Personnel Committees, have determined that it is in the best interests of the Village and its residents to **[not] [authorize]** the Work Order.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended proposal and authorizes an agreement, therefore.

Approved by the Village Board of the Village of Williams Bay this 19<sup>th</sup> day of June 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk



# Environmental Loans Deadlines and Due Dates During SFYs 2023-2024

| Safe Drinking Water Loan Program (SDWLP) |          | Clean Water Fund Program (CWFP)                                                                                                                                                                  |
|------------------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2022                                     | July 1   | Start of State Fiscal Year 2023 (SFY 23)                                                                                                                                                         |
|                                          | July 30  | SFY 23 priority score reevaluation requests due                                                                                                                                                  |
|                                          | July 31  | ALL required documentation due for SFY 22 projects                                                                                                                                               |
|                                          | Sept. 28 | SFY 22 final loan closing date                                                                                                                                                                   |
|                                          | Sept. 30 | Last recommended date for submitting rate applications to PSC for SFY 23 projects                                                                                                                |
|                                          | Oct. 31  | SFY 24 notice of Intent to Apply (ITA) deadline                                                                                                                                                  |
|                                          | Autumn   | SFY 23 Funding List published                                                                                                                                                                    |
| 2023                                     | Spring   | SFY 24 Project Priority List (PPL) published                                                                                                                                                     |
|                                          | April 30 | Last recommended date for opening bids on SFY 23 projects                                                                                                                                        |
|                                          | May 31   | Executed construction contracts due for SFY 23 projects                                                                                                                                          |
|                                          | June 15  | PSC-approved rate order due for SFY 23 projects                                                                                                                                                  |
|                                          | June 30  | SFY 24 Application deadline, whether competing for Principal Forgiveness (PF) or not <ul style="list-style-type: none"> <li>• Priority score reevaluation requests due within 30 days</li> </ul> |
|                                          | July 1   | Start of State Fiscal Year 2024 (SFY 24)                                                                                                                                                         |
|                                          | July 31  | ALL required documentation due for SFY 23 projects                                                                                                                                               |
|                                          | Sept. 27 | SFY 23 final loan closing date                                                                                                                                                                   |
|                                          | Sept. 30 | Last recommended date for submitting rate applications to PSC for SFY 24 projects                                                                                                                |
|                                          | Oct. 31  | SFY 25 notice of Intent to Apply (ITA) deadline                                                                                                                                                  |
| 2024                                     | Autumn   | SFY 24 Funding List published                                                                                                                                                                    |
|                                          | Spring   | SFY 25 Project Priority List (PPL) published                                                                                                                                                     |
|                                          | April 30 | Last recommended date for opening bids on SFY 24 projects                                                                                                                                        |
|                                          | May 31   | Executed construction contracts due for SFY 24 projects                                                                                                                                          |
|                                          | June 15  | PSC-approved rate order due for SFY 24 projects                                                                                                                                                  |
|                                          | June 30  | SFY 25 Application deadline, whether competing for Principal Forgiveness (PF) or not <ul style="list-style-type: none"> <li>• Priority score reevaluation requests due within 30 days</li> </ul> |
|                                          | July 1   | Start of State Fiscal Year 2025 (SFY 25)                                                                                                                                                         |

Note: When a deadline falls on a weekend, that deadline, by statute, is extended to Monday.

The SDWLP application and loan closing deadlines are set in the corresponding state fiscal year Intended Use Plan (IUP). Submit plans and specifications to DNR Drinking Water and Groundwater as well as with the SDWLP application.

CWFP applications are accepted year-round for projects *not* seeking Principal Forgiveness (PF). Submit plans and specifications to DNR Water Quality as well as with the CWFP application. For both PF and non-PF CWFP projects, the loan must close within eight months following the date of the application acceptance notification.





# INTEREST RATES

The Clean Water Fund Program (CWFP) and Safe Drinking Water Loan Program (SDWLP) provide subsidy to bring interest rates on loans down from the market rate established by the Wisconsin Department of Administration (DOA) to the reduced interest rates described in the table shown below. The fixed interest rate applied to the loan is based on the market rate in effect on the day the municipal governing body signs the financial assistance agreement (FAA).

## INTEREST RATE DETERMINATION

| PROJECT TYPE                                                                                                                                                                                                                                                          | % of MARKET RATE | ≤ 20 YR TERM | 21-30 YR TERM |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|---------------|
| <b>CWFP and SDWLP</b><br>For eligible projects of municipalities not meeting the financial need criteria.                                                                                                                                                             | 55%              | 2.145%       | 2.255%        |
| <b>CWFP and SDWLP</b><br>For eligible projects of disadvantaged municipalities meeting the following financial need criteria: <ul style="list-style-type: none"><li>&lt; 10,000 population; and</li><li>≤ 80% of Wisconsin's Median Household Income (MHI).</li></ul> | 33%              | 1.287%       | 1.353%        |
| <b>CWFP</b><br>For eligible projects of extremely disadvantaged municipalities meeting the following financial need criteria: <ul style="list-style-type: none"><li>&lt; 1,000 population; and</li><li>≤ 65% of Wisconsin's MHI.</li></ul>                            | 0%               | 0%           | 0%            |
| <b>CWFP</b><br>For the portion of eligible projects for receiving and storing septage and capacity for treating septage, and non-traditional pilot projects, e.g., water quality trading.                                                                             | 0%               | 0%           | 0%            |
| <b>MARKET RATE</b> (effective 04/01/2023)                                                                                                                                                                                                                             | 100%             | 3.900%       | 4.100%        |

This table shows determination of the loan interest rate by project type, based on the current market rate.

Effective April 1, 2023, the market rate for loans of 20 years or less will remain at 3.90% and the market rate for loans longer than 20 years and of up to 30 years will remain at 4.10%.

## MARKET RATE

On a quarterly basis, DOA assesses the market rates on which the program subsidies are based. The market rate for loans with terms longer than 20 years will be slightly higher than the market rate for 20-year loans. Note that DOA reserves the right to make an increase, if needed, to market rates at any time



**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-28-23**

**A RESOLUTION AUTHORIZING APPLICATIONS FOR SAFE DRINKING WATER LOAN PROGRAM  
(WATER PLANT COPPER CORROSION CONTROL)**

**WHEREAS**, on October 17, 2022, as recommended by the Water & Sewer Committee, the Village of Williams Bay Village Board authorized Village Engineer Baxter & Woodman ("Village Engineer") to file the Intent To Apply with the Wisconsin Department of Natural Resources ("WDNR") for Safe Drinking Water Loan Program ("SDWLP") to fund Copper Corrosion Control Water Plant Modifications to the Village of Williams Bay Water Plant which includes: (1) Service Pump Modifications Design & Construction and (2) Chlorination Modifications Design & Construction ("Copper Corrosion Action Plan"); and

**WHEREAS**, on May 12, 2023, the WDNR identified these components as Projects #4938-03 and #5649-02 respectively on the Safe Drinking Water Loan Program Project Priority List; and

**WHEREAS**, the SDWLP provides subsidy to bring interest rates on loans down from the market rate established by the Wisconsin Department of Administration (DOA) to the reduced fixed interest rates based on the market rate in effect on the day the Village Board signs the Financial Assistance Agreement (FAA); and

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Water & Sewer and Finance & Personnel Committees determined that it is in the best interests of the Village to **[not] [authorize]** the Village Engineer to assist the Village Treasurer to enter and submit applications for SDWLP for the Copper Corrosion Control Action Plan; and

**WHEREAS**, on June 19, 2023, the Village of Williams Village Board, as recommended by the Water & Sewer and Finance & Personnel Committees, have determined that it is in the best interests of the Village and its residents to **[not] [authorize]** the applications.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended proposal and authorizes an agreement, therefore.

Approved by the Village Board of the Village of Williams Bay this 19<sup>th</sup> day of June 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk

**VILLAGE OF WILLIAMS BAY, WISCONSIN  
WATER PLANT LOMR ASSISTANCE TO  
SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION  
ENGINEERING SERVICES  
WORK ORDER**

**ENGINEERS' PROJECT NO. 2325347.00**

**Project Description:**

The Owner is entering into a contract with the Southeastern Wisconsin Regional Planning Commission (SEWRPC) based on a letter to the Owner dated May 9, 2023. The SEWRPC scope of work describes responsibilities of the Owner. The Engineer is completing the responsibilities listed for the Owner.

**Engineering Services:**

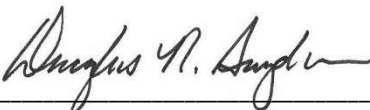
Specific Engineering services are described in the Master Engineering Services Agreement between the Owner and Engineers dated October 16, 2017. A detailed scope of services for this Project is listed in Attachment A of this Work Order.

**Compensation:**

Compensation for the services will be in accordance with the Master Engineering Services Agreement dated October 16, 2017. The Owner shall pay the Engineer for the services performed or furnished under Attachment A, based upon the Engineer's standard hourly billing rates actual work time performed plus reimbursement of out-of-pocket expenses including travel, which in total will not exceed **\$8,000**.

Submitted by: **Baxter & Woodman, Inc.**

By: \_\_\_\_\_



Douglas R. Snyder, P.E.

Title: Vice President

Date: May 12, 2023

Approved: **Village of Williams Bay, WI**

By: \_\_\_\_\_

William B. Duncan

Title: President

Date: \_\_\_\_\_

Attest: \_\_\_\_\_

Tina Kolls, Clerk

**Additional Comments:** None.

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## Project Description

The Owner is entering into a contract with the Southeastern Wisconsin Regional Planning Commission (SEWRPC) based on a letter to the Owner dated May 9, 2023. The SEWRPC scope of work describes responsibilities of the Owner. The Engineer is completing the responsibilities listed for the Owner.

## Scope of Services

The following scope of services details the anticipated tasks necessary to successfully complete this Project:

1. PROJECT MANAGEMENT - Plan, schedule, and control the activities that must be performed to complete the Project. These activities include, but are not limited to, budget, schedule, and scope. Confer with Owner staff and project team to ensure the goals of the Project are achieved.
2. SITE VISITS AND DATA COLLECTION – Provide survey or plan set data for the nine (9) hydraulic structures along Southwick Creek listed below. Data needed includes upstream and downstream invert elevations at the structure and culvert or bridge opening dimensions (i.e. diameter, width, depth, low chord elevation). Also provide the vertical datum information (NGVD29 or NAVD88) for survey data.
  - A. Mouth of the Creek; provide a cross section at the mouth or at the nearby pedestrian bridge following dredging.
  - B. Two pedestrian bridges.
  - C. Three driveway crossings.
  - D. Two long pipe enclosures.
  - E. STH 67.
3. Assist SEWRPC in submitting the Federal Emergency Management Agency (FEMA) Letter of Map Revision (LOMR). The Owner will pay the application fee.

P:\WLMSP\2325347-Water Plant LOMR\Contracts\Work Order 2325347.00.docx

**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-33-23**

**A RESOLUTION AUTHORIZING PROPOSAL FOR ENGINEERING SUPPORT OF  
WATERPLANT FLOOD MAPPING - BAXTER & WOODMAN WORK ORDER**

**WHEREAS**, the Village of Williams Bay contracts with Baxter and Woodman, Inc. (Baxter) as Village Engineer for the Village; and

**WHEREAS**, the Village of Williams Bay water plant is currently shown as being located with the Southwick Creek floodway/floodplain which negatively impacts the Village's water plant; and

**WHEREAS**, on May 15, 2023, the Village Board approved Resolution R-14-23 authorizing the letter agreement with the Southeastern Wisconsin Regional Planning Commission (SEWRPC) at a cost not to exceed \$42,000, funded by water/sewer borrowed funds; and

**WHEREAS**, Baxter provided the attached May 12, 2023, Work Order 2325347.00 (WO) for Water Plant LOMR Assistance to provide the following scope of services; including: project management, site visits and data collection and assist SEWRPC in submitting the FEMA LOMR). The Village agrees to pay Baxter not to exceed \$8,000 funded by water borrowed funds that were previously allocated for Southwick Creek realignment; and

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Water & Sewer and Finance & Personnel Committees determined that it is in the best interests of the Village to **[not] [authorize]** Work Order; and

**WHEREAS**, on June 19, 2023, the Village of Williams Village Board, as recommended by the Water & Sewer and Finance & Personnel Committees, have determined that it is in the best interests of the Village and its residents to **[not] [authorize]** the Work Order.

**WHEREAS**, the Village Board of the Village of Williams Bay, being fully advised in the premises, have determined that it is in the best interests of the Village and its residents to approve the recommended proposal.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended proposal and authorizes an agreement, therefore.

Approved by the Village Board of the Village of Williams Bay this 19<sup>th</sup> day of June 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk



## MEMORANDUM

**DATE:** JUNE 5, 2023  
**TO:** FINANCE & PERSONNEL COMMITTEE  
**FROM:** LORI PETERNELL, VILLAGE TREASURER  
**RE:** LIFT STATION #3 (HARRIS ROAD) REPLACEMENT  
- FINAL DESIGN OPTION  
- CLEAN WATER FUND PROJECT LOAN APPLICATION

In October 2022, the Village filed a Notice of Intent to Apply (ITA) with the WIDNR for the Clean Water Fund Project (CWFP). The application is due by June 30th and the project needs to be in biddable condition. The engineer estimates approximately \$3,000 to assist the Village Treasurer with the application process (*including the Safe Water Drinking Fund loan applications*).

The Village will need to decide if they want to apply for the CWFP or use the existing funds from the borrowing. The interest rate for the 20-year projects on the current borrowing is 4%. The rate for a 20 year CWFP is 3.90% and the 30 year rate is 4.10%.

Another thing the Village will need to consider if they move forward with the CWFP, the \$1,600,000 allocated to the lift station 3 remodeling would be available for a project(s) that was not included in this borrowing. It would need to be a project scheduled in the next 3-5 years.

As we are currently working on implementing the Capital Improvement Plan, this would be the time to identify some projects.

# Environmental Loans Deadlines and Due Dates During SFYs 2023-2024

| Safe Drinking Water Loan Program (SDWLP) |          | Clean Water Fund Program (CWFP)                                                      |
|------------------------------------------|----------|--------------------------------------------------------------------------------------|
| 2022                                     | July 1   | Start of State Fiscal Year 2023 (SFY 23)                                             |
|                                          | July 30  | SFY 23 priority score reevaluation requests due                                      |
|                                          | July 31  | ALL required documentation due for SFY 22 projects                                   |
|                                          | Sep. 28  | SFY 22 final loan closing date                                                       |
|                                          | Sep. 30  | Last recommended date for submitting rate applications to PSC for SFY 23 projects    |
|                                          | Oct. 31  | SFY 24 notice of Intent to Apply (ITA) deadline                                      |
|                                          | Autumn   | SFY 23 Funding List published                                                        |
| 2023                                     | Spring   | SFY 24 Project Priority List (PPL) published                                         |
|                                          | April 30 | Last recommended date for opening bids on SFY 23 projects                            |
|                                          | May 31   | Executed construction contracts due for SFY 23 projects                              |
|                                          | June 15  | PSC-approved rate order due for SFY 23 projects                                      |
|                                          | June 30  | SFY 24 Application deadline, whether competing for Principal Forgiveness (PF) or not |
|                                          |          | • Priority score reevaluation requests due within 30 days                            |
|                                          | July 1   | Start of State Fiscal Year 2024 (SFY 24)                                             |
|                                          | July 31  | ALL required documentation due for SFY 23 projects                                   |
|                                          | Sep. 27  | SFY 23 final loan closing date                                                       |
|                                          | Sep. 30  | Last recommended date for submitting rate applications to PSC for SFY 24 projects    |
| 2024                                     | Oct. 31  | SFY 25 notice of Intent to Apply (ITA) deadline                                      |
|                                          | Autumn   | SFY 24 Funding List published                                                        |
|                                          | Spring   | SFY 25 Project Priority List (PPL) published                                         |
|                                          | April 30 | Last recommended date for opening bids on SFY 24 projects                            |
|                                          | May 31   | Executed construction contracts due for SFY 24 projects                              |
|                                          | June 15  | PSC-approved rate order due for SFY 24 projects                                      |
|                                          | June 30  | SFY 25 Application deadline, whether competing for Principal Forgiveness (PF) or not |
|                                          |          | • Priority score reevaluation requests due within 30 days                            |
|                                          | July 1   | Start of State Fiscal Year 2025 (SFY 25)                                             |

Note: When a deadline falls on a weekend, that deadline, by statute, is extended to Monday.

The SDWLP application and loan closing deadlines are set in the corresponding state fiscal year Intended Use Plan (IUP). Submit plans and specifications to DNR Drinking Water and Groundwater as well as with the SDWLP application.

CWFP applications are accepted year-round for projects *not* seeking Principal Forgiveness (PF). Submit plans and specifications to DNR Water Quality as well as with the CWFP application. For both PF and non-PF CWFP projects, the loan must close within eight months following the date of the application acceptance notification.





# INTEREST RATES

The Clean Water Fund Program (CWFP) and Safe Drinking Water Loan Program (SDWLP) provide subsidy to bring interest rates on loans down from the market rate established by the Wisconsin Department of Administration (DOA) to the reduced interest rates described in the table shown below. The fixed interest rate applied to the loan is based on the market rate in effect on the day the municipal governing body signs the financial assistance agreement (FAA).

## INTEREST RATE DETERMINATION

| PROJECT TYPE                                                                                                                                                                                                                                                          | % of MARKET RATE | ≤ 20 YR TERM | 21-30 YR TERM |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|---------------|
| <b>CWFP and SDWLP</b><br>For eligible projects of municipalities not meeting the financial need criteria.                                                                                                                                                             | 55%              | 2.145%       | 2.255%        |
| <b>CWFP and SDWLP</b><br>For eligible projects of disadvantaged municipalities meeting the following financial need criteria: <ul style="list-style-type: none"><li>&lt; 10,000 population; and</li><li>≤ 80% of Wisconsin's Median Household Income (MHI).</li></ul> | 33%              | 1.287%       | 1.353%        |
| <b>CWFP</b><br>For eligible projects of extremely disadvantaged municipalities meeting the following financial need criteria: <ul style="list-style-type: none"><li>&lt; 1,000 population; and</li><li>≤ 65% of Wisconsin's MHI.</li></ul>                            | 0%               | 0%           | 0%            |
| <b>CWFP</b><br>For the portion of eligible projects for receiving and storing septage and capacity for treating septage, and non-traditional pilot projects, e.g., water quality trading.                                                                             | 0%               | 0%           | 0%            |
| <b>MARKET RATE</b> (effective 04/01/2023)                                                                                                                                                                                                                             | 100%             | 3.900%       | 4.100%        |

This table shows determination of the loan interest rate by project type, based on the current market rate.

Effective April 1, 2023, the market rate for loans of 20 years or less will remain at 3.90% and the market rate for loans longer than 20 years and of up to 30 years will remain at 4.10%.

## MARKET RATE

On a quarterly basis, DOA assesses the market rates on which the program subsidies are based. The market rate for loans with terms longer than 20 years will be slightly higher than the market rate for 20-year loans. Note that DOA reserves the right to make an increase, if needed, to market rates at any time



**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-29-23**

**A RESOLUTION AUTHORIZING APPLICATION FOR CLEAN WATER FUND PROGRAM  
(LIFT STATION 3 REMODEL)**

**WHEREAS**, on October 17, 2022, as recommended by the Water & Sewer Committee, the Village of Williams Bay Village Board authorized Village Engineer Baxter & Woodman ("Village Engineer") to file the Intent To Apply (ITA) with the Wisconsin Department of Natural Resources ("WDNR") for Clean Water Fund Program ("CWFP") to fund remodeling to the Village of Williams Bay Lift Station 3 which includes: wet wells, pumps, controls, stand-by generator, automatic transfer switch, and site improvements; and

**WHEREAS**, on May 12, 2023, the WDNR identified these components as Project #5643-01 on the Clean Water Fund Program Project Priority List; and

**WHEREAS**, the CWFP provides subsidy to bring interest rates on loans down from the market rate established by the Wisconsin Department of Administration (DOA) to the reduced fixed interest rates based on the market rate in effect on the day the Village Board signs the Financial Assistance Agreement (FAA); and

**WHEREAS**, on June 5, 2023, the Village of Williams Bay Water & Sewer and Finance & Personnel Committees determined that it is in the best interests of the Village to **[not] [authorize]** the Village Engineer to assist the Village Treasurer to enter and submit application for CWFP for the Lift Station 3 Remodel; and

**WHEREAS**, on June 19, 2023, the Village of Williams Village Board, as recommended by the Water & Sewer and Finance & Personnel Committees, have determined that it is in the best interests of the Village and its residents to **[not] [authorize]** the application.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended proposal and authorizes an agreement, therefore.

Approved by the Village Board of the Village of Williams Bay this 19<sup>th</sup> day of June 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk

May 12, 2023

David Lothspeich, Administrator  
Village of Williams Bay  
250 Williams Street  
Williams Bay, WI 53191

***Subject: Project Approach - Tennis and Basketball at Theatre Road Park***

Dear Mr. Lothspeich,

This letter details a possible approach for the tennis and basketball courts at the Theatre Road Park. The intended approach is as follows:

- Supplement the existing bid documents that were prepared by staff with site plans that include provisions for drainage, light poles, pavement joints, and pavement underdrain system. Also include performance standards for the lighting that allow for alternate manufacturers and include the Village standard agreement and general conditions for the construction contract and the available geotechnical explorations showing the topsoil and 60 inches of underlying soft clay at the site.
- Prepare a bid form that allows for two separate contracts: A sitework contract and an electrical contract. In addition, an alternate bid on the electrical contract would allow the Village to delete the luminaires, poles, conductors, and lighting controls if the project cost is higher than desired.
- Obtain bids by June 22, 2023, for action at the July 3, 2023, committee meeting.
- The courts could be operational, with or without the lights--depending on bid price and project budget, as early as October 1, 2023.

The Village obtained the enclosed bids for the tennis and basketball courts at Theatre Road Park in December of 2022. We first became involved with this project (same time as David Bretl – Interim Administrator) when we were asked at the February 2023 Park and Recreation Committee meeting if we recommend approval of the low bid from Scherrer Construction Company (Scherrer). At that point in time, we had not seen the bid package or the bid results. The Interim Administrator provided the attached (less the attachments) summary of project activities in the enclosed February 21, 2023, memo. Since then, we contacted Scherrer and confirmed that Scherrer is aware that their bid expired and that they are not willing to sign the Village's standard agreement with general conditions for the construction contract. It is our understanding that the project was never awarded to Scherrer.

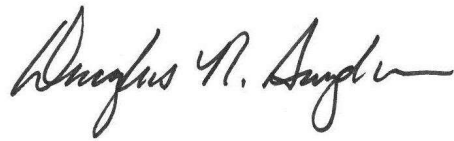
Enclosed are the site plans we intend to use to obtain bids. Please note that the tennis courts dimensions were modified to match the 2022 Sport Court Design Guide published by the Wisconsin Asphalt Pavement Association, as described in the memo from the Interim Administrator. Also enclosed is a lighting brochure from EA Sports provides guidance on the needed illuminance, number of fixtures, and pole height based on type of usage for both the exterior tennis basketball court. We plan to require the manufacturer to illuminate the courts to club level usage standards. We plan to limit the system controls to dimmers, mechanical timers, and zoning, but welcome your input until the project advertisement deadline of June 2, 2023. The poles will be standard square powder-coated steel with a height between 25 and 30 feet, like those outside the Village Hall. Some poles will have one LED luminaire, others may have more.

We will forward an engineering work order for design, bidding, and construction for your consideration. Please note that we are already proceeding with the design to allow for completion in 2023.

Please call if you have any questions.

Sincerely,

BAXTER & WOODMAN, INC.  
CONSULTING ENGINEERS



Douglas R. Snyder, P.E.

**DRAFT**

DRS/drs

Encs.

C/encs.: Dave Rowland, Recreation Director  
Wayne Edwards, DPW

P:\WLMSV\230496-TENNIS AND BASKETBAL\MEMO TO COMMITTEE.DOC

Exhibit A

VILLAGE OF WILLIAMS BAY, WI

BID OPENING

BID# WB-2022-02

DATE: 12-2-2022

TIME: 12:15pm

| VENDOR                      | AMOUNT           | BID BOND Y/N |
|-----------------------------|------------------|--------------|
| 1. <u>Wolf Paving</u>       | <u>\$255,673</u> | <u>Y</u>     |
| 2. <u>Payne &amp; Dolan</u> | <u>\$470,000</u> | <u>Y</u>     |
| 3. <u>Scherrer Const.</u>   | <u>\$219,500</u> | <u>Y</u>     |
| 4. <u>Tenex Contractors</u> | <u>\$399,950</u> | <u>Y</u>     |
| 5. _____                    |                  |              |
| 6. _____                    |                  |              |
| 7. _____                    |                  |              |
| 8. _____                    |                  |              |



# VILLAGE OF WILLIAMS BAY

To: Doug Snyder

From: Dave Bretl

Date: 2/21/2023

RE: Tennis Courts

1. It does appear that the project was properly advertised, and bids were publicly opened. The bid tab is attached as Exhibit A.
2. The bid specifications did not provide a form of the contract to be executed; hence the two-page contract from Sherrer. Exhibit B
3. The Village's bid specs are attached as Exhibit C as well as two Addenda which appear to have been prepared after contractors raised issues. Apparently two diagrams were distributed as part of the bid package (Exhibit D and E).
4. Some of the specs, such as "six light fixtures mounted on poles" provide little guidance.
5. I am not sure if the paving specs. make sense and would appreciate your review.
6. The bid of Payne & Dolan is attached (Exhibit F) raises two salient points in terms of the desirability of raising the courts as well as the size of the Court. The Wisconsin Asphalt Pavement Association (WAPA) recommends that double tennis courts be paved to dimensions of 120 by 114. Our drawing appears to show dimensions of 122 by 110. I spoke to the Recreation Director who indicated that the Village is not interested in hosting tournament play, so as I read the WAPA guide I think we might be okay- 12 feet between the courts and 12 feet to each fence, but I would appreciate it if you could double check. The guide is attached as Exhibit G. Orientation is a design issue as well. I can't tell from the drawing, but I believe North/South is preferred so players aren't looking into the sun.
7. Before I reach out to Sherrer and find out if they would be willing to execute an Engineers Joint Contract form, I would appreciate your insight as to how to proceed. My

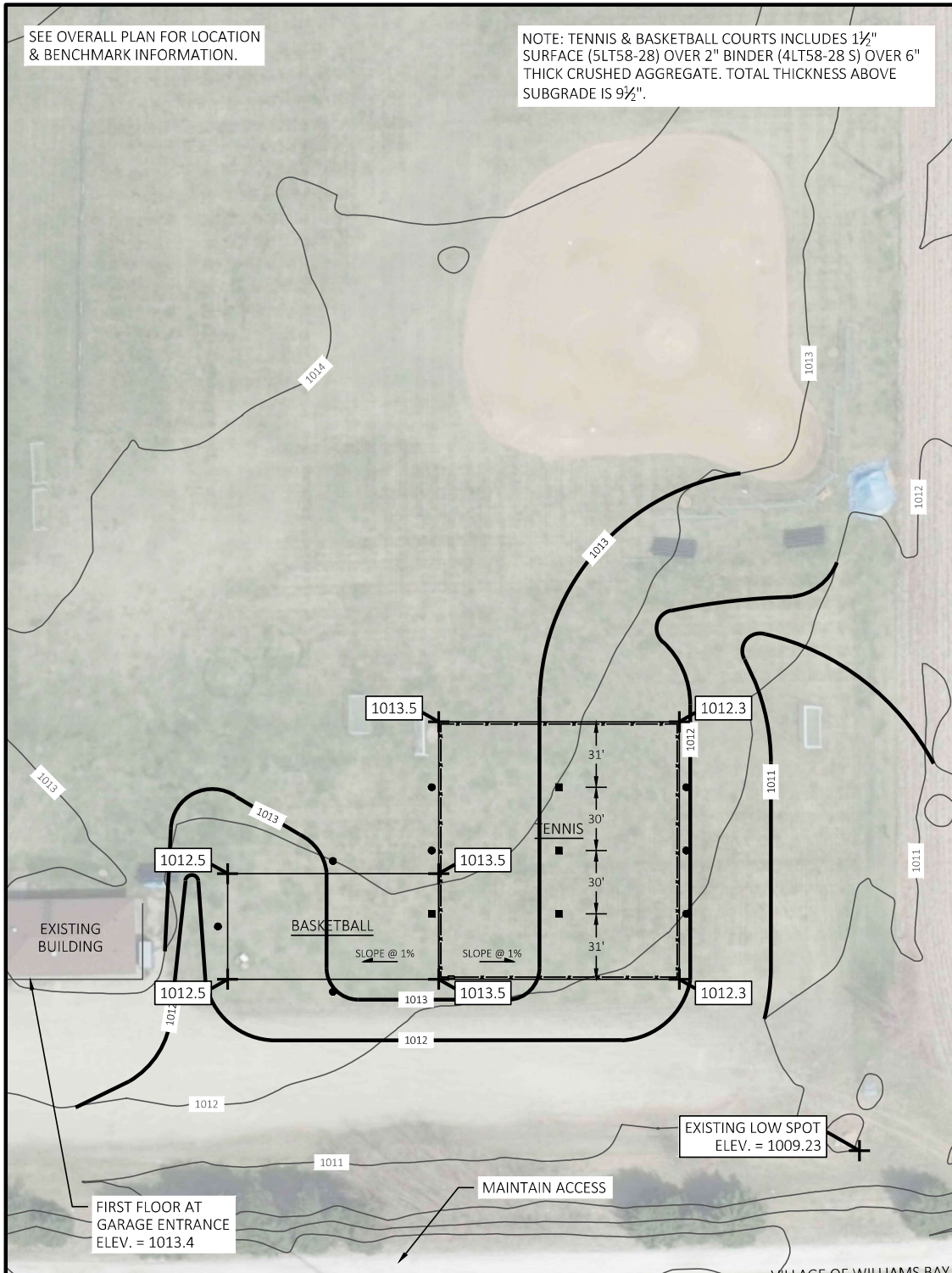
main concerns are whether the tennis courts will be under water a majority of the year and/or dark at night given the lighting specs. It seems to me that if the courts have to be raised a foot (unless Scherrer is planning to do this- we don't know but it was not required-this might be a game-changer. At a minimum it would seem that we would need to get Scherrer's plan and then begin to negotiate an acceptable design. Alternatively, we could rebid. If the costs of changes would exceed 15 percent of the bid, I would say rebidding with a proper set of specifications would be in order. Let me know your thoughts.



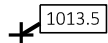
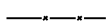
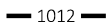
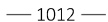


SEE OVERALL PLAN FOR LOCATION  
& BENCHMARK INFORMATION.

NOTE: TENNIS & BASKETBALL COURTS INCLUDES 1½"  
SURFACE (5LT58-28) OVER 2" BINDER (4LT58-28 S) OVER 6"  
THICK CRUSHED AGGREGATE. TOTAL THICKNESS ABOVE  
SUBGRADE IS 9½".



### LEGEND

-  1013.5 FINAL GRADE SPOT ELEVATION
-  CHAIN LINK FENCE ON PERIMETER OF TENNIS COURT
-  1012 FINAL CONTOUR
-  1012 EXISTING CONTOUR
-  LIGHT POLE W/ FOUNDATION, SINGLE LUMINAIRE  
SEE DETAIL SHEET 4 - TYPE 1 - UNPAVED AREA
-  LIGHT POLE W/ FOUNDATION, DOUBLE LUMINAIRE  
SEE DETAIL SHEET 4 - TYPE 1 - IN PAVEMENT

### SITE PLAN

TENNIS & BASKETBALL COURTS  
VILLAGE OF WILLIAMS BAY, WISCONSIN

**BAXTER & WOODMAN**  
Consulting Engineers

DATE: 05/11/2023 P.N.: 230496

**PRELIMINARY**

SHEET 2 OF 4

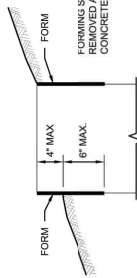






## SDD 9C2 Concrete Bases, Types 1, 2, 5 & 6

FORM DEPTH SHALL BE  
NO MORE THAN 6" BELOW  
GRADE ON THE LOWER  
SIDE OF BASE



### FORMING DETAIL

| QUANTITY REQUIREMENTS           | CONCRETE BASE TYPE |
|---------------------------------|--------------------|
| APPROX. CUBIC YARDS OF CONCRETE | 1 2 5 & 6          |
| APPROX. CUBIC YARDS OF CONCRETE | 0.40 0.57 0.40     |
| APPROX. CUBIC YARDS OF CONCRETE | NONE 23 16         |
| APPROX. CUBIC YARDS OF CONCRETE | NONE 60 18         |

### GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONCRETE BASES SHALL BE SHOWN ON THE PLANS

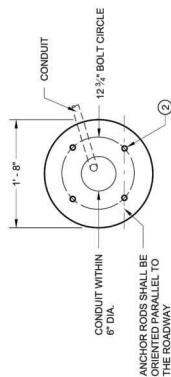
THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUD INSTALLED FOR FUTURE CABLE USE. THE EXIT STUD SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC.

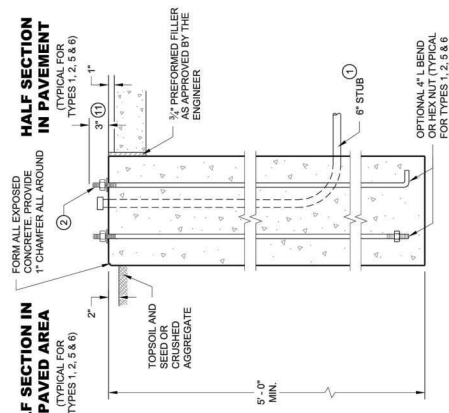
MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1" MIN. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

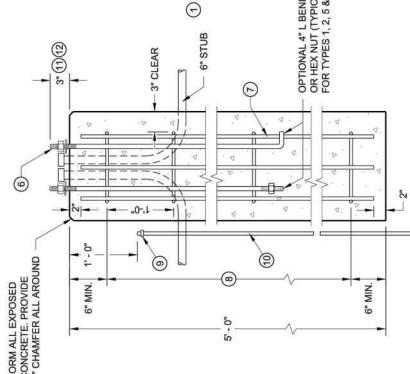
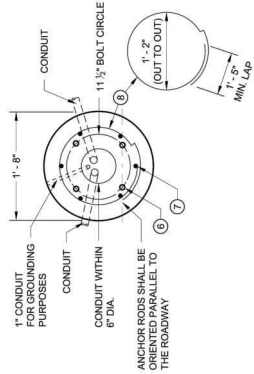
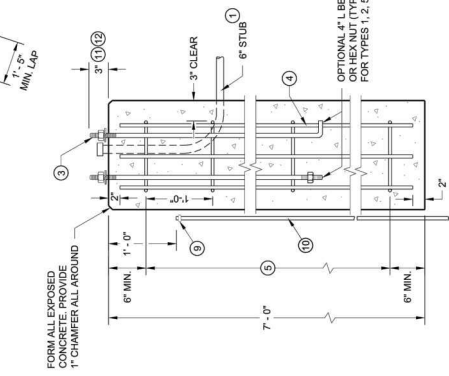
ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS PLACED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.



### HALF SECTION IN UNPAVED AREA (TYPICAL FOR TYPES 1, 2, 5 & 6)



### HALF SECTION IN PAVEMENT (TYPICAL FOR TYPES 1, 2, 5 & 6)



### TYPE 1

### TYPE 2

### TYPE 5 & 6

### CONCRETE BASES

### CONCRETE BASES TYPES 1, 2, 5, & 6

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

APPROVED

May 2019

DATE

STATE ELECTRICAL ENGINEER

APPROVED

May 2019

DATE

STATE ELECTRICAL ENGINEER

SDD 09C02 - 09

DATE: 05/11/2023 P.N.: 230496

PRELIMINARY

BAXTER & WOODMAN  
Consulting Engineers

SHEET 4 OF 4





# *Sports Brochure*

# TABLE OF CONTENTS

- **1** The Pro Sports Tech Advantage
- **3** Scoreboards and Effects Lighting
- **4** Indoor Tennis
- **5** Outdoor Tennis
- **6** Pickleball
- **7.** Baseball, Soccer, and Football
- **9.** Outdoor Lighting Systems
- **10.** Golf, Volleyball, and Basketball
- **11.** Indoor Basketball and Hockey

# PRO SPORTS TECH ADVANTAGE

## WHO WE ARE

### Your Premier Sports Lighting Experts

We are dedicated to building the best sports fixtures. We raw fabricate most of our components and source worldwide for the best parts. Our light fixtures are assembled by hand, ensuring that each fixture will illuminate your facility, field, arena or stadium perfectly. Each of our fixtures are assembled right here in Colorado, USA. Create an experience your guests will never forget with our high powered sports lighting, dynamic effects and event experience lighting designed for your venue.

#### Construction Superiority

- Unparalleled heat sink technology, maximizing light output and efficiency. FEA thermal reporting and TM21 reports available.
- Cast aluminum housing with MAXcoat powdercoat finish for harsh environments.
- Designed with a sloped and tapered housing making it difficult for snow and rain to collect and pool regardless of fixture orientation and tilt.
- All internal high temperature coated wiring. System design features no exposed wires or components.
- Low EPA and weight correlation to output making retrofitting easy without structural engineering.

#### Maintenance Ease

- Fully field replaceable components for all parts.
- Full set of parts provided with system purchase.
- Field upgradeable for for future technology advances.



1 Module



2 Module



3 Module



4 Module



#### Optical Precision

- ULTRAstar high impact tempered glass to maximize optic performance and improve efficiency. Glass testing documentation available.
- Scalable CRI up to 97 for crystal clear 8k broadcasting
- Optics arrays which feature varied independent board optics making pole kicker and ball tracker lights unnecessary, saving cost.

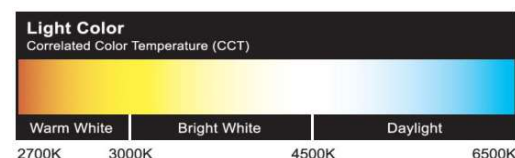
#### Controls Beyond

- 0-10v dimming, DMX, mesh, and wireless fixture and system control options available, please contact for details.
- IOT and AV integration capability
- Field adjustable remote drivers can be mounted with fixture bracketing or in separate pole, catwalk or nearby mounted enclosures.

#### System Warranty & Design

- Lowest total cost of ownership of any sports fixture and system at the professional level.
- 5 year warranty standard, 10-30 year warranty available with system builds.
- 200,000 hour LEDs, 100,000 hour drivers, actual rating will depend on fixture build and ambient temperature of installation.
- Designed, Engineered and Manufactured in Colorado, USA.

#### CCT Scale for Reference





## SERVICES WE PROVIDE

### Custom Quotations

For each new project we do we provide a custom quotation with a breakdown of products. This allows us to provide you with completely transparent, factory direct pricing.

### 3D Modeling

- Realistic and Accurate Design Modeling (Free!).
- Coverage maps.
- Isolation area designs.
- Video presentations of 3d models with detailed light breakouts.

### Installation Management

- Licensed EC/GC project management.
- Stamped engineered drawings.
- Stamped loading calculations.
- Full turnkey projects.

### Project Support

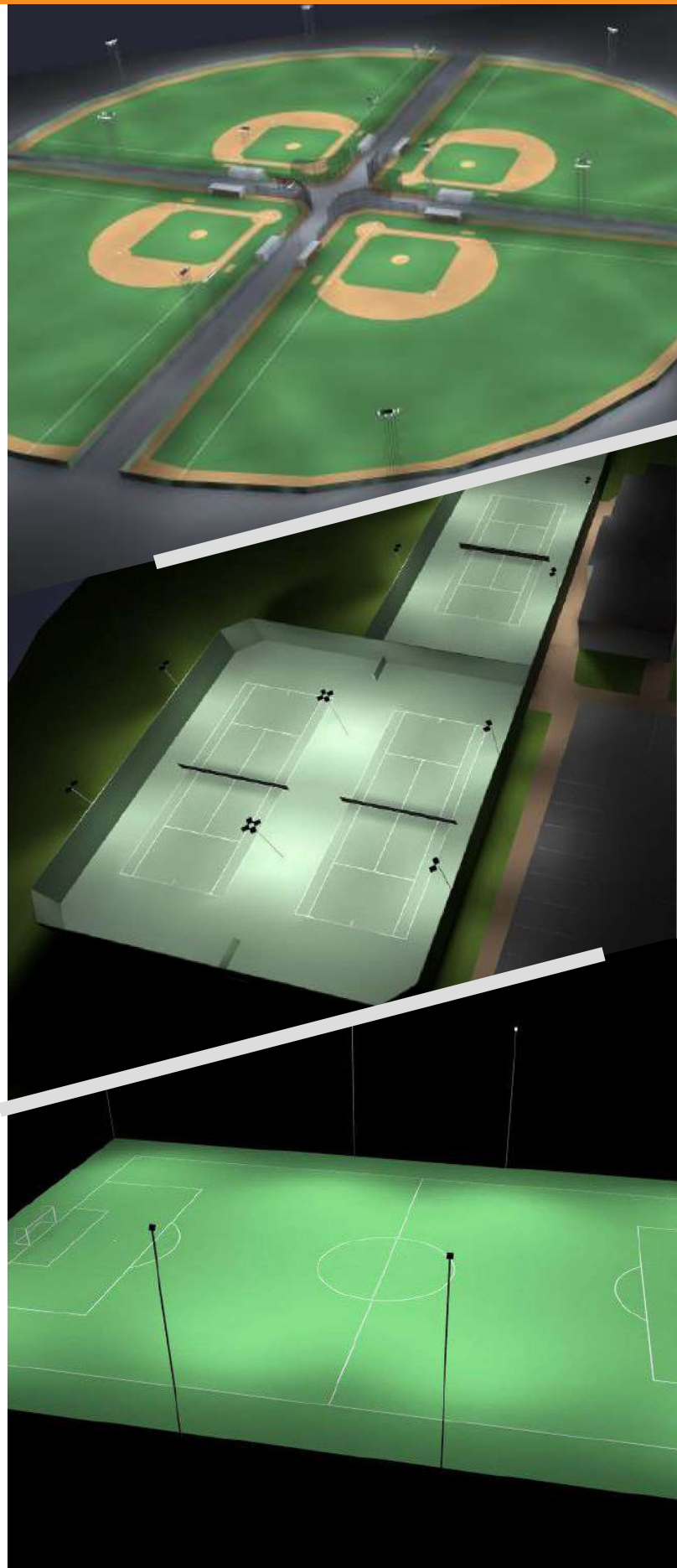
- We provide detailed aiming diagrams and lighting maps.

### During Project

- On-site and remote support.
- Post project - email, text, video chat, phone and on site support.
- Unrivaled dedication to each project.

### Post Project

- Scene creation.
- Subscription based content creation with monthly or event based designs.
- Admin monitoring.



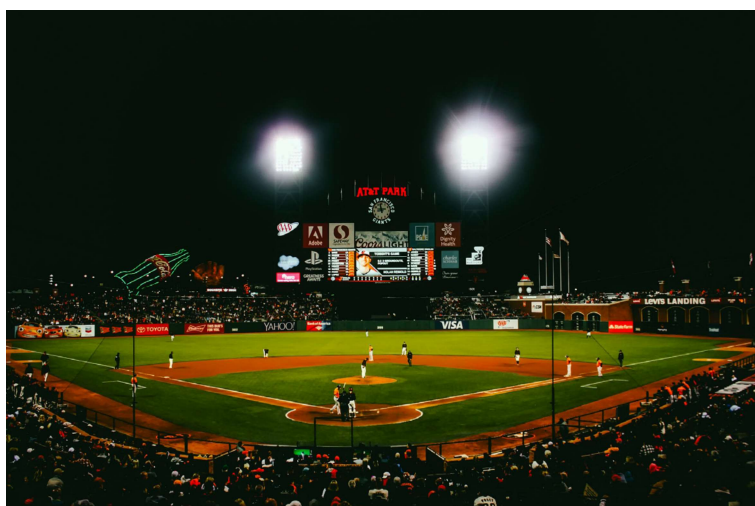


# SCOREBOARDS AND EFFECTS LIGHTING



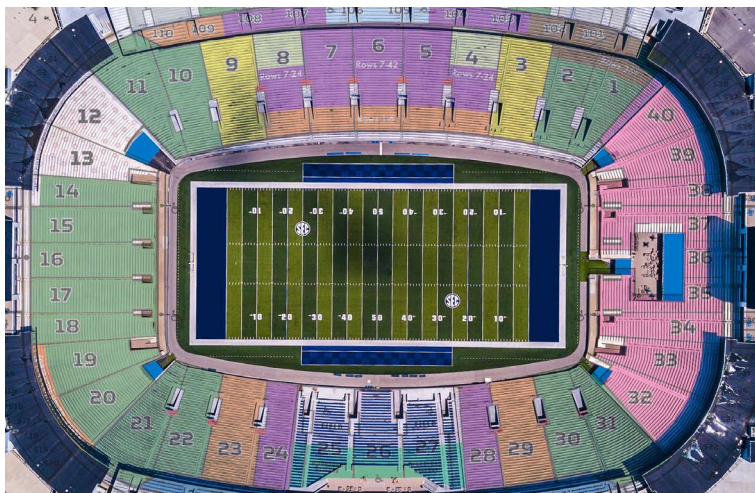
## Scoreboards and Video Boards

We provide the most advanced scoreboards and video boards for your venue. Our scoreboards that can be easily programmed to highlight players and show the score, while our advanced video boards can be used for high quality graphics to create beautiful visualizations during concerts or other events.



## Color Effects System

Create color effects inside and outside of your stadium with our unique color effects system. We can program this system to map seats in your stadium so your guests know exactly where their section is, as well as illuminate the exterior of your building.



## Projection Systems

Transform any surface, field, floor, roof or wall with a custom projection system. Visuals can mimic wood, metal doors, art pieces, various prints, and incorporate mixed perspective tricks and animations to immerse viewers in a different world.



## Infrared Interactive Applications

Incorporate your audience into the fun and get them involved with specific stadium seats designed to light up when an infrared beam is aimed onto it. This process can be used on single areas or scaled out to the entire stadium to create a light show like no other.



# INDOOR TENNIS



## Indirect System

The **SUNflare** Indirect LED fixture system is a single point suspended high bay arrangement. The super high lumen output lumen is designed for indoor athletic facilities where glare can be problematic. The fixture uses patented heat sink technology to drive more light without adding weight. The fixture allows greater spacing and less fixtures in recreational settings. It's also perfect for professional sports facilities creating professional light levels without disrupting play. As an added benefit, customized and interchangeable graphics displays are included with the system increasing branding or providing revenue generating opportunities.

## 3 Key System Advantages

1. Ultra low glare system capability
2. Professional level systems
3. Ideal for high level competition up to Tour Pro level



## Semi Direct System

The Semi Direct system uses 8' linear fixtures with diffused lensing to minimize glare and maximize lighting in a situation where lower roof heights and indirect light is not possible. The system requires more distribution points and lower outputs as to not interfere with high level play. This is a great system for facilities looking to keep expenses minimal while increasing light levels and efficiency

## Arena System

Our arena system uses our **DIAMONDpro** light. The high precision reflector optics minimize glare and maximize targeted light within the court. Arena projects require the highest standard possible and this package delivers the most complete lighting in the industry. With infinite control capabilities, AV tie ins, and custom RGB capabilities, we can turn any tennis arena into a true sporting performance venue.

## EA Technologies - Pro Sports Tech Indoor Tennis Systems

### Lighting Standards For Outdoor Courts

| Court Type (Pole/Fixture)                                                                        | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | ITF/USTA Class Rating | Usage                |
|--------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------|----------------------------|----------------|-----------------------|----------------------|
| Class 1 ITF   | > 750/69.6                        | >4000                 | >80                        | <1.5           | ITF 1                 | Lower Professional   |
| Class 2 ITF   | >500/46.4                         | >4000                 | >65                        | <1.5           | ITF 2                 | Club/Competitive     |
| Class 3 ITF   | >300/27.8                         | >4000                 | >60                        | <2.0           | ITF 3                 | Recreation           |
| Class 1 USTA  | >1345/125                         | Not Specified         | 80                         | <1.5           | USTA 1                | Upper Professional   |
| Class 2 USTA  | >807/75                           | Not Specified         | 70                         | <1.7           | USTA 2                | Club/Competitive     |
| Class 3 USTA  | >538/50                           | Not Specified         | 70                         | <2.0           | USTA 3                | Club/Competitive/Rec |

### Indirect System - SUNflare

| Fixture Output | Fixture Count | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | ITF/USTA Class Rating | Usage           |
|----------------|---------------|-----------------------------------|-----------------------|----------------------------|----------------|-----------------------|-----------------|
| Low 400w       | 12            | >200/20                           | 5000                  | 80                         | <2.0           | ITF 3                 | Recreation      |
| High 700w      | 8             | >300/30                           | 5000                  | 80                         | <2.0           | ITF2                  | Recreation/Club |
| High 700w      | 12            | >500/50                           | 5000                  | 80                         | <2.0           | ITF 1/USTA 3          | Club/Lower Pro  |
| Super 930w     | 12            | >500/50                           | 5000                  | 80                         | <2.0           | ITF 1/USTA 3          | Club/Lower Pro  |

### Semi Direct System - Linear 8' High Bays

| Fixture Output | Fixture Count | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | ITF/USTA Class Rating | Usage          |
|----------------|---------------|-----------------------------------|-----------------------|----------------------------|----------------|-----------------------|----------------|
| DP 2 - 760w    | 8             | >400/40                           | 5000                  | 80                         | <2.0           | ITF 2                 | Club           |
| DP 3 - 1140w   | 8             | >600/60                           | 5000                  | 80                         | <2.0           | ITF 1/USTA 3          | Club/Lower Pro |

### Arena System - DIAMONDpro

| Fixture Output | Fixture Count | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | ITF/USTA Class Rating | Usage                                                                                                                                                                       |
|----------------|---------------|-----------------------------------|-----------------------|----------------------------|----------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Super 800w     | 8             | >800/80                           | 5000                  | 80                         | <1.3           | ITF 1/USTA 2          |                                                                                        |
| DP 3 - 1140w   | 8             | >1250/125                         | 5000                  | 90                         | <1.2           | ITF 1/USTA 1          |   |
| DP 3 - 1140w   | 12            | >1800/175                         | 5000                  | 90                         | <1.2           | ITF 1/USTA 1          |                                                                                        |



# OUTDOOR TENNIS



## EA Technologies - Pro Sports Tech Tennis Systems

### Lighting Standards For Outdoor Courts

| Court Type (Pole/<br>Fixture) | Horizontal<br>Illuminance<br>(LUX)/(FC) | Color<br>Temperature<br>(K) | Color<br>Rendering<br>Index (Ra) | Uniformity<br>(U) | ITF/USTA<br>Class<br>Rating | Usage                |
|-------------------------------|-----------------------------------------|-----------------------------|----------------------------------|-------------------|-----------------------------|----------------------|
| Class 1 ITF                   | > 500/46.4                              | >4000                       | >80                              | <1.5              | ITF 1                       | Lower Professional   |
| Class 2 ITF                   | >300/27.8                               | >4000                       | >65                              | <1.5              | ITF 2                       | Club/Competitive     |
| Class 3 ITF                   | >200/18.5                               | >4000                       | >60                              | <2.0              | ITF 3                       | Recreation           |
| Class 1 USTA                  | >1345/125                               | Not Specified               | Not Specified                    | <1.5              | USTA 1                      | Upper Professional   |
| Class 2 USTA                  | >807/75                                 | Not Specified               | Not Specified                    | <1.7              | USTA 2                      | Club/Competitive     |
| Class 3 USTA                  | >538/50                                 | Not Specified               | Not Specified                    | <2.0              | USTA 3                      | Club/Competitive/Rec |

### Single Court - Pole Height Varies from 18-25'

| Fixture<br>Output | Fixture<br>Count | Horizontal<br>Illuminance<br>(LUX)/(FC) | Color<br>Temperature<br>(K) | Color<br>Rendering<br>Index (Ra) | Uniformity<br>(U) | ITF/USTA<br>Class<br>Rating | Usage                                                                                |
|-------------------|------------------|-----------------------------------------|-----------------------------|----------------------------------|-------------------|-----------------------------|--------------------------------------------------------------------------------------|
| Low 250w          | 6                | >200/20                                 | 5000                        | 80                               | <2.0              | ITF 3                       | Recreation                                                                           |
| Mid 400w          | 6                | >300/30                                 | 5000                        | 80                               | <2.0              | ITF2                        | Recreation/Club                                                                      |
| High 600w         | 6                | >500/50                                 | 5000                        | 80                               | <2.0              | ITF 1/USTA 3                | Club/Lower Pro                                                                       |
| Super 800w        | 6                | >650/65                                 | 5000                        | 80                               | <2.0              | ITF 1/USTA 3                | Lower Pro                                                                            |
| Low 250w          | 8                | >250/25                                 | 5000                        | 80                               | <1.5              | ITF 3                       | Recreation                                                                           |
| Mid 400w          | 8                | >400/40                                 | 5000                        | 80                               | <1.5              | ITF 2                       | Club                                                                                 |
| High 600w         | 8                | >600/60                                 | 5000                        | 80                               | <1.5              | ITF 1/USTA 3                | Club/Lower Pro                                                                       |
| Super 800w        | 8                | >800/80                                 | 5000                        | 80                               | <1.5              | ITF 1/USTA 2                |  |

### Double Court - Pole Height Varies from 30-39'

| Fixture<br>Output | Fixture<br>Count | Horizontal<br>Illuminance<br>(LUX)/(FC) | Color<br>Temperature<br>(K) | Color<br>Rendering<br>Index (Ra) | Uniformity<br>(U) | ITF/USTA<br>Class<br>Rating | Usage                                                                                |
|-------------------|------------------|-----------------------------------------|-----------------------------|----------------------------------|-------------------|-----------------------------|--------------------------------------------------------------------------------------|
| DP 2 - 760w       | 8                | >400/40                                 | 5000                        | 80                               | <2.0              | ITF 2                       | Club                                                                                 |
| DP 3 - 1140w      | 8                | >600/60                                 | 5000                        | 80                               | <2.0              | ITF 1/USTA 3                | Club/Lower Pro                                                                       |
| DP 2 - 760w       | 12               | >600/60                                 | 5000                        | 80                               | <1.5              | ITF 1/USTA 3                | Club/Lower Pro                                                                       |
| DP 3 - 1140w      | 12               | >800/80                                 | 5000                        | 80                               | <1.5              | ITF 1/USTA 2                |  |

### Single Stadium Court - Pole Height Varies from 30-60'

| Fixture<br>Output | Fixture<br>Count | Horizontal<br>Illuminance<br>(LUX)/(FC) | Color<br>Temperature<br>(K) | Color<br>Rendering<br>Index (Ra) | Uniformity<br>(U) | ITF/USTA<br>Class<br>Rating | Usage                                                                                                                                                                     |
|-------------------|------------------|-----------------------------------------|-----------------------------|----------------------------------|-------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Super 800w        | 8                | >800/80                                 | 5000                        | 80                               | <1.3              | ITF 1/USTA 2                |                                                                                       |
| DP 3 - 1140w      | 8                | >1250/125                               | 5000                        | 90                               | <1.2              | ITF 1/USTA 1                |   |
| DP 3 - 1140w      | 12               | >1800/175                               | 5000                        | 90                               | <1.2              | ITF 1/USTA 1                |                                                                                       |

## System Advantages

- Court design places poles in areas which are cost effective and advantageous to competitive play.
- Design maximizes light illuminance inside of the court primary playing area (PPA), while minimizing spill outside of court area.
- Ultra low glare with full cut off optics
- High lumen per watt increases efficiency and reduces energy costs
- 100,000 hour life reduces maintenance costs to zero, with a possible 90+ year usability (at 3 hours per day/365 days/year)
- Instant on (no warm up period) increasing playing time, reducing energy costs and keeping court times on schedule
- 5 year warranty, 10 year warranty on system builds with controls

## System Controls

- Fully Dimmable
- Motion activation available
- Wifi Controller available with remote operation
- Mechanical Timer with Astrological Timer Override Available
- Court Zoning Systems Available with Central Controller

# PICKLEBALL

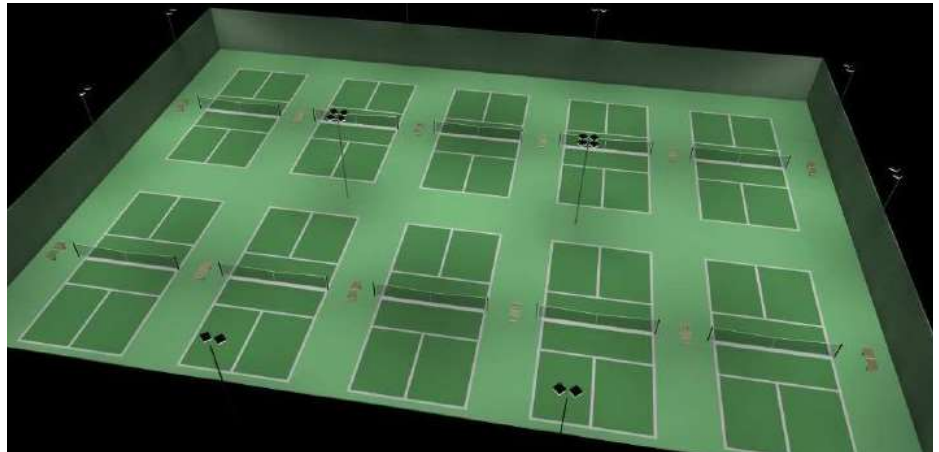


## System Advantages

- Court design places poles in areas which are cost effective and advantageous to competitive play.
- Design maximizes light illuminance inside of the court primary playing area (PPA), while minimizing spill outside of court area.
- Ultra low glare with full cut off optics
- High lumen per watt increases efficiency and reduces energy costs
- 100,000 hour life reduces maintenance costs to zero, with a possible 90+ year usability (at 3 hours per day/365 days/year)
- Instant on (no warm up period) increasing playing time, reducing energy costs and keeping court times on schedule
- 5 year warranty, 10 year warranty on system builds with controls

## System Controls

- Fully Dimmable  
Motion activation available Wifi Controller available with remote operation.
- Mechanical Timer with Astrological Timer Override Available.
- Court Zoning Systems Available with Central Controller.



## EA Technologies - Pro Sports Tech Pickleball Systems

### Lighting Standards For Outdoor Courts

| Court Type (Pole/Fixture) | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | Usage            |
|---------------------------|-----------------------------------|-----------------------|----------------------------|----------------|------------------|
| Class 1 Pro               | > 500/46.4                        | >4000                 | >80                        | <1.5           | Lower Pro        |
| Class 2 Club              | >300/27.8                         | >4000                 | >65                        | <1.5           | Club/Competitive |
| Class 3 Recreation        | >200/18.5                         | >4000                 | >60                        | <2.0           | Recreation       |

### Single Court - Pole Height Varies from 14-25'

| Fixture Output | Fixture Count | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | Usage           |
|----------------|---------------|-----------------------------------|-----------------------|----------------------------|----------------|-----------------|
| Low 250w       | 4             | >200/20                           | 5000                  | 80                         | <2.0           | Recreation      |
| Mid 400w       | 4             | >300/30                           | 5000                  | 80                         | <2.0           | Recreation/Club |
| High 600w      | 4             | >500/50                           | 5000                  | 80                         | <2.0           | Club/Lower Pro  |
| Super 800w     | 4             | >650/65                           | 5000                  | 80                         | <2.0           | Lower Pro       |

### Quad Court - Pole Height Varies from 30-39'

| Fixture Output | Fixture Count | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | Usage          |
|----------------|---------------|-----------------------------------|-----------------------|----------------------------|----------------|----------------|
| DP 2 - 760w    | 8             | >400/40                           | 5000                  | 80                         | <2.0           | Club           |
| DP 3 - 1140w   | 8             | >600/60                           | 5000                  | 80                         | <2.0           | Club/Lower Pro |
| DP 2 - 760w    | 12            | >600/60                           | 5000                  | 80                         | <1.5           | Club/Lower Pro |
| DP 3 - 1140w   | 12            | >800/80                           | 5000                  | 80                         | <1.5           | Pro            |

### Single Stadium Court - Pole Height Varies from 30-60'

| Fixture Output | Fixture Count | Horizontal Illuminance (LUX)/(FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | Usage |
|----------------|---------------|-----------------------------------|-----------------------|----------------------------|----------------|-------|
| Super 800w     | 8             | >1200/120                         | 5000                  | 80                         | <1.3           | Pro   |
| DP 3 - 1140w   | 8             | >2000/200                         | 5000                  | 90                         | <1.2           | Pro   |





# BASEBALL, SOCCER, AND FOOTBALL



## System Design

### LED

Our **DIAMONDpro** LED system is unsurpassed in the industry both in design and performance. Our LED fixture allows for maximum output with precision reflector optics in a scalable system. The system is a fully enclosed system with no exposed wires, which ensures maximum longevity in the harshest conditions.

All items are fully field replaceable. Extra parts are provided with system purchase. The system can be configured as either integrated or remote driver operation. System design uses variable deep set beam optics to maximize field coverage and maintains excellent fly ball visibility without the use of up lights. No shielding is required to comply with cutoff and spill tolerances.

*System advantage: Long Sustained Life, Consistent Light Levels, Precision targeted optics, Fully field replaceable components, Fully enclosed*

### HID

This system is for the budget conscious program who is looking to get lights onto a field. The light quality is still very good. The upside is the ultra low upfront cost. The downside is that typical relamp/reballast life cycle is about 5,000 hours. The system also use more energy and requires a warm up and hot restrike period. Despite the downside most facilities would still benefit from this system as it is often difficult to pay back the cost difference for LED.

*System advantage: Low Upfront Cost, Maintains Light Standards*



## System Advantages

- Court design places poles in areas which are cost effective and advantageous to competitive play.
- Design maximizes light illuminance inside of the court primary playing area (PPA), while minimizing spill outside of court area.
- Ultra low glare with full cut off optics
- High lumen per watt increases efficiency and reduces energy costs
- 100,000 hour life reduces maintenance costs to zero, with a possible 90+ year usability (at 3 hours per day/365 days/year)
- Instant on (no warm up period) increasing playing time, reducing energy costs and keeping court times on schedule
- 5 year warranty, 10 year warranty on system builds with controls

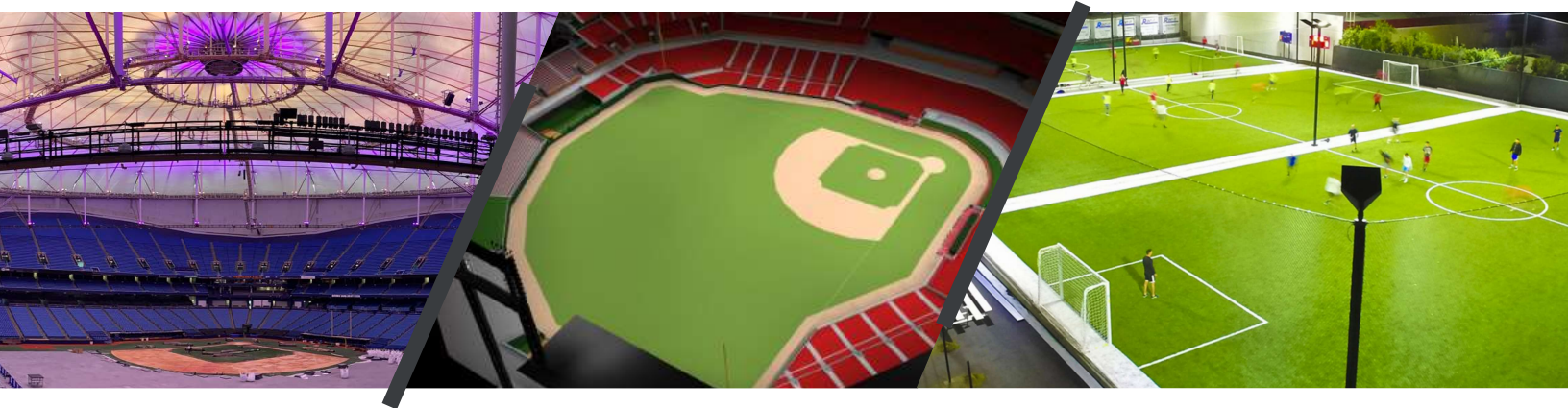
## System Controls

- Fully Dimmable as a group or individually controlled
- System options either 2.4 ghz mesh or Wired/Wireless DMX
- 2 way addressable
- DMX options with theater control board, RGB integration, scoreboard/AV integration, projection system integration
- Remote access with remote work stations  
Wifi controller available with remote operation
- Email, text, online chat, phone and on-site support available
- On site system group training
- Static and dynamic scene setups available with system purchase
- Scene and AV content provided either per request or by subscription

# OUTDOOR LIGHTING SYSTEMS

## EA Technologies - Pro Sports Tech Baseball Systems

| Baseball Lighting Standards      |                                          |                                          |                                  |                                        |                                        |                         |                  |       |
|----------------------------------|------------------------------------------|------------------------------------------|----------------------------------|----------------------------------------|----------------------------------------|-------------------------|------------------|-------|
| Level                            | Illuminance<br>Infield/<br>Outfield (FC) | Color<br>Temperature<br>(K)              | Color<br>Rendering<br>Index (Ra) | Uniformity<br>Infield/<br>Outfield (U) | Vertical<br>Illuminance                | Fixture<br>Count        | Poles            |       |
| Recreation                       | 30/20                                    | 5000                                     | >70                              | <2.0/2.5                               | NA                                     | Varies                  | 4/6              |       |
| Little League - High School      | 50/30                                    | 5000                                     | >80                              | <2.0/2.5                               | NA                                     | Varies                  | 4/6              |       |
| Collegiate                       | 70/50                                    | 5000                                     | >80                              | <1.5/2.0                               | NA                                     | Varies                  | 6/8              |       |
| Minor League - Collegiate TV     | 100/70                                   | 5000                                     | >80                              | <1.5/2.0                               | 70/40                                  | Varies                  | 6/8              |       |
| Pro - MLB                        | 250/225/200                              | 5000                                     | >95                              | <1.2/1.3/1.5                           | 175/150/125                            | Varies                  | 8                |       |
| Pro Sports Tech Lighting Systems |                                          |                                          |                                  |                                        |                                        |                         |                  |       |
| Field Size<br>(L/C/R)            | Technology                               | Illuminance<br>Infield/<br>Outfield (FC) | Color<br>Temperature<br>(K)      | Color<br>Rendering<br>Index (Ra)       | Uniformity<br>Infield/<br>Outfield (U) | Vertical<br>Illuminance | Fixture<br>Count | Poles |
| 200/200/200                      | HID                                      | >50/30                                   | 4000                             | 70                                     | <1.5/2.0                               | NA                      | 20               | 4/6   |
| 200/200/200                      | DP2/DP3 LED                              | >55/33                                   | 5000                             | 80-97                                  | <1.5/2.0                               | NA                      | 18               | 4/6   |
| 300/300/300                      | HID                                      | >50/30                                   | 4000                             | 70                                     | <1.5/2.0                               | NA                      | 48               | 6     |
| 300/300/300                      | DP2/DP3 LED                              | >55/33                                   | 5000                             | 80-97                                  | <1.5/2.0                               | NA                      | 36               | 6     |
| 350/400/350                      | DP2/DP3 LED                              | >55/33                                   | 5000                             | 80-97                                  | <1.5/2.0                               | NA                      | 36               | 6     |
| Minor                            | DP3 LED                                  | >125/100                                 | 5000                             | 90                                     | <1.3/1.5                               | 80/50                   | >100             | 6     |
| Pro - MLB                        | DP4 LED                                  | >300/275/250                             | 5000                             | 97                                     | <1.1/1.2/1.3                           | >225/200/175            | >400             | 8     |



## EA Technologies - Pro Sports Tech Soccer Systems

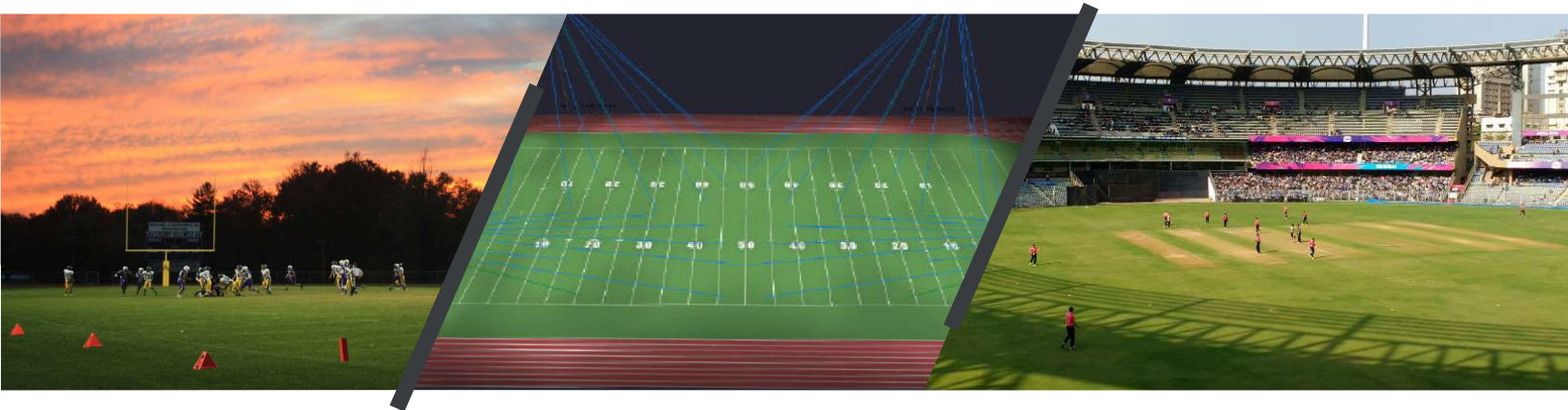
| Football Lighting Standards      |                  |                       |                            |                            |                                  |                      |               |       |
|----------------------------------|------------------|-----------------------|----------------------------|----------------------------|----------------------------------|----------------------|---------------|-------|
| Level                            | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U)             | Vertical Illuminance             | Fixture Count        | Poles         |       |
| Recreation - High School         | 30               | 5000                  | >70                        | <2.5                       | NA                               | Varies               | 4             |       |
| Collegiate                       | 50               | 5000                  | >80                        | <1.5                       | NA                               | Varies               | 6             |       |
| Collegiate TV                    | 100              | 5000                  | >80                        | <1.5                       | 70/40                            | Varies               | 6             |       |
| Pro - FIFA World Cup             | 200              | 5000                  | >95                        | <1.2                       | 150/100                          | Varies               | 8             |       |
| Pro Sports Tech Lighting Systems |                  |                       |                            |                            |                                  |                      |               |       |
| Level                            | Technology       | Illuminance (FC)      | Color Temperature (K)      | Color Rendering Index (Ra) | Uniformity Infield/ Outfield (U) | Vertical Illuminance | Fixture Count | Poles |
| Recreation                       | HID              | >30                   | 4000                       | 70                         | <2.0                             | NA                   | 32            | 4     |
| Recreation                       | DP2/DP3 LED      | >33                   | 5000                       | 80-90                      | <2.0                             | NA                   | 28            | 4     |
| Collegiate                       | DP2/DP3 LED      | >55                   | 5000                       | 80-97                      | <1.5                             | NA                   | 40            | 6     |
| College TV                       | DP3 LED          | >125                  | 5000                       | 90                         | <1.3                             | 75/50                | >100          | 6     |
| Pro - FIFA World Cup             | DP4 LED          | >250                  | 5000                       | 97                         | <1.1                             | >200/150             | >200          | 8     |



# OUTDOOR LIGHTING SYSTEMS

## EA Technologies - Pro Sports Tech Football Systems

| Football Lighting Standards      |             |                  |                       |                            |                                  |                      |               |       |
|----------------------------------|-------------|------------------|-----------------------|----------------------------|----------------------------------|----------------------|---------------|-------|
| Level                            |             | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U)                   | Vertical Illuminance | Fixture Count | Poles |
| Recreation - Youth               |             | 30               | 5000                  | >70                        | <2.5                             | NA                   | Varies        | 4     |
| High School                      |             | 50               | 5000                  | >80                        | <2.0                             | NA                   | Varies        | 4/6   |
| Collegiate                       |             | 50               | 5000                  | >80                        | <1.5                             | NA                   | Varies        | 6     |
| Collegiate TV                    |             | 100              | 5000                  | >80                        | <1.5                             | 70/40                | Varies        | 8     |
| Bowl - PRO - NFL                 |             | 200              | 5000                  | >95                        | <1.2                             | 150/100              | Varies        | 8     |
| Pro Sports Tech Lighting Systems |             |                  |                       |                            |                                  |                      |               |       |
| Level                            | Technology  | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity Infield/ Outfield (U) | Vertical Illuminance | Fixture Count | Poles |
| Recreation                       | HID         | >30              | 4000                  | 70                         | <2.0                             | NA                   | 44            | 4     |
| Recreation                       | DP2/DP3 LED | >33              | 5000                  | 80-97                      | <2.0                             | NA                   | 22            | 4     |
| High School                      | HID         | >50              | 4000                  | 70                         | <2.0                             | NA                   | 72            | 4     |
| HighSchool                       | DP2/DP3 LED | >55              | 5000                  | 80-97                      | <1.5                             | NA                   | 40            | 4/6   |
| Collegiate                       | DP2/DP3 LED | >55              | 5000                  | 80-97                      | <1.5                             | NA                   | 40            | 6     |
| College TV                       | DP3 LED     | >125             | 5000                  | 90                         | <1.3                             | 75/50                | >100          | 6     |
| Bowl - Pro- NFL                  | DP4 LED     | >250             | 5000                  | 97                         | <1.1                             | >200/150             | >200          | 8     |



## EA Technologies - Pro Sports Tech Cricket Systems

| Cricket Lighting Standards       |             |                  |                       |                            |                                  |                      |               |       |
|----------------------------------|-------------|------------------|-----------------------|----------------------------|----------------------------------|----------------------|---------------|-------|
| Level                            |             | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U)                   | Vertical Illuminance | Fixture Count | Poles |
| Recreation                       |             | 30               | 5000                  | >70                        | <2.5                             | NA                   | Varies        | 4     |
| Semi-Pro                         |             | 50               | 5000                  | >80                        | <1.5                             | NA                   | Varies        | 6     |
| Pro - Big Bash - World Cup       |             | 200              | 5000                  | >95                        | <1.2                             | 150/100              | Varies        | 8     |
| Pro Sports Tech Lighting Systems |             |                  |                       |                            |                                  |                      |               |       |
| Level                            | Technology  | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity Infield/ Outfield (U) | Vertical Illuminance | Fixture Count | Poles |
| Recreation                       | HID         | >30              | 4000                  | 70                         | <2.0                             | NA                   | 32            | 4     |
| Recreation                       | DP2/DP3 LED | >33              | 5000                  | 80-90                      | <2.0                             | NA                   | 28            | 4     |
| Semi-Pro                         | DP2/DP3 LED | >55              | 5000                  | 80-97                      | <1.5                             | NA                   | 48            | 6     |
| Pro - Big Bash - World Cup       | DP3/DP4 LED | >250             | 5000                  | 97                         | <1.1                             | >200/150             | >200          | 6     |

# GOLF, VOLLEYBALL, BASKETBALL



## EA Technologies - Pro Sports Tech Golf Range Systems

| Golf Lighting Standards          |                  |                       |                            |                            |                                  |                      |               |       |
|----------------------------------|------------------|-----------------------|----------------------------|----------------------------|----------------------------------|----------------------|---------------|-------|
| Level                            | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U)             | Vertical Illuminance             | Fixture Count        | Poles         |       |
| Recreation                       | 20               | 5000                  | >70                        | <3.0                       | NA                               | Varies               | 4             |       |
| Pro                              | 70               | 5000                  | >80                        | <2.0                       | 50                               | Varies               | 4             |       |
| Pro Sports Tech Lighting Systems |                  |                       |                            |                            |                                  |                      |               |       |
| Level                            | Technology       | Illuminance (FC)      | Color Temperature (K)      | Color Rendering Index (Ra) | Uniformity Infield/ Outfield (U) | Vertical Illuminance | Fixture Count | Poles |
| Recreation                       | DP2/DP3 LED      | >33                   | 5000                       | 80-90                      | <3.0                             | NA                   | 16            | 4     |
| Pro                              | DP2/DP3 LED      | >75                   | 5000                       | 95                         | <2.0                             | >50                  | 32            | 4     |

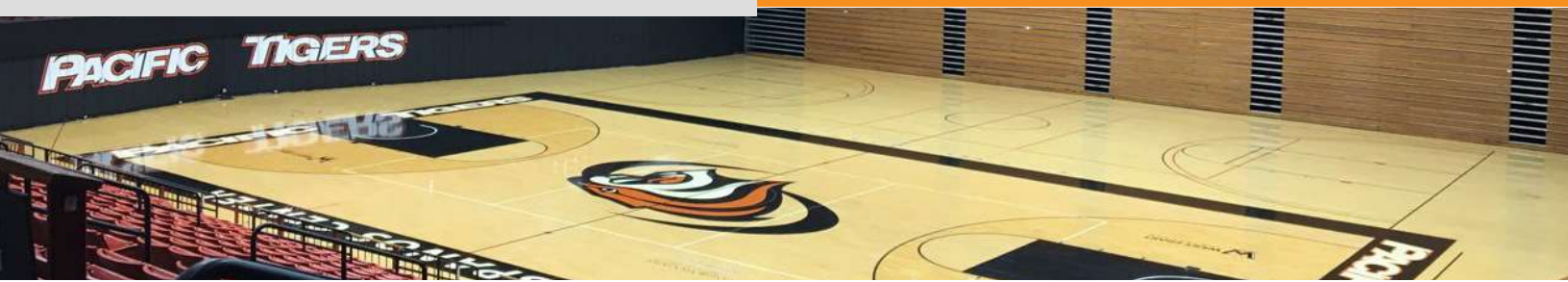
## EA Technologies - Pro Sports Tech Volleyball Systems

| Volleyball Lighting Standards    |                  |                       |                            |                            |                                  |                      |               |       |
|----------------------------------|------------------|-----------------------|----------------------------|----------------------------|----------------------------------|----------------------|---------------|-------|
| Level                            | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U)             | Vertical Illuminance             | Fixture Count        | Poles         |       |
| Recreation                       | 30               | 5000                  | >70                        | <2.0                       | NA                               | Varies               | 4             |       |
| Pro                              | 70               | 5000                  | >80                        | <1.5                       | 50                               | Varies               | 4             |       |
| Pro Sports Tech Lighting Systems |                  |                       |                            |                            |                                  |                      |               |       |
| Level                            | Technology       | Illuminance (FC)      | Color Temperature (K)      | Color Rendering Index (Ra) | Uniformity Infield/ Outfield (U) | Vertical Illuminance | Fixture Count | Poles |
| Recreation                       | DP2/DP3 LED      | >33                   | 5000                       | 80-90                      | <2.0                             | NA                   | 8             | 4     |
| Pro                              | DP2/DP3 LED      | >75                   | 5000                       | 95                         | <1.3                             | >50                  | 16            | 4     |

## EA Technologies - Pro Sports Tech Outdoor Basketball Systems

| Outdoor Basketball Lighting Standards |                  |                       |                            |                            |                                  |                      |               |       |
|---------------------------------------|------------------|-----------------------|----------------------------|----------------------------|----------------------------------|----------------------|---------------|-------|
| Level                                 | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U)             | Vertical Illuminance             | Fixture Count        | Poles         |       |
| Recreation                            | 20               | 5000                  | >70                        | <3.0                       | NA                               | Varies               | 4             |       |
| Pro                                   | 70               | 5000                  | >80                        | <1.5                       | 50                               | Varies               | 4             |       |
| Pro Sports Tech Lighting Systems      |                  |                       |                            |                            |                                  |                      |               |       |
| Level                                 | Technology       | Illuminance (FC)      | Color Temperature (K)      | Color Rendering Index (Ra) | Uniformity Infield/ Outfield (U) | Vertical Illuminance | Fixture Count | Poles |
| Recreation                            | Low 250w         | >22                   | 5000                       | 80-90                      | <2.5                             | NA                   | 4             | 4     |
| Pro                                   | DP2/DP3 LED      | >75                   | 5000                       | 95                         | <1.3                             | >50                  | 12            | 4     |

# INDOOR BASKETBALL AND HOCKEY



## System Design

### High Bay

Whether it's a simple high bay system for a high school gym or a variable high bay design for a collegiate or pro facility, we can adapt our fixtures to any scene. Simple gyms that only need a cost effective solution are typically designed with large spacing and higher intensity lights to cut down on material and installation cost. Higher profile projects typically use a combination of 2-4 output types to create a fading theater effect. The verticals pop for 8k television with the highest CRI available.

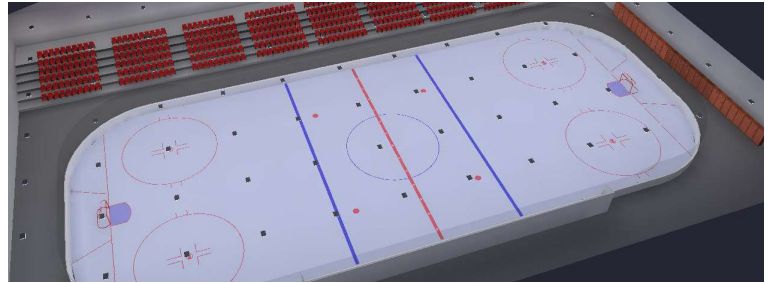
The system can be further integrated into control systems to achieve some fun effects.

### Arena

Having designed the most complex arena project in the world we are filled with both simple and complex ideas that can make any arena explode with excitement. Our DIAMONDpro fixture with it's modular design allows for placement and aiming using both variable output and optics to maintain a simplistic install but achieve a complex design concept.

Further integrations are limitless featuring RGB static and Dynamic effect lighting, projection systems, scoreboard integrations, infrared activated seat lighting and seat mapping design.

Content subscription packages available.



## System Advantages

- Modular fixture designs allow for variable outputs and precise aiming while still utilizing a singular design.
- Theater effect or full crowd lighting effects possible.
- Ultra low glare with full cut off optics
- Highest CRI available for crisp 8k resolution
- High lumen per watt increases efficiency and reduces energy costs
- 100,000 hour life reduces maintenance costs to zero
- Instant on (no warm up period) increasing playing time, reducing energy costs and keeping court times on schedule
- 5 year warranty, 10 year warranty on system builds with controls

## System Controls

- Fully Dimmable as a group or individually controlled
- System options either 2.4 ghz mesh or Wired/Wireless DMX
- 2 way addressable
- DMX options with theater control board, RGB integration, scoreboard/AV integration, projection system integration
- Remote access with remote work stations
- Wifi controller available with remote operation
- Email, text, online chat, phone and on-site support available
- On site system group training
- Static and dynamic scene setups available with system purchase
- Scene and AV content provided either per request or by subscription



# INDOOR BASKETBALL AND HOCKEY



## EA Technologies - Pro Sports Tech Basketball Systems

### Indoor Basketball Lighting Standards

| Level              | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | Vertical Illuminance | Fixture Count |
|--------------------|------------------|-----------------------|----------------------------|----------------|----------------------|---------------|
| Recreation - Youth | 30               | 4000                  | >70                        | <2.5           | NA                   | Varies        |
| High School        | 50               | 4000                  | >80                        | <2.0           | NA                   | Varies        |
| Collegiate         | 50               | 4000                  | >80                        | <1.5           | NA                   | Varies        |
| Collegiate TV      | 100              | 4000                  | >80                        | <1.5           | 70/40                | Varies        |
| Pro - NBA          | 200              | 4000                  | >95                        | <1.2           | 150/100              | Varies        |

### Pro Sports Tech Lighting Systems

| Level        | Technology  | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity Infield/ Outfield (U) | Vertical Illuminance | Fixture Count |
|--------------|-------------|------------------|-----------------------|----------------------------|----------------------------------|----------------------|---------------|
| Recreation   | SFD LED     | >55              | 4000                  | 80-97                      | <1.5                             | NA                   | 20            |
| High School  | SFD LED     | >75              | 4000                  | 80-97                      | <1.5                             | NA                   | 30            |
| Collegiate   | SFD LED     | >110             | 4000                  | 80-97                      | <1.5                             | 75/50                | 40            |
| College - TV | DP2/DP3 LED | >125             | 4000                  | 90                         | <1.3                             | 75/50                | >60           |
| Pro - NBA    | DP2/DP3 LED | >250             | 4000                  | 97                         | <1.1                             | >200/150             | >100          |

## EA Technologies - Pro Sports Tech Hockey Systems

### Hockey Lighting Standards

| Level                | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity (U) | Vertical Illuminance | Fixture Count |
|----------------------|------------------|-----------------------|----------------------------|----------------|----------------------|---------------|
| Recreation - Youth   | 50               | 5000                  | >70                        | <2.5           | NA                   | Varies        |
| High School          | 75               | 5000                  | >80                        | <1.5           | NA                   | Varies        |
| Collegiate           | 100              | 5000                  | >80                        | <1.3           | NA                   | Varies        |
| Collegiate TV        | 100              | 5000                  | >80                        | <1.3           | 100/60               | Varies        |
| Pro - NHL - Olympics | 200              | 5000                  | >95                        | <1.2           | 150/100              | Varies        |

### Pro Sports Tech Lighting Systems

| Level                | Technology  | Illuminance (FC) | Color Temperature (K) | Color Rendering Index (Ra) | Uniformity Infield/ Outfield (U) | Vertical Illuminance | Fixture Count |
|----------------------|-------------|------------------|-----------------------|----------------------------|----------------------------------|----------------------|---------------|
| Recreation           | DP2/DP3 LED | >55              | 5000                  | 80-97                      | <2.0                             | NA                   | 22            |
| High School          | DP2/DP3 LED | >85              | 5000                  | 80-97                      | <1.5                             | NA                   | 40            |
| Collegiate           | DP2/DP3 LED | >115             | 5000                  | 80-97                      | <1.5                             | 70/50                | 40            |
| College TV           | DP3 LED     | >150             | 5000                  | 90                         | <1.3                             | 110/70               | >100          |
| Pro - NHL - Olympics | DP4 LED     | >250             | 5000                  | 97                         | <1.1                             | >200/150             | >200          |



**VILLAGE OF WILLIAMS BAY, WISCONSIN  
TENNIS AND BASKETBALL COURTS - THEATRE ROAD PARK  
DESIGN AND CONSTRUCTION ENGINEERING SERVICES  
WORK ORDER**

**ENGINEERS' PROJECT NO. 0230496.00**

**Project Description:**

Provide engineering design and construction services for the planned tennis and basketball courts at Theatre Road Park. See the May 12, 2023, Project Approach – Tennis and Basketball at Theatre Road Park.

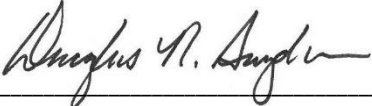
**Engineering Services:**

Specific Engineering services are described in the Master Engineering Services Agreement between the Owner and Engineers dated October 16, 2017. A detailed scope of services for this Project is listed in Attachment A of this Work Order. Manpower requirements and a fee summary are listed in Attachment B.

**Compensation:**

Compensation for the services will be in accordance with the Master Engineering Services Agreement dated October 16, 2017. The Owner shall pay the Engineer for the services performed or furnished under Attachment A, a lump sum of **\$15,600**.

Submitted by: **Baxter & Woodman, Inc.**

By: 

Douglas R. Snyder, P.E.

Title: Vice President

Date: May 12, 2023

Approved: **Village of Williams Bay, WI**

By: \_\_\_\_\_

William B. Duncan

Title: President

Date: \_\_\_\_\_

Attest: \_\_\_\_\_

Tina Kolls, Clerk

**Additional Comments:** None.

## Project Description

Provide engineering design and construction services for the planned tennis and basketball courts at Theatre Road Park. See the May 12, 2023 Project Approach – Tennis and Basketball at Theatre Road Park.

## Scope of Services - Design

The following scope of services details the anticipated tasks necessary to successfully complete this Project:

1. PROJECT MANAGEMENT - Plan, schedule, and control the activities that must be performed to complete the Project. These activities include, but are not limited to, budget, schedule, and scope. Confer with Owner staff and project team to ensure the goals of the Project are achieved.
2. SITE VISITS - Conduct site visits by designers to determine scope requirements.
3. PRELIMINARY AND FINAL DESIGN – Prepare Design Documents consisting of drawings showing the general scope, extent, and character of construction work to be furnished and performed by the Contractors selected by the Owner.
4. BIDDING DOCUMENTS - Prepare for review and approval by the Owner and its legal counsel the forms of Construction Contract Documents consisting of Advertisement for Bids, Bidder Instructions, Bid Form, Agreement, Performance Bond Form, Payment Bond Form, General Conditions, and Supplementary Conditions and specifications, where appropriate, based upon documents prepared by the Engineers Joint Contract Document Committee (EJCDC).
5. QUALITY CONTROL REVIEWS - Conduct peer review and constructability review of the Design Documents.
6. ENGINEERS' OPINION OF PROBABLE COST - Prepare an opinion of the probable construction cost prior to the bid opening.
7. ASSIST BIDDING - Provide documents for bidding and assist the Owner in solicitation of bids from as many qualified bidders as possible, attend the bid opening, evaluate, and tabulate the bids received, and prepare a recommendation letter to the Owner for their action.

### Scope of Services - Construction

The following scope of services details the anticipated tasks necessary to successfully complete this Project:

1. Act as the Owner's representative with duties, responsibilities, and limitations of authority as assigned in the construction contract documents.
2. CONSTRUCTION ADMINISTRATION
  - A. Prepare Award Letter, Agreement, Contract Documents, Performance/Payment Bonds, and Notice to Proceed. Receive Contractor insurance documents.
  - B. Attend and prepare minutes for the preconstruction conference and review the Contractor's proposed construction schedule and list of subcontractors.
  - C. Attend periodic construction progress meetings.
  - D. Shop drawing and submittal review by Engineer shall apply only to the items in the submissions and only for the purpose of assessing, if upon installation or incorporation in the Project, they are generally consistent with the construction documents. Owner agrees that the contractor is solely responsible for the submissions (regardless of the format in which provided, i.e., hard copy or electronic transmission) and for compliance with the contract documents. Owner further agrees that the Engineer's review and action in relation to these submissions shall not constitute the provision of means, methods, techniques, sequencing or procedures of construction or extend to safety programs or precautions. Engineer's consideration of a component does not constitute acceptance of the assembled item.
  - E. Review construction record drawings for completeness prior to submission to CADD.
  - F. Prepare construction contract change orders and work directives when authorized by the Owner.
  - G. Review the Contractor's requests for payments as construction work progresses and advise the Owner of amounts due and payable to the Contractor in accordance with the terms of the construction contract documents.
  - H. Research and prepare written response by Engineer to request for information from the Owner and Contractor.
  - I. Project manager or other office staff visit site as needed.

3. FIELD OBSERVATION – Part Time

- A. Engineer will provide a Resident Project Representative at the construction site on a periodic part-time basis from the Engineer' office of not more than eight (8) hours per regular weekday, not including legal holidays as deemed necessary by the Engineer, to assist the Contractor with interpretation of the Drawings and Specifications, to observe in general if the Contractor's work is in conformity with the Final Design Documents, and to monitor the Contractor's progress as related to the Construction Contract date of completion.
- B. Through standard, reasonable means, Engineer will become generally familiar with observable completed work. If the Engineer observes completed work that is inconsistent with the construction documents, that information shall be communicated to the contractor and Owner to address. Engineer shall not supervise, direct, control, or have charge or authority over any contractor's work, nor shall the Engineer have authority over or be responsible for the means, methods, techniques, sequences, or procedures of construction selected or used by any contractor, or the safety precautions and programs incident thereto, for security or safety at the site, nor for any failure of any contractor to comply with laws and regulations applicable to such contractor's furnishing and performing of its work. Engineer neither guarantees the performance of any contractor nor assumes responsibility for any contractor's failure to furnish and perform the work in accordance with the contract documents, which contractor is solely responsible for its errors, omissions, and failure to carry out the work. Engineer shall not be responsible for the acts or omissions of any contractor, subcontractor, or supplier, or of any of their agents or employees or any other person, (except Engineer's own agents, employees, and consultants) at the site or otherwise furnishing or performing any work; or for any decision made regarding the contract documents, or any application, interpretation, or clarification, of the contract documents, other than those made by the Engineer.
- C. Part-Time Field Observation provides that the Resident Project Representative will make intermittent site visits to observe the progress and quality of Contractor's executed Work. Part-Time Field Observation does not guarantee the Engineer will observe or comment on work completed by the contractor at times the Resident Project Representative is not present on site. Such visits and observations by the Resident Project Representative, if any, are not intended to be exhaustive or to extend to every aspect of Contractor's Work in progress or to involve detailed inspections of Contractor's Work in progress beyond the responsibilities specifically assigned to Engineer in this Agreement and the Contract Documents, but rather are to be limited to spot checking, selective sampling, and similar methods of general observation of the Work based on Engineer's exercise of professional judgment as assisted by the Resident Project Representative, if any.

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- D. Provide the necessary base lines, benchmarks, and reference points to enable the Contractor to proceed with the work.
  - E. Keep a daily record of the Contractor's work on those days that the Engineers are at the construction site including notations on the nature and cost of any extra work and provide weekly reports to the Owner of the construction progress and working days charged against the Contractor's time for completion.
4. SUBSTANTIAL COMPLETION OF PROJECT
- A. Provide construction inspection services when notified by the Contractor that the Project is substantially complete. Prepare written punch lists during substantial completion inspections.
  - B. Prepare Certificate of Substantial Completion.
5. COMPLETION OF PROJECT
- A. Provide construction inspection services when notified by the Contractor that the Project is complete. Prepare written punch lists during final completion inspections.
  - B. Review the Contractor's written guarantees and issue a Notice of Acceptability for the Project by the Owner.
  - C. Review the Contractor's requests for final payment and advise the Owner of the amounts due and payable to the Contractor in accordance with the terms of the construction contract documents.
  - D. Prepare construction record drawings which show field measured dimensions of the completed work which the Engineers consider significant and provide the Owner with an electronic copy within ninety (90) days of the Project completion.

P:\WLMSV\230496-Tennis and Basketball\Contracts\Work Order 230496.00.docx

## Hours, Budget & Compensation

| Village of Williams Bay                                              |                                        |             |                    |                  |                 |                    |
|----------------------------------------------------------------------|----------------------------------------|-------------|--------------------|------------------|-----------------|--------------------|
| Plan Number: 230496.00                                               |                                        |             |                    |                  |                 |                    |
| Plan Name: WLMSV - Tennis and Basketball Courts at Theatre Road Park |                                        |             |                    |                  |                 |                    |
| Level                                                                | Emp                                    | Planned Hrs | Planned Labor Bill | Compensation Fee | Reimb Allowance | Total Compensation |
| Overall Project Total                                                |                                        | 85.00       | 15,072.15          | 15,200.00        | 400.00          | 15,600.00          |
| GM700 Plan Preparation                                               |                                        | 55.00       | 9,169.35           | 9,200.00         | 0.00            | 9,200.00           |
|                                                                      |                                        |             |                    |                  |                 |                    |
|                                                                      | Julie Crayton                          | 2.00        | 180.00             |                  |                 |                    |
|                                                                      | Michael Hudspeth - Electrical Engineer | 25.00       | 4,625.00           |                  |                 |                    |
|                                                                      | Jordan Sharpe                          | 16.00       | 1,509.40           |                  |                 |                    |
|                                                                      | Douglas Snyder                         | 12.00       | 2,854.95           |                  |                 |                    |
| GM750 Bidding and Award                                              |                                        | 8.00        | 1,260.00           | 1,300.00         | 50.00           | 1,300.00           |
|                                                                      |                                        |             |                    |                  |                 |                    |
|                                                                      | Julie Crayton                          | 4.00        | 360.00             |                  |                 |                    |
|                                                                      | Douglas Snyder                         | 4.00        | 900.00             |                  |                 |                    |
| GM790 Construction Admin and Site Visits                             |                                        | 22.00       | 4,642.80           | 4,700.00         | 350.00          | 4,700.00           |
|                                                                      |                                        |             |                    |                  |                 |                    |
|                                                                      | Julie Crayton                          | 4.00        | 360.00             |                  |                 |                    |
|                                                                      | Douglas Snyder                         | 18.00       | 4,282.80           |                  |                 |                    |

**VILLAGE OF WILLIAMS BAY  
RESOLUTION NO. R-34-23**

**A RESOLUTION AUTHORIZING BAXTER & WOODMAN THEATER ROAD PARK WORK ORDER  
(TENNIS & BASKETBALL COURTS)**

**WHEREAS**, Village Engineer Baxter & Woodman provided the attached Work Order 0230496.00 for Design and Construction Engineering Services for Theater Road Park – Tennis & Basketball Courts (“Work Order”); and

**WHEREAS**, Work Order scope includes Project Management; Site Visits, Preliminary and Final Design, Bidding Documents, Quality Control Reviews, Engineer’s Opinion of Probable Cost and Assist Bidding with Village compensating Baxter for the services performed or furnished a lump sum of \$15,600; and

**WHEREAS**, on June 5, 2023, the Village of Williams Parks & Lakefront and Finance & Personnel Committees determined that it is in the best interests of the Village to **[not] [authorize]** Work Order; and

**WHEREAS**, on June 19, 2023, the Village of Williams Village Board, as recommended by the Water & Sewer and Finance & Personnel Committees, have determined that it is in the best interests of the Village and its residents to **[not] [authorize]** the Work Order.

**NOW, THEREFORE**, the Village Board of the Village of Williams Bay, County of Walworth, State of Wisconsin, do hereby ordain as follows:

**Section I: Recitals.** The foregoing recitals are hereby incorporated herein as findings of the Village Board of Trustees.

**Section II: Approval.** The President and Board of Trustees hereby approves the recommended proposal and authorizes an agreement, therefore.

Approved by the Village Board of the Village of Williams Bay this 19<sup>th</sup> day of June 2023.

**VILLAGE OF WILLIAMS BAY**

By: \_\_\_\_\_  
William Duncan, President

Attest: \_\_\_\_\_  
Tina Kolls, Clerk



# MEMORANDUM

**DATE:** JUNE 1, 2023  
**TO:** FINANCE & PERSONNEL COMMITTEE  
**FROM:** LORI PETERNELL, VILLAGE TREASURER  
**RE:** MAY TREASURER REPORT

- Continue to work with the Building Inspector to review open building permits and closing out any that have had final inspections. Also working on making sure that all permits include the total valuation cost as this is used by the assessor.
- Assessor contract will be reviewed by F&P at the June 5<sup>th</sup> meeting with a recommendation to the Village Board on June 19<sup>th</sup>. Associated Appraisal has been notified of the non-renewal and is in the process of Open Book and Board of Review. They will work with Accurate Appraisal to turn over the files to them.
- Had a kickoff meeting with Baird and Department Heads on the Capital Improvement Plan (CIP). Department heads were provided templates to forecast the next 5 years of capital expenditures.
- Working with Fontana on Intergovernmental Agreement (IGA) regarding leasing the new ambulance.

## **May Bank Account Balances**

See Attached



|                                                                        |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
|------------------------------------------------------------------------|------------------------------------------------|-----------------------------------------------|----------------------------------------|---------------------------------------------|----------------------------|-------------------------------------------------------|---------------------------|-------------------------|---------------------------|
| As of date:                                                            | 6/2/2023                                       |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| <b>TOTAL FUNDS RECEIVED</b>                                            |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         | <b>\$12,135,000.00</b>    |
| <b>Levy Supported Projects</b>                                         |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         | <b>\$3,735,000.00</b>     |
|                                                                        | <b>Estimated amount used<br/>for borrowing</b> | <b>Committee approved date<br/>of project</b> | <b>VB approved date of<br/>project</b> | <b>Bid opening date (if<br/>applicable)</b> | <b>Bid/proposal amount</b> | <b>Signed<br/>contract/proposal on<br/>file (Y/N)</b> | <b>Project start date</b> | <b>Project end date</b> | <b>Total Project cost</b> |
| <b>Streets Department Projects</b>                                     |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Lakewood Trails Subdivision Paving                                     | \$300,000.00                                   |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Engineering                                                            | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Construction                                                           | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Observatory Place paving                                               | \$300,000.00                                   |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Engineering                                                            | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Construction                                                           | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Walworth Avenue paving                                                 | \$300,000.00                                   |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Engineering                                                            | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Construction                                                           | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Hwy 67 East Paving                                                     | \$500,000.00                                   |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Engineering                                                            | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Construction                                                           | \$398,647.90                                   |                                               |                                        |                                             |                            |                                                       |                           |                         | \$1,095.63                |
| Geneva St/Parking lots/bridge                                          | \$1,035,000.00                                 |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Engineering                                                            | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Construction                                                           | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| <b>Parks Department Projects</b>                                       |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Theatre Rd Baseball Fence                                              | \$15,000.00                                    | 8/10/2022                                     | 8/24/2022                              | N/A                                         | \$13,530.00                | Y                                                     |                           |                         | \$13,530.00               |
| Restrooms/Concessions Theatre Rd                                       | \$100,000.00                                   |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Upgrades to Theatre Rd baseball fields                                 | \$25,000.00                                    |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Tennis/Basketball Courts                                               | \$250,000.00                                   |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Engineering                                                            |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Construction                                                           |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Remove Lions Field Tennis/Basketball Courts                            | \$30,000.00                                    |                                               |                                        |                                             | \$23,250.00                |                                                       |                           |                         | \$0.00                    |
| Lions Field House updating with storage                                | \$100,000.00                                   |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Engineering                                                            |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Construction                                                           |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Playgrounds (3)                                                        | \$200,000.00                                   |                                               |                                        |                                             |                            |                                                       |                           |                         | \$120,030.00              |
| Baywood Heights                                                        |                                                |                                               |                                        | N/A                                         | \$42,023.00                | Y                                                     |                           | May-23                  |                           |
| Lion's Field                                                           |                                                |                                               |                                        | N/A                                         | \$78,619.00                | Y                                                     |                           | May-23                  |                           |
| Edgewater Park                                                         |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| <b>Beach/Lakefront Projects</b>                                        |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Beach Cleaner                                                          | \$75,000.00                                    | 12/14/2022                                    | 12/19/2022                             | N/A                                         | \$29,354.00                | N/A                                                   | N/A                       |                         | \$29,354.00               |
| Utility Tractor **                                                     |                                                | 12/14/2022                                    | 12/19/2022                             | N/A                                         | \$34,406.58                | N/A                                                   | N/A                       |                         |                           |
| Southwick Creek Dredging                                               | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Engineering & Permits                                                  | \$16,978.21                                    |                                               |                                        |                                             |                            |                                                       |                           |                         | \$5,878.21                |
| Construction Costs                                                     | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| <b>General Government IT Projects</b>                                  |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Village Server and IT Upgrades<br>(11) desktops & (2) laptops & Server | \$20,000.00                                    |                                               | 12/19/2022                             | N/A                                         | \$15,765.70                | Y                                                     | N/A                       | Apr-23                  | \$17,356.38               |
| Laserfiche Software                                                    | \$10,000.00                                    | 1/11/2023                                     | 1/16/2023                              | N/A                                         | \$9,993.00                 | N-NEED GF COPY                                        |                           |                         | \$0.00                    |
| <b>Police Department Projects</b>                                      |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| New Police Squad (292)                                                 | \$65,000.00                                    |                                               |                                        |                                             |                            |                                                       |                           |                         | \$19,215.21               |
| New Police Squad (294)                                                 | \$65,000.00                                    |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Squad Computers                                                        | \$15,000.00                                    |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Axon Fleet Vehicle Cameras (3)                                         | \$45,000.00                                    |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| <b>Emergency Management Projects</b>                                   |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Emergency Management Vehicle                                           | \$85,000.00                                    | 8/15/2022                                     | 8/15/2022                              | N/A                                         | \$80,000.00                |                                                       |                           |                         | \$2,246.31                |
| <b>Fire &amp; Rescue Projects</b>                                      |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Fire and EMS Equipment (Tanker and Ambulance)                          | \$200,000.00                                   | 11/16/2022                                    | 11/21/2022                             | N/A                                         | \$198,980.00               | Y                                                     | N/A                       | Took delivery 03/2023   | \$109,975.00              |
| <b>REMAINING LEVY SUPPORTED FUNDS</b>                                  |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         | <b>\$3,416,319.26</b>     |
|                                                                        |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |

|                                                                                                      |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
|------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------------------------------------|----------------------------------------|---------------------------------------------|----------------------------|-------------------------------------------------------|---------------------------|-------------------------|---------------------------|
| <b>Water Utility Supported Projects</b>                                                              |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         | <b>\$5,583,021.79</b>     |
|                                                                                                      | <u>Estimated amount used<br/>for borrowing</u> | <u>Committee approved date<br/>of project</u> | <u>VB approved date of<br/>project</u> | <u>Bid opening date (if<br/>applicable)</u> | <u>Bid/proposal amount</u> | <u>Signed<br/>contract/proposal on<br/>file (Y/N)</u> | <u>Project start date</u> | <u>Project end date</u> | <u>Total Project cost</u> |
| <b>Water Capital Projects</b>                                                                        |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Reactor Cleaning and Painting                                                                        | \$200,000.00                                   |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Engineering                                                                                          | \$15,500.00                                    |                                               | 2/23/2023                              |                                             |                            | Y                                                     |                           |                         | \$5,010.00                |
| Construction Costs                                                                                   | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| State Road 67 Water replacement                                                                      | \$1,000,000.00                                 |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Engineering                                                                                          | \$26,700.00                                    |                                               | 2/23/2023                              |                                             |                            | Y                                                     |                           | 4/27/2023               | \$26,700.00               |
| Construction Costs                                                                                   | \$796,648.50                                   |                                               |                                        |                                             |                            |                                                       |                           |                         | \$293,517.30              |
| Loch Vista Water Main                                                                                | \$1,100,000.00                                 |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Engineering                                                                                          | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Construction Costs                                                                                   | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Chlorination Improvements (Corrosion Control Treatm                                                  | \$2,800,000.00                                 |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Engineering                                                                                          | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$49,985.77               |
| Construction                                                                                         | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Southwick Creek Realignment**                                                                        | \$441,021.79                                   |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Engineering                                                                                          | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$528.75                  |
| Construction                                                                                         | \$0.00                                         |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| SEWRP Study                                                                                          | \$42,000.00                                    |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| <b>REMAINING WATER UTILITY SUPPORTED FUNDS</b>                                                       |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         | <b>\$5,207,808.72</b>     |
| **Southwick Creek Realignment costs have been reallocated to other projects (see Water Projects tab) |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| <b>Sewer Utility Supported Projects</b>                                                              |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         | <b>\$2,800,000.00</b>     |
|                                                                                                      | <u>Estimated amount used<br/>for borrowing</u> | <u>Committee approved date<br/>of project</u> | <u>VB approved date of<br/>project</u> | <u>Bid opening date (if<br/>applicable)</u> | <u>Bid/proposal amount</u> | <u>Signed<br/>contract/proposal on<br/>file (Y/N)</u> | <u>Project start date</u> | <u>Project end date</u> | <u>Total Project cost</u> |
| <b>Sewer Capital Projects</b>                                                                        |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Mainline repairs associated with televising                                                          | \$200,000.00                                   |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Engineering                                                                                          |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Construction                                                                                         |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| State Road 67 Sewer replacement                                                                      | \$600,000.00                                   |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Engineering                                                                                          | \$26,700.00                                    |                                               | 2/23/2023                              |                                             |                            | Y                                                     |                           | 4/27/2023               | \$26,700.00               |
| Construction                                                                                         |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         | \$56,484.86               |
| Harris Road Lift station #3 upgrade                                                                  | \$1,000,000.00                                 |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Engineering                                                                                          | \$92,700.00                                    |                                               | 2/23/2023                              |                                             |                            | Y                                                     |                           |                         | \$32,631.80               |
| Construction                                                                                         |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Harris Road Force Main                                                                               | \$1,000,000.00                                 |                                               |                                        |                                             |                            |                                                       |                           |                         |                           |
| Engineering                                                                                          |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| Construction                                                                                         |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         | \$0.00                    |
| <b>REMAINING SEWER SUPPORTED PROJECTS</b>                                                            |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         | <b>\$2,684,183.34</b>     |
| <b>REMAINING FUNDS (ALL PROJECTS)</b>                                                                |                                                |                                               |                                        |                                             |                            |                                                       |                           |                         | <b>\$11,308,311.32</b>    |