

**AGENDA  
REGULAR SESSION  
HIGHLAND CITY COUNCIL  
CITY HALL, 1115 BROADWAY  
MONDAY, MARCH 7, 2022  
7:00 PM**

**NOTE: This is an in person meeting. However, due to COVID 19, anyone wishing to monitor the meeting via phone may do so by following the instructions on page 3 of this agenda.**

**CALL TO ORDER / ROLL CALL / PLEDGE OF ALLEGIANCE:**

**MINUTES:**

**MOTION** – Approve Minutes of February 22, 2022 Regular Session (attached)

**PUBLIC FORUM:**

A. Citizens' Requests and Comments:

1. HSS St, Joseph's Foundation – Schlafly – Party on the Patio – Special Event Application – Emily Wilson, Representative (attached)
2. Make – A – Wish Illinois –2022 Hot Chocolate Walk for Wishes– Special Event Application – Sam Schreiber, Representative (attached)
3. Easter Egg Hunt – Lisa Sauer State Farm– Special Event Application – Gay Bentlage, Representative (attached)

**Anyone wishing to address the Council on any subject may do so at this time.  
Please come forward to the microphone.**

B. Requests of Council:

C. Staff Reports:

**NEW BUSINESS:**

A. **MOTION** – Approve Mayor's Appointment of Joseph B. Garson to the Historical Commission (attached)

B. **MOTION** – Bill #22-25/ORDINANCE Amending the City's 2011 Comprehensive Plan for the Silver Lake Watershed Comprehensive Plan (attached)

C. **MOTION** – Bill #22-26/RESOLUTION Authorizing Allocation of Hotel/Motel Tax Funding for the City Annual Membership to ILLINOISouth Tourism (attached)

D. **MOTION** – Bill #22-27/RESOLUTION Making Separate Statement of Findings of Fact in Connection with Ordinance Granting Special Use Permit for Short-Term Rental within the C-2 Zoning District (attached)

E. **MOTION** – Bill #22-28/ORDINANCE Granting a Special Use Permit to Francis Ostrander to Allow a Short-Term Rental within the C-2 Zoning District at 917 12th Street (attached)

**Continued**

- F. **MOTION** – Bill #22-29/ORDINANCE Amending Zoning Classification from “C-2” Commercial to “R-1-D” Single-Family Residential for 1709 Lindenthal Avenue (attached)
- G. **MOTION** – Bill #22-30/ORDINANCE Amending Zoning Classification from “R-1-C” Single Family to “I” Industrial for Pin# 02-1-18-31-00-000-012, 02-1-18-31-00-000-010 (attached)
- H. **MOTION** – Bill #22-31/ORDINANCE Amending the City Future Land Use Map (attached)

**REPORTS:**

- A. **MOTION** – Accepting Expenditures Report #1214 for February 19, 2022 through March 4,2022 (attached)

**EXECUTIVE SESSION:**

The City Council will conduct an Executive Session pursuant to the Illinois Open Meetings Act, citing the following exemptions, allowing the meeting: **5 ILCS 120/2(c)(21) to discuss the approval of executive session minutes and 2(c)(1) to discuss the performance of a specific employee.**

**ADJOURNMENT:**

Continued



Anyone requiring accommodations, provided for in the Americans with Disabilities Act (ADA), to attend this public meeting, please contact Breann Vazquez, ADA Coordinator, by 9:00 AM on Monday, March 7, 2022.

**BE ADVISED this is a public meeting conducted in accordance with Illinois state law and may be recorded for audio and video content. City reserves the right to broadcast or re-broadcast the content of this meeting at City's sole discretion. City is not responsible for the content, video quality, or audio quality of any City meeting broadcast or re-broadcast.**

**Directions for Public Monitoring of Highland City Council Meetings:**

In an effort to protect as many individuals as possible, including the leaders of our communities statewide, Governor J.B. Pritzker has issued a number of directives, one of which was to suspend the provisions of the Illinois Open Meetings Act (5 ILCS 120), requiring or relating to in-person attendance by members of a public body. Specifically, (1) the requirement in 5 ILCS 120/2.01 that “members of a public body must be physically present;” and (2) the conditions in 5 ILCS 120/7 limiting when remote participation is permitted, are suspended. Public bodies are encouraged to postpone consideration of public business where possible. When a meeting is necessary, public bodies are encouraged to provide video, audio, and/or telephonic access to their meetings to ensure members of the public may monitor the meeting, and to update their websites and social media feeds to keep the public fully apprised of any modifications to their meeting schedules or the format of their meetings due to COVID-19, as well as their activities relating to COVID-19.

In following this directive, the City of Highland is providing the following phone number for use by citizens to call in just before the start of this meeting:

**618-882-5625**

Once connected, you will be prompted to enter a conference ID number.

**Conference ID #: 867900**

This will allow a member of the public to hear the city council meeting.

**Note:** This is for audio monitoring of the meeting, only. Participants will not be able make comments.

Anyone wishing to address the city council on any subject during the Public Forum portion of the meeting may submit their questions/comments in advance via email to [lhediger@highlandil.gov](mailto:lhediger@highlandil.gov) or, by using the citizens' portal on the city's website found here: [https://www.highlandil.gov/citizen\\_request\\_center\\_app/index.php](https://www.highlandil.gov/citizen_request_center_app/index.php).

Any comments received prior to 3:00 PM on the day of the meeting, will be read into the record.



# CITY OF HIGHLAND

## SPECIAL EVENT APPLICATION

Authorized under City Ordinance Sec. 64-3-1

**PURPOSE:** The City of Highland supports various community activities and festivals throughout the year. Establishing public safety and coordinating needs between the events and the city are the overall goals of this process. It is the responsibility of the specific event Sponsors to obtain, complete, and follow through the application process for city approval.

**SPECIAL EVENT:** A “Special Event” is defined as: (1) any event, race, gathering, demonstration, or service; (2) that occurs partially or completely within the jurisdiction of the City of Highland; (3) is expected to draw crowds in excess of one hundred fifty (150) attendees; and (4) is expected to or could disrupt normal daily functions within the City of Highland including but not limited to traffic congestion and excess noise; or could create a public health/safety concern without proper precautions or prior planning. Specific examples would include (but are not limited to): The Kirchenfest, Schweizerfest, 5K runs, parades, Art in the Park, Fourth of July Festivities, Madison County Fair, etc. The City Manager will make the final determination as to whether an event qualifies. This will be based upon the totality of the circumstances presented.

### **PROCEDURE:**

1. All Requests will be directed to Highland City Hall, to the attention of the Deputy City Clerk.
2. Applications will be available at Highland City Hall, Monday-Friday, 8:00 am to 5:00 pm or online through the City’s web site.
3. Applications will be completed by the Event Sponsor and submitted at least 60 days prior to the event. The application must be signed by the Event Sponsor Responsible Party. Incomplete applications will not be accepted. If an application is accepted and later determined to be incomplete, the applicant will be notified by the Deputy Clerk. Failure to provide information will result in denial of application.
4. The Deputy City Clerk will forward the application to all city departments that have responsibilities relating to the event. If necessary, a committee meeting involving the event Sponsor and city stakeholders may take place to clarify questions, determine specific needs, and address concerns.
5. The event Sponsor is required to obtain final approval for the special event from the City Manager. The City Council may announce the special event to the public at a scheduled Council meeting.

**CITY OF HIGHLAND-SPECIAL EVENT APPLICATION**

Name of Event: \_\_\_\_\_

Type/Purpose of Event:  Festival  Race  Other Fundraiser  Service  Parade  
 Demonstration  Other (please specify): \_\_\_\_\_

Location of Event: \_\_\_\_\_

Sponsoring Organization/Individual: \_\_\_\_\_

Event Responsible Party: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone(s): \_\_\_\_\_  
Email: \_\_\_\_\_

Secondary Contact: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone(s): \_\_\_\_\_  
Email: \_\_\_\_\_

Date(s) of Set-up: \_\_\_\_\_

Event Date(s) / Times:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date(s) of Tear-down: \_\_\_\_\_

Expected Attendance: \_\_\_\_\_

Alcohol License Required:  Yes  No  
If yes, application received:  Yes  No

Sound Amplification System utilized:  Yes  No  
If yes, hours of operation: \_\_\_\_\_

Funding request of the Council:  Yes  No  
Amount requested and purpose: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**City Services Requested – Please attach additional documents (maps, detailed information), where needed. Write “Not applicable” if no services requested.**

(Directors must initial behind requests)

**Street Dept:** Signage, Barricades, Street Closures (Specify): **Public Works Director:** \_\_\_\_\_

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**Electric Dept:** Electrical Service, Lighting (Specify): **Electric Dept. Director:** \_\_\_\_\_

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**Public Safety:** Security, First Aid, Traffic Control (Specify): **Public Safety Director:** \_\_\_\_\_

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**HCS Services:** Wi-Fi or other technological needs (Specify): **HCS Director:** \_\_\_\_\_

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**Other City Services:** Restrooms, City Officials (Sign approval), Refuse Dumpsters (Specify):  
**Department:** \_\_\_\_\_

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### **Application Checklist (Attachments):**

**Deputy Clerk Initial  
Upon receipt or waiver:**

- Certificate of Insurance: (attached)** \_\_\_\_\_
  - Must be General liability
  - \$1 Million per occurrence/\$2 million aggregate
  - City named as “additional insured” If Event is on city property.
  
- Site Plan Rendering** \_\_\_\_\_

- Evacuation Plan \_\_\_\_\_
- Fire Plan \_\_\_\_\_
- Parking Plan \_\_\_\_\_
- Schedule City Council Meeting for announcement \_\_\_\_\_
- **Date:** \_\_\_\_\_
- Application Submittal (60+ days) \_\_\_\_\_

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Event Sponsor Responsible Party \_\_\_\_\_ Date \_\_\_\_\_

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City Manager \_\_\_\_\_ Date \_\_\_\_\_



# CITY OF HIGHLAND

## SPECIAL EVENT APPLICATION

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# CITY OF HIGHLAND-SPECIAL EVENT APPLICATION

Name of Event: \_\_\_\_\_

Type/Purpose of Event:  Festival  Race  Other Fundraiser  Service  Parade  
 Demonstration  Other (please specify): \_\_\_\_\_

Location of Event: \_\_\_\_\_

Sponsoring Organization/Individual: \_\_\_\_\_

Event Responsible Party: \_\_\_\_\_

Address: \_\_\_\_\_

Phone(s): \_\_\_\_\_

Email: \_\_\_\_\_

Secondary Contact: \_\_\_\_\_

Address: \_\_\_\_\_

Phone(s): \_\_\_\_\_

Email: \_\_\_\_\_

Date(s) of Set-up: \_\_\_\_\_

Event Date(s) / Times:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date(s) of Tear-down: \_\_\_\_\_

Expected Attendance: \_\_\_\_\_

Alcohol License Required:  Yes  No  
If yes, application received:  Yes  No

Sound Amplification System utilized:  Yes  No  
If yes, hours of operation: \_\_\_\_\_

Funding request of the Council:  Yes  No  
Amount requested and purpose: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**City Services Requested – Please attach additional documents (maps, detailed information), where needed. Write “Not applicable” if no services requested.**

(Directors must initial behind requests)

**Street Dept:** Signage, Barricades, Street Closures (Specify): **Public Works Director:** \_\_\_\_\_

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**Electric Dept:** Electrical Service, Lighting (Specify): **Electric Dept. Director:** \_\_\_\_\_

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**Public Safety:** Security, First Aid, Traffic Control (Specify): **Public Safety Director:** \_\_\_\_\_

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**HCS Services:** Wi-Fi or other technological needs (Specify): **HCS Director:** \_\_\_\_\_

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**Other City Services:** Restrooms, City Officials (Sign approval), Refuse Dumpsters (Specify):  
**Department:** \_\_\_\_\_

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### **Application Checklist (Attachments):**

**Deputy Clerk Initial  
Upon receipt or waiver:**

**Certificate of Insurance: (attached)** \_\_\_\_\_

- Must be General liability
- \$1 Million per occurrence/\$2 million aggregate
- City named as “additional insured” If Event is on city property.

**Site Plan Rendering** \_\_\_\_\_

- Evacuation Plan \_\_\_\_\_
- Fire Plan \_\_\_\_\_
- Parking Plan \_\_\_\_\_
- Schedule City Council Meeting for announcement \_\_\_\_\_
- **Date:** \_\_\_\_\_
- Application Submittal (60+ days) \_\_\_\_\_

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**Event Sponsor Responsible Party** **Date**

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**City Manager** **Date**

## Highland Walk for Wishes Event Plans

### Evacuation Plan:

- In the case of an emergency, emergency services will be called if needed and participants will be directed to move away from the Square to the opposite sidewalk and take shelter as needed.
- In the case of inclement weather, event organizers will cancel the event and message out to all participants either before or during the event. If evacuation is needed during the event, participants will be directed to leave the event site.

### Fire Plan:

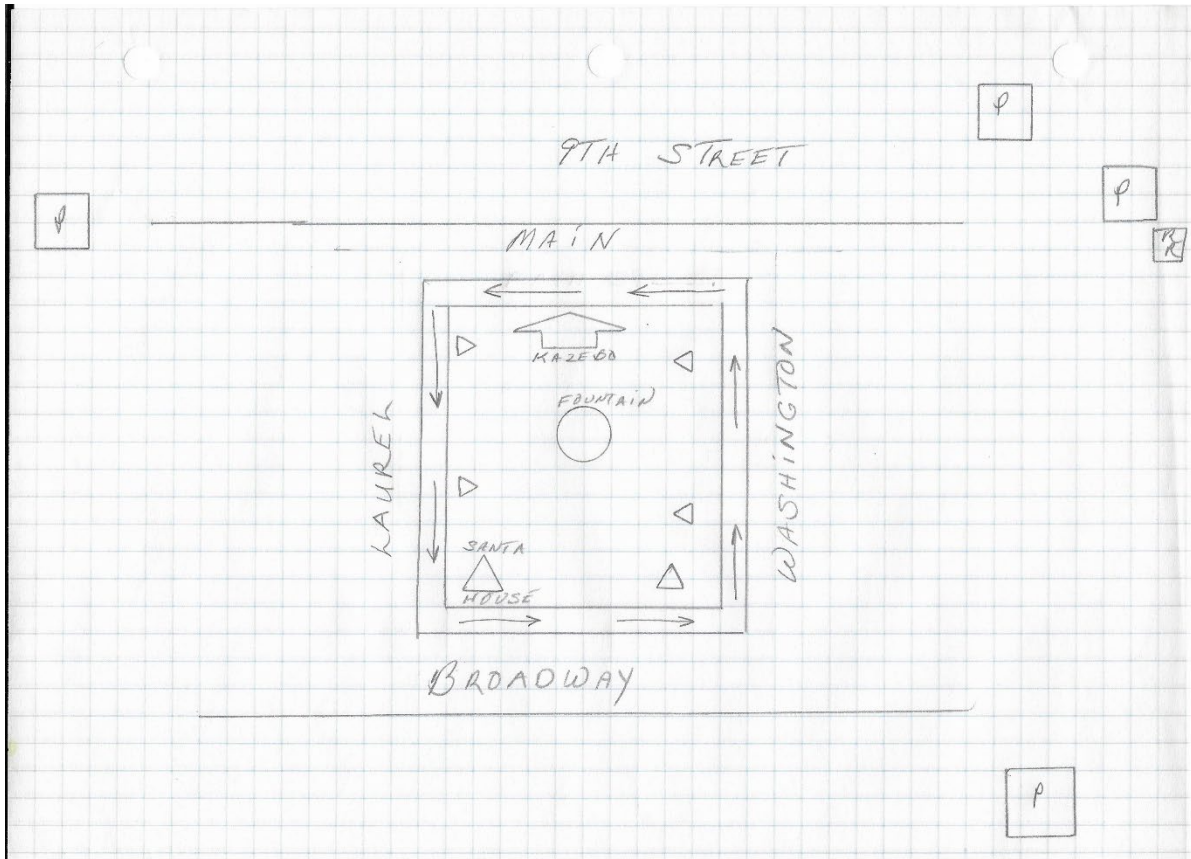
- There will not be any open flames at this event. In the case of a potential electrical or natural fire, emergency services will be called, and participants will be directed to move away from the Square and to the opposite sidewalks.

### Parking Plan:

- Parking will be highlighted on the event site map. The plan is to use local parking lots in the area.

### Site Plan:





CITY OF HIGHLAND-SPECIAL EVENT APPLICATION

Name of Event: Easter Egg Hunt

Type/Purpose of Event:  Festival  Race  Other Fundraiser  Service  Parade  
 Demonstration  Other (please specify): \_\_\_\_\_

Location of Event: Downtown Square

Sponsoring Organization/Individual: Lisa Sauer State Farm

Event Responsible Party: Gay Bentlage  
Address: 2670 Olaza Dr., Highland IL 62249  
Phone(s): 618-654-7402  
Email: gay@lisa-sauer.com

Secondary Contact: Lisa Sauer  
Address: 2670 Olaza Dr., Highland IL 62249  
Phone(s): 618-654-7402  
Email: Lisa@lisa-sauer.com

Date(s) of Set-up: April 9, 2022 12 PM

Event Date(s) / Times: Sat, April 9, 2022 2 PM

Date(s) of Tear-down: Sat, April 9, 2022 2:30 - 3:30 PM

Expected Attendance: 300

Alcohol License Required:  Yes  No  
If yes, application received:  Yes  No

Sound Amplification System utilized:  Yes  No  
If yes, hours of operation: 1 PM - 2:30 PM

Funding request of the Council:  Yes  No  
Amount requested and purpose: \_\_\_\_\_

**City Services Requested – Please attach additional documents (maps, detailed information), where needed. Write “Not applicable” if no services requested.**

(Directors must initial behind requests)

**Street Dept:** Signage, Barricades, Street Closures (Specify): **Public Works Director:** \_\_\_\_\_

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**Electric Dept:** Electrical Service, Lighting (Specify): **Electric Dept. Director:** \_\_\_\_\_

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**Public Safety:** Security, First Aid, Traffic Control (Specify): **Public Safety Director:** \_\_\_\_\_

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**HCS Services:** Wi-Fi or other technological needs (Specify): **HCS Director:** \_\_\_\_\_

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**Other City Services:** Restrooms, City Officials (Sign approval), Refuse Dumpsters (Specify):  
**Department:** \_\_\_\_\_

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### **Application Checklist (Attachments):**

Deputy Clerk Initial  
Upon receipt or waiver:

- Certificate of Insurance: (attached)**
- Must be General liability
  - \$1 Million per occurrence/\$2 million aggregate
  - City named as “additional insured” If Event is on city property.

\_\_\_\_\_

**Site Plan Rendering**

\_\_\_\_\_

Evacuation Plan \_\_\_\_\_

Fire Plan \_\_\_\_\_

Parking Plan \_\_\_\_\_

Schedule City Council Meeting for announcement \_\_\_\_\_

o Date: March 7<sup>th</sup>, 2022

Application Submittal (60+ days) \_\_\_\_\_

Ray Beutrage \_\_\_\_\_ 2/23/22  
Event Sponsor Responsible Party Date

\_\_\_\_\_  
City Manager Date






# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

02/11/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

|  |   |                                    |                        |
|--|---|------------------------------------|------------------------|
| <b>PRODUCER</b><br> Lisa Sauer<br>2670 Plaza Dr.<br>Highland, IL 62249 | <b>CONTACT NAME:</b> Lisa Sauer<br><b>PHONE (A/C No., Ext):</b> 618-654-7402<br><b>E-MAIL ADDRESS:</b> lisa@lissauer.com  | <b>FAX (A/C, No):</b> 618-654-5980 |                        |
|  | <b>INSURER(S) AFFORDING COVERAGE</b><br>INSURER A : State Farm Fire and Casualty Company<br>INSURER B :<br>INSURER C :<br>INSURER D :<br>INSURER E :<br>INSURER F : |                                    | <b>NAIC #</b><br>25143 |
| <b>INSURED</b><br>Melissa Sauer<br>2670 Plaza Dr.<br>Highland, IL 62249  |   |                                    |                        |

**COVERAGES**

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSTR | TYPE OF INSURANCE  | ADDL | SUBR | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS   |
|-------|--|------|------|---------------|-------------------------|-------------------------|--|
| LTR   |  | INSD | WVD  |               |                         |                         |  |
|       | <b>COMMERCIAL GENERAL LIABILITY</b><br><input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR<br>GEN'L AGGREGATE LIMIT APPLIES PER:<br><input type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC<br>OTHER: |      |      | 93-KG-S810-7  | 08/01/2021              | 08/01/2022              | EACH OCCURRENCE \$ 1,000,000<br>DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000<br>MED EXP (Any one person) \$ 5,000<br>PERSONAL & ADV INJURY \$ 1,000,000<br>GENERAL AGGREGATE \$ 2,000,000<br>PRODUCTS - COMP/OP AGG \$ 2,000,000<br>\$ |
|       | <b>AUTOMOBILE LIABILITY</b><br><input type="checkbox"/> ANY AUTO<br><input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS<br><input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY                      |      |      |               |                         |                         | COMBINED SINGLE LIMIT (Ea accident) \$<br>BODILY INJURY (Per person) \$<br>BODILY INJURY (Per accident) \$<br>PROPERTY DAMAGE (Per accident) \$<br>\$  |
|       | <b>UMBRELLA LIAB</b> <input type="checkbox"/> OCCUR<br><b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE<br>DED \$ RETENTION \$  |      |      |               |                         |                         | EACH OCCURRENCE \$<br>AGGREGATE \$<br>\$   |
|       | <b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b><br>ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y/N<br>If yes, describe under DESCRIPTION OF OPERATIONS below   |      |      | N/A           |                         |                         | PER STATUTE <input type="checkbox"/> OTH-ER <input type="checkbox"/><br>E.L. EACH ACCIDENT \$<br>E.L. DISEASE - EA EMPLOYEE \$<br>E.L. DISEASE - POLICY LIMIT \$   |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

The City of Highland is an additional insured for the Easter Egg Hunt event on Saturday, April 9, 2022 at the Highland City Square.

**CERTIFICATE HOLDER****CANCELLATION**

City of Highland  
 1115 Broadway  
 Highland, IL 62249

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE





# City of Highland

**MEMO TO:** City Council Members  
**FROM:** Mayor Kevin B. Hemann  
**SUBJECT:** Appointment to the Historical Commission  
**DATE:** March 4, 2022

Vacancies exist on the Historical Commission. Joe Garson has expressed interest in serving as a member of this commission.

Therefore, I am requesting your approval of the appointment of Joseph Garson to serve a three year term expiring in October of 2024 to the Historical Commission

If you have any questions regarding my request, please contact me prior to the meeting.

**RESOLUTION NO. \_\_\_\_\_**

**A RESOLUTION AUTHORIZING AND DIRECTING THE ADOPTION  
OF THE 2022 HIGHLAND SILVER LAKE WATERSHED PLAN**

WHEREAS, the City of Highland, Madison County, Illinois (hereinafter “City”), is a non-home rule municipality duly established, existing and operating in accordance with the provisions of the Illinois Municipal Code (Section 5/1-1-1 et seq. of Chapter 65 of the Illinois Compiled Statutes); and

WHEREAS, City proposes to adopt the 2022 Highland Silver Lake Watershed Plan (*See Exhibit A*; hereinafter referred to as “Plan”) for the health, safety, general welfare, and economic welfare of City residents and all others who enjoy the vast resources of Highland Silver Lake; and

WHEREAS, City has partnered with Heartlands Conservancy and Andreas Consulting Services to draft the Plan which focusses on water quality, flooding issues, best management practices, goals, and objectives for Highland Silver Lake; and

WHEREAS, the Plan includes the analysis of stream and shoreline conditions for streambank erosion, channelization, riparian conditions, the bathymetric survey, potential in-lack structures, and watershed-based plan materials; and

WHEREAS, the Plan is designed to improve the water quality by controlling nonpoint source pollution, specifically sediment from entering Highland Silver Lake, the drinking source for City; and

WHEREAS, City has determined it is in the best interests of public health, safety, general welfare and economic welfare to adopt the Plan for Highland Silver Lake; and

WHEREAS, City has determined the City Manager and/or Mayor should be authorized and directed to execute any contracts or requisite documents required to adopt the Plan for Highland Silver Lake.

**NOW, THEREFORE, BE IT RESOLVED**, by the City Council of the City of Highland as follows:

*Section 1.* The foregoing recitals are incorporated herein as findings of the City Council of the City of Highland, Illinois.

*Section 2.* Adoption of the Plan (**Exhibit A**) is approved, and the Mayor and/or City Manager is authorized and directed by the City Council to execute any documents necessary to

adopt and implement the Plan for the Highland Silver Lake Watershed.

*Section 3.* This Resolution shall be known as Resolution No. \_\_\_\_\_ and shall be effective upon its passage and approval in accordance with law.

Passed by the City Council of the City of Highland, Illinois, and deposited and filed in the Office of the City Clerk, on the \_\_\_\_ day of \_\_\_\_\_, 2022, the vote being taken by ayes and noes, and entered upon the legislative records, as follows:

AYES:

NOES:

APPROVED:

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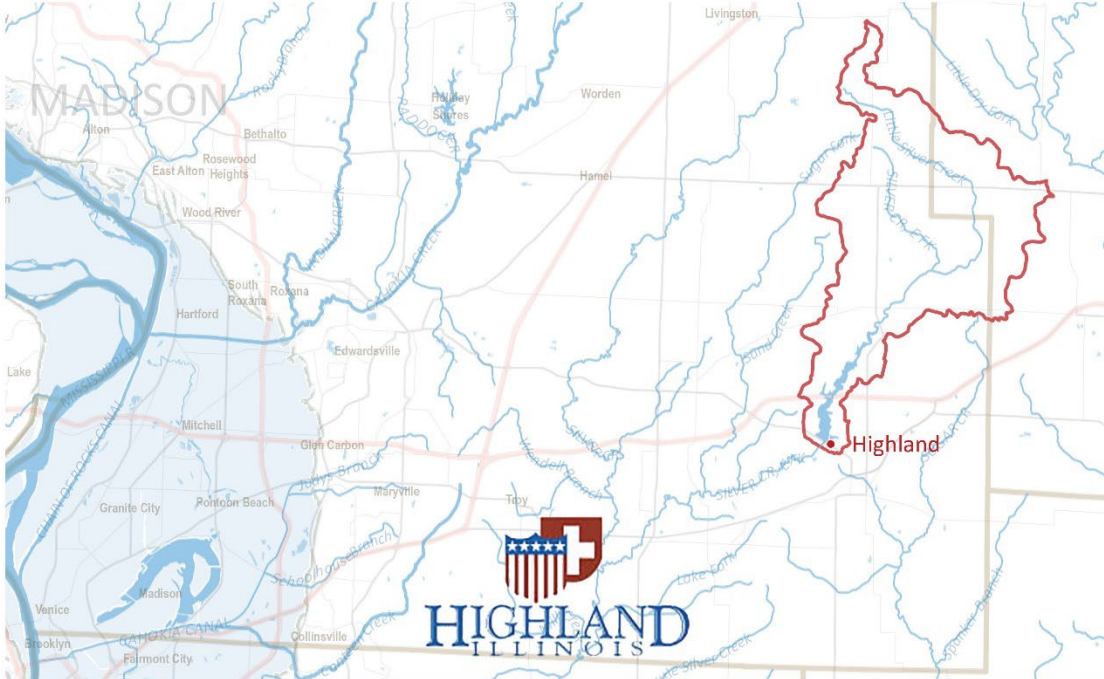
Kevin B. Hemann  
Mayor  
City of Highland  
Madison County, Illinois

ATTEST:

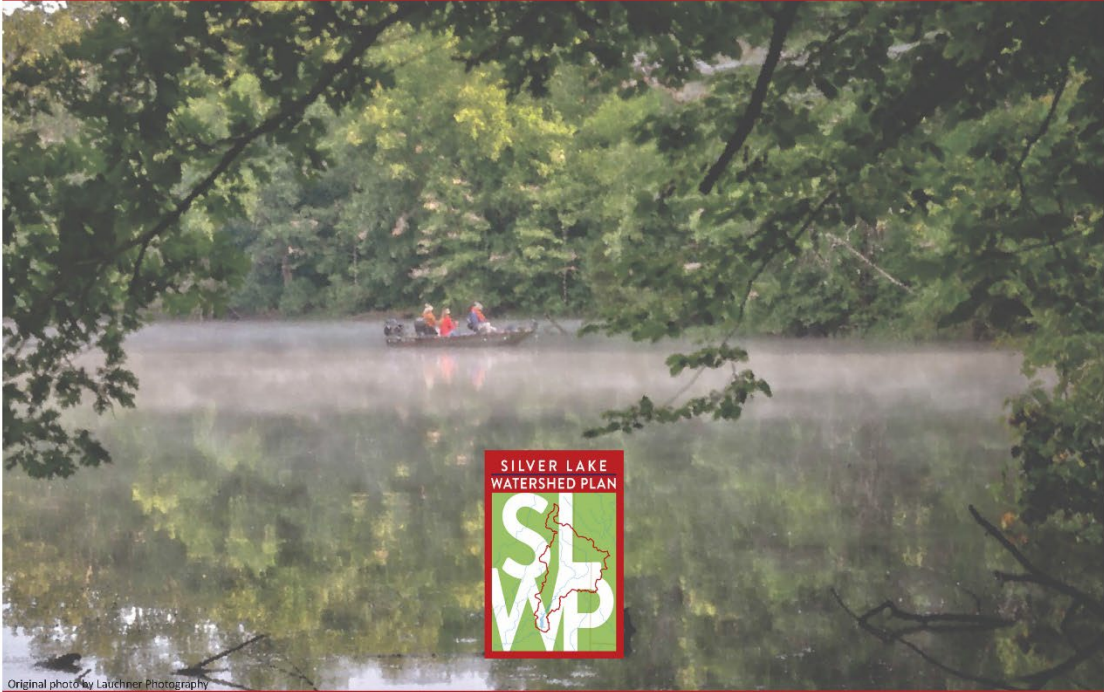
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Barbara Bellm  
City Clerk  
City of Highland  
Madison County, Illinois

# Highland Silver Lake Watershed Plan - Final



## HIGHLAND SILVER LAKE WATERSHED PLAN



Original photo by Larchner Photography

## HIGHLAND, MADISON COUNTY, ILLINOIS

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# Highland Silver Lake Watershed Plan

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## A Guide to Protecting and Restoring Watershed Health

November 2021

Prepared by:



**Andreas Consulting Services**

29 E Main Street  
Belleville, IL 62220  
[www.heartlandsconservancy.org](http://www.heartlandsconservancy.org)  
Phone: 618-566-4451

for



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## ACKNOWLEDGMENTS

The Highland Silver Lake Watershed-Based Plan was funded by the City of Highland. HeartLands Conservancy served as the primary consultant with Andreas Consulting Services acting as a subcontractor for the plan.

Tyler Burk, Jennifer Reiman, Sarah Powell, Mary Vandevord and Laura Lyon (HeartLands Conservancy) along with Michael Andreas (Andreas Consulting Services) worked closely with watershed partners to produce the watershed planning document. Mark Rosen and Ryan Hummert (City of Highland) provided support at all stages of the project from the City of Highland Parks and Recreation Department.

Key partners and stakeholders include City of Highland, HeartLands Conservancy, Andreas Consulting, Madison County Soil and Water Conservation District (SWCD), the Madison County Stormwater Commission, University of Illinois and the Village of Grantfork.

These stakeholders played an important role in providing input on watershed goals and objectives, water quality and flooding issues, Best Management Practices, and potential recommendations. Andreas Consulting Services (ACS) was hired to assess stream and shoreline conditions for streambank erosion, channelization, and riparian condition. ACS also analyzed the University of Illinois bathymetric survey, designed potential in-lake structures, and reviewed all watershed-based plan materials.

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## EXECUTIVE SUMMARY

### Introduction

In 2020, the City of Highland awarded HeartLands Conservancy and Andreas Consulting Service a contract to complete watershed-based plan for the Highland Silver Lake watershed. The watershed-based plan is designed to improve the water quality by controlling nonpoint source pollution, specifically sediment from entering Highland Silver Lake, the drinking water source for the City of Highland. This watershed drains a portion of Madison and Bond counties in Illinois to Highland Silver Lake.

The development of this Highland Silver Lake watershed management plan was guided by the United States Environmental Protection Agency's Nonpoint Source Program and Grants Guidelines for States and Territories Appendix C Watershed Based Plan Guidance (2013), Chicago Metropolitan Agency for Planning's "Guidance for Developing Watershed Action Plans in Illinois" (2007), and current watershed planning principles. Impairments of water resources, causes and sources of such impairments, and potential management practices were identified for prevention, remediation, restoration, and maintenance to achieve water quality objectives using a water resource inventory, local stakeholders, and experts.

The Highland Silver Lake watershed management plan also includes site-specific best management practices recommendations with associated units that should be implemented, cost of implementation, estimated pollutant load reduction, priority, and responsible entity for each practice.

This watershed plan offers guidance for managing watershed resources on public property, as well as providing a platform to encourage other watershed stakeholders (landowners, residents, businesses, developers, public agencies, and nonprofits) to participate. The plan is not regulatory, meaning it does not become law. The intent is to encourage voluntary improvements to water quality and stormwater management in the watershed, for agricultural, urban, and natural areas and waters.

This updated watershed-based plan builds on the research of several reports completed prior to this plan. These projects include the Highland Silver Lake Rural Clean Water Program (USDA, 1980), Highland Silver Lake Watershed TMDL Report (LTI, 2006), Phase 1 Diagnostic/Feasibility Study of Highland Silver Lake (CWI, 2008), Water Quality and Community Capacity in Silver Creek Watershed (SIUC, 2010), and the Watershed Plan for Highland Silver Lake Watershed (HDR, 2011). The watershed plan developed by HDR for the City of Highland in 2011 laid the foundation for securing funds for the implementation of best management practices (BMPs) through an Illinois EPA 319 water quality grant.

# Highland Silver Lake Watershed

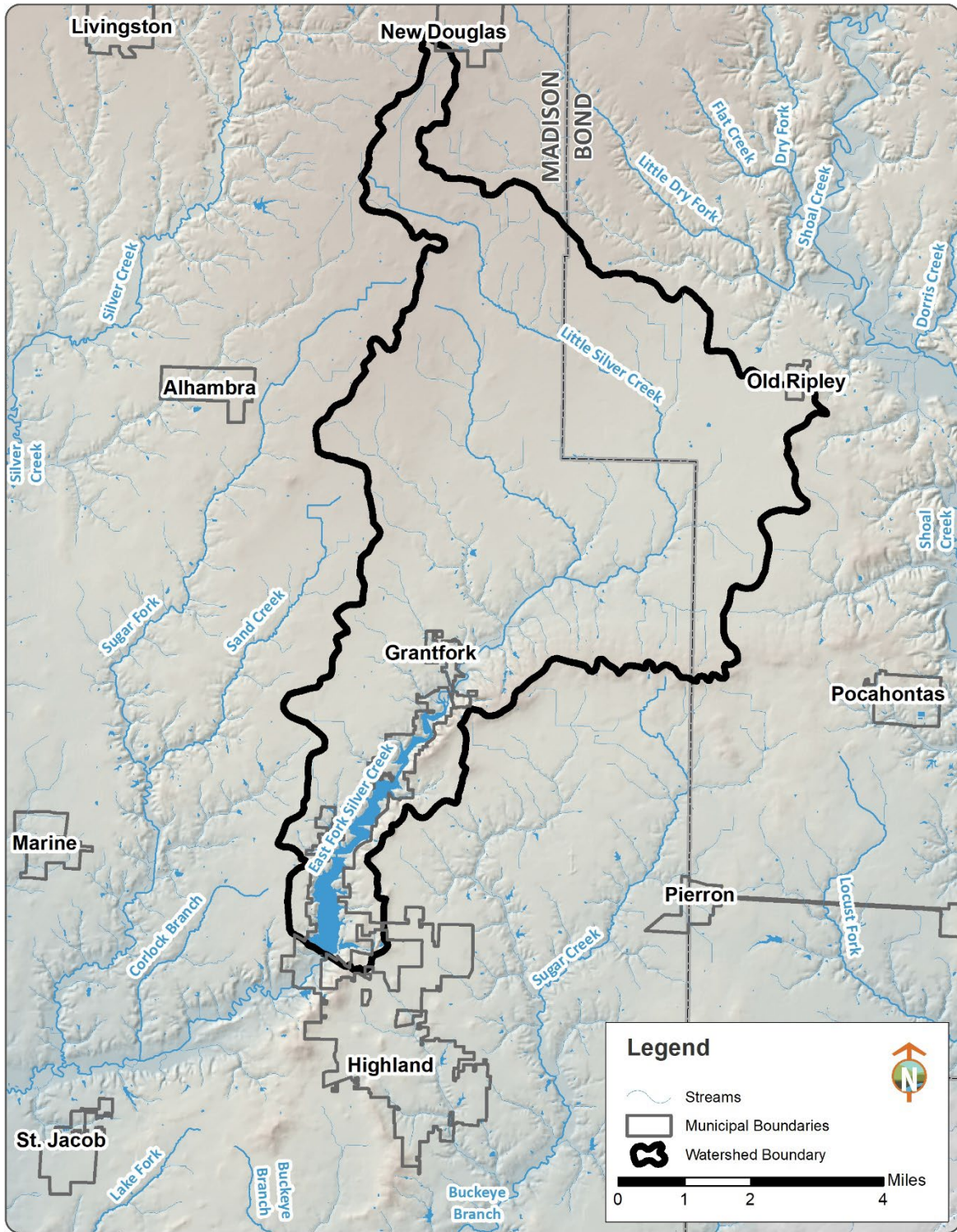


Figure 1. Highland Silver Lake Watershed

## The Highland Silver Lake Watershed

The Highland Silver Lake watershed is located northeast of St. Louis, Missouri, in southwestern Illinois. The watershed drains 5% of Madison County and 3% of Bond County. The watershed's 98 miles of streams drain roughly 31,000 acres of land into the Highland Silver Lake. The Highland Silver Lake watershed is part of the East Fork Silver Creek watershed, which drains into Silver Creek and the lower Kaskaskia River and eventually to the Mississippi River.

The Highland Silver Lake watershed project area contains numerous subwatersheds, called HUC12s and HUC14s. "HUC" stands for Hydrologic Unit Code, a number that identifies the general location and size of the watershed. Many of the issues identified in the watershed are assessed at these subwatershed levels.

As of 2020, the watershed is home to approximately 1,415 residents, most of this population resides outside of municipal boundaries. However, this watershed provides drinking water for more than 12,800 residents in City of Highland and Village of Grantfork. Agricultural land makes up 83% of the watershed, with most of that land in row crop farming. Four municipalities, six townships, and two counties are located within the watershed.



Highland Silver Lake Watershed



Figure 2. Watershed location

## Goals, Objectives, and Targets

The plan promotes a functioning, healthy watershed and guides the development, enhancement, and implementation of actions to achieve these goals:

| <b>GOALS</b>   |
|--|
| GOAL 1: Remove and Reduce Sediment Deposited in Highland Silver Lake |
| GOAL 2: Improve Surface Water Quality                                |
| GOAL 3: Promote Environmentally Sustainable Agricultural Practices   |
| GOAL 4: Support Healthy Fish and Animal Habitat and Recreation       |
| GOAL 5: Develop Organizational Frameworks                            |
| GOAL 6: Conduct Education and Outreach                               |

Objectives were developed to specify progress towards these goals. Targets in this plan were set at levels that can feasibly be reached by the implementation of a suite of Best Management Practices (BMPs), or Management Measures, over time. The targets include a 25% reduction in phosphorus loading, a 15% reduction in nitrogen loading by 2040 (based on Illinois Nutrient Loss Reduction Strategy), and a 20% reduction in sediment loading (based on estimated impacts of proposed BMPs) by 2040.

## Key Watershed Issues

Analysis of the existing and predicted future conditions in the watershed (Appendix A: Watershed Resource Inventory) included collecting data from several government data sources, delineating HUC14 watershed boundaries, using the U.S. Environmental Protection Agency (USEPA) Spreadsheet Tool for Estimating Pollutant Loads (STEPL), conducting an aerial assessment of stream and riparian conditions, field checks, and stakeholder engagement. The issues were organized into 1) Highland Silver Lake and land surrounding the lake and 2) agricultural land throughout the watershed (Figure 3).

### Highland Silver Lake Issues

- **Historic loss of capacity in the lake**
- **Increasing costs of treating drinking water supply**
- **Shoreline erosion**
- **Gully erosion**
- **Sediment deposition from streams entering the lake**
- **Pollutants**
- **Low Dissolved Oxygen (DO)**
- **Invasive species**
- **Reduction in aquatic habitats**
- **Increasing development surrounding the lake**
- **Failing septic systems**
- **Algae blooms and fish die-outs**
- **Reduction in recreational opportunities**
- **Public education of protecting the lake**

### Agricultural land issues

- **Excessive nutrient and sediment runoff**
- **Lack of conservation tillage and soil protection practices**
- **Lack of field borders**
- **Roadside ditch erosion**
- **Poor riparian corridor conditions and invasive species**
- **Channelization**
- **Streambank and channel erosion**
- **Logjams**
- **Failing septic systems**
- **Loss of habitat**
- **Stakeholder education of watershed issues**
- **Need for strong partnerships**
- **Need for funding**

### Project Areas

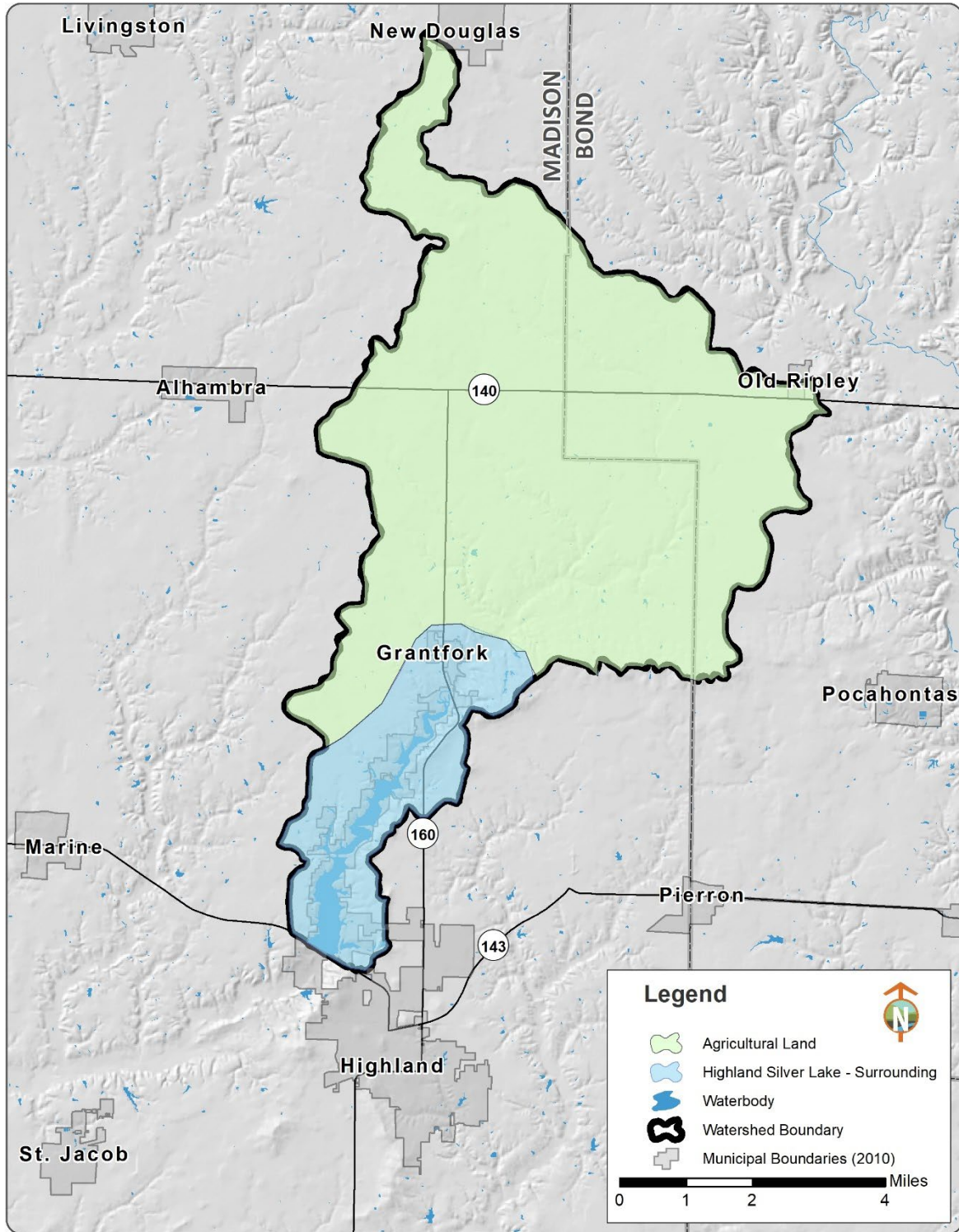


Figure 3. The Highland Silver Lake watershed Project Areas 1) Highland Silver Lake and Surrounding Land 2) Agricultural Land.

## Critical Areas and Site-Specific Projects

“Critical Areas” were identified at locations in the watershed where existing or potential future causes and sources of pollutants or existing functions are significantly worse than other areas of the watershed, OR there is significant potential for the area to make progress towards one or more of the plan’s goals. The Critical Areas were identified using survey and stakeholder information, aerial and field assessments, and U.S. Department of Agriculture (USDA) modeling.

### Highland Silver Lake

- Critical Stream Reaches: Highly or moderately degraded stream reaches with high channelization (0.1 miles)
- Critical Dredging Areas: Location of deposited sediment in need of immediate removal (100,000 cubic feet)
- Critical Riparian Areas: Highly degraded riparian areas (0.5 miles)
- Critical Wetland Areas: Areas suitable for wetland restoration (4.6 acres)
- Critical Shoreline Areas: Highly eroded shoreline (6,350 feet)

### Agricultural Land

- Critical Stream Reaches: Highly or moderately degraded stream reaches with high channelization (21.2 miles)
- Critical Logjam Areas: Stream reaches with high susceptibility to logjams (19 sites)
- Critical Riparian Areas: Highly degraded riparian areas (3.8 miles)
- Critical Wetland Areas: Areas suitable for wetland restoration (10.8 acres)

## Recommended Management Measures

### Highland Silver Lake

- Dredging
- Installation of in-lake structure
- Streambank and gully restoration
- Shoreline stabilization
- Water quality improvement
- Installation of aquatic habitats
- Continue fish rearing
- Removal of invasive species and forest management
- Increased shoreline buffers
- Detention basins
- Public education
- Recreation promotion

### Agricultural Land

- Cover Crops
- Nutrient management plans
- Grassed waterways and water and sediment control basins
- Adoption of conservation tillage practices
- Increased riparian corridor and field borders

## Highland Silver Lake Watershed Plan - Final

- Roadway drainage ditch protection
- Construction of agricultural ponds
- Streambank and channel restoration
- Removal of invasive species
- Removal of logjams that negatively affect stream health

### Measuring Success

Water quality monitoring may be conducted, as funding allows, on a three- to five-year cycle through the year 2036. This may be done by the National Great Rivers Research and Education Center (NGRREC). A set of Progress Report Cards is included in Appendix G, which includes milestones for short-term (one to 10 years; 2021 to 2031), medium-term (10 to 20 years; 2031 to 2041), and long-term (20+ years; 2041+) timeframes. The report card can be used to identify and track plan implementation and effectiveness. Checking in at appropriate milestones helps watershed partners make corrections and ensure that progress is being made towards achieving the plan's goals.

### Information and Education Plan

Public outreach and educational activities are vital for supporting a healthier watershed. The Information and Education component of this plan supports the cumulative actions of partners, stakeholders, and the public across the watershed to accomplish its goals and objectives.

Making this watershed plan available to stakeholders, and informing them of its location and contents, is a major component of the Information and Education Plan. To this end, the plan document is available for download on the watershed plan website hosted by HeartLands Conservancy, [www.heartlandsconservancy.org/highlandsilverlake](http://www.heartlandsconservancy.org/highlandsilverlake).

Recommended information and outreach activities include:

- Watershed plan outreach
  - Mail or e-mail Executive Summary of the watershed plan to key stakeholders.
  - Final plan and recommendations on web page. Post progress updates.
  - Press release announcing completed plan.
  - Meetings of the watershed plan partners held twice a year, at six month intervals. Possible larger annual meeting to include stakeholders and the public. Plan revision considered at five-year intervals.
- Agricultural BMP Workshop
  - Take participants on a tour of BMPs in this area, such as farm enrolled in CRP or a water and sediment control basin.
  - Host a demonstration project event, such as a demonstration on grassed waterways.
  - Provide information on possible funding opportunities
- Shoreline BMP Workshop
  - Take participants on a tour of BMPs in this area, such as shoreline stabilization, pond and wetlands.
  - Provide information on how residents can help protect the health of Highland Silver Lake.
- Field Days
  - Organize stream and lake cleanup volunteer opportunities.
  - Promote volunteer field days through media, social media, and community groups.

## Highland Silver Lake Watershed Plan - Final

- Invasive species removal days.
- Coordinate with local governments to host activities like stream and lake cleanup or habitat restoration activities.
- Host at least one Illinois Riverwatch event to train volunteers in data collection and water quality monitoring.
- Educational signs
  - Mark watershed boundaries with signs.
  - Post signs about the native vegetation plots surrounding Highland Silver Lake.
  - Post signs near fields using various agricultural best management practices.
- Watershed protection awareness efforts
  - Develop messaging based on goals in the watershed plan and disseminate the message using media, social media, collateral (e.g. pencils, bumper stickers, temporary tattoos), and other materials.
  - Host a booth with materials about the plan, water quality, stormwater management, and BMPs at public events, such as county fairs, environmental festivals, etc.
  - Coordinate with engineering firms to host professional development opportunities.
  - Develop an educational brochure to be included in water bills and/or mailed to water customers.
  - Develop seasonal programming and events to encourage outdoor recreation on land and water.
  - Partner with public health agencies to promote the physical and mental health benefits of outdoor recreation.

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## SECTION 1: INTRODUCTION

Simply stated, a “watershed” is the area of land that drains into a common waterbody, such as a creek or river. It can be thought of as a large bathtub: when a drop of water hits anywhere in the tub, it eventually finds its way to the drain (the lowest point). The rim of the bathtub is like the watershed boundary—any drop falling outside it will not reach the drain. On land, a watershed boundary is determined by topography, and it includes surface water bodies (e.g., streams, rivers, lakes, reservoirs, and wetlands), groundwater (e.g., aquifers and groundwater basins), and the surrounding landscape.

The Highland Silver Lake watershed is an area in eastern Madison County and western Bond County that drains to Highland Silver Lake (Figure 1). Precipitation falling in the watershed collects sediment and nutrients from agricultural land and deposits them in the watershed streams and more importantly Highland Silver Lake. The excessive sediment and nutrient concentrations have resulted in significant capacity loss of Highland Silver Lake, the drinking water source for the City of Highland and Village of Grantfork, and the listing of Highland Silver Lake on the IEPA 303(d) list of impaired waters for several successive years.

The City of Highland took action to address the water quality issues identified in the IEPA 303(d) list of impairments. A watershed plan, developed in 2011 by consulting firm HDR, began the process of identifying the sources of impairments and outlining potential solutions. That plan laid the foundation for securing funds for the implementation of best management practices (BMPs) through an Illinois EPA 319 water quality grant. Watershed conditions have changed in the ten years since that plan was developed, and it is time once again to examine water quality impairments in the watershed and identify BMPs to improve water quality.

A watershed plan is a strategy for managing watershed resources on public property, as well as providing a platform to encourage other watershed stakeholders (e.g., landowners, residents, businesses, developers, and non-profits) to participate. The plan is not regulatory, meaning it does not become law. The intent is to encourage voluntary improvements to stormwater management and water quality in the watershed.

# Highland Silver Lake Watershed

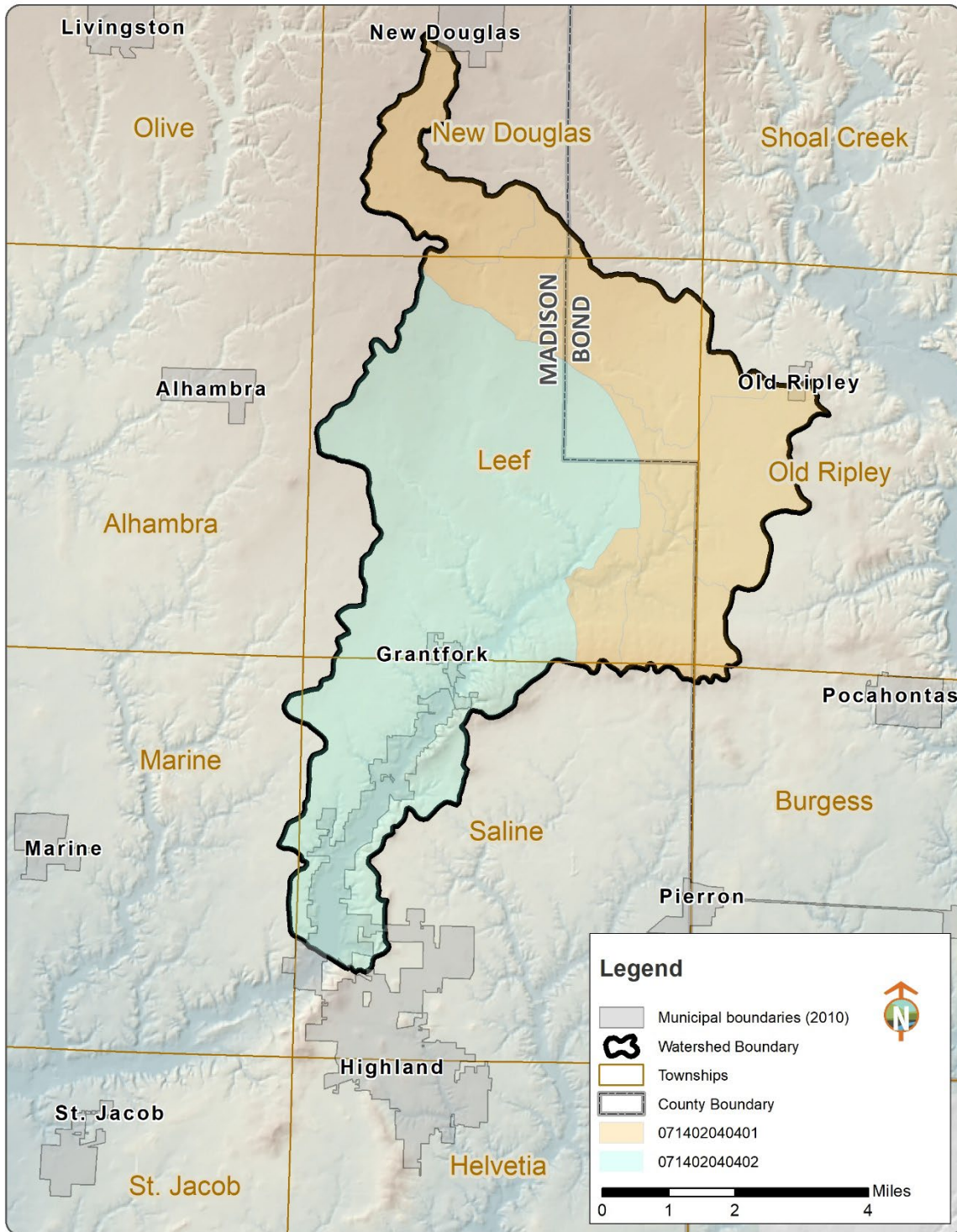


Figure 4. The Highland Silver Lake watershed, containing all or portions of two HUC12 subwatersheds, four municipalities, and six townships.

## Highland Silver Lake Watershed

The Highland Silver Lake watershed is in southwestern Illinois in the eastern portion of Madison County and western portion of Bond County. The watershed drains 5% of Madison County and 3% of Bond County. The watershed's 98 miles of streams drain roughly 31,000 acres of land. Agricultural land makes up 83% of land cover with most of that land in row crop farming, deciduous forest covers 7.5%, and urban land makes up another 7%. All or portions of six townships, four municipalities, and two counties are located within the watershed and approximately 1,415 people call the watershed home.

Highland Silver Lake is a 550-acre reservoir located at the outlet of the watershed. The lake provides drinking water for the residents of City of Highland and Village of Grantfork while also acting as recreational area for the public. The importance of Highland Silver Lake and the creeks and streams delivering water to the lake, mainly East Fork Silver Creek and Little Silver Creek, has led to numerous studies and projects conducted throughout the watershed to protect and improve the health of not only the lake but also the watershed. Although these efforts have improved the health Highland Silver Lake watershed, Highland Silver Lake remains on the Illinois Section 303(d) list of impaired waters.

### Purpose

The purpose of the Highland Silver Lake Watershed Plan is to promote a healthy, functioning watershed that seeks to improve surface water quality of lakes and streams- especially Highland Silver Lake and East Fork Silver Creek- restore soil quality for the vast farmland draining to Highland Silver Lake, expand and protect natural ecosystems, and stabilize the lakes, streams, and creeks throughout the watershed. The plan follows the nine essential elements developed by the United States Environment Protection Agency (USEPA) which are required for a successful watershed plan. These elements are grouped into two land use categories, 1) agricultural land that makes up most of the watershed and 2) Highland Silver Lake and surrounding land. By organizing the causes of pollution, pollutant loads, and BMPs into these two categories, stakeholders will be able to easily determine how to best improve their properties.

### United States Environmental Protection Agency Nine Elements

The USEPA outlines nine elements that are essential to a successful watershed plan. While these elements can be adapted as needed to support each individual plan, the watershed plan for Highland Silver Lake follows these nine elements as outlined below. Additionally, included in this document are locations of site-specific management projects that identify potential areas of BMP implementation, based on assessment by the Watershed Planning Committee (Section 5).

- 1) Identification of the causes/sources of pollution that need to be controlled to achieve the pollutant load reductions estimated in the watershed plan;
- 2) Estimate pollutant load reductions expected following implementation of the management measures under element 3 below;
- 3) Description of the BMPs (non-point source management measures) that are expected to be implemented to achieve the load reductions estimated under element 2 above and an identification of the critical areas in which those measures will be needed to implement;
- 4) Estimate of the amounts of technical and financial assistance needed, associated costs, and/or the source and authorities that will be relied upon, to implement the plan;
- 5) Public information/education component that will be implemented to enhance public understanding of the project and encourage early and continued participation in selecting,

designing, and implementing/maintaining non-point source management measures that will be implemented;

- 6) Schedule for implementing the activities and non-point source management measures identified in this plan that is reasonably expeditious;
- 7) Description of interim, measurable milestones for determining whether non-point source management measures or other control actions are being implemented;
- 8) Set of environmental or administrative criteria that can be used to determine whether loading reductions are being achieved over time and substantial progress is being made towards attaining water quality standards;
- 9) Monitoring component to evaluate the effectiveness of the implementation efforts over time.

### **Illinois Environmental Protection Agency Nonpoint Source Pollution Program**

The Illinois Nonpoint Source Pollution (NPS) Management Program is a road map for Illinois' NPS pollution control activities, and guides the implementation of the activities and projects supported by Section 319(h) grant funds and other NPS control activities in Illinois

The Program includes a summary of Illinois' water resources, the sources and impacts of NPS pollution, and an outline of Illinois' approach to control NPS pollution to protect and improve those waters. The approach includes recommendations for state-wide and watershed-scale work.

### **Madison County Stormwater Plan**

The Madison County Stormwater Plan is the overall framework for stormwater management in the county, which guides regulations, identifies flood and water quality problems, establishes BMPs, and prioritizes projects. The Highland Silver Lake watershed is one of 10 watersheds located in the county. Although this project is funded by the City of Highland, the watershed planning team will seek to get this watershed plan adopted into the Madison County Stormwater Plan. Direction and approval for the Stormwater Plan comes from the Madison County Stormwater Commission, whose members include County Board members and municipal representatives.

The Madison County Stormwater Plan also references stormwater runoff, which is transported through Municipal Separate Storm Sewer Systems (MS4s). Madison County acts as the Coordinator for the MS4 Co-Permittee Group that consists of 26 communities, including Marine Township and Madison County. The group works together to help the individual communities and townships meet the six minimum control measures of their ILR40 permits.

The minimum requirements are: 1) public education and outreach, 2) public participation/involvement, 3) illicit discharge detection and elimination, 4) construction site runoff control, 5) post-construction runoff control, and 6) pollution prevention/good housekeeping. Madison County's MS4 activities in 2020 included technical training, outreach at public events, and hazardous waste collection.

### **Authority**

The State of Illinois Counties Code (55 ILCS 5/) gives counties the authority to adopt and enforce floodplain regulations that apply to all buildings, structures, construction, excavation, and fill in the floodplain. The Counties Code also allows "management and mitigation of the effects of urbanization on stormwater drainage" in Madison County and eight other counties (55/ILCS 5/5-1062.2).

*(55/ILCS 5/5-1062.2) Stormwater management. The purpose of this Section shall be achieved by:*

- (1) Consolidating the existing stormwater management framework into a united, countywide structure.*
- (2) Setting minimum standards for floodplain and stormwater management.*
- (3) Preparing a countywide plan for the management of natural and man-made drainageways. The countywide plan may incorporate watershed plans.*

The Section also allows the establishment of a stormwater management planning committee, whose principal duties “shall be to develop a stormwater management plan for presentation to and approval by the county board, and to direct the plan's implementation and revision.” The Madison County Stormwater Commission fulfills this role. The stormwater plan it creates must be reviewed by the Illinois Department of Resources Office of Water Resources (IDNR-OWR), and can include elements such as rules for floodplain and stormwater management, fees or taxes from new development, and incentives for using green infrastructure and other approved drainage structures. Illinois municipalities also have the authority to adopt stormwater plans (65 ILCS/ Art 11 prec Div 110 – Flood Control and Drainage).

### **Watershed Data Collection and Analysis**

A Watershed Resource Inventory (Appendix A) was developed by HeartLands Conservancy and Andreas Consulting Services, which reviews the existing conditions within the watershed. The inventory documents existing conditions in the streams and lakes in the watershed including channelization, erosion, riparian area condition, soil types, demographics, land use/land cover, and climate. Existing pollutant loads of nitrogen, phosphorus, and sediment are estimated from existing land uses using the STEPL from the USEPA. A bathymetric survey was also completed by the Illinois State Water Survey to determine the capacity of Highland Silver Lake and it will be used to compare to the pollutant load analysis report. Unique to this watershed, numerous past reports have been conducted on the watershed. Information from these reports were also included in the updated watershed plan.

#### ***Aerial assessment of stream and riparian conditions***

The previous Highland Silver Lake watershed plan developed by HDR outlined stream buffer conditions, bank erosion, and logjams on streams throughout the watershed as well as shoreline conditions on Highland Silver Lake. Measurements for these conditions were taken in 2005. To determine where changes have occurred in the past 16 years, aerial assessment of the streams and visual assessment of the shoreline conditions were conducted by Andreas Consulting Service. To gather stream conditions, ACS used drone flights to capture video of the main streams in the watershed. Shoreline conditions were assessed from a boat with the City of Highland Natural Resource Manager. ACS viewed the video to assess streambank erosion, degree of channelization, condition of the riparian area, and streambed erosion. ACS and HLC compared the conditions of the streams in 2021 to conditions in 2005 to determine areas of concern.

#### ***Delineation of subwatersheds***

The watershed contains four subwatersheds, or hydrologic units (HUCs), called HUC12s. To provide more detailed analysis and recommendations for the watershed, the HUC12s were further divided into 49 even smaller HUC14 subwatersheds. HeartLands Conservancy used USGS methodology for defining watersheds in the Watershed Boundary Dataset (WBD), a component

of the National Hydrography Dataset (NHD). Throughout this plan, the term “subwatershed” refers to the HUC14 subwatershed level.

### *Bathymetric Survey*

In May 2021, the Illinois State Water Survey completed a bathymetric survey of the original transect lines in Highland Silver Lake which were established in the previous surveys completed in 1981, 1984, and 1999. This bathymetric survey provides a determination of the current capacity of the reservoir and an estimate of the total sediment deposition over the specific time intervals.

Data from 11 historic transect lines and one new transect line were used to develop the survey with three of the northern most historic lines inaccessible due to shallow water conditions. Depths were measured with acoustic depth sounding equipment and for areas of the lake where depth were insufficient to allow the use of the sounder, a graduated sounding pole with a sediment boot was used.

Analysis of the survey concluded the capacity of the lake has decreased from the original 7,322 acre-feet to 5,075 ac-ft in 2021 or a 31.7% reduction. This equates to a reduction of 732 million gallons of water that could be used for drinking water. The sedimentation rates from 1999-2021 was 34 acre-feet annually which is a decrease from 51 acre-feet annually from 1962-1981.

See Appendix H for the full bathymetric survey report.

### *Historic Reports and Projects*

There have been several reports completed analyzing the health of the watershed, sedimentation in Highland Silver Lake, and a previous watershed plan. The list of past reports and project includes Highland Silver Lake Rural Clean Water Program in 1987, Highland Silver Lake Total Maximum Daily Load Report in 2006, Phase 1 Diagnostic/Feasibility Study of Highland Silver Lake in 2008, Water Quality and Community Capacity in Silver Creek Watershed in 2010, and the Watershed Plan for Highland Silver Lake Watershed in 2011.

The Geographic Data Base and Watershed Modeling for Evaluation of the Rural Clean Water Program in the Highland Silver Lake Watershed completed in 1987 to determine the effectiveness of BMPs in the areas with water quality problems and to project the possible impacts of future implementation of BMPs. The study looked at the effectiveness of both non-structural BMPs, including cover crops, cropland protection systems, and conservation tillage systems, and structure BMPs, including grassed waterways, sediment basins, and diversion structures. The report concluded nonstructural BMPs were more effective in reducing pollutant loads including sediment and amount of nutrients in the sediment but structural BMPs were more effective at reducing peak discharge. It also concluded that any fertilizer management BMP needs to be applied on most of the croplands for it to be effective at reducing loading and nutrient concentrations.

The Highland Silver Lake Total Maximum Daily Load Report completed in 2006 analyzed the impairments which caused the lake to be on the Illinois 303(d), determined potential sources of impairments, establishes total maximum daily (TMDL) loads for the impairments, and recommends practices to meet the TMDL. The report determined the cause of impairment are

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manganese, total phosphorus, dissolved oxygen, Aldrin, and chlordane. Total phosphorus was the only TMDL set in the report because the reduction in total phosphorus will reduce the amount of the remaining impairments. The TMDL for total phosphorus was established at a 90% reduction of the existing loads. To achieve this reduction, the report recommends installing BMPs including, restricting livestock access, conservation buffers, shoreline protection, sediment control structures, conservation tillage, and in-lake structures.

A Phase 1 Diagnostic/Feasibility Study was completed in 2008 by HDR and CWI to assess the lake and develop a lake management plan. The study analyzed existing lake conditions, areas of concern, and sources of sediment and nutrients entering the lake. The study provided lake management objectives including reducing the amount of sediment, remove accumulated sediment, improve water quality, stabilize shoreline areas, and enhance fish populations and provided restoration alternatives including, in-lake structures, sediment removal, aeration systems, shoreline stabilization, and fisheries management.

Southern Illinois University-Carbondale, Illinois State University, and University of Minnesota completed a Water Quality and Community Capacity in Silver Creek Watershed which includes the Highland Silver Lake watershed. The project gathered data through interviews, focus groups, and mail surveys with stakeholders throughout the Highland Silver Lake watershed. The responses from residents and stakeholders showed the need for continued efforts to promote conservation practices and educating landowners how their everyday decisions can help protect the watershed. The report concluded that education, outreach, and community partnerships need to improve on a watershed scale to improve water quality.

In 2011, HDR completed a watershed-based management plan for the Highland Silver Lake watershed. The plan, like this updated watershed-based plan, uses the USEPA nine components of a watershed plan and analyzes water quality issues, and establishes long-term goals, objectives to meet the goals, funding opportunities, and education and outreach programs. The goals the plan identified include improved water quality, reduced sediment and nutrient loads, removal of Highland Silver Lake from IEPA 303(d) List, improved drinking water source, improved recreational opportunities, environmental stewardship, and protection of natural areas. The plan also recommends various best management practices to meet the goals, including soil conservation practices, stream protection and restoration, lake protection and restoration, and community outreach activities.

In 2016, Berrini & Associates completed an updated Evaluation of Highland Silver Lake to determine action items to improve the health of Highland Silver Lake. Their report concluded the water quality of the lake continues to be a concern with poor water clarity (as measured by Secchi disks that were obscured at depths less than 1 foot) during summer months due to sediment and algal growth. It also reported phosphorus level remain elevated due to runoff from agricultural fields, and sediment bars are beginning to form in the northern portion of the lake, helping trap sediment from being transported to the southern portion of the lake. The report listed several items needing adoption immediately. Some of these recommendations were completed between 2018-2021 through an Illinois EPA 319 Grant, including restoring and protecting the eroded peninsula north of I-70 and stabilizing gully erosion near lake. Several projects from the Berrini study still need to be implemented, such as dredging 80,000 cubic yards of sediment, developing a monitoring plan for tributaries, and increasing cover crop adoption.

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In 2018-2021 the City of Highland, in partnership with Heartlands Conservancy, received an Illinois EPA 319 non-point source pollution grant for the Highland Silver Lake watershed. This grant provided funding for 21 projects in the watershed and resulted in substantial reduction in sediment, nitrogen, and phosphorus runoff. Figure 5 shows the location of each of these projects and Table 1 provides the amount of BMPs installed and pollution reduced.



Completed Project Locations

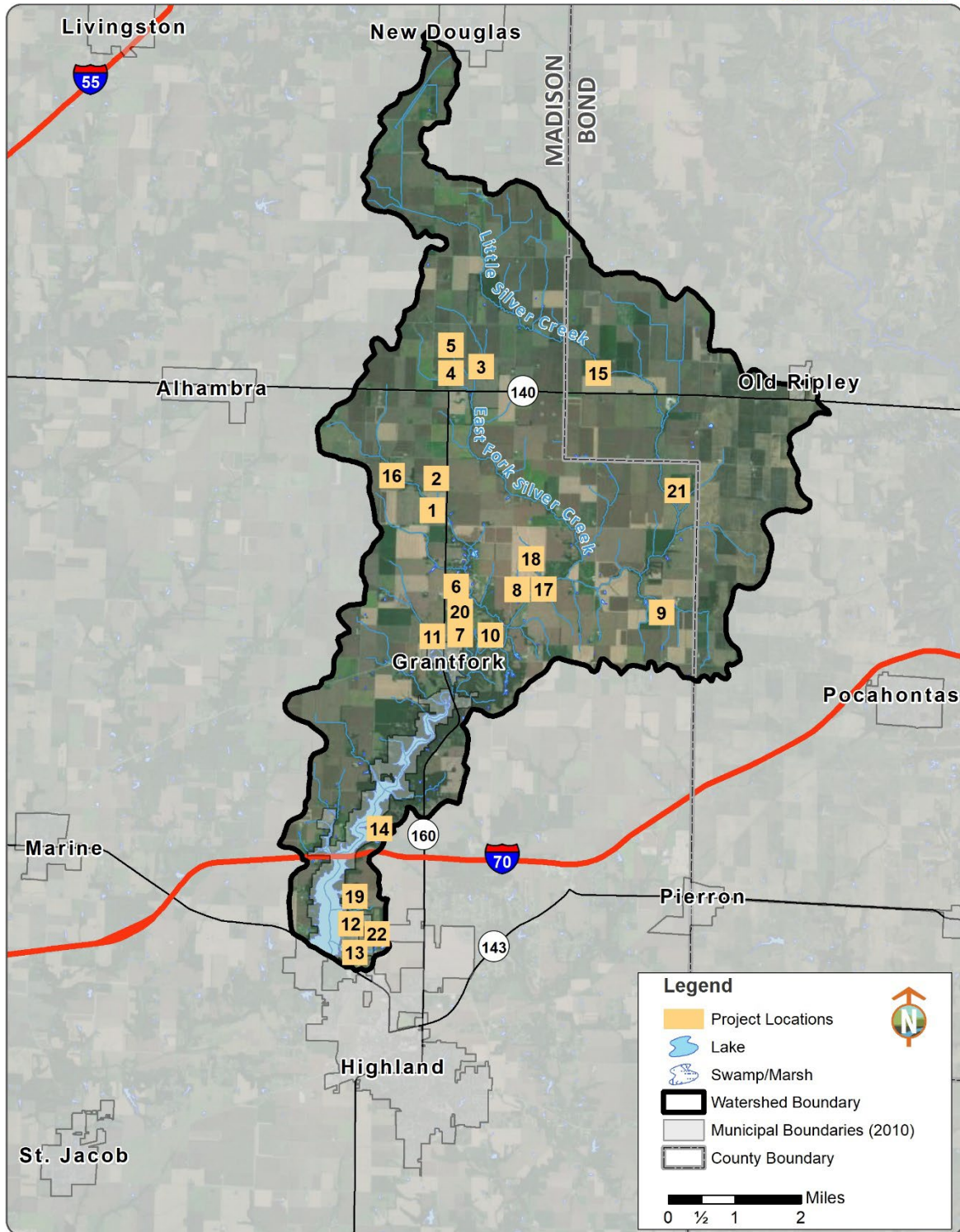


Figure 5: Past project locations in Highland Silver Lake watershed

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Table 1: Completed Projects in Highland Silver Lake watershed

| Project type & Contract #                  | Size of project | Size units         | P load reduction (lbs/yr) | N load reduction (lbs/yr) | Sediment load reduction (t/yr) |
|--|-----------------|--------------------|---------------------------|---------------------------|--------------------------------|
| <b>Water and Sediment Control Basin</b>    |                 |                    |                           |                           |                                |
| 1  | 3,192           | Linear feet        | 102                       | 53                        | 217                            |
| 2  | 800             | Linear feet        | 28                        | 54                        | 20                             |
| 6  | 1,250           | Linear feet        | 204                       | 408                       | 281                            |
| 7  | 858             | Linear feet        | 62                        | 123                       | 48                             |
| 8  | 3,110           | Linear feet        | 42                        | 84                        | 131                            |
| 15   | 1,510           | Linear feet        | 8                         | 16                        | 32                             |
| 17   | 5,250           | Linear feet        | 40                        | 80                        | 136                            |
| 20   | 1,840           | Linear feet        | 24                        | 48                        | 47                             |
| <i>WASCOB Total</i>                        | <i>17,810</i>   | <i>Linear feet</i> | <i>510</i>                | <i>866</i>                | <i>912</i>                     |
| <b>Grassed Waterways</b>                   |                 |                    |                           |                           |                                |
| 3  | 3               | Acres              | 780                       | 1,454                     | 456                            |
| 4  | 0.5             | Acres              | 74                        | 140                       | 53                             |
| 5  | 0.8             | Acres              | 74                        | 140                       | 53                             |
| 6  | 0.6             | Acres              | *Included in WASCOB       | *Included in WASCOB       | *Included in WASCOB            |
| 7  | 0.8             | Acres              | *Included in WASCOB       | *Included in WASCOB       | *Included in WASCOB            |
| 8  | 0.1             | Acres              | 6                         | 13                        | 6                              |
| 9  | 1.5             | Acres              | 119                       | 227                       | 85                             |
| 11   | 1.7             | Acres              | 121                       | 233                       | 98                             |
| 16   | 3.5             | Acres              | 200                       | 400                       | 360                            |
| 18   | 3.4             | Acres              | 304                       | 608                       | 417                            |
| 20   | 1.1             | Acres              | 120                       | 240                       | 120                            |
| <i>Grassed Waterways Total</i>             | <i>17</i>       | <i>Acres</i>       | <i>1,798</i>              | <i>3,455</i>              | <i>1,648</i>                   |
| <b>Grade Stabilization Structure</b>       |                 |                    |                           |                           |                                |
| 3  | 1               | Structure          | 43                        | 80                        | 27                             |
| 6  | 1               | Structure          | *Included in WASCOB       | *Included in WASCOB       | *Included in WASCOB            |
| 8  | 1               | Structure          | *Included in WASCOB       | *Included in WASCOB       | *Included in WASCOB            |
| 11   | 1               | Structure          | *Included in GW           | *Included in GW           | *Included in GW                |
| 16   | 3               | Structure          | *Included in GW           | *Included in GW           | *Included in GW                |
| 20   | 1               | Structure          | 5                         | 10                        | 5                              |
| <i>Grade Stabilization Structure Total</i> | <i>8</i>        | <i>Structure</i>   | <i>48</i>                 | <i>90</i>                 | <i>32</i>                      |

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| Project type & Contract #                 | Size of project | Size units         | P load reduction (lbs/yr) | N load reduction (lbs/yr) | Sediment load reduction (t/yr) |
|---|-----------------|--------------------|---------------------------|---------------------------|--------------------------------|
| <b>Stream/Channel Stabilization</b>       |                 |                    |                           |                           |                                |
| 3   | 800             | Linear feet        | *Included in GW           | *Included in GW           | *Included in GW                |
| 21  | 1,512           | Linear feet        | 87                        | 173                       | 87                             |
| 22  | 700             | Linear feet        | 42                        | 83                        | 42                             |
| <i>Stream/Channel Stabilization Total</i> | <i>3,012</i>    | <i>Linear feet</i> | <i>129</i>                | <i>256</i>                | <i>129</i>                     |
| <b>Diversion Channel</b>                  |                 |                    |                           |                           |                                |
| 4   | 1,400           | Linear feet        | *Included in GW           | *Included in GW           | *Included in GW                |
| 8   | 1,000           | Linear feet        | 57                        | 106                       | 38                             |
| <i>Diversion Channel Total</i>            | <i>2,400</i>    | <i>Linear feet</i> | <i>57</i>                 | <i>106</i>                | <i>38</i>                      |
| <b>Conservation Cover</b>                 |                 |                    |                           |                           |                                |
| 7   | 17.03           | Acres              | *Included in WASC0B       | *Included in WASC0B       | *Included in WASC0B            |
| <i>Conservation Cover Total</i>           | <i>17.03</i>    | <i>Acres</i>       |                           |                           |                                |
| <b>Pond</b>                               |                 |                    |                           |                           |                                |
| 10  | 1               | Pond               | 81                        | 97                        | 111                            |
| 12  | 1               | Pond               | 11                        | 21                        | 54                             |
| <i>Pond Total</i>                         | <i>2</i>        | <i>Pond</i>        | <i>92</i>                 | <i>118</i>                | <i>165</i>                     |
| <b>Wetland Restoration</b>                |                 |                    |                           |                           |                                |
| 13  | 1               | Acre               | 11                        | 21                        | 64                             |
| <i>Wetland Restoration Total</i>          | <i>1</i>        | <i>Acre</i>        | <i>11</i>                 | <i>21</i>                 | <i>64</i>                      |
| <b>Shoreline Stabilization</b>            |                 |                    |                           |                           |                                |
| 14  | 2,035           | Linear feet        | 120                       | 240                       | 120                            |
| <i>Shoreline Stabilization Total</i>      | <i>2,035</i>    | <i>Linear feet</i> | <i>120</i>                | <i>240</i>                | <i>120</i>                     |
| <b>Woodland Improvement</b>               |                 |                    |                           |                           |                                |
| 19  | 20              | Acres              | 29                        | 59                        | 24                             |
| <i>Woodland Improvement</i>               | <i>20</i>       | <i>Acres</i>       | <i>29</i>                 | <i>59</i>                 | <i>24</i>                      |
| <b>OVERALL TOTAL</b>                      |                 |                    | <b>2,794</b>              | <b>5,211</b>              | <b>3,132</b>                   |

### Stakeholder Engagement

Early on and throughout the planning process, the planning team engaged with 25 individuals who reside in the watershed. Interviews were conducted with stakeholders including townships, municipalities, and County Board members. In small group meetings, attendees provided locations of flooding and gave detailed input on stormwater issues in the watershed. Open Houses were scheduled to gather input and get feedback from the general public but due to the COVID-19 pandemic (2020-2021) had to be canceled.

Municipalities were asked about their drinking water source(s), wastewater treatment system(s), and issues such as erosion, siltation, and water quality. Other stakeholders were asked about these issues in their jurisdiction or on their property. A table summarizing the input from municipalities can be found in Appendix A (Watershed Resource Inventory). Stakeholder input helped to shape the Critical Area locations and the Information and Outreach section of the plan. Some of the issues identified during outreach include siltation of Silver Lake and its potential effects on drinking water supply, erosion of cropland and streambanks, flooding, logjams, and excessive moss and algae in waterbodies.

#### *Community Survey*

A Community Survey for the Highland Silver Lake watershed was developed so that watershed residents to provide information about issues on their property and provide feedback on which type of best management practices they are interested in implementing. The survey was shared at stakeholder meetings, posted on the City of Highland and Village of Grantfork websites, and broadcast on social media sites. A total of seven responses were received. The results revealed some locations of erosion on agricultural land and potential BMP sites (Appendix B).

### Key Issue Identification and Goal Setting

Using the results of the stakeholder outreach process, the project team identified the key issues—such as excessive sediment deposited in Highland Silver Lake—in the watershed. As the key issues evolved, common themes emerged, and the project team was able to develop overarching goals and objectives for the watershed.

### Critical Areas Identification

The project team used information gathered from municipalities, townships, the county, individual property owners, and a variety of technical and spatial data resources and modeling to determine the locations of Critical Areas in the watershed. A “Critical Area” is a location in the watershed where existing or potential future causes and sources of pollutants are significantly worse than other areas, or there is significant potential to make progress towards watershed plan goals.

### Management Measures and Targets

Based on the Watershed Resource Inventory and input from stakeholders and the public, management measures and targets were identified. Management Measures and Targets are divided into the two categories: measures and targets for Highland Silver Lake including land surrounding the lake and measures and targets for agricultural land throughout the watershed. These management measures will include specific Best Management Practices (BMPs) for prevention, remediation, restoration, and maintenance for each category. Pollutant load reduction and other benefits, approximate costs, and a schedule for implementation is provided for BMPs in each category. Sources of financial and technical support are also identified, and measures of success and milestones are established to monitor the ongoing progress of the plan.

### *Spreadsheet Tool for Estimating Pollutant Loads (STEPL)*

The project team used the STEPL tool, which uses land cover, precipitation, and elevation data to estimate nitrogen, phosphorus, and sediment runoff from specific drainage areas. The tool created estimates for current land use conditions and future land cover scenarios incorporating Management Measures. These numbers were used to set targets for pollutant load reduction in the watershed.

### *Agricultural Conservation Planning Framework (ACPF)*

HeartLands Conservancy used the Agricultural Conservation Planning Framework (ACPF), a set of Geographic Information System (GIS) tools developed by the USDA to identify locations where certain BMPs (e.g., terraces, grassed waterways) would be well-suited. The ACPF uses topographic data (i.e., LiDAR) to create maps of drainage pathways across agricultural land. These drainage pathways are used alongside land cover, rainfall, and soils data to create usable maps within the watershed.

### **Implementation Plan**

For each Management Measure, an implementation schedule was developed. Partners in the watershed plan can monitor progress and effectiveness using progress report cards (Appendix G).

### **Water quality monitoring**

Water quality monitoring data was collected for the watershed (from ISGS, IEPA, and other sources), and a monitoring plan was created (Appendix F).

### **City of Highland Review**

The draft plan was submitted to the City of Highland for their review. All questions and comments made by their staff were addressed and the plan was updated to meeting their requirements. The final plan was then submitted for their final approval and adoption.

### **Illinois Environmental Protection Agency Review**

A draft of the plan will be reviewed by the Illinois Environmental Protection Agency Bureau of Water Division. Any comments or recommendations provided by the Division will be addressed before the plan is submitted for final approval. If no further comments are made, the plan is approved and added the IEPA website.

### **Integration into Madison County Stormwater Management Plan**

Upon the approval by the City of Highland and the Illinois EPA, the plan will be submitted to Madison County to be adopted as a part of the Madison County Stormwater Management Plan.



## SECTION 2: GOALS, OBJECTIVES, AND TARGETS

### Goals and Objectives

A set of long-term goals and objectives were developed to address the challenges and issues associated with maintaining a healthy, functioning watershed (Table 2). These goals address the issues identified in the Watershed Resources Inventory, Community Survey, and input from residents, landowners, businesses, and government officials. Each goal and objective align with a challenge/issue to be addressed, a set of recommended Best Management Practices (BMPs), organizations implementing those BMPs, specific and general projects using those BMPs, and ranking of the priority of the recommended BMPs.

Table 2. Summary of goals and objectives of the Watershed Plan. See goals on the following pages for additional details.

| <b>Goals</b>  | <b>Objectives</b>   |
|---|---|
| <b>Remove and Reduce Sediment Deposited in Highland Silver Lake</b> | <ul style="list-style-type: none"> <li>● 30% reduction of sediment 2037.</li> <li>● Dredge 100,000 cubic yards of sediment from northern portion of lake.</li> <li>● Installation of in-lake structure(s).</li> <li>● Installation of shoreline stabilization on 6,325 feet of Critical Shoreline Area.</li> <li>● Stabilize streams and gullies surrounding Highland Silver Lake.</li> <li>● Continue forest management and native tree planting surrounding Highland Silver Lake.</li> <li>● Monitor tributaries to Highland Silver Lake to measure sediment deposition yearly.</li> </ul>  |
| <b>Improve Surface Water Quality</b>                                | <ul style="list-style-type: none"> <li>● Remove Highland Silver Lake from Illinois 303(d) List.</li> <li>● 30% reduction in sediment by 2037.</li> <li>● 45% reduction in phosphorus by 2037.</li> <li>● 45% reduction in nitrogen by 2037.</li> <li>● Develop strategy to reduce phosphorus levels to less than 1,871 kg/year per TMDL report.</li> <li>● Maintain dissolved oxygen levels above standard minimums in Highland Silver Lake to prevent harmful algal blooms.</li> <li>● Install streambank practices on 17,694 feet of Critical Stream Reaches to stabilize channel banks,</li> <li>● Stabilize 21 miles of channelized streams and reconnect to the floodplain.</li> <li>● Remove all Critical Logjam Areas that negatively affect stream health</li> <li>● Promote rural roadside ditch maintenance strategies to prevent gully erosion.</li> <li>● Create a strategy to improve the assessment and maintenance of private sewage systems for correct functioning.</li> <li>● Expand and increase frequency of water quality monitoring throughout the watershed to identify trends and evaluate the success of best management practices.</li> </ul> |
| <b>Promote Environmentally Sustainable Agricultural Practices</b>   | <ul style="list-style-type: none"> <li>● Encourage use of cover crops on all agricultural fields.</li> <li>● Promote the benefits and increase adoption of conservation tillage.</li> <li>● Perform gully erosion surveys.</li> <li>● Promote the benefit of Highland Silver Lake being labeled an NRCS priority watershed for implementing agricultural best management practices.</li> <li>● Increase riparian buffers near creeks, streams, and field borders.</li> <li>● Conserve sensitive lands, such as highly erodible areas, by taking them out of crop production.</li> <li>● Increase the acreage of forest and native grassland through ecological restoration.</li> </ul>  |

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|  |   |
|--|---|
| <p><b>Support Healthy Fish and Wildlife Habitat and Recreation</b></p> | <ul style="list-style-type: none"> <li>● Promote healthy ecosystems within lake, streams, and riparian areas.</li> <li>● Monitor fish and aquatic macroinvertebrate communities.</li> <li>● Identify and protect key natural features and wildlife corridors.</li> <li>● Prioritize “green” or natural systems-based stormwater management approaches.</li> <li>● Create an invasive species removal strategy.</li> <li>● Install artificial aquatic habitats for fish breeding.</li> <li>● Create and adopt a riparian buffer ordinance.</li> <li>● Install riffles to stabilize streams and improve aquatic habitat.</li> </ul>   |
| <p><b>Develop Organizational Frameworks</b></p>                        | <ul style="list-style-type: none"> <li>● Continue success of past projects and reports.</li> <li>● Activate a network of partners to implement the plan.</li> <li>● Encourage government entities to assist stakeholders with watershed management.</li> <li>● Leverage funding from a variety of sources to implement the plan.</li> </ul>   |
| <p><b>Conduct Education and Outreach</b></p>                           | <ul style="list-style-type: none"> <li>● Identify volunteers to help expand monitoring program.</li> <li>● Continue promotion of benefits of Highland Silver Lake.</li> <li>● Connect watershed stakeholders to decision-makers and experts.</li> <li>● Offer opportunities for public education and participation in watershed matters.</li> <li>● Develop public recognition programs focused on the watershed plan’s goals.</li> <li>● Increase awareness of consequences of poor water quality in Highland Silver Lake.</li> <li>● Showcase BMPs, such as grassed waterways to help residents and landowners understand the design and benefits.</li> <li>● Install educational signs promoting healthy habitats and recreational opportunities.</li> </ul> |



## **GOAL 1: REMOVE AND REDUCE AMOUNT OF SEDIMENT DEPOSITED IN HIGHLAND SILVER LAKE**

**Reduce the amount of sediment deposited into Highland Silver Lake, to ensure the long-term drinking water storage and recreational capacity of the lake .**

### **Sediment Reduction Objectives:**

- 1.1 Achieve a 30% reduction in sediment from the watershed by 2037. This is lower than the recommended TMDL report but achievable for the watershed plan timeframe.
- 1.2 Dredge approximately 100,000 cubic yards of sediment from a 20-acre area in the northern portion of Highland Silver Lake (i.e., an average of 3 feet of sediment over 20 acres).
- 1.3 Install at least one in-lake structure in the northern portion of Highland Silver Lake to control and capture sediment and nutrients and prevent the transport of pollutants to the remainder of the lake.
- 1.4 Install rock riprap or other shoreline stabilization practices on all Critical Shoreline Areas, which total 6,325 feet.
- 1.5 Install Best Management Practices, such as riffles, to control erosion of tributary streams and formation of gullies in areas that drain to Highland Silver Lake.
- 1.6 Continue forest management practices around Silver Lake that use native trees and plants and remove invasive species.
- 1.7 Monitor major tributaries to Highland Silver Lake to develop accurate annual sediment load measurements.

## GOAL 2: IMPROVE SURFACE WATER QUALITY

**Improve surface water quality in the watershed, so that Highland Silver Lake and tributaries can be safely used by residents, and remove Highland Silver Lake from the IEPA 303(d) list of impaired waters.**

Highland Silver Lake has been listed on the 2018 IEPA 303(d) list of impaired waters. The causes of impairment for Highland Silver Lake includes chlordane, total suspended solids (TSS), mercury, and phosphorus. The source of impairment for Highland Silver Lake includes atmospheric deposition – toxics, littoral/shore area modifications, unknown sources, and crop production.

### **Surface Water Quality Improvement Objectives:**

- 2.1 Decrease overall pollutant loading to Highland Silver Lake to levels that ultimately remove the lake from the Illinois EPA 303(d) list of impaired water and minimize drinking water treatment costs.
- 2.2 Achieve a 30% reduction in sediment from the watershed by 2037.
- 2.3 Achieve a 45% reduction in phosphorus from the watershed by 2037, which aligns with the Illinois Nutrient Loss Reduction Strategy.
- 2.4 Achieve a 45% reduction in nitrogen from the watershed by 2037, which aligns with the Illinois Nutrient Loss Reduction Strategy.
- 2.5 Develop a strategy to reduce the phosphorus load to Highland Silver Lake below 1,871 kg/year or a 90% reduction to meet TMDL report.
- 2.6 Maintain dissolved oxygen levels above minimum standards in Highland Silver Lake to prevent harmful algal blooms.
- 2.7 Install streambank stabilization practices on 17,694 feet of Critical Stream Reaches to stabilize channel banks.
- 2.8 Restore natural stream flow for 21 miles of degraded streams and reconnect to the floodplain.
- 2.9 Remove all Critical Logjam Areas that negatively affect stream health.
- 2.10 Promote rural roadside maintenance techniques which prevent excessive gully erosion, such as installing properly shaped, well-vegetated ditches where necessary.
- 2.11 Create and implement a strategy to improve the assessment and maintenance of private sewage systems to ensure proper function.
- 2.12 Expand and increase the frequency of water quality monitoring throughout the watershed to identify trends and evaluate the success of best management practices.

### **GOAL 3: PROMOTE ENVIRONMENTALLY SUSTAINABLE AGRICULTURAL PRACTICES**

**Promote sustainable agricultural practices that protect the valuable soils on agricultural fields, reduce nutrient runoff, and support native habitat.**

**Promote sustainable agricultural practice objectives:**

- 3.1 Continue to encourage the adoption of cover crops on all agricultural fields to eliminate bare soils, which are prone to erosion.
- 3.2 Continue to encourage and promote the benefits of conservation tillage (i.e., no-till) on all agricultural fields to increase soil health and reduce nutrient runoff.
- 3.3 Perform gully erosion surveys to document current and changing conditions and track potential problem areas.
- 3.4 Promote the benefit of Highland Silver Lake watershed's designation as an NRCS priority watershed for drinking water source protection. This designation requires 10% of local Environmental Quality Incentives Program (EQIP) through NRCS funding to be spent throughout the watershed, which can provide assistance to agricultural producers.
- 3.5 Increase native riparian (i.e., the vegetated area next to a stream or waterbody) buffers and remove invasive plant species surrounding all streams, creeks, drainage ways, and field borders to slow and filter runoff and increase beneficial habitat.
- 3.6 Conserve sensitive and unproductive lands by taking them out of crop production. These lands include cropland on steep slopes and riparian areas.
- 3.7 Increase the acreage of forest and native grassland in the watershed to create habitat connectivity through ecological restoration and land conservation practices.

## **GOAL 4: SUPPORT HEALTHY FISH AND WILDLIFE HABITAT AND RECREATION**

**Improve and protect habitat in Highland Silver Lake, streams, and water bodies to promote biodiversity and recreation.**

### **Support Healthy Fish and Wildlife Habitat and Recreation Objectives:**

- 4.1 Promote healthy ecosystems within streams and riparian areas to provide habitat for a wide variety of native fish, invertebrate, plant, and animal species.
- 4.2 Expand and increase the frequency of monitoring fish and aquatic macroinvertebrate communities alongside water quality data to assess suitability of habitat.
- 4.3 Identify and protect key natural features and corridors for wildlife, including wetlands, forest, and grasslands, to prevent the loss or degradation of fish and wildlife habitat.
- 4.4 Prioritize “green” or natural systems-based stormwater management approaches.
- 4.5 Create a strategy to remove invasive species within the watershed and educate landowners about invasive species and how to safely remove them.
- 4.6 Adopt a riparian buffer ordinance surrounding all major waterways to increase habitat and reduce and filter runoff.
- 4.7 Install rock riffles to stabilize stream channels and improve aquatic species and fish habitat
- 4.8 Installation of additional fish rearing ponds to enhance the fisheries in the lake and surrounding streams.

## **GOAL 5: DEVELOP ORGANIZATIONAL FRAMEWORKS TO IMPLEMENT WATERSHED GOALS**

**Facilitate partnerships with stakeholders and leverage resources to implement the watershed plan.**

### **Develop Organizational Framework Objectives:**

- 5.1 Continue the success of past projects including continued updates of watershed plan and evaluation reports of Highland Silver Lake and the Watershed.
- 5.2 Activate a network of partners dedicated to implementing the watershed plan and other water quality and stormwater management issues throughout the watershed.
- 5.3 Encourage additional government entities, such as townships and the Village of Grantfork, to assist stakeholders with watershed management.
- 5.4 Leverage funding from a greater diversity of sources to implement the watershed plan.

## GOAL 6: CONDUCT EDUCATION AND OUTREACH

**Promote public awareness, understanding, and stewardship of the watershed and the watershed plan.**

### **Conduct Education and Outreach Objectives:**

- 6.1 Identify volunteers to expand the water quality and aquatic species monitoring program.
- 6.2 Continue promotion of the health and recreational benefits of Highland Silver Lake.
- 6.3 Connect watershed residents and farmers to decision-makers and experts with knowledge about water quality and erosion issues and solutions.
- 6.4 Offer effective opportunities for public education, training, and participation in watershed matters, including information-based resources and demonstration projects.
- 6.5 Develop a public recognition program focused on the watershed plan's goals.
- 6.6 Increase awareness of the consequences of poor water quality in Highland Silver Lake including increased drinking water costs.
- 6.7 Showcase best management practices (BMPs), especially grassed waterways and water and sediment control basins, to show how to properly design, install, and maintain these practices.
- 6.8 Install educational signs promoting healthy habitats and recreational opportunities throughout Highland Silver Lake Park and surrounding Highland Silver Lake.

## Watershed Impairment Reduction Targets

Impairment Reduction Targets enables calculations to be made about how implementation of Management Measures can be expected to reduce watershed impairments over time. The Impairment Reduction Targets for this watershed plan are based on the Illinois Nutrient Loss Reduction Strategy, published by IEPA in 2015. The strategy describes a comprehensive suite of BMPs for reducing nutrient loads from wastewater treatment plants and urban and agricultural runoff. Its targets are a 25% reduction in phosphorus and a 15% reduction in nitrogen by 2035, with an eventual target of 45% reduction for both nutrients. This watershed plan adds a target of a 30% reduction of sediment (Table 3). As this plan was completed in 2021, a longer time horizon of 2037 is needed to meet the targets.

Additional watershed-wide impairment reduction targets were established for dissolved oxygen and habitat degradation.

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Table 3. Watershed-wide impairment reduction targets, their basis, and reductions from Critical Areas and other areas recommended.

| Impairment: Cause of Impairment              | Basis for Impairment   | Reduction Target   | Reduction from Critical Areas and other areas   |
|--|--|--|---|
| Water Quality/Aquatic Life: Phosphorus       | 793,577 lbs/year of phosphorus loading, based on STEPL model | 45% or 357,110 lbs/year reduction in phosphorus loading by 2037, based on the Illinois Nutrient Loss Reduction Strategy (2015)   | 3,371 lbs/year reduction from Critical Stream Reaches<br>1,225 lbs/year reduction from Critical Riparian Areas<br>19.6 lbs/year reduction from Critical Wetland Areas<br>104 lbs/year reduction from Critical Shoreline Area<br>50,236 lbs/year reduction from other agricultural practices<br>738,622 lbs/year reduction from other Highland Silver Lake practices   |
| <b>TOTAL</b>                                 |  |  | <b>793,578 lbs/year or 45% total phosphorus reduction</b>   |
| Water Quality/Aquatic Life: Sediment         | 69,665 tons/year of sediment loading, based on STEPL model   | 30% or 20,899 tons/year reduction in sediment loading by 2037, based on estimated impacts of proposed BMPs.  | 3,171 tons/year reduction from Critical Stream Reaches<br>616 tons/year reduction from Critical Riparian Areas<br>14.2 tons/year reduction from Critical Wetland Areas<br>11 tons/year reduction from Critical Shoreline Area<br>18,808 tons/year reduction from other agricultural practices<br>47,045 tons/year reduction from other Highland Silver Lake practices |
| <b>TOTAL</b>                                 |  |  | <b>69,665 tons/year or 30% total sediment reduction</b>   |
| Water Quality/Aquatic Life: Nitrogen         | 674,515 lbs/year of nitrogen loading, based on STEPL model   | 45% or 303,532 lbs/year reduction in nitrogen loading by 2037, based on the Illinois Nutrient Loss Reduction Strategy  | 14,644 lbs/year reduction from Critical Stream Reaches<br>4,697 lbs/year reduction from Critical Riparian Areas<br>39 lbs/year reduction from Critical Wetland Areas<br>143 lbs/year reduction from Critical Shoreline Area<br>155,460 lbs/year reduction from other agricultural practices<br>499,533 lbs/year reduction from other Highland Silver Lake practices   |
| <b>TOTAL</b>                                 |  |  | <b>674,515 lbs/year or 45% total nitrogen reduction</b>   |
| Water Quality/Aquatic Life: Dissolved Oxygen | Highland Silver Lake impaired for dissolved oxygen in 2016.  | No samples lower than the current minimum concentration in streams:<br><u>March – July</u> : 5.0 mg/L at any time, 6.0 mg/L daily mean averaged over 7 days<br><u>August – February</u> : 3.5 mg/L at any time, 4.0 mg/L daily mean averaged over 7 days, 5.5 mg/L daily mean averaged over 30 days<br>Based on 35 Ill. Adm. Code 302 (Illinois Pollution Control Board (IPCB), 2011). | 21 miles of channel stabilization and restoration, including riffle pools and other structures that increase re-aeration<br>100,000 cubic yards of dredging<br>6,325 feet of shoreline stabilization<br>3 in-lake structures<br>300 acres of forest stand improvement   |

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Table 3, continued.

| Impairment: Cause of Impairment  | Basis for Impairment   | Reduction Target   | Reduction from Critical Areas and other areas   |
|--|--|--|---|
| Habitat Degradation:<br>Invasive/non-native plant species in riparian areas; hydrologic changes due to loss of wetlands; logjams | The riparian areas along 47% of streams assessed (45 miles) are in poor condition. 6,325 feet of Critical Shoreline Area. 5.3 miles of Critical Riparian Areas. 19 sites of Critical Logjam Areas. | <b>50% Critical Riparian Areas</b> restored<br><b>Majority of riparian areas in poor condition</b> restored<br><b>100% Critical Shoreline Stabilized</b><br><b>100% Critical Logjam Areas</b> assessed and removed | 32 acres of poor condition riparian areas ecologically restored, including 100% Critical Riparian Areas<br>100% of Critical Shoreline Stabilized<br>100% Critical Logjam Areas assessed and removed |

## SECTION 3: ISSUES AND CRITICAL AREAS

### Key Issues Identified

The following issues were identified in the watershed planning process. Issues are organized into two geographical areas, 1) Highland Silver Lake and the land surrounding the lake and 2) agricultural land throughout the watershed.

### Highland Silver Lake and Surrounding Land

#### ISSUE: HISTORIC LOSS OF CAPACITY IN THE LAKE

A bathymetric survey was completed in May 2021 by the Illinois State Water Survey and Andreas Consulting. The survey analyzed lake bottom elevations at 11 historic transect lines used for all previous bathymetric surveys (1962, 1981, 1984, and 1999). Three additional lines in the northern most segment of the lake were inaccessible due to shallow water conditions because of excess sedimentation. The original capacity of the lake in 1962 was 7,322 acre-feet or 2.39 billion gallons of water. In 2021, the capacity of the lake has reduced to 5,075 acre-feet or 1.65 billion gallons of water, a reduction of 30.7%. The majority of the loss of capacity occurs in the northern most segments of the lake with the top four segments experiencing an averaged reduction of approximately 80% from the original capacity. The report also stated the lake on average over its lifetime is capturing approximately 38.1 acre-feet of sediment every year and 34.4 acre-feet per year since 1999. That is equivalent to just over 1 ton of sediment for every acre in the Highland Silver Lake watershed. The historic loss of capacity has caused and will continue to cause a decrease in water quality for lake, increase erosion of shoreline, and increase cost of treating the water for the public’s drinking water source. Capacity loss has also led to the northern portion of the lake to become inaccessible due to shallow depths. The lake has experienced a reduction in public recreation opportunities as a result. Installation of best management practices has helped to slow the loss of capacity, but the BMPs to date have failed to recover the significant capacity loss that has already occurred. Additional information on the bathymetric survey is available in Appendix H.

**Table 1. Reservoir Capacity and Capacity Loss Analysis**

| <i>Period</i>                                  | <i>Capacity</i> | <i>Capacity loss for period</i> | <i>Cumulative capacity loss</i> | <i>Period annual capacity loss rate</i> | <i>Cumulative annual capacity loss rate</i> |
|--|-----------------|---------------------------------|---------------------------------|---|---|
| <i>a) Analysis in units of acre-feet</i>       |                 |                                 |                                 |   |   |
| 1962   | 7,322           |                                 |                                 |   |   |
| 1962-1981                                      | 6,349           | 973                             | 973                             | 51.2                                    | 51.2  |
| 1981-1984                                      | 6,160           | 189                             | 1,162                           | 63.0                                    | 52.8  |
| 1984-1999                                      | 5,832           | 328                             | 1,491                           | 21.9                                    | 40.3  |
| 1999-2021                                      | 5,075           | 757                             | 2,247                           | 34.4                                    | 38.1  |
| <i>b) Analysis in units of million gallons</i> |                 |                                 |                                 |   |   |
| 1962   | 2,386           |                                 |                                 |   |   |
| 1962-1981                                      | 2,069           | 317                             | 317                             | 17                                      | 17  |
| 1981-1984                                      | 2,007           | 62                              | 379                             | 21                                      | 17  |
| 1984-1999                                      | 1,900           | 107                             | 486                             | 7                                       | 13  |
| 1999-2021                                      | 1,654           | 247                             | 732                             | 11                                      | 12  |

Note: Lake surface area is 584 acres in 2021.

**Main objectives addressing this issue:**

- Dredging 100,000 cubic yards of sediment in the northern portion of lake
- Installation of in-lake structures



Highland Silver Lake Remaining Capacity

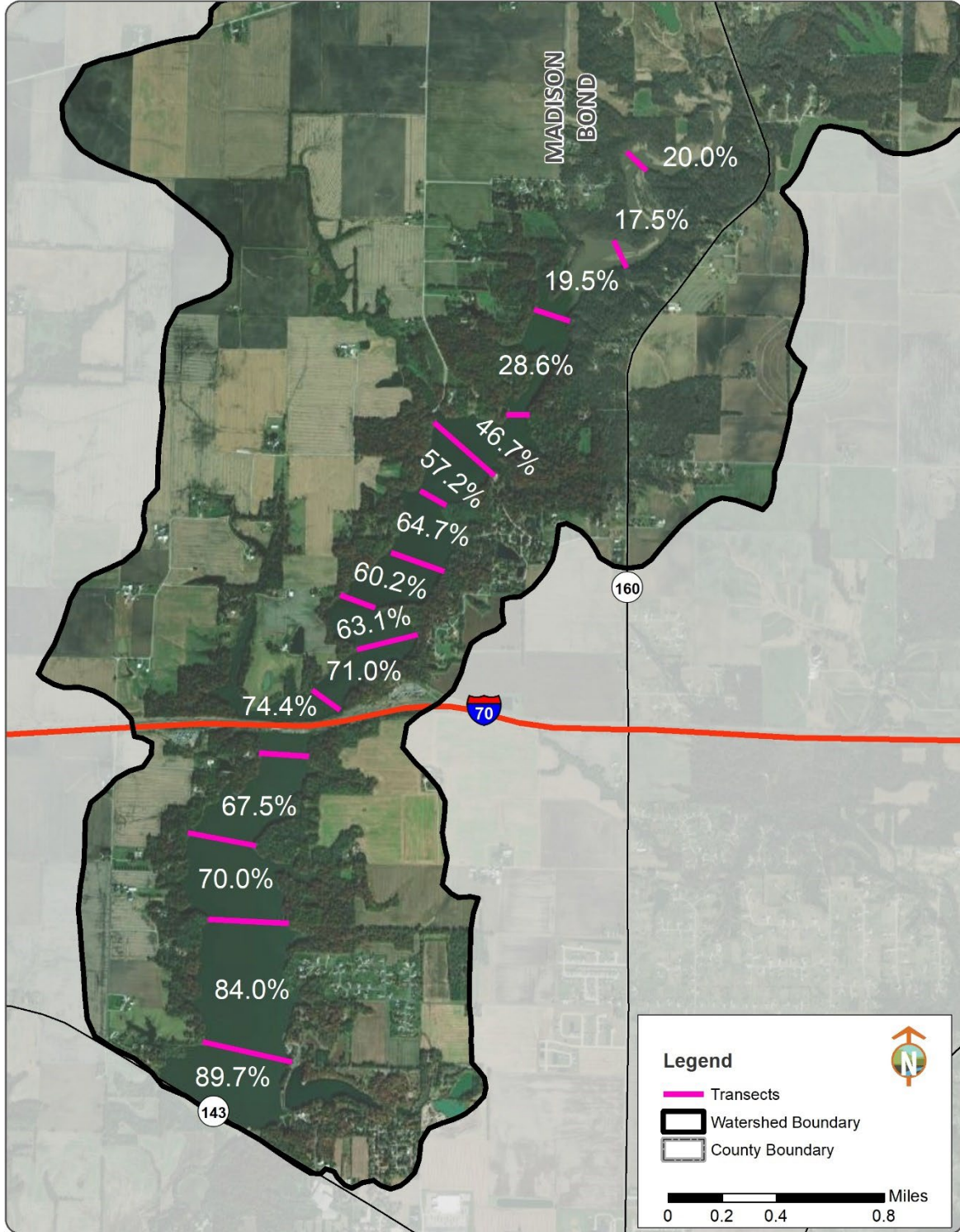


Figure 6. Highland Silver Lake Remaining Capacity as calculated by 2021 Bathymetric Survey

### ISSUE: INCREASING COSTS OF TREATING DRINKING WATER SUPPLY

In 2019, the City of Highland voted to increase drinking water utility rates by 1.5 percent every year for five years until 2024. This rate increase was necessary to cover the cost of aging infrastructure of water distribution system, as well as the increasing costs to treat and sustain the amount of available lake water. The continued sedimentation and loss of capacity will continue to increase the costs of treating the water, which will then result in increased costs to residents and water system users.

#### Main objectives addressing this issue:

- Protect Highland Silver Lake from increased drinking water treatment costs.
- 30% reduction in sediment.
- 45% reduction in phosphorus.
- 45% reduction in nitrogen.
- Installation of in-lake structures.
- Installation of shoreline stabilization.

### ISSUE: SHORELINE EROSION

Shoreline erosion contributes large amounts of sediment to Highland Silver Lake. Shoreline erosion is a result of a combination of waves from wind and boats, degradation or removal of native deep-rooted vegetation, and lowering of water levels due to drought or maintenance needs. Andreas Consulting Services performed a field inspection with the City of Highland and HeartLands Conservancy in 2021 and identified 6,350 feet of shoreline that need immediate protection from continued erosion. These severe erosion sites are in addition to more than 2,000 feet of shoreline that was protected by riprap using City of Highland and Illinois EPA 319 Grant funds in 2021.

#### Main objectives addressing this issue:

- Installation of shoreline stabilization on all Critical Shoreline Area.
- Continue forest management and native tree planting.

### ISSUE: GULLY EROSION

Gully erosion is the removal of soil along drainageways by surface water runoff. Unless steps are taken to stabilize soil disturbance, gullies will increase in length and depth, dissecting the landscape and contributing sediment to downstream waterbodies. Gullies should be stabilized and revegetated in the early stage of formation to prevent costly repairs at a later date.

#### Main objectives addressing this issue:

- Stabilize streams and gullies surrounding Highland Silver Lake.
- Continue forest management and native tree planting.

**ISSUE: SEDIMENT DEPOSITION FROM STREAMS ENTERING THE LAKE**

The bathymetric survey completed in 2021 calculated 1.08 tons of sediment have been deposited into Highland Silver Lake since 1962. As a result, Highland Silver Lake has lost an average 0.52% of its capacity each year since the creation of the lake. A large amount of this sediment is being delivered by East Fork Silver Creek and other smaller streams leading to the lake. See Appendix H for more information.

**Table 2. Computed Sediment Delivery Rates from the Watershed for Each Sedimentation Period**

| <i>Period</i> | <i>Years in Period</i> | <i>Acre-feet</i> | <i>Acre-feet per square mile</i> | <i>Cubic feet per acre</i> | <i>Tons per acre</i> |
|---------------|------------------------|------------------|----------------------------------|----------------------------|----------------------|
| 1962-1981     | 19                     | 51.2             | 1.05                             | 71.1                       |                      |
| 1981-1984     | 3                      | 63.0             | 1.29                             | 87.5                       |                      |
| 1984-1999     | 15                     | 21.9             | 0.45                             | 30.4                       |                      |
| 1999-2021     | 22                     | 34.4             | 0.70                             | 47.8                       |                      |
| 1962-2021     | 59                     | 38.1             | 0.78                             | 52.9                       | 1.08                 |

Note: Total watershed area is 49 square miles based on 2021 USGS StreamStats

**Table 3. Capacity Loss Rates Relative to Original Lake Capacity**

| <i>Period</i> | <i>Years in Period</i> | <i>Total Loss per Period (percent)</i> | <i>Average Annual Loss in Period (percent)</i> | <i>Cumulative Loss since 1962 (percent)</i> | <i>Average Annual Loss since 1962 (percent)</i> |
|---------------|------------------------|--|--|---|---|
| 1962-1981     | 19                     | 13.3                                   | 0.70   | 13.3  | 0.70  |
| 1981-1984     | 3                      | 2.6                                    | 0.86   | 15.9  | 0.72  |
| 1984-1999     | 15                     | 4.5                                    | 0.30   | 20.3  | 0.55  |
| 1999-2021     | 22                     | 10.3                                   | 0.47   | 30.7  | 0.52  |
| 1962-2021     | 59                     | 30.7                                   | 0.52   | 30.7  | 0.52  |

**Main objectives addressing this issue:**

- Stabilize streams and gullies surrounding Highland Silver Lake.
- 30% reduction of sediment by 2037.
- Remove Highland Silver Lake from Illinois 303(d) list.
- Perform gully erosion surveys.

**ISSUE: POLLUTANTS**

Pollutants in lakes and streams come from a variety of sources and impact human health and activity in many ways. Boating, swimming, and fishing bring people into direct contact with the water. Pollutants found in Highland Silver Lake include:

**Manganese:** Occurs from streambank and lakeshore erosion of soils naturally enriched with manganese and from lake bottom sediments during anoxic conditions.

**Total phosphorus:** Excess phosphorus is a result of crop fertilization runoff, failing septic systems, lakeshore and streambank erosion and runoff from fertilized lawns.

**Aldrin:** Aldrin was formerly used a pesticide on agricultural land. It has since been banned in the U.S., but historic uses can still be present in deposited lake bottom sediment.

**Chlordane:** Chlordane was also historically used to control pests on agricultural land. It has also been banned for use on agricultural land but concentrations of chlordane still persist in lake bottom sediment.

### **Main objectives addressing this issue:**

- Remove Highland Silver Lake from Illinois 303(d) list.
- 30% reduction in sediment by 2037.
- 45% reduction in phosphorus by 2037.
- 45% reduction in nitrogen by 2037.
- Develop strategy to reduce phosphorus levels to less than 1,871 kg/year per TMDL report.

## **ISSUE: LOW DISSOLVED OXYGEN (DO)**

Low levels of DO in water cannot support aquatic life. Low DO levels are often a result of algae growth that uses up oxygen in the water, which is caused by high levels of nutrients (e.g., nitrogen and phosphorus) and increased water temperatures. Highland Silver Lake has a 303(d) List impairment for DO for several years, including 2016. The reduction in water depth from sedimentation in the northern segment of the lake causes increased water temperatures throughout the lake.

### **Main objectives addressing this issue:**

- Maintain dissolved oxygen levels above standard minimums in Highland Silver Lake.
- 45% reduction in phosphorus by 2037.
- 45% reduction in nitrogen by 2037.
- 30% reduction in sediment by 2037.
- Dredge 100,000 cubic yards of sediment from northern portion of lake.

## **ISSUE: INVASIVE SPECIES**

Invasive species, such as bush honeysuckle, tree-of-heaven, garlic mustard, and climbing euonymus (wintercreeper), are threats to many natural areas because they crowd out native trees and shrubs that protect streambanks from erosion. Invasives also crowd-out food sources of animals and insects, further degrading the ecosystem and hiding visible signs of erosion. These invasive species are present throughout the forested area surrounding Highland Silver Lake and along the banks of creeks and streams entering the lake.

### **Main objectives addressing this issue:**

- Continue forest management and native tree planting surrounding Highland Silver Lake.
- Create an invasive species removal strategy.
- Offer effective opportunities for public education, training, and participation in watershed matters, including information-based resources and demonstration projects.

### ISSUE: REDUCTION IN AQUATIC HABITATS

The reduction in water depths, especially in the northern segment of the lake, results in a large inaccessible section of the lake by aquatic species including largemouth bass, bluegill, bluegill/green sunfish hybrid, black crappie, redear sunfish, white crappie, gizzard shad, channel catfish, common carp, sauger, flathead catfish, golden shiner, green sunfish, spotted gar, warmouth, yellow bullhead, and yellow bass. The Illinois Department of Natural Resources (IDNR) performs surveys every two years in Highland Silver Lake, and the most recent report stated the largemouth population is in decline likely due to loss of spawning habitat.

In 2021, the City of Highland completed construction of a fish rearing pond in Highland Silver Lake Park to ease the restocking process of the lake. This will likely improve fish numbers in the lake, but without adequate lake habitat, the health of these fish populations may continue to decline.

#### Main objectives addressing this issue:

- Install artificial aquatic habitats for fish breeding.
- Promote healthy ecosystems within the lake, streams, and riparian areas.
- Maintain dissolved oxygen levels above standard minimums for Highland Silver Lake.

### ISSUE: INCREASING DEVELOPMENT SURROUNDING LAKE

Although there is limited impervious area throughout the watershed, land immediately to the east of Highland Silver Lake have been developed into residential areas over the past 15 years. This area has the potential for future increase in residential development due to the proximity to the lake and the City of Highland. The future land use map created by the City of Highland in 2017, highlights the entire western border of Highland Silver Lake as residential area. Without proper planning and development regulations, the increased development will cause increased runoff from impervious surfaces (e.g., rooftops, driveways, asphalt roads, lawns) resulting in erosion of drainageways and other water quality issues leading to the lake.

#### Main objectives addressing this issue:

- Prioritize green or nature-based stormwater management approaches.
- Identify and protect key natural features and wildlife corridors.

### ISSUE: FAILING SEPTIC SYSTEMS

Due to the watershed being predominantly rural and agricultural, septic systems are. The STEPL Input Data Server listed approximately 200 residential septic systems in the subwatersheds near Highland Silver Lake. The model estimates that 2% of these systems have likely failed, but this figure is likely lower than the actual failure rate. Several reports by the USEPA and Illinois EPA have estimated failure rates between 5 and 60%. Without proper inspection routines, the failure rates of these systems in Highland Silver Lake will remain unknown and pollution from household wastewater, including nitrogen and fecal coliform, will continue to pollute the waterways.

#### Main objectives addressing this issue:

- Create and adopt a strategy to improve assessment and maintenance of private sewage systems.

### ISSUE: ALGAE BLOOMS AND FISH DIE-OUTS

Algae blooms are caused by excess nutrients (e.g., phosphorus and nitrogen) running off into lakes, ponds, detention basins, and other areas of still, shallow water. The nutrients often come from excess application of fertilizers to farmland and lawns, as well as nutrients carried in eroded soil particles. Related to algae blooms, fish die-outs can occur when nutrient levels are high.

#### Main objectives addressing this issue:

- Maintain dissolved oxygen levels above standard minimums for Highland Silver Lake.
- 45% reduction in phosphorus by 2037.
- 45% reduction in nitrogen by 2037.
- Promote healthy ecosystems within the lake, streams, and riparian areas.

### ISSUE: REDUCTION IN RECREATIONAL OPPORTUNITIES

Highland Silver Lake is used by residents for boating, swimming, fishing, waterfowl hunting, hiking, and various other outdoor activities. The reduction in access to the northern segment of the lake has resulted in a loss of fishing and waterfowl hunting locations and limited areas for boating. Invasive plants surrounding the lake impact hiking, wildlife viewing, and hunting opportunities. The COVID-19 pandemic has resulted in an increased interest in outdoor activities and highlighted the need for healthy recreation opportunities in the area.

#### Main objectives addressing this issue:

- Remove Highland Silver Lake from Illinois 303(d) List.
- Promote healthy ecosystems within the lake, streams, and riparian areas.
- Install artificial aquatic habitats.
- Continue promotion of the health and recreational benefits of Highland Silver Lake.

### ISSUE: PUBLIC EDUCATION OF PROTECTING HIGHLAND SILVER LAKE

Unique to the Highland Silver Lake watershed, most residents who receive their drinking water from Highland Silver Lake do not live in the watershed, and most residents in the watershed do not receive their drinking water from Highland Silver Lake. This can make educating residents difficult due to their differing values of the Lake. Providing education and outreach materials geared toward the different interest will be necessary to interest residents in the health of the lake.

#### Main objectives addressing this issue:

- Identify volunteers who are capable of helping expand the water quality and aquatic species monitoring program.
- Connect watershed residents and farmers to decision-makers and experts with knowledge about water quality and erosion issues and solutions.
- Offer effective opportunities for public education, training, and participation in watershed matters, including information-based resources and demonstration projects.
- Increase awareness of consequences of poor water quality in Highland Silver Lake including increased drinking water costs.

## ***Agricultural land throughout the watershed***

### **ISSUE: EXCESSIVE NUTRIENT AND SEDIMENT RUNOFF**

Excessive nutrient and sediment runoff from agricultural fields and drainage ways throughout the watershed has been documented numerous times. In the Illinois TMDL report completed in 2006, a 90% reduction in phosphorus was recommended to meet the water quality requirements in Highland Silver Lake. This is nearly an unattainable goal due to the amount of agricultural land throughout the watershed and the need to use phosphorus to grow healthy crops. Also, in the Rural Clean Water Program for Highland Silver Lake, a 60% reduction in sediment was recommended to ensure there is adequate capacity in the Lake to continue to be used for a drinking water source. These two reduction figures are substantially higher than the Illinois Nutrient Reduction Program goals of 45% reduction in phosphorus and 20% reduction in sediment.

HeartLands Conservancy used the STEPL tool, which uses land cover, precipitation, and elevation data to estimate nitrogen, phosphorus, and sediment runoff from specific drainage areas. The tool created estimates for current land use conditions and future land cover scenarios incorporating Management Measures. These numbers were used to set targets for pollutant load reduction in the watershed.

#### **Main objectives addressing this issue:**

- 45% reduction in phosphorus by 2037.
- 45% reduction in nitrogen by 2037.
- 30% reduction in sediment by 2037.
- Encourage adoption of cover crops on all agricultural fields.
- Promote benefits of conservation tillage and continue increased adoption.

### **ISSUE: LACK OF CONSERVATION TILLAGE AND SOIL PROTECTION PRACTICES**

Conservation tillage, including no-till and reduced tillage practices, has increased in Madison and Bond Counties. Likewise, intensive tillage has reduced in both counties between 2012 and 2017, as reported by the U.S. Agricultural Census 2017 Report. The continued increase in conservation tillage is a positive trend in land management with intensive tillage used only on 35% of the land farmed.

Unlike the success of conservation tillage, cover crops acreage planted in Madison County has declined (8,904 to 5,775 acres) but slightly increased in Bond County (2,746 to 3,871 acres) between 2012 to 2017. This represents only 2.1% and 2.7% of the harvested cropland for Madison and Bond Counties, respectively. Until complete adoption of conservation tillage is performed throughout the counties and a substantial increase in cover crops planted, soil erosion and nutrient runoff will continue to affect the health of the watershed.

#### **Main objectives addressing this issue:**

- Encourage adoption of cover crops on all agricultural fields.
- Promote benefits of conservation tillage and continue increase adoption.
- Demonstrate grassed waterway benefits on gully erosion prevention using examples throughout watershed.
- Promote benefit of priority watershed designation by NRCS.

### ISSUE: LACK OF FIELD BORDERS

During a windshield survey and onsite work, nearly all of the agricultural fields in the watershed lack a field border near roadside ditches or streams. A field border is strip of native grasses around the edge of the property to capture runoff and nutrients. By lacking any field border, and tilling to the edge of the property, runoff from agricultural fields flows directly into roadside ditches or streams causing increased erosion on the edge of the field and sediment deposition in roadside ditches.

#### Main objectives addressing this issue:

- Increase riparian buffers near creeks, streams, and field borders.
- Increase acreage of forest and native grassland.
- Create and adopt a riparian buffer ordinance.
- Conserve sensitive lands, such as highly erodible soils.

### ISSUE: ROADSIDE DITCH EROSION

Roadside ditches need to remain clear of debris and sediment to prevent roads from being overtopped during heavy rainfall events. Due to lack of field borders, erosion and sedimentation are taking place throughout the watershed on roadside ditches. This forces road managers to “dig out” deep, narrow ditch channels. These narrow channels result in higher flow velocities, and incision of ditch channels, and erosion of outlets.

#### Main objectives addressing this issue:

- Promote rural roadside ditch maintenance strategies to prevent gully erosion.
- Increase riparian buffers near creeks, streams, and field borders.
- Increase acreage of forest and native grassland.
- Create and adopt a riparian buffer ordinance.

### ISSUE: POOR RIPARIAN CORRIDOR CONDITIONS AND INVASIVE SPECIES

The area on either side of a stream is known as the riparian area. The forested riparian area along streams provides habitat for many animal species, helps filter out sediment and nutrients that run off from the agricultural fields, and reduces streambank erosion. Invasive species, such as bush honeysuckle, tree-of-heaven, garlic mustard, and climbing euonymus (wintercreeper), and reduction in riparian corridor depth from agricultural practices, affect the health of the riparian corridor. Approximately 47% of the riparian areas along streams is in “poor” ecological condition.

#### Main objectives addressing this issue:

- Increase riparian buffers near creeks, streams, and field borders.
- Increase acreage of forest and native grassland.
- Create and adopt a riparian buffer ordinance.
- Create an invasive species removal strategy.
- Continue forest management practices.



### ISSUE: CHANNELIZATION

Numerous streams, creeks, and ditches have been channelized, i.e., straightened, throughout the watershed. These waterways were channelized to prevent the stream from naturally meandering (forming a winding or serpentine like path), which can result in the loss of access to property and increased difficulty in farming agricultural land. However, the straightening of channels results in increased flow velocities, excessive down cutting of the channel, and loss of floodplain connectivity. These factors lead to unstable channel banks and increase in erosion and the higher flow velocities results in more sediment being suspended and deposited in Highland Silver Lake than in the stream itself. More than 21 miles of streams have severe channelization, which includes 17,694 feet of severe bank erosion in the watershed.

#### Main objectives addressing this issue:

- Reconnect channelized streams to natural flows paths and floodplains.
- Install streambank stabilization on 17,694 feet of Critical Stream Reaches and stabilize 21 miles of Critical Stream Reaches.
- Create and adopt a riparian buffer ordinance.
- Increase riparian buffers near creeks and streams.

### ISSUE: STREAMBANK AND CHANNEL EROSION

Streambank and channel erosion occurs as a natural process in every stream; however, this process can become excessive when the stream system becomes unstable. Unstable streams in this watershed have vertical banks that frequently collapse due to undercutting erosion and head cuts in the channel that migrate upstream and increase the depth of the streams. Field surveys completed by Andreas Consulting reported 17,694 feet of severally eroded streambanks and 21 miles of eroded stream channel. The factors that can cause a stream to become unstable include channelization, loss of floodplain connectivity, increased runoff from tile-drained and conventional tilled agricultural fields, reduction in the riparian buffer, and invasive plant infestation.

#### Main objectives addressing this issue:

- Install streambank stabilization measures on 17,694 feet of Critical Stream Reaches.
- Install stream channel stabilization measures (riffles) on 21 miles of Critical Stream Reaches.
- Reconnect channelized streams to natural flows paths and floodplains.
- Create and adopt a riparian buffer ordinance.
- Increase riparian buffers near creeks and streams.

### ISSUE: LOGJAMS

Streambank erosion and loss of a healthy riparian corridor can result in trees on the banks to be undercut, die, and fall into the stream. When one of these trees becomes lodged into the banks, multiple other trees can become trapped behind the lodged tree, also known as a logjam. Logjams can also be formed by beaver activity, but this is likely the minority cause of logjams in this watershed. Logjams alter flow of streams, causing water to be directed into the streambanks resulting in increased bank erosion. However, logjams can also provide wildlife habitat and improve stream health. Field surveys located 19 logjams throughout out the watershed. Each logjam should be evaluated on a case-by-case basis to determine if removal is beneficial.

**Main objectives addressing this issue:**

- Remove all Critical Logjam Areas that negatively affect stream health.
- Increase riparian buffers near creeks, streams, and field borders.
- Reconnect channelized streams to natural flows paths and floodplains.
- Create and adopt a riparian buffer ordinance.

**ISSUE: LOSS OF HABITAT**

The extensive agricultural fields, lack of adequate riparian and field buffers, rampant invasive plants, and compromised water quality in streams and creeks has caused loss of habitat for native plant, animal, and aquatic species. The loss of habitat also affects the potential presence of threatened or endangered species including the Indiana Bat, Eastern Prairie Fringed Orchid, and Ornate Box Turtle.

**Main objectives addressing this issue:**

- Conserve sensitive lands.
- Increase riparian buffers near creeks, streams, and field borders.
- Increase acreage of forest and native grassland.
- Promote healthy ecosystems within lake, streams, and riparian areas.
- Identify and protect key natural features and wildlife corridors.
- Create an invasive species removal strategy.
- Create and adopt a riparian buffer ordinance.

**ISSUE: STAKEHOLDER EDUCATION OF WATERSHED ISSUES**

There are clear connections between activities happening in the agricultural and upstream areas and impacts on Highland Silver Lake watershed. Education and outreach efforts to engage landowners and other key stakeholders are needed to increase environmental awareness and achieve the goals of this plan. A single regulatory agency or group cannot be as effective as a combined effort with other groups all working towards the same goal. Many people will work hard to help make the watershed better if they understand what to do and how it will help.

**Main objectives addressing this issue:**

- Identify opportunities to assist stakeholders with watershed management and conservation efforts.
- Connect residents and farmers to experts in water quality and erosion issues and solutions.
- Offer effective opportunities for public education, training, and participation in watershed matters.
- Develop public recognition program focused on the watershed plan's goals.

**ISSUE: NEED FOR STRONG PARTNERSHIPS**

A network of partner organizations/groups is needed to make large strides towards addressing issues in the watershed. There are many potential partners in the region dedicated to different aspects of water quality and stormwater management, including federal agencies, state agencies, non-profits, land trusts, landowners, institutions, and local governments. To effectively implement the watershed plan and the

county's stormwater program, a network of these partners should be established to help tackle certain issues and objectives.

**Main objectives addressing this issue:**

- Identify opportunities to assist stakeholders with watershed management and conservation efforts.
- Connect residents and farmers to experts in water quality and erosion issues and solutions.
- Offer effective opportunities for public education, training, and participation in watershed matters.
- Develop public recognition program focused on the watershed plan's goals.

**ISSUE: NEED FOR FUNDING**

Funding from government entities and other groups is often needed to maintain and expand stormwater infrastructure and improve water quality. There are a variety of funding sources and programs available to implement goals and objectives of the watershed plan. Existing resources include IEPA Section 319, Conservation Reserve Program (CRP), Conservation Reserve Enhancement Program (CREP), Environmental Quality Incentives Program (EQIP), Conservation Stewardship Program (CSP), foundation grants, and various other programs. The Highland Silver Lake watershed has recently been named a priority watershed for funding EQIP projects; all partners should be actively pursuing landowners to enroll in this program.

**Main objectives addressing this issue:**

- Promote the benefit of Highland Silver Lake watershed being designated an NRCS priority watershed.
- Identify opportunities to assist stakeholders with watershed management and conservation efforts.
- Connect residents and farmers to experts in water quality and erosion issues and solutions.

## Critical Areas

For this plan, a “Critical Area” is best described as a location in the watershed where existing or potential future causes and sources of pollutants or issues are significantly worse than other areas of the watershed, OR there is significant potential for the area to make progress towards watershed plan goals. The Critical Areas are divided into the same two sections used to identify issues in the watershed 1) Highland Silver Lake and surrounding land and 2) agricultural land throughout the watershed:

1. Highland Silver Lake and surrounding land
  - a. Highly degraded shoreline (Critical Shoreline Area)
  - b. Critical Dredging Area
  - c. Areas suitable for wetland restoration (Critical Wetland Areas)
  - d. Highly or moderately degraded stream reaches with high channelization (Critical Stream Reaches);
2. Agricultural land throughout the watershed
  - a. Highly or moderately degraded stream reaches with high channelization (Critical Stream Reaches);
  - b. Stream reaches with high susceptibility to logjams (Critical Logjam Areas);
  - c. Highly degraded riparian areas (Critical Riparian Areas);
  - d. Areas suitable for wetland restoration (Critical Wetland Areas).

The Management Measures recommended are focused on these Critical Areas but are also recommended for application elsewhere in the watershed where conditions are suitable.

The location and extent of each Critical Area was informed by data collected in the Watershed Resource Inventory, including an aerial assessment of streambank condition, riparian area condition, and channelization. Information was also collected during stakeholder engagement. The Agricultural Conservation Planning Framework (ACPF), a GIS model developed by USDA, provided locations for Critical Areas on agricultural land. The following explains how the Critical Areas were delineated.

## Critical Shoreline Areas

Critical shoreline areas exhibit highly eroded banks, which are a major source of sediment delivered directly to Highland Silver Lake. Using drone videos, Andreas Consulting Service performed aerial assessments and conducted field surveys via boat to examine the entire shoreline of Highland Silver Lake. This assessment resulted in 6,350 feet of Critical Shoreline Areas in need of immediate protection and restoration. Shoreline stabilization best management practices, including rock riprap installation and bioengineering, will protect the shoreline and greatly reduce the sediment directly deposited into Highland Silver Lake.



Image: Critical Shoreline Area

Critical Shoreline Areas

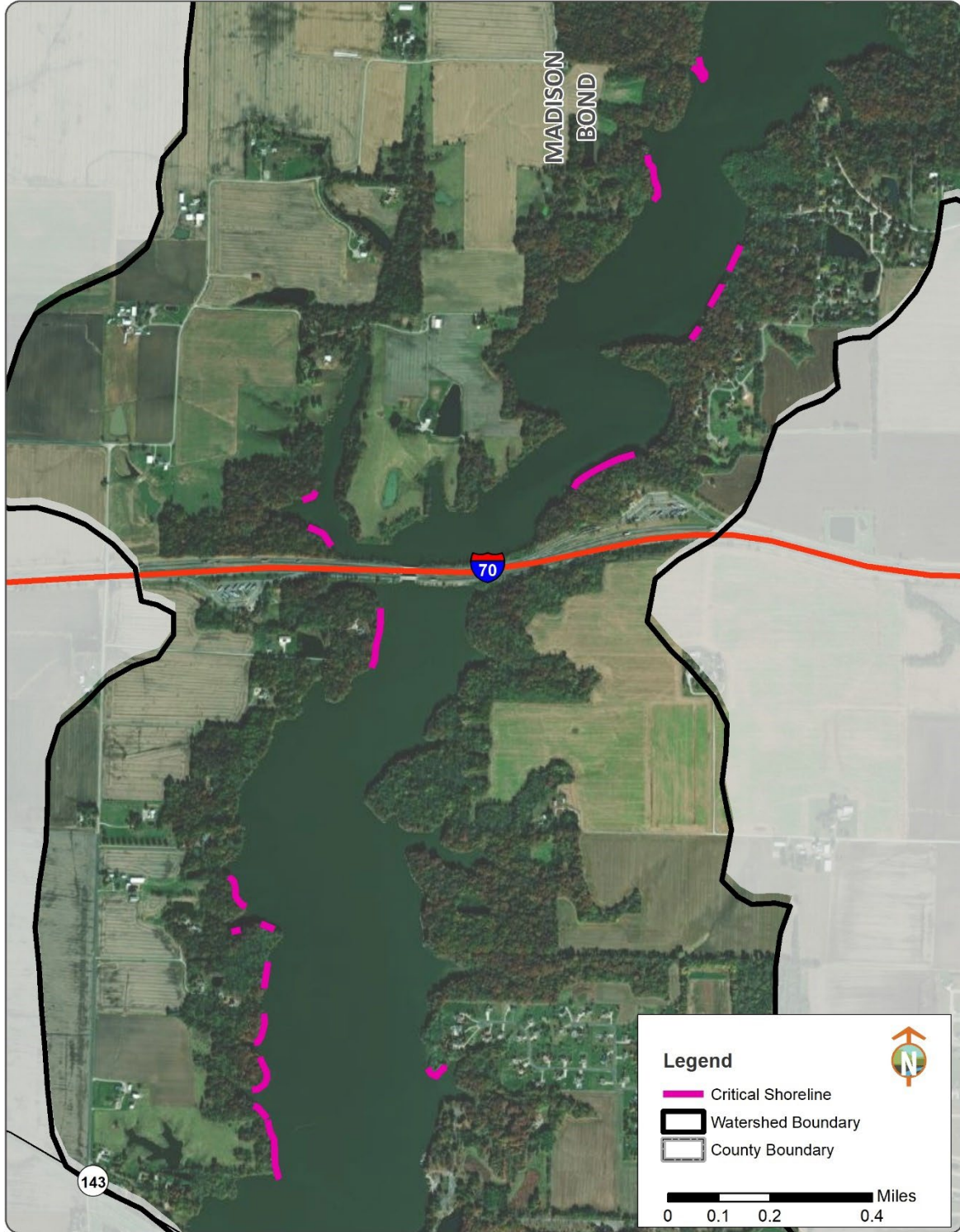


Figure 7: Critical Shoreline Area in Highland Silver Lake

## Critical Dredging Areas

Critical Dredging Areas are locations within Highland Silver Lake that have experienced significant sediment deposition throughout the life of the lake. Several reports have identified locations throughout the northern portion of Highland Silver Lake with less than three feet of water depth. Using a 2021 bathymetric survey and the 2016 Evaluation of Highland Silver Lake, 100,000 cubic yards of sediment could be removed from the 20-acre Critical Dredging Area highlighted in Figure 8, with a dredging depth of approximately three feet. Dredging this material would minimize sediment and phosphorus from reaching the lower end of the lake, increase capacity, and increase recreation access.

Critical Dredging Area

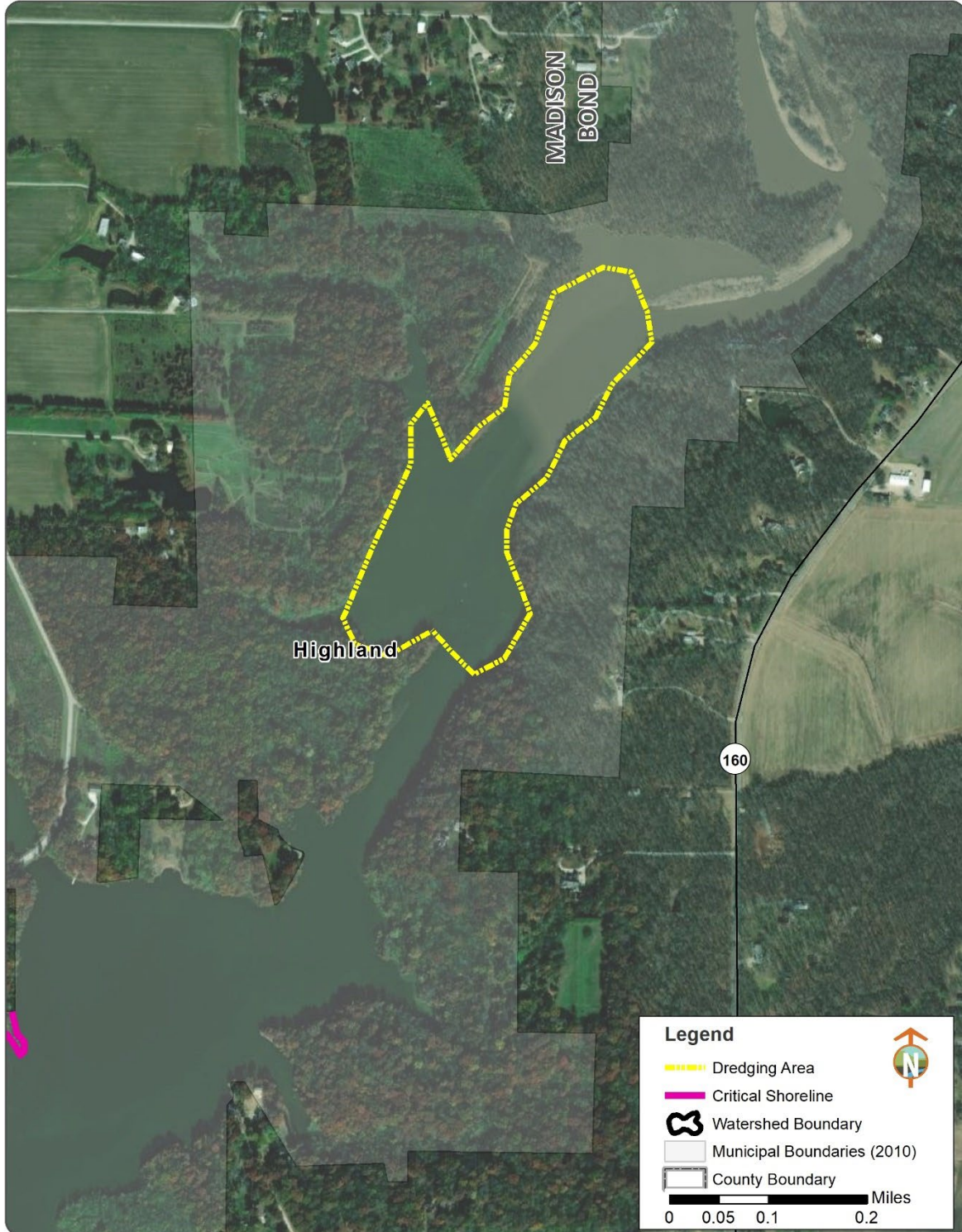


Figure 8: Critical Dredging Area in Highland Silver Lake



## Critical Stream Reaches

Critical Stream Reaches exhibit highly eroded banks or stream beds, or degraded channel conditions, which are major sources of total suspended solids (sediment), phosphorus, and nitrogen. **17,679 miles** of stream reaches have been identified as high priority “Critical Stream Reaches,” using aerial assessment and field verification data on streambank erosion, streambed erosion, and channelization. The critical reaches have high or moderate streambank erosion and high channelization. Streambank stabilization and channel restoration BMPs, including bioengineering, will greatly reduce sediment and nutrients transported downstream, increase dissolved oxygen levels, and improve habitat.

## Critical Channel Erosion

The main channel on East Fork and Little Silver Creek and tributaries were studied for incised channels caused by degradation. **Twenty-one miles** of waterway were identified as “Critical Channel Erosion” by aerial assessment conducted by Andreas Consulting Services. These sites were identified in the drone videos and referenced by number and location on a Google Earth Pro photo base. As the channel degrades the banks cave causing trees to fall and block the channel. The BMP to address this issue, Rock Riprap Riffles, will stabilize the channel and hydraulically regrade the channel to achieve bankfull flow within the channel. Riffles are typically located on either side of natural channel meander bends and often used in combination with peakstone toe protection.

## Critical Riparian Areas

Critical Riparian Areas are areas adjacent to stream reaches that:

- 1) Have limited or no vegetated buffer beside the stream (i.e., “poor” riparian condition as determined by aerial assessment), and/or
- 2) Receive significant surface runoff and groundwater and have high ecological significance (i.e., riparian areas that are determined as “Critical Zones” by the ACPF modeling—see Appendix D).

Along the stream corridors, **5.3 miles** were identified as Critical Riparian Areas. Removal of invasive species and revegetation of these areas with appropriate native vegetation will increase surface water infiltration and reduce sediment and nutrient flows to the streams.

## Critical Logjam Areas

Critical areas for logjams were delineated from known locations of logjams identified in the aerial stream assessment for this Watershed Plan. The Critical Logjam Areas are stream reaches where a logjam is within 0.25 mile of at least one other logjam. These areas represent current or likely locations of logjams, but not where they would cause the greatest stream health impacts. **Nineteen sites** have been identified as Critical Logjam Areas. Localized assessment is recommended for these sites to determine whether logjam removal is appropriate and cost-effective at each location. The American Fisheries Society’s 1983 “Stream Obstruction Removal Guidelines” is a reliable source for determining what types of logjams should be removed.

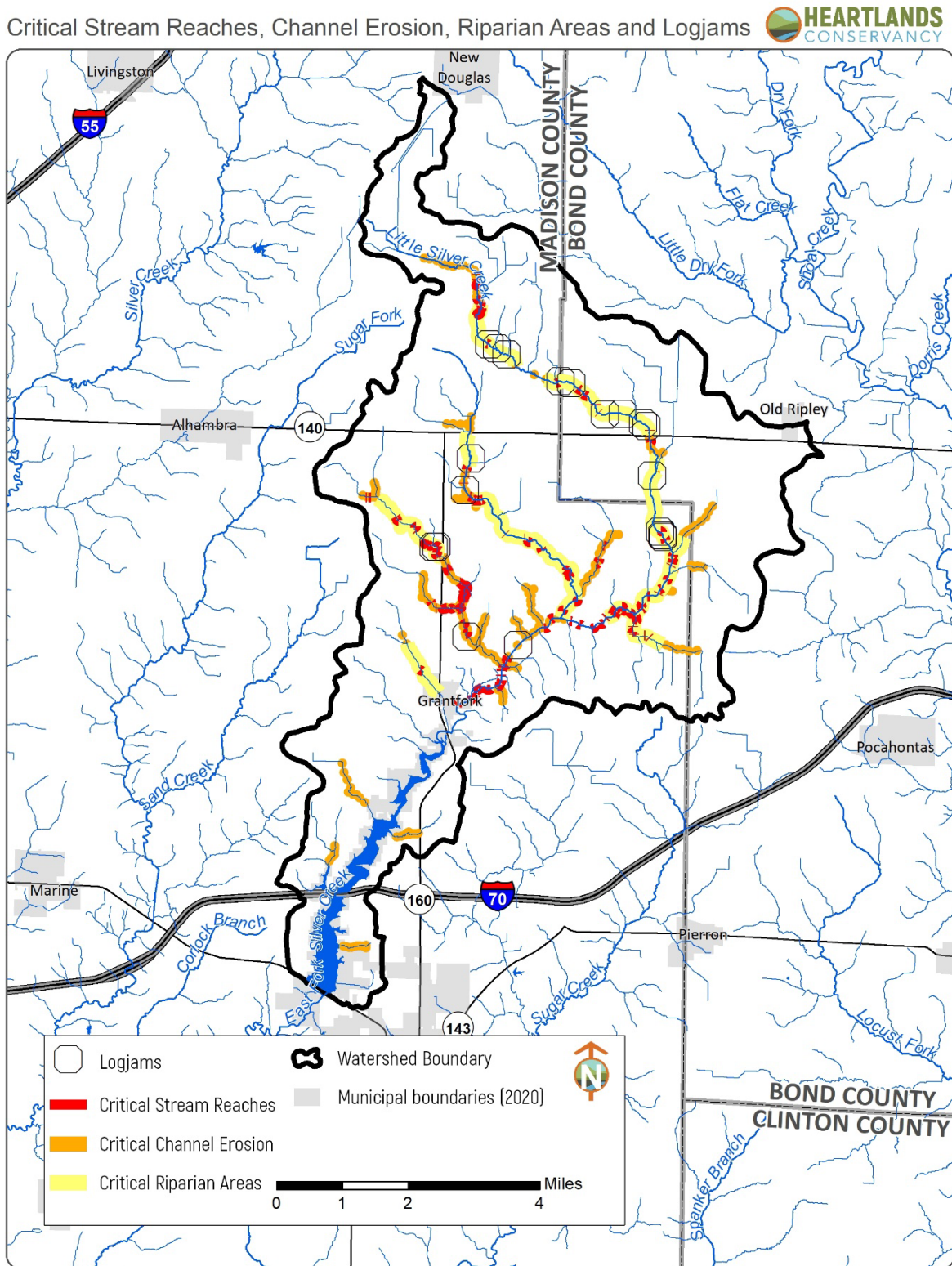


Figure 9: Critical Stream Reaches, Channel Erosion, Riparian Areas and Logjams

## Critical Wetland Areas

Wetlands are highly effective at filtering pollutants from surface water, in addition to providing rainwater storage and wildlife habitat benefits. Critical Wetland Areas, which are highly suitable for restoration/construction of wetlands, were found by identifying:

- 1) Areas on agricultural land that are highly suitable for nutrient removal wetlands and have high, very high, or critical runoff risk, as determined by the ACPF.

Because the ACPF tool is directed at agricultural land, the nutrient removal wetlands output by the model are all in agricultural fields. They tend to be large areas, ranging between 0.9 and 66 acres.

The Critical Wetland Areas identified can catch sediment, which has eroded from agricultural land and stream channels close to the sources of such sediment. There are **15.4 acres** of Critical Wetland Areas in the watershed, **10.8 acres** in agricultural areas, and **4.6 acres** in Highland Silver Lake areas.



Image: Constructed wetland in Highland Silver Lake Park

Critical Wetland Areas

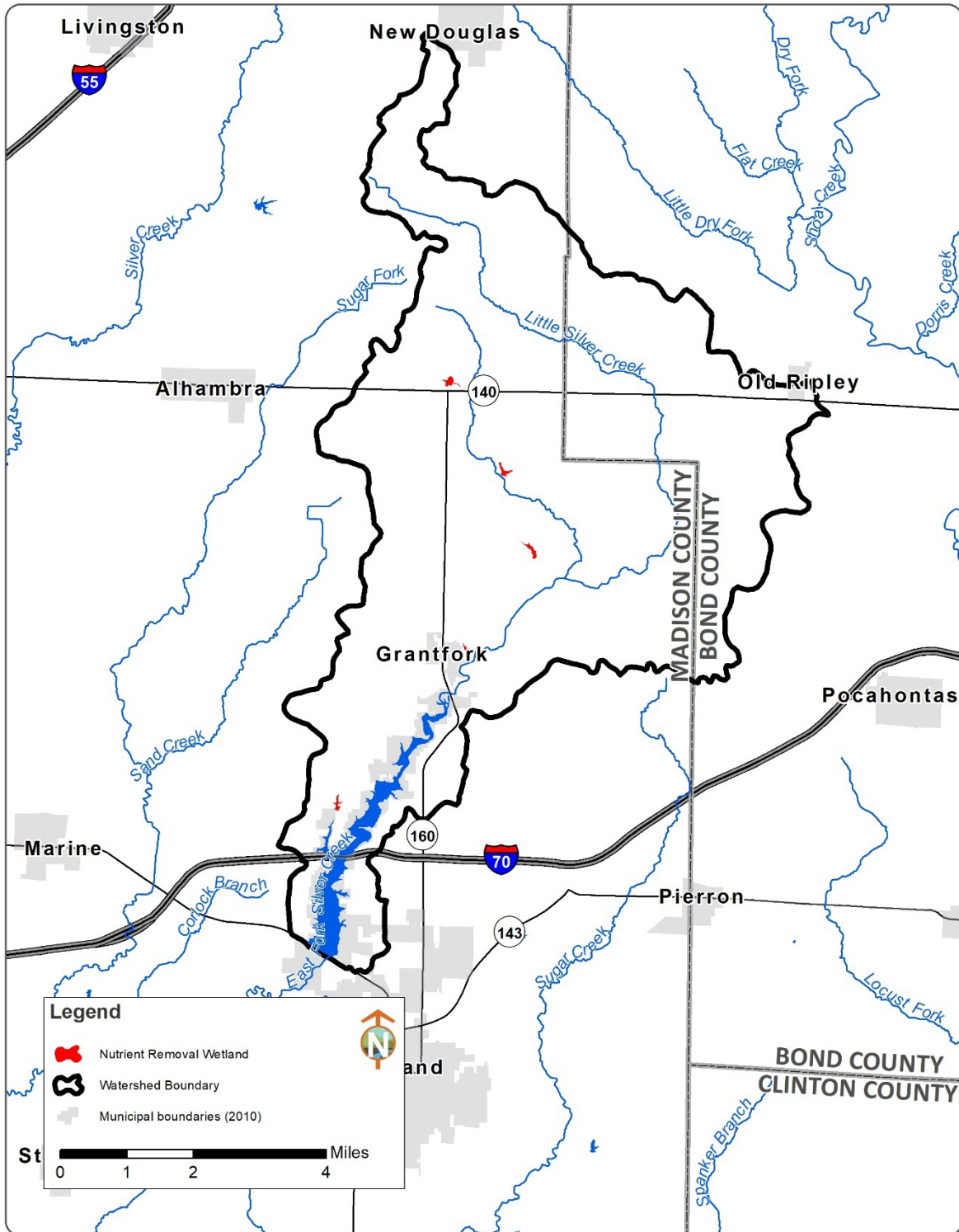
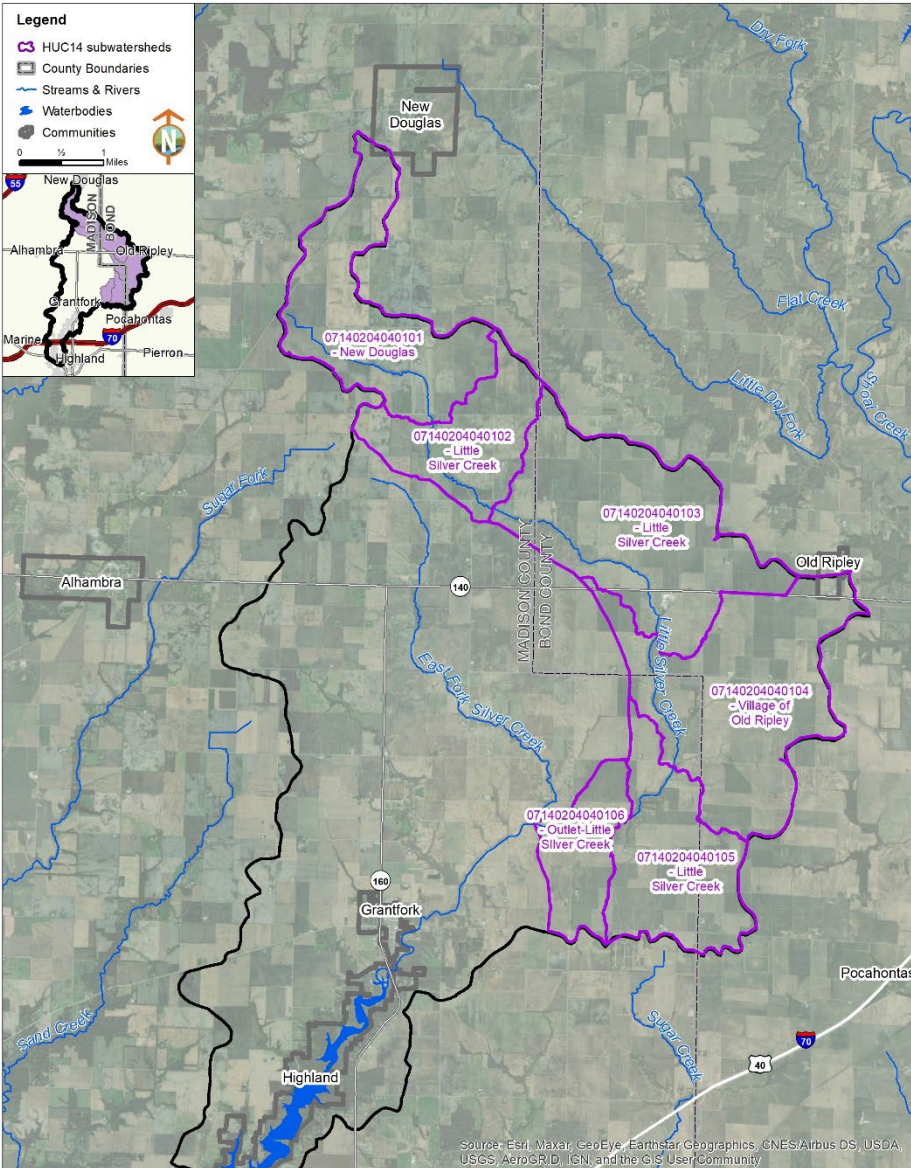


Figure 10: Critical Wetland Areas throughout Highland Silver Lake Watershed

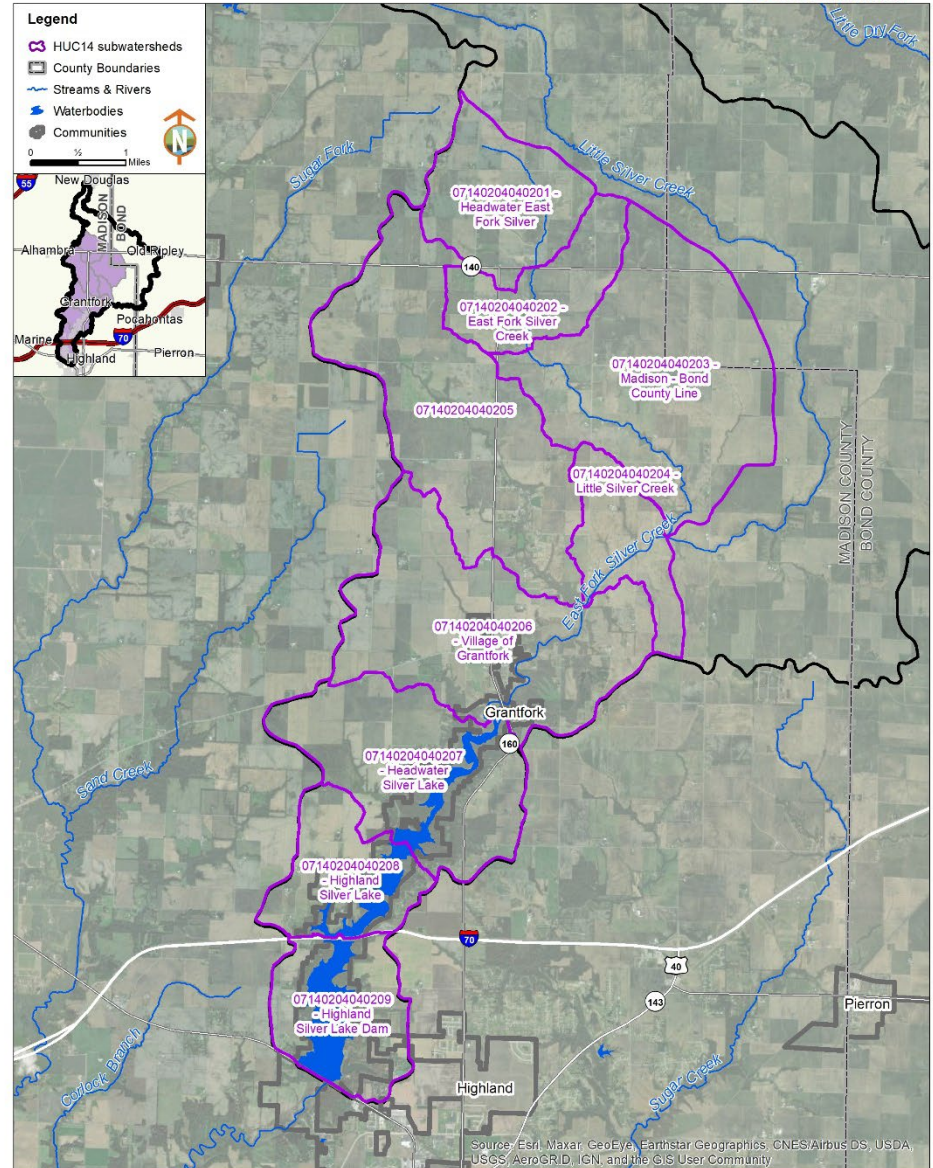
# Highland Silver Lake Watershed Plan - Final

The following pages summarize conditions and critical areas for each HUC 14 subwatershed.

HUC14 Subwatersheds within HUC12 071402040401



HUC14 Subwatersheds within HUC12 071402040402



**HUC 07140204040101: New Douglas**

This subwatershed is the northernmost subwatershed in the Highland Silver Lake watershed. It contains the southwestern corner of the Village of New Douglas, the headwaters of Little Silver Creek, and the Silver Creek Glider Club, but it does not contain any major roadways. This subwatershed is mainly agricultural land.

**Area:** 2,321 acres

**Named Streams:** Little Silver Creek

**Counties:** Madison

**Municipalities:** Village of New Douglas

**Townships:** New Douglas, Leef

**Critical Logjam Areas:** No Critical Logjam Areas were identified in this subwatershed.

**Critical Stream Reaches:** 671 Feet

**Critical Riparian Areas:** No Critical Riparian Areas were identified in this subwatershed.

**Critical Wetland Areas:** No Critical Wetland Areas were identified in this subwatershed.

**Critical Shoreline Areas:** No Critical Shoreline Areas were identified in this subwatershed.

**Critical Channel Erosion:** 1 Tributary

HUC14 07140204040101



**HUC 07140204040102: Little Silver Creek (South of Old Ripley)**

This subwatershed is in the northern portion of the Highland Silver Lake watershed. It contains Little Silver Creek, but it does not contain any major roadways or municipal boundaries. This subwatershed is mainly agricultural land.

**Area:** 1,394 acres

**Named Streams:** Little Silver Creek

**Counties:** Madison, Bond

**Municipalities:** N/A

**Townships:** New Douglas, Leef

**Critical Logjam Areas:** 3 Sites

**Critical Stream Reaches:** 906 Feet

**Critical Riparian Areas:** 1.3 Miles

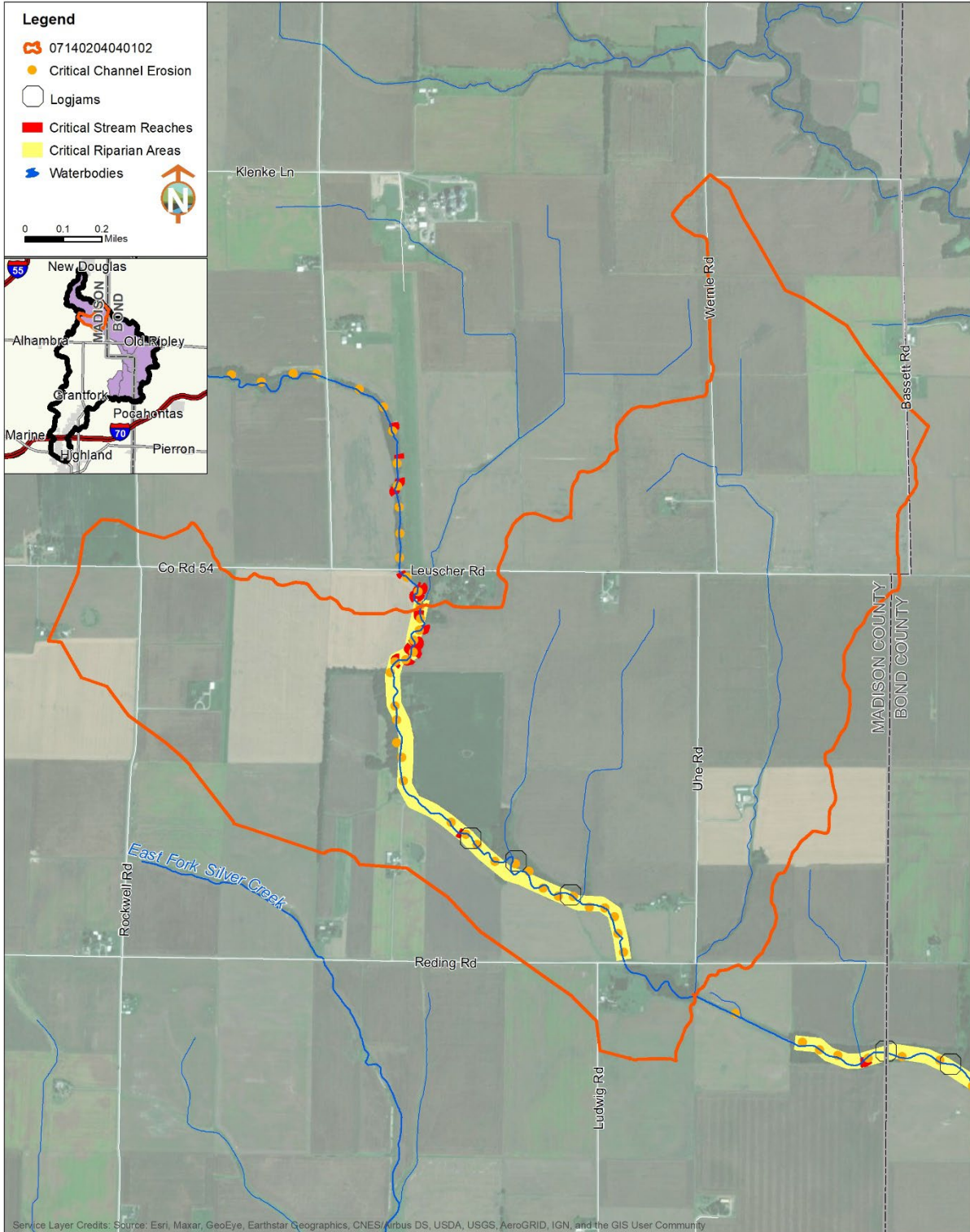
**Critical Wetland Areas:** No Critical Wetland Areas were identified in this subwatershed.

**Critical Shoreline Areas:** No Critical Shoreline Areas were identified in this subwatershed.

**Critical Channel Erosion:** 1 Tributary



HUC14 07140204040102



**HUC 07140204040103: 07140204040103 - Little Silver Creek (West of Old Ripley)**

This subwatershed is in the northeastern portion of the Highland Silver Lake watershed. It contains Little Silver Creek and Highway 140, but it does not contain any municipal boundaries. This subwatershed is mainly agricultural land.

**Area:** 2,300 acres

**Named Streams:** Little Silver Creek

**Counties:** Madison, Bond

**Municipalities:** N/A

**Townships:** New Douglas, Leef, Old Ripley

**Critical Logjam Areas:** 6 Sites

**Critical Stream Reaches:** 1,182 Feet

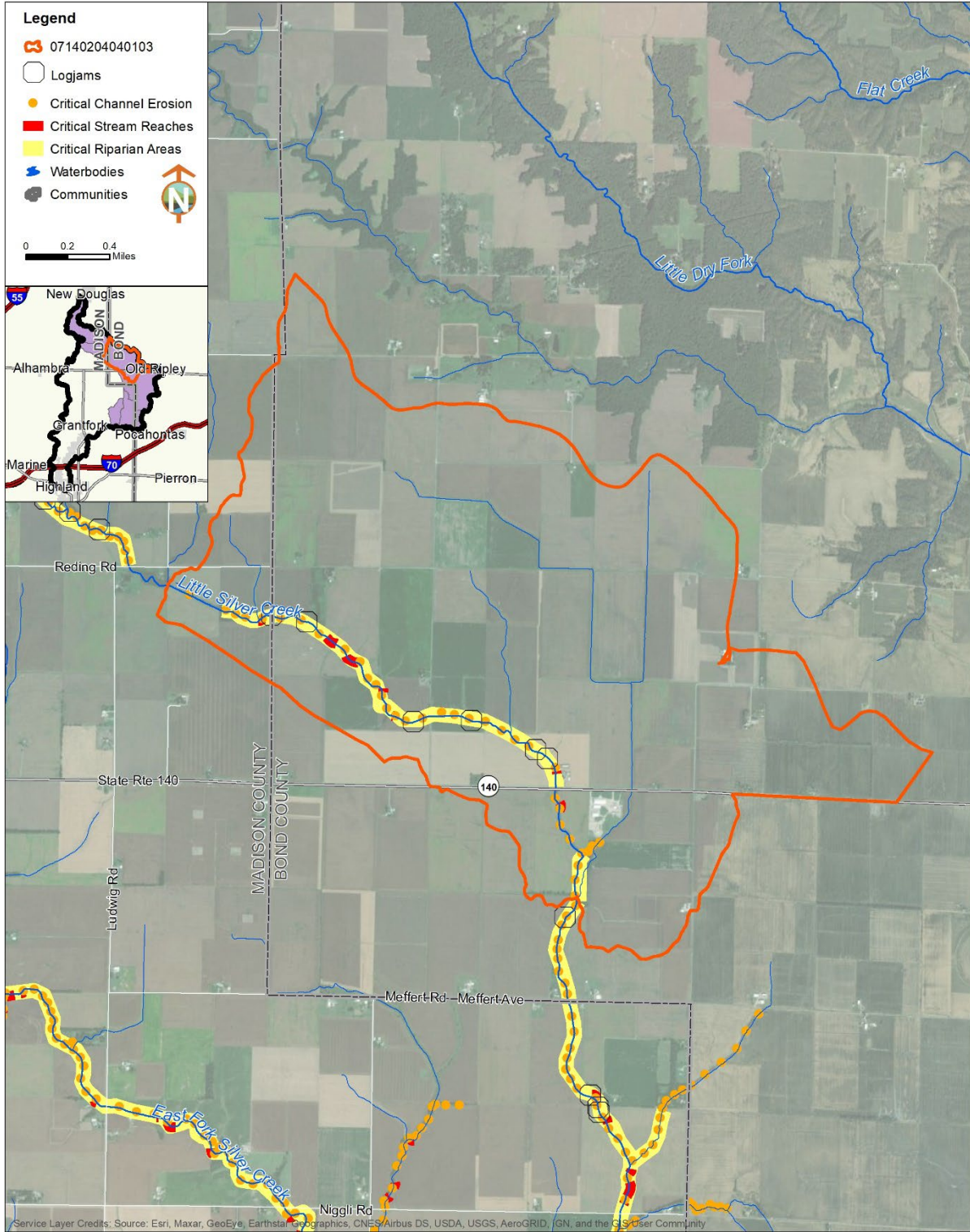
**Critical Riparian Areas:** 2.2 Miles

**Critical Wetland Areas:** No Critical Wetland Areas were identified in this subwatershed.

**Critical Shoreline Areas:** No Critical Shoreline Areas were identified in this subwatershed.

**Critical Channel Erosion:** 2 Tributaries

HUC14 07140204040103



**HUC 07140204040104: Old Ripley**

This subwatershed is the easternmost subwatershed in the Highland Silver Lake watershed. It contains Little Silver Creek, Highway 140, and the southern half of the Village of Old Ripley. This subwatershed is mainly agricultural land.

**Area:** 3,332 acres

**Named Streams:** Little Silver Creek

**Counties:** Madison, Bond

**Municipalities:** Village of Old Ripley

**Townships:** Leef, Old Ripley

**Critical Logjam Areas:** 4 Sites

**Critical Stream Reaches:** 828 Feet

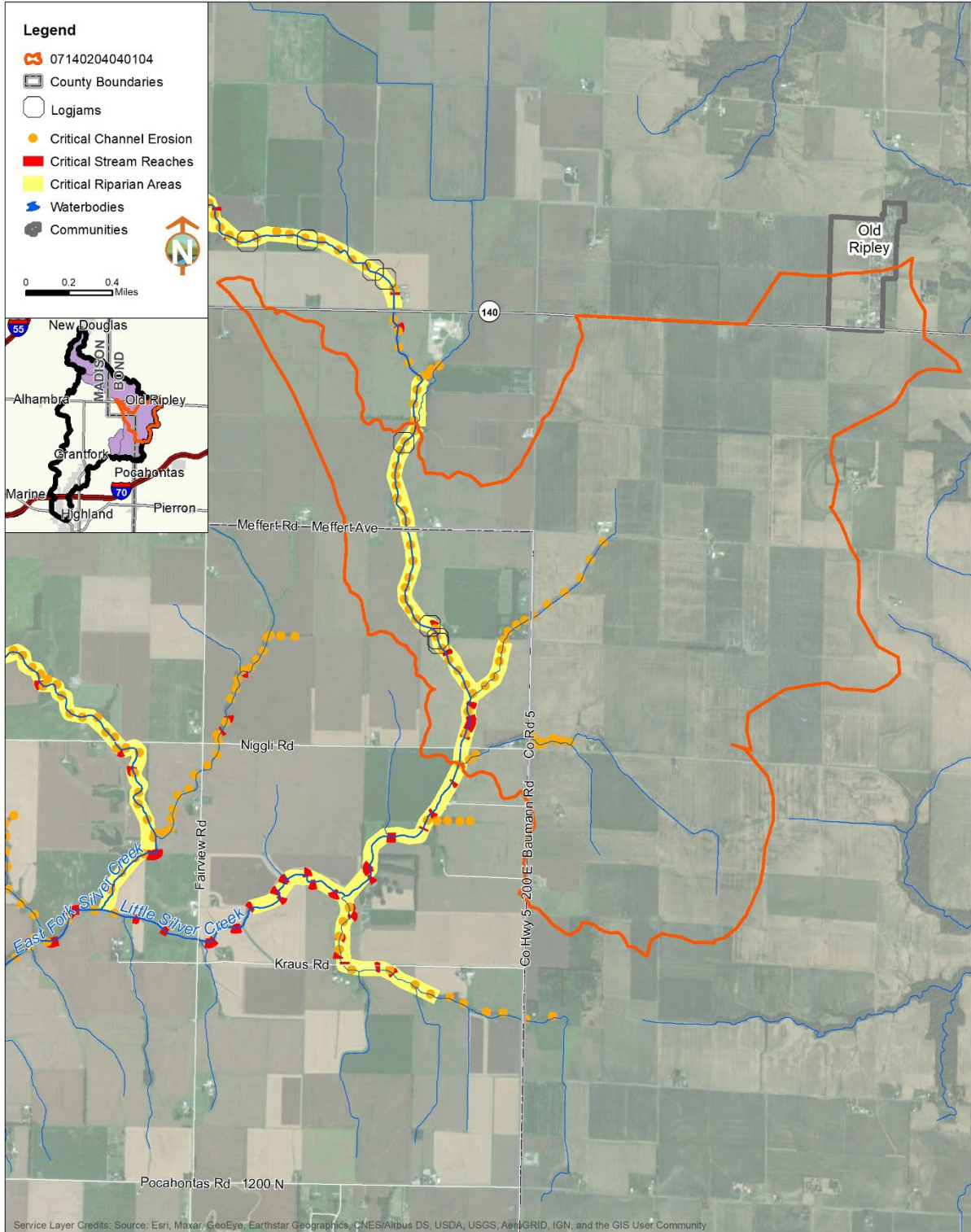
**Critical Riparian Areas:** 2.0 Miles

**Critical Wetland Areas:** No Critical Wetland Areas were identified in this subwatershed.

**Critical Shoreline Areas:** No Critical Shoreline Areas were identified in this subwatershed.

**Critical Channel Erosion:** 3 Tributaries

HUC14 07140204040104



**HUC 07140204040105: 07140204040105 – Little Silver Creek (South of Old Ripley)**

This subwatershed is on the eastern edge of the Highland Silver Lake watershed. It contains Little Silver Creek, but it does not contain municipal boundaries or major roadways. This subwatershed is mainly agricultural land.

**Area:** 1,911 acres

**Named Streams:** Little Silver Creek

**Counties:** Madison, Bond

**Municipalities:** N/A

**Townships:** Leef, Old Ripley, Saline, Burgess

**Critical Logjam Areas:** No Critical Logjam Areas were identified in this subwatershed.

**Critical Stream Reaches:** 1,492 Feet

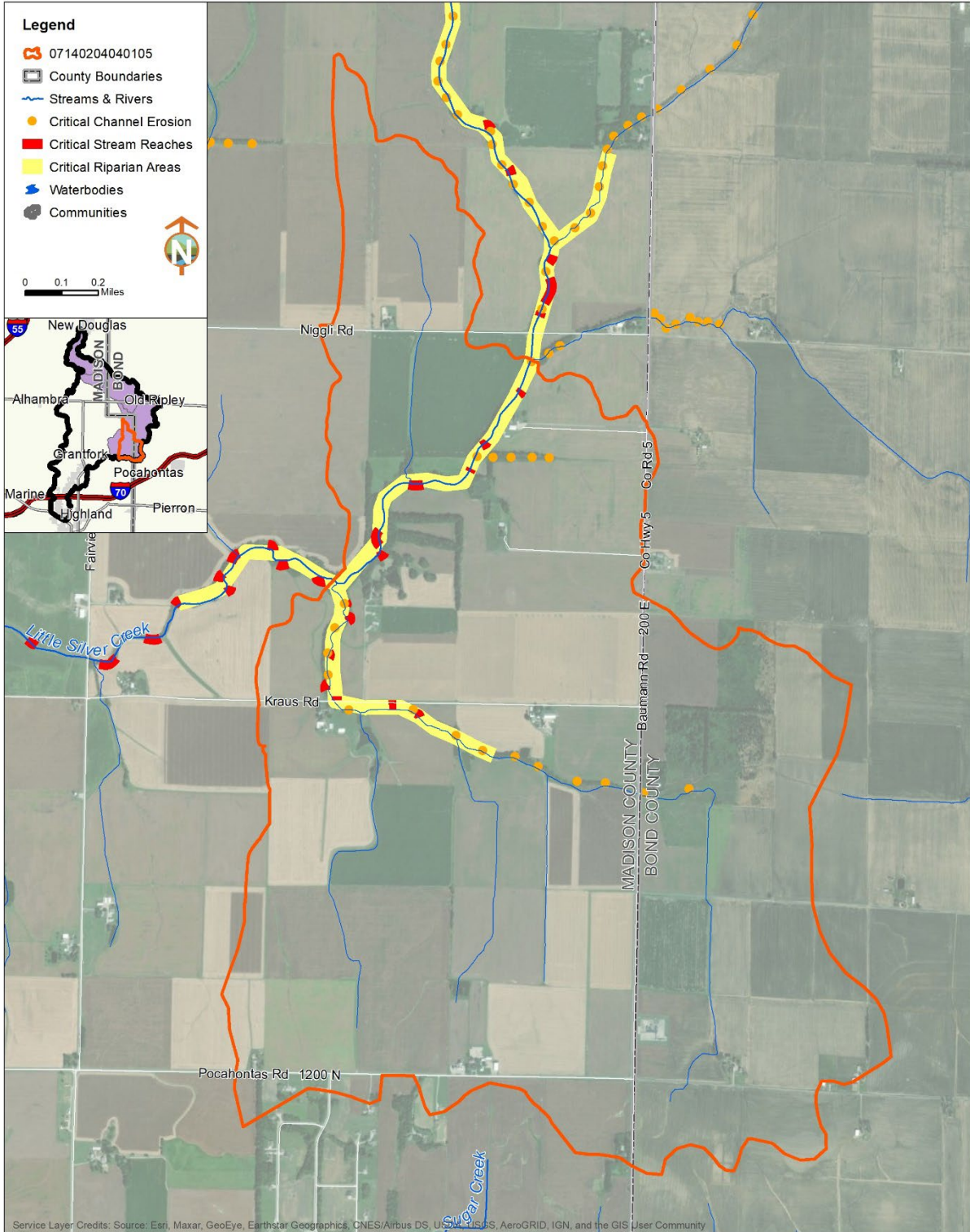
**Critical Riparian Areas:** 2.2 Miles

**Critical Wetland Areas:** No Critical Wetland Areas were identified in this subwatershed.

**Critical Shoreline Areas:** No Critical Shoreline Areas were identified in this subwatershed.

**Critical Channel Erosion:** 3 Tributaries

HUC14 07140204040105



**HUC 07140204040106: Outlet Little Silver Creek (Northeast of Grantfork)**

This subwatershed is in the eastern portion of the Highland Silver Lake watershed. It contains Little Silver Creek, but it does not contain municipal boundaries or major roadways. This subwatershed is mainly agricultural land.

**Area:** 1,146 acres

**Named Streams:** Little Silver Creek

**Counties:** Madison

**Municipalities:** N/A

**Townships:** Leef, Saline

**Critical Logjam Areas:** No Critical Logjam Areas were identified in this subwatershed.

**Critical Stream Reaches:** 1,863 Feet

**Critical Riparian Areas:** 1.4 Miles

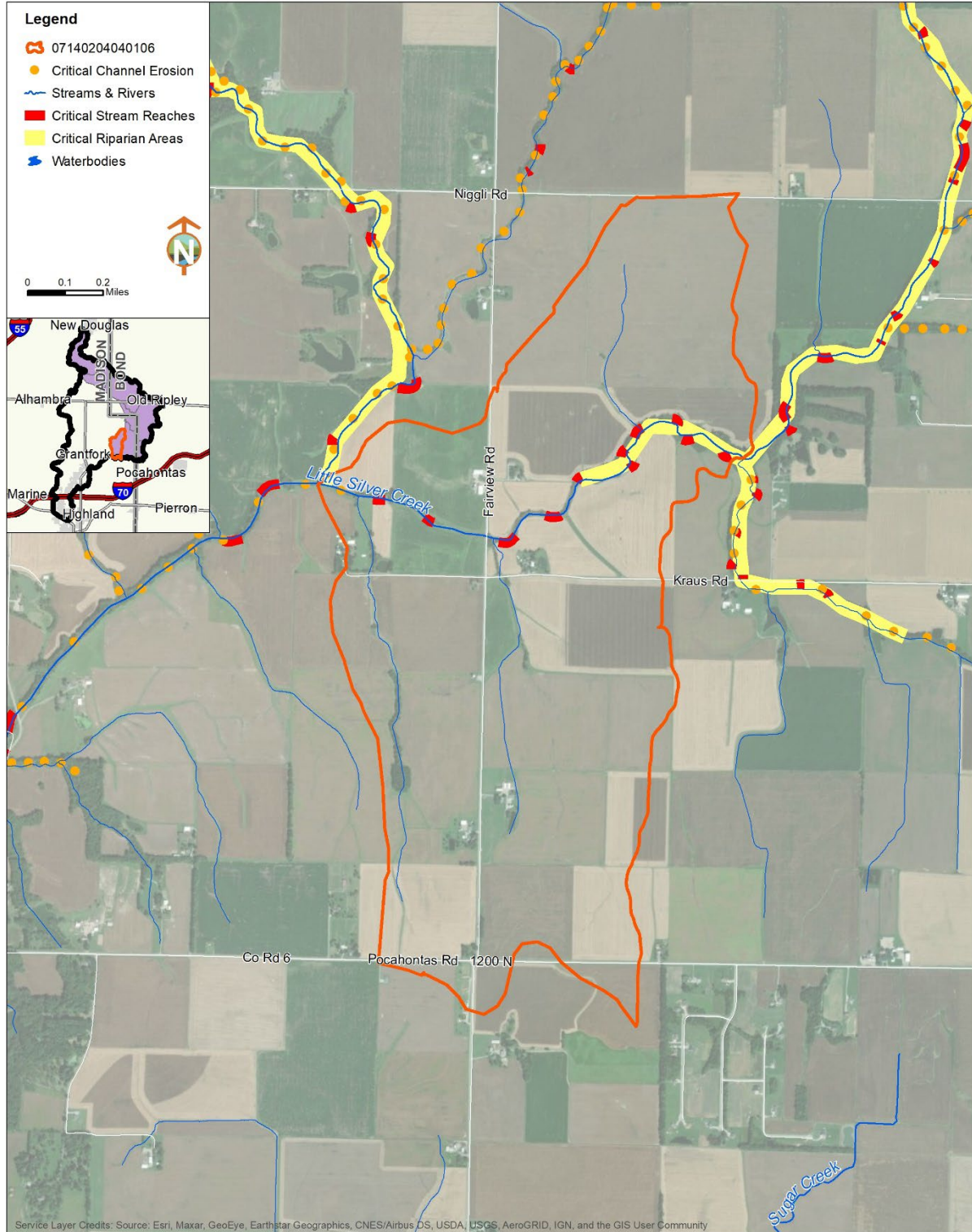
**Critical Wetland Areas:** No Critical Wetland Areas were identified in this subwatershed.

**Critical Shoreline Areas:** No Critical Shoreline Areas were identified in this subwatershed.

**Critical Channel Erosion:** 1 Tributary



HUC14 07140204040106



**HUC 07140204040201: Headwater – East Fork Silver Creek (East of Alhambra)**

This subwatershed is on the western portion of the Highland Silver Lake watershed. It contains the headwaters of East Fork Silver Creek, Highway 140 and Highway 160, but it does not contain municipal boundaries. This subwatershed is mainly agricultural land.

**Area:** 1,365 acres

**Named Streams:** East Fork Silver Creek

**Counties:** Madison

**Municipalities:** N/A

**Townships:** Leef

**Critical Logjam Areas:** No Critical Logjam Areas were identified in this subwatershed.

**Critical Stream Reaches:** No Critical Stream Reaches were identified in this subwatershed.

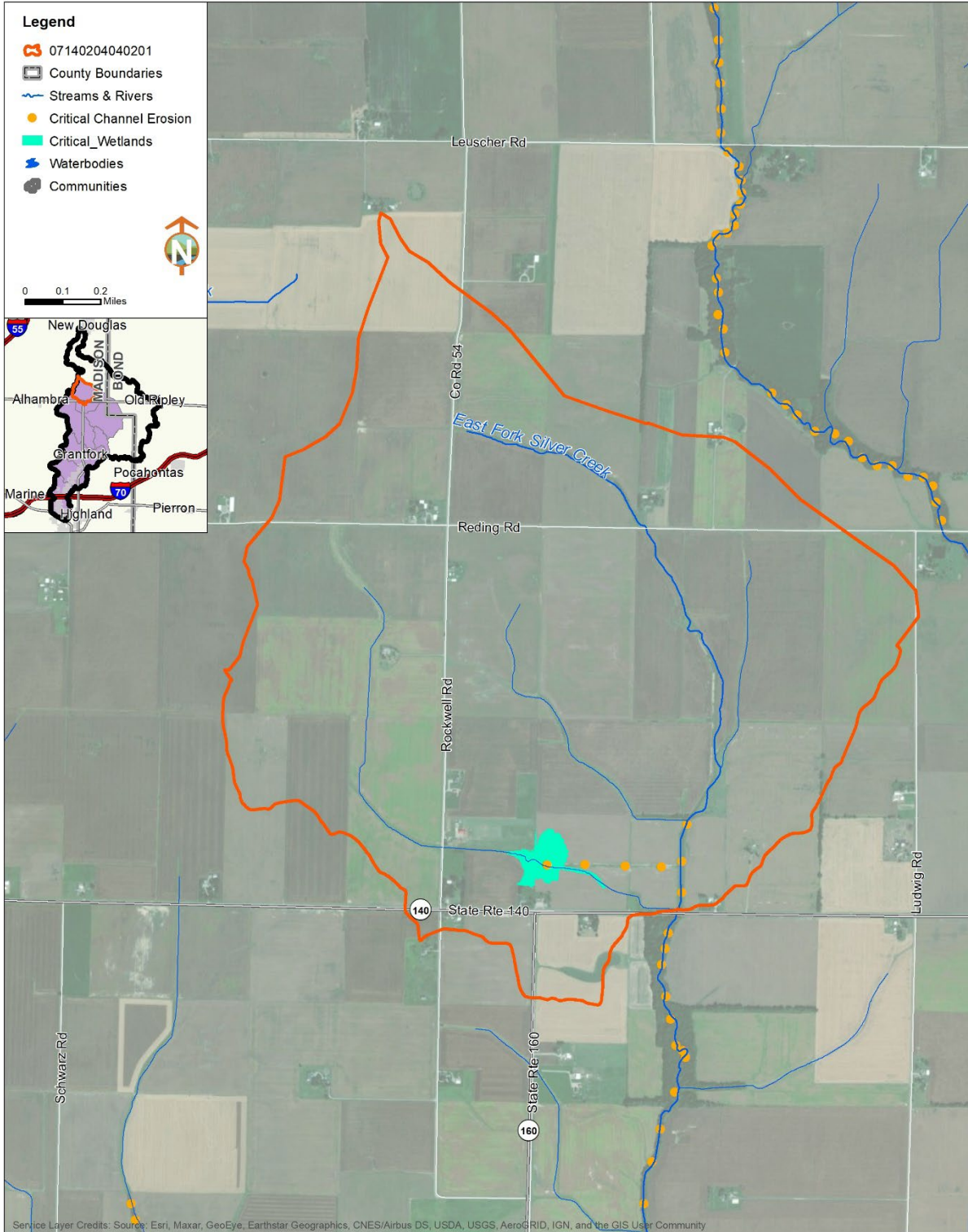
**Critical Riparian Areas:** No Critical Riparian Areas were identified in this subwatershed.

**Critical Wetland Areas:** 3.9 Acres

**Critical Shoreline Areas:** No Critical Shoreline Areas were identified in this subwatershed.

**Critical Channel Erosion:** 2 Tributaries

HUC14 07140204040201



**HUC 07140204040202: 071402004040202 – East Fork Silver Creek (East of Alhambra)**

This subwatershed is in the central portion of the Highland Silver Lake watershed. It contains East Fork Silver Creek, Highway 140 and Highway 160, but it does not contain municipal boundaries. This subwatershed is mainly agricultural land.

**Area:** 1,025 acres

**Named Streams:** East Fork Silver Creek

**Counties:** Madison

**Municipalities:** N/A

**Townships:** Leef

**Critical Logjam Areas:** 1 Site

**Critical Stream Reaches:** 244 Feet

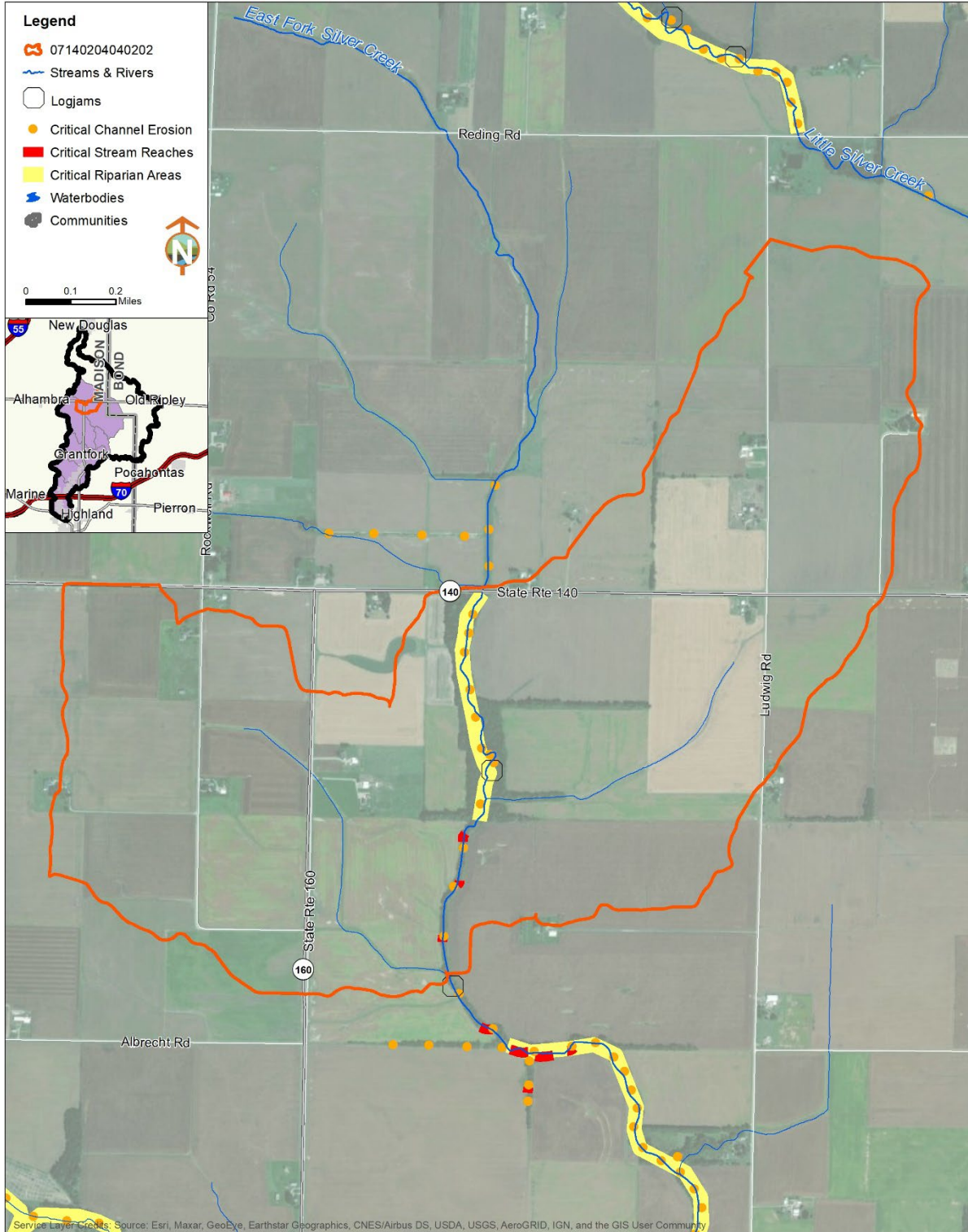
**Critical Riparian Areas:** 0.5 Miles

**Critical Wetland Areas:** No Critical Wetland Areas were identified in this subwatershed.

**Critical Shoreline Areas:** No Critical Shoreline Areas were identified in this subwatershed.

**Critical Channel Erosion:** 1 Tributary

HUC14 07140204040202



**HUC 07140204040203: Madison – Bond County Line (Northeast of Grantfork)**

This subwatershed is in the central portion of the Highland Silver Lake watershed. It contains East Fork Silver Creek, Highway 140 and Highway 160, but it does not contain municipal boundaries. This subwatershed is mainly agricultural land.

**Area:** 3,314 acres

**Named Streams:** East Fork Silver Creek

**Counties:** Madison, Bond

**Municipalities:** N/A

**Townships:** Leef

**Critical Logjam Areas:** 1 Site

**Critical Stream Reaches:** 2,331 Feet

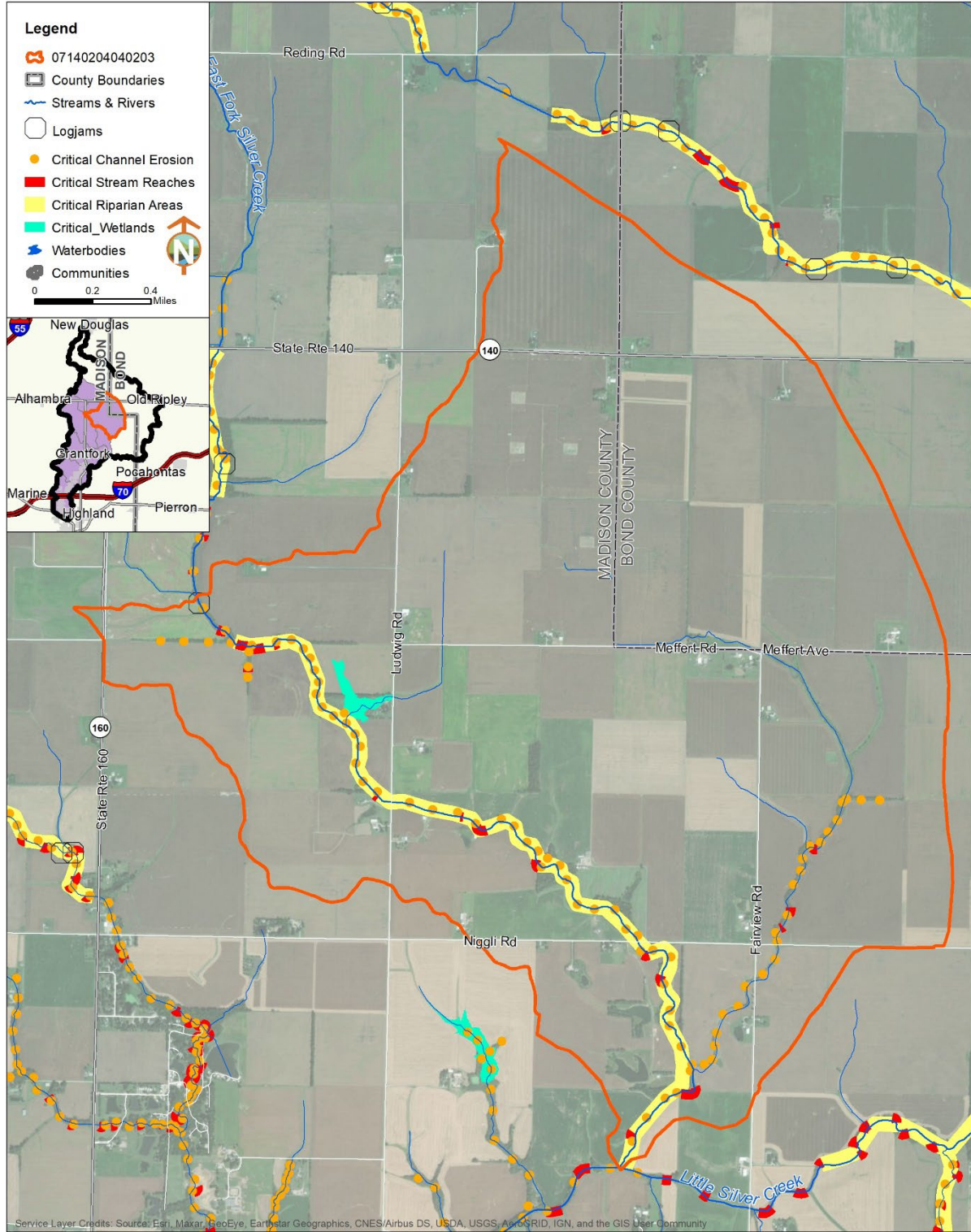
**Critical Riparian Areas:** 3.0 Miles

**Critical Wetland Areas:** 3.3 Acres

**Critical Shoreline Areas:** No Critical Shoreline Areas were identified in this subwatershed.

**Critical Channel Erosion:** 5 Tributaries

HUC14 07140204040203



**HUC 07140204040204: Little Silver Creek and East Fork Silver Creek Confluence (Northeast of Grantfork)**

This subwatershed is in the central portion of the Highland Silver Lake watershed. It contains East Fork Silver Creek, but it does not contain any major roadways or municipal boundaries. This subwatershed is mainly agricultural land.

**Area:** 890 acres

**Named Streams:** East Fork Silver Creek

**Counties:** Madison

**Municipalities:** N/A

**Townships:** Leef, Saline

**Critical Logjam Areas:** 1 Site

**Critical Stream Reaches:** 1,114 Feet

**Critical Riparian Areas:** No Critical Riparian Areas were identified in this subwatershed.

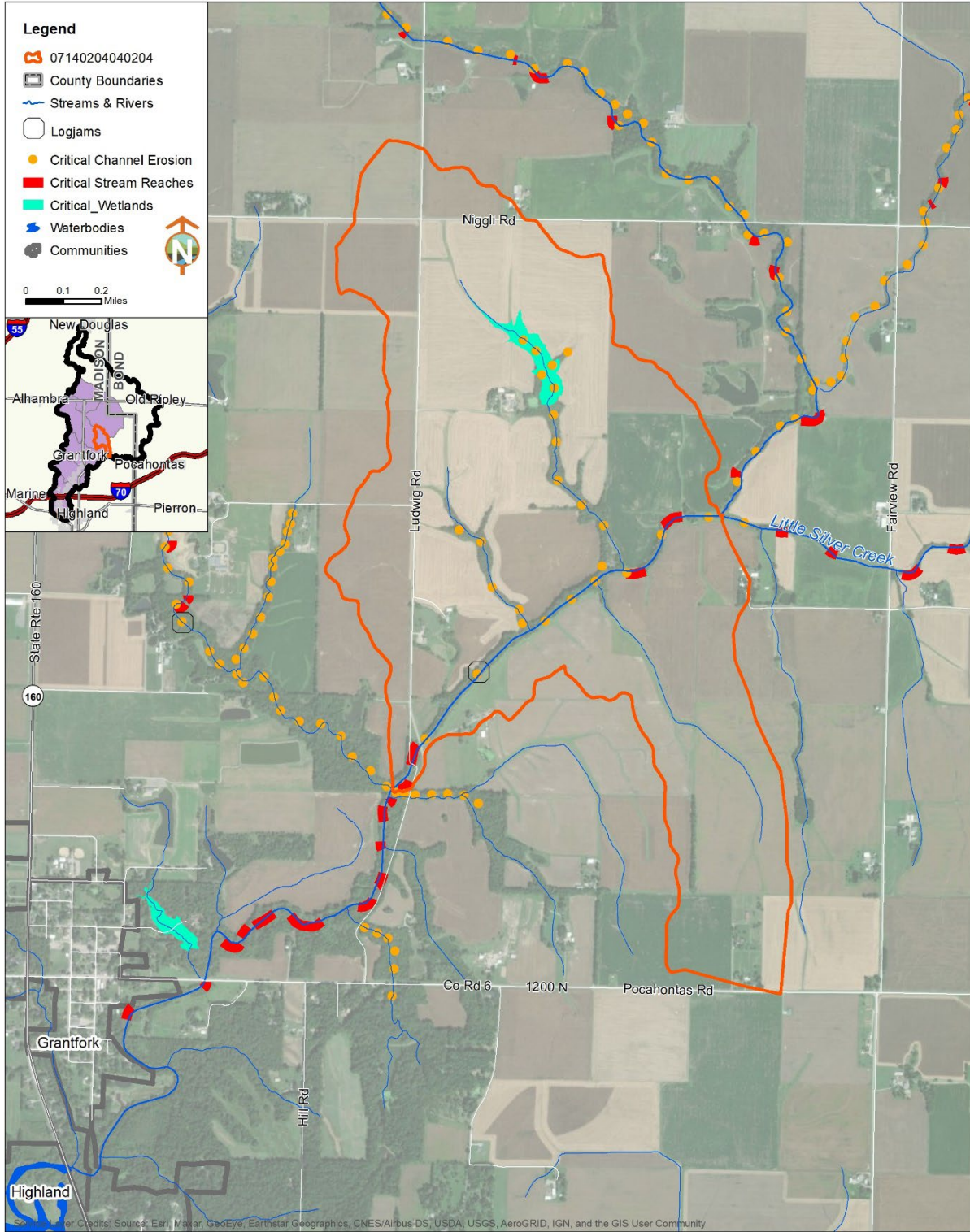
**Critical Wetland Areas:** 3.7 Acres

**Critical Shoreline Areas:** No Critical Shoreline Areas were identified in this subwatershed.

**Critical Channel Erosion:** 4 Tributaries



HUC14 07140204040204



**HUC 07140204040205: 07140204040205 (East of Alhambra)**

This subwatershed is on the western edge of the Highland Silver Lake watershed. It contains Highway 140, Highway 160 and Cool Creek Resort, but it does not contain named streams or municipal boundaries. This subwatershed is mainly agricultural land.

**Area:** 3,330 acres

**Named Streams:** N/A

**Counties:** Madison

**Municipalities:** N/A

**Townships:** Leef, Saline

**Critical Logjam Areas:** 3 Sites

**Critical Stream Reaches:** 4,338 Feet

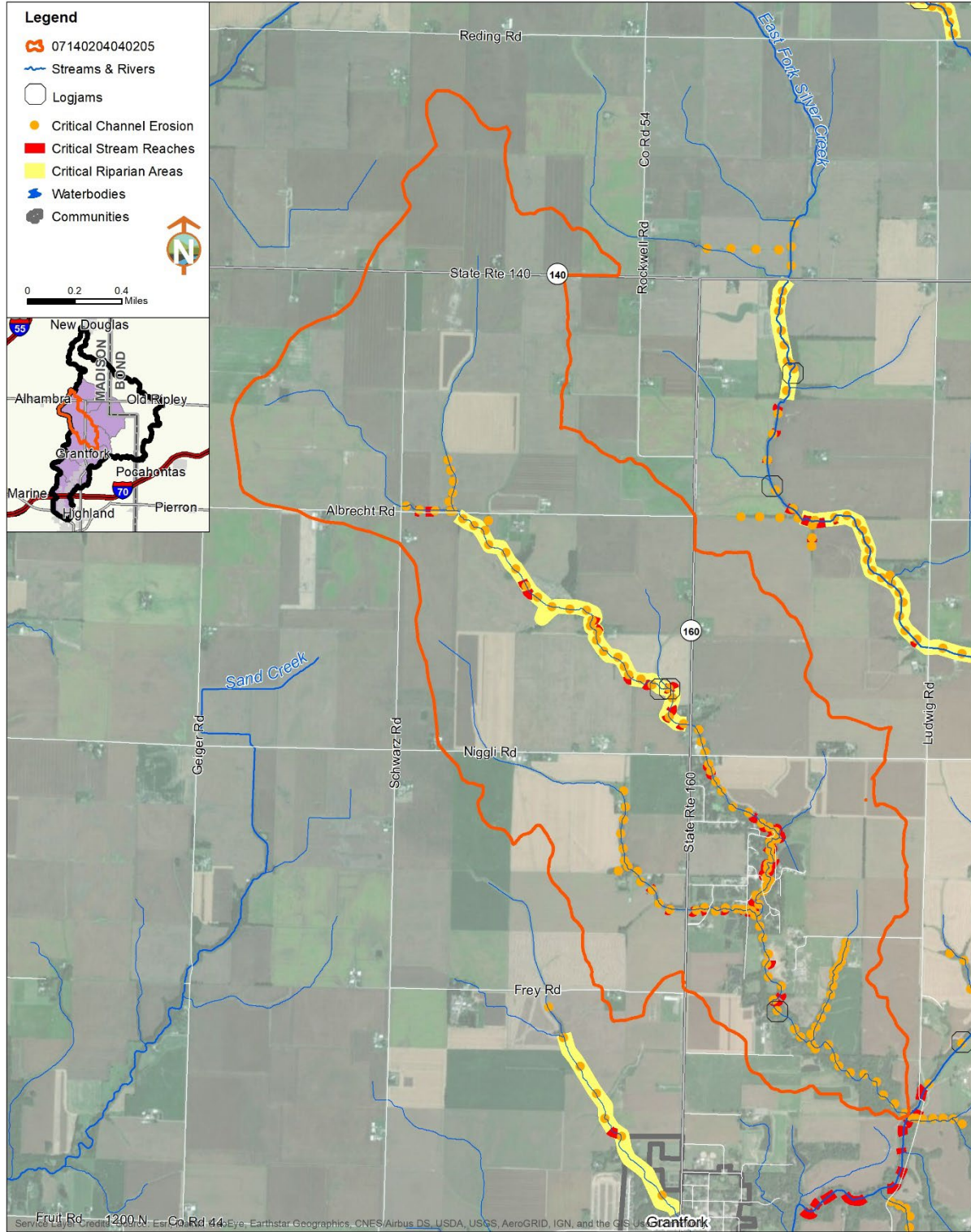
**Critical Riparian Areas:** 1.6 Miles

**Critical Wetland Areas:** No Critical Wetland Areas were identified in this subwatershed.

**Critical Shoreline Areas:** No Critical Shoreline Areas were identified in this subwatershed.

**Critical Channel Erosion:** 4 Tributaries

HUC14 07140204040205



**HUC 07140204040206: Village of Grantfork**

This subwatershed is in the southern portion of the Highland Silver Lake watershed. It contains the Village of Grantfork, City of Highland, Highway 160, East Fork Silver Creek, Grantfork Park and Highland Silver Lake Open Space. This subwatershed is a mix of agricultural land, impervious surfaces within the municipal boundaries, and forested land surrounding East Fork Silver Creek and Highland Silver Lake.

**Area:** 3,110 acres

**Named Streams:** East Fork Silver Creek

**Counties:** Madison

**Municipalities:** Village of Grantfork, City of Highland

**Townships:** Leef, Saline

**Critical Logjam Areas:** No Critical Logjam Areas were identified in this subwatershed.

**Critical Stream Reaches:** 2,735 Feet

**Critical Riparian Areas:** 0.9 Miles

**Critical Wetland Areas:** 1.9 Acres

**Critical Shoreline Areas:** No Critical Shoreline Areas were identified in this subwatershed.

**Critical Channel Erosion:** 3 Tributaries



**HUC 07140204040207: Headwater – Highland Silver Lake (South of Grantfork)**

This subwatershed is in the southern portion of the Highland Silver Lake watershed. It contains the City of Highland, Highway 160, Highland Silver Lake, and Highland Silver Lake Open Space. This subwatershed is a mix of open water with Highland Silver Lake, agricultural land on the eastern and western edges, and forested land surrounding Highland Silver Lake.

**Area:** 2,268 acres

**Named Waterbodies:** Highland Silver Lake

**Counties:** Madison

**Municipalities:** City of Highland

**Townships:** Saline, Marine

**Critical Logjam Areas:** No Critical Logjam Areas were identified in this subwatershed.

**Critical Stream Reaches:** No Critical Stream Reaches were identified in this subwatershed.

**Critical Riparian Areas:** No Critical Riparian Areas were identified in this subwatershed.

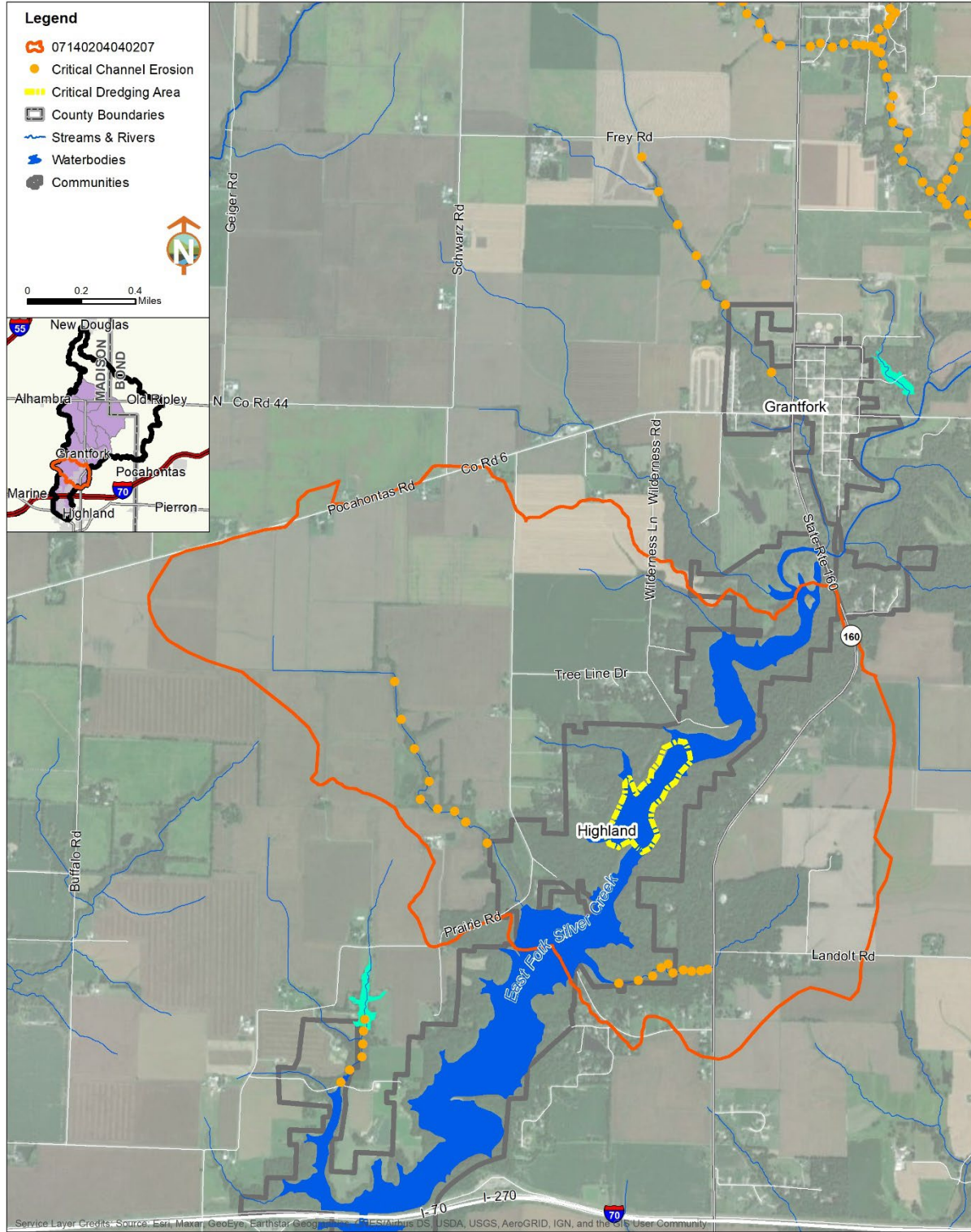
**Critical Wetland Areas:** No Critical Wetland Areas were identified in this subwatershed.

**Critical Shoreline Areas:** No Critical Shoreline Areas were identified in this subwatershed.

**Critical Channel Erosion:** 2 Tributaries

**Critical Dredging Area:** This subwatershed contains the only area identified as a Critical Dredging Area.

HUC14 07140204040207



**HUC 07140204040208: Highland Silver Lake (City of Highland)**

This subwatershed is in the southern portion of the Highland Silver Lake watershed. It contains the City of Highland, Interstate 70, Highland Silver Lake, and Highland Silver Lake Open Space. This subwatershed is a mix of open water with Highland Silver Lake, agricultural land on the western edge, and forested land surrounding Highland Silver Lake.

**Area:** 1,132 acres

**Named Waterbodies:** Highland Silver Lake

**Counties:** Madison

**Municipalities:** City of Highland

**Townships:** Saline, Marine

**Critical Logjam Areas:** No Critical Logjam Areas were identified in this subwatershed.

**Critical Stream Reaches:** No Critical Stream Reaches were identified in this subwatershed.

**Critical Riparian Areas:** No Critical Riparian Areas were identified in this subwatershed.

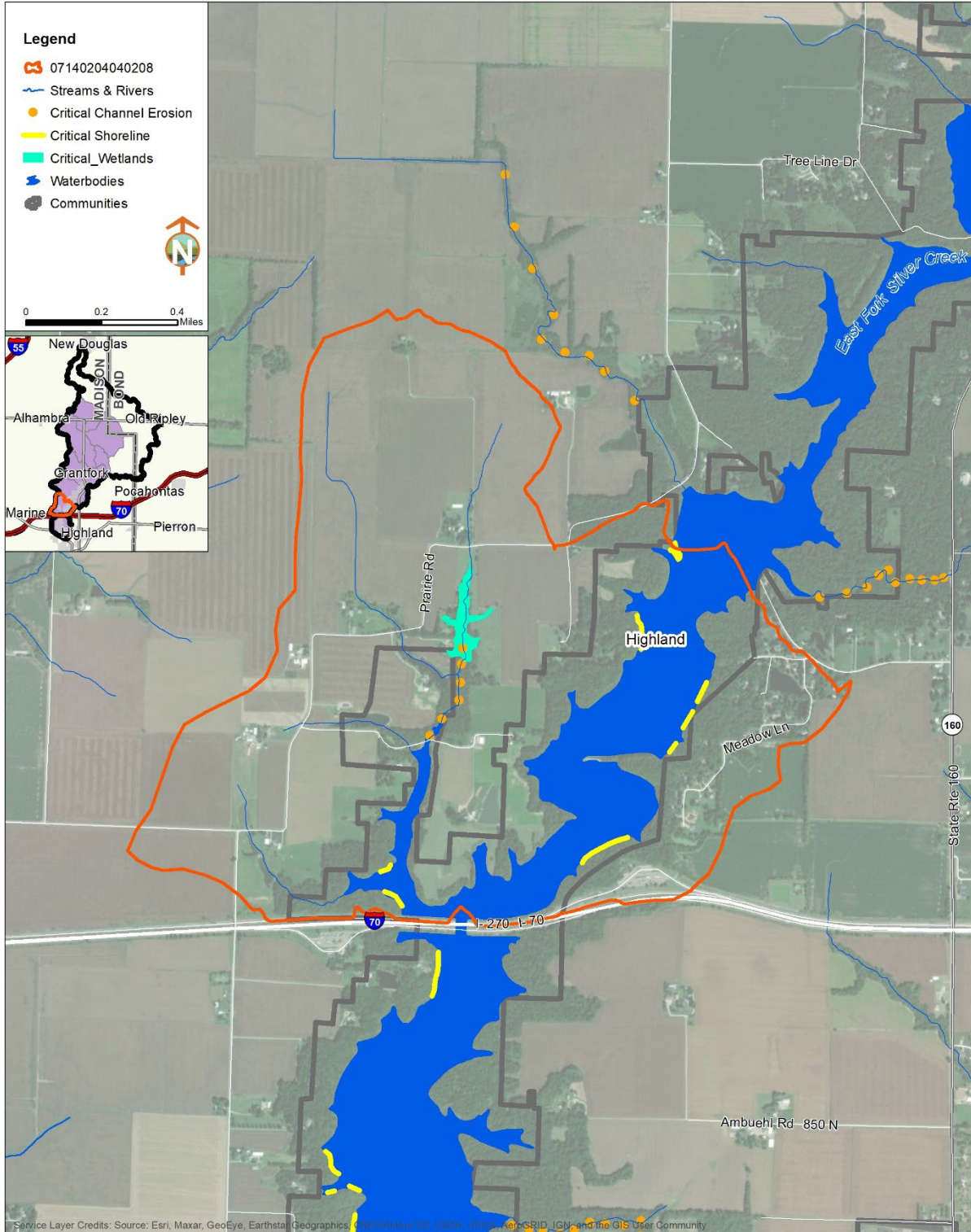
**Critical Wetland Areas:** 2.7 Acres

**Critical Shoreline Areas:** 2,910 Feet

**Critical Channel Erosion:** 1 Tributary



HUC14 07140204040208



**HUC 07140204040209: Highland Silver Lake Dam (City of Highland)**

This subwatershed is in the southernmost subwatershed in the Highland Silver Lake watershed. It contains the City of Highland, Interstate 70, Highway 143, Highland Silver Lake, Highland Silver Lake Dam and Highland Silver Lake Park. This subwatershed is a mix of open water with Highland Silver Lake, agricultural land on the eastern and western edges, and forested land surrounding Highland Silver Lake.

**Area:** 1,296 acres

**Named Waterbodies:** Highland Silver Lake

**Counties:** Madison

**Municipalities:** City of Highland

**Townships:** Saline, Marine

**Critical Logjam Areas:** No Critical Logjam Areas were identified in this subwatershed.

**Critical Stream Reaches:** No Critical Stream Reaches were identified in this subwatershed.

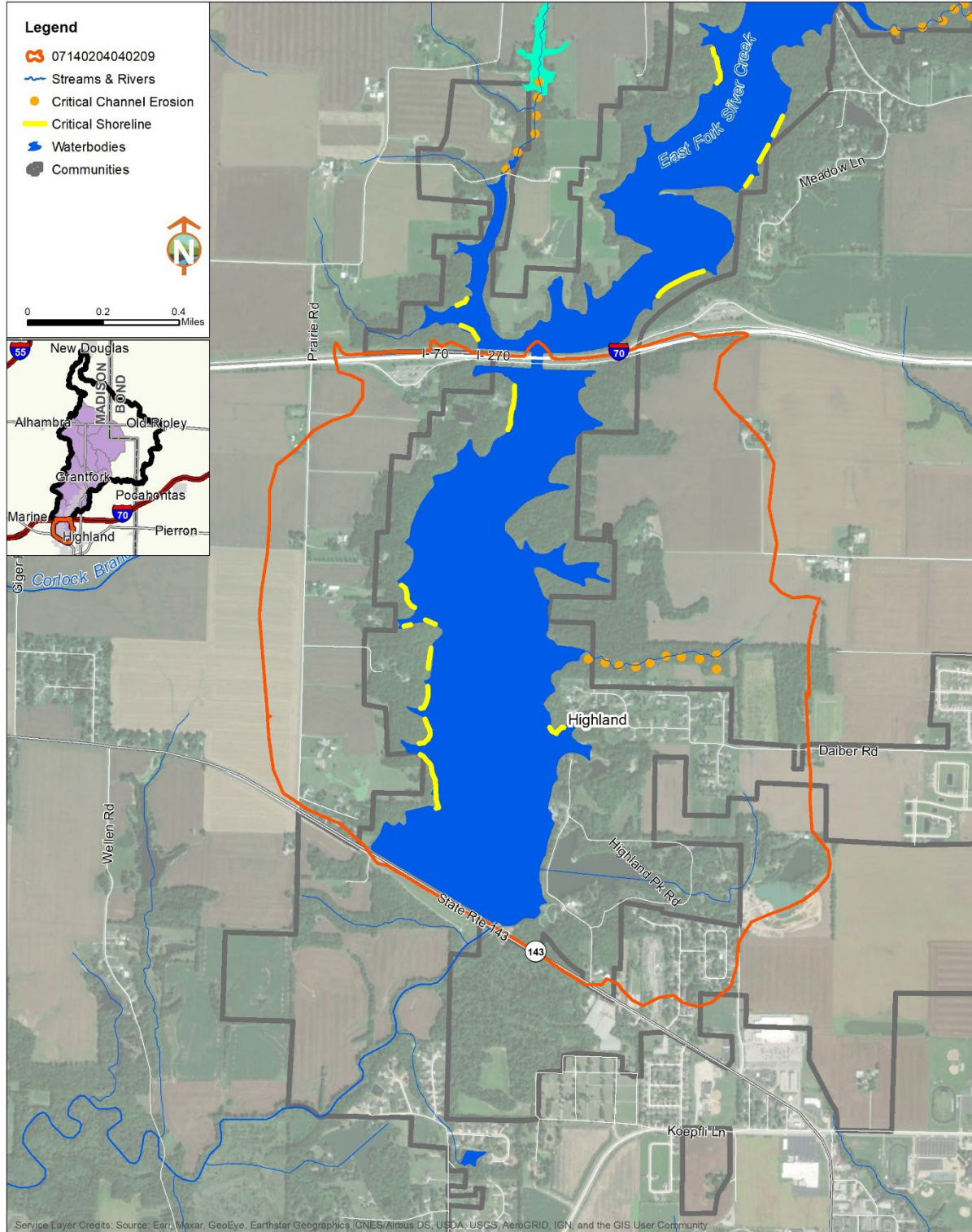
**Critical Riparian Areas:** No Critical Riparian Areas were identified in this subwatershed.

**Critical Wetland Areas:** No Critical Wetland Areas were identified in this subwatershed.

**Critical Shoreline Areas:** 3,440 Feet

**Critical Channel Erosion:** 1 Tributary

HUC14 07140204040209



## SECTION 4: OVERVIEW OF MANAGEMENT MEASURES AND ACTION PLAN

The term “Management Measures” or “Best Management Practices” generally describes acceptable practices that could be put into place to protect water quality and control stormwater. BMPs are typically designed to reduce stormwater volume, peak flows, and/or nonpoint source pollution. The Management Measures will be divided into practices that can be used in 1) Highland Silver Lake and land surrounding and 2) agricultural land throughout the watershed.

Programmatic Measures include policy changes, environmental monitoring, design processes, and other measures that can be applied by various partner and stakeholder organizations across the watershed. Information and education measures can be considered programmatic measures, and these are outlined separately in the Information and Education Plan section (Section 6). Site-Specific Measures, which are often structural, can be implemented on the ground to reduce erosion, reduce excess nutrient runoff and improve habitat.

The Management Measures were selected based on the following factors:

- Performance—Research-based pollutant reduction estimates for each BMP;
- Cost—The costs associated with installation and maintenance of each BMP;
- Public acceptance; and
- Ease of construction and maintenance.

Pollutant load reduction values associated with the Management Measures were identified from several sources, including the USEPA’s Region 5 Load Estimation Model User’s Manual and the International Stormwater BMPs Database (see Appendix D).

Cost estimates were assembled from several sources, including the Illinois Nutrient Loss Reduction Strategy (2015), experienced local contractors, and other watershed-based plans (see Appendix D).

Levels of public acceptance for various Management Measures were gauged during stakeholder engagement activities. Data on ease of construction and maintenance were collected from sources including NRCS’s 2014 National Conservation Practice Standards.

Table 4 shows all Management Measures recommended, with the primary goal addressed by each measure. Secondary and/or tertiary goals addressed are also identified. Estimates of the pollutant load reduction efficiencies of each measure are listed for sediment, TSS, phosphorus, and nitrogen. If implemented, these Management Measures will achieve the goals, objectives, and targets of this plan.

Some BMPs are more effective at pollutant reduction when implemented in a treatment train (e.g., a terrace leading to a wetland). The STEPL can assess the efficiency of several BMP combinations.

## Highland Silver Lake and Surrounding Land

### *Lake dredging*

Highland Silver Lake has lost a significant amount of storage capacity due to sediment deposition in the northern portion of the lake. To ensure the drinking water source is protected, water quality can be improved, aquatic habitat can be restored, and increased recreational opportunities can be promoted, dredging of Highland Silver Lake is recommended in the northern portion of the lake.

- Primary Goal Addressed: 2. Improve surface water quality
- Pollution Reduction: N/A
- Cost: \$30/cubic yard
- Amount recommended: 100,000 cubic yards

### *Shoreline stabilization*

Shoreline erosion is a natural process that occurs on lakes. It is the gradual, although sometimes rapid, removal of sediments from the shoreline. It is caused by several factors including storms, wave action from wind and boats, rain, ice, runoff, and loss of trees and other vegetation. Shoreline stabilization can be achieved through the installation of rock riprap along with geotextile filter fabric to protect soil and planting of native deep-rooted vegetation behind the riprap wall.

- Primary Goal Addressed: 1. Reduce amount of sediment deposited in Highland Silver Lake
- Pollution Reduction: 58% sediment, 22% phosphorus, 15% nitrogen
- Cost: \$110/linear foot
- Amount recommended: 6,350 feet



***Streambank and Channel Erosion***

Streambank and channel erosion in the lake’s watershed mainly consists of incisions created by channel head cuts in Little Silver Creek, Silver Creek, and their tributaries. These head cuts cause the channel to degrade, creating incised deep channels and increased channel velocities by not allowing the bankfull flow to connect to the floodplain. The channel degradation causes the outer bend on the channel banks to become unstable; as a result, the banks fall into the channel increasing the sediment bedload in the stream. Channel bed stabilization is treated using riffle-pool complexes, which consist of areas of rapid water movement over coarse substrate (riffles) and areas with slower stream movement and a smooth surface (pools). Riffle-pool complexes help reduce erosion by increasing water depth while also increasing dissolved oxygen. The eroded streambanks are treated using a rock riprap placed along the toe of the eroded bank allowing in a triangular shape to allow for sediment deposition behind the stone and eroded bank, this is called peak stone toe protection.

- Primary Goal Addressed: 1. Reduce amount of sediment deposited in Highland Silver Lake
- Pollution Reduction: 98% sediment, 90% phosphorus, 90% nitrogen
- Streambank Stabilization Cost: \$80/linear foot
- Channel Stabilization Cost: \$5175/each
- Amount of streambank recommended protection recommended: 17,694 feet of streambank
- Amount of riffles recommended: 446 riffles



### *In-Lake Basin Structure*

The concept of an in-lake structure has been studied by both the previous watershed plan in 2011 and 2008 Lake Study by HDR. Andreas Consulting Services (ACS) evaluated the need for an in-lake structure again in 2021. See Appendix K for more information.

Structure 1 consists of a 300-foot long sheet pile weir structure crossing the entire lake at the northern section. This structure would trap 60% (18 acre-ft/year) of the estimated 30 acre-feet of sediment from the watershed. The sheet pile weir would be driven within 3 feet above the lake level of 500 feet above mean sea level (msl). This provides 427 acre-feet of sediment storage to its crest elevation of 503.0 msl. Depending on its management, the structure can provide 21 to 31 years of sediment storage. This reduces the sediment load to the main lake body by an estimated 12 acre-feet per year. This structure can be managed for multiple purposes by raising its pool level up to 3 feet above the current lake level for recreational use or enhancing the upper sections for linear wetlands. Large storm flow would overtop the structure where it serves as large weir. It would increase the water elevation of the northern segment of the lake, slowing water flows and allowing sediment and nutrients to be deposited in a controlled manner. To ensure adequate trapping efficiency, dredging of sediment upstream of the structure would be recommended.

- Primary Goal Addressed: 1. Remove and reduce sediment in Highland Silver Lake
- Pollution Reduction: 60% sediment, 60% phosphorus, 60% nitrogen
- Cost: \$402,500/each

This alternative will require engineering service to determine the impact to the existing lake and upstream bridge on Pocahontas Road. A permit from the IDNR-Office of Water Resources, Dam Safety Section will be required prior to construction.

Estimated engineering fees: \$60,000.

Structure 2 would be installed on a tributary immediately north of the city lake maintenance facility. A sheet pile structure with a 200-foot weir would be installed across the bay in the same manner as In-Lake Structure No. 1 to trap sediment from its 416-acre (0.65 mi.) watershed. The estimated sediment load is approximately 1,248 tons per year or 0.7 acre-ft per year. The sediment pool can be drained to consolidate the sediment, increasing its life. A pipe-stoplog system can be used to manage the pool to achieve the desired recreation use. The sediment pool can be drained to consolidate the sediment, increasing its life for a period of 19 – 29 years.

- Primary Goal Addressed: 1. Remove and reduce sediment in Highland Silver Lake
- Pollution Reduction: 60% sediment, 6% phosphorus, 60% nitrogen
- Cost: \$207,000/each

Engineering services estimate: \$15,000

Structure 3 has a drainage area of 1.46 square miles entering the lake on the west side of Silver Lake. Approximately 1.2 acre-ft of sediment is deposited in the lake each year from this tributary. Raising the pool elevation above the existing 7 feet diameter concrete culvert under Prairie Road will provide sediment storage. A sheet pile box inlet weir would be installed on the upstream end of the existing

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culvert set at a maximum weir crest of 504.0, or 4 feet above the lake level, to achieve a 75% trap efficiency. Depending on management, the estimated storage period is 23 – 35 years. The sediment pool would be managed with a slow-release outlet pipe-stoplog to dewater and consolidate the sediment or keep at the maximum elevation of 504 msl.

- Primary Goal Addressed: 1. Remove and reduce sediment in Highland Silver Lake
- Pollution Reduction: 60% sediment, 60% phosphorus, 60% nitrogen
- Cost: \$43,700/each

Engineering services: \$5,000

### *Wetlands*

Wetlands, also known as Nutrient Removal Wetlands, consist of a depression created in the landscape where hydric soils allow aquatic vegetation to become established. They are among the most effective stormwater practices in terms of pollutant removal. The wetlands and surrounding buffers also offer environmental benefits such as increases in wildlife habitat and carbon sequestration. Wetlands can be natural or “constructed,” meaning that they mimic naturally occurring wetlands. Wetland restoration is an important tool for bringing back the ecosystem services of nutrient removal.

- Primary Goal Addressed: 2. Improve surface water quality
- Pollution Reduction: 60% sediment, 78% phosphorus, 44% nitrogen
- Cost: \$22,000/acre
- Amount recommended: 4.6 acres





### *Forest Management and Tree Planting*

Forest management in the form of forest stand improvement is the process of prioritizing forest and wildlife habitat by retaining desirable trees that are the right age and species while the competing trees and invasive species are culled. This decreases competition for the desirable trees, increases growth rates, and shapes the future of the forest. Forests can also be replanted with specific native trees or expanded to support the wildlife population and improve the recreational benefits of the lake.

- Primary Goal Addressed: 4. Support healthy fish and wildlife habitat and recreation.
- Pollution Reduction: 5% sediment, 5% phosphorus, 5% nitrogen
- Cost: \$400/acre
- Amount recommended: 300 acres



Image: Forest stand improvement area in Highland Silver Lake park.

### *Detention basins*

A detention basin is a constructed basin that receives, temporarily stores, and then gradually releases stormwater. They are designed to store flows and capture sediment, nutrients, and other pollutants prior to reaching Highland Silver Lake. Detention basin can be located at strategic waterways surrounding the lake and can be required to be installed for all new subdivision developments.

- Primary Goal Addressed: 1. Remove and reduce sediment in Highland Silver Lake
- Pollution Reduction: 70% sediment, 58% phosphorus, 26% nitrogen
- Cost: \$45,400/acre
- Amount recommended: 20 acres

### *Rain gardens*

Similar to detention basins but on a smaller scale, rain gardens are vegetated basins that temporarily store and infiltrate rainwater. Situated near the lowest point of a small drainage area (such as a single residential lot), they significantly slow the flow of water, improve water quality, and provide food and shelter for birds, butterflies, and insects. Although there are limited residential areas in the watershed, they are concentrated around Highland Silver Lake and other waterways. Installation of rain gardens on individual landowner properties (existing and future) would help reduce urban fertilizer runoff to the nearby waterways.

- Primary Goal Addressed: 2. Improve surface water quality
- Pollution Reduction: 67% sediment, 27% phosphorus, 35% nitrogen
- Cost: \$20/sq. ft.
- Amount recommended: 10,000 square feet

### *Ponds*

Ponds are popular features that also have significant pollutant removal benefits properly sited and designed. Also known as wet ponds, stormwater ponds, or wet retention ponds, they are constructed basins that have a permanent pool of water throughout the year (or at least throughout the wet season). As stormwater runoff enters the pond, the sediment settles out and some nutrient uptake takes place. Nitrogen removal via denitrifying bacteria can also occur in ponds.

- Primary Goal Addressed: 1. Reduce amount of sediment deposited in Highland Silver Lake
- Pollution Reduction: 90% sediment, 67% phosphorus, 48% nitrogen
- Cost: \$17,000/acre
- Amount recommended: 50 acres



### *Native landscaping*

The use of native plants in landscaping on public and private property surrounding the lake should be encouraged to slow down surface runoff, reduce fertilizer application, prevent erosion, and support wildlife. The adoption of native landscaping on public property can also reduce the cost to maintain turf grass. Ordinance effectiveness and implementation should be periodically reviewed. Likewise, the removal of invasive species is important in promoting biodiversity.

- Primary Goal Addressed: 4. Support healthy fish and wildlife habitat and recreation

### *Aquatic Habitat Installations*

The loss of capacity and excessive sediment in the lake resulted in the loss of natural aquatic habitat. Artificial habitats constructed from woody structures or reclaimed PVC can be formed into various shapes such as fish-n-tree, brush bundles, crappie condos, and catfish houses to provide cover and create spawning habitat. These artificial habitats can improve the health of aquatic species and promote additional recreational benefit by advertising the location of these habitats to anglers.

- Primary Goal Addressed: 4. Support healthy fish and wildlife habitat and recreation

### *Open space and natural area protection*

Several actions can be taken to encourage the protection of natural areas and open space in new development. These include establishing a dedicated source of funding for open space acquisition and management, creating agriculture zoning districts with very large minimum lot sizes, adopting an open space and parks plan, and implementing regulations to protect steep slopes, wetlands, and other sensitive natural areas. Comprehensive plans should be regularly updated to help protect valuable natural areas and open space from development and guide new development in ways that minimize negative water quality and flooding impacts.

- Primary Goal Addressed: 4. Support healthy fish and wildlife habitat and recreation

### *Private sewage monitoring*

Private sewage inspections are required by Madison County during real estate transactions and are performed following complaints; however, the inspections can occur many years apart for a single property. More regular inspections (e.g., every three to five years) should be considered by watershed jurisdictions. An intensive inspection of private septic systems in areas with recurring problems should also be considered. Data on private sewage violations and water quality parameter exceedances should be collected and mapped. Connections to public sewer systems should be encouraged in new development. Counties and municipalities can create a Special Service Area (SSA) to fund improvements to localized private sewage problems.

- Primary Goal Addressed: 2. Improve surface water quality

### *Riparian Buffer Ordinance*

A riparian buffer is a naturally vegetated strip of land adjacent to a body of water. Among their many benefits, riparian buffers improve water quality, reduce erosion, store floodwater, and provide habitat for wildlife. In this region, oak-hickory forest or prairie grassland are appropriate vegetation types. A riparian buffer ordinance protects a riparian area of a certain width from new development and other disturbances and promotes revegetation/reforestation.

- Primary Goal Addressed: 4. Support healthy fish and wildlife habitat and recreation

### *Recreational promotion of Highland Silver Lake*

Highland Silver Lake provides a valuable recreational benefit to the watershed by offering opportunities for boating, fishing, waterfowl hunting, hiking, archery, and many other activities. The COVID-19

pandemic has resulted in increased interest in outdoor activities and increased traffic was seen at Highland Silver Lake Park between 2020 and 2021. To continue to attract additional visitors to the park and lake, increased publicity for the lake and park needs to be promoted through various platforms including social media posts and educational signs throughout the park. Increased traffic to the park and lake will lead to an increase in awareness of the benefit of this resource and help promote protecting the lake.

- Primary Goal Addressed: 6. Conduct education and outreach

### *Monitoring*

Monitoring of water quality, flow, and stream health in the watershed will provide data that can be used to support future resource management decisions and assess the effectiveness of Management Measures that are implemented.

The absence of an active USGS discharge gage in the Highland Silver Lake watershed makes continuous monitoring impossible. Therefore, this monitoring plan will use a velocity-area method to calculate discharge at each of the monitoring sites when stream conditions allow this to be done safely. When conditions are appropriate for wading in the stream, an acoustic Doppler velocimeter (ADV) with wading rod and tagline will be used to measure discharge. During periods of high or storm flow, when wading is not possible, a velocimeter and sounding reel mounted on a USGS bridge board will be used from the bridge.

In addition to flow monitoring, discrete waters samples should be collected and analyzed. Sampling locations will be identified near the outflow of each subwatershed, and samples will be collected quarterly to determine seasonal variations in water quality. Additional sampling will be done during major storm events. See Appendix E for more detail on the recommended monitoring components. See Section 7 (Implementation) for the monitoring timeline.

- Primary Goal Addressed: 2. Improve surface water quality

The following parameters will be monitored:

- Flow
- Sediment (TSS)
- Total Phosphorus
- Total Nitrogen
- Non-Purgeable Organic Carbon (NPOC)
- Soluble reactive phosphate (SRP)
- Nitrite+nitrate-nitrogen (NO<sub>2</sub>+NO<sub>3</sub>-N)
- Ammonium-nitrogen (NH<sub>4</sub>-N)
- Soluble reactive phosphorus (SRP)

### *Watershed plan supported and integrated into community plans*

Watershed partners, including communities, should adopt or support the watershed plan and incorporate its goals and recommended actions into their policies (such as ordinances and comprehensive plans).

- Develop organization frameworks to implement watershed goals

## Agricultural Land Throughout Watershed

### *Conservation tillage (reduced tillage/no-till)*

Due to the terrain of the watershed being predominantly flat, conventional tillage is still used on the majority agricultural fields. Reducing the extent of tillage is known as conservation tillage; when no tillage is used, it is called no-till. Reducing tillage leads to a reduction in soil erosion and the transport of associated nutrients. No-till allows natural soil structure to develop, which results in increased infiltration of rainwater and reduced surface runoff. Conservation tillage was recommended in the previous watershed plan as well as the TMDL report, but adoption continues to be limited. Providing additional educational opportunities explaining the benefits as well as potential funding to offset initial costs would help increase conservation tillage adoption.

- Primary Goal Addressed: 2. Improve surface water quality
- Pollution Reduction: 59% sediment, 59% phosphorus, 52% nitrogen
- Cost: \$70/acre
- Amount recommended: 12,944 Acres

### *Grassed waterways*

Gully erosion is an issue in numerous fields in the northern portion of the watershed. To reduce and prevent gully erosion, a grassed waterway can be constructed to move stormwater at a non-erosive velocity. The parabolic shaped waterway prevents concentrated runoff flows, and the grasses planted feed on the nitrogen and phosphorus reducing excessive nutrient runoff. Grassed waterways are widely accepted throughout the watershed and 17 acres were installed with the 2018 – 2021 IEPA 319 Grant.

- Primary Goal Addressed: 2. Improve surface water quality
- Pollution Reduction: 80% sediment, 80% phosphorus, 45% nitrogen
- Cost: \$9,000/acre
- Amount recommended: 964 Acres



Grassed waterway installed in Highland Silver Lake watershed

### *Water and Sediment Control Basins (WASCOBs)*

To further prevent gully erosion, WASCOBs can be constructed across a small watercourse or area of concentrated flow within a field. WASCOBs are small earthen ridge-and-channel structures or embankments that are designed to hold agricultural water so that sediment and sediment-borne phosphorus settle out, reducing the amount of sediment leaving the field and preventing the formation of gullies. They can be used in conjunction with grassed waterways to provide a substantial reduction in erosion and nutrient runoff. Nearly 18,000 feet of WASCOBs were installed using the 2018-2021 IEPA 319 grant. Potential locations of WASCOBs were identified by ACPF modeling.

- Primary Goal Addressed: 2. Improve surface water quality
- Pollution Reduction: 58% sediment, 58% phosphorus, 35% nitrogen
- Cost: \$380/acres
- Amount recommended: 548 Acres



Water and sediment control basin installed in Highland Silver Lake watershed

### *Cover crops*

Cover crops can provide multiple benefits: preventing erosion, improving soil's physical and biological properties, supplying nutrients, improving the availability of soil water, breaking pest cycles, and suppressing weeds. Planted in the fall and/or spring, they take up unused fertilizer, build soil structure, and release nutrients for the following crop to use. The species of cover crop selected along with its timing and management determine the specific benefits. Cover crop adoption can be hampered by initial cost of equipment and seed for planting as well the need to continue using cover crops for multiple years before soil health benefits are measurable. Continued education and initial funding opportunities need to be promoted to improve the adoption of cover crops.

- Primary Goal Addressed: 2. Improve surface water quality
- Pollution Reduction: 15% sediment, 15% phosphorus, 30% nitrogen
- Cost: \$50/acre
- Amount recommended: 15,532 Acres

### *Riparian buffers/field borders buffers*

Riparian buffers are vegetated zones immediately adjacent to a stream or lake. Field border buffers are similar to riparian buffers but can be located along roadways, roadside ditches, and at any agricultural

field border. Farming right to the edge of a stream or roadside ditch causes increased erosion due to limited ground cover and increased runoff. A strip of native, perennial grass around the edge of agricultural fields slows water flow and allows sediment, fertilizers, and pesticides to be filtered by these deep-rooted plant species. The cost to install field border and riparian buffers are increased by loss of profitable crop land for the farmer. To offset this cost, municipal and township stakeholders could create a program to help farmers establish these practices. This could result in reduced ditch maintenance costs and improved water quality flowing to Highland Silver Lake.

- Primary Goal Addressed: 2. Improve surface water quality
- Pollution Reduction: 53% sediment, 53% phosphorus, 43% nitrogen
- Cost: \$2,000/acre
- Amount recommended: 32 Acres



Field border planted with native grasses (NRCS)

### *Roadside Ditch Maintenance*

Typical rural roadside ditch maintenance consists of excavating a deep, narrow channel to allow stormwater to flow adequately away from the road. The concentrated flow in the narrow ditch results in significant erosion of the banks of the ditch and is not maintainable. This erosion can result in loss of soil from agricultural fields and issues with road stability. Re-shaping the ditch to a Trapezoidal shape with mowable side slopes would allow water to flow efficiently, reduce erosion, and is easily maintained.

- Primary Goal Addressed: 2. Improve surface water quality
- Pollution Reduction: N/A
- Cost: \$23/feet
- Amount recommended: 2,000 Feet



Reshaped roadside drainage ditch installed in Highland Silver Lake watershed

### *Contour buffer strips*

Contour buffer strips are strips of perennial vegetation that alternate with wider cultivated strips down a slope; the crop rows are farmed along the contour. The narrow strips of perennial vegetation are not part of the normal crop rotation. They slow surface runoff and trap sediment, significantly reducing sheet and rill erosion and removing pollutants from runoff. There has been limited adoption of this practice in the watershed and extensive education and outreach would be required to promote the benefits of contour buffer strips. Locations of contour buffer strips were identified by ACPF mapping.

- Primary Goal Addressed: 2. Improve surface water quality
- Pollution Reduction: 53% sediment, 61% phosphorus, 53% nitrogen
- Cost: \$200/acre
- Amount recommended: 25 Acres

### *Nutrient Management Plans (NMPs)*

A NMP is a strategy for obtaining the maximum return from on- and off-farm fertilizer resources in a manner that protects the quality of nearby water resources. Creating an NMP involves reviewing soil maps, field boundaries, and nutrient uptake of crops to determine nutrient needs for each field and the types and amounts of fertilizers to meet those needs. Although there was limited interest in NMPs in prior years, having a nutrient management plan for each agricultural property is recommended and additional education and outreach material should be developed to reach this goal. The location of farms that would benefit from nutrient management plans were identified by ACPF mapping.

- Primary Goal Addressed: 2. Improve surface water quality
- Pollution Reduction: Varies
- Cost: \$14/acre
- Amount recommended: 3,000 Acre



### *Ponds*

Agricultural ponds can be installed in ravines and gullies to trap sediment and nutrients and provide habitat for various species. Ponds are a popular best management practice throughout the watershed. Since ponds capture sediment as it leaves agricultural fields and do not improve the health of soils, they should be used in conjunction with the above-mentioned practices and should be viewed as a last line of defense.

- Primary Goal Addressed: 1. Remove and reduce sediment in Highland Silver Lake
- Pollution Reduction: 90% sediment, 67% phosphorus, 48% nitrogen
- Cost: \$17,000/acre
- Amount recommended: 50 Acres total watershed area



Pond installed in the Highland Silver Lake watershed

### *Bioreactors (denitrifying)*

Bioreactors, also known as denitrifying bioreactors, are ditches filled with woodchips that contain denitrifying bacteria. A bioreactor is placed at the outlet of a tile drainage system, and the bacteria remove nitrogen from water leaving the system. Research has shown an estimated bioreactor lifespan of 15 to 20 years, after which the woodchips would be replaced if treatment continues. Locations of bioreactors were identified by ACPF mapping.

- Primary Goal Addressed: 2. Improve surface water quality
- Pollution Reduction: 0% sediment, 0% phosphorus, 40% nitrogen
- Cost: \$200/acre drained
- Amount recommended: 1,523 Acres

### *Federal and state programs*

Federal and state agricultural easement and working lands programs such as CRP, CSP, EQIP, and the Agricultural Conservation Easement Program (ACEP) are designed to reimburse farmers and landowners for implementing practices that protect soil and water health. In December 2020, the Highland Silver Lake watershed was designated as a priority watershed for protecting source water. This designation allows for additional funding to complete projects through EQIP with assistance from NRCS.

- Primary Goal Addressed: 3. Promote sustainable agricultural practices

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### All Management Measures recommended

Table 4. All Management Measures recommended, goals addressed (see goal numbers in Section 2), and pollutant load reduction efficiencies.

|   | Goals addressed        |                          |                         | Pollutant load reduction efficiency |                |             |             |
|---|------------------------|--------------------------|-------------------------|-------------------------------------|----------------|-------------|-------------|
|   | Primary goal addressed | Secondary goal addressed | Tertiary goal addressed | % sediment removal*                 | % TSS removal* | % P removal | % N removal |
| <b>Highland Silver Lake and Surrounding Land Measures</b> |                        |                          |                         |                                     |                |             |             |
| Lake Dredging   | 2                      | 2                        | 4                       | n/a                                 | n/a            | n/a         | n/a         |
| Shoreline stabilization                                   | 1                      | 2                        | 4                       | 98%                                 | 58%            | 22%         | 15%         |
| Stream bank stabilization                                 | 1                      | 2                        | 4                       | 98%                                 | 90%            | 90%         | 90%         |
| Stream Channel Stabilization                              | 1                      | 2                        | 4                       | 98%                                 | 90%            | 90%         | 90%         |
| In-lake basin structures                                  | 1                      | 1                        |                         | 60%                                 | 60             | 60          | 60          |
| Wetlands  | 1                      | 2                        | 3                       | 78%                                 | 78%            | 44%         | 20%         |
| Forest Management and Tree Planting                       | 4                      | 2                        | 1                       | 5%                                  | 5%             | 5%          | 5%          |
| Detention basins  | 1                      | 2                        | 4                       | 70%                                 | 58%            | 27%         | 30%         |
| Rain gardens  | 2                      | 4                        | 1                       | 67%                                 | 67%            | 27%         | 35%         |
| Ponds   | 1                      | 2                        | 4                       | 90%                                 | 67%            | 48%         | 31%         |
| Native landscaping  | 4                      | 2                        | 6                       |                                     |                |             |             |
| Aquatic habitat installation                              | 4                      | 6                        |                         |                                     |                |             |             |
| Open space and natural area protection                    | 4                      | 2                        | 6                       |                                     |                |             |             |
| Private sewage monitoring                                 | 2                      |                          |                         |                                     |                |             |             |
| Riparian buffer   | 2                      | 4                        | 1                       |                                     |                |             |             |
| Recreational promotion of Highland Silver Lake            | 4                      | 6                        |                         |                                     |                |             |             |
| Monitoring  | 2                      | 1                        | 6                       |                                     |                |             |             |
| Information and education plan                            |                        |                          |                         |                                     |                |             |             |
| Watershed plan integrated into community plans            | 5                      | 6                        |                         |                                     |                |             |             |
| <b>Agricultural Land Throughout Watershed Measures</b>    |                        |                          |                         |                                     |                |             |             |
| <b>Agricultural Management Measures</b>                   |                        |                          |                         |                                     |                |             |             |
| Conservation tillage                                      | 2                      | 1                        | 3                       | 59%                                 | 59%            | 52%         | 20%         |
| Grassed waterways   | 2                      | 1                        | 3                       | 80%                                 | 80%            | 45%         | 55%         |
| Water and sediment control basins (WASCOBs)               | 1                      | 1                        | 3                       | 58%                                 | 58%            | 35%         | 28%         |
| Cover Crops   | 2                      | 1                        | 3                       | 15%                                 | 15%            | 30%         | 30%         |
| Riparian buffers/field border buffers                     | 2                      | 3                        | 4                       | 53%                                 | 53%            | 43%         | 38%         |
| Rural roadside ditch maintenance                          | 2                      | 1                        | 5                       | 98%                                 | 90%            | 90%         | 90%         |
| Contour buffer strips                                     | 2                      | 1                        | 3                       | 53%                                 | 53%            | 61%         | 53%         |
| Nutrient management plans                                 | 2                      | 3                        | 1                       | n/a                                 | n/a            | n/a         | n/a         |
| Ponds   | 1                      | 2                        | 3                       | 90%                                 | 67%            | 48%         | 31%         |
| Bioreactors   | 2                      | 3                        |                         | 0%                                  | 0%             | 0%          | 40%         |
| Wetlands  | 1                      | 2                        | 3                       | 78%                                 | 78%            | 44%         | 20%         |
| Logjam assessment and removal                             | 1                      | 2                        | 4                       | 98%                                 | 90%            | 90%         | 90%         |
| Streambank & channel stabilization and restoration        | 1                      | 2                        | 4                       | 98%                                 | 90%            | 90%         | 90%         |
| Information and education plan                            |                        |                          |                         |                                     |                |             |             |

\*Independently calculated sediment and total suspended solids (TSS) values were used where available. Where only one sediment or TSS value was available, the known sediment and TSS reduction efficiency was used (purple cells).

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Table 5. Summary of Site-Specific Management Measures recommended, including amount, estimated cost (implementation cost), and pollutant load reduction.

| BMP Name  | Amount  | Unit          | Cost per unit | Total Cost          | Cumulative pollutant load reduction |                                 |                     |                   |
|---|---------|---------------|---------------|---------------------|-------------------------------------|---------------------------------|---------------------|-------------------|
|   |         |               |               |                     | Sediment (tons/yr)                  | Total Suspended Solids (lbs/yr) | Phosphorus (lbs/yr) | Nitrogen (lbs/yr) |
| <b>Highland Silver Lake and Surrounding Land Measures</b> |         |               |               |                     |                                     |                                 |                     |                   |
| Lake Dredging   | 100,000 | Cubic yards   | \$30          | \$3,000,000         | n/a                                 | n/a                             | n/a                 | n/a               |
| Shoreline stabilization                                   | 6,325   | Feet          | \$110         | \$695,750           | 11                                  | 21,125                          | 104                 | 143               |
| Stream bank stabilization                                 | 17,634  | Feet          | \$70          | \$1,229,480         | 3,093                               | 5,710,500                       | 3,288               | 14,284            |
| Stream channel stabilization                              | 446     | Riffles       | \$4,500       | \$2,007,000         | 78                                  | 143,941                         | 83                  | 360               |
| In-lake basin structures                                  | 3       | Structures    |               | \$568,000           | 6,043                               | 12,086,111                      | 16,340              | 29,580            |
| Wetlands  | 4.6     | Acres         | \$22,000      | \$101,200           | 6                                   | 12,057                          | 8                   | 16                |
| Forest Management and Tree Planting                       | 300     | Acres         | \$400         | \$120,000           | 1                                   | 1,348                           | 17                  | 35                |
| Detention basins  | 20      | Acres         | \$45,400      | \$908,000           | 7                                   | 14,189                          | 22                  | 161               |
| Rain gardens  | 10,000  | Sq ft.        | \$20          | \$200,000           | 0                                   | 190                             | 0                   | 2                 |
| Ponds   | 10      | Acres         | \$17,000      | \$170,000           | 10                                  | 22,514                          | 20                  | 56                |
| <b>Agricultural Land Throughout Watershed</b>             |         |               |               |                     |                                     |                                 |                     |                   |
| Conservation tillage                                      | 12,944  | Acres         | \$70          | \$906,045           | -                                   | 519                             | -                   | 7                 |
| Grassed waterways   | 964     | Acres         | \$9,000       | \$8,674,658         | 42                                  | 84,374                          | 128                 | 958               |
| Water and sediment control basins (WASCOBs)               | 548     | Acres         | \$380         | \$208,240           | 9                                   | 17,608                          | 44                  | 223               |
| Cover Crops   | 15,532  | Acres         | \$50          | \$776,610           | 2                                   | 4,285                           | 9                   | 51                |
| Riparian buffers/field border buffers                     | 32      | Acres         | \$2,000       | \$64,112            | n/a                                 | n/a                             | n/a                 | n/a               |
| Rural roadside ditch maintenance                          | 2,000   | Feet          | \$30          | \$60,000            | 13                                  | 26,413                          | 64                  | 543               |
| Contour buffer strips                                     | 25      | Acres         | \$200         | \$5,000             | -                                   | 90                              | -                   | 1                 |
| Nutrient management plans                                 | 3,000   | Acres         | \$14          | \$40,770            | n/a                                 | n/a                             | n/a                 | n/a               |
| Ponds   | 50      | Acres         | \$17,000      | \$800,000           | n/a                                 | n/a                             | n/a                 | n/a               |
| Bioreactors   | 1,523   | Acres drained | \$200         | \$304,500           | n/a                                 | n/a                             | n/a                 | n/a               |
| Wetlands  | 10.8    | Acres         | \$15,000      | \$162,000           | 2                                   | 4,762                           | 16                  | 90                |
| Logjam removal  | 19      | each          | \$6,900       | \$131,100           | 129                                 | 238,939                         | 74                  | 191               |
| <b>TOTAL</b>  |         |               |               | <b>\$21,132,465</b> | <b>9,446</b>                        | <b>18,388,965</b>               | <b>20,217</b>       | <b>46,701</b>     |
| <b>% Reduction From Current Total:</b>                    |         |               |               |                     | <b>13.56%</b>                       | <b>17.96%</b>                   | <b>2.55%</b>        | <b>6.92%</b>      |

## Locations of Site-Specific Management Measures

Where data was available, Site-Specific Management Measures were recommended for implementation in certain locations. For example, Management Measures associated with Critical Areas are recommended for those areas.

Critical Areas and areas recommended for Management Measures through the USDA’s Agricultural Conservation Planning Framework (ACPF) are shown on maps in Appendix C, with descriptions of each Management Measure and cost estimates shown in Appendix D. Data files of each critical area and site-specific management area, suitable for use in a Geographic Information System (GIS), are available.

Table 6. Quantity and Area (or length) of Site-Specific Management Measures at known locations.

| ACPF Results                                     | Quantity | Area, Square Meters |
|--|----------|---------------------|
| Bioreactors                                      | 87       | -                   |
| Contour buffer strips                            | 302      | 331,242             |
| Drainage management fields                       | 436      | 17,060              |
| Grass waterways (length, meters)                 | -        | 1,106,477           |
| Nutrient removal wetlands                        | 5        | 17,933              |
| Nutrient removal wetlands including buffer areas | -        | 51,720              |
| Area draining to nutrient removal wetlands       | -        | 449                 |
| Riparian area: Critical Zone segments            | 6        | -                   |
| Riparian area: Deep-Rooted Vegetation            | 145      | -                   |
| Riparian area: Multi-Species Buffer              | 31       | -                   |
| Riparian area: Stiff-Stemmed Grasses             | 167      | -                   |
| Riparian area: Stream Bank Stabilization         | 539      | -                   |
| WASCOBs - Water and sediment control basins      | 131      | 2,517,147           |

### Specific project locations

There were 10 specific project locations identified by the watershed planning team. These projects address multiple goals of this plan by implementing a variety of Management Measures. A shortlist of these projects will help Madison and Bond Counties leaders in their efforts to help landowners in the watershed address the needs they identified in the stakeholder engagement process, and provide a near-term jumping off point for plan implementation by and for local government.

The locations were identified using the following information:

- Applications received from the 2018-2021 Illinois EPA 319 grant that were not constructed;
- Locations of issues identified by stakeholders on both public and private land;
- Parcels in which multiple types of Critical Areas are present, on both public and private land;
- Locations of agricultural BMPs identified by the ACPF;
- Community Survey responses (which were returned with the promise of anonymity, so specific parcels from which a response was sent were not identified as project locations)

Once these locations were identified, the following criteria were used to select a shortlist of projects:

- Threats to critical facilities such as water treatment plants, wastewater treatment plants, fire stations, etc. (i.e., threats from flooding);
- Loss of road access to properties as a result of floods overtopping roads (which can harm health and wellbeing when access to hospitals, schools, and other services is curtailed);
- Frequency of flooding (if known);
- Proximity to flood issues identified in the Community Survey;
- Representation of publicly and privately owned land;
- Estimated potential water quality benefits of the project (if known), based on area/length of project multiplied by the amount of pollution reduced);
- Number and type of Critical Areas the project would address, so that several types of issues are addressed; and
- Geographic distribution, with projects that are located throughout the watershed benefitting multiple municipalities, landowners, and other stakeholders.

For each project location, the problem/issue is explored, along with a description of the problem. Then, potential solutions that might be used to address the issue(s) are discussed. A map of each project location is provided for reference. The following projects have been identified for planning and implementation. **They are not in any priority order.**

*It is important to note that these specific project locations are only the sites of potential projects. The types of projects suggested are voluntary, not mandatory, and each one warrants further stakeholder engagement and site assessment to determine feasibility. Individual landowners with a stake in the projects may not have been consulted. These sites are identified here for outreach purposes only, so that the organizations and individuals implementing the Plan have places to begin planning for implementation.*

Potential Project Locations

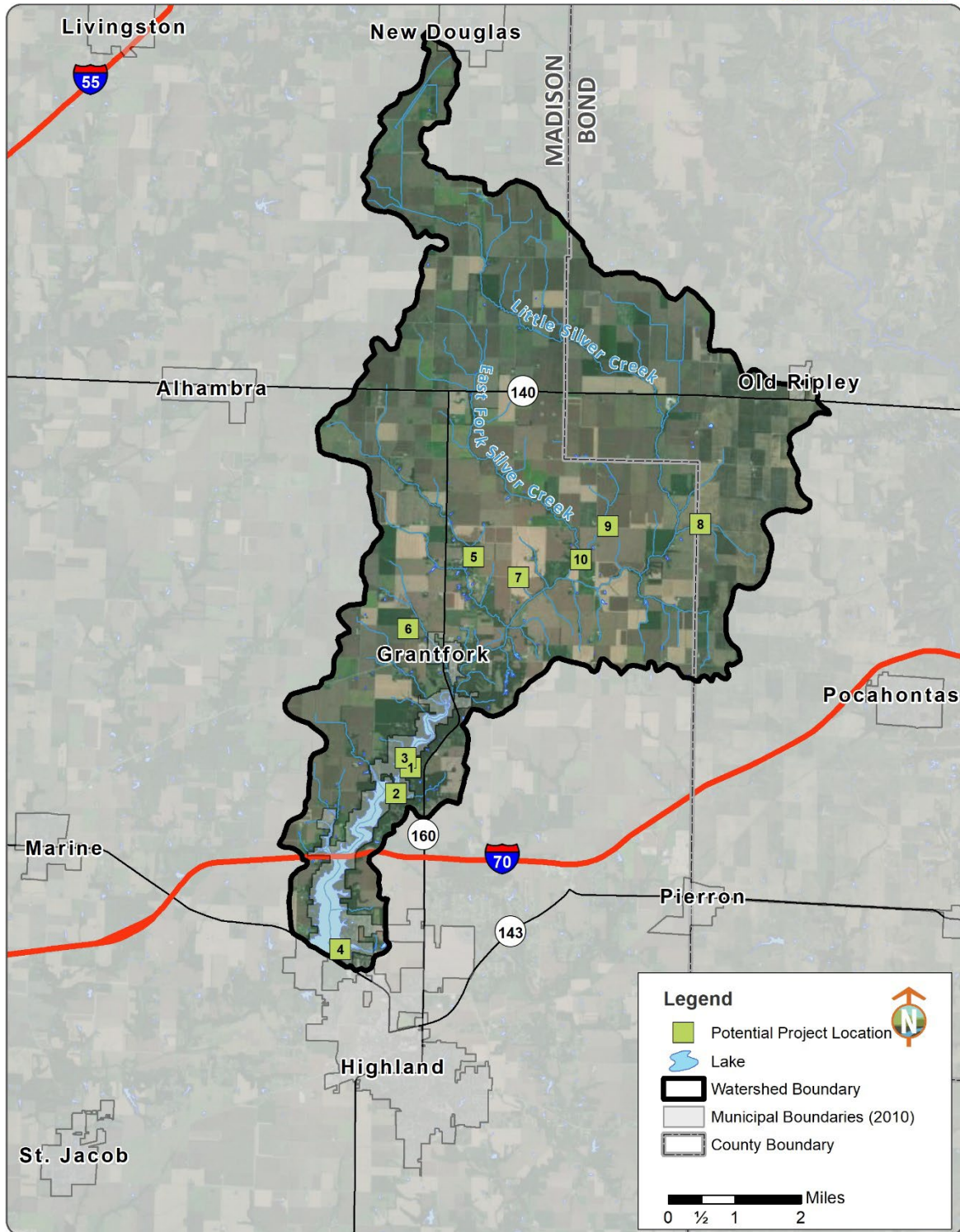


Figure 5. Map of specific project locations. Numbered squares relate to project numbers in the following pages and do not indicate an order of priority.

## Project #1:

Description of Problem: Excessive lake sedimentation and loss of water supply

Possible Solution:

Install a sheet pile weir structure (Structure 1) across the northern end of the lake to trap sediment from approximately 90% of the watershed. A 3 ft high structure would trap 60% of the estimated 30 acre-feet of sediment delivered to the site. The load reduction would be 18 acre-feet per year over a 21 – 31 years with a total storage area of 427 acre-feet. The Sediment pool would be managed to consolidate sediment increasing its life by 50% and to achieve the desired recreational use. The upper pool can be managed to develop linear wetlands along and within its pool during drawdown.

The main lake will need to be analyzed to determine the impacts of this basin by removing 427 acre-feet of main lake storage. The upstream bridge on Pocahontas Road will need to be studied to determine its capability to pass the required storms with the in-lake structure at full pool.

Estimated cost = \$402,500 construction

Engineering Est: \$60,000

In-Lake Structure 1





## Project #2:

Description of Problem:

Possible Solutions:

Install 2 structures within the lake.

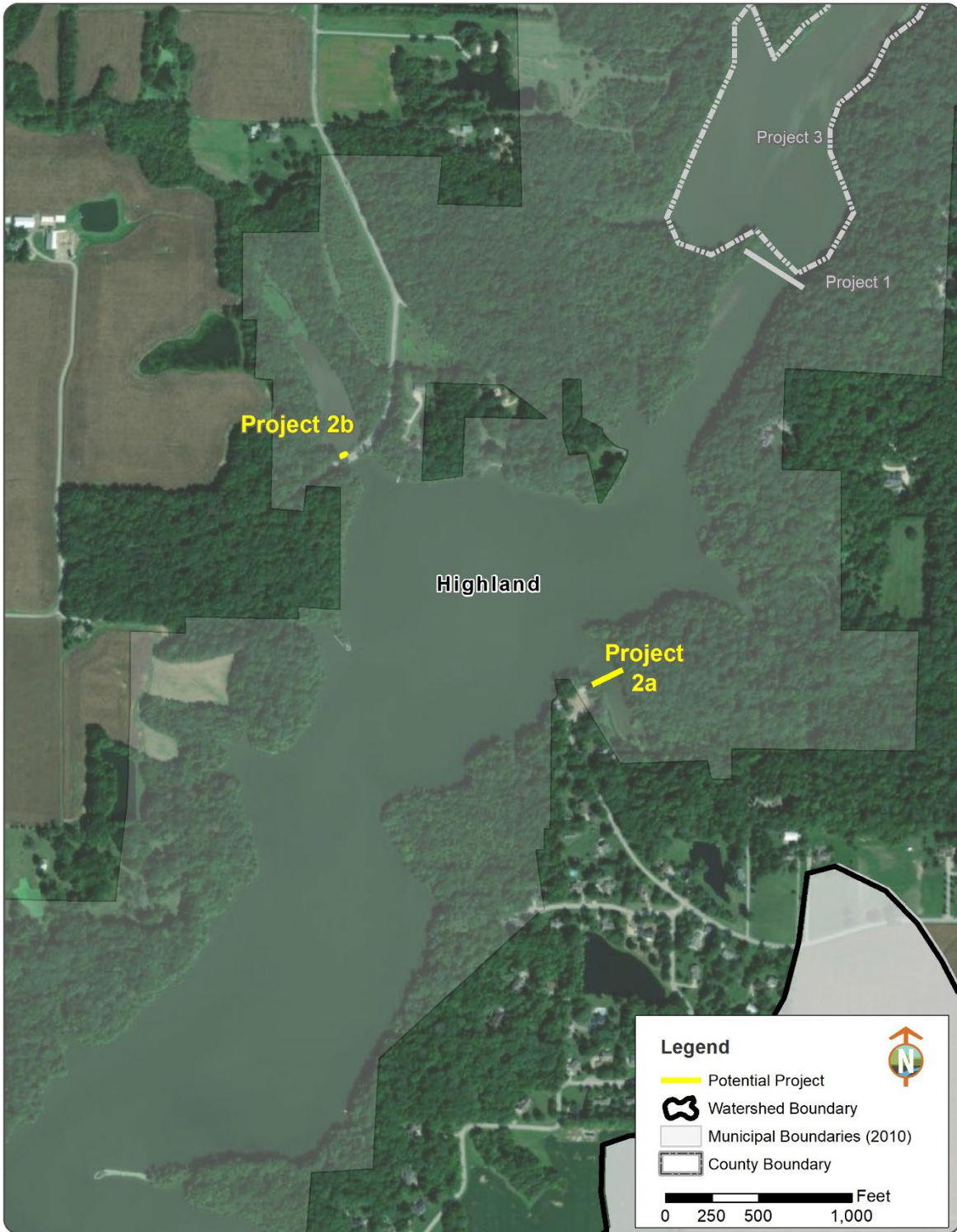
In-lake Structure 2 would be installed on a tributary immediately north of the city lake maintenance facility. A sheet pile structure with a 200 ft. weir would be installed across the bay in the same manner as In-Lake Structure No. 1 to trap 66% of the sediment from its 416-acre (0.65 mi.) watershed. The structure has an estimated volume of 9.7 acre feet of storage for the 1248 tons per year or 0.7 acre-ft per year sediment load. The 5.6 acre sediment pool can be drained to consolidate the sediment, increasing its life. A pipe-stoplog system can be used to manage the pool to achieve the desired recreation use.

Structure 3 has a drainage area of 1.46 square miles entering the lake on the west side of Silver Lake. Approximately 1.2 acre-ft of sediment is deposited in the lake each year from this tributary. Raising the pool elevation above the existing 7 ft diameter concrete culvert under Prairie Road will provide 20.7 acre-feet of sediment storage for a period of 23 – 35 years depending on its level of management. A sheet pile box inlet weir would be installed on the upstream end of the existing culvert set at a maximum weir crest of 504.0 or 4 feet above the lake level to trap 75% of the sediment. The sediment pool would be managed with a slow-release outlet pipe-stoplog to dewater and consolidate the sediment or keep at the maximum elevation of 504 ft above mean sea level.

Estimated Cost Structure 2: \$207,000 Engineering services: \$15,000

Estimated Cost Structure 3: \$43,700 Engineering services: \$5000

In-Lake Structures 2 & 3



## Project #3:

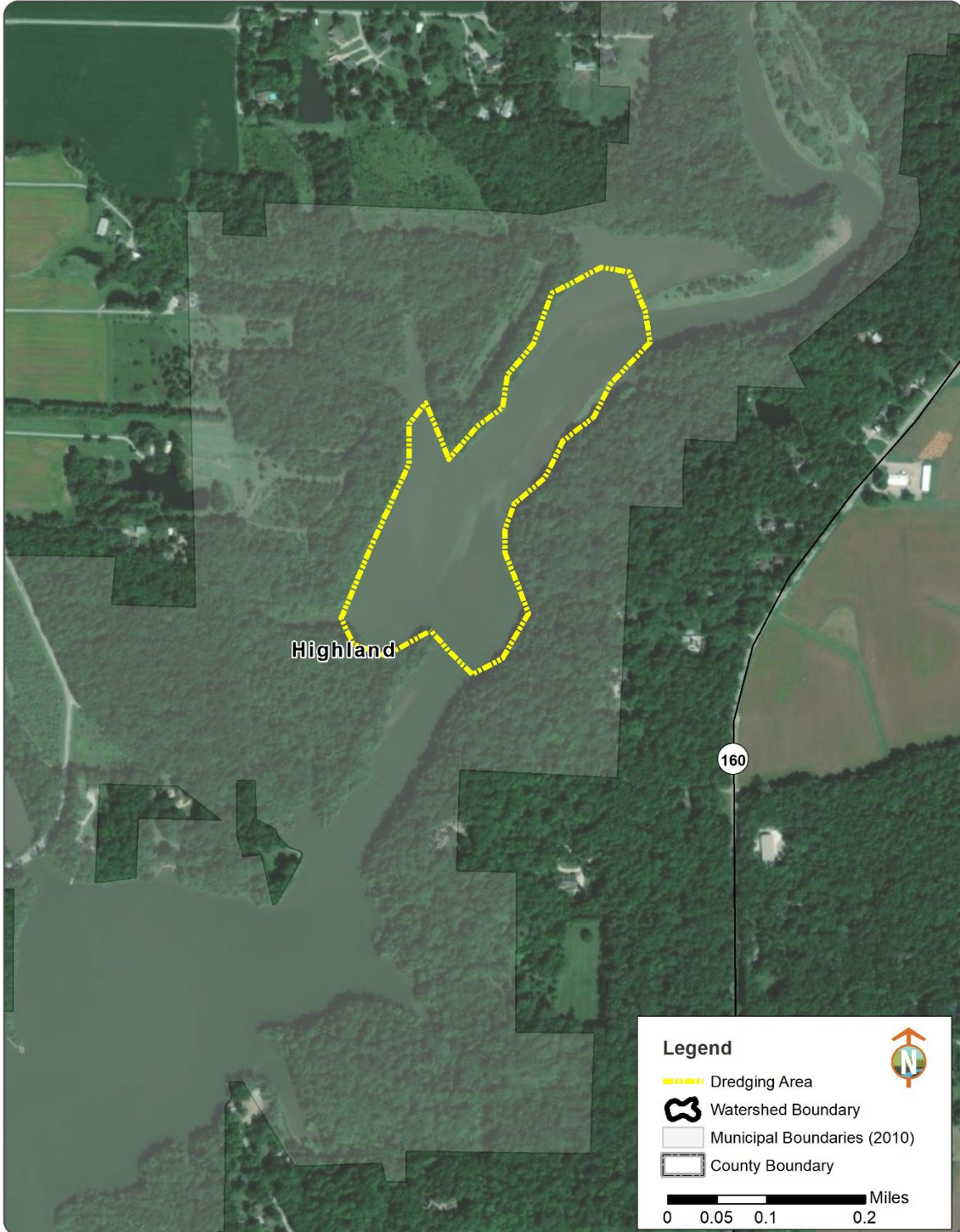
Description of Problem: Reduction in lake storage volume

Possible Solutions:

Dredge the upper end of the lake to achieve 100,000 cubic yards or 61 acre-feet of storage. Sediments would be hydraulically dredged to an off-site detention basin. Off-site storage facility would be required to store the sediment and monitor the discharge from the sediment basin.

Estimated cost = \$3,000,000

Dredging Area



## Project #4:

Description of Problem: Repair eroded outlet to maintain structure integrity

Possible Solutions:

Repair the existing outlet to the Old City Reservoir. Erosion at its outlet can impact the structural integrity of this dam. It is estimated 90% of the sediments from its watershed is trapped, reducing the sediment and nutrient load to Highland Silver Lake.

Old City Lake Spillway



## Project #5:

Description of Problem: Severe streambank erosion and channel degradation undercutting channel banks

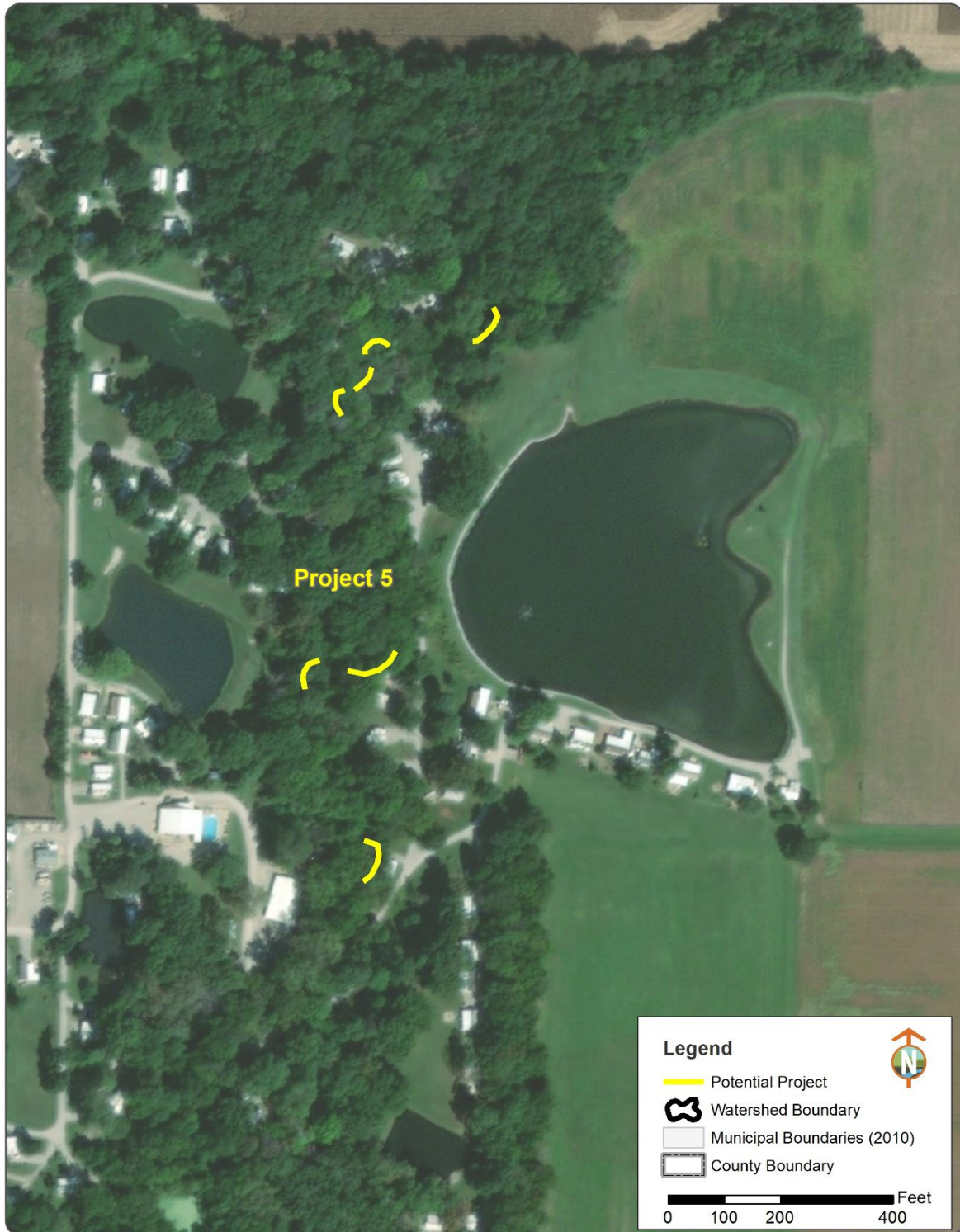
Possible Solutions:

Stream bank and stream channel stabilization within Cool Creek Resort. The stream length is approximately 3,500 feet with severe channel degradation along with several severely eroded channel bends. The channel will be stabilized by a series of rock riprap riffles (10 each) plus streambank erosion control using longitudinal peak stone toe protection on 10 sites.

Estimated Cost riffles: \$51,750

Estimated Cost peak stone: \$64,000

Cool Creek Resort





## Project #6:

Description of Problem: Agricultural cropland erosion and gullied channel banks

Possible Solutions:

Construct new and reshape existing grassed waterway with the cropland. The 1,600 feet of waterways will be shaped for farm equipment cross ability with a parabolic shape. The waterways will outlet at the stream bank. Gullied outlets on the waterways will be eliminated by installing grade stabilization structure to prevent further erosion on the channel bank and eliminate head cutting into the grassed waterway.

Estimated Cost 1.5 acres @ \$9,000 per acre = \$13,500

Grassed Waterway on Cropland



## Project #7:

Description of Problem: Severe gully erosion in existing grassed waterway and cropland

Possible Solutions:

Alternative 1 – Construct new and reshape existing grassed waterway with the cropland. The 2,300 feet of waterways will be shaped for farm equipment cross ability with a parabolic shape. The waterways will outlet at the head end of the stream. A large grade stabilization structure would be installed at the grassed waterway outlet. Gullied outlets on the waterways will be eliminated by installing grade stabilization structure to prevent further erosion on the channel bank and eliminate head cutting into the grassed waterway.

Estimated Cost: 2.7 acres at \$9,000 per acre = \$24,300

Alternative 2 – Construct a series of water and sediment control basins (WASCOBs) in lieu of grassed waterways. The WASCOBs will be farmable and spaced apart to accommodate farm equipment. They would control runoff from a 10-year storm, releasing the water in 24 hours, and trapping sediment. They would outlet through a slotted riser which transfers the surface water underground to the stream headwaters.

Estimated Cost: 45 acre watershed at \$380/acre = \$17,100

Reconstruct Existing Grassed Waterway



## Project #8:

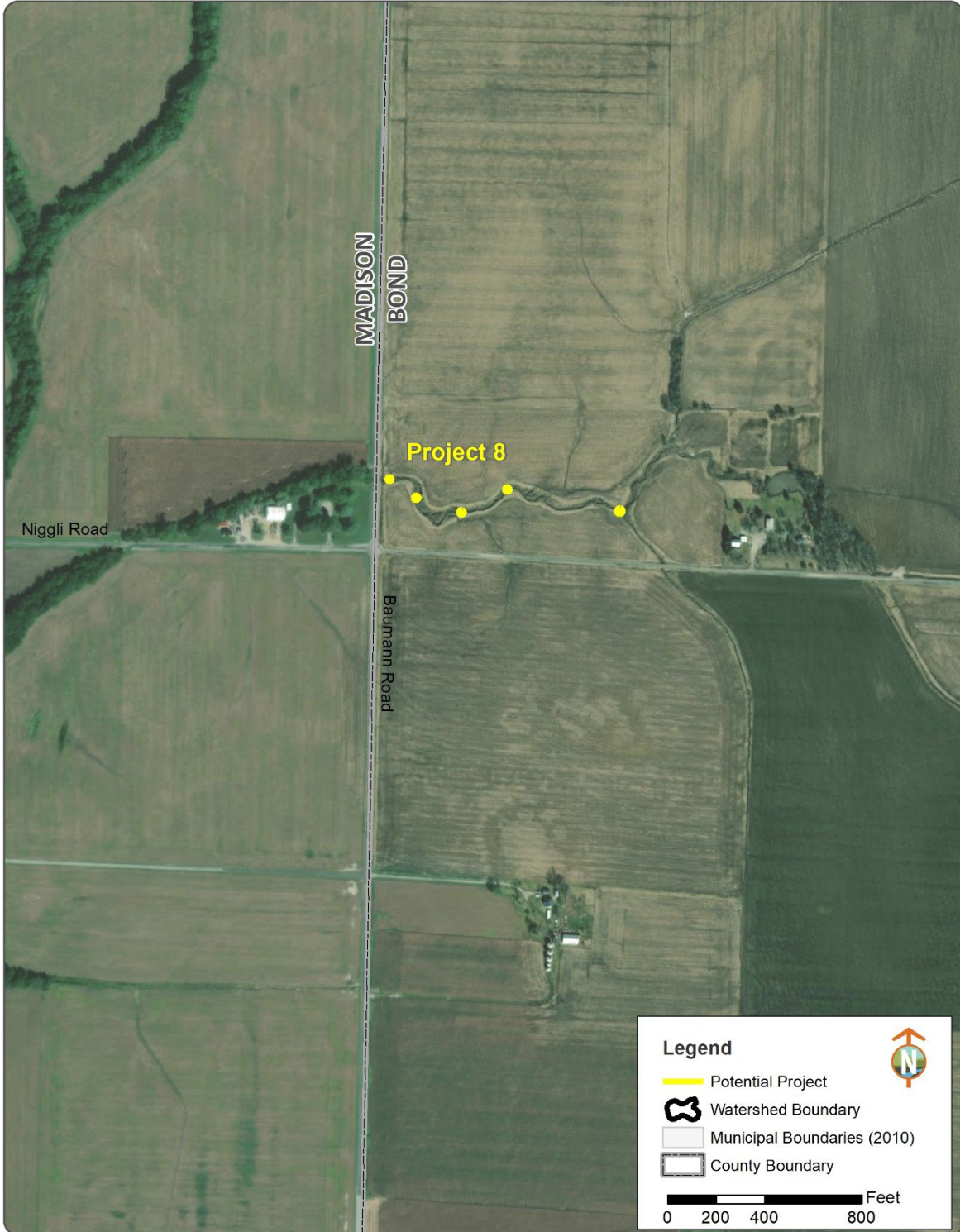
Description of Problem: Severe channel degradation from active headcutting in the stream along with streambank erosion along the channel banks.

Possible Solutions:

Install a series of 5 rock riprap riffles to provide channel stability, grade control, and connect the channel to the floodplain to minimize bedload transfer downstream. Severe streambank erosion will be eliminated at 3 locations to stabilize the banks. Longitudinal peak stone toe protection will be installed at the base of these banks.

Leaf Township – Severe roadside erosion along Niggli Road.

Headcutting near Niggli Road



## Project #9:

Description of Problem: Severe erosion of both sides of Niggli Road. Eroded roadbank has direct access to the stream. Bank cutting into cropland.

### Possible Solutions:

Shape the roadbank to a trapezoidal channel with adequate sideslopes for maintenance. The roadside channel will require grade control or small rock riprap riffles along with the channel filled with soil and seeded. Replace existing culverts to allow for channel shaping.

Niggli Road Ditches





## Project #10:

Description of Problem: Severe streambank erosion on 300 feet of an outer bend in the stream.

Possible Solutions:

Installation of rock riprap peak stone along the toe of the channel slope for a distance of 300 feet. The riprap will be peaked approximately 2 ft above the channel elevation. This protects the bank toe from high velocities along this outer bend and allows for sediments to be deposited behind the riprap.

Estimated Cost: 300 feet at \$80/ft = \$24,000

East Fork Silver Creek Streambank



## SECTION 6: INFORMATION & EDUCATION PLAN

This section is designed to provide an Information and Education component to spark interest in and enhance public understanding of the watershed plan, and to encourage early and continued participation in selecting, designing, and implementing its recommendations.

The watershed faces challenges and threats including decreased storage capacity in Highland Silver Lake, increasing water treatment costs, gully erosion in agricultural fields, streambank and shoreline erosion, reduction in riparian corridor, invasive species and more. Past reports, the previous watershed plan, and projects implemented throughout the watershed have helped expand the knowledge of the residents and key stakeholders in the watershed, but more education and outreach are needed to continue the progress.

This Information and Education Plan will serve as an outline for outreach that supports achievement of the long-term goals and objectives of the watershed plan. The cumulative actions of individuals and communities across the watershed can accomplish these goals and objectives. County, municipal and township staff, elected officials, and other key stakeholders have tools at their disposal to establish best practices in their activities and procedures. Developers can follow guidelines that consider watershed health, and residents in the watershed can be actively involved in monitoring, protecting, and restoring Highland Silver Lake. Public information and stakeholder education efforts will ultimately inspire watershed residents and community members to adopt recommended behaviors that improve the water quality and overall health of the watershed.

### Information and Education Process

To develop the strategies for the Information and Education Plan, the following questions were asked:

- Who can affect this issue?
- What actions can people take to address it?
- What do people need to know before they can take action?

The list of activities has been divided into three broad timeline categories: short-term, medium-term, and long-term. The full list of objectives and activities can be found in Table 7. A rough estimate of the cost of the outreach activities outlined in this plan is \$25,000, which includes many unforeseeable component costs including staff time and costs for rental and materials.

### Target Audiences

Key stakeholder audiences that can effect significant changes in watershed health, and who should be reached by outreach and education, include:

- Municipal staff, township staff, and elected officials
- Madison and Bond County government departments and elected officials
- Farmers and farm groups
- Residents with property adjacent to Highland Silver Lake
- Residents throughout the watershed
- Residents with property adjacent to Highland Silver Lake
- Contractors

Decision-makers are an important audience that can impact all the other audiences by controlling long-term regulatory actions and policy initiatives. Municipal staff, township staff, Madison and Bond County staff, farmers, contractors, and watershed residents can be messengers to reach the decision-maker audience.

### Activities and Tools

#### Before the plan is complete

Making this watershed plan available to stakeholders, and informing them of its location and contents, is a major component of the Information and Education Plan. To this end, the plan document is available for download on the watershed plan website hosted by HeartLands Conservancy, [www.heartlandsconservancy.org/highlandsilverlake](http://www.heartlandsconservancy.org/highlandsilverlake). Printed copies of the Executive Summary and the full plan will also be shared with key watershed stakeholders. Emails to stakeholders engaged in the planning process provided updates on the plan's progress and point to the website for all plan materials.

#### After the plan is complete

Table 7 outlines each objective followed by recommended strategies that can be implemented to achieve the goals/objectives. For each activity, a target audience, suggested strategies, schedule, lead and supporting agencies, the desired outcomes and issues addressed, and estimated costs to implement is provided. Periodic review of the watershed plan is recommended, with meetings of the plan partners held twice a year. Larger annual meetings may be held to include stakeholders and the public. Plan revision should be considered at five-year intervals.

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Table 7. Information and Education Plan recommended strategies. Acronyms used: HLC: HeartLands Conservancy; SWCD: Soil & Water Conservation District; CREP: Conservation Reserve Enhancement Program.

| Program  | Target Audience(s)   | Strategies  | Schedule    | Lead & Supporting Orgs   | Desired Outcomes/Issues Addressed  | Est. Cost        |
|--|--|---|-------------|--|--|------------------|
| Objective 6.1: Identify volunteers to expand the water quality and aquatic species monitoring program. |  |   |             |  |  |                  |
| Citizen Science  | Residents, Students, Teachers, Non Profits, Volunteer Groups | <ul style="list-style-type: none"> <li>Host at least one Illinois Riverwatch event to train volunteers in data collection and water quality monitoring.</li> </ul>  | Medium-Term | National Great Rivers Research and Education Center                              | <ul style="list-style-type: none"> <li>Local volunteers are trained to collect a variety of quality ensured data and help contribute to statewide biological monitoring efforts</li> </ul> | \$2,500-\$10,000 |
| Objective 6.2: Continue promotion of the health and recreational benefits of Highland Silver Lake.     |  |   |             |  |  |                  |
| Outdoor Recreation   | Watershed residents, visitors                                | <ul style="list-style-type: none"> <li>Develop seasonal programming and events to encourage outdoor recreation on land and water.</li> <li>Partner with public health agencies to promote the physical and mental health benefits of outdoor recreation.</li> </ul> | Ongoing     | City of Highland Parks & Recreation Department, Madison County Health Department | <ul style="list-style-type: none"> <li>Increase in recreational use of the lake, park, trails and boat ramp</li> <li>Improve physical and mental health outcomes</li> </ul>                | Staff time       |

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| Program  | Target Audience(s)   | Strategies  | Schedule   | Lead & Supporting Orgs                        | Desired Outcomes/Issues Addressed   | Est. Cost                    |
|--|--|---|------------|---|---|------------------------------|
| Objective 6.3: Connect watershed residents and farmers to decision-makers and experts with knowledge about water quality and erosion issues and solutions. |  |   |            |   |   |                              |
| Agricultural BMP Workshop  | Rural landowners, farmers                                  | <ul style="list-style-type: none"> <li>Take participants on a tour of BMPs in this area, such as farm enrolled in CRP or a water and sediment control basin.</li> <li>Host a demonstration project event, such as a demonstration on grassed waterways.</li> <li>Provide information on possible funding opportunities</li> </ul> | Short-Term | HLC, City of Highland, NRCS                   | <ul style="list-style-type: none"> <li>Farmers and landowners learn about and implement BMPs, as well as funding/program support</li> <li>Increase in landowners implementing BMPs</li> <li>Soil erosion is reduced, and stormwater infiltration increased</li> </ul>                                     | \$1,000 per tour, staff time |
| Shoreline BMP Workshop   | Watershed residents, developers, municipalities, townships | <ul style="list-style-type: none"> <li>Take participants on a tour of BMPs in this area, such as shoreline stabilization, pond and wetlands</li> <li>Provide information on how residents can help protect the health of Highland Silver Lake</li> </ul>  | Short-Term | City of Highland, HLC                         | <ul style="list-style-type: none"> <li>Landowners/stakeholders learn about BMPs and can visualize them on their property</li> <li>Increase in landowners implementing BMPs</li> </ul>   | \$1,000 per tour, staff time |
| Public Events Booth  | Watershed residents  | <ul style="list-style-type: none"> <li>Host a booth with materials about the plan, water quality, stormwater management, and BMPs at public events</li> </ul>   | Ongoing    | City of Highland, Madison or Bond County, HLC | <ul style="list-style-type: none"> <li>Residents understand importance of healthy watershed.</li> <li>Property owners understand the impacts agricultural practices have on the health of the watershed.</li> <li>Residents understand the benefits of improving the health of Highland Silver</li> </ul> | \$200 per event              |

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| Program  | Target Audience(s)                                 | Strategies   | Schedule    | Lead & Supporting Orgs   | Desired Outcomes/Issues Addressed   | Est. Cost          |
|--|--|--|-------------|--|---|--------------------|
| Objective 6.4: Offer effective opportunities for public education, training, and participation in watershed matters, including information-based resources and demonstration projects. |  |  |             |  |   |                    |
| Watershed Plan Outreach  | Watershed residents, farmers, townships            | <ul style="list-style-type: none"> <li>● Mail or e-mail Executive Summary of the watershed plan to key stakeholders</li> <li>● Final plan and recommendations on web page. Post progress updates.</li> <li>● Press release announcing completed plan.</li> <li>● Meetings of the watershed plan partners held twice a year, at six month intervals. Possible larger annual meeting to include stakeholders and the public. Plan revision considered at five-year intervals.</li> </ul> | Short-Term  | City of Highland, Madison County, HLC, other partners              | <ul style="list-style-type: none"> <li>● Majority of watershed residents have knowledge of watershed conditions, possible behavior improvements, and key contacts to get involved and implement projects.</li> <li>● The public begins to alter activities leading to watershed improvement.</li> </ul>   | Printing: \$200    |
| Field Days   | Residents, students, non-profits, volunteer groups | <ul style="list-style-type: none"> <li>● Organize stream and lake cleanup volunteer opportunities</li> <li>● Promote volunteer field days through media, social media, and community groups</li> <li>● Invasive species removal days</li> <li>● Coordinate with local governments to host a activities like stream and lake cleanup, water quality testing, or restoration activities</li> </ul>   | Medium-Term | HLC, Madison and Bond Counties, City of Highland, Volunteer Groups | <ul style="list-style-type: none"> <li>● Amount of debris is reduced in streams.</li> <li>● People develop an interest in watershed protection and conservation.</li> <li>● Invasive species are removed and participants learn how to manage invasives on their own.</li> <li>● Leverages in-kind donations for future grants.</li> <li>● Riparian area and habitat conditions improve.</li> </ul> | \$500 per event    |
| Educational Signs  | Residents, farmers visitors                        | <ul style="list-style-type: none"> <li>● Mark watershed boundaries with signs</li> <li>● Post signs about the native vegetation plots surrounding Highland Silver Lake</li> <li>● Post signs near fields utilizing various agricultural best management practices</li> </ul>   | Medium-Term | Madison or Bond County, City of Highland                           | <ul style="list-style-type: none"> <li>● People better understand the term “watershed.”</li> <li>● Increased adoption of native vegetation</li> <li>● Increased adoption of best management practices</li> </ul>  | \$3,000 (30 signs) |

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|                          |   |  |           |  |  |                                |
|--------------------------|---|--|-----------|--|--|--------------------------------|
| School Projects          | Students, parents, teachers, administrators | <ul style="list-style-type: none"> <li>Host a booth with materials about the plan, water quality, stormwater management, and BMPs at public events, such as county fairs, environmental festivals, etc.</li> </ul> | Long-Term | Schools and colleges, Madison or Bond County, City of Highland | <ul style="list-style-type: none"> <li>Students and parents develop interest in watershed protection and conservation.</li> <li>Teachers and administrators implement related coursework into curriculum.</li> </ul> | Equipment costs and staff time |
| Professional Development | Engineers                                   | <ul style="list-style-type: none"> <li>Coordinate with engineering firms to host professional development opportunities.</li> </ul>  | Long-Term | Engineering clubs or societies                                 | <ul style="list-style-type: none"> <li>Engineers receive continuing education on green infrastructure and BMPs.</li> </ul>   | Staff time                     |

| Program   | Target Audience(s) | Strategies  | Schedule    | Lead & Supporting Orgs      | Desired Outcomes/Issues Addressed   | Est. Cost                 |
|---|--------------------|---|-------------|-----------------------------|---|---------------------------|
| Objective 6.5: Develop public recognition programs focused on the watershed plan's goals. |                    |   |             |                             |   |                           |
| Watershed Protection Awareness  | All stakeholders   | <ul style="list-style-type: none"> <li>Develop messaging based on goals in the watershed plan and disseminate the message using media, social media, collateral (e.g. pencils, bumper stickers, temporary tattoos), and other materials.</li> </ul> | Medium-Term | HLC, Madison or Bond County | <ul style="list-style-type: none"> <li>Increase interest and understanding of watershed protection and the watershed plan's goals.</li> <li>Water quality and habitat conditions are improved.</li> </ul> | Cost of materials and ads |

| Program   | Target Audience(s)       | Strategies   | Schedule   | Lead & Supporting Orgs | Desired Outcomes/Issues Addressed   | Est. Cost |
|---|--------------------------|--|------------|------------------------|---|-----------|
| Objective 6.6: Increase awareness of consequences of poor water quality in Highland Silver Lake including increased drinking water costs. |                          |  |            |                        |   |           |
| Water Bill Brochure   | Drinking water customers | <ul style="list-style-type: none"> <li>Develop an educational brochure to be included in water bills and/or mailed to water customers</li> </ul> | Short-term | City of Highland, HLC  | <ul style="list-style-type: none"> <li>Increase awareness of drinking water source protection benefits</li> </ul> | \$2,000   |



**Additional resources**

The following resources have been compiled either as other successful campaign examples, or as inspiration for ways to implement the activities identified in Table 9.

Table 8. Resources and tools for activities/campaigns.

| Activity / Campaign Examples         | Activity / Campaign Tools and Resources   |
|--------------------------------------|---|
| "How's My Waterway?"                 | Quick information about waterways, presented in plain language, <a href="https://mywaterway.epa.gov/community/071402040402/protect">https://mywaterway.epa.gov/community/071402040402/protect</a>   |
| Storm drain stenciling               | Free storm drain stencil kits with directions. <a href="http://prairierivers.org/articles/2008/09/stenciling/">http://prairierivers.org/articles/2008/09/stenciling/</a>  |
| Agricultural BMP Brochures           | Brochure on a variety of best management practices <a href="http://illinoiscbmp.com/">http://illinoiscbmp.com/</a>  |
| Student and citizen monitoring       | Illinois RiverWatch and the National Great Rivers Research and Education Center (NGRREC) ( <a href="http://www.ngrrec.org/riverwatch/">http://www.ngrrec.org/riverwatch/</a> ). Stream monitoring manual, kit supply lists, monitoring guidelines, identification keys, biotic index calculator, and volunteer training.  |
| Native plants                        | List of Illinois native plant species: <a href="http://www.wildflower.org/collections">www.wildflower.org/collections</a>   |
| Invasive species guide               | Illinois Extension Guide to Invasive Plant Species <a href="https://ipm.illinois.edu/first_detector/Exotic_Weed_Guide.pdf">https://ipm.illinois.edu/first_detector/Exotic_Weed_Guide.pdf</a>  |
| Madison County Sustainability Office | Madison County: <a href="https://www.co.madison.il.us/departments/planning_and_development/index.php">https://www.co.madison.il.us/departments/planning_and_development/index.php</a>   |
| Lake/stream cleanup                  | American Rivers: <a href="http://www.americanrivers.org/take-action/cleanup">www.americanrivers.org/take-action/cleanup</a><br>Living Lands and Waters: <a href="http://livinglandsandwaters.org/">http://livinglandsandwaters.org/</a>   |
| Sustainable backyards                | HeartLands Conservancy's <i>Conservation@Home</i> program: <a href="https://www.heartlandsconservancy.org/conservationhome.php">https://www.heartlandsconservancy.org/conservationhome.php</a><br>Sustainable backyard tours in St. Louis: <a href="https://sustainablebackyard.org/">https://sustainablebackyard.org/</a><br>The National Wildlife Federation's <i>Certified Wildlife Habitat</i> program: <a href="https://www.nwf.org/garden-for-wildlife/certify">https://www.nwf.org/garden-for-wildlife/certify</a> |

## SECTION 7: IMPLEMENTATION

Implementing the recommendations in this watershed plan will take time and commitment from partners and stakeholders. No single stakeholder has all of the financial or technical resources to implement the plan. Successful implementation will require stakeholders working together, using their individual strengths.

### Implementation Schedule

The Implementation Schedule provides a timeline for when the recommended Management Measures should be implemented in relationship to each other, allowing reasonable amounts of time for preparing for and transitioning between projects.

The Management Measures are recommended for the short term (one to 10 years), medium term (10 to 20 years), long-term (20+ years), ongoing (for maintenance activities), or as needed. The “Information and Education Plan” also uses these schedule options. The schedule is arranged to accommodate practices based on practice type, available funds, technical assistance needs, and timeframe for each recommendation. Higher scheduling priority was given to Management Measures that address an issue in a Critical Area, are recommended in greater amounts, have greater eligibility for state and federal programs, and are more widely known among stakeholders (Table 9).

## Highland Silver Lake Watershed Plan - Final

Table 9. Implementation schedule for Management Measures, watershed-wide. Acronyms used: NRCS: Natural Resources Conservation Service; SWCD: Soil and Water Conservation District; NGRREC: the National Great Rivers Research and Education Center; IEPA: Illinois Environmental Protection Agency; IDNR: Illinois Department of Natural Resources; USFWS: U.S. Fish and Wildlife Service; FEMA: Federal Emergency Management Agency; HOA: Homeowners Association; HLC: HeartLands Conservancy.

| BMP/Management Measure Recommended                        | Responsible entity/entities                             | Priority | Sources of Technical Assistance                               | Implementation Schedule |
|---|---|----------|---|-------------------------|
| <b>HIGHLAND SILVER LAKE AND SURROUNDING LAND MEASURES</b> |   |          |   |                         |
| Shoreline stabilization                                   | Municipalities, landowners                              | High     | HLC, Ecological consultants, contractors                      | Short term              |
| Stream and gully stabilization                            | Municipalities, landowners, developers                  | High     | HLC, Ecological consultants, contractors                      | Short term              |
| Riparian buffers  | Municipalities, landowners, developers                  | High     | HLC, Ecological consultants, contractors                      | Short term              |
| Lake dredging   | Municipalities, counties                                | High     | Contractors, consultants                                      | Medium term             |
| In-lake basin structure                                   | Municipalities, counties                                | High     | Contractors, consultants                                      | Medium term             |
| Monitoring  | USGS, IEPA, NGRREC                                      | High     | USGS, IEPA, NGRREC  | Ongoing                 |
| Information and education plan                            | Several entities  | High     | Counties, municipalities, IEPA, SWCD, HLC                     | Ongoing                 |
| Wetlands  | Municipalities, counties, landowners                    | Medium   | SWCD, contractor, HLC   | Short term              |
| Forest management and tree planting                       | Municipalities, landowners, developers, HOA             | Medium   | Municipalities, IDNR, Tree City USA, arborist/contractor, HLC | Short term              |
| Detention basins  | Developers, residents, municipalities, HOAs, landowners | Medium   | SWCD, contractor, HLC   | Medium Term             |
| Ponds   | Municipalities, counties, landowners, developers, HOA   | Medium   | SWCD, contractor, HLC   | Medium term             |
| Riparian Buffer Ordinance                                 | Counties, municipalities                                | Medium   | IDNR, HLC   | Medium term             |
| Private sewage monitoring                                 | Counties, residents, some HOAs                          | Medium   | Counties, IEPA  | Ongoing                 |
| Recreational promotion of Highland Silver Lake            | Municipalities, counties                                | Low      | Madison County, City of Highland, Tourism Bureau              | Short term              |
| Aquatic habitat installation                              | Municipalities, counties, residents                     | Low      | City of Highland, Madison County, IDNR                        | Short term              |

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Table 9, continued.

| BMP/Management Measure Recommended                              | Responsible entity / entities                   | Priority | Sources of Technical Assistance                  | Implementation Schedule |
|---|---|----------|--|-------------------------|
| <b>HIGHLAND SILVER LAKE AND SURROUNDING LAND MEASURES CONT.</b> |   |          |  |                         |
| Open space and natural area protection                          | Counties, municipalities, developers            | Low      | Watershed plan partners                          | Short term              |
| Rain gardens  | Residents                                       | Low      | IEPA, Extension, HLC                             | Medium term             |
| Native Landscaping  | Residents, municipalities, counties, developers | Low      | IDNR, HLC, regional/statewide community examples | Medium term             |
|   |   |          |  |                         |
|   |   |          |  |                         |
| <b>Agricultural Management Measures</b>                         |   |          |  |                         |
| Grassed waterways   | Landowners, farmers                             | High     | NRCS, SWCD, contractor                           | Short term              |
| Streambank & channel stabilization and restoration              | Landowners, farmers, residents, municipalities  | High     | Contractor, NRCS, HC                             | Short term              |
| Riparian buffer/field border buffers                            | Landowners, farmers                             | High     | NRCS, SWCD, contractor                           | Short term              |
| Conservation tillage  | Landowners, farmers                             | High     | NRCS, SWCD, contractor                           | Medium term             |
| Rural roadside ditch maintenance                                | Municipalities, counties, townships             | High     | Municipalities, townships                        | Medium term             |
| Cover crops   | Landowners, farmers                             | High     | NRCS, SWCD, contractor                           | Long term               |
| Water and sediment control basins                               | Landowners, farmers                             | Medium   | NRCS, SWCD, contractor                           | Short term              |
| Logjam assessment and removal                                   | Municipalities, counties, landowners, farmers   | Medium   | NRCS, SWCD, USACE, IDNR, contractor              | Short term              |
| Nutrient management measures                                    | Landowners, farmers                             | Medium   | NRCS, SWCD, contractor                           | Medium term             |
| Contour buffer strips   | Landowners, farmers                             | Medium   | NRCS, SWCD, contractor                           | Medium term             |
| Wetlands  | Landowners, farmers, counties                   | Low      | NRCS, SWCD, contractor                           | Short term              |
| Ponds   | Landowners, farmers                             | Low      | NRCS, SWCD, contractor                           | Medium term             |
| Bioreactors   | Landowners, farmers                             | Low      | NRCS, SWCD, contractor                           | Long term               |

## Funding Sources

Many opportunities are available to secure funding for the varied and diverse Management Measures recommended in this plan. Entities such as government agencies, non-profit organizations, and companies that provide funding for watershed improvement projects often require that partnerships be in place and funds are leveraged. Table 11 shows some of the potential funding sources for BMPs associated with Highland Silver Lake and also agricultural land. More details about these opportunities are included in Appendix G.

Funds may come from existing grant programs run by public agencies, from partner organizations, or through other avenues. Partners may wish to become involved if the project helps to achieve their objectives, is a priority, or provides networking opportunities. Partnerships are also critical for leveraging assets including political support; partners can leverage valuable goodwill and relationships that have the potential to lead to other assistance.

Identifying suitable partners to support a specific project involves assessing the organizations' jurisdictional, programmatic, and fiscal priorities and limitations. Different partners will be attracted to different projects. It is beneficial to all partners to maintain relationships and communication, with each organization denoting a specific staff member responsible for maintaining these connections. One or two enthusiastic individuals or "champions" who believe that engagement in this process is in the interests of all the partners can make a huge difference in the success of a partnership.

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Table 10. Funding sources for agricultural and in-stream BMPs from state and federal programs. CRP: Conservation Reserve Program, from USDA. CPP: Conservation Practice Program, from USDA. EQIP: Environmental Quality Incentives Program, from USDA. CSP: Conservation Stewardship Program, from USDA. WRE: Wetland Reserve Easement program, from USDA. SSRP: Streambank Stabilization and Restoration Program, from the State of Illinois. 319: Illinois EPA funding under Section 319 of the Clean Water Act for addressing nonpoint source pollution. GIGO: Green Infrastructure Grant Opportunities funding from Illinois EPA. SRF: State Revolving Loan Fund. IRAP: Illinois Recreation Access Program

| BMP/Management Measure Recommended               | Program(s) for which Practices are Eligible           |
|--|---|
| <b>Highland Silver Lake and Surrounding Land</b> |   |
| Lake dredging                                    | SRF   |
| Shoreline stabilization                          | EQIP, 319, GIGO, SRF                                  |
| Stream and gully stabilization                   | SSRP, GIGO, 319                                       |
| In-lake basin structure                          | GIGO, 319, SRF  |
| Wetlands   | CRP, CREP, CPP, 319, GIGO                             |
| Forest management and tree planting              | EQIP, CRP, CPP, CSP, 319                              |
| Detention basins                                 | 319, GIGO   |
| Rain gardens                                     | 319, GIGO   |
| Ponds  | EQIP (if sole livestock drinking water source), 319   |
| Riparian buffers                                 | CRP, CREP, EQIP, 319                                  |
| Recreation                                       | IRAP  |
| <b>Agricultural Land Throughout Watershed</b>    |   |
| Conservation tillage                             | EQIP (no-till only), CSP, 319                         |
| Grassed waterway                                 | CRP, CPP, EQIP, 319                                   |
| Water and sediment control basins (WASCOB)       | EQIP, CPP, CRP, 319                                   |
| Cover crops                                      | EQIP, CPP, CSP, 319, Cover Crop Discount Program IDOA |
| Riparian buffers/field borders buffers           | CRP, CREP, EQIP, 319                                  |
| Roadside ditch maintenance                       | 319   |
| Contour buffer strips                            | 319, GIGO   |
| Nutrient management plants                       | 319, GIGO   |
| Ponds  | EQIP, CPP, CRP, 319                                   |
| Bioreactors                                      | EQIP, CPP, CSP, 319                                   |
| Stream and gully stabilization                   | SSRP, GIGO, 319                                       |

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Table 11. Funding sources for management measures recommended. See Appendix F for more information.

| Funding Sources  | Programs   |
|--|--|
| <b>State/Federal Programs</b>  |  |
| Illinois Environmental Protection Agency                                 | Section 319(h) Nonpoint Source Pollution Control Financial Assistance Program  |
|  | State Revolving Fund Loan Program, including: <ul style="list-style-type: none"> <li>● Public Water Supply Loan Program</li> <li>● Water Pollution Control Loan Program</li> </ul> |
|  | Streambank Cleanup and Lakeshore Enhancement Grants  |
|  | Green Infrastructure Grant Opportunities Program   |
| Illinois Department of Agriculture                                       | Streambank Stabilization and Restoration Program   |
|  | Conservation Practice Program  |
|  | Sustainable Agriculture Grant Program  |
|  | Cover Crop Premium Discount Program. Fall Covers For Spring Savings  |
| Illinois Department of Natural Resources                                 | Urban Flood Control Program  |
|  | Illinois Recreational Access Program   |
|  | Open Space Land Acquisition and Development  |
|  | Land and Water Conservation Fund   |
|  | Great American Outdoors Act  |
|  | Special Wildlife Funds   |
|  | Clean Vessel Act Grant   |
| Illinois Emergency Management Agency/Federal Emergency Management Agency | Flood Mitigation Assistance Program  |
|  | Pre-Disaster Mitigation Program  |
|  | Hazard Mitigation Grant Program  |
|  | Severe Repetitive Loss Program   |
|  | Building Resilient Infrastructure & Communities  |
|  | National Dam Safety Program  |

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|  |  |
|--|--|
| Illinois Department of Commerce and Economic Opportunity | Illinois Development Assistance Program  |
| U.S. Army Corps of Engineers                             | Continuing Authorities Program <i>(not a grant)</i>  |
|  | Flood Plain Management Services (FPMS) Program <i>(not a grant)</i>  |
|  | Planning Assistance to States (PAS) Program <i>(not a grant)</i>   |
|  | Water Resources Development Act  |
| U.S. Department of Housing and Urban Development         | National Disaster Resilience Competition   |
| U.S. Environmental Protection Agency                     | USEPA Source Reduction Assistance Grant Program  |
|  | Environmental Education Grants Program   |
|  | Environmental Justice Small Grants Program   |
|  | Urban Waters Small Grants Program  |
|  | Technical assistance from EPA Regions for: <ul style="list-style-type: none"> <li>● Green stormwater management</li> <li>● Protection of healthy watersheds</li> </ul> |
| U.S. Department of Agriculture                           | Conservation Reserve Program   |
|  | CRP—Grasslands   |
|  | Conservation Reserve Enhancement Program (CREP)  |
|  | Agricultural Conservation Easement Program, including:<br>Agricultural Land Easements and Wetland Reserve Easements  |
|  | Environmental Quality Incentive Program  |
|  | Conservation Stewardship Program   |
|  | Healthy Forests Reserve Program  |
|  | Regional Conservation Partnership Program  |
|  | Conservation Innovation Grants   |
|  | Water and Waste Water Disposal Loan and Grant Program  |
|  | Forest Legacy Program  |
| U.S. Fish and Wildlife Service                           | Partners for Fish and Wildlife Program   |



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Table 12, continued. Funding sources for management measures recommended.

| Funding Sources   | Programs  |
|---|---|
| <b><i>Non-Government Organizations (non-profit organizations, private foundations/companies, other) that support watershed management efforts</i></b> |   |
| Ducks Unlimited   | Living Lake Initiative  |
| Pheasants/Quail Forever   | Landowner Assistance  |
| Trees Forever   | Working Watersheds: Buffers and Beyond                              |
| The Nature Conservancy  | N/A   |
| The National Fish and Wildlife Foundation   | Five Star and Urban Waters Program<br>Resilient Communities Program |
| The National Wildlife Federation  | N/A   |
| Water Environment Federation  | N/A   |
| Coca-Cola Foundation  | Community Support Program,<br>Rain Barrel Demonstrations            |
| Illinois American Water   | 2022 Environmental Grant Program                                    |
| In-Lieu Fee Mitigation Program  | N/A   |
| Mountain Dew  | Outdoor Grant Funds   |
| Walton Family Foundation  | N/A   |
| National Great Rivers Research and Education Center   | N/A   |

## Monitoring Timeline

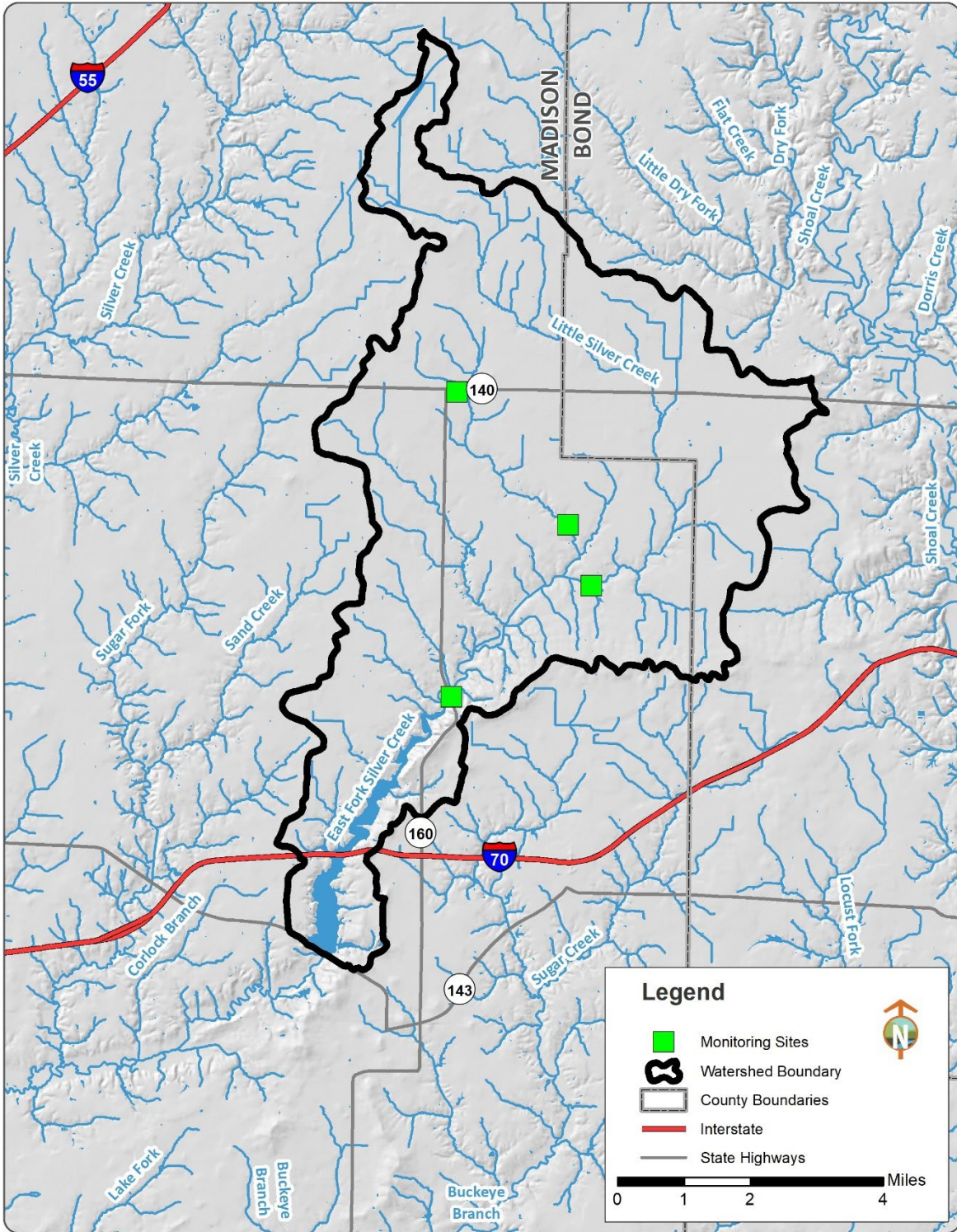
Highland Silver Lake was historically monitored under both the Illinois EPA Volunteer Lake Monitoring Program and Ambient Lake Monitoring Program. The Volunteer Lake Monitoring Program consisted of Secchi disc transparency measurement sampling during May through October from 1994 through 2016. The program has since been suspended by the IEPA in 2019. The Ambient Lake Monitoring Program was started in 1978 and annual samples are continuing to be collected for Highland Silver Lake. Due to excessive sediment causing capacity issues with the lake, restarting of the monthly monitoring of Highland Silver Lake with or without the IEPA Volunteer Lake Monitoring Program should be top priority to be able to have a continuous health report of the lake. This program will help determine the success of the multiple projects installed in the watershed and can be collected by the City of Highland staff during routine inspection of the lake.

In addition to monitoring of Highland Silver Lake, East Fork Silver Creek and Little Silver Creek should be monitored to determine amount and location of pollutants that are affecting the health of the lake. Sampling locations of these tributaries were identified in the previous watershed plan and should be used for continued monitoring. These locations are listed below in Table 13 and mapped in Figure 30. The collection and analysis of monitoring data should continue for as long as funding is available, but the period should be continued for a minimum of 3-5 years in order to document any changes in water quality that result from implementation of the watershed management plan. Opportunities for continuing or expanding the monitoring program should be evaluated periodically in order to further assess water quality conditions throughout the watershed, the causes and sources of pollution, the impact of nonpoint source pollution, and changes in water quality related to implementation of the watershed-based plan as well as social indicator data related to the watershed-based plan’s goals and objectives. Quality Assurance Project Plans (QAPP) should be developed for those monitoring opportunities that are selected for implementation in support of the watershed-based plan.

Table 13. Sampling locations for water quality monitoring in the Highland Silver Lake watershed.

| <b>Location</b>                         | <b>Lat.</b> | <b>Long.</b> | <b>Elev. (ft)</b> | <b>Tributary</b> |
|---|-------------|--------------|-------------------|------------------|
| Bridge on Hwy 160 (South of Grantfork)  | 38.8225     | -89.6667     | 510               | E. Fork          |
| Bridge on Fairview Rd. (North of Kraus) | 38.8464     | -89.6273     | 518               | Little           |
| Bridge on Niggli Rd. (West of Fairview) | 38.8595     | -89.6349     | 528               | E. Fork          |
| Bridge on Hwy 140 (West of Mettler Rd.) | 38.8890     | -89.6118     | 545               | Little           |

# Monitoring Sites



## MEASURING SUCCESS

The success of the watershed plan can be measured by tracking several indicators at several milestone points in time. Success can be documented in terms of:

- Plan effectiveness: the absolute improvements seen in water quality, flooding, habitat, and other plan goals;
- Plan implementation: the number and extent of Management Measures implemented, understood as a proxy for absolute improvements.

For both dimensions, measurement indicators were identified that would establish the progress made towards each goal of the plan. Interim milestones were established for each indicator so that improvements in effectiveness and extent of implementation could be tracked. Rather than waiting several years to measure the effectiveness of the plan, measuring ongoing improvement allows for more dynamic, directed, and effective implementation.

### *Measurement indicators*

Measurement indicators were established to determine whether and how much progress is being made towards achieving each of the goals of the plan (Table 14).

### *Interim milestones*

Milestones represent time periods or deadlines for meeting watershed plan objectives. Tracking milestones allows for adaptive management; if milestones are not being met, the most current information can be used to implement a course correction or a plan update.

Meetings of the watershed plan partners should be held twice a year, at six-month intervals, in order to assess the progress of the plan and address deficiencies in its implementation. The partners may also hold a larger annual meeting to which stakeholders and the public will be invited. The need for a plan revision will be assessed at five-year intervals. When deficiencies in plan implementation are identified, the plan's timeline and focus should be revised to address the issues. The watershed planning process of issue identification, goal-setting, and management measure recommendation should be reiterated, paying special attention to current data and new data sources.

A set of Progress Report Cards was developed for the watershed with milestones for the short-term (one to 10 years; 2021-2031), medium-term (10 to 20 years; 2031 to 2041), and long-term (20+ years; 2041+) timeframes. The milestones and scorecard can be used to identify and track plan implementation and effectiveness. Checking in on the measurement indicators at the appropriate milestones helps watershed partners to make corrections as necessary and ensure that progress is being made towards achieving the plan's goals.

The Progress Report Cards provide for each goal:

1. Summaries of current conditions
2. Measures of progress (Measurement Indicators)
3. Milestones for short-, medium-, and long-term timeframes
4. Sources of data required to evaluate milestones
5. Notes section

Grades for each milestone term should be calculated using the following scale:

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| Grade | Percentage milestones met |
|-------|---------------------------|
| A     | 80-100%                   |
| B     | 60-79%                    |
| C     | 40-59%                    |
| Fail  | <40%                      |

Lack of progress can be demonstrated where water quality monitoring results show no improvement, new environmental problems, lack of technical assistance, or lack of funds. These factors should be explained in the Notes section of the scorecard.

The Progress Report Cards should be used at every biannual meeting of the watershed plan partners, and should be fully filled out and evaluated every five years to determine if sufficient progress is being made and whether remedial actions are needed. The Progress Report Cards can be found in Appendix G.

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Table 14. Measures of success and measurement indicators for each watershed plan goal. Specific interim milestones incorporating these measurement indicators can be found in the Progress Report Cards in Appendix G.

| Goal(s) Addressed                                  | Measure of Success   | Measurement Indicators  |
|--|--|---|
| All goals  | Projects and Practices Implemented: BMPs to manage stormwater runoff, including those that clean water of pollutants           | Number and extent of Management Measures (BMPs) implemented on public and private land, wherever such data is available.                        |
|  | Financial and Technical Assistance Secured: Sources of funding and technical assistance committed towards plan implementation. | Number of funding sources secured for plan implementation. Number of partnerships developed that provide technical and/or financial assistance. |
| Remove and Reduce Sediment in Highland Silver Lake | Use Impairments: The reduction of use impairments as defined by IEPA.  | Removal of Highland Silver Lake from the IEPA 303(d) list.  |
|  | Sediment Loads: A decrease in sediment observed through water quality monitoring.  | Concentrations and loads of sediment (assessed by monitoring), to measure against plan target reductions.                                       |
|  | Removal of excess sediment from Highland Silver Lake   | Dredging of excessive sediment from Highland Silver Lake  |
|  | Installation of in-lake structures to capture sediment   | Number of in-lake structures install in Highland Silver Lake  |
|  | Stabilization of shoreline areas and stream reaches surrounding Highland Silver Lake   | Number of feet of shoreline areas and stream reaches protected with riprap, riffles, or other recommended BMPs                                  |
|  | Continue woodland improvement on forested area surrounding Highland Silver Lake  | Acres of forest area improved through invasive species removal and native plant installation  |
| Improve Surface Water Quality                      | Use Impairments: The reduction of use impairments as defined by IEPA.  | Removal of Highland Silver Lake from the IEPA 303(d) list.  |
|  | Pollutant load reduction: A decrease in sediment, nitrogen, and phosphorus observed through water quality monitoring           | Concentrations and loads of pollutants (assessed by monitoring), to measure against plan target reductions.                                     |
|  | Increased dissolved oxygen levels in Highland Silver Lake  | Measurements of dissolved oxygen levels in Highland Silver Lake meet minimum standards throughout the year                                      |
|  | Decreased private sewer failures and discharges  | Create and adopt a strategy to improve assessment and maintenance of private sewage systems   |

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Table 14, continued.

| Goal(s) Addressed   | Measure of Success   | Measurement Indicators  |
|---|--|---|
| Promote environmentally sustainable agricultural practices  | Increased adoption of cover crops  | Acreage of land utilizing cover crops to ensure there is permanent ground cover on agricultural fields                              |
|   | Continued adoption of conservation tillage   | Acreage of agricultural land utilizing no-till operations to promote increased soil health and reduced erosion                      |
|   | Utilize installed practices to promote additional BMP installation   | Number and extent of BMPs installed on agricultural fields throughout the watershed   |
|   | Perform frequent gully erosion surveys   | Frequent gully surveys performed to identify areas that are in need of immediate attention  |
|   | Promote NRCS priority watershed designation  | Number of farmers contacting NRCS to develop management plans and installing BMPs utilizing EQIP funding                            |
|   | Expanding riparian and field buffers with native plants  | Linear of feet of riparian buffers and field borders planted with native vegetation to expand habitat and trap nutrients            |
|   | Conserve sensitive and unproductive agricultural land  | Acres of sensitive and unproductive agricultural land removed from production and restored to a natural setting                     |
| Support healthy fish and wildlife habitat and recreation    | Restoration of critical areas to increase natural habitats   | Number of acres of riparian and wetland areas restored, number of logjams removed   |
|   | Increase sampling of macroinvertebrates and fish utilizing volunteers through RiverWatch and Illinois Natural History Survey | Yearly measurements of Highland Silver Lake and its major tributaries to determine the taxa richness and MBI water quality scores.  |
|   | Improve aquatic habitat for breeding in Highland Silver Lake   | Installation of artificial habitat specifically for the aquatic species in Highland Silver Lake; improved health of aquatic species |
|   | Create and adopt riparian buffer ordinance   | Develop and implement riparian buffer ordinance that requires minimum buffers surround streams, creeks, and field borders.          |
| Develop organization frameworks to implement watershed plan | Continued support from stakeholders leads to the adoption and support of the Highland Silver Lake watershed-based plan       | Number of watershed partners that adopt the Highland Silver Lake watershed-based plan   |
|   | Stakeholders utilizing Highland Silver Lake being a NRCS priority watershed to improve the watershed                         | Number of stakeholders who utilize the funding from Highland Silver Lake being a NRCS priority watershed                            |
|   | Ordinances created and adopted by stakeholders that protect the watershed  | Number and extent of ordinances that support the health of the watershed including riparian buffers and invasive species removal    |

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Table 14, continued.

| <b>Goal(s)<br/>Addressed</b> | <b>Measure of Success</b>   | <b>Measurement Indicators</b>  |
|------------------------------|---|--|
| Education & Outreach         | Public awareness, understanding and action, which affect decisions in watersheds where individuals own most of the land | Number of people reached by and involved in outreach efforts related to this watershed plan.   |
|                              | Effective materials to encourage behavior changes for a healthier watershed   | Percent of attendees at watershed-related presentations and other events, and percent who commit to action or follow up with a watershed partner. Percent of schools that incorporate a watershed based project. |



## Glossary of Terms

*Terms found in the watershed plan and appendices:*

**100-year floodplain:** Land adjoining the channel of a river, stream, watercourse, lake, or wetland that has been or may be inundated by floodwater during periods of high water that exceed normal bank-full elevations. The 100-year floodplain has a probability of 1% chance per year of being flooded.

**303(d) list of impaired waters:** The federal Clean Water Act requires states to submit a list of impaired waters to the U.S. Environmental Protection Agency for review and approval every two years using water quality assessment data from the Section 305(b) Water Quality Report. These impaired waters are referred to as “303(d) impaired waters.” States are then required to establish priorities for the development of Total Maximum Daily Load analyses for these waters and a long-term plan to meet them.

**305(b):** The Illinois 305(b) Water Quality Report is a water quality assessment of the state’s surface and groundwater resources compiled by the Illinois Environmental Protection Agency and submitted as a report to the U.S. Environmental Protection Agency as required under Section 305(b) of the Clean Water Act.

**Agricultural Conservation Easement Program (ACEP):** Provides financial and technical assistance to help conserve agricultural lands and wetlands and their related benefits.

**Agricultural Conservation Planning Framework (ACPF):** A GIS model developed by USDA.

**Aquifer:** A layer of permeable rock, sand, or gravel through which groundwater flows, containing enough water to supply springs and wells.

**Base flow:** The flow to which a perennially flowing stream reduces during the dry season. It is commonly supported by groundwater seepage into the channel.

**Bedrock:** The solid rock that lays beneath loose material, such as soil, sand, clay, or gravel.

**Best Management Practices (BMPs):** See Management Measures.

**Biodiversity:** The variety of organisms (plants, animals, and other life forms) that includes the totality of genes, species, and ecosystems in a region.

**Center for Watershed Protection (CWP):** Non-profit 501(c)3 corporation founded in 1992 that provides government entities, watershed organizations, and others around the country with the tools to protect streams, lakes, rivers, and watersheds.

**Channelization:** The artificial straightening, deepening, or widening of a stream or river to accommodate increased stormwater flows, typically to increase the amount of adjacent developable land for urban development, agriculture, or navigation.

**Comprehensive Nutrient Management Plans (CNMPs):** A strategy for farmers to integrate livestock waste management into overall farm operations.

**Conservation Development:** A development designed to protect open space and natural resources for people and wildlife while at the same time allowing building to continue. See Appendix E for more detail.

**Conservation easement:** The transfer of land use rights without the transfer of land ownership. Conservation easements can be attractive to property owners who do not want to sell their land now but would support perpetual protection from further development. Conservation easements can be donated or purchased.

**Conservation Practice Program (CPP):** Illinois Department of Agriculture program implemented by the Soil and Water Conservation Districts (SWCDs) in Illinois. Cost-share funds are available through the SWCDs for various conservation practices including Filter Strips, Grassed Waterways, No-Till, and Terraces. See Appendix E for more detail.

**Conservation Reserve Enhancement Program (CREP):** The country's largest private land conservation program, administered by the Farm Service Agency (FSA). An offshoot of the Conservation Reserve Program (CRP), CREP compensates farmers and landowners for removing environmentally sensitive land from production and implementing conservation practices. See Appendix E for more detail.

**Conservation Reserve Program (CRP):** A land conservation program administered by the FSA, which provides a yearly rental payment for farmers who remove environmentally sensitive land from agricultural production and plant species that will improve environmental health and quality. See Appendix E for more detail.

**Conservation Stewardship Program (CSP):** U.S. Department of Agriculture program that helps producers maintain and improve existing conservation systems and implement additional activities to address priority resources concerns. See Appendix E for more detail.

**Conservation tillage:** Any method of soil cultivation that leaves the previous year's crop residue (such as corn stalks or wheat stubble) on fields before and after planting the next crop, to reduce soil erosion and runoff.

**Contour Buffer Strip:** Strips of perennial vegetation that alternate with strips of row crops on sloped fields. The strips of perennial vegetation, consisting of adapted species of grasses or a mixture of grasses and legumes, slow runoff and remove from it sediment, nutrients, pesticides, and other contaminants. See Appendix E for more detail.

**Conveyance:** The act or means of carrying or transporting water from place to place.

**Cover crops:** Crops that protect soil from erosion by covering the ground in the fall and sometimes in the spring. See Appendix E for more detail.

**Designated use:** Appropriate use of a waterbody as designated by states and tribes. Designated uses are identified by considering the use, suitability, and value of the water body for public water supply; protection of fish and wildlife; and recreational, agricultural, industrial, and navigational purposes.

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Determinations are based on its physical, chemical, and biological characteristics; geographical setting and scenic qualities; and economic considerations.

**Detention basin:** A man-made structure for the storage of stormwater runoff with controlled release during or immediately following a storm. Wet detention basins are also known as retention ponds. See Appendix E for more detail.

**Digital Elevation Model (DEM):** Grid of elevation points used to produce elevation maps.

**Discharge (streamflow):** The volume of water passing through a channel over a given time period, usually measured in cubic feet per second.

**Dissolved oxygen (DO):** The amount of gaseous oxygen in water, usually measured in milligrams/liter.

**East-West Gateway Council of Governments (EWG):** The metropolitan planning organization (MPO) for the 4,500 square miles encompassed by the City of St. Louis; Franklin, Jefferson, St. Charles, and St. Louis counties in Missouri; Madison, Monroe, and St. Clair counties in Illinois. EWG is a forum for local governments of the bi-state St. Louis area to work together to solve problems that cross jurisdictional boundaries.

**Environmental Quality Incentives Program (EQIP):** A program that provides financial and technical assistance to agricultural producers, helping them to plan and implement conservation practices that address natural resource concerns and improve natural resources on agricultural land and non-industrial private forestland. See Appendix E for more detail.

**Erosion:** The displacement of soil particles on land surfaces due to water or wind action.

**Federal Emergency Management Agency (FEMA):** Government agency within the Department of Homeland Security that responds to, plans for, coordinates recovery from, and mitigates against natural and man-made disasters and emergencies, including significant floods.

**Flash flood:** A rapid rise of water along a stream or low-lying area, usually produced when heavy localized precipitation falls over an area in a short amount of time. Flash floods are considered the most dangerous type of flood event because they offer little or no warning time and their capacity for damage, including the capability to induce mudslides.

**Geographic Information System (GIS):** A computer-based approach to interpreting maps and images and applying them to problem-solving.

**Geology:** The scientific study of the structure of the Earth, focused primarily on the composition and origins of rocks, soil, and minerals.

**Grassed waterways:** Vegetated channels designed to prevent gully erosion by slowing the flow of surface water with vegetation. See Appendix E for more detail.

**Green infrastructure:** Green infrastructure can be defined as our region's natural resources, including open space, woodlands, wetlands, gardens, trees, and agricultural land. It can also be defined as the nodes and corridors of vegetation over the region, or the site-scale structures and landscaping that recreate natural processes. See Appendix E for more detail.

**Green Infrastructure Grant Opportunities:** A program that provides funding for the construction of a variety of green infrastructure stormwater management practices such as porous pavement and bioswales.

**Groundwater recharge:** Primary mechanism for aquifer replenishment which ensures future sources of groundwater for commercial and residential use.

**HUC or HUC Code:** A Hydrologic Unit Code (HUC) that refers to the division and subdivision of U.S. watersheds. The hydrologic units are arranged or nested within each other, from the largest geographic area (regions) to the smallest geographic area (cataloging units). Where two digits follow “HUC,” they refer to the length of the HUC code. For example, “HUC14” refers to the lowest-nested subwatershed level with a 14-digit long code, such as HUC 07140204050101.

**Hydric soil:** Soil units that are wet frequently enough to periodically produce anaerobic conditions, thereby influencing the species composition and/or growth of plants on those soils.

**Hydrologic Soil Groups (HSG):** Soil classifications from the Natural Resource Conservation Service based on the soil’s runoff potential. The four Hydrologic Soils Groups are A, B, C and D. A’s generally have the smallest runoff potential and D’s the greatest.

**Hydrology:** The scientific study of the properties, distribution, and effects of water in relation to the earth’s surface, in the soil and underlying rocks, and in the atmosphere.

**Illinois Department of Natural Resources (IDNR):** State government agency established to manage, protect, and sustain Illinois’ natural and cultural resources, provide resource-compatible recreational opportunities, and promote natural resource-related issues for the public’s safety and education.

**Illinois Environmental Protection Agency (IEPA):** State government agency established to safeguard environmental quality so as to protect health, welfare, property, and quality of life in Illinois.

**Impervious Cover Model:** Simple urban stream classification model based on impervious cover and stream quality. The classification system contains three stream categories (sensitive, impacted, and non-supporting) based on the percentage of impervious cover.

**Impervious cover/surface:** An area covered with solid material or that is compacted to the point where water cannot infiltrate underlying soils (e.g., parking lots, roads, houses).

**In-lieu fee:** A payment made to a natural resource management entity for implementation of projects for wetland or other aquatic resource development, in lieu of (in place of) on-site restoration or site mitigation. See Appendix E for more detail.

**Infiltration:** Rainfall or surface runoff that moves downward from the surface into the subsurface soil.

**Logjam:** Any woody vegetation, with or without other debris, which obstructs a stream channel and backs up stream water like a natural dam.

**Low Impact Development:** Comprehensive land planning and engineering design approach with a goal of maintaining and enhancing the pre-development hydrologic regime of urban and developing watersheds.

**Macroinvertebrates (aquatic):** Invertebrates that can be seen by the unaided eye (macro). Most benthic invertebrates in flowing water are aquatic insects or the aquatic stage of insects, such as mayfly nymphs and midge larvae. They also include organisms such as leeches, clams, and worms. The presence of benthic (bottom-dwelling) macroinvertebrates that are intolerant of pollutants is a good indicator of good water quality.

**Management Measures:** Also known as Best Management Practices (BMPs). Methods or techniques that are the most effective or practical means to achieving objectives including improving water quality, reducing flooding, and improving fish and wildlife habitat. These practices include non-structural practices such as site planning and design aimed to reduce stormwater runoff and avoid adverse development impacts, or structural practices that are designed to store or treat stormwater runoff to mitigate flood damage and reduce pollution.

**Missouri Resource Assessment Partnership (MoRAP):** Program at the University of Missouri which develops, analyzes, and delivers geospatial data for natural and cultural resource management. MoRAP partnered with the East-West Gateway Council of Governments to deliver mapped data on wetland importance and wetland restoration value.

**Mitigation:** Measures taken to eliminate or minimize damage from development activities such as construction in wetlands.

**Municipal Separate Storm Sewer System (MS4):** A system that transports or holds stormwater, such as catch basins, curbs, gutters, and ditches, before discharging into local waterbodies.

**National Hydrography Dataset (NHD):** Digital database of surface water features, such as lakes, ponds, streams, and rivers. The NHD is used to make hydrology and watershed boundary maps.

**National Pollutant Discharge Elimination System (NPDES) Phase II:** Permit program authorized by the Clean Water Act requiring smaller communities and public entities that own and operate a Municipal Separate Storm Sewer System (MS4) to apply and obtain a NPDES permit for stormwater discharges to surface water. Permittees must develop, implement, and enforce a stormwater program designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable. Individual homes that use a septic system, are connected to a municipal system, or do not have a surface discharge do not need an NPDES permit. The NPDES permit program is administered by authorized states. In Illinois, the Illinois EPA administers the program.

**National Land Cover Database (NLCD):** Database with mapped land cover categories produced by the Multi-Resolution Land Characteristics (MRLC) Consortium with land cover classifications based on Landsat satellite data and ancillary data sources such as topography, census and agricultural statistics, soil characteristics, wetlands, and other land cover maps.

**Native landscaping:** A landscape that contains native plants or plant communities that are indigenous to a particular region.

**Natural Resources Conservation Service (NRCS):** Government agency under the U.S. Department of Agriculture (USDA) that provides technical assistance to landowners and land managers.

**Nitrogen:** A colorless, odorless, unreactive gas that constitutes about 78% of the earth's atmosphere. The availability of nitrogen in soil is important for plant growth and ecosystem processes, and nitrogen is used in many fertilizers.

**No-till:** No-till farming (also called zero tillage) is a way of growing crops or pasture from year to year without disturbing the soil through tillage. It uses herbicides to control weeds and results in reduced soil erosion and the preservation of soil nutrients. See Appendix E for more detail.

**Nonpoint source pollution (NPS pollution):** Any source of water pollution that is not from a discrete outflow point. Instead, NPS pollution comes from diffuse sources and is carried into waterways with runoff from the land. Pollutants can include oil, grease, sediment, and nutrients in excess fertilizer.

**Nutrients:** Substances needed for the growth of plants and animals, such as phosphorous and nitrogen. The addition of too many nutrients to a waterway causes problems to the aquatic ecosystem by promoting nuisance vegetation including excess algae growth.

**Nutrient Management Plans (NMPs):** A strategy for obtaining the maximum return from on- and off-farm fertilizer resources in a manner that protects the quality of nearby water resources.

**Partners:** Key watershed stakeholders who take an active role in the watershed management planning process and implementing the watershed plan.

**Phosphorus:** A nonmetallic element that occurs widely in many combined forms especially as inorganic phosphates in minerals, soils, natural waters, bones, and teeth and as organic phosphates in all living cells.

**Point source pollution:** Pollution that discharges in water from a single, discrete source, such as an outfall pipe from an industrial plant or wastewater treatment facility.

**Pollutant load:** The amount of any pollutant deposited into waterbodies from point source discharges, combined sewer overflows, and/or stormwater runoff.

**Private sewage:** Sewage systems that are the responsibility of the owners or occupiers of the properties connected to them. These systems can include septic tanks, lagoons, and leach fields.

**Rain garden:** Vegetated depression that cleans and infiltrates stormwater from rooftops and sump pump discharges, typically planted with deep-rooted native wetland vegetation. See Appendix E for more detail.

**Rainwater Harvesting:** The accumulation and storing of rainwater for reuse before it reaches an aquifer. See Appendix E for more detail.

**Retention basin:** A man-made structure with a permanent pool of water for the storage of stormwater runoff. Also known as a wet pond, or wet detention basin.

## Highland Silver Lake Watershed Plan - Final

**Retrofit:** Modifications to improve problems with existing stormwater control structures such as detention basins and conveyance systems such as ditches and storm sewers. See Appendix E for more detail on detention basin retrofits.

**Riparian:** The riverside or riverine environment adjacent to the stream channel. For example, riparian, or streamside, vegetation grows next to (and over) a stream.

**Riparian Buffer:** An undisturbed naturally vegetated strip of land adjacent to a body of water, such as a stream or lake. Riparian buffers have water quality, flooding, and habitat benefits.

**Runoff:** The portion of precipitation that does not infiltrate into the ground and is discharged into streams by flowing over the ground.

**Sediment:** Soil particles that have been transported from their natural location by wind or water action.

**Special Flood Hazard Area:** The area inundated during the base flood is called the Special Flood Hazard Area or 100-year floodplain.

**Stakeholders:** Individuals, organizations, or enterprises that have an interest or a share in a project.

**Stream reach:** A stream segment having fairly homogenous hydraulic, geomorphic, riparian cover, and land use characteristics.

**Streambank stabilization:** Techniques used for stabilizing eroding streambanks.

**Streambank Stabilization and Restoration Program (SSRP):** Illinois Department of Agriculture (IDOA) program designed to demonstrate effective streambank stabilization at demonstration sites using inexpensive vegetative and bio-engineering techniques. See Appendix E for more detail.

**Subwatershed:** Any drainage basin within a larger drainage basin or watershed.

**Terrace:** Ridges and channels constructed across the slope of a field to intercept runoff water, reducing soil erosion. See Appendix E for more detail.

**Threatened and endangered species:** A “threatened” species is one that is likely to become endangered in the foreseeable future. An “endangered” species is one that is in danger of extinction throughout all or a significant portion of its range.

**Topography:** The relative elevations of a landscape describing the configuration of its surface.

**Total Maximum Daily Load (TMDL):** The highest amount of discharge of a particular pollutant that a waterbody can handle safely per day.

**Total Suspended Solids (TSS):** The organic and inorganic material suspended in the water column greater than 0.45 micron in size.

**U.S. Army Corps of Engineers (USACE):** Federal group of civilian and military engineers and scientists that provide services for planning, designing, building, and operating water resources and other Civil Works projects. These include flood control and environmental protection projects.

**U.S. Department of Agriculture (USDA):** Federal government agency that provides leadership on food, agriculture, natural resources, rural development, nutrition, and related issues. The USDA administers several programs to encourage land conservation and agricultural best practices.

**U.S. Environmental Protection Agency (USEPA):** Federal agency whose mission is to protect human health and the environment. USEPA enforces the Clean Water Act, among other laws.

**U.S. Fish and Wildlife Service (USFWS):** Federal government agency within the U.S. Department of the Interior dedicated to the management of fish and wildlife and their habitats.

**U.S. Geological Survey (USGS):** Federal government agency established with the responsibility to provide reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect quality of life.

**Urban runoff:** Runoff that runs over urban developed surfaces such as streets, lawns, and parking lots, entering directly into storm sewers rather than infiltrating the land upon which it falls.

**Wastewater Treatment:** Process that treats wastewater to alter its characteristics such as its biological oxygen demand, chemical oxygen demand, pH, etc. in order to meet effluent or water discharge standards.

**Water and Sediment Control Basin (WASCOB):** Small earthen ridge-and-channel or embankment built across a small watercourse or area of concentrated flow in a field. See Appendix E for more detail.

**Watershed:** The area of land that contributes runoff to a single point on a waterbody (in this case, the outlet of Wood River into Mississippi River).

**Watershed-Based Plan:** A strategy and work plan for achieving water resource goals that provides assessment and management information for a geographically defined watershed, including the analysis, actions, participants, and resources related to development and implementation of the plan.

**Wetland:** Lands that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, under normal conditions, a prevalence of vegetation adapted for life in saturated soil conditions (known as hydrophytic vegetation). A wetland is identified based upon the three attributes: 1) hydrology, 2) hydric soils, and 3) hydrophytic vegetation. A wetland is considered a subset of the definition of the Waters of the United States.

**Wetland Reserve Easement (WRE) program:** Component of the Agricultural Conservation Easement Program (ACEP) that provides technical and financial assistance to restore, protect, and enhance wetlands. See Appendix E for more detail.





# HIGHLAND

PARKS & RECREATION... The *FUN* Theory!

To: City Manager, Chris Conrad  
From: Mark Rosen, Director of Parks & Recreation  
Date: March 7, 2022  
Subject: Silver Lake Watershed Comprehensive Plan

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### Recommendation

I am recommending city council to approve the updated Highland Silver Lake Watershed Comprehensive Plan.

### Discussion

This comprehensive plan was developed in a coordinated effort between Heartlands Conservancy, Andreas Consulting Services and city of Highland personnel. This is an updated plan from 2011 that, in essence, is a continuation of several reports dating back to the 1980 USDA Highland Silver Lake Rural Clean Water Program. It is thorough and well planned out in order to continue making improvements throughout the Silver Lake watershed.

By adopting this plan, Highland will be able to increase our chances of future grants that were instrumental in the progress we have completed over the past 12 years.

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Recommended By: Mark Rosen, Director of Parks & Recreation

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Approved By: Chris Conrad, City Manager

**RESOLUTION NO. \_\_\_\_\_**

**A RESOLUTION AUTHORIZING  
ALLOCATION OF HOTEL / MOTEL TAX FUNDING  
(ILLINOISouth Tourism – Annual Membership, Marketing Highland)**

**WHEREAS**, the City of Highland, Madison County, Illinois (hereinafter “City”), is a non-home rule municipality duly established, existing and operating in accordance with the provisions of the Illinois Municipal Code (Section 5/1-1-1 et seq. of Chapter 65 of the Illinois Compiled Statutes); and

**WHEREAS**, City has determined applicants for hotel / motel tax funding shall fill out an application to determine whether the funding request may be granted according to 65 ILCS 5/8-3-14, which reads, in pertinent part:

The amounts collected by any municipality pursuant to this Section shall be expended by the municipality solely to promote tourism and conventions within that municipality or otherwise to attract nonresident overnight visitors to the municipality

*See* 65 ILCS 5/8-3-14; and

**WHEREAS**, City has determined the applicant has submitted a “Hotel / Motel Tax Funding Application” (*See Exhibit A*); and

**WHEREAS**, City has determined the applicant has requested funds for tourism and/or conventions and/or overnight visitors to City, and the applicant’s request for funds may be permitted pursuant to the spirit of 65 ILCS 5/8-3-14 (*See Exhibit A*); and

**WHEREAS**, the City Council finds that the City Manager should be authorized and directed, on behalf of the City of Highland, to execute whatever documents are necessary to allocate hotel / motel tax funds to the applicant pursuant to the “Hotel / Motel Tax Funding Application” (*See Exhibit A*).

**NOW, THEREFORE, BE IT RESOLVED**, by the City Council of the City of Highland, Illinois, as follows:

- Section 1.* The foregoing recitals are incorporated herein as findings of the City Council of the City of Highland, Illinois.
- Section 2.* The “Hotel / Motel Tax Funding Application” (*See Exhibit A*) is approved.
- Section 3.* The City Manager is directed and authorized, on behalf of the City of Highland, to execute whatever documents are necessary to allocate hotel / motel funds to applicant pursuant to applicant’s “Hotel / Motel Tax Funding Application” (*See Exhibit A*).

*Section 4.* This Resolution shall be known as Resolution No. \_\_\_\_\_ and shall be effective upon its passage and approval in accordance with law.

Passed by the City Council of the City of Highland, Illinois, and deposited and filed in the Office of the City Clerk, on the \_\_\_\_ day of \_\_\_\_\_, 2022, the vote being taken by ayes and noes, and entered upon the legislative records, as follows:

AYES:

NOES:

APPROVED:

---

Kevin B. Hemann, Mayor  
City of Highland  
Madison County, Illinois

ATTEST:

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Barbara Bellm, City Clerk  
City of Highland  
Madison County, Illinois



## **HOTEL/MOTEL FUND APPLICATION**

**(For Funding Requests Equal to or Less than \$1,500)**

### **Contact Information:**

Organization Name: City of Highland

Contact Person: Mallord Hubbard

Phone: 618-654-9891

Fax: 618-654-4768

Email: mhubbard@highlandil.gov

### **Event Information:**

1. Name of the Event: ILLINOISouth Tourism

2. Date(s) of the Event: 2022-23

3. Location of the Event: Unknown

4. Description of the Event & Purpose of Funding Request:

Annual membership to ILLINOISouth Tourism Bureau

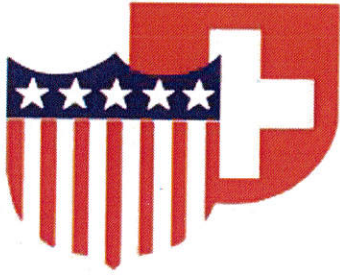
5. Please state how your request for hotel/motel tax funds will help promote: 1) tourism; 2) conventions within the City; and/or 3) overnight visitors to the municipality:

Membership to ILLINOISouth Tourism provides the opportunity for all events to be marketed to the southern Illinois region and will drive increased tourism for all events held in Highland throughout the year.

6. Funding Request Amount: \$1500

7. Projected Attendance for the Event: Unknown

8. Expected Overnight Stays for the Event: Unknown



# CITY OF HIGHLAND

**To:** Mayor and Council Members  
**From:** Chris Conrad, City Manager  
**Date:** March 1, 2022  
**Subject:** Approval of Hotel/Motel Tax for City Membership to ILLINOISouth Tourism

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## RECOMMENDATION

I am recommending the Council approve Hotel/Motel funds of \$1,500 for expenses related to Annual Membership with ILLINOISouth Tourism for the purpose of advertisement for all events sponsored by local community.

## DISCUSSION

The benefit of the city being a member of ILLINOISouth Tourism and utilizing Hotel/Motel Tax funding includes: advertising of local events throughout 22 counties, discounted advertisements in their Annual Visitor's Guide and Tourism Times, digital marketing referrals, and media buy discounts through production of promotional materials (billboards, print, radio, television, brochures, rack cards, etc.). The City's membership will provide the opportunity for city and local events to share in the benefits outlined above.

## FISCAL IMPACT

Funding of \$1500 will be appropriated from the Hotel/Motel Tax Budget for this item.

Recommended by: \_\_\_\_\_

Chris Conrad, City Manager

**RESOLUTION NO. \_\_\_\_\_**

**A RESOLUTION MAKING SEPARATE STATEMENT OF FINDINGS OF FACT  
IN CONNECTION WITH ORDINANCE GRANTING SPECIAL USE PERMIT FOR  
SHORT-TERM RENTAL WITHIN THE C-2 ZONING DISTRICT**

WHEREAS, the City of Highland, Madison County, Illinois (hereinafter “City”), is a non-home rule municipality duly established, existing and operating in accordance with the provisions of the Illinois Municipal Code (Section 5/1-1-1 et seq. of Chapter 65 of the Illinois Compiled Statutes); and

WHEREAS, Section 90-81 of the *Code of Ordinances, City of Highland*, provides that the City Council “may grant a special use permit by ordinance,” but requires that “In a separate statement accompanying any such ordinance, the Council shall state findings of fact, and indicate reasons for approving . . . the request for a special use permit;” and

WHEREAS, Francis Ostrander, of 60 Barracuda Drive (“Owner”), has filed a Petition for a Special Use Permit to allow for a short-term rental within the C-2 zoning district at 917 12<sup>th</sup> Street, Highland, IL 62249, in accord with the *Code of Ordinances, City of Highland*; and

WHEREAS, a copy of the Petition for a Special Use Permit is attached as **Exhibit A** and incorporated by reference as though fully set forth herein; and

WHEREAS, a copy of the CPZB (“CPZB”) Staff Report is attached hereto as **Exhibit B** and incorporated by reference as though fully set forth herein; and

WHEREAS, **Exhibit A** and **Exhibit B** were all considered as part of the Petition for a Special Use Permit by CPZB; and

WHEREAS, CPZB recommended approval of this special use pursuant to **Exhibit A** and **Exhibit B**. *See* CPZB Determination of Special Use Permit attached hereto as **Exhibit C**.

**NOW, THEREFORE, BE IT RESOLVED, BY THE CITY COUNCIL OF THE CITY OF HIGHLAND:**

*Section 1.* The City Council makes the following findings of fact concerning the *procedures* followed to present the Petition for a Special Use Permit (**Exhibit A, B**) for approval:

(a) The Administrator to whom the Petition for a Special Use Permit was submitted referred the matter to the CPZB.

(b) The CPZB met in regular session on March 2, 2022, at 7:00 p.m., at City Hall, 1115 Broadway, Highland, Illinois, to consider and act upon the Petition for a Special Use Permit.

(c) Public notice of the hearing to be held at the CPZB meeting was published pursuant to Illinois state law, and the Owners were notified of the hearing to be held at the meeting by mail, with postage thereon fully prepaid.

(d) At the hearing, the CPZB took and heard evidence and the CPZB prepared and submitted its advisory report to the City Council recommending approval of the Petition for a Special Use Permit.

(e) The City Council finds the steps recited above, in compliance with the *Code of Ordinances, City of Highland*, to be facts, and further finds and determines that the

matters and proceedings to date are in accordance with the *Code of Ordinances, City of Highland*.

*Section 2.* The City Council makes the following findings of fact concerning the *merits* of the Petition for a Special Use Permit (**Exhibit A, B and C**):

(a) The proposed Special Use will adequately protect the public health, safety, welfare and the physical environment of the surrounding area and the City.

(b) The proposed Special Use is consistent with the City's Comprehensive Plan.

(c) The proposed Special Use would not have an adverse effect on public utilities or traffic circulation on nearby streets.

(d) There are no facilities near the proposed Special Use that require the need for special protection.

(e) The location – where the Special Use will be made pursuant to the Special Use Permit – is zoned “C-2”

(f) The granting of this Special Use Permit would be in the best interest of the City of Highland, and, so, the Special Use Permit should be granted by ordinance.

*Section 3.* This Resolution shall constitute the separate statement of findings of fact, supporting the granting of the Special Use Permit, required by Section 90-81 of the *Code of Ordinances, City of Highland*, and shall be permanently attached to the ordinance adopted granting the Special Use Permit.

*Section 4.* This Resolution shall be known as Resolution No. \_\_\_\_\_ and shall be effective upon its passage and approval in accordance with law.



Passed by the City Council of the City of Highland, Illinois, approved by the Mayor, and deposited and filed in the Office of the City Clerk, on the \_\_\_\_\_ day of \_\_\_\_\_, 2022, the vote being taken by ayes and noes, and entered upon the legislative records, as follows:

AYES:

NOES:

APPROVED:

---

Kevin B. Hemann, Mayor  
City of Highland, Madison County, Illinois

ATTEST:

---

Barbara Bellm, City Clerk  
City of Highland, Madison County, Illinois

**EXHIBIT "A"**  
**Special Use Permit Application**

Return Form To:

Administrative Official  
City of Highland  
2610 Plaza Drive  
Highland, IL 62249  
(618) 654-9891  
(618) 654-1901 (fax)

For Office Use Only

Date Submitted: \_\_\_\_\_  
Filing Fee: \_\_\_\_\_  
Date Paid: \_\_\_\_\_  
Date Advertised: \_\_\_\_\_  
Date Notices Sent: \_\_\_\_\_  
Public Hearing Date: \_\_\_\_\_  
Zoning File #: \_\_\_\_\_

---

**APPLICANT INFORMATION:**

Applicant: Francis Ostrander Phone: (618)741-4043  
Address: 60 Barracuda Drive, Highland IL Zip: 62249  
Email Address: fjostrander@gmail.com  
Owner: Same as Above Phone: \_\_\_\_\_  
Address: \_\_\_\_\_ Zip: \_\_\_\_\_  
Email Address: \_\_\_\_\_

**PROPERTY INFORMATION:**

Street Address of Parcel ID of Property: 917 12th Street, PIN# 01-2-24-05-11-201-008  
Property is Located In (Legal Description): Original Town Lot 8 50x40  
\_\_\_\_\_  
\_\_\_\_\_  
Present Zoning Classification: C-2 Acreage: 0.16  
Present Use of Property: vacant home  
\_\_\_\_\_  
Proposed Land Use: short-term rental  
\_\_\_\_\_

Description of proposed use and reasons for seeking a special use permit:  
We are proposing to operate a short-term rental at 917 12th Street. This is in the C-2 central business district and a Special Use Permit is required.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SURROUNDING LAND USE AND ZONING:**

|       | <u>Land Use</u>           | <u>Zoning</u> |
|-------|---------------------------|---------------|
| North | <u>Vacant Lot</u>         | <u>C-2</u>    |
| South | <u>Parking Lot</u>        | <u>C-2</u>    |
| East  | <u>Parking Lot</u>        | <u>C-2</u>    |
| West  | <u>Single-Family Home</u> | <u>C-2</u>    |

Should this special use be valid only for a specific time period? Yes \_\_\_\_\_ No X

If Yes, what length of time? N/A

| <i>Does the proposed Special Use Permit meet the following standards? If not, attach a separate sheet explaining why.</i>  | Yes      | No |
|--|----------|----|
| A. Will the proposed design, location and manner of operation of the proposed special use will adequately protect the public health, safety and welfare, and the physical environment; | <b>X</b> |    |
| B. Is the proposed special use consistent with this City's Comprehensive Plan;   | <b>X</b> |    |
| C. Will the proposed special use have a minimal negative impact on the value of neighboring property and on this City's overall tax base;  | <b>X</b> |    |
| D. Will the proposed special use have a minimal negative impact on public utilities and on traffic circulation on nearby streets; and  | <b>X</b> |    |
| E. Will the proposed special use have a minimal impact on the facilities near the proposed special use, such as schools or hospitals require special protection?                       | <b>X</b> |    |

**THE FOLLOWING ITEMS MUST ACCOMPANY YOUR APPLICATION:**

1. One copy of a legal description AND warranty deed of the property. If the applicant is not the property owner, a notarized letter from the property owner granting the applicant permission to apply for the request will be required.
2. A current plat, site plan, survey, or other professional illustration.
3. One copy of a narrative statement describing the impact of the proposed change, including the purpose of the request, the desired land use, any traffic conditions that may result, how the proposed change may affect the character of the surrounding properties, and how the proposed change will benefit the City of Highland.
4. Application fee.
5. Any other information required by planning staff (i.e. landscaping plan, elevation plan, exterior lighting plan, etc).

I HAVE READ AND UNDERSTAND THE ABOVE CITY OF HIGHLAND PETITION TO THE COMBINED PLANNING & ZONING BOARD REQUIREMENTS

[Signature]  
Applicant's Signature

28 Jan 2022  
Date

# 917 12<sup>th</sup> Street, Highland, IL 62249

## (Corner of 12<sup>th</sup> Street & Washington)



**917 12<sup>th</sup> Street (Front View)**

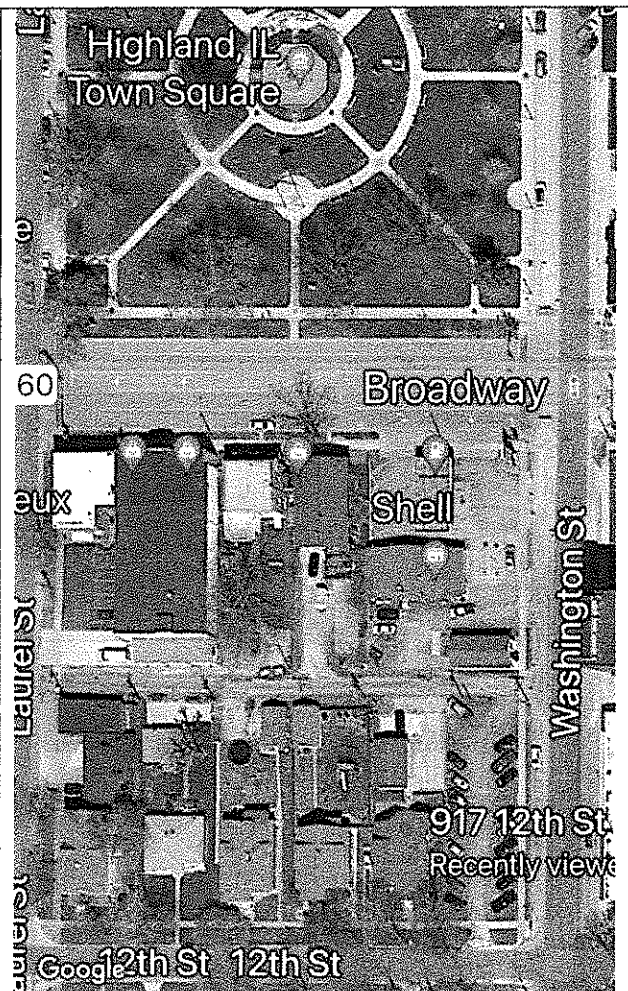


**East View from Washington Street**

Year Built: 1920  
Use: Multi-Family  
HVAC: Forced Air, Gas, Central Cooling  
Square Footage: 3,600 sq ft  
Parking: 4 Parking Spaces  
Detached 2 Car Garage

We bought this house in August 2005 as our primary residence. It was previously used as an Apartment Complex with 3 Units (Main Floor, Attic & Basement).

We have rented the three apartments over the course of 17 years and are already registered with the City of Highland as a landlord. We started a remodeling project in the Fall of 2021, with an estimated completion date of March 31<sup>st</sup>, 2022.



This will be a whole-house rental, not individual apartments. The maximum allowable capacity will be 12 – 14 guests (The Zoning Dept gave us a total number of 26, based on bedroom and living room sizes/square footage). Each floor will have 2 bedrooms, 1 bathroom, and a kitchenette. The Living Room(s) will have a sofa sleeper.

We will be setting House Rules which will be 100% enforced. Noise levels will be kept to a minimum when outdoors, and no loud parties will be allowed indoors. A \$500 damage/security deposit will be charged, and if any complaints of noise disturbances are made, they will automatically forfeit their damage deposit.

Examples of Common House Rules:

- ✓ No burning of candles
- ✓ No guests of guests
- ✓ No loud parties
- ✓ ABSOLUTELY NO smoking inside
- ✓ Maximum occupancy rules will be enforced

We will offer completely clean and sanitized quarters, as well as cleaning supplies to be used by short term renters. We will always clean and sanitize before each family arrives. We will leave local materials of other businesses that families may need throughout their stay. We will also leave a list of important phone numbers such as police, ambulance, fire department, and hospital as well as many others. We will have a first aid kit available in plain sight and will be available 24 hours a day/7 days a week by cell phone. Our primary home address is in Highland, living only one mile away. We will ensure our VRBO is compliant with local fire codes and has functioning smoke and carbon monoxide detectors, as well as a fire extinguisher. We will have fire escape routes clearly marked in the event of an emergency.

As the owners of The Olde Wicks Factory Special Event Center, our out-of-town guests have complained about the severe shortage of short-term rentals in Highland. We have had over 35,000 guests attend functions over the last 4 years, and with only 59 rooms at the Baymont Hotel, this has left many guests having to find lodging in other towns such as Troy, Edwardsville, O'Fallon and Greenville. In October of 2021 alone, we had 11 weddings (4 Fridays, 5 Saturdays, and 2 Sundays), which usually left our Friday & Sunday guests without lodging in Highland and having to look elsewhere.

Without a doubt, this VRBO accommodation will be rented every weekend that we have an event, as 90% of our booked weddings are not from Highland. We already have a waiting list of referrals from Matt & Kelly Hunt, from the 6<sup>th</sup> Street Lofts.

This type of business always increases revenue in the community, especially since the location is only a half a block from the City Square. We will urge families to utilize local businesses and will have a small rack available with brochures from any businesses that want to leave their information.

# OLD WICKS FACTORY EVENT SCHEDULE

## 2020

|                                      | Date     | Day of week | Couple                   | # of Guests  | Hometown         |
|--------------------------------------|----------|-------------|--------------------------|--------------|------------------|
| 1.                                   | 1/4/20   | Saturday    | Renea Koenig Baby Shower | 80           | Troy             |
| 2.                                   | 1/18/20  | Saturday    | Amanda & Gerald          | 150          | Fairview Heights |
| 3.                                   | 2/29/20  | Saturday    | Sarah & Jonathan         | 250          | Saint Peters, MO |
| 4.                                   | 3/14/20  | Saturday    | Cheyenne & Cody          | 350          | Worden           |
| 5.                                   | 7/10/20  | Saturday    | Olivia's Grad Party      | 100          | Highland         |
| 6.                                   | 7/25/20  | Saturday    | Hope & Adam              | 350          | Carlyle          |
| 7.                                   | 8/1/20   | Saturday    | Beth & Nick              | 100          | Highland         |
| 8.                                   | 8/2/20   | Sunday      | Emily & Eddie            | 250          | Rockford         |
| 9.                                   | 8/7/20   | Saturday    | Taylor & Chad            | 250          | Aviston          |
| 10.                                  | 8/15/20  | Saturday    | Tabitha & Ryan           | 385          | Germantown       |
| 11.                                  | 8/28/20  | Friday      | Marissa & Karl           | 130          | Highland         |
| 12.                                  | 8/29/20  | Saturday    | Cierra & Brandon         | 300          | Bethalto         |
| 13.                                  | 8/30/20  | Sunday      | Lindsay's Bridal Shower  | 100          | Staunton         |
| 14.                                  | 9/5/20   | Saturday    | Brandon & Angel          | 250          | St Jacob         |
| 15.                                  | 9/6/20   | Sunday      | Katy & Jake              | 160          | Fayette, MO      |
| 16.                                  | 9/12/20  | Saturday    | Daniel & Morgan          | 250          | Highland         |
| 17.                                  | 9/19/20  | Saturday    | Kelli & Paul             | 200          | Greenville       |
| 18.                                  | 9/20/20  | Sunday      | Brooke & Nick            | 200          | Maryville        |
| 19.                                  | 9/26/20  | Saturday    | Kaitlyn & Thomas         | 200          | New Douglas      |
| 20.                                  | 10/24/20 | Saturday    | Tanner & Aaron           | 150          | Godfrey          |
| 21.                                  | 11/8/20  | Saturday    | Carly & Stephen          | 180          | Alton            |
| 22.                                  | 11/21/20 | Saturday    | Shayna & Logan           | 100          | Granite City     |
| 23.                                  | 11/28/20 | Saturday    | Cassey & Zack            | 350          | Highland         |
| 24.                                  | 12/5/20  | Saturday    | Danyel & Alex            | 100          | Edwardsville     |
| 25.                                  | 12/12/20 | Saturday    | Britni & Austin          | 300          | Highland         |
| 26.                                  | 12/19/20 | Saturday    | Becca & Adam             | 220          | Trenton          |
| 27.                                  | 12/26/20 | Saturday    | Solana & Jordan          | 200          | Damiansville     |
| 28.                                  | 12/28/20 | Tuesday     | Madelynn & Ethan         | 180          | Fairview Heights |
| <b>Total Attendees for the Year:</b> |          |             |                          | <b>5,837</b> |                  |

# OLD WICKS FACTORY EVENT SCHEDULE

## 2021

|     | Date          | Day of week   | Couple  | # of Guests | Hometown     |
|-----|---------------|---------------|---|-------------|--------------|
| 1.  | 1/2/21        | Saturday      | Rebecca & Matthew   | 200         | New Baden    |
| 2.  | 1/9/21        | Saturday      | Lauren & Tim  | 50          | Trenton      |
| 3.  | 1/16/21       | Saturday      | Summer & Mike   | 200         | Highland     |
| 4.  | 2/27/21       | Saturday      | Nick & Allyson  | 50          | Highland     |
| 5.  | 2/27/21       | Saturday      | Kaytlyn & Anthony   | 165         | Troy, IL     |
| 6.  | 3/5/21        | Friday        | Blake & Macy  | 230         | Highland     |
| 7.  | 3/6/21        | Saturday      | Jacob & Taylor  | 140         | Collinsville |
| 8.  | 3/13/21       | Saturday      | Lindsay & Steven  | 230         | Glen Carbon  |
| 9.  | 3/20/2021     | Saturday      | Lauren & Patrick  | 250         | Edwardsville |
| 10. | 3/27/21       | Saturday      | Cynthian & Terry  | 350         | Alhambra     |
| 11. | 4/10/21       | Saturday      | Corey & Nikki   | 200         | East Alton   |
| 12. | 4/16/21       | Friday        | Desirae & Nelson  | 125         | Trenton      |
| 13. | 4/17/21       | Saturday      | Katie & Jacob   | 350         | Edwardsville |
| 14. | 4/18/21       | Sunday        | Bryan & Whitney   | 200         | Granite City |
| 15. | 4/24/21       | Saturday      | Samantha & Ed   | 200         | Collinsville |
| 16. | 5/1/21        | Saturday      | Emilie & Brandon  | 300         | Germantown   |
| 17. | 5/8/21        | Saturday      | Sierra & Ben  | 400         | Highland     |
| 18. | <b>5/9/21</b> | <b>Sunday</b> | <b>Mother's Day Brunch – Grand Hall &amp; West Hall - 600</b> |             |              |
| 19. | 5/15/21       | Saturday      | Bryan & Hannah  | 136         | Collinsville |
| 20. | 5/22/21       | Saturday      | Taylor & Seth   | 250         | Maryville    |
| 21. | 5/29/21       | Saturday      | Megan & Noah  | 250         | Edwardsville |
| 22. | 6/5/21        | Saturday      | Zach & Shannon  | 150         | Glen Carbon  |
| 23. | 6/11/21       | Friday        | Collette & Tyler  | 300         | Troy         |
| 24. | 6/12/21       | Saturday      | Amber & Eric  | 175         | Granite City |
| 25. | 6/18/21       | Friday        | Steve & Patty   | 200         | Highland     |
| 26. | 6/19/21       | Saturday      | Breann & Anthony  | 200         | Highland     |
| 27. | 6/25/21       | Friday        | Hannah & Cole   | 300         | St Louis, MO |
| 28. | 6/26/21       | Saturday      | Jeremy & Becca  | 300         | Alhambra     |
| 29. | 7/3/21        | Saturday      | Sam & Scott   | 200         | Trenton      |
| 30. | 7/10/21       | Saturday      | Colin & Mackenzie   | 275         | Highland     |
| 31. | 7/11/21       | Sunday        | Mary Alice & Nathan   | 300         | Bethalto     |
| 32. | 7/17/21       | Saturday      | Ashley & Garrett  | 150         | Edwardsville |
| 33. | 7/31/21       | Saturday      | Ellen & Brett   | 250         | Shiloh       |
| 34. | 8/7/21        | Saturday      | Hannah & Dane   | 100         | Highland     |
| 35. | 8/14/21       | Saturday      | Morgan & Michael  | 300         | Overland, MO |
| 36. | 8/21/21       | Saturday      | Kim & Sam   | 200         | Granite City |
| 37. | 9/4/21        | Saturday      | Paige and Tom   | 350         | Highland     |
| 38. | 9/11/21       | Saturday      | Courtney & Bryan  | 270         | Highland     |
| 39. | 9/17/21       | Friday        | Ashley & Nicholas   | 75          | Pocahontas   |

# OLDE WICKS FACTORY EVENT SCHEDULE

## 2021 Con't

|     | Date     | Day of week | Couple   | # of Guests | Hometown                          |
|-----|----------|-------------|--|-------------|-----------------------------------|
| 40. | 9/18/21  | Saturday    | Alexa & James                                      | 200         | O'Fallon                          |
| 41. | 9/24/21  | Friday      | Emily & Nick                                       | 350         | Highland                          |
| 42. | 9/25/21  | Saturday    | Lacey & Chris                                      | 200         | Alhambra                          |
| 43. | 9/28/21  | Tuesday     | Leah & Alec  | 80          | Florida                           |
| 44. | 10/2/21  | Saturday    | Shea & Derek                                       | 260         | Algonquin, IL                     |
| 45. | 10/3/21  | Sunday      | Summer Baby Shower                                 | 80          | Carlyle                           |
| 46. | 10/7/21  | Thursday    | Memorial Service                                   | 80          | Warner, NH                        |
| 47. | 10/8/21  | Friday      | Adam & Keri  | 275         | Bethalto                          |
| 48. | 10/9/21  | Saturday    | Andrea & Andrew                                    | 250         | Highland                          |
| 49. | 10/10/21 | Sunday      | Sarah & Jason                                      | 200         | Belleville                        |
| 50. | 10/15/21 | Friday      | McKenzie & Andy                                    | 225         | Mascoutah                         |
| 51. | 10/16/21 | Saturday    | Candice & Justin                                   | 350         | Breese                            |
| 52. | 10/22/21 | Friday      | Cheyenne & Nick                                    | 250         | New Baden                         |
| 53. | 10/23/21 | Saturday    | Derek & Megan                                      | 300         | Troy                              |
| 54. | 10/24/21 | Sunday      | Charolotte & James                                 | 180         | Fairmont City                     |
| 55. | 10/29/21 | Friday      | Erica & Patrick                                    | 200         | Edwardsville                      |
| 56. | 10/30/21 | Saturday    | Caity & Mark                                       | 270         | O'Fallon                          |
| 57. | 11/6/21  | Saturday    | Emily & Blake                                      | 270         | Trenton                           |
| 58. | 11/12/21 | Friday      | Abby & Jeremy                                      | 107         | Spokane, WA                       |
| 59. | 11/13/21 | Saturday    | Kara & Lucas                                       | 350         | Alhambra                          |
| 60. | 11/20/21 | Saturday    | Kaitlyn & Connor                                   | 144         | Avisoton                          |
| 61. | 12/4/21  | Saturday    | Anna & Justin                                      | 274         | Aviston                           |
| 62. | 12/11/21 | Saturday    | Stephanie & Alan                                   | 300         | O'Fallon                          |
| 63. | 12/18/21 | Saturday    | Susie & Brett                                      | 410         | St Jacob                          |
| 64. | 12/31/21 | Friday      | <b>New Years Eve Party -- Casino Royale -- 336</b> |             |                                   |
|     |          |             |  |             | <b>Total for the 2021: 14,912</b> |



# OLDE WICKS FACTORY EVENT SCHEDULE

## 2022

|     | Date             | Day of week            | Couple  | # of Guests | Hometown        |
|-----|------------------|------------------------|---|-------------|-----------------|
| 1.  | 1/2/22           | Sunday                 | Rebekah & Connor  | 350         | Troy            |
| 2.  | 1/29/22          | Saturday               | Paige & Peter   | 300         | Aviston         |
| 3.  | 1/30/22          | Sunday                 | Anthony & Serena  | 75          | Carlyle         |
| 4.  | 2/19/22          | Saturday               | Sydney & Mackenzie                                      | 250         | STL             |
| 5.  | 2/26/22          | Saturday               | Highland Chamber  | 300         | Highland        |
| 6.  | 2/27/22          | Sunday                 | Tiller Shower   | 75          | Highland        |
| 7.  | 3/4/22           | Friday                 | Surprise Party  | 30          | Highland        |
| 8.  | 3/5/22           | Saturday               | Party on the Pipes                                      | 60          | STL             |
| 9.  | 3/12/22          | Saturday               | Zach & Lina   | 150         | Goodyear, AZ    |
| 10. | 3/19/22          | Saturday               | Sean & Morgan   | 250         | Highland        |
| 11. | 3/26/22          | Saturday               | Ally & Nicole   | 200         | Belleville      |
| 12. | 4/2/22           | Saturday               | Amy & Alex  | 150         | Hamel           |
| 13. | 4/16/22          | Saturday               | Caroline & Andrew                                       | 350         | Maryville       |
| 14. | 4/23/22          | Saturday               | Erika & Danny   | 350         | Maryville       |
| 15. | 4/30/22          | Saturday               | Donnelson   | 200         | Granite City    |
| 16. | 5/7/22           | Saturday               | Kampwerth/Lampen  | 375         | Breese          |
| 17. | 5/14/22          | Saturday               | Claire / Cory   | 250         | Aviston         |
| 18. | <b>5/8/22</b>    | <b>Sunday</b>          | <b>Mother's Day Brunch – Grand Hall &amp; West Hall</b> |             |                 |
| 19. | 5/21/22          | Saturday               | Lexi & Brenden  | 300         | Troy            |
| 20. | 5/28/22          | Saturday               | Nicole & Justin   | 300         | Hamel           |
| 21. | 6/4/22           | Saturday               | Alissa & Nicholas                                       | 300         | Collinsville    |
| 22. | 6/11/22          | Saturday               | Olivia & Jake   | 300         | Troy            |
| 23. | 6/17/22          | Friday                 | Sarah & Jesse   | 150         | Belleville      |
| 24. | 6/18/22          | Saturday               | Katie & Tony  | 400         | New Baden       |
| 25. | 6/25/22          | Saturday               | Adam & Melinda  | 300         | Highland        |
| 26. | 7/9/22           | Saturday               | Kelsey & Tim  | 200         | Belleville      |
| 27. | 7/16/22          | Saturday               | Madi & Brendan  | 225         | Swansea         |
| 28. | 7/23/22          | Saturday               | Jennifer & Matt   | 175         | Belleville      |
| 29. | 7/30/22          | Saturday               | Amber & Travis  | 250         | Granite City    |
| 30. | 8/6/22           | Saturday               | Lindsey & Broderick                                     | 150         | Maryville       |
| 31. | 8/13/22          | Saturday               | Makailya & Dylan  | 200         | Granite         |
| 32. | 8/20/22          | Saturday               | Abigail & Marshall                                      | 285         | Troy            |
| 33. | 8/27/22          | Saturday               | Hannah & Grant  | 250         | St. Jacob       |
| 34. | 9/10/22          | Saturday               | Cailyn & Garrett  | 200         | Effingham       |
| 35. | 9/17/22          | Saturday               | Cara & Shane  | 125         | Godfrey         |
| 36. | 9/24/22          | Saturday               | Kelsey & Kyle   | 300         | Glen Carbon     |
| 37. | 9/30/22          | Friday                 | Kevin & Briana  | 250         | Godfrey         |
| 38. | 10/1/22          | Saturday               | Joey & Morgan   | 350         | STL             |
| 39. | <b>10/7-10/9</b> | <b>Friday - Sunday</b> | <b>Olde Wicks Factory<br/>Octoberfest</b>               | <b>500</b>  | <b>Highland</b> |
| 40. | 10/14/22         | Friday                 | Sabra & Jason   | 200         | Alton           |

# OLDE WICKS FACTORY EVENT SCHEDULE

## 2022 Con't

|                                | Date     | Day of week | Couple                     | # of Guests | Hometown     |
|--------------------------------|----------|-------------|----------------------------|-------------|--------------|
| 41.                            | 10/15/22 | Saturday    | Sarah & Cody               | 350         | Edwardsville |
| 42.                            | 10/21/22 | Friday      | Courtney & Blake           | 200         | Collinsville |
| 43.                            | 10/22/22 | Saturday    | Nicole & Ryan              | 200         | Trenton      |
| 44.                            | 10/22/22 | Saturday    | Joe & Lizzy                | 100         | Glen Carbon  |
| 45.                            | 10/29/22 | Saturday    | Natalie & Denny            | 350         | O'fallon     |
| 46.                            | 11/5/22  | Saturday    | Mallory & Danny            | 250         | Pocahontas   |
| 47.                            | 11/11/22 | Friday      | Shanna & John              | 100         | Tampa, FL    |
| 48.                            | 11/12/22 | Saturday    | Madison & Tyler            | 200         | Fairview     |
| 49.                            | 11/19/22 | Saturday    | Bailey & Jared             | 180         | Fairview     |
| 50.                            | 11/26/22 | Saturday    | Megan & Nick               | 350         | Edwardsville |
| 51.                            | 12/3/22  | Saturday    | Kate & Brian               | 300         | Shiloh       |
| 52.                            | 12/10/22 | Saturday    | Zoe & Jack                 | 300         | Breese       |
| 53.                            | 12/17/22 | Saturday    | Kelsey & Alex              | 200         | Swansea      |
| 60.                            | 12/31/22 | Saturday    | <b>New Years Eve Party</b> |             |              |
| <b>TOTAL FOR 2022: 12,355P</b> |          |             |                            |             |              |



# City of Highland Building and Zoning

**Meeting Date:** March 2, 2022

**From:** Breann Vazquez, Director of Community Development  
Gretchen Arnold, Community Development Intern

**Location:** 917 12<sup>th</sup> Street

**Zoning Request:** Special Use Permit

**Description:** SUP to allow for a short-term rental in the C-2 district

## Proposal Summary

The applicant and property owner is Francis Ostrander. The applicant of this case is requesting the following Special Use Permit to comply with Table 3.1 of Section 90-201 of the City of Highland Municipal Code (hereafter known as the “zoning matrix”):

- **Francis Ostrander (60 Barracuda Drive) is applying for a Special Use Permit for a short-term rental within the C-2 Central Business District at 917 12<sup>th</sup> Street. (PIN# 01-2-24-05-11-201-008)**

The zoning matrix identifies “short term rental” as Special Use within the C-2 Central Business district.

## Comprehensive Plan Consideration

The subject property is denoted as downtown on the Comprehensive Plan’s Future Land Use Map. A short-term rental is an appropriate Special Use for the downtown area.

## Surrounding Uses

| Direction | Land Use                | Zoning |
|-----------|-------------------------|--------|
| North     | Vacant Lot              | C-2    |
| South     | Parking Lot             | C-2    |
| East      | Parking Lot             | C-2    |
| West      | Single-Family Residence | C-2    |

## Standards of Review for Special Use Permits

Below are the six (6) consideration items listed in Section 90-79 of the Zoning Code which the Combined Planning and Zoning Board shall take into account while reviewing a SUP request.

1. Whether the proposed amendment or Special Use is consistent with the City's Comprehensive Plan;



## City of Highland Building and Zoning

The proposed Special Use is consistent with the Comprehensive Plan.

2. The effect the proposed amendment or Special Use would have on public utilities and on traffic circulation;

The proposed short-term rental would not have an adverse effect on public utilities or traffic circulation on nearby streets. Off-street parking is provided.

3. Whether the proposed design, location and manner of operation of the proposed Special Use will adequately protect the public health, safety and welfare, and the physical environment;

The proposed Special Use will adequately protect the public health, safety and welfare, and the physical environment.

4. The effect the proposed Special Use would have on the value of neighboring property and on this City's overall tax base;

The proposed Special Use will not have a detrimental impact on the value of neighboring property. It will contribute to the City's overall tax base through the hotel-motel tax generated.

5. The effect the proposed Special Use would have on public utilities; and

The proposed Special Use will utilize public utilities.

6. Whether there are any facilities near the proposed Special Use, such as schools or hospitals that require special protection.

There are no facilities near the proposed Special Use that require the need for special protection.

### **Staff Discussion**

Staff sees a need for more hospitality businesses in Highland, especially during special events. A new short-term rental would help to relieve this problem.

The applicants are owners of the Olde Wicks Factory. This venue hosts multiple weddings per weekend and brings in out of town guests. The short-term rental would allow for the wedding party and their families to have a place to stay in Highland.



City of Highland  
Building and Zoning

Aerial Photograph



Site Photos





City of Highland  
Building and Zoning

Exhibit "C"  
Determination of Special Use Permit

Date Submitted: 1/28/2022  
Filing Fees: \$200  
Date Paid: 1/28/2022  
Date Advertised: 2/9/2022  
Date of Sent Notice: 2/9/2022  
Date of Public Hearing: March 2, 2022

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On March 2, 2022, the City of Highland Combined Planning and Zoning Board at its regular meeting ~~approved~~, approved with condition(s), denied a Special Use Permit for the following:

**Francis Ostrander (60 Barracuda Drive) is applying for a Special Use Permit for a short-term rental within the C-2 Central Business District at 917 12<sup>th</sup> Street. (PIN# 01-2-24-05-11-201-008)**

The City Council will consider the recommendation of the Combined Planning and Zoning Board at the March 7, 2022 meeting of the City Council.

In recommending Approval (action) of this Special Use Permit, the Combined Planning and Zoning Board considered all standards listed in the zoning regulation and all other conditions listed for that use in other sections of these regulations. In addition, the Combined Planning and Zoning Board found that the proposed use ~~did~~/~~did not~~ provide safeguards to assure its compatibility with the surrounding area.

Conditions (if any): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Anthony Walker  
Chairperson of the Combined Planning and Zoning Board

3/2/22  
Date

**ORDINANCE NO. \_\_\_\_\_**

**AN ORDINANCE GRANTING A SPECIAL USE PERMIT TO  
FRANCIS OSTRANDER TO ALLOW A SHORT-TERM RENTAL  
WITHIN THE C-2 ZONING DISTRICT AT 917 12<sup>TH</sup> STREET**

WHEREAS, the City of Highland, Madison County, Illinois (hereinafter “City”), is a non-home rule municipality duly established, existing and operating in accordance with the provisions of the Illinois Municipal Code (Section 5/1-1-1 et seq. of Chapter 65 of the Illinois Compiled Statutes); and

WHEREAS, the City Council has made the findings of fact, and the statement of its reasons for granting the Petition for Special Use Permit in question, in a separate resolution numbered as Resolution No. \_\_\_\_\_;

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF HIGHLAND, AS FOLLOWS:**

*Section 1.* Francis Ostrander, of 60 Barracuda Drive (“Owner”), is hereby granted a Special Use Permit in the “C-2” zoning district, as defined in Chapter 90 of the *Code of Ordinances, City of Highland*, for a short-term rental at 917 12<sup>th</sup> Street, Highland, Illinois 62249.

*Section 2.* The Special Use Permit is granted.

*Section 3.* This Ordinance shall be known as Ordinance No. \_\_\_\_\_ and shall be in full force and effect upon adoption.

*Section 4.* This ordinance shall be in full force and effect from and after its passage, approval, and publication in pamphlet form as provided by law.

Passed by the City Council of the City of Highland, Illinois, and deposited and filed in the office of the City Clerk on the \_\_\_\_\_ day of \_\_\_\_\_, 2022, the roll call vote being taken by ayes and noes and entered upon the legislative record as follows:

AYES:

NOES:

APPROVED:

---

Kevin B. Hemann  
Mayor  
City of Highland  
Madison County, Illinois

ATTEST:

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Barbara Bellm  
City Clerk  
City of Highland  
Madison County, Illinois



ORDINANCE NO. \_\_\_\_\_

**AN ORDINANCE AMENDING ZONING CLASSIFICATION FROM “C-2”  
COMMERCIAL TO “R-1-D” SINGLE-FAMILY RESIDENTIAL FOR 1709  
LINDENTHAL AVENUE, HIGHLAND, ILLINOIS**

WHEREAS, the City of Highland, Madison County, Illinois (hereinafter “City”), is a non-home rule municipality duly established, existing and operating in accordance with the provisions of the Illinois Municipal Code (Section 5/1-1-1 et seq. of Chapter 65 of the Illinois Compiled Statutes); and

WHEREAS, City, on behalf of Gary Schultze, Jr., owner of 1709 Lindenthal Avenue, Highland, Illinois (hereinafter “Property”), requests the Property be rezoned from “C-2” Commercial to “R-1-D” Single Family Residential; and

WHEREAS, Gary Schultze Jr., owner of the Property, has consented to the Property being rezoned from “C-2” Commercial to “R-1-D” Single Family Residential; and

WHEREAS, property adjacent and in proximity to the Property is zoned “R-1-D” Single Family Residential; and

WHEREAS, rezoning the Property to “R-1-D” Single Family Residential will assist with the Zoning Map publication because the Property is currently “split-zoned” between “R-1-D” and “C-2,” and this zoning amendment will reconcile this zoning issue; and

WHEREAS, rezoning the Property to “R-1-D” Single Family Residential will assist with the City Comprehensive Plan because the Property is currently “split-zoned” between “R-1-D” and “C-2,” and this zoning amendment will reconcile this zoning issue; and

WHEREAS, City Staff recommended to the Combined Planning and Zoning Board (“CPZB”) that it approve the Property being rezoned from “C-2” Commercial to “R-1-D” Single Family Residential (*See* Staff Report attached hereto as **Exhibit A**); and

WHEREAS, the Combined Planning and Zoning Board has recommended to the City Council that it approve the Property being rezoned from “C-2” Commercial to “R-1-D” Single Family Residential (*See* CPZB Report attached hereto as **Exhibit B**); and

WHEREAS, the City Council finds it should approve the Property being rezoned from “C-2” Multiple Family Residential to “R-1-D” Single Family Residential.

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF HIGHLAND AS FOLLOWS:**

*Section 1.* The foregoing recitals are incorporated herein as findings of the City Council of the City of Highland, Illinois.

*Section 2.* City has determined City Staff recommended to the CPZB Board that it approve the Property being rezoned from “C-2” Commercial to “R-1-D” Single Family Residential (See **Exhibit A**).

*Section 3.* City has determined CPZB recommended to the City Council that it approve the Property being rezoned from “C-2” Commercial to “R-1-D” Single Family Residential (See **Exhibit B**).

*Section 4.* City Council approves the Property being rezoned from “C-2” Commercial to “R-1-D” Single Family Residential.

*Section 5.* This ordinance shall be in full force and effect from and after its passage, approval, and publication in pamphlet form as provided by law.

Passed by the City Council of the City of Highland, Illinois, and deposited and filed in the office of the City Clerk on the \_\_\_\_\_ day of \_\_\_\_\_, 2022, the roll call vote being taken by ayes and noes and entered upon the legislative record as follows:

AYES:

NOES:

APPROVED:

---

Kevin B. Hemann  
Mayor  
City of Highland  
Madison County, Illinois

ATTEST:

---

Barbara Bellm  
City Clerk  
City of Highland  
Madison County, Illinois



## City of Highland Building and Zoning

**Meeting Date:** February 2, 2022

**From:** Breann Vazquez, Director of Community Development  
Gretchen Arnold, Community Development Intern

**Location:** 1709 Lindenthal Avenue

**Zoning Request:** Rezoning

**Description:** Rezoning to R-1-D single-family residential to reconcile issue of split-zoning

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### Proposal Summary

The applicant is The City of Highland (1115 Broadway), on behalf of Gary Schultze Jr., (1709 Lindenthal Avenue). The applicant of this case is requesting the following rezoning:

- Rezone 1709 Lindenthal Avenue to R-1-D single-family residential to reconcile an issue of split-zoning (PIN # 01-2-24-04-13-302-014).

As the result of a lot combination, this lot consists of a split-zoning of C-2 and R-1-D. The rezoning is being requested in order to rezone the entire property as R-1-D single-family residential.

### Comprehensive Plan Consideration

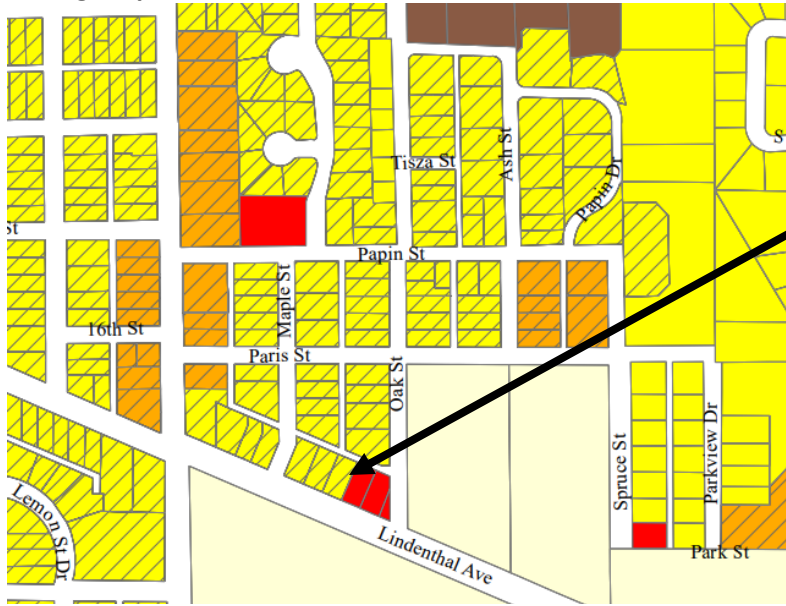
The Comprehensive Plan and Future Land Use Map are considered policy guides to current and future development. While they do not have the force of an ordinance, it is generally recommended that municipalities adhere to the findings, policies, principals, and recommendations in these documents. Changes and deviations are permissible, but they should be reasonably justified.

The subject property is denoted as “residential” on the Comprehensive Plan’s Future Land Use Map. The rezoning would adhere to the comprehensive plan.



# City of Highland Building and Zoning

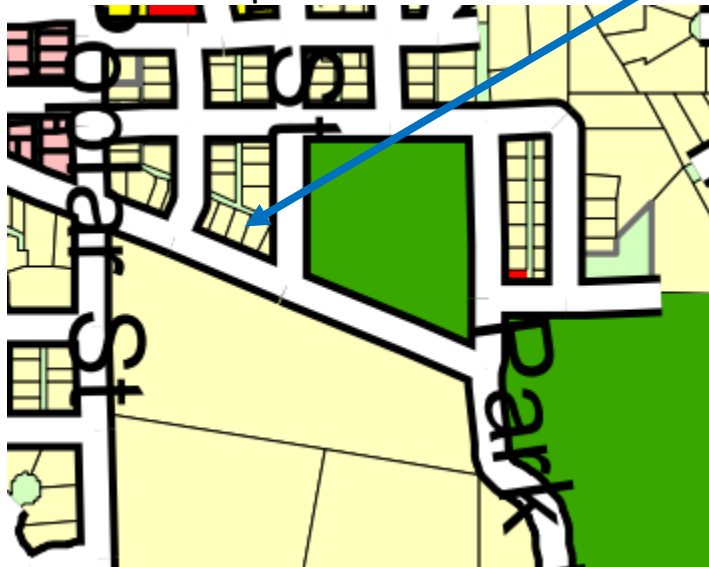
## Zoning Map



### Legend

- |  |  |
|--|--|
| Corporate Boundary                                 | R-3 - Multiple Family Residence 60 FT. Lot Width         |
| R-1-A - Single Family Residence 150 FT. Lot Width  | C-2 - Central Business District No Lot Width Requirement |
| R-1-B - Single Family Residence 100 FT. Lot Width  | C-3 - Highway Business District None                     |
| R-1-C - Single Family Residence 70 FT. Lot Width   | C-4 - Limited Business No Lot Width Requirement          |
| R-1-D - Single Family Residence 50 FT. Lot Width   | I - Industrial District No Lot Width Requirement         |
| R-2-A - Multiple Family Residence 70 FT. Lot Width | MX - Mixed Use   |
| R-2-B - Multiple Family Residence 70 FT. Lot Width | Not In Corporate Limits                                  |

## Future Land Use Map



### Future Land Use

- |  |                      |
|--|----------------------|
|  | Non-Urban/Ag         |
|  | Residential          |
|  | Med. Density Res.    |
|  | Multi-Family         |
|  | Institutional/Public |
|  | Downtown             |
|  | Mixed Use            |
|  | Commercial           |
|  | Industrial           |



# City of Highland Building and Zoning

## Standards of Review for Zoning Map Amendments and Findings of Fact

Below are the nine (9) consideration items listed in Section 90-88 of the Zoning Code which the Combined Planning and Zoning Board shall take into account while reviewing a zoning map amendment request.

1. Existing use and zoning of the property in question.

The property is currently zoned C-2 and R-1-D.

2. Existing use and zoning of other lots in the vicinity of the property in question.

| Direction | Land Use                   | Zoning |
|-----------|----------------------------|--------|
| North     | Single-Family Home         | R-1-D  |
| South     | Highland Elementary School | R-1-A  |
| East      | Single-Family Home         | C-2    |
| West      | Single-Family Home         | R-1-D  |

3. The extent to which the zoning map amendment may detrimentally affect nearby properties.

Nearby property will not be negatively affected. This is a residential area.

4. Suitability of the property in question for uses already permitted under existing requirements.

Split-zoning of C-2 and R-1-D is not the most appropriate zoning classification for a single property.

5. Suitability of the property in question for the proposed uses.

The residential use of this property will not change.

6. The type, density and character of development in the vicinity of the property in question, including changes, if any, which may have occurred since the property was initially zoned or last rezoned.

The proposed zoning goes with the character of the area. This is a residential area.

7. The effect the proposed map amendment would have on the implementation of the City's Comprehensive Plan.

The proposed map amendment is consistent with the City's Comprehensive Plan.

8. The effect the proposed map amendment would have on public utilities, other needed public services and traffic circulation on nearby streets.

There would not be a negative effect on public utilities, other needed public services and traffic circulation on nearby streets.

9. Whether the map amendment will promote the health, safety, quality of life, comfort and general welfare of the city.

The map amendment will promote the health, safety, quality of life, comfort and general welfare of the city.



### Staff Discussion

This property is currently split-zoned C-2 and R-1-D due a lot combination. R-1-D is more restrictive than C-2 and will preserve the residential character of the area. Staff believes this rezoning will assist in protecting the property and cleaning up the zoning map.

### Aerial Photograph





City of Highland  
Building and Zoning

Exhibit "C"  
Determination of Rezoning Request

Date Submitted: N/A  
Filing Fees: N/A  
Date Paid: N/A  
Date Advertised: 2/09/2022  
Date of Sent Notice: 2/09/2022  
Public Hearing Date: March 2, 2022

---

On March 2, 2022, the City of Highland Combined Planning and Zoning Board at its regular meeting approved/denied a request for rezoning for the following:

**The City of Highland, on behalf of Gary Schultze Jr., is requesting to rezone the entirety of 1709 Lindenthal Avenue to R-1-D single-family residential to reconcile an issue of split-zoning. (PIN# 01-2-24-04-13-302-014).**

The City Council will consider the recommendation of the Combined Planning and Zoning Board at the March 7, 2022, meeting of the City Council.

In recommending APPROVAL (action) of this request for rezoning, the Combined Planning and Zoning Board considered all standards listed in the zoning regulation and all other conditions listed for that use in other sections of these regulations. In addition, the Combined Planning and Zoning Board found that the proposed use did/did not provide safeguards to assure its compatibility with the surrounding area.

Conditions (if any): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Anthony Walker  
Chairperson of the Combined Planning and Zoning Board

3/22/22  
Date

**ORDINANCE NO. \_\_\_\_\_**

**AN ORDINANCE AMENDING ZONING CLASSIFICATION  
FROM “R-1-C” SINGLE FAMILY TO “I” INDUSTRIAL  
FOR PIN# 02-1-18-31-00-000-012, 02-1-18-31-00-000-010**

WHEREAS, the City of Highland, Madison County, Illinois (hereinafter “City”), is a non-home rule municipality duly established, existing and operating in accordance with the provisions of the Illinois Municipal Code (Section 5/1-1-1 et seq. of Chapter 65 of the Illinois Compiled Statutes); and

WHEREAS, City, on behalf of Bonnie McGinley, Trustee, owner of PIN# 02-1-18-31-00-000-012, 02-1-18-31-00-000-010 (hereinafter “Property”), requests the Property be rezoned from “R-1-C” Single Family to “I” Industrial; and

WHEREAS, Bonnie McGinley, Trustee, owner of the Property, has consented to the Property being rezoned from “R-1-C” Single Family to “I” Industrial; and

WHEREAS, property adjacent and in proximity to the Property is zoned “I” Industrial; and

WHEREAS, rezoning the Property to “I” Industrial will assist with the Zoning Map publication because the Property is mostly surrounded by Industrial and Mixed Use zoning, and this zoning amendment will reconcile this mostly inconsistent zoning issue; and

WHEREAS, rezoning the Property to “I” Industrial will assist with the City Comprehensive Plan because the Property is mostly surrounded by Industrial and Mixed Use zoning, and this zoning amendment will reconcile this mostly inconsistent zoning issue; and

WHEREAS, City Staff recommended to the Combined Planning and Zoning Board (“CPZB”) that it approve the Property being rezoned from “R-1-C” Single Family to “I” Industrial (See Staff Report attached hereto as **Exhibit A**); and

WHEREAS, the Combined Planning and Zoning Board has recommended to the City Council that it approve the Property being rezoned from “R-1-C” Single Family to “I” Industrial (See CPZB Report attached hereto as **Exhibit B**); and

WHEREAS, the City Council finds it should approve the Property being rezoned from “R-1-C” Single Family to “I” Industrial.

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF HIGHLAND AS FOLLOWS:**

*Section 1.* The foregoing recitals are incorporated herein as findings of the City Council of the City of Highland, Illinois.



*Section 2.* City has determined City Staff recommended to the CPZB Board that it approve the Property being rezoned from “R-1-C” Single Family to “I” Industrial (*See Exhibit A*).

*Section 3.* City has determined CPZB recommended to the City Council that it approve the Property being rezoned from “R-1-C” Single Family to “I” Industrial (*See Exhibit B*).

*Section 4.* City Council approves the Property being rezoned from “R-1-C” Single Family to “I” Industrial.

*Section 5.* This ordinance shall be in full force and effect from and after its passage, approval, and publication in pamphlet form as provided by law.

Passed by the City Council and approved by the Mayor of the City of Highland, Illinois and deposited and filed in the office of the City Clerk on the \_\_\_\_\_ day of \_\_\_\_\_, 2022, the vote being taken by ayes and noes and entered upon the legislative record as follows:

AYES:

NOES:

APPROVED:

---

Kevin B. Hemann  
Mayor  
City of Highland  
Madison County, Illinois

ATTEST:

---

Barbara Bellm  
City Clerk  
City of Highland  
Madison County, Illinois



## City of Highland Building and Zoning

**Meeting Date:** February 2, 2022

**From:** Breann Vazquez, Director of Community Development

**Location:** East of Sportsman Road; PIN# 02-1-18-31-00-000-012, 02-1-18-31-00-000-010

**Zoning Request:** Rezoning

**Description:** Rezoning from R-1-C single-family residential to Industrial

---

### Proposal Summary

The applicant is The City of Highland (1115 Broadway), on behalf of Bonnie McGinley (7 Shamrock Blvd). The applicant of this case is requesting the following rezoning:

- Rezone two parcels to the south of Sportsman Road to Industrial. (PIN# 02-1-18-31-00-000-012, 02-1-18-31-00-000-010).

This property is currently zoned as R-1-C single-family residential. The rezoning is being requested in order to eliminate spot zoning.

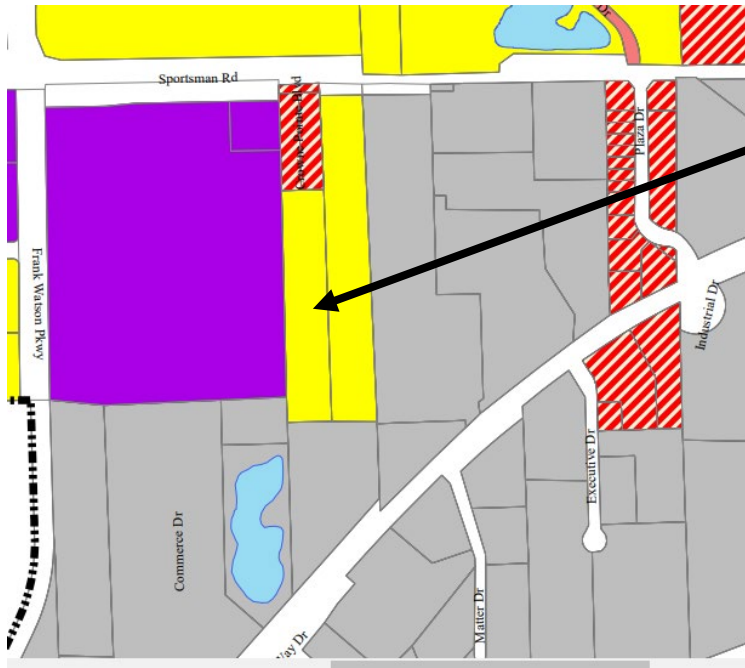
### Comprehensive Plan Consideration

The Comprehensive Plan and Future Land Use Map are considered policy guides to current and future development. While they do not have the force of an ordinance, it is generally recommended that municipalities adhere to the findings, policies, principals, and recommendations in these documents. Changes and deviations are permissible, but they should be reasonably justified.

The subject property is denoted as “residential” on the Comprehensive Plan’s Future Land Use Map. This area is better suited for industrial uses and re-designating this area to “industrial” will be recommended at the time of the next Future Land Use Map update.



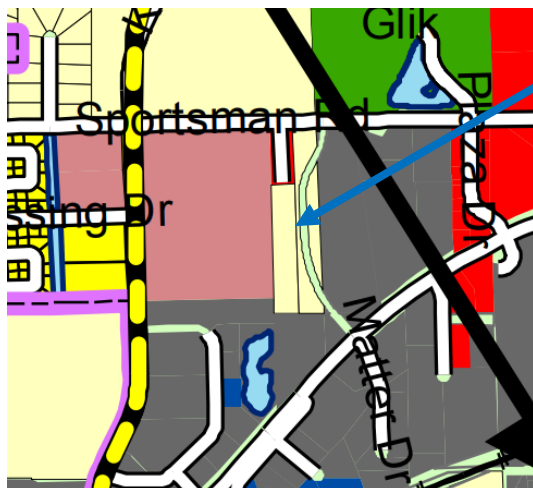
Zoning Map



**Legend**

- |  |  |
|--|--|
| Corporate Boundary                                 | R-3 - Multiple Family Residence 60 FT. Lot Width         |
| R-1-A - Single Family Residence 150 FT. Lot Width  | C-2 - Central Business District No Lot Width Requirement |
| R-1-B - Single Family Residence 100 FT. Lot Width  | C-3 - Highway Business District None                     |
| R-1-C - Single Family Residence 70 FT. Lot Width   | C-4 - Limited Business No Lot Width Requirement          |
| R-1-D - Single Family Residence 50 FT. Lot Width   | I - Industrial District No Lot Width Requirement         |
| R-2-A - Multiple Family Residence 70 FT. Lot Width | MX - Mixed Use   |
| R-2-B - Multiple Family Residence 70 FT. Lot Width | Not In Corporate Limits                                  |

Future Land Use Map



**Future Land Use**

- |  |                      |
|--|----------------------|
|  | Non-Urban/Ag         |
|  | Residential          |
|  | Med. Density Res.    |
|  | Multi-Family         |
|  | Institutional/Public |
|  | Downtown             |
|  | Mixed Use            |
|  | Commercial           |
|  | Industrial           |



# City of Highland

## Building and Zoning

### Standards of Review for Zoning Map Amendments and Findings of Fact

Below are the nine (9) consideration items listed in Section 90-88 of the Zoning Code which the Combined Planning and Zoning Board shall take into account while reviewing a zoning map amendment request.

1. Existing use and zoning of the property in question.

The property is currently zoned R-1-C single-family residential.

2. Existing use and zoning of other lots in the vicinity of the property in question.

| Direction | Land Use  | Zoning               |
|-----------|---|----------------------|
| North     | Crown Point Townhomes/Vacant Lot                    | C-3/R-1-C            |
| South     | Aramark/McGinley Automotive                         | Industrial           |
| East      | McGinley Automotive/Self-Storage/Hunsche Excavating | Industrial           |
| West      | Vacant Lots   | Mixed Use/Industrial |

3. The extent to which the zoning map amendment may detrimentally affect nearby properties.

Nearby property will not be negatively affected. The surrounding area is not residential.

4. Suitability of the property in question for uses already permitted under existing requirements.

This is a vacant parcel on which single-family residences will not be developed.

5. Suitability of the property in question for the proposed uses.

The property is suitable for industrial uses and is adjacent to the industrial zoning district. There are no proposed uses at this time.

6. The type, density and character of development in the vicinity of the property in question, including changes, if any, which may have occurred since the property was initially zoned or last rezoned.

The proposed zoning goes with the character of the area.

7. The effect the proposed map amendment would have on the implementation of the City's Comprehensive Plan.

The proposed map amendment is consistent with the City's Comprehensive Plan.

8. The effect the proposed map amendment would have on public utilities, other needed public services and traffic circulation on nearby streets.

There would not be a negative effect on public utilities, other needed public services, or traffic circulation on nearby streets.

9. Whether the map amendment will promote the health, safety, quality of life, comfort and general welfare of the city.

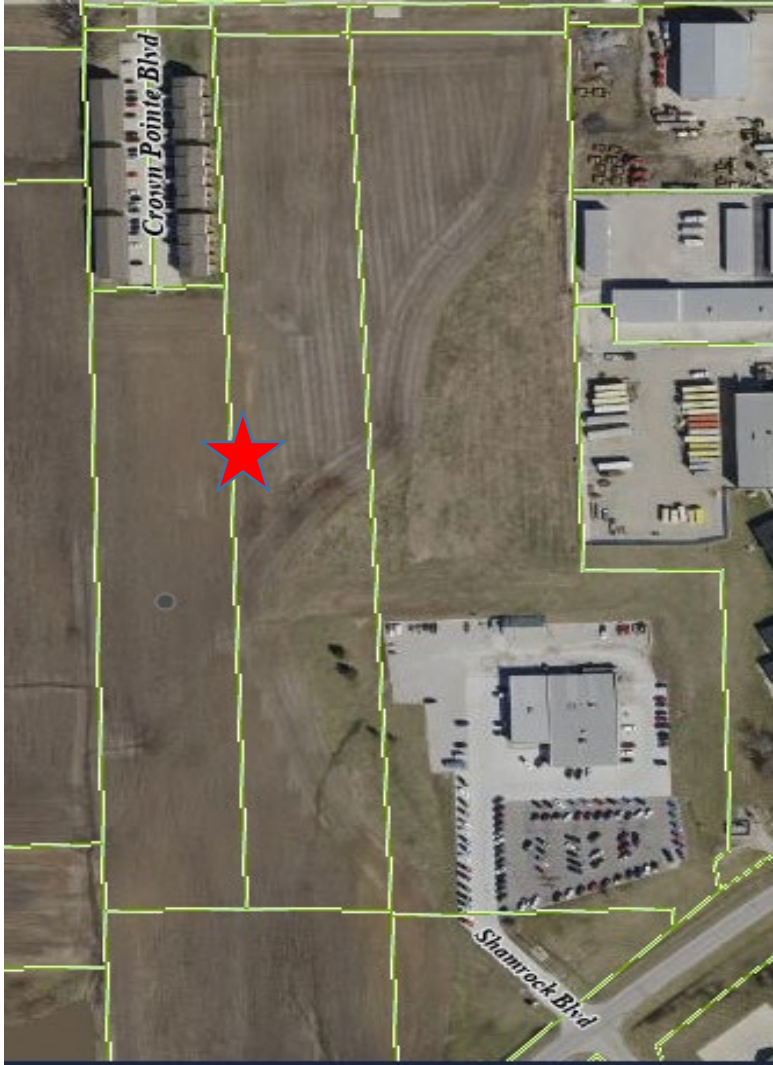
The map amendment will promote the health, safety, quality of life, comfort and general welfare of the city.



### Staff Discussion

This property is currently zoned as R-1-C, which does not match the zoning or character of the surrounding properties. This map amendment will properly classify the area and eliminate spot zoning.

### Aerial Photograph





City of Highland  
Building and Zoning

Exhibit "C"

Determination of Rezoning Request

Date Submitted: N/A  
Filing Fees: N/A  
Date Paid: N/A  
Date Advertised: 2/09/2022  
Date of Sent Notice: 2/09/2022  
Public Hearing Date: March 2, 2022

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On March 2, 2022, the City of Highland Combined Planning and Zoning Board at its regular meeting approved/denied a request for rezoning for the following:

**The City of Highland, on behalf of Bonnie McGinley, is requesting to rezone two parcels to the south of Sportsman Road to Industrial. (PIN# 02-1-18-31-00-000-012, 02-1-18-31-00-000-010).**

The City Council will consider the recommendation of the Combined Planning and Zoning Board at the March 7, 2022, meeting of the City Council.

In recommending Approval (action) of this request for rezoning, the Combined Planning and Zoning Board considered all standards listed in the zoning regulation and all other conditions listed for that use in other sections of these regulations. In addition, the Combined Planning and Zoning Board found that the proposed use **did/did not** provide safeguards to assure its compatibility with the surrounding area.

Conditions (if any): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Anthony Walker  
Chairperson of the Combined Planning and Zoning Board

3/2/22  
Date

**ORDINANCE NO. \_\_\_\_\_**

**AN ORDINANCE AMENDING THE  
CITY OF HIGHLAND FUTURE LAND USE MAP**

WHEREAS, the City of Highland, Madison County, Illinois (hereinafter “City”), is a non-home rule municipality duly established, existing and operating in accordance with the provisions of the Illinois Municipal Code (Section 5/1-1-1 et seq. of Chapter 65 of the Illinois Compiled Statutes); and

WHEREAS, City has determined, from time to time, the Future Land Use Map needs to be updated to reflect changes made to zoning within the City; and

WHEREAS, City has determined the Future Land Use Map shall be amended, in pertinent part, as follows:

| <b>PIN #</b>  | <b>Address</b>                                  | <b>Current Future Land Use Map Classification</b> | <b>Proposed Future Land Use Map Classification</b> |
|---|---|---|--|
| 01-2-24-03-00-000-029,<br>01-2-24-03-00-000-030,<br>01-2-24-03-00-000-031 | 2210, 2250, and 2272<br>Veteran's Honor Parkway | Mixed Use &<br>Commercial                         | Industrial   |
| 01-1-24-03-00-000-010   | 21.21 acres N. of St. Rose<br>Rd.               | Residential                                       | Industrial   |
| 02-2-18-32-19-401-009   | 429 Walnut                                      | Multifamily                                       | Industrial   |
| 01-1-24-06-00-000-<br>024.001   | 12258 Highland Rd                               | Residential                                       | Industrial   |
| 02-1-18-31-00-000-012,<br>02-1-18-31-00-000-010                           | East of Sportsman Rd                            | Residential                                       | Industrial   |

and

WHEREAS, City Staff recommended to the Combined Planning and Zoning Board (“CPZB”) that it should approve the amendments to the Future Land Use Map (*See* Staff Report attached hereto as **Exhibit A**); and

WHEREAS, the Combined Planning and Zoning Board recommended to the City Council that it approve the amendments to the Future Land Use Map (*See* CPZB Report attached hereto as **Exhibit B**); and

WHEREAS, City Council has determined it should approve the amendments to the Future Land Use Map as stated herein.

WHEREAS, City Council has determined the City Manager and/or Mayor should be authorized and directed to execute any documents necessary to amend the Future Land Use Map as stated herein.

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF HIGHLAND AS FOLLOWS:**

*Section 1.* The foregoing recitals are incorporated herein as findings of the City Council of the City of Highland, Illinois.

*Section 2.* City has determined City Staff recommended to the CPZB that it approve the amendments to the City Future Land Use Map (*See Exhibit A*).

*Section 3.* City has determined the CPZB recommended to the City Council that it approve the amendments to the City Future Land Use Map (*See Exhibit B*).

*Section 4.* City Council approves the amendments to the City Future Land Use Map as stated herein.

*Section 5.* This ordinance shall be in full force and effect from and after its passage, approval, and publication in pamphlet form as provided by law.

Passed by the City Council and approved by the Mayor of the City of Highland, Illinois and deposited and filed in the office of the City Clerk on the \_\_\_\_\_ day of \_\_\_\_\_, 2022, the vote being taken by ayes and noes and entered upon the legislative record as follows:

AYES:

NOES:

APPROVED:

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Kevin B. Hemann, Mayor  
City of Highland, Madison County, Illinois

ATTEST:

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Barbara Bellm, City Clerk  
City of Highland, Madison County, Illinois





## City of Highland Building and Zoning

**Meeting Date:** August 5, 2020

**From:** Breann Speraneo, Director of Community Development

**Location:** 12258 Highland Rd

**Zoning Request:** Rezoning

**Description:** Rezoning from R-1-C to Industrial (pending annexation)

---

### **Proposal Summary**

The applicant and property owner is DK7 Properties, LLC of 12258 Highland Rd. The applicant of this case is requesting the following Rezoning:

- DK7 Properties, LLC (12258 Highland Rd) is requesting the rezoning of 12258 Highland Rd, pending annexation. (PIN # 01-1-24-06-00-000-024.001)

The default zoning for properties annexed into the City of Highland is R-1-C. The rezoning from R-1-C to Industrial is pending annexation of the property.

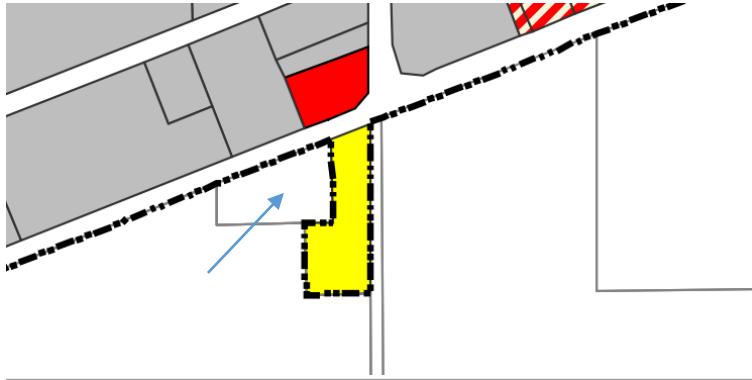
### **Comprehensive Plan Consideration**

The Comprehensive Plan and Future Land Use Map are considered policy guides to current and future development. While they do not have the force of an ordinance, it is generally recommended that municipalities adhere to the findings, policies, principals, and recommendations in these documents. Changes and deviations are permissible, but they should be reasonably justified.

The subject property is denoted as residential on the Comprehensive Plan's Future Land Use Map. This property has not been used as residential in the past and future uses will not likely be residential. Given that this property is adjacent to an Industrial area on the Future Land Use Map and this is a more appropriate classification, staff will be proposing this change at the time of the next Comprehensive Plan update.



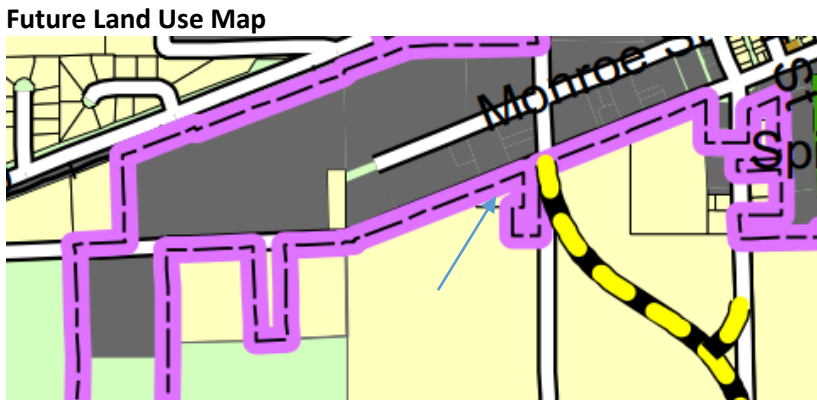
Zoning Map



**Legend**

- |  |  |
|--|--|
| Corporate Boundary                                 | R-3 - Multiple Family Residence 60 FT. Lot Width         |
| R-1-A - Single Family Residence 150 FT. Lot Width  | C-2 - Central Business District No Lot Width Requirement |
| R-1-B - Single Family Residence 100 FT. Lot Width  | C-3 - Highway Business District None                     |
| R-1-C - Single Family Residence 70 FT. Lot Width   | C-4 - Limited Business No Lot Width Requirement          |
| R-1-D - Single Family Residence 50 FT. Lot Width   | I - Industrial District No Lot Width Requirement         |
| R-2-A - Multiple Family Residence 70 FT. Lot Width | MX - Mixed Use   |
| R-2-B - Multiple Family Residence 70 FT. Lot Width | Not In Corporate Limits                                  |

Future Land Use Map



**Future Land Use**

- |  |                      |
|--|----------------------|
|  | Non-Urban/Ag         |
|  | Residential          |
|  | Med. Density Res.    |
|  | Multi-Family         |
|  | Institutional/Public |
|  | Downtown             |
|  | Mixed Use            |
|  | Commercial           |
|  | Industrial           |



**Standards of Review for Zoning Map Amendments and Findings of Fact**

Below are the nine (9) consideration items listed in Section 90-88 of the Zoning Code which the Combined Planning and Zoning Board shall take into account while reviewing a zoning map amendment request.

1. Existing use and zoning of the property in question.

The property is currently zoned Madison County - Agricultural. The property will be annexed in as R-1-C. The property currently hosts vacant buildings and would be used as a bar/restaurant, lounge, and terminal operator operations.

2. Existing use and zoning of other lots in the vicinity of the property in question.

| Direction | Land Use         | Zoning                      |
|-----------|------------------|-----------------------------|
| North     | City of Highland | Industrial                  |
| South     | Farm Ground      | Madison County Agricultural |
| East      | City of Highland | R-1-C                       |
| West      | Farm Ground      | Madison County Agricultural |

3. The extent to which the zoning map amendment may detrimentally affect nearby properties.

Nearby property will not be negatively affected. The areas to the north are zoned Industrial.

4. Suitability of the property in question for uses already permitted under existing requirements.

This property will not be used for residential purposes in the foreseeable future. Therefore, R-1-C is not the most suitable zoning for this property.

5. Suitability of the property in question for the proposed uses.

The property is suitable for industrial uses, including the proposed uses.

6. The type, density and character of development in the vicinity of the property in question, including changes, if any, which may have occurred since the property was initially zoned or last rezoned.

The proposed zoning goes with the character of the area. This area has a mixture of zoning districts, including Industrial.

7. The effect the proposed map amendment would have on the implementation of the City's Comprehensive Plan.

The proposed map amendment is not consistent with the Future Land Use Map. This is addressed in "staff discussion."

8. The effect the proposed map amendment would have on public utilities, other needed public services and traffic circulation on nearby streets.

There would not be a negative effect on public utilities, other needed public services and traffic circulation on nearby streets.

- Whether the map amendment will promote the health, safety, quality of life, comfort and general welfare of the city.

The map amendment will promote the health, safety, quality of life, comfort and general welfare of the city.

### Staff Discussion

The proposed map amendment is not consistent with the Future Land Use Map, which shows this parcel as Residential. While this is generally a concern, in this case staff believes an amendment to the Future Land Use Map may be warranted to show this parcel as Industrial. This property is best suited for industrial uses and will not be used for residential purposes in the foreseeable future.

Staff supports the rezoning of this property from R-1-C to Industrial (pending annexation), as Industrial is most appropriate for current and future uses.

### 2019 Aerial Photograph



### Site Photos



S



**Meeting Date:** March 3, 2021

**From:** Breann Speraneo, Director of Community Development

**Location:** 429 Walnut Street

**Zoning Request:** Rezoning

**Description:** Rezoning from C-2 Central Business District to Industrial

---

### **Proposal Summary**

The applicant is Mike Jascur 2130 (Broadway, Highland, IL). The property owner is DD & SD Properties, LLC (11410 Hickory Flat Road, Highland, IL). The applicant of this case is requesting the following rezoning:

- Rezone 429 Walnut Street from C-2 Central Business District to Industrial. (PIN# 02-2-18-32-19-401-009)

This property is a vacant building that was formerly a speed lube. In the C-2 district, this is a nonconforming use and since the use has been discontinued for over a year the nonconforming use may not be continued. The rezoning is being requested in order to allow for a speed lube to occupy this building again.

### **Comprehensive Plan Consideration**

The Comprehensive Plan and Future Land Use Map are considered policy guides to current and future development. While they do not have the force of an ordinance, it is generally recommended that municipalities adhere to the findings, policies, principals, and recommendations in these documents. Changes and deviations are permissible, but they should be reasonably justified.

The subject property is denoted as “multifamily” on the Comprehensive Plan’s Future Land Use Map. This property is not best suited for multifamily purposes and an update will be considered at the time of the next Future Land Use Map update.



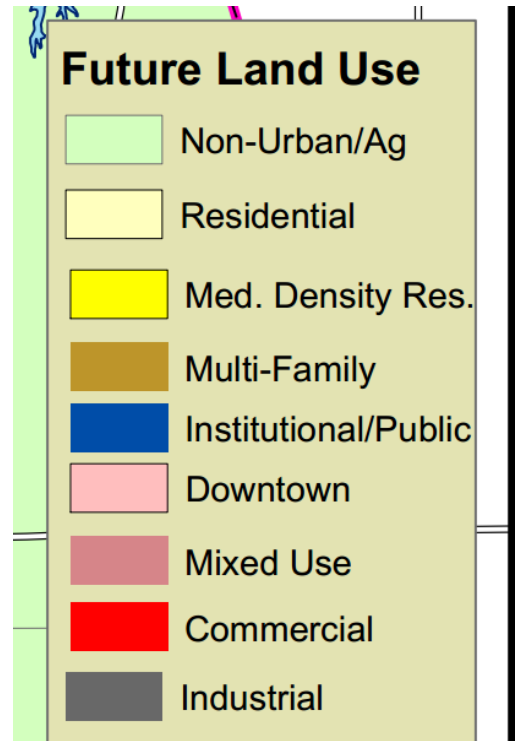
**Zoning Map**



**Legend**

- |  |  |
|--|--|
| Corporate Boundary                                 | R-3 - Multiple Family Residence 60 FT. Lot Width         |
| R-1-A - Single Family Residence 150 FT. Lot Width  | C-2 - Central Business District No Lot Width Requirement |
| R-1-B - Single Family Residence 100 FT. Lot Width  | C-3 - Highway Business District None                     |
| R-1-C - Single Family Residence 70 FT. Lot Width   | C-4 - Limited Business No Lot Width Requirement          |
| R-1-D - Single Family Residence 50 FT. Lot Width   | I - Industrial District No Lot Width Requirement         |
| R-2-A - Multiple Family Residence 70 FT. Lot Width | MX - Mixed Use   |
| R-2-B - Multiple Family Residence 70 FT. Lot Width | Not In Corporate Limits                                  |

**Future Land Use Map**



### Standards of Review for Zoning Map Amendments and Findings of Fact

Below are the nine (9) consideration items listed in Section 90-88 of the Zoning Code which the Combined Planning and Zoning Board shall take into account while reviewing a zoning map amendment request.

- Existing use and zoning of the property in question.

The property is currently a vacant building and is zoned C-2.

- Existing use and zoning of other lots in the vicinity of the property in question.

| Direction | Land Use                | Zoning     |
|-----------|-------------------------|------------|
| North     | SF Residence/Pet Parlor | C-2        |
| South     | Edgecliff Services      | Industrial |
| East      | SF Residence            | R-1-D      |
| West      | Highland Diner          | C-2        |

- The extent to which the zoning map amendment may detrimentally affect nearby properties.

Nearby property will not be negatively affected. The area to the south is zoned Industrial and this area contains a variety of uses.

- Suitability of the property in question for uses already permitted under existing requirements.

C-2 is primarily for downtown commercial uses and, therefore, is not the most appropriate zoning classification.

- Suitability of the property in question for the proposed uses.

The property is suitable for an automotive service. This building was previously an automotive service.

- The type, density and character of development in the vicinity of the property in question, including changes, if any, which may have occurred since the property was initially zoned or last rezoned.

The proposed zoning goes with the character of the area. This area has a mixture of zoning districts, including Industrial.

- The effect the proposed map amendment would have on the implementation of the City's Comprehensive Plan.

The proposed map amendment is consistent with the City's Comprehensive Plan.

- The effect the proposed map amendment would have on public utilities, other needed public services and traffic circulation on nearby streets.

There would not be a negative effect on public utilities, other needed public services and traffic circulation on nearby streets.

- Whether the map amendment will promote the health, safety, quality of life, comfort and general welfare of the city.



The map amendment will promote the health, safety, quality of life, comfort and general welfare of the city.

### Staff Discussion

This property was originally an automotive service, which is a legal nonconforming use in the C-2 district. The legal nonconforming status use has expired since the use has been discontinued for over a year. Given that this property was an automotive service before, staff supports this rezoning and agrees that rezoning this property is the most appropriate way to allow for an automotive service to operate at this location again.

Given that this area consists of a mixture of commercial uses and industrial uses, staff believes that rezoning to allow for an automotive service to operate on the property is appropriate.

### Aerial Photograph



Site Photos





## City of Highland Building and Zoning

**Meeting Date:** November 3, 2021

**From:** Breann Vazquez, Director of Community Development

**Location:** Approximately 21.21 acres North of St. Rose Rd. PIN# 01-1-24-03-00-000-010

**Zoning Request:** Rezoning

**Description:** Rezoning from R-1-C to Industrial, pending annexation

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### Proposal Summary

The applicant and property owner is Tut Properties Inc. (10 Winged Foot Drive). The applicant of this case is requesting the following rezoning:

- Rezone PIN# 01-1-24-03-00-000-010 from R-1-C single-family residential to Industrial, pending annexation.

The default zoning for properties annexed into the City of Highland is R-1-C. The rezoning from R-1-C to Industrial is pending annexation of the property.

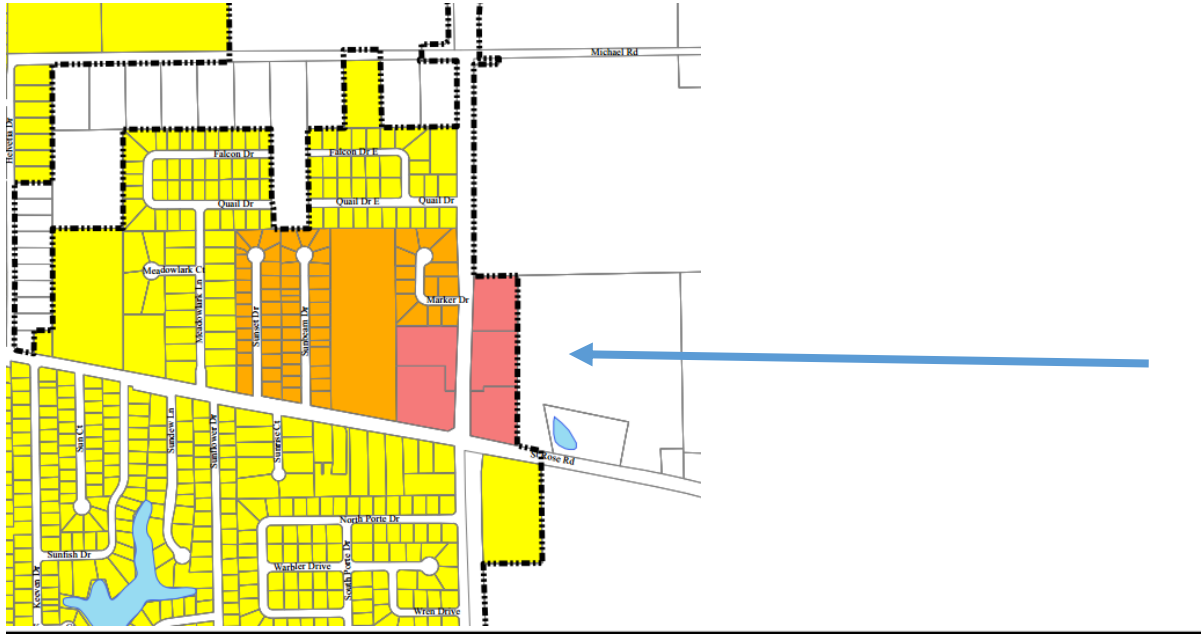
### Comprehensive Plan Consideration

The Comprehensive Plan and Future Land Use Map are considered policy guides to current and future development. While they do not have the force of an ordinance, it is generally recommended that municipalities adhere to the findings, policies, principals, and recommendations in these documents. Changes and deviations are permissible, but they should be reasonably justified.

The property is labeled as "Residential" on the Future Land Use Map. At the time of the Future Land Use Map creation, development along the southern peripheral route was not clearly defined. Staff will be recommending designating this parcel as "Industrial" at the time of the next Future Land Use Map update.



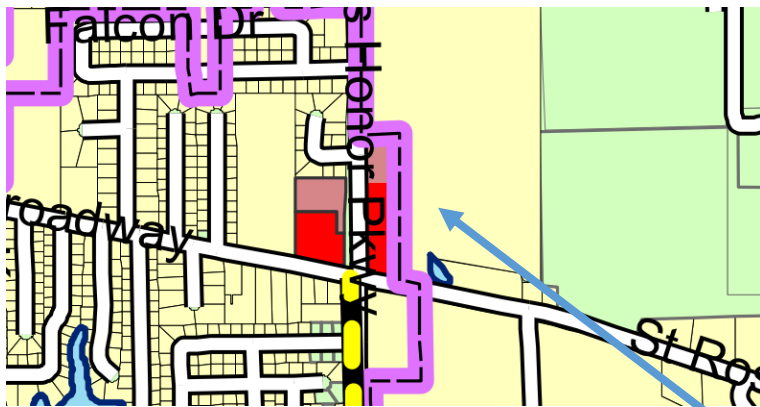
Zoning Map



**Legend**

- Corporate Boundary
- R-1-A - Single Family Residence 150 FT. Lot Width
- R-1-B - Single Family Residence 100 FT. Lot Width
- R-1-C - Single Family Residence 70 FT. Lot Width
- R-1-D - Single Family Residence 50 FT. Lot Width
- R-2-A - Multiple Family Residence 70 FT. Lot Width
- R-2-B - Multiple Family Residence 70 FT. Lot Width
- R-3 - Multiple Family Residence 60 FT. Lot Width
- C-2 - Central Business District No Lot Width Requirement
- C-3 - Highway Business District None
- C-4 - Limited Business No Lot Width Requirement
- I - Industrial District No Lot Width Requirement
- MX - Mixed Use
- Not In Corporate Limits

Future Land Use Map



**Future Land Use**

- Non-Urban/Ag
- Residential
- Med. Density Res.
- Multi-Family
- Institutional/Public
- Downtown
- Mixed Use
- Commercial
- Industrial

**Standards of Review for Zoning Map Amendments and Findings of Fact**

Below are the nine (9) consideration items listed in Section 90-88 of the Zoning Code which the Combined Planning and Zoning Board shall take into account while reviewing a zoning map amendment request.

1. Existing use and zoning of the property in question.  
The property is currently used as farm land and is zoned Madison County Agricultural. It will default to R-1-C zoning upon annexation.
2. Existing use and zoning of other lots in the vicinity of the property in question.

| Direction | Land Use                           | Zoning                      |
|-----------|------------------------------------|-----------------------------|
| North     | Farm Land                          | Madison County Agricultural |
| South     | Farm Land/Single-Family Residences | Madison County Agricultural |
| East      | Farm Land                          | Madison County Agricultural |
| West      | Farm Land                          | C-4 (proposed Industrial)   |

3. The extent to which the zoning map amendment may detrimentally affect nearby properties.  
Nearby property is not anticipated to be negatively affected. The area contains a variety of zoning districts and is primarily undeveloped.
4. Suitability of the property in question for uses already permitted under existing requirements.  
This property will not be used for residential purposes in the foreseeable future. Therefore, R-1-C is not the most suitable zoning for this property.
5. Suitability of the property in question for the proposed uses.  
The property is suitable for industrial zoning. There are no proposed uses at this time.
6. The type, density and character of development in the vicinity of the property in question, including changes, if any, which may have occurred since the property was initially zoned or last rezoned.  
The proposed zoning goes with the character of the area. This area has a mixture of zoning districts and is just beginning to be developed.
7. The effect the proposed map amendment would have on the implementation of the City's Comprehensive Plan.  
The proposed map amendment is consistent with the City's Comprehensive Plan.
8. The effect the proposed map amendment would have on public utilities, other needed public services and traffic circulation on nearby streets.  
There would not be a negative effect on public utilities, other needed public services and traffic circulation on nearby streets.

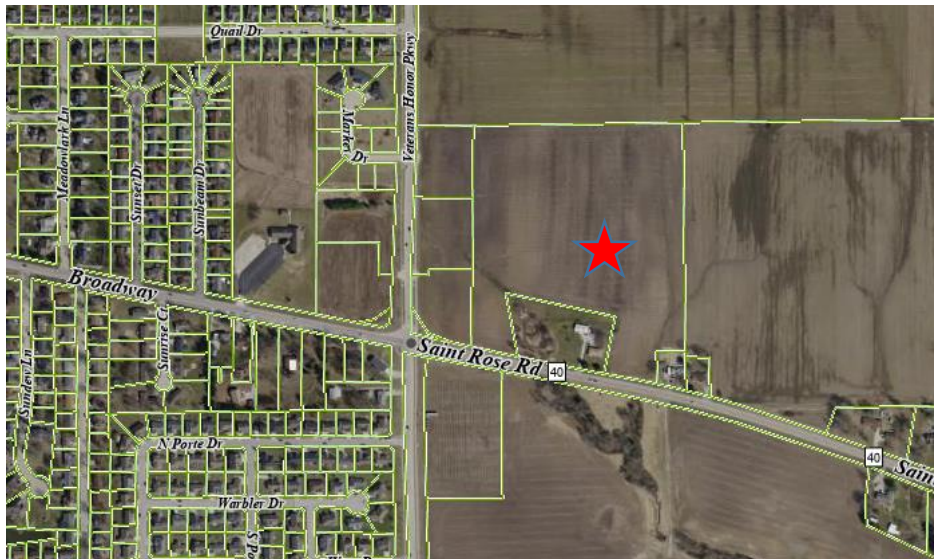
- Whether the map amendment will promote the health, safety, quality of life, comfort and general welfare of the city.

The map amendment will promote the health, safety, quality of life, comfort and general welfare of the city.

### Staff Discussion

The property owner is proposing to develop a truck stop to the west of this property, which will be zoned Industrial. Rezoning this parcel would allow for future developments to go along the southern peripheral route. The City supports annexation of this parcel and R-1-C upon annexation is not an appropriate classification in order to support development.

### Aerial Photograph





## City of Highland Building and Zoning

**Meeting Date:** November 3, 2021

**From:** Breann Vazquez, Director of Community Development

**Location:** 2210 Veteran’s Honor Parkway, 2250 Veteran’s Honor Parkway, & 2272 Veteran’s Honor Parkway

**Zoning Request:** Rezoning

**Description:** Rezoning from C-4 Limited Business District to Industrial

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### Proposal Summary

The applicant and property owner is Tut Properties Inc. (10 Winged Foot Drive). The applicant of this case is requesting the following rezoning:

- Rezone 2210 Veteran’s Honor Parkway, 2250 Veteran’s Honor Parkway, and 2272 Veteran’s Honor Parkway from C-4 Limited Business District to Industrial. (PIN# 01-2-24-03-00-000-029, 01-2-24-03-00-000-030, 01-2-24-03-00-000-031)

### Comprehensive Plan Consideration

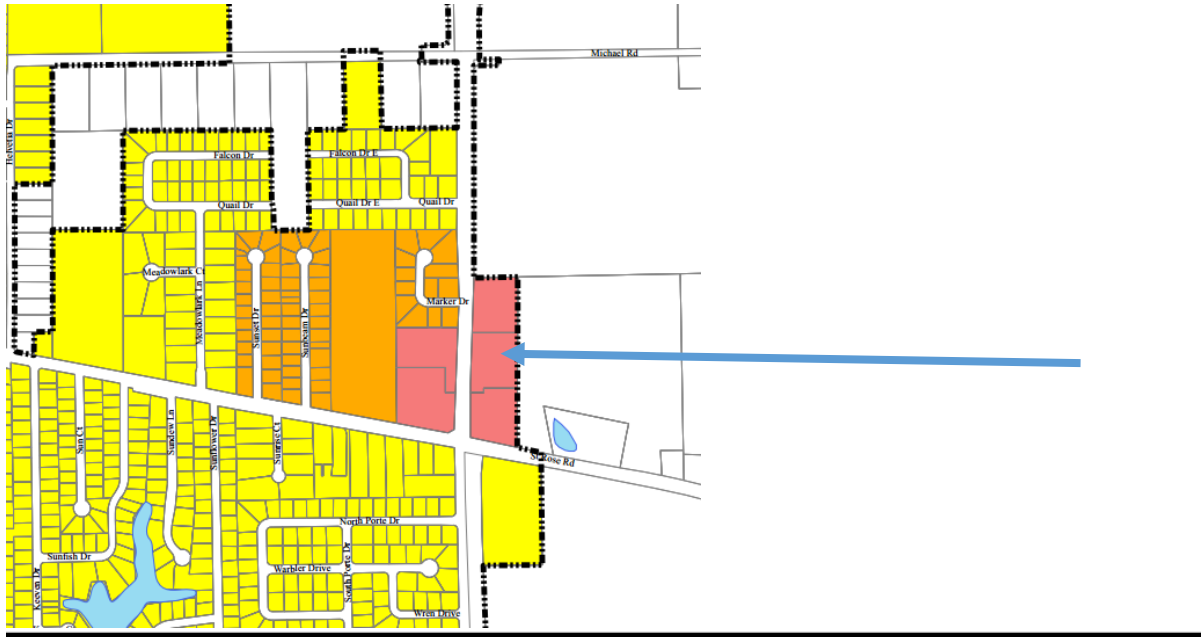
The Comprehensive Plan and Future Land Use Map are considered policy guides to current and future development. While they do not have the force of an ordinance, it is generally recommended that municipalities adhere to the findings, policies, principals, and recommendations in these documents. Changes and deviations are permissible, but they should be reasonably justified.

The north parcel, 2272 Veteran’s Honor Parkway, is labeled as “Mixed Use” on the Future Land Use Map. The two parcels to the south, 2250 Veteran’s Honor Parkway and 2210 Veteran’s Honor Parkway, are labeled as “Commercial.”

The three parcels will likely remain as a unit, so at the time of the next review of the Future Land Use Map, staff will recommend reclassifying all three parcels as “Industrial.”



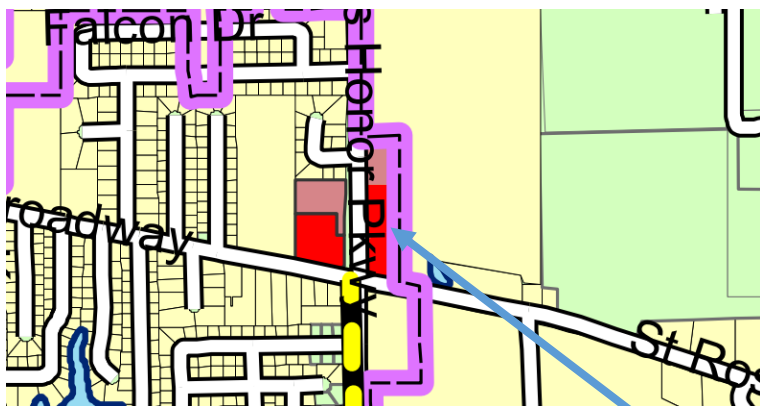
Zoning Map



**Legend**

- Corporate Boundary
- R-1-A - Single Family Residence 150 FT. Lot Width
- R-1-B - Single Family Residence 100 FT. Lot Width
- R-1-C - Single Family Residence 70 FT. Lot Width
- R-1-D - Single Family Residence 50 FT. Lot Width
- R-2-A - Multiple Family Residence 70 FT. Lot Width
- R-2-B - Multiple Family Residence 70 FT. Lot Width
- R-3 - Multiple Family Residence 60 FT. Lot Width
- C-2 - Central Business District No Lot Width Requirement
- C-3 - Highway Business District None
- C-4 - Limited Business No Lot Width Requirement
- I - Industrial District No Lot Width Requirement
- MX - Mixed Use
- Not In Corporate Limits

Future Land Use Map



**Future Land Use**

- Non-Urban/Ag
- Residential
- Med. Density Res.
- Multi-Family
- Institutional/Public
- Downtown
- Mixed Use
- Commercial
- Industrial



**Standards of Review for Zoning Map Amendments and Findings of Fact**

Below are the nine (9) consideration items listed in Section 90-88 of the Zoning Code which the Combined Planning and Zoning Board shall take into account while reviewing a zoning map amendment request.

- Existing use and zoning of the property in question.  
**The property is currently used as farm land and is zoned C-4.**

- Existing use and zoning of other lots in the vicinity of the property in question.

| Direction | Land Use  | Zoning                      |
|-----------|---|-----------------------------|
| North     | Farm Land                                       | Madison County Agricultural |
| South     | Highland Pierron Fire Station                   | R-1-C                       |
| East      | Farm Land                                       | Madison County Agricultural |
| West      | Farm Land/ Vacant Multi-Family Residential Lots | C-4/R-2-A                   |

- The extent to which the zoning map amendment may detrimentally affect nearby properties.  
**Nearby property is not anticipated to be negatively affected. The area contains a variety of zoning districts and is primarily undeveloped.**
- Suitability of the property in question for uses already permitted under existing requirements.  
**C-4 is a limited business district that is designed to provide retail goods and services to the residents living within the area. Given that much of the area is undeveloped and the City has developed commercial areas, C-4 is not the most appropriate zoning for the property.**
- Suitability of the property in question for the proposed uses.  
**The property is suitable for a truck stop. It is at the intersection of two major roadways.**
- The type, density and character of development in the vicinity of the property in question, including changes, if any, which may have occurred since the property was initially zoned or last rezoned.  
**The proposed zoning goes with the character of the area. This area has a mixture of zoning districts and is just beginning to be developed.**
- The effect the proposed map amendment would have on the implementation of the City's Comprehensive Plan.  
**The proposed map amendment is consistent with the City's Comprehensive Plan.**
- The effect the proposed map amendment would have on public utilities, other needed public services and traffic circulation on nearby streets.  
**There would not be a negative effect on public utilities, other needed public services and traffic circulation on nearby streets.**

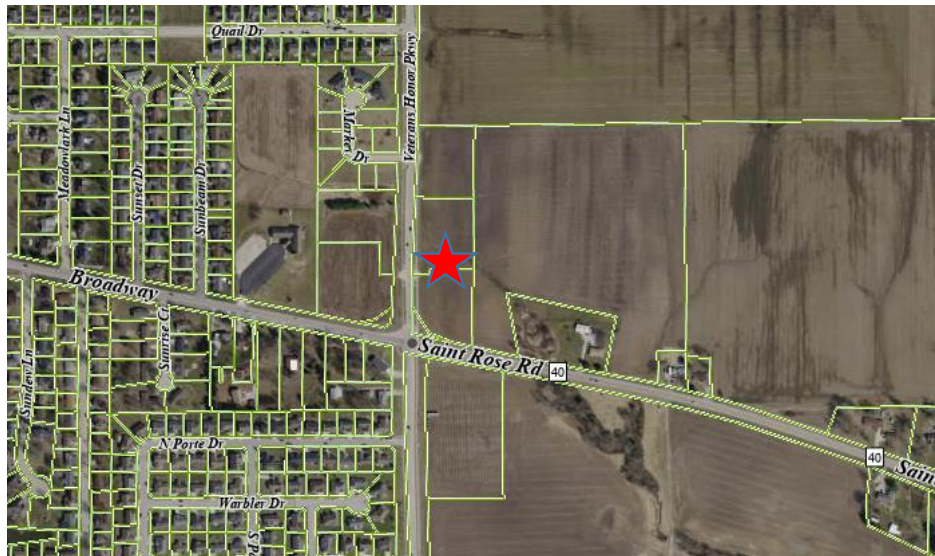
- Whether the map amendment will promote the health, safety, quality of life, comfort and general welfare of the city.

The map amendment will promote the health, safety, quality of life, comfort and general welfare of the city.

### Staff Discussion

The property owner is proposing to develop a truck stop on the property. The truck stop would provide gas pumps and a convenience store for residents of subdivisions to the west, as well as services for traffic passing through the community. Given that this property is located on the corner of two major corridors, Veteran’s Honor Parkway and St. Rose Road, this is an appropriate location for a truck stop. A truck stop requires industrial zoning, which is suitable for the currently undeveloped land.

### Aerial Photograph





City of Highland  
Building and Zoning

Exhibit "C"

Determination for Proposed Updates to the Future Land Use Map

Date Advertised: 2/9/22  
Public Hearing Date: March 2, 2022

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On March 2, 2022, the City of Highland Combined Planning and Zoning Board at its regular meeting approved/denied the following proposal summary:

The City of Highland is requesting to make revisions to the Future Land Use Map completed in April 2017.

The City Council will consider the recommendation of the Combined Planning and Zoning Board at the March 7, 2022 meeting of the City Council.

In recommending Approve (action) of this proposal, the Combined Planning and Zoning Board considered all standards listed in the zoning regulation and all other conditions listed for that use in other sections of these regulations. In addition, the Combined Planning and Zoning Board found that the proposed use **did/did not** provide safeguards to assure its compatibility with the surrounding area.

Conditions (if any): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Anthony Walker  
Chairperson of the Combined Planning and Zoning Board

3/2/22  
Date



# City of Highland

## Building and Zoning

**Meeting Date:** February 2, 2022

**From:** Breann Vazquez, Director of Community Development

**Description:** Future Land Use Map Updates

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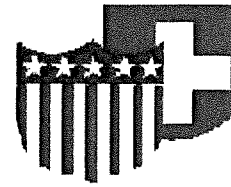
### Proposal Summary

The following changes are being proposed as updates to the Future Land Use Map.

| <b>PIN #</b>  | <b>Address</b>                                  | <b>Current Future Land Use Map Classification</b> | <b>Proposed Future Land Use Map Classification</b> |
|---|---|---|--|
| 01-2-24-03-00-000-029,<br>01-2-24-03-00-000-030,<br>01-2-24-03-00-000-031 | 2210, 2250, and 2272<br>Veteran's Honor Parkway | Mixed Use &<br>Commercial                         | Industrial   |
| 01-1-24-03-00-000-010   | 21.21 acres N. of St. Rose<br>Rd.               | Residential                                       | Industrial   |
| 02-2-18-32-19-401-009   | 429 Walnut                                      | Multifamily                                       | Industrial   |
| 01-1-24-06-00-000-<br>024.001   | 12258 Highland Rd                               | Residential                                       | Industrial   |
| 02-1-18-31-00-000-012,<br>02-1-18-31-00-000-010                           | East of Sportsman Rd                            | Residential                                       | Industrial   |

### Staff Discussion

These updates to the Future Land Use Map are being requested in response to rezonings that were granted by the City Council. At the time of the rezonings, staff's recommendation was to update the parcel's classification on the FLU Map. Staff reports are attached for reference.



| Check No.  | Vendor/Employee                       | Transaction Description  | Date       | Amount    |
|--|---------------------------------------|--|------------|-----------|
| Fund: 001 General Fund                           |                                       |  |            |           |
| Department: 000 Balance Sheet Accounts           |                                       |  |            |           |
| 8010   | AMAZON CAPITAL SERVICES               | QTY -1 CARDINAL ECONOMY 3 RING BINDER                          | 02/25/2022 | -44.41    |
| Total for Department: 000 Balance Sheet Accounts |                                       |  |            | -44.41    |
| Department: 011 General Admin                    |                                       |  |            |           |
| 8010   | AMAZON CAPITAL SERVICES               | 2022 YR STICKERS, FILE FOLDER LABELS, HEADSETS                 | 02/25/2022 | 2,217.33  |
| 8018   | BARNETT PEST SOLUTIONS                | MONTHLY PEST CONTROL - CITY HALL STORAGE                       | 02/25/2022 | 40.00     |
| 8026   | CDW G Inc                             | QTY 11- CISCO DIRECT LIC-ENT, QTY 1-LIC-MS220-8P, LIC-MS320-24 | 02/25/2022 | 857.43    |
| 8029   | City Utilities                        | UTILITIES - CITY HALL  | 02/25/2022 | 1,870.77  |
| 8040   | ELITE IMAGE                           | QTY - 15 POLE BANNERS  | 02/25/2022 | 1,350.00  |
| 8048   | FRONTIER                              | PHONE CHARGES - ALARM  | 02/25/2022 | 46.42     |
| 8060   | Highland Chamber Of Commerce          | TABLE RESERVATION FOR ANNULA AWARDS BANQUET                    | 02/25/2022 | 275.00    |
| 8061   | Highland Communication Services       | HCS SERVICES - HACSM   | 02/25/2022 | 51.95     |
| 8068   | LEWIS BRISBOIS BISGAARD & SMI         | PARTIAL DEC 2021 & JAN 2022 LEGAL FEES                         | 02/25/2022 | 9,922.94  |
| 8074   | Mastercard                            | LABELS FOR MEGAN'S LABEL PRINTER                               | 02/25/2022 | 1,845.53  |
| 8084   | National Erectors & Builders, Inc.    | MATERIAL/ LABOR - CITY HALL BATHROOM HEATER                    | 02/25/2022 | 493.27    |
| 8097   | PREMIER CARPET CLEANING               | CARPET CLEANING, TILE & GROUT CLEANING, FLOOR MAINTENANC       | 02/25/2022 | 875.00    |
| 8121   | Verizon Wireless - State              | VERIZON WIRELESS CHARGES                                       | 02/25/2022 | 368.37    |
| 8125   | Watts Copy Systems Inc.               | COPIER LEASE/USAGE FOR BOTH COPIERS IN THE CITY HALL BACK      | 02/25/2022 | 874.27    |
| 8129   | WEX BANK                              | JANUARY FUEL   | 02/25/2022 | 67.26     |
| 8151   | Aramark Uniform Services              | RUG SERVICE  | 03/01/2022 | 51.28     |
| Total for Department: 011 General Admin          |                                       |  |            | 21,206.82 |
| Department: 012 Police Dept                      |                                       |  |            |           |
| ACH PAID   | CHARLES J BECHERER                    | INTERIM CHIEF OF POLICE PER CONTRACT                           | 02/23/2022 | 5,000.00  |
| 8010   | AMAZON CAPITAL SERVICES               | QTY 1 - MICROSOFT SURFACE KEYBOARD, MIRCROSOFT SURFACE P       | 02/25/2022 | 612.48    |
| 8011   | Ameren Illinois                       | PSB GAS UTILITIES  | 02/25/2022 | 3,292.57  |
| 8015   | Scott Athmer                          | PER DIEM ATHMER FOR CJS FEB 22-24                              | 02/25/2022 | 52.00     |
| 8026   | CDW G Inc                             | QTY 10 - MALWAREBYTES EP DETECT & RESP SVR SUP                 | 02/25/2022 | 1,008.28  |
| 8029   | City Utilities                        | POLICE DEPT HYDRANT  | 02/25/2022 | 2,025.21  |
| 8033   | Constellation NewEnergy Gas Division, | GAS SERVICE  | 02/25/2022 | 14.56     |
| 8036   | DigitalArtz LLC                       | NEW BUSINESS CARDS FOR THE POLICE DEPT.                        | 02/25/2022 | 975.36    |
| 8045   | Damian Feeny                          | PER DIEM FEENY FOR CJS FEB 22-24                               | 02/25/2022 | 52.00     |
| 8048   | FRONTIER                              | POLICE DEPT FAX LINE   | 02/25/2022 | 18.75     |
| 8052   | GLOBAL TECHNICAL SYSTEMS, IN          | GROUND FOR PSB   | 02/25/2022 | 40,799.97 |
| 8065   | JOHN DEERE FINANCIAL                  | HIGHLAND RURAL KING OPERATING SUPPLIES                         | 02/25/2022 | 24.47     |
| 8068   | LEWIS BRISBOIS BISGAARD & SMI         | PARTIAL DEC 2021 & JAN 2022 LEGAL FEES                         | 02/25/2022 | 7,674.22  |
| 8071   | MADISON COUNTY INFORMATION            | LEADS LEASE-MADISON CO.  | 02/25/2022 | 48.56     |
| 8074   | Mastercard                            | LAW POSTERS  | 02/25/2022 | 2,026.57  |
| 8075   | Mazz, Inc                             | POLICE PATCHES   | 02/25/2022 | 363.15    |
| 8077   | Brian McClenahan                      | BOOKS FOR LT EXAM  | 02/25/2022 | 164.06    |
| 8099   | Ray O'Herron Co Inc                   | VEST FOR CHIEF PRESSON   | 02/25/2022 | 943.25    |
| 8100   | Reding Tire & Battery Inc             | CAR 5 OIL LUBE AND FILTER                                      | 02/25/2022 | 265.85    |
| 8108   | Southwestern Illinois Law Enforcement | 2022 CJ SUMMIT BECHERER,STEINBECK,ATHMER,FEENY,BRIAN M.        | 02/25/2022 | 425.00    |
| 8109   | Splish Splash Auto Bath LLC           | POLICE DEPT CAR WASHES   | 02/25/2022 | 135.50    |
| 8111   | SUMNER ONE, INC.                      | POLICE DEPT COPIER MAINT.                                      | 02/25/2022 | 310.39    |
| 8121   | Verizon Wireless - State              | VERIZON WIRELESS CHARGES                                       | 02/25/2022 | 739.34    |
| 8129   | WEX BANK                              | JANUARY FUEL   | 02/25/2022 | 4,064.77  |
| Total for Department: 012 Police Dept            |                                       |  |            | 71,036.31 |
| Department: 013 Building & Zoning                |                                       |  |            |           |
| 8010   | AMAZON CAPITAL SERVICES               | QTY 1 - ADJUSTABLE LITERATURE ORGANIZER, 36 COMPARTMENT, C     | 02/25/2022 | 297.25    |
| 8011   | Ameren Illinois                       | GAS CHARGE   | 02/25/2022 | 1,315.46  |
| 8018   | BARNETT PEST SOLUTIONS                | INSPECTION & TREATMENT   | 02/25/2022 | 14.00     |
| 8026   | CDW G Inc                             | QTY 10 - MALWAREBYTES EP DETECT & RESP SVR SUP                 | 02/25/2022 | 201.65    |
| 8028   | City Of Highland                      | UTILITY CHARGE   | 02/25/2022 | 203.65    |
| 8062   | Illinois Institute for Rural Affairs  | TRAINING FOR BREANN  | 02/25/2022 | 100.00    |
| 8068   | LEWIS BRISBOIS BISGAARD & SMI         | PARTIAL DEC 2021 & JAN 2022 LEGAL FEES                         | 02/25/2022 | 356.94    |
| 8070   | Craig Loyet                           | FINAL 1516 ASH ST  | 02/25/2022 | 75.00     |
| 8074   | Mastercard                            | TRAINING FOR CHRIS STRAUB                                      | 02/25/2022 | 310.68    |
| 8106   | Timothy Singler                       | FINAL 1516 ASH ST  | 02/25/2022 | 75.00     |
| 8121   | Verizon Wireless - State              | VERIZON WIRELESS CHARGES                                       | 02/25/2022 | 201.51    |
| 8129   | WEX BANK                              | JANUARY FUEL   | 02/25/2022 | 29.04     |
| Total for Department: 013 Building & Zoning      |                                       |  |            | 3,180.18  |

Department: 014 Fire Dept

|                                     |                                       |  |            |          |
|-------------------------------------|---------------------------------------|--|------------|----------|
| 8010                                | AMAZON CAPITAL SERVICES               | QTY 1 - MICROSOFT SURFACE KEYBOARD, MIRCROSOFT SURFACE PI  | 02/25/2022 | 19.47    |
| 8026                                | CDW G Inc                             | GFI ARCHIVER ADD SUB 1Y 10-49                              | 02/25/2022 | 50.28    |
| 8033                                | Constellation NewEnergy Gas Division, | GAS SERVICE  | 02/25/2022 | 209.43   |
| 8039                                | ED M. FELD EQUIPMENT CO., INC.        | EQUIPMENT MTN AND REPAIR                                   | 02/25/2022 | 83.50    |
| 8046                                | FIRE APPARATUS & SUPPLY TEAM          | PUMP TESTING, LADDER TESTING, LABOR TO CHANGE OIL PUMP 4 T | 02/25/2022 | 1,985.07 |
| 8068                                | LEWIS BRISBOIS BISGAARD & SMI         | PARTIAL DEC 2021 & JAN 2022 LEGAL FEES                     | 02/25/2022 | 321.25   |
| 8072                                | Madison County LEPC                   | HAZARDOUS MATERIALS RESPONSE TEAM ANNUAL DUES              | 02/25/2022 | 300.00   |
| 8074                                | Mastercard                            | ADOBE SOFTWARE   | 02/25/2022 | 60.00    |
| 8083                                | MUNICIPAL EMERGENCY SERVICI           | PRO TECH ALUMINUM CARABINER - QTY 20                       | 02/25/2022 | 436.00   |
| 8104                                | SENTINEL EMERGENCY SOLUTION           | SAFETY & UNIFORM SUPPLIES                                  | 02/25/2022 | 107.00   |
| 8112                                | TARGETSOLUTIONS LEARNING LI           | TS MAINT FEES , TS PREMIER MEMBERSHIP                      | 02/25/2022 | 2,672.50 |
| 8121                                | Verizon Wireless - State              | VERIZON WIRELESS CHARGES                                   | 02/25/2022 | 227.58   |
| 8129                                | WEX BANK                              | JANUARY FUEL   | 02/25/2022 | 237.20   |
| Total for Department: 014 Fire Dept |                                       |  |            | 6,709.28 |

Department: 017 Streets / PW Admin

|  |                                       |  |            |            |
|--|---------------------------------------|--|------------|------------|
| 8010   | AMAZON CAPITAL SERVICES               | QTY 2 - TABLECOVERS, PARTY DECORATIONS- BOB D. RETIREMENT      | 02/25/2022 | 276.78     |
| 8011   | Ameren Illinois                       | Utilities  | 02/25/2022 | 537.01     |
| 8018   | BARNETT PEST SOLUTIONS                | Monthly Onslaught - January.                                   | 02/25/2022 | 30.00      |
| 8024   | Bound Tree Medical, LLC               | 2 Adult AED patches for Defibulator - PWA                      | 02/25/2022 | 19.64      |
| 8025   | Broadway Battery & Tire               | Truck # 607 - Tire 225/70R19.35, Labor                         | 02/25/2022 | 347.50     |
| 8026   | CDW G Inc                             | GFI ARCHIVER SUB RNW 1Y 50-249U                                | 02/25/2022 | 353.03     |
| 8029   | City Utilities                        | City Utilities   | 02/25/2022 | 1,632.67   |
| 8032   | COMPUSTITCH SCREEN PRINTING           | City Logo on coat - Bret Klein, S&A                            | 02/25/2022 | 8.00       |
| 8033   | Constellation NewEnergy Gas Division, | GAS SERVICE  | 02/25/2022 | 787.70     |
| 8038   | Dr. Wood Trees & Landscape            | Sector # 1 - 24 hrs. tree work, 9th St. Pear stump             | 02/25/2022 | 2,520.00   |
| 8051   | W Joseph Gillespie III                | TUITION REIMBURSEMENT FOR PHYS 205 FROM 08/21 - 12/21          | 02/25/2022 | 181.66     |
| 8065   | JOHN DEERE FINANCIAL                  | HIGHLAND RURAL KING OPERATING SUPPLIES                         | 02/25/2022 | 721.96     |
| 8074   | Mastercard                            | U of I Crop Science - Pesticide Training Credit for BD         | 02/25/2022 | 290.00     |
| 8076   | MCCLATCHY                             | Legal ad - 2 Dump Trucks 1/7 & 1/14 - Split with W&S           | 02/25/2022 | 79.92      |
| 8078   | McKay Auto Parts Inc                  | Skidsteer - Oil, Air, Cabin Filters                            | 02/25/2022 | 309.42     |
| 8085   | Navy Brand                            | WOW  | 02/25/2022 | 111.69     |
| 8089   | Nu Way Concrete Forms Troy LLC        | Green Marking Flags 21" Wire, Fluor. Green Marking Spray Paint | 02/25/2022 | 260.75     |
| 8100   | Reding Tire & Battery Inc             | SWEEPER  | 02/25/2022 | 357.24     |
| 8117   | Tri Ford Inc                          | For 2016 F550 - Kit- Jet, Hose, Windshield                     | 02/25/2022 | 62.78      |
| 8121   | Verizon Wireless - State              | VERIZON WIRELESS CHARGES                                       | 02/25/2022 | 243.84     |
| 8129   | WEX BANK                              | JANUARY FUEL   | 02/25/2022 | 210.51     |
| 8131   | Woody's Municipal Supply              | Snowplow: 10' Rubber Blade                                     | 02/25/2022 | 964.92     |
| Total for Department: 017 Streets / PW Admin |                                       |  |            | 10,307.02  |
| Total for Fund:001 General Fund              |                                       |  |            | 112,395.20 |

Fund: 007 Community Development Fund

Department: 007 Community Development

|   |                               |   |            |        |
|---|-------------------------------|---|------------|--------|
| 8010  | AMAZON CAPITAL SERVICES       | QTY 1 - MICROSOFT SURFACE KEYBOARD, MIRCROSOFT SURFACE PI | 02/25/2022 | 19.47  |
| 8026  | CDW G Inc                     | QTY 10 - MALWAREBYTES EP DETECT & RESP SVR SUP            | 02/25/2022 | 50.28  |
| 8068  | LEWIS BRISBOIS BISGAARD & SMI | PARTIAL DEC 2021 & JAN 2022 LEGAL FEES                    | 02/25/2022 | 713.88 |
| 8074  | Mastercard                    | IDC MEETING - MAZZIO'S                                    | 02/25/2022 | 72.00  |
| 8121  | Verizon Wireless - State      | VERIZON WIRELESS CHARGES                                  | 02/25/2022 | 51.15  |
| Total for Department: 007 Community Development |                               |   |            | 906.78 |
| Total for Fund:007 Community Development Fund   |                               |   |            | 906.78 |

Fund: 008 Motor Fuel Tax Fund

Department: 008 Motor Fuel Tax

|  |                            |  |            |           |
|--|----------------------------|--|------------|-----------|
| 8013                                     | ASPHALT SALES AND PRODUCTS | UPM- Cold Patch 3.39 T.                        | 02/25/2022 | 474.60    |
| 8031                                     | Compass Minerals           | SALT - 25.11 ton                               | 02/25/2022 | 34,132.84 |
| 8034                                     | CRAFCO, INC.               | Road Tar                                       | 02/25/2022 | 3,060.00  |
| 8080                                     | Mike A Maedje Trucking Inc | CA6 Tic.# 1780644, CA7 Tic.# 1780571, 651, 747 | 02/25/2022 | 1,120.73  |
| 8090                                     | Oates Associates Inc       | MATTER DRIVE RECONSTRUCTION                    | 02/25/2022 | 8,337.97  |
| Total for Department: 008 Motor Fuel Tax |                            |  |            | 47,126.14 |
| Total for Fund:008 Motor Fuel Tax Fund   |                            |  |            | 47,126.14 |

Fund: 009 Parks & Rec Fund

Department: 009 Korte Rec Center

|      |                                       |   |            |          |
|------|---------------------------------------|---|------------|----------|
| 8010 | AMAZON CAPITAL SERVICES               | QTY 1 - MICROSOFT SURFACE KEYBOARD, MIRCROSOFT SURFACE PI | 02/25/2022 | 117.05   |
| 8011 | Ameren Illinois                       | senior center utilities                                   | 02/25/2022 | 2,304.02 |
| 8020 | Belleville News-Democrat              | KRC newspaper for guests 3/1/22-2/28/2023 52 WEEKS        | 02/25/2022 | 937.57   |
| 8026 | CDW G Inc                             | GFI ARCHIVER SUB RNW 1Y 50-249U                           | 02/25/2022 | 302.23   |
| 8028 | City Of Highland                      | KRC utilities   | 02/25/2022 | 8,980.43 |
| 8033 | Constellation NewEnergy Gas Division, | GAS SERVICE   | 02/25/2022 | 2,158.98 |
| 8037 | Direct Fitness Solutions              | work on fitness equipment                                 | 02/25/2022 | 175.00   |
| 8041 | Energy Wise                           | pool pak system work                                      | 02/25/2022 | 736.00   |
| 8048 | FRONTIER                              | phone bill  | 02/25/2022 | 172.09   |

|      |                                    |   |            |          |
|------|------------------------------------|---|------------|----------|
| 8049 | FROST Electric Supply              | lights for the KRC  | 02/25/2022 | 194.30   |
| 8066 | Heather Kernan                     | charged auto debit when we shouldn't have. Paying overdraft too | 02/25/2022 | 60.42    |
| 8068 | LEWIS BRISBOIS BISGAARD & SMI      | PARTIAL DEC 2021 & JAN 2022 LEGAL FEES                          | 02/25/2022 | 1,284.99 |
| 8069 | Lincoln Aquatics                   | chlorine chemicals  | 02/25/2022 | 66.61    |
| 8074 | Mastercard                         | popcorn machine   | 02/25/2022 | 1,024.63 |
| 8081 | Chantel Miller                     | refund for a party she can no longer attend                     | 02/25/2022 | 165.00   |
| 8084 | National Erectors & Builders, Inc. | chlorine room light repair-KRC                                  | 02/25/2022 | 1,258.00 |
| 8093 | Pepsi                              | krc concessions supplies  | 02/25/2022 | 554.89   |
| 8116 | TK Elevator Corporation            | elevator servicing  | 02/25/2022 | 1,258.87 |
| 8121 | Verizon Wireless - State           | VERIZON WIRELESS CHARGES  | 02/25/2022 | 51.15    |
| 8130 | William F. Brockman Co             | concessions supplies krc  | 02/25/2022 | 128.10   |

Total for Department: 009 Korte Rec Center 21,930.33

Department: 016 Parks & Recreation

|      |                                       |   |            |          |
|------|---------------------------------------|---|------------|----------|
| 8010 | AMAZON CAPITAL SERVICES               | QTY 1 - MICROSOFT SURFACE KEYBOARD, MIRCROSOFT SURFACE PI | 02/25/2022 | 156.21   |
| 8011 | Ameren Illinois                       | brad's shed utilities                                     | 02/25/2022 | 645.31   |
| 8018 | BARNETT PEST SOLUTIONS                | WCC monthly service bill                                  | 02/25/2022 | 25.00    |
| 8025 | Broadway Battery & Tire               | vehicle maint.  | 02/25/2022 | 138.00   |
| 8026 | CDW G Inc                             | GFI ARCHIVER ADD SUB 1Y 10-49                             | 02/25/2022 | 403.30   |
| 8028 | City Of Highland                      | dumpster rental   | 02/25/2022 | 6,214.72 |
| 8033 | Constellation NewEnergy Gas Division, | GAS SERVICE   | 02/25/2022 | 142.92   |
| 8048 | FRONTIER                              | phone bill  | 02/25/2022 | 46.42    |
| 8055 | William Grosch                        | paying deposit for Trilogy Band performance in Sept       | 02/25/2022 | 250.00   |
| 8065 | JOHN DEERE FINANCIAL                  | HIGHLAND RURAL KING OPERATING SUPPLIES                    | 02/25/2022 | 2,041.14 |
| 8068 | LEWIS BRISBOIS BISGAARD & SMI         | PARTIAL DEC 2021 & JAN 2022 LEGAL FEES                    | 02/25/2022 | 356.94   |
| 8073 | Mascoutah Equipment Co., INC.         | seat for tractor  | 02/25/2022 | 523.66   |
| 8074 | Mastercard                            | jacket for Brad   | 02/25/2022 | 2,670.20 |
| 8095 | Pioneer Manufacturing Company         | PAINT SUPPLIES FOR BRAD                                   | 02/25/2022 | 422.54   |
| 8110 | SUDHOLT SHEET METAL                   | FOR PLAZA PARK POLE AND BARRELS FOR LIGHTS                | 02/25/2022 | 114.52   |
| 8111 | SUMNER ONE, INC.                      | WCC printer   | 02/25/2022 | 52.00    |
| 8120 | Vandalia Bus Lines Inc                | Missouri Botanical Gardens Dec 1st, 2022                  | 02/25/2022 | 808.96   |
| 8121 | Verizon Wireless - State              | VERIZON WIRELESS CHARGES                                  | 02/25/2022 | 285.13   |
| 8127 | Weldon Williams & Lick                | hangtuf hangtags  | 02/25/2022 | 2,291.63 |
| 8129 | WEX BANK                              | JANUARY FUEL  | 02/25/2022 | 1,262.09 |
| 8131 | Woody's Municipal Supply              | snowplow for Brad's truck                                 | 02/25/2022 | 160.58   |

Total for Department: 016 Parks & Recreation 19,011.27

Department: 503 Swimming Pool Fund

|      |                         |   |            |        |
|------|-------------------------|---|------------|--------|
| 8010 | AMAZON CAPITAL SERVICES | QTY 1 - MICROSOFT SURFACE KEYBOARD, MIRCROSOFT SURFACE PI | 02/25/2022 | 38.95  |
| 8026 | CDW G Inc               | GFI ARCHIVER ADD SUB 1Y 10-49                             | 02/25/2022 | 100.56 |
| 8028 | City Of Highland        | outdoor pool. utilities                                   | 02/25/2022 | 29.45  |
| 8074 | Mastercard              | red cross lifeguarding                                    | 02/25/2022 | 300.00 |

Total for Department: 503 Swimming Pool Fund 468.96

Department: 715 Cemetery Fund

|      |                                |  |            |        |
|------|--------------------------------|--|------------|--------|
| 8005 | A I Security Specialist Inc    | keys for Nick Dugan                    | 02/25/2022 | 31.40  |
| 8028 | City Of Highland               | cem. utilities                         | 02/25/2022 | 61.79  |
| 8065 | JOHN DEERE FINANCIAL           | HIGHLAND RURAL KING OPERATING SUPPLIES | 02/25/2022 | 138.05 |
| 8089 | Nu Way Concrete Forms Troy LLC | orange safety fence                    | 02/25/2022 | 135.10 |

Total for Department: 715 Cemetery Fund 366.34

Total for Fund:009 Parks & Rec Fund 41,776.90

Fund: 012 Business District A

Department: 012 Police Dept

|      |                              |  |            |            |
|------|------------------------------|--|------------|------------|
| 8152 | Highland Community Title LLC | PURCHASE OF PROPERTY - 1110 MAIN ST HIGHLAND, IL | 03/02/2022 | 101,383.95 |
|------|------------------------------|--|------------|------------|

Total for Department: 012 Police Dept 101,383.95

Total for Fund:012 Business District A 101,383.95

Fund: 050 Street NHR Construction

Department: 050 Street NHR Construction

|      |                      |                     |            |          |
|------|----------------------|---------------------|------------|----------|
| 8090 | Oates Associates Inc | VHP STP APPLICATION | 02/25/2022 | 6,715.00 |
|------|----------------------|---------------------|------------|----------|

Total for Department: 050 Street NHR Construction 6,715.00

Total for Fund:050 Street NHR Construction 6,715.00

Fund: 101 Electric Fund

Department: 000 Balance Sheet Accounts

|      |                 |                         |            |       |
|------|-----------------|-------------------------|------------|-------|
| 8134 | DEAN BASTILLA   | Refund Check 022578-000 | 02/25/2022 | 38.31 |
| 8135 | CYNTHIA BIELONG | Refund Check 021424-000 | 02/25/2022 | 32.48 |
| 8136 | JEANIE HILLYER  | Refund Check 022602-000 | 02/25/2022 | 18.48 |
| 8137 | DANIELLE KOHLER | Refund Check 022470-000 | 02/25/2022 | 14.21 |

|      |                                   |                         |            |        |
|------|-----------------------------------|-------------------------|------------|--------|
| 8138 | Madison County Community Developm | Refund Check 021431-000 | 02/25/2022 | 139.44 |
| 8139 | Madson County Community Developme | Refund Check 022602-000 | 02/25/2022 | 55.16  |
| 8140 | TOM ROBARDS                       | Refund Check 011116-002 | 02/25/2022 | 148.78 |
| 8141 | NICOLE STIEF                      | Refund Check 022650-000 | 02/25/2022 | 31.04  |
| 8142 | APRIL STROTHER                    | Refund Check 021431-000 | 02/25/2022 | 33.66  |

Total for Department: 000 Balance Sheet Accounts 511.56

Department: 101 Electric Admin

|      |                                |  |            |          |
|------|--------------------------------|--|------------|----------|
| 8006 | ADVANCED CLEAN BY KWIK DRY     | BREAKROOM & FRONT CARPET CLEANING                        | 02/25/2022 | 150.00   |
| 8010 | AMAZON CAPITAL SERVICES        | RETURN QTY 1 - HIGH SPEED READ & WRITE SOLID STATE DRIVE | 02/25/2022 | 30.69    |
| 8011 | Ameren Illinois                | GAS CHARGE   | 02/25/2022 | 2,630.95 |
| 8018 | BARNETT PEST SOLUTIONS         | INSPECTION & TREATMENT                                   | 02/25/2022 | 14.00    |
| 8026 | CDW G Inc                      | QTY 10 - MALWAREBYTES EP DETECT & RESP SVR SUP           | 02/25/2022 | 1,220.69 |
| 8028 | City Of Highland               | UTILITIES - ELEC   | 02/25/2022 | 475.16   |
| 8042 | Essenpreis Plumbing & Htg      | CHANGED FILTER ON DRINKING FOUNTAIN                      | 02/25/2022 | 136.50   |
| 8043 | Everlasting Etch               | PLAQUE FOR JASON WIEGAND                                 | 02/25/2022 | 20.00    |
| 8048 | FRONTIER                       | PHONE CHARGES  | 02/25/2022 | 38.90    |
| 8050 | Frost Electric Supply Co. Inc. | MILWAUKEE TOOL BATTERY                                   | 02/25/2022 | 19.00    |
| 8065 | JOHN DEERE FINANCIAL           | HIGHLAND RURAL KING OPERATING SUPPLIES                   | 02/25/2022 | 38.56    |
| 8068 | LEWIS BRISBOIS BISGAARD & SM   | PARTIAL DEC 2021 & JAN 2022 LEGAL FEES                   | 02/25/2022 | 2,677.05 |
| 8074 | Mastercard                     | MEMORY FOR DT400   | 02/25/2022 | 110.58   |
| 8087 | Northern Safety Co Inc         | SINUS RELIEF   | 02/25/2022 | 15.30    |
| 8121 | Verizon Wireless - State       | VERIZON WIRELESS CHARGES                                 | 02/25/2022 | 201.82   |
| 8129 | WEX BANK                       | JANUARY FUEL   | 02/25/2022 | 155.55   |
| 8151 | Aramark Uniform Services       | RUG SERVICE  | 03/01/2022 | 136.18   |

Total for Department: 101 Electric Admin 8,070.93

Department: 102 Electric Production

|      |                          |   |            |          |
|------|--------------------------|---|------------|----------|
| 8010 | AMAZON CAPITAL SERVICES  | QTY 1 - MICROSOFT SURFACE KEYBOARD, MIRCROSOFT SURFACE PI | 02/25/2022 | 19.47    |
| 8011 | Ameren Illinois          | GAS CHARGE  | 02/25/2022 | 97.10    |
| 8018 | BARNETT PEST SOLUTIONS   | INSPECTION & TREATMENT                                    | 02/25/2022 | 50.00    |
| 8022 | BHMG Engineers Inc       | EPA & REPORTING   | 02/25/2022 | 705.40   |
| 8026 | CDW G Inc                | QTY 10 - MALWAREBYTES EP DETECT & RESP SVR SUP            | 02/25/2022 | 50.27    |
| 8028 | City Of Highland         | UTILITY CHARGE  | 02/25/2022 | 7,367.86 |
| 8065 | JOHN DEERE FINANCIAL     | HIGHLAND RURAL KING OPERATING SUPPLIES                    | 02/25/2022 | 88.90    |
| 8074 | Mastercard               | Stainless Steel Sink                                      | 02/25/2022 | 393.49   |
| 8086 | NEW PIG CORPORATION      | ABSORBENT MATS  | 02/25/2022 | 637.13   |
| 8091 | O'Reilly Automotive Inc. | REFUND FOR BATTERY UNDER WARRANTY                         | 02/25/2022 | 21.85    |
| 8129 | WEX BANK                 | JANUARY FUEL  | 02/25/2022 | 747.35   |
| 8151 | Aramark Uniform Services | JANUARY UNIFORM AND RUG SERVICE                           | 03/01/2022 | 181.30   |

Total for Department: 102 Electric Production 10,360.12

Department: 104 Electric Distribution

|      |                             |   |            |           |
|------|-----------------------------|---|------------|-----------|
| 8009 | Altec Industries Inc        | CHIPPER REPAIRS   | 02/25/2022 | 4,097.30  |
| 8010 | AMAZON CAPITAL SERVICES     | QTY - 1 WEAVER LEATHER SADDLE WITH 2" NYLON LEG STRAPS    | 02/25/2022 | 373.47    |
| 8011 | Ameren Illinois             | OPTIONAL LIGHTING CHARGE                                  | 02/25/2022 | 69.15     |
| 8012 | ANIXTER, INC.               | ND 350- MG-101-XX 3 Phase Junction Box                    | 02/25/2022 | 13,908.00 |
| 8016 | Aviston Lumber Company      | CABLE   | 02/25/2022 | -42.99    |
| 8022 | BHMG Engineers Inc          | preventive maintenance and testing of substation breakers | 02/25/2022 | 7,470.00  |
| 8026 | CDW G Inc                   | QTY 10 - MALWAREBYTES EP DETECT & RESP SVR SUP            | 02/25/2022 | 453.59    |
| 8044 | Fabick Rents                | PARTS FOR MINI -E   | 02/25/2022 | 71.76     |
| 8047 | Fletcher Reinhardt Company  | CP58 Ground Rod Clamp                                     | 02/25/2022 | 876.20    |
| 8053 | Graybar                     | CSG15-100A-110-CB-10KA-WC                                 | 02/25/2022 | 8,672.40  |
| 8064 | JANSEN CHEVROLET            | TRK 23 INSPECTION   | 02/25/2022 | 41.00     |
| 8065 | JOHN DEERE FINANCIAL        | HIGHLAND RURAL KING OPERATING SUPPLIES                    | 02/25/2022 | 687.02    |
| 8074 | Mastercard                  | MIKE HOLLENKAMP WORK BOOTS                                | 02/25/2022 | 1,502.62  |
| 8078 | McKay Auto Parts Inc        | BLISTER PACK CAPSULES FOR DOUBLE BUCKET                   | 02/25/2022 | 13.99     |
| 8096 | Power Line Supply           | Bucket Hooks for 2 3/4" Bucket Lip                        | 02/25/2022 | 105.92    |
| 8103 | SCHMITT'S TROY GARAGE DOOR, | 1/8 CABLE WITH ENDS                                       | 02/25/2022 | 29.70     |
| 8121 | Verizon Wireless - State    | VERIZON WIRELESS CHARGES                                  | 02/25/2022 | 237.52    |
| 8129 | WEX BANK                    | JANUARY FUEL  | 02/25/2022 | 198.39    |

Total for Department: 104 Electric Distribution 38,765.04

Total for Fund:101 Electric Fund 57,707.65

Fund: 111 FTTP Fund

Department: 000

|      |                 |            |            |        |
|------|-----------------|------------|------------|--------|
| 8017 | KIM BARDILL     | HCS REFUND | 02/25/2022 | 37.20  |
| 8019 | COLLEEN BEAVERS | HCS REFUND | 02/25/2022 | 43.23  |
| 8035 | JENNIFER DIESEN | HCS REFUND | 02/25/2022 | 9.29   |
| 8057 | NORMA HARTLIEB  | HCS REFUND | 02/25/2022 | 320.92 |
| 8063 | KAREN IMMER     | HCS REFUND | 02/25/2022 | 23.22  |
| 8102 | ALEC ROBINSON   | HCS REFUND | 02/25/2022 | 9.54   |

Total for Department: 000 443.40

Department: 111

|      |                              |  |            |        |
|------|------------------------------|--|------------|--------|
| 8008 | ALBERS HEATING & AIR CONDITI | PREVENTIVE MAINTENANCE IN DEC & JAN ON LIEBERT UNITS -LABC | 02/25/2022 | 455.00 |
|------|------------------------------|--|------------|--------|



|      |                                       |  |            |           |
|------|---------------------------------------|--|------------|-----------|
| 8009 | Altec Industries Inc                  | TRUCK 27 REPAIRS   | 02/25/2022 | 3,009.95  |
| 8010 | AMAZON CAPITAL SERVICES               | QTY 20 - ETHERNET ADAPTER FOR AMAZON FIRE TV DEVICES         | 02/25/2022 | 581.98    |
| 8011 | Ameren Illinois                       | GAS CHARGES - HCS  | 02/25/2022 | 197.75    |
| 8021 | BEST Engineered Systems Technology    | FIBER BORE HELVETIA DRIVE                                    | 02/25/2022 | 2,095.00  |
| 8026 | CDW G Inc                             | GFI ARCHIVER ADD SUB 1Y 10-49                                | 02/25/2022 | 302.22    |
| 8027 | Home Box Office Cinemax               | FEBRUARY VIDEO CONTENT FEE                                   | 02/25/2022 | 75.00     |
| 8029 | City Utilities                        | UTILITIES - HCS  | 02/25/2022 | 2,250.80  |
| 8033 | Constellation NewEnergy Gas Division, | GAS SERVICE  | 02/25/2022 | 115.34    |
| 8054 | GREAT LAKES DATA SYSTEMS              | SMS OUTBOUND MESSAGING FEES                                  | 02/25/2022 | 1,350.00  |
| 8058 | Home Box Office HBO                   | FEBRUARY VIDEO CONTENT FEE                                   | 02/25/2022 | 195.00    |
| 8065 | JOHN DEERE FINANCIAL                  | HIGHLAND RURAL KING OPERATING SUPPLIES                       | 02/25/2022 | 103.97    |
| 8068 | LEWIS BRISBOIS BISGAARD & SMI         | PARTIAL DEC 2021 & JAN 2022 LEGAL FEES                       | 02/25/2022 | 856.66    |
| 8074 | Mastercard                            | QTY 3 - STRETCH WRAP   | 02/25/2022 | 690.34    |
| 8082 | Missouri Network Alliance LLC         | VOICE CONTENT FEE  | 02/25/2022 | 11,510.26 |
| 8094 | PERSONAL PREFERENCE SERVICE           | MONTHLY CLEANING SERVICES - HCS                              | 02/25/2022 | 69.00     |
| 8105 | Showtime Networks Inc                 | VIDEO CONTENT FEE  | 02/25/2022 | 84.06     |
| 8107 | SNI / SI Networks LLC Inc             | OCTOBER VIDEO CONTENT FEE                                    | 02/25/2022 | 116.03    |
| 8111 | SUMNER ONE, INC.                      | COPIER LEASE / USAGE - HCS                                   | 02/25/2022 | 135.20    |
| 8113 | TEGNA                                 | JANUARY VIDEO CONTENT FEE                                    | 02/25/2022 | 6,196.96  |
| 8115 | TIVO PLATFORM TECHNOLOGIES            | NC PT MOBI-870 ACCTS, 126 NDVR ADDTL USAGE, 451 STREAMS ADD1 | 02/25/2022 | 6,763.75  |
| 8121 | Verizon Wireless - State              | VERIZON WIRELESS CHARGES                                     | 02/25/2022 | 428.29    |
| 8122 | Vermeer Midwest                       | MTN / REPAIRS - HCS BORING MACHINE                           | 02/25/2022 | 7,230.96  |
| 8123 | VUBIQUITY INC.                        | AUGUST VIDEO CONTENT FEE                                     | 02/25/2022 | 2,238.00  |
| 8125 | Watts Copy Systems Inc.               | COPIER LEASE / USAGE - LANAS COPIER                          | 02/25/2022 | 68.87     |
| 8129 | WEX BANK                              | JANUARY FUEL   | 02/25/2022 | 128.15    |
| 8132 | Duane E. Zobrist                      | FEBRUARY SIGN RENTAL   | 02/25/2022 | 100.00    |
| 8151 | Aramark Uniform Services              | RUG SERVICE  | 03/01/2022 | 91.70     |

Total for Department: 111 47,440.24

Total for Fund: 111 FTTP Fund 47,883.64

Fund: 201 Water Fund

Department: 000 Balance Sheet Accounts

|      |                 |                         |            |       |
|------|-----------------|-------------------------|------------|-------|
| 8134 | DEAN BASTILLA   | Refund Check 022578-000 | 02/25/2022 | 2.28  |
| 8137 | DANIELLE KOHLER | Refund Check 022470-000 | 02/25/2022 | 3.40  |
| 8140 | TOM ROBARDS     | Refund Check 011116-002 | 02/25/2022 | 48.81 |
| 8141 | NICOLE STIEF    | Refund Check 022650-000 | 02/25/2022 | 14.48 |

Total for Department: 000 Balance Sheet Accounts 68.97

Department: 201 Water Admin

|      |                               |  |            |        |
|------|-------------------------------|--|------------|--------|
| 8010 | AMAZON CAPITAL SERVICES       | QTY 1 - MICROSOFT SURFACE KEYBOARD, MIRCROSOFT SURFACE P | 02/25/2022 | 19.47  |
| 8024 | Bound Tree Medical, LLC       | 2 Adult AED patches for Defibulator - PWA                | 02/25/2022 | 19.65  |
| 8026 | CDW G Inc                     | GFI ARCHIVER ADD SUB 1Y 10-49                            | 02/25/2022 | 50.28  |
| 8051 | W Joseph Gillespie III        | TUITION REIMBURSEMENT FOR PHYS 205 FROM 08/21 - 12/21    | 02/25/2022 | 181.66 |
| 8068 | LEWIS BRISBOIS BISGAARD & SMI | PARTIAL DEC 2021 & JAN 2022 LEGAL FEES                   | 02/25/2022 | 249.86 |
| 8121 | Verizon Wireless - State      | VERIZON WIRELESS CHARGES                                 | 02/25/2022 | 51.15  |
| 8128 | WELLS FARGO VENDOR FIN SERV   | Ricoh Copier IM C3500                                    | 02/25/2022 | 191.91 |

Total for Department: 201 Water Admin 763.98

Department: 202 Water Production

|      |                                       |  |            |           |
|------|---------------------------------------|--|------------|-----------|
| 8010 | AMAZON CAPITAL SERVICES               | QTY 1 - MICROSOFT SURFACE KEYBOARD, MIRCROSOFT SURFACE P         | 02/25/2022 | 78.11     |
| 8011 | Ameren Illinois                       | Utilities  | 02/25/2022 | 405.43    |
| 8016 | Aviston Lumber Company                | Master Lock  | 02/25/2022 | 145.74    |
| 8026 | CDW G Inc                             | GFI ARCHIVER SUB RNW 1Y 50-249U                                  | 02/25/2022 | 201.65    |
| 8029 | City Utilities                        | City Utilities   | 02/25/2022 | 13,411.84 |
| 8033 | Constellation NewEnergy Gas Division, | GAS SERVICE  | 02/25/2022 | 181.46    |
| 8056 | GRP WEGMAN COMPANY                    | Valve Vault Cable Replacement                                    | 02/25/2022 | 6,000.00  |
| 8065 | JOHN DEERE FINANCIAL                  | HIGHLAND RURAL KING OPERATING SUPPLIES                           | 02/25/2022 | 399.79    |
| 8092 | Pace Analytical Services Inc          | TOC & Field Alkalinity Pkg., Total Organic Carbon.               | 02/25/2022 | 134.48    |
| 8114 | Teklab Inc                            | Total Nitrogen, Aqueous  | 02/25/2022 | 55.40     |
| 8118 | USA Blue Book                         | Hach Monochloramine Chemkey Reagents, Hach Total Ammonia Chemkey | 02/25/2022 | 1,136.79  |
| 8119 | Utility Service Co Inc                | 200,000 Elevated Downtown Tank - Quarterlyly                     | 02/25/2022 | 5,721.28  |
| 8121 | Verizon Wireless - State              | VERIZON WIRELESS CHARGES   | 02/25/2022 | 92.98     |
| 8124 | Water Solutions Unlimited             | Liquid Phosphate WSU 110   | 02/25/2022 | 4,750.00  |
| 8129 | WEX BANK                              | JANUARY FUEL   | 02/25/2022 | 54.43     |

Total for Department: 202 Water Production 32,769.38

Department: 203 Water Distribution

|      |                              |  |            |          |
|------|------------------------------|--|------------|----------|
| 8010 | AMAZON CAPITAL SERVICES      | QTY 1 - MICROSOFT SURFACE KEYBOARD, MIRCROSOFT SURFACE P       | 02/25/2022 | 62.31    |
| 8011 | Ameren Illinois              | GAS CHARGE   | 02/25/2022 | 1,315.47 |
| 8016 | Aviston Lumber Company       | Fluorescent Bulb   | 02/25/2022 | 83.86    |
| 8026 | CDW G Inc                    | QTY 11- CISCO DIRECT LIC-ENT, QTY 1-LIC-MS220-8P, LIC-MS320-24 | 02/25/2022 | 75.70    |
| 8029 | City Utilities               | City Utilities   | 02/25/2022 | 406.53   |
| 8042 | Essenpreis Plumbing & Htg    | Carbon Filter, Sediment Filter                                 | 02/25/2022 | 13.06    |
| 8065 | JOHN DEERE FINANCIAL         | HIGHLAND RURAL KING OPERATING SUPPLIES                         | 02/25/2022 | 49.76    |
| 8076 | MCCLATCHY                    | Legal ad - 2 Dump Trucks 1/7 & 1/14 - Split with S&A           | 02/25/2022 | 39.96    |
| 8078 | McKay Auto Parts Inc         | 16 BR BLK RTV SILIC  | 02/25/2022 | 3.65     |
| 8079 | Midwest Municipal Supply Inc | T Bolts, SMJ Gaskets, MJ OS Glands, MJ OS Caps                 | 02/25/2022 | 286.80   |
| 8088 | Northtown Auto & Tractor     | Return: Transmission Filter, Trans Pan Gasket, Mercon LV ATF   | 02/25/2022 | 57.10    |

|  |                              |  |            |           |
|--|------------------------------|--|------------|-----------|
| 8117   | Tri Ford Inc                 | Bolt   | 02/25/2022 | 5.07      |
| 8121   | Verizon Wireless - State     | VERIZON WIRELESS CHARGES                                       | 02/25/2022 | 144.33    |
| 8129   | WEX BANK                     | JANUARY FUEL   | 02/25/2022 | 277.10    |
| Total for Department: 203 Water Distribution         |                              |  |            | 2,820.70  |
| Total for Fund:201 Water Fund                        |                              |  |            | 36,423.03 |
| Fund: 301 Sewer Fund                                 |                              |  |            |           |
| Department: 000 Balance Sheet Accounts               |                              |  |            |           |
| 8134   | DEAN BASTILLA                | Refund Check 022578-000  | 02/25/2022 | 2.31      |
| 8137   | DANIELLE KOHLER              | Refund Check 022470-000  | 02/25/2022 | 3.46      |
| 8140   | TOM ROBARDS                  | Refund Check 011116-002  | 02/25/2022 | 39.43     |
| 8141   | NICOLE STIEF                 | Refund Check 022650-000  | 02/25/2022 | 14.65     |
| Total for Department: 000 Balance Sheet Accounts     |                              |  |            | 59.85     |
| Department: 301 Sewer Admin                          |                              |  |            |           |
| 8010   | AMAZON CAPITAL SERVICES      | QTY 1 - MICROSOFT SURFACE KEYBOARD, MIRCROSOFT SURFACE PI      | 02/25/2022 | 19.47     |
| 8024   | Bound Tree Medical, LLC      | 2 Adult AED patches for Defibulator - PWA                      | 02/25/2022 | 19.65     |
| 8026   | CDW G Inc                    | GFI ARCHIVER ADD SUB 1Y 10-49                                  | 02/25/2022 | 50.28     |
| 8051   | W Joseph Gillespie III       | TUITION REIMBURSEMENT FOR PHYS 205 FROM 08/21 - 12/21          | 02/25/2022 | 181.67    |
| Total for Department: 301 Sewer Admin                |                              |  |            | 271.07    |
| Department: 303 Sewer Collection                     |                              |  |            |           |
| 8010   | AMAZON CAPITAL SERVICES      | QTY 1 - MICROSOFT SURFACE KEYBOARD, MIRCROSOFT SURFACE PI      | 02/25/2022 | 29.31     |
| 8011   | Ameren Illinois              | GAS CHARGE   | 02/25/2022 | 1,315.48  |
| 8016   | Aviston Lumber Company       | Fluorescent Bulb   | 02/25/2022 | 83.86     |
| 8026   | CDW G Inc                    | QTY 11- CISCO DIRECT LIC-ENT, QTY 1-LIC-MS220-8P, LIC-MS320-24 | 02/25/2022 | 75.69     |
| 8029   | City Utilities               | City Utilities   | 02/25/2022 | 406.50    |
| 8042   | Essenpreis Plumbing & Htg    | Carbon Filter, Sediment Filter                                 | 02/25/2022 | 13.05     |
| 8065   | JOHN DEERE FINANCIAL         | HIGHLAND RURAL KING OPERATING SUPPLIES                         | 02/25/2022 | 82.24     |
| 8076   | MCCLATCHY                    | Legal ad - 2 Dump Trucks 1/7 & 1/14 - Split with S&A           | 02/25/2022 | 39.96     |
| 8078   | McKay Auto Parts Inc         | 16 BR BLK RTV SILIC  | 02/25/2022 | 3.64      |
| 8088   | Northtown Auto & Tractor     | Transmission Filters   | 02/25/2022 | 65.32     |
| 8117   | Tri Ford Inc                 | Bolt   | 02/25/2022 | 5.06      |
| 8121   | Verizon Wireless - State     | VERIZON WIRELESS CHARGES                                       | 02/25/2022 | 29.99     |
| 8129   | WEX BANK                     | JANUARY FUEL   | 02/25/2022 | 277.10    |
| Total for Department: 303 Sewer Collection           |                              |  |            | 2,427.20  |
| Department: 304 Water Reclamation Facility           |                              |  |            |           |
| 8010   | AMAZON CAPITAL SERVICES      | QTY 1 - MICROSOFT SURFACE KEYBOARD, MIRCROSOFT SURFACE PI      | 02/25/2022 | 78.11     |
| 8026   | CDW G Inc                    | GFI ARCHIVER SUB RNW 1Y 50-249U                                | 02/25/2022 | 201.66    |
| 8029   | City Utilities               | City Utilities   | 02/25/2022 | 10,766.65 |
| 8065   | JOHN DEERE FINANCIAL         | HIGHLAND RURAL KING OPERATING SUPPLIES                         | 02/25/2022 | 91.05     |
| 8067   | Langhauser Sheet Metal Co    | Labor & Service, ICEcube inspect system,                       | 02/25/2022 | 255.00    |
| 8114   | Teklab Inc                   | Nitrogen, Aqueous, Preserv Total Kjeldahl Nitrogen, Aqueous    | 02/25/2022 | 100.00    |
| 8121   | Verizon Wireless - State     | VERIZON WIRELESS CHARGES                                       | 02/25/2022 | 123.17    |
| 8129   | WEX BANK                     | JANUARY FUEL   | 02/25/2022 | 176.10    |
| Total for Department: 304 Water Reclamation Facility |                              |  |            | 11,791.74 |
| Department: 305 WRF Pretreatment                     |                              |  |            |           |
| 8029   | City Utilities               | City Utilities   | 02/25/2022 | 21.00     |
| Total for Department: 305 WRF Pretreatment           |                              |  |            | 21.00     |
| Total for Fund:301 Sewer Fund                        |                              |  |            | 14,570.86 |
| Fund: 401 Ambulance Fund                             |                              |  |            |           |
| Department: 401 Ambulance Fund                       |                              |  |            |           |
| 8007   | Airgas USA,LLC               | OXYGEN   | 02/25/2022 | 183.07    |
| 8010   | AMAZON CAPITAL SERVICES      | QTY 1 - HP LASER JET PRO ALL IN ONE WIRELESS COLOR LASER PRI   | 02/25/2022 | 947.21    |
| 8014   | AT&T MOBILITY                | EMS AIR CARDS  | 02/25/2022 | 73.20     |
| 8023   | PATRICIA BLACK               | AMBULANCE REFUND   | 02/25/2022 | 108.26    |
| 8024   | Bound Tree Medical, LLC      | EMS SUPPLIES   | 02/25/2022 | 1,397.14  |
| 8026   | CDW G Inc                    | QTY 10 - MALWAREBYTES EP DETECT & RESP SVR SUP                 | 02/25/2022 | 353.02    |
| 8030   | COMMERCIAL ACCEPTANCE CO     | JANUARY COLLECT AGENCY DUES                                    | 02/25/2022 | 275.81    |
| 8059   | HFS of IL                    | AMBULANCE REFUND   | 02/25/2022 | 147.00    |
| 8065   | JOHN DEERE FINANCIAL         | HIGHLAND RURAL KING OPERATING SUPPLIES                         | 02/25/2022 | 18.55     |
| 8068   | LEWIS BRISBOIS BISGAARD & SM | PARTIAL DEC 2021 & JAN 2022 LEGAL FEES                         | 02/25/2022 | 785.27    |
| 8074   | Mastercard                   | ANDERSON HOSPITAL - TRAINING BLS - TIM RUSTEBERG               | 02/25/2022 | 967.00    |
| 8083   | MUNICIPAL EMERGENCY SERVICE  | QTY 1 - ATACA 8" SHIELD BOOT COLOR: BLACK - B. CLARKIN         | 02/25/2022 | 115.00    |
| 8098   | PRILL'S GARAGE               | # 30 STATE INSPECTION  | 02/25/2022 | 39.00     |
| 8112   | TARGETSOLUTIONS LEARNING LI  | TS MAINT FEES , TS PREMIER MEMBERSHIP                          | 02/25/2022 | 2,672.50  |
| 8121   | Verizon Wireless - State     | VERIZON WIRELESS CHARGES                                       | 02/25/2022 | 260.47    |
| 8126   | WEBER GRANITE CITY FORD LLC  | MTN/REPAIRS TO UNIT # 1543                                     | 02/25/2022 | 2,492.96  |
| 8129   | WEX BANK                     | JANUARY FUEL   | 02/25/2022 | 258.64    |

|  |   |   |  |                             |
|--|---|---|--|-----------------------------|
| 8133                                   | Zoll Data Systems Inc                               | SOFTWARE SYSTEM QTR MTN 03/01/2022-05/31/2022 | 02/25/2022                                       | 2,212.12                    |
|  |   |   | Total for Department: 401 Ambulance Fund         | 13,306.22                   |
|  |   |   | Total for Fund:401 Ambulance Fund                | 13,306.22                   |
| Fund: 713 Solid Waste Fund             |   |   |  |                             |
| Department: 000 Balance Sheet Accounts |   |   |  |                             |
| 8134                                   | DEAN BASTILLA                                       | Refund Check 022578-000                       | 02/25/2022                                       | 3.20                        |
| 8135                                   | CYNTHIA BIELONG                                     | Refund Check 021424-000                       | 02/25/2022                                       | 15.43                       |
| 8140                                   | TOM ROBARDS   | Refund Check 011116-002                       | 02/25/2022                                       | 26.00                       |
| 8141                                   | NICOLE STIEF  | Refund Check 022650-000                       | 02/25/2022                                       | 18.31                       |
|  |   |   | Total for Department: 000 Balance Sheet Accounts | 62.94                       |
| Department: 713 Solid Waste Fund       |   |   |  |                             |
| 8101                                   | ROBERT (BOB) SANDERS WASTE S TEMP DUMPSTER SERVICES |   | 02/25/2022                                       | 7,537.30                    |
|  |   |   | Total for Department: 713 Solid Waste Fund       | 7,537.30                    |
|  |   |   | Total for Fund:713 Solid Waste Fund              | 7,600.24                    |
|  |   |   | <b><u>Grand Total</u></b>                        | <b><u>\$ 487,795.61</u></b> |

Accepted by City Council March 7, 2022

Mayor: \_\_\_\_\_ Clerk: \_\_\_\_\_