Illinois Environmental Protection Agency

Bureau of Water • 1021 N. Grand Avenue E. • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Division of Water Pollution Control
ANNUAL FACILITY INSPECTION REPORT
for NPDES Permit for Storm Water Discharges from Separate Storm Sewer Systems (MS4)

This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Compliance Assurance Section at the above address. Complete each section of this report.

Report Period: From March, 2023 To March, 2024

Permit No. ILR40 _____

MS4 OPERATOR INFORMATION: (As it appears on the current permit)

Name: Rockford Township Mailing Address 1: _____

Mailing Address 2: 404 N. Springfield Avenue County: _____

City: Rockford State: IL Zip: 61101 Telephone: 815-962-7313

Contact Person: Barry Palm Email Address: Barrypalm@rockfordtownshipil.gov
(Person responsible for Annual Report)

Name(s) of governmental entity(ies) in which MS4 is located: (As it appears on the current permit)

Township of Rockford

THE FOLLOWING ITEMS MUST BE ADDRESSED.

A. Changes to best management practices (check appropriate BMP change(s) and attach information regarding change(s) to BMP and measurable goals.)

1. Public Education and Outreach ☑
2. Public Participation/Involvement ☑
3. Illicit Discharge Detection & Elimination ☑
4. Construction Site Runoff Control ☑
5. Post-Construction Runoff Control ☑
6. Pollution Prevention/Good Housekeeping ☑

B. Attach the status of compliance with permit conditions, an assessment of the appropriateness of your identified best management practices and progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP, and your identified measurable goals for each of the minimum control measures.

C. Attach results of information collected and analyzed, including monitoring data, if any during the reporting period.

D. Attach a summary of the storm water activities you plan to undertake during the next reporting cycle (including an implementation schedule.)

E. Attach notice that you are relying on another government entity to satisfy some of your permit obligations (if applicable).

F. Attach a list of construction projects that your entity has paid for during the reporting period.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Barry J. Palm
Owner Signature:

5/19/2023
Date:

Barry J. Palm
Printed Name:

Deputy Highway Commissioner
Title:

EMAIL COMPLETED FORM TO: epa.ms4annualinsp@illinois.gov

or Mail to: ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL
COMPLIANCE ASSURANCE SECTION #19
1021 NORTH GRAND AVENUE EAST
POST OFFICE BOX 19276
SPRINGFIELD, ILLINOIS 62794-9276

Rockford Township Highway --- June 2023

Attachment to the IEPA Annual Facility Inspection Report

for the

NPDES Permit for Storm Water Discharges from MS4s

Permit No. ILR40-0118

Report Period: March 2022 – March 2023

Part I

8.) Add following to known receiving waters

A.) Keith Creek

B.) Madigan Creek

C.) South Fork Kent Creek

D.) North Fork Kent Creek

Part II

A. Public Education and Outreach

1.) Continue providing educational articles and materials at both the office and on the website.
2.) Increased reporting on Township website, including all activities related to BMP and measurable goals.
3.) Continue relations with Winnebago County soil and water to provide brochures and information to the public. Utilize Township website.

B. Public Participation / Involvement

1.) Planned yearly meeting to discuss any storm water issues in the Township.
2.) Involved with South Fork Kent Creek committee.
3.) Meet with City of Rockford and Winnebago County every two month to coordinate and discuss any ongoing or future projects.
4.) Make public the Township is available for any volunteer education or speaking.
5.) Continue relations with residents involving grant for Madigan Creek.
6.) Continue relations with residents of North Fork Kent Creek.

C. Illicit Discharge Detection and Elimination

1.) Support of Winnebago County IEPA Section 319(A) grant application for phase I of Madigan Creek restoration project.
2.) Continue to train and implement a complete visual dry weather screening of all out flows. Documenting findings. Further define a set schedule and mapping list.
3.) Actively involved in making improvements in drainage basin to increase the ability to assess impact areas.
4.) Documentation for scheduling and water quality monitoring.

5.) Continue to work with City of Rockford, the County, and the State Highway department to identify areas of collaborative watersheds for quality monitoring.
6.) In cooperation with Winnebago County review and enforce Winnebago County's Surface Water Management Ordinance.
7.) Continue to work with County to finish new NOI.

D. Construction Site Runoff

1.) Rockford Township has made an agreement with Winnebago County to review and field inspect all construction site, runoff control, and requirements in Winnebago County Surface Water Management Ordinance.
2.) Inspect and ensure all developments in Rockford Township follow NPDES guidelines and receive all necessary documents prior to approval.
3.) Enforce erosion and sediment control ordinances.

E. Post-Construction Runoff Control

1.) Rockford Township following Winnebago County's Surface Water Management Ordinance encourages developments that incorporate post construction runoff quality controls which benefit water quality and prevents creation of any surface water nuisances, hazards, or contamination of ground water.

F. Pollution Prevention / Good Housekeeping

1.) Continuous training in the proper technique of applying and disposing of chemical and salt alternatives for all employees.
2.) Spring street sweeping of all streets with curb and gutter.
3.) Fall leaf sweeping and inlet cleaning.
4.) Continue employee training on proper road de-icing.
5.) Continue employee training on proper way to repair and seed draining areas.
6.) Continue to document all training.

G. Storm Water Activities Conducted March 2022 – March 2023

1.) Replaced cross culvert @ Ruskin and Lakeside
2.) Replaced culvert and ditch @ 7662 Delafield
3.) Beaver Dam removal Lakeside (3 times)
4.) Replaced culvert and ditched 6442 Buttercup
5.) Replaced 12" culvert with 15" at corner of Prairie and Pelley
6.) Replaced culvert at 2003 Lancaster
7.) Replaced culvert at 2063 Lancaster
8.) Ditch work 3350 Cornelia
9.) Removed 7 beaver dams Parker woods
10.) Outlet repair into Madigan Creek off Montmorency Dr
11.) Engineering complete on Guilford Rd Bridge for bid 2023, Keith Creek
12.) Clear Debris Avalon Dr over Madigan Creek
13.) Intake repair East Highcrest
14.) Finished detention pond on Highway Department site.
15.) Replaced cross culvert west end Tipple Rd
16.) Replaced cross culvert Kevin Rd

H. Construction Projects

1.) Finished detention basin on west side of property.

2.) Continue support of Winnebago Counties IEPA section 319(A) grant application for phase 1 of Madigan Creek.

3.) With Winnebago County Highway and the Rockford Park District work on completion of 319 grant for Park-er-woods bioswale project

4.) Finish asset data collection and AMS with SPR grant with Winnebago County, South Beloit, and Village of Winnebago

ROCKFORD TOWNSHIP HIGHWAY DEPARTMENT

Daniel P. Conness
HIGHWAY COMMISSIONER

404 N. Springfield Avenue • Rockford, IL 61101-5098 • (815) 962-7313 • Fax (815) 962-7350

December 5, 2022

Illinois Environmental Protection Agency
Bureau of Water
Watershed Management Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

RE: Winnebago County IEPA Section 319(h) Grant Application for Phase I of the Madigan Creek Restoration Project (Mill Road to Newberg Road)

Ladies and Gentleman:

Rockford Township Highway Department is pleased to provide Winnebago County a letter of support for its application to the Illinois Environmental Protection Agency Section 319(h) Nonpoint Source Pollution Control Financial Assistance Program.

If selected for funding, Winnebago County will work to engage residents of the Newburg Chase subdivision to create a streambank restoration Best Management Practice (BMP) project. This project will concentrate on the section of the Madigan Creek Watershed running through their neighborhood.

This project is a great opportunity to highlight a BMP to stakeholders that will improve nonpoint source pollution in a priority watershed and engage in best practices through implementing components of an Illinois Environmental Protection Agency (IEPA) approved Watershed-Based Management Plan. Rockford Township Highway Department enthusiastically supports Winnebago County's application and urges IEPA to give it the highest consideration.

Sincerely,

Daniel Conness
Rockford Township Highway Commissioner

INTERGOVERNMENTAL AGREEMENT BETWEEN THE COUNTY OF WINNEBAGO, THE CITY OF SOUTH BELOIT, THE VILLAGE OF WINNEBAGO, AND ROCKFORD TOWNSHIP FOR THE COORDINATION OF ~~IDOT LONG RANGE TRANSPORTATION PLAN (LRTP) FUNDS~~ A SPR GRAN

The County of Winnebago, Illinois, hereinafter referred to as "COUNTY", and the City of South Beloit, hereinafter referred to as "CITY," and the Village of Winnebago, hereinafter referred to as "VILLAGE," and Rockford Township, hereinafter referred to as "TOWNSHIP," and the collective grouping of the COUNTY, CITY, VILLAGE, and TOWNSHIP shall hereinafter be referred to as "PARTIES," for the consideration hereinafter set forth hereby agree as follows:

I. RECITALS

WHEREAS, the COUNTY, CITY, VILLAGE, and TOWNSHIP are public agencies within the meaning of the Illinois Intergovernmental Cooperation Act, 5 ILCS § 220/1, *et seq.*, and are authorized by Article VII, Section 10 of the Constitution of the State of Illinois to cooperate for public purposes; and

WHEREAS, Article VII, Section 10, of the Illinois Constitution of 1970 and the Intergovernmental Cooperation Act, 5 ILCS § 220/1, *et seq.*, authorizes units of local government to contract or otherwise associate among themselves to obtain or share services, to exercise, combine or transfer any power or function, in any manner not prohibited by law, to use their credit, revenues and other reserves to pay costs and to service debt related to intergovernmental activities; and

WHEREAS, the COUNTY, CITY, VILLAGE and TOWNSHIP additionally are "units of local government," as defined in Article VII, Section 1, of the Illinois Constitution of 1970, and, therefore, pursuant to Section 10 of Article VII, have the power to contract among themselves to obtain or share services and to exercise, combine or transfer any power or function in any manner not prohibited by law or ordinance; and

WHEREAS, IDOT put out a solicitation for Statewide Planning and Research Funds (SPR) applications on February 25, 2022; and

WHEREAS, the Winnebago County Highway Department prepared an application to submit for SPR funding and submitted the application on March 30, 2022 for an estimated total project cost of $668,900, of which $574,060 was estimated to be funded by SPR funds; and

WHEREAS, the Winnebago County Highway Department solicited the interest of several local agencies in Winnebago County prior to submitting the application in an effort to benefit participating communities and thereby secure better pricing for all; and

WHEREAS, the City of South Beloit, the Village of Winnebago, and Rockford Township are participating with Winnebago County in the SPR funded project for

the location of various public assets associated with roadways and public utilities; and

WHEREAS, in order to disburse and administer grant funds an intergovernmental agreement is required.

WHEREAS, IDOT announced on September 15, 2022 that the WCHD application has been awarded federal funding of $535,120 and state matching funds of $133,780 for a total of $668,900, of which $71,800 is allocated to the City of South Beloit and $22,900 is allocated to the Village of Winnebago and $122,900 is allocated to Rockford Township; and

WHEREAS, a large portion of the City of South Beloit and Rockford Township is coded on the "Illinois EPA EJ Start" web map as low income. This classification qualifies the project for 100% SPR funding and no local match will be required; and

WHEREAS, it is in the public interest to enter into the attached Intergovernmental Agreement with the City of South Beloit and the Village of Winnebago and Rockford Township to accomplish the purposes and objectives set forth therein.

NOW THEREFORE, in consideration of the promises and covenants herein contained, the PARTIES agree to the following terms:

II. TERMS OF AGREEMENT

A. The COUNTY agrees:

1. To apply to IDOT for SPR funding, a reimbursement program where the project sponsor is responsible for incurring 100% of the upfront cost and is then typically reimbursed up to 80% after invoicing IDOT. The funding for this project is to be used for locating public utilities and infrastructure along with asset specific data for use in a GIS system. The funding will also secure heavy-duty tablets for the PARTIES. The funding will also secure software to facilitate GIS based asset management for the COUNTY.
    a. It is estimated that the entire project cost will be $668,900, of which $535,120 is being reimbursed by federal funds and $133,780 state matching funds from IDOT.
    b. It is estimated that the portion of the entire project cost attributable to the CITY is $71,800.
    c. It is estimated that the portion of the entire project cost attributable to the VILLAGE is $22,900.
    d. It is estimated that the portion of the entire project cost attributable to the TOWNSHIP is $122,900.
    e. See "EXHIBIT B" for a table summarizing the description of work and the estimated allocation of SPR funds and the estimated local match associated with each agency.
2. To execute the funding agreement with IDOT.

3. To function as the project manager for the PARTIES for the duration of the SPR project. Project management will include but is not limited to:
    a. Preparing the Request for Proposal, hereinafter referred to as the "RFP," with review and approval from the PARTIES.
    b. Advertising the RFP for the SPR project.
    c. Preparing a rating system for evaluating the RFP submittals with input from the PARTIES.
    d. Evaluating the various RFP submittals in coordination with the PARTIES.
    e. Selecting the successful proposal.
    f. Negotiating and executing a contract with the successful consultant.
    g. Scheduling and hosting a project kick-off meeting in coordination with the PARTIES.
    h. Monitoring the project schedule and evaluating the deliverables from the GIS consultant to the COUNTY.
    i. Closely coordinating with the PARTIES on aspects of the data collection and location services for CITY, VILLAGE, and TOWNSHIP maintained assets.
    j. Provide project reporting and documentation as required by IDOT.
    k. Submit invoices to IDOT for reimbursement as the project progresses.

B. The CITY, VILLAGE, and TOWNSHIP agree to:
1. Provide the COUNTY with CITY, VILLAGE, and TOWNSHIP specific details for inclusion in the RFP. These items will include, but are not limited to:
    a. A GIS or georeferenced CAD centerline file containing all CITY, VILLAGE, and TOWNSHIP maintained roadways and / or alleys under the jurisdiction of the CITY, VILLAGE and TOWNSHIP for which data collection is desired.
    b. A list of assets to collect location and asset specific information on and a data dictionary of fields for inclusion in the database.
    c. In the event that the allocated funding to the CITY, VILLAGE, or TOWNSHIP is insufficient to cover the list of assets to be collected, the CITY, VILLAGE, or TOWNSHIP shall provide a prioritized listing of assets and the desired scope will be adjusted as necessary to complete the data collection within the affected agency's allocation of funds.
2. Review and approve the agency specific details in the RFP prepared by the COUNTY prior to advertisement.
3. Participate in developing a rating system for evaluating RFP submittals.
4. Participate in the evaluation of RFP submittals.
5. Attend the project kick-off meeting and provide guidance to the consultant concerning all agency specific aspects of the project.
6. Provide an agency specific point of contact for the COUNTY to direct agency specific questions or issues that may arise during the project.
7. Review, comment, and approve agency specific GIS consultant deliverables prior to COUNTY invoice submittal to IDOT.

8. Assist the COUNTY with any agency specific reporting or documentation required to comply with IDOT requirements for managing the SPR funded project.

C. The PARTIES agree that:
   1. The above recitals are herby incorporated into this AGREEMENT as though fully set forth herein.
   2. Both the COUNTY and the CITY, VILLAGE and TOWNSHIP agree to store GIS data delivered by this project on WINGIS servers and to allow participating WINGIS members access to the data delivered. Each agency will reserve its editing rights to data under its jurisdiction while other agencies will have view only rights to the data.
   3. Should the PARTIES seek GIS consultant services that exceed the allocated funds, the PARTIES shall reimburse the COUNTY 100% of the amount that exceeds the allocation of federal and state matching funds.

III. **AMENDMENTS.** This agreement may be amended or modified only by written instrument signed by the PARTIES, with any appropriate or acquired corporate action or authorization.

IV. **CONSTRUCTION.** This agreement shall be construed according to the laws of the State of Illinois and any litigation arising out of this agreement shall be brought in the Seventeenth (17^{th}) Judicial Circuit, Winnebago County, Illinois.

V. **SEVERABILITY.** It is agreed between the PARTIES that the provisions of this agreement are severable. If any provision, paragraph, section, subdivision, clause, phrase, or word of this agreement is for any reason held to be contrary to law, or contrary to any rule or regulation having the force and effect of law, such decision shall not affect the remaining portion of this agreement.

VI. **EFFECTIVE DATE.** This Agreement shall commence on the date of execution by all parties hereto.

VII. **SUCCESSORS AND ASSIGNS.** This Agreement shall be binding up and inure to the benefit of the parties hereto and their respective successors and assigns.

VIII. **EXTENT OF AGREEMENT.** This Agreement represents the entire and integrated Agreement between the CITY, VILLAGE, TOWNSHIP and the COUNTY, and supersedes all prior negotiations and representations, either written or oral. None of the provisions of this Agreement may be waived, changed, or modified except by an instrument in writing signed by all parties hereto.

IX. **COUNTERPARTS.** This Agreement may be signed in any number of counterparts, each of which shall be an original, with the main effect as if the signatures thereto and hereto were upon the same instrument.

IN WITNESS WHEREOF, the parties hereto have set their hand as to the date first referenced above.

COUNTY OF WINNEBAGO, IL

By: _____
Joseph Chiarelli, Chairman of the
County Board of the
County of Winnebago, IL

DATE: 12/27/2022

ATTEST:

_____
Lori Gummow, Clerk of the
County Board of the
County of Winnebago, IL

CITY OF SOUTH BELOIT, IL

By: _____
Thomas Fitzgerald
Mayor
City of South Beloit

DATE: Dec 5 2022

ATTEST:

_____
Tracy Patrick
City of South Beloit Clerk
County of Winnebago, IL

VILLAGE OF WINNEBAGO, IL

By: _____
Franklin J. Eubank, Jr
President of Village of Winnebago Board
County of Winnebago, IL

DATE: 12/8/2022

ATTEST:

_____
Sally Jo Huggins
Village of Winnebago Clerk
County of Winnebago, IL

ROCKFORD TOWNSHIP, IL

By: _____
Dan Conness
Highway Commissioner Rockford Township
County of Winnebago, IL

DATE: 12/13/22

ATTEST:

_____
Carl Wasco
Rockford Township Clerk
County of Winnebago, IL

EXHIBIT B: DESCRIPTION OF WORK & ESTIMATED ALLOCATION OF FUNDS

Work Description	*Estimated Centerline Miles*	*Federal $ Allocated (WCHD)*	*Federal $ Allocated (City of South Beloit)*	*Federal $ Allocated (Village of Winnebago)*	*Federal $ Allocated (Rockford Township)*	*State Matching Funds Allocated $ (WCHD)*	*State Matching Funds Allocated $ (City of South Beloit)*	*State Matching Funds Allocated $ (Village of Winnebago)*	*State Matching Funds Allocated $ (Rockford Township)*	*Total Cost $*
Data Collection	300 miles (WCHD) 68 (S. B.) 25 (V. W.) 150 (R. T.)	$192,000	$43,520	$16,000	$96,000	$48,000	$10,880	$4,000	$24,0000	***$434,400***
Equipment (7 Tablets – WCHD, 6 Tablets – S. B., 1 Tablet – V. W., 1 Tablet – R. T.)		$16,240	$13,920	$2,320	$2,320	$4,060	$3,480	$580	$580	***$43,500***
Software (ESRI extensions for GIS: Spatial Analyst & 3D Analyst – WCHD Only)		$4,800	$0	$0	$0	$1,200	$0	$0	$0	***$6,000***
Asset Management Software (AMS – WCHD Only)		$140,000	$0	$0	$0	$35,000	$0	$0	$0	***$175,000***
AMS Training (WCHD Only)		$8,000	$0	$0	$0	$2,000	$0	$0	$0	***$10,000***
Totals		***$361,040***	***$57,440***	***$18,320***	***$98,320***	***$90,260***	***$14,360***	***$4,580***	***$24,580***	***$668,900***
WCHD (Federal + State Matching Funds) =										***$451,300***
City of South Beloit (Federal + State Matching Funds) =										***$71,800***
Village of Winnebago (Federal + State Matching Funds) =										***$22,900***
Rockford Township (Federal + State Matching Funds) =										***$122,900***
Total Project Allocation(Federal + State Matching Funds) =										***$668,900***

1) Grantee / Organization Name
    - Winnebago County Highway Department
2) Grantee / Organization Contact Name
    - Matt Fox
3) Grantee / Organization Contact Phone
    - 815.319.4027
4) Grantee / Organization Mailing Address
    - 424 N. Springfield Ave., Rockford, IL 61101-5097
5) Grantee / Organization Contact E-mail
    - mfox@wincoil.us
6) Grantee / Organization Project Number
    - XX-XXXXX-XX-ES
7) Project Title
    - WCHD Asset Data Collection & AMS
8) Project Scope
    - With the announcement of the Statewide Planning and Research funds, Winnebago County contacted most of the communities in Winnebago County and to all of the urban Townships to see if there was interest in applying for funding to collect data on agency assets. Three agencies responded and two, the City of South Beloit and Rockford Township, committed to participating with the Winnebago Highway Department on the application. The City of South Beloit maintains approximately 68 centerline miles. Rockford Township maintains approximately 150 centerline miles. WCHD maintains approximately 300 centerline miles. Each agency has many ROW assets that it is responsible to maintain. These assets include, but are not limited to, street signs, culverts, small bridges, bridges, guardrail, driveway culverts, storm sewer and inlets, traffic signals, pavements, fire hydrants, etc. Some of these assets have been located and entered into a GIS system. Other assets have been started but exist in various states of completion due to limited staff resources and expertise. Other assets have not even begun to be located or entered into a GIS system. Prioritizing maintenance and repairs or replacement becomes challenging when basic information such as quantity, type, age, condition or even location means searching through paper plans or files or even a field trip to the asset in question. With this grant, WCHD, City of South Beloit and Rockford Township will collect location information and pertinent attribute data for various assets that will be entered into a GIS system. WCHD, City of South Beloit, and Rockford Township will purchase rugged / heavy duty field tablets to facilitate the maintenance of asset information going forward. WCHD will deploy software and a GIS based Asset Management System (AMS) to assist with the tracking of asset conditions and the prioritizing of maintenance to facilitate a more efficient and effective means of maintaining ROW assets.
9) Deliverable to be submitted
    - This project will result in completed new and existing inventories of various ROW assets deliverable in GIS files. These files will be hosted on existing WINGIS server(s) and will be available to all WINGIS members (WINGIS is a consortium agency consisting of several municipalities and utilities in Winnebago County). WINGIS staff will make the

new layers available on existing web maps and servers. WCHD maintains 300 centerline miles which are divided into 5 patrols. This project will deliver a heavy duty tablet to each patrol and to two foreman for maintenance operations going forward. The City of South Beloit has five departments and a heavy duty tablet will be delivered to each department head and to the administrator. Rockford Township has one deputy township commissioner and a heavy duty tablet will be delivered to the commissioner. The project will deliver to WCHD, two ESRI software extensions for use in ArcMap Desktop. One is the Spatial Analyst extension and the other is the 3D Analyst extension. This software will be used by WCHD staff to perform watershed analysis. The project will also result in an asset management system being implemented to aid WCHD in the condition rating, tracking and prioritizing of maintenance, repairs, work orders, aspects of budgeting and other items associated with maintaining county ROW assets.

10) Total Cost of Project
    - WCHD = Winnebago County Highway Department
    - SB = City of South Beloit
    - RT = Rockford Township
    - Data Collection = WCHD $240,000 + SB $55,000 + RT $120,000 = Total $415,000
    - AMS = WCHD $175,000
    - AMS Training = WCHD $10,000
    - Equipment = WCHD $20,000 + SB $17,500 + RT $3,000 = Total $40,500
    - Software = WCHD $6,000
    - Total Cost = WCHD $451,000 + SB $72,500 + RT $123,000 = Total $646,500
11) Federal Amount of the Project
    - WCHD $360,800 + SB $72,500 + RT $123,000 = Total $556,300
12) Would you like to request a waiver from providing local (non-federal) match?
    - Yes, but only for the portion attributable to the City of South Beloit and to Rockford Township. A waiver is not being requested for the portions attributable to WCHD.
13) Please explain why a waiver from providing local match is being requested.
    - A large portion of the City of South Beloit is coded on the "Illinois EPA EJ Start" web map as "Low Income >= 63.4". Likewise, the web map shows Rockford Township and portions there of coded as "Minority Population >= 75.4" or "Low Income >= 63.4" or Minority Pop & Low Income". The webinar presented on March 16, 2022 by IDOT explained that disadvantaged or economically distressed communities were eligible for 100% funding. The request for the City of South Beloit and Rockford Township to be funded at 100% is consistent with the efforts of the federal government to provide equitable resources to disadvantaged and distressed communities.
14) Source of Local (non-federal) Match
    - MFT
15) Time needed to complete the project
    - 3 years
16) If the project spans more than one state fiscal year (SFY), please indicate the amount to be spent in each SFY.
    - Anticipated SFY23 = $200,000
    - Anticipated SFY24 = $400,000

- Anticipated SFY25 = $46,500

17) For locally sponsored projects, please provide: Name of Individual Authorized to Execute Project Agreement
    - Joe Chiarelli
18) For Locally sponsored projects, please provide: Title of Individual Authorized to Execute Project Agreement
    - County Board Chairman
19) For Locally sponsored projects, please provide: Email of Individual Authorized to Execute Project Agreement
    - jchiarelli@wincoil.us
20) For State sponsored projects, will significant staff time be used to prepare for this project, analyze data that comes from this project, or implement this project in any way?
    - N/A
21) Explain how this project assists in meeting the goals of the IDOT Long Range Transportation Plan or one of the Departments modal plans.
    - This project directly supports the LRTP's Stewardship Goal and more specifically, it meets objective 2: Ensure selection and prioritization decisions on projects is transparent and guided by sound data and performance-based decisions. The proposed project is consistent with the implementation task to "Expand and enhance asset management tools both for IDOT and local transportation partners." The first step in selecting and prioritizing projects that are guided by sound data and performance-based decisions is to collect and understand the current state of assets. In conjunction with the data collection, implementing an AMS will facilitate a systematic approach to maintenance prioritization and to certain aspects of the maintenance budgeting process.
22) Explain how this project assists in implementing a performance based program development process.
    - This project will facilitate the collection of data on ROW assets. Once condition data has been collected, an AMS can be programmed to extract a list of high priority locations using multiple variables such as functional classification, ADT, current condition, remaining service life, etc.
23) Explain how this project helps implement asset management practices.
    - The AASHTO Transportation Asset Management (TAM) Guide says that "the purpose of TAM is 'to meet a required level of service, in the most cost effective manner through the management of assets for present and future customers.'" This project will give WCHD the ability to look at various ROW assets along a corridor or even countywide. With data in a GIS system, a single software interface can be used to evaluate items such as condition, age, service life, and budget in an attempt to provide the citizens of Winnebago County the best available solutions for the most economical cost. The software interface can also be used to formulate future budget needs based on trend lines of overall asset conditions and the desired level of service.
24) Explain how this project benefits a disadvantaged / economically distress community.
    - There is county maintained mileage that passes though disadvantaged and / or economically distress communities. These roadways would include the following

roadways or portions there of: Springfield Avenue, Auburn Road, Central Avenue, Kishwaukee Road, Beltline Road, Charles Street, and Prairie Hill Road. By collecting asset data along these roadway corridors, the adjacent communities can be better served by WCHD using AMS tools to prioritize maintenance repairs and improvements, for such things as sidewalks, bike paths, and ADA ramps, upon which many disadvantaged communities are reliant on for their mode of transportation. For the City of South Beloit, this project will enable the City to collect important asset data as the first step in prioritizing maintenance and repairs. This data will also be used for unfunded mandates such as MS4 compliance and ADA transition plan compliance. For communities like the City of South Beloit that IEPA has identified as a low income area, these mandates can become burdensome to comply with and this grant will lighten the burden of these mandates without having to raise taxes to do so. Likewise for Rockford Township, the burden of complying with MS4 requirements is large and the data collection provided by this grant will lighten that load without raising taxes for an agency that covers a community that IEPA identifies as disadvantaged.

WINNEBAGO COUNTY HIGHWAY DEPARTMENT

Request for Proposal (RFP)

Abstract

Countywide asset data collection using mobile LiDAR and high resolution 360 degree imagery for use in GIS and a future GIS based asset management system

Winnebago County Highway Department
424 N. Springfield Avenue
Rockford, IL 61101-5097
Carlos Molina, P.E.
County Engineer

Table of Contents

I. RFP Overview

A. Background

In the United States, Moving Ahead for Progress in the 21st Century, better known as MAP-21, introduced "asset management" into the lexicon of state Departments of Transportation (DOTs). In MAP-21, state DOTs were required to provide asset management plans for pavements and bridges. In doing so, each State was required to develop a risk-based asset management plan, which is better defined as, "a systemic process of operating, maintaining, and improving physical assets with a focus on engineering and economic analysis based upon quality information, to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions that will achieve and sustain a desired state of good repair over the lifecycle of the assets at minimum practical cost" (23 U.S.C. 101(a)(2), MAP-21 §1103). While encouraged, the inclusion of all infrastructure assets was not required in MAP-21; however, it is easy to understand that similar efforts could greatly enhance awareness of and promote economical and sustainable "good repair" of other ROW assets.

While these efforts are being encouraged by the federal government for DOTs to develop, local agencies are also realizing the value and are being encouraged by DOTs to develop asset management systems to better locate, track, and maintain a wide range of ROW assets. The Illinois Department of Transportation (IDOT) put out a call for projects to apply for Statewide Planning and Research (SPR) funds in the spring of 2022. One of the eligible activities being funded by the program is "data purchase, collection, and / or analysis" and one of the criteria being used by IDOT to evaluate proposed projects is "implementing asset management."

As the lead agency, WCHD prepared an application in partnership with the City of South Beloit, the Village of Winnebago, and Rockford Township. IDOT awarded SPR funds to WCHD and a Uniform Intergovernmental Agreement (UIGA) between WCHD and IDOT was executed by the County Board Chairman on December 21, 2022. With this RFP, WCHD is seeking qualified consulting engineering or surveying or GIS firm(s) for the project described below. Consultants may create a team to meet the prequalification requirements. All firms doing business with WCHD must be registered and in good standing under the laws of the State of Illinois at the time of contracting and must comply with applicable state and federal laws, rules, and regulations. This RFP seeks to collect data and extract GIS features as detailed in the RFP for the partnering agencies. Proposals will be evaluated based on, but not limited to, the following criteria:

- The work history of the firm to perform a similar scope of work for public agencies
- Feedback from agencies listed in the work history
- Ability and approach to achieve the requirements of this RFP
- Ability to deliver the project on schedule and at budget
- The number of extracted GIS features and the completeness of associated attributes detailed in this RFP
- The level of accuracy for which the data is collected

As previously noted, there are four local agencies participating in this RFP. WCHD is the project sponsor and will function as the project manager. The other agencies have provided input into this RFP for their respective data collection needs and will have the final approval of agency specific deliverables. Upon final acceptance, the GIS extracted layers or features of this RFP will be stored on WINGIS servers and will be made available to other members of WINGIS and to the general public. Each participating agency has access to the Winnebago County Geographic Information System (WINGIS). WINGIS is a GIS consortium agency created in February of 2000 to facilitate a

county-wide GIS and is a part of the Regional 1 Planning Council, which is a special-purpose, regional government agency providing collaborative planning in Northern Illinois. The mission of WinGIS is "to create and manage an accurate countywide Geographic Information System (GIS) designed to offer shared data and applications to its members. The impact is a coordinated GIS that provides partners with the ability to make more efficient and effective decisions to provide better services to the public."

B. Goals

The goals to be achieved by this RFP are unique to each agency. The individual agency goals are summarized as follows:

1) WCHD
   - Winnebago County has a population of 285,350 people based on data from the 2020 census and is the seventh most populous county in Illinois. Currently, WCHD does not utilize an asset management system (AMS). WCHD staff have attempted to capture in a GIS format various WCHD maintained assets, such as culverts, signs, guardrails, etc.; however, many layers are incomplete. The focus of this RFP is data collection and extraction which in turn will become foundational in supporting a future AMS.
   - Goal 1: Safely collect data utilizing mobile LiDAR technology and 360-degree street level high resolution imagery to create a point cloud and imagery for each corridor maintained by WCHD, including 23.5 miles of WCHD maintained bike paths.
   - Goal 2: Extract line work and assets from the collected point cloud and imagery for use in a GIS and/or CAD environment. The extracted features will be used for asset management and also in CAD (Autodesk) by engineers for future plan development or exhibits to illustrate proposed capital improvements. The vertical and horizontal accuracy achieved by this RFP will set the limitations of how extracted features and data are used in CAD.
   - Goal 3: Extract / develop a digital terrain corridor model(s) for future use in GIS and CAD (Autodesk). DTMs will be used in the future and outside of this RFP by WCHD staff to develop conceptual exhibits and conceptual engineering plans, as vertical and horizontal accuracy limitations allow.
2) Rockford Township
   - Rockford Township has a population of 171,020 people based on data from the 2020 census and is the largest township, in terms of area, in Illinois. It was formed by the annexation of New Milford Township and Guilford Township. Rockford Township does not currently have any roadway asset GIS layers nor does it currently utilize an AMS. In 2020, a fire completely destroyed the Township Highway Department office and garage building and resulted in the total loss of many assets, equipment and paper records, including roadway plans.
   - Goal 1: Safely collect data utilizing mobile LiDAR technology and 360-degree street level high resolution imagery to create a point cloud and imagery for each corridor maintained by Rockford Township.
   - Goal 2: Extract linework and assets from the collected point cloud and imagery for use in a GIS environment.
     - A primary focus for Rockford Township is MS4 compliance which is an IEPA mandate requiring, in part, the mapping of all storm water related features maintained by the agency.
   - Goal 3: Create a digital representation in a GIS environment for ROW assets maintained by the Township in an attempt to restore the loss of archived records and plans caused by the fire.
3) City of South Beloit

- The City of South Beloit has a population of 7,989 people based on data from the 2020 census and is a suburban extension of Beloit, Wisconsin. The City has a very limited number of mapped roadway assets in a GIS format and does not currently utilize an AMS.
- Goal 1: Safely collect data utilizing mobile LiDAR technology and 360-degree street level high resolution imagery to create a point cloud and imagery for each corridor maintained by the City of South Beloit.
- Goal 2: Extract linework and assets from the collected point cloud and imagery for use in a GIS and/or CAD environment.

4) Village of Winnebago
   - The Village of Winnebago has a population of 2,940 people based on data from the 2020 census. The Village does not currently have any roadway asset GIS layers nor does it currently utilize an AMS.
   - Goal 1: Safely collect data utilizing mobile LiDAR technology and 360-degree street level high resolution imagery to create a point cloud and imagery for each corridor maintained by the Village of Winnebago.
   - Goal 2: Extract linework and assets from the collected point cloud and imagery for use in a GIS and/or CAD environment.
5) IDOT
   - This RFP does not propose any data collection for IDOT or on IDOT maintained corridors; however, IDOT is contributing 100% of the project cost (80% federal funding and 20% state matching funds) and as such has a vested interest in the success of the data collection to ensure it is consistent with IDOT strategic goals. As the project sponsor, WCHD is responsible for ensuring that all expenditures are properly documented and in strict accordance with IDOT procurement procedures prior to receiving IDOT reimbursement.

C. Tentative Project Schedule / Timeline

The following schedule is tentative and is only provided for general guidance with the exception of items in RED. Items in RED are fixed and must be achieved; however, no penalties will be incurred for completing the project ahead of schedule.

Date	***Milestone***
2/25/2022	IDOT call for SPR projects opened
3/30/2022	IDOT SPR applications due
9/15/2022	IDOT Notice of State Award
10/1/2022	Begins WCHD FY 2023
12/13/2022	Public Works Committee (PWC) meeting to recommend IGA to County Board
12/22/2022	County Board meeting to authorize execution of IGA with Rockford Township, City of South Beloit, and Village of Winnebago
1/17/2023	PWC meeting to recommend Uniform Intergovernmental Agreement (UIGA)
1/26/2023	County Board to approve UIGA with IDOT (needs to be executed within 12 weeks of Notice of State Award)
1/30/2023	Advertise the request for proposals (RFP)
2/20/2023	Deadline for all written RFP questions due by 12:00 CST.
2/22/2023	Deadline for all written responses to RFP questions due by 5:00 CST.
3/3/2023	Written proposals must be submitted and received by 12:00 PM CST.
3/7/2023	Successful RFP announced
3/13/2023	Need finalized professional services agreement
3/14/2023	PWC meeting to recommend professional services agreement
3/23/2023	Professional services agreement approved by County Board
3/24/2023	A project kick off meeting with selected firm, WCHD, Rockford Township, City of South Beloit, and Village of Winnebago to discuss project requirements and deliverables. The dates of key milestones and deliverables will be determined from this meeting.
March / April	Develop work plans for collecting data
April	Agency approval of work plans
	Begin data collection for WCHD
	Begin data collection for Rockford Township
4/26/2023	1st WCHD invoice to IDOT is due (maximum of 3 months from fully executed UIGA)
May	Begin data collection for City of South Beloit and Village of Winnebago
	Develop data dictionaries
	Agency approval of data dictionaries
June	Begin data extraction
July 1, 2023	Begin IDOT FY 2024
October	Begin delivering extracted data to agencies
Oct. 1, 2023	Begins WCHD FY 2024
November	Agency review of data deliverables
Dec. 22, 2023	Deadline for all deliverables to be submitted, including final report
Jan. 5, 2024	Contract ends and all invoices must be submitted by this date

D. Budget

The Winnebago County Highway Department (WCHD) successfully applied for SPR funding and secured $535,120 of federal funds and $133,780 of state matching funds equating to a funding total of $668,900. This funding total is intended to cover a project scope that includes data collection and extraction of features, the heavy-duty tablets, the ESRI software extensions, and the asset management system; ***however, this RFP is narrowly focused on data collection and extraction.*** The $434,400 amount shown for "Data Collection" on page 8 (Itemized Budget Estimate by Agency) will be considered as a firm upper limit to this RFP and no additional money will be allocated towards data collection and extraction. Prospective firms will be evaluated, in part, on the number of features they can extract and on the number of attributes they can populate within this funding limitation.

A separate and future RFP will be issued by the County to implement an AMS.

E. Contacts

WCHD is the project sponsor and will function as the project manager for this project. WCHD is also the agency that entered the funding agreement with IDOT. Matt Fox will function as the RFP project manager and all RFP questions are to be directed to him via email. All RFP questions are to be submitted via email before the deadline shown in the "Tentative Project Schedule / Timeline" section. Likewise, all responses to RFP questions will be provided via email prior to the deadline shown in the "Tentative Project Schedule / Timeline".

The RFP project manager contact is as follows:

Name	***Agency***	***Title***	***Phone***	***E-mail***
Matt Fox	WCHD	Senior Civil Engineer & RFP Project Manager	(815) 319-4027	mfox@wincoil.us
The partner agency contacts are as follows:				
Carlos Molina	WCHD	County Engineer		
Barry Palm	Rockford Township	Deputy Highway Commissioner		
Brandon Boggs	City of South Beloit	City Engineer		
Chad Insko	Village of Winnebago	Director of Public Works		
Steve Gregg	WINGIS			
Dan Magers	DoIT	Chief Information Officer		

Work Description	*Estimated Centerline Miles*	*Federal $ Allocated (WCHD)*	*Federal $ Allocated (City of South Beloit)*	*Federal $ Allocated (Village of Winnebago)*	*Federal $ Allocated (Rockford Township)*	*State Matching Funds Allocated $ (WCHD)*	*State Matching Funds Allocated $ (City of South Beloit)*	*State Matching Funds Allocated $ (Village of Winnebago)*	*State Matching Funds Allocated $ (Rockford Township)*	*Totals*
Data Collection	300 miles (WCHD) 68 (S. B.) 25 (V. W.) 150 (R. T.)	$192,000	$43,520	$16,000	$96,000	$48,000	$10,880	$4,000	$24,0000	***$434,400***
Equipment (7 Tablets – WCHD, 6 Tablets – S. B., 1 Tablet – V. W., 1 Tablet – R. T.)		$16,240	$13,920	$2,320	$2,320	$4,060	$3,480	$580	$580	***$43,500***
Software (ESRI extensions for GIS: Spatial Analyst & 3D Analyst – WCHD Only)		$4,800	$0	$0	$0	$1,200	$0	$0	$0	***$6,000***
Asset Management Software (AMS – WCHD Only)		$140,000	$0	$0	$0	$35,000	$0	$0	$0	***$175,000***
AMS Training (WCHD Only)		$8,000	$0	$0	$0	$2,000	$0	$0	$0	***$10,000***
Totals		***$361,040***	***$57,440***	***$18,320***	***$98,320***	***$90,260***	***$14,360***	***$4,580***	***$24,580***	***$668,900***
									WCHD (Federal + State Matching Funds) =	***$451,300***
									City of South Beloit (Federal + State Matching Funds) =	***$71,800***
									Village of Winnebago (Federal + State Matching Funds) =	***$22,900***
									Rockford Township (Federal + State Matching Funds) =	***$122,900***
									Total Project Allocation (Federal + State Matching Funds) =	***$668,900***

Itemized Budget Estimate by Agency

(As submitted in the grant application)

II. Scope of Services

A. Data Collection

WCHD and partner agencies desire that proposers use a mobile LiDAR unit ***capable*** of collecting engineering grade data at a 1A level of accuracy (see Exhibit A and B on pages 23 and 24 of this RFP for level of accuracy definitions) and 360-degree high-resolution images georeferenced to the point cloud. Images will be equirectangular projected spherical images captured at a minimum of thirty (30) megapixel resolution. The images will be indexed and delivered with the LiDAR point cloud data. Images will be captured at a maximum spacing of six (6) meters. The point cloud will be delivered in the most current LAS or LAZ file format and will capture intensity and color attributes for the points collected. It is desired that the recommended accuracy and minimum density of points be achieved from approximate right-of-way (ROW) to approximate ROW. For this project, the corridor ROW will vary from 66' ROW-ROW to 300' ROW-ROW. The typical rural county highway will have an 80' ROW width while the typical urban county highway will have a 120' ROW width.

In addition to delivering a point cloud, it is desired that a digital terrain model (DTM) be developed for each corridor where data is collected. The proposer shall evaluate the details and specifications of this RFP and the fixed project budget associated with data collection and as detailed on page 8 (Itemized Budget Estimate by Agency) and shall make a recommendation concerning the feasibility of developing and delivering a "bare earth" or ground DTM. The "bare earth" DTM will be considered a value added product in this RFP and the DTM will only be developed if funding is available after accomplishing the other priorities of this RFP. If the proposer determines that the scope of work to prepare "bare earth" DTMs exceeds the available project funding, then the proposer shall include in the description a range of cost per mile to prepare "bare earth" DTMs consistent with the RFP scope for consideration by partnering agencies outside of this RFP. If the proposer determines that there is sufficient funding to prepare a DTM for some corridors but not all corridors then the proposer should estimate the number of miles for which a DTM can be delivered as part of this RFP.

Prior to developing the "bare earth" DTM, the raw point cloud will be processed using the following measures:

1) Data Tiling
   - Point clouds will be broken into manageable file sizes and will be grouped by agency with subgroups by corridors (ie – streets or roadways). It is recommended that individual file sizes not exceed 2 GB.
2) Noise Removal
   - Unnecessary, irrelevant, or false points will be removed from the point cloud. This will include such items as people, vehicles, or false points caused by distortion of the laser signal return, etc.
3) Point Classification
   - Table 2-3.A – ASPRS Standard Point Cloud Classifications (1 of 2) will be used to assign a classification to points. At a minimum, points in the following

categories will be classified: ground, building, road surface, overhead utilities, bridge deck, overhead structures, retaining walls.

Table 2-3.A - ASPRS Standard Point Cloud Classifications (1 of 2)	
Classification value	**Meaning**
0	Never classified
1	Unclassified
2	Ground (For IDOT, this includes all points which are not road surface which help constitute the existing ground terrain model)
3	Low Vegetation
4	Medium Vegetation
5	High Vegetation

Table 2-3.A - ASPRS Standard Point Cloud Classifications (1 of 2)	
Classification value	**Meaning**
6	Building
7	Low Point (noise)
8	Reserved
9	Water
10	Rail
11	Road Surface (For IDOT projects this includes all paved or unpaved road surfaces, including curbs and sidewalks.)
12	Reserved
13	Wire - Guard (Shield)
14	Wire - Conductor (Phase)
15	Transmission Tower
16	Wire-Structure Connector (for example Insulator)
17	Bridge Deck (For IDOT projects, this also includes bridge abutments, beams, piers and other substructure.)
18	High Noise
19	Overhead Structures
20	Ignored Ground
21	Snow
22	Temporal Exclusion
23-63	Reserved
64	Retaining Walls. (Classification value 64 is listed as "user definable by ASPRS.)
65-255	User Definable

4) Other Point Cloud Attributes
   - Intensity
     - Brightly lit objects within view of the scanner will return a signal of greater intensity than dull objects. This intensity value will be collected, preserved, and delivered as part of the point cloud.
   - Colorization
     - To aid with feature identification and attribution, the color values (red, green, blue) will be collected, preserved, and delivered as part of the point cloud
5) Point Filtering

- As part of the post processing effort of the point cloud, an elevation filter to reduce the total number of points should be considered. Most modern post processing software provide filtering capabilities in which desired final vertical accuracy parameters are used by software algorithms and are applied to adjacent points such that points within the defined envelope are removed, resulting in a significant reduction in overall points.

6) Break Lines
   - Break lines for crown of pavement, edge of pavement, edge of shoulder, gutter flow line, back of curb, ditch bottom, and top of slope will be extracted and utilized in the development of the DTM.

It is desired that the mobile LiDAR data be collected at a 2A accuracy and density of points level; however, the proposer shall describe the process to achieve 2A accuracy and the impact of this accuracy to the project cost and shall make an accuracy recommendation based on the details in this RFP and the fixed project budget. This recommendation shall include a description of the acceptable limits of use for the extracted data based on the accuracy and density of points being recommended.

The RFP should also include a description of the process and associated costs for targeting 1A level of accuracy on specific corridors (i.e. – major arterials or routes scheduled for future improvement, etc.). The description for 1A accuracy should also include a range of cost per mile for capturing point cloud data and a "bare earth" DTM at this level of accuracy. The discussion concerning 1A accuracy is for information only and will provide partnering agencies alternatives to traditional surveying methods outside of this RFP.

The collection process is to occur from a vehicle moving at or near highway speeds for as much of the data collection activities as possible. Data collection shall not require lane closures and shall not disrupt the normal operation of the highways, streets, or bike paths. To ensure the best results, the proposer is strongly encouraged to schedule the collection activities in rural areas and along bike paths as close to late winter (after snow melt) / early spring as possible to ensure that tall grass, vegetation, and tree canopy do not obscure, skew or inhibit GPS signal for the points collected by LiDAR. Data will be collected along all corridors, roadways, alleys, and bike paths under the jurisdiction of WCHD, City of South Beloit, Village of Winnebago, and Rockford Township and as detailed in this RFP. The delivery of this data shall be segregated by agency and each agency is to receive and approve the data under its jurisdiction.

Images must not be collected during rainstorms, dust storms, snow cover, at night or during any weather or other factors that would obscure the image quality and detail. The proposer will be responsible for developing a field collection work plan for each agency. The work plan will detail: routes to be covered, proposed drive paths and number of passes to be driven on each route, times of collection, collection specifications, mobile LiDAR unit calibration report(s), and quality control and quality assurance measures to be employed for field collection. The work plan will also address how data will be collected in locations where GPS signal is weak or restricted due to tree canopy or other factors. Multiple passes must be employed

in areas where obstructions due to traffic occur or where the number of lanes require it to achieve minimum accuracy and/or point densities.

A summary of mileage by agency is as follows:

Agency	***Approved CL Miles for Data Collection***	***Estimated Lane Miles (from IDOT Data)***	***Bike Path Miles***
WCHD	299.2 miles	664.1 miles	23.5 miles
Rockford Township	152.1 miles	279.0 miles**	0 miles
City of South Beloit	50.0 miles	102.1 miles	0 miles
Village of Winnebago	24.2 miles	44.3 miles*	1.3 miles

*Note: IDOT data does not account for parks or alleys in its data

**Note: IDOT data appears to be too low and should be around 304.2 miles

See Exhibits C, D, E, and F for maps showing approved agency routes for data collection

B. Data Extraction

1) WCHD

At a minimum, each extracted GIS feature classified as a point feature class shall contain individual fields for the following information (except as modified under the details of each feature asset):

- Unique ID, County Highway number, County Highway road name, IDOT log point, WCHD log point, street address, distance from nearest intersection, side of road (north, south, etc.), roadway functional classification (arterial, major collector, etc.), average daily traffic (ADT), ADT year, posted speed limit, ownership, township, maintenance patrol, county board district, construction section number, plan STA, plan offset, feature installation date, feature description, feature material type, feature condition, feature inspection date, feature comments, feature status, general comments, created by, created date, edited by, edited date, edit comments, northing (NAD83 IL-W), easting (NAD83 IL-W), elevation (NAVD88), Hyperlink to Plans, Hyperlink to Pictures

At a minimum, each extracted GIS feature classified as a line or polyline feature class shall contain individual fields for the following information (except as modified under the details of each feature asset):

- Unique ID, County Highway number, County Highway road name, side of road (north, south, etc.), roadway functional classification (arterial, major collector, etc.), average daily traffic (ADT), ADT year, posted speed limit, ownership, township, maintenance patrol, county board district, construction section number, feature installation date, feature description, feature material type, feature condition, feature inspection date, feature comments, feature status, general comments, created by, created date, edited by, edited date, edit comments, horizontal datum (NAD83 IL-W), vertical datum (NAVD88), feature length (FT), feature length (Mile), Hyperlink to Plans, Hyperlink to Pictures

Linear features as well as point features shall be created such that all vertices or points are drawn to the appropriate elevation (Z coordinate) so that a true 3D line / polyline or point is created. Additional fields unique to the extracted element are listed under each described element below and shall be added to the list provided above. Where applicable, "drop down" lists or domains will be created and developed for both the fields listed above and the feature specific fields listed below. The domains will aid in standardizing data entries and provide database integrity across all features. A metadata or data source item description, such as the general template available in ArcMap, shall be provided for each extracted layer and shall contain at a minimum the following items: layer summary, layer description (to include a description or definition of each field in the layer), layer credits, layer use limitations, and layer extents.

It is understood that some of the feature attributes cannot be populated from the point cloud or from the 360-degree imagery. Where applicable, the agency will provide existing GIS layers from which desired attributes can be populated. For feature attributes where the point cloud, imagery, nor existing GIS layers can provide the required data, these fields are to be left blank and will be the responsibility of the agency to populate outside of this RFP. The proposer shall evaluate the list of features and the list of attributes and the fixed project budget for data collection and shall provide a recommendation of what is achievable under this RFP. The recommendation shall provide a list of attributes to be populated by the proposer and a list of attributes to be populated by the agency outside of this RFP. The recommendation shall describe assumptions taken to develop each list. In the event that the project budget is insufficient, priority will be given to extracting features first. The list of fields will remain as described in this RFP but populating attributes shall be reduced to salvage the project budget.

Where applicable, features, such as driveway lines, should be extracted out to or near the right-of-way (ROW) limits. From the collected LiDAR point cloud and the 360-degree street level imagery, the Winnebago County Highway Department seeks the following asset features to be extracted into individual point or linear GIS geodatabases:

- Street / roadway and bike path centerlines
- Street and roadway edges of pavement lines
    - Additional fields: Clear zone width (new construction policy), and Clear zone width (3R policy)
- Street and roadway back of curb lines
    - Additional fields: Curb type, and Offset from edge of pavement to curb flag
- Street and roadway edges of shoulder lines
    - Additional fields: Shoulder type, Paved shoulder width, Unpaved shoulder width, Presence of rumble strips, Rumble strip width, and Rumble strip offset from stripe
- Driveway edge lines
    - Additional fields: Parcel ID, Surface type (asphalt, aggregate, etc.), Access type (residence, farm access, commercial, etc.), Driveway pavement width (FT), Driveway culvert length (FT),

Culvert size (IN), Culvert type, Culvert end treatment (metal flared end section, RCP flared end section, none, etc.), Access approved by, Access approval date, Access permit number, Access general comments, Applicant Name, Applicant phone number, and Applicant address

- Bike path and sidewalk edge lines
    - Additional fields: Path name, Path or sidewalk material type, and Path or sidewalk width
- ADA Ramps
    - An existing point layer created by WCHD exists and will be utilized to create and/or update locations and attributes
- Linear pavement markings (edge lines, passing/no passing lines, diagonals, stop bars, dashed and solid lines for turn lanes, cross-walks, etc.)
    - Additional fields: Pavement marking width (IN), Pavement marking color, Pavement marking category (turn lane, mainline, lane line, pedestrian, etc.), and Pavement marking type (paint, thermoplastic, etc.)
- Point pavement markings (turn arrows, advanced RR warnings, bicycle shared lane symbols, etc.)
    - Additional fields: Pavement marking symbol height (FT), Pavement marking color, Pavement marking category (turn lane, mainline, lane line, pedestrian, etc.), Pavement marking type (paint, thermoplastic, etc.), and Pavement marking area (S.F.)
- Traffic signal detector loops
- Guardrail
    - An existing layer created by WCHD exists and will be utilized to create and/or update linework and attributes
- Culverts (driveway and side street culverts and roadway culverts)
    - An existing layer created by WCHD exists and will be utilized to create and/or update locations and attributes
- Street signs (pole mounted and mast arm mounted)
    - An existing and incomplete layer created by WCHD exists and will be utilized to create and/or update locations and attributes
- Mailboxes
    - Additional fields: Parcel ID, Mailbox post material type, Mailbox post nominal size (4"x4", 4" diameter, etc.), Mounting height from ground (IN), and Mounting height from EOP (IN), and Offset from EOP (FT)
- Traffic signal poles
    - An existing layer created by WCHD exists and will be utilized to create and/or update locations and attributes
- Luminaire poles (all poles in the corridor containing street lighting and can include wood utility poles, galvanized steel or aluminum poles)
    - An existing and incomplete layer created by WCHD exists and will be utilized to create and/or update locations and attributes
- Traffic signal and lighting cabinets

        - Additional fields: Energy supplier, Energy account number, Existence of battery backup, Type of signal detection (loop, video, etc.), and Type of illumination (photo cell, timer, etc.)
    - Traffic signal handholes and double handholes
    - Stormwater catch basins, manholes and inlets
        - An existing and incomplete layer created by WCHD exists and will be utilized to create and/or update locations and attributes

2) City of South Beloit

At a minimum, each extracted GIS feature classified as a point or as a line or polyline feature class shall contain individual fields for the following information:

- Unique ID, City roadway name, feature description, feature condition, feature comments, created by, created date, edited by, edited date, horizontal datum, vertical datum (point features classes should include fields for: northing, easting, elevation), Hyperlink to Pictures

From the collected LiDAR point cloud and the 360-degree street level imagery, the City of South Beloit seeks the following elements to be extracted into individual point or linear GIS geodatabases:

- Street / roadway centerlines
- ADA ramps
- Guardrail
- Street signs
- Stormwater inlets / catch basins

3) Village of Winnebago

At a minimum, each extracted GIS feature classified as a point feature class shall contain individual fields for the following information (except as modified under the details of each feature):

- Unique ID, Village roadway name, Street address, distance from nearest intersection, side of road (north, south, etc.), roadway functional classification (arterial, major collector, etc.), average daily traffic (ADT), ADT year, posted speed limit, ownership, county board district, village ward, construction section number, plan STA, plan offset, feature installation date, feature description, feature material type, feature condition, feature inspection date, feature comments, feature status, general comments, created by, created date, edited by, edited date, edit comments, northing (NAD83 IL-W), easting (NAD83 IL-W), elevation (NAVD88), Hyperlink to Plans, Hyperlink to Pictures

At a minimum, each extracted GIS feature classified as a line or polyline feature class shall contain individual fields for the following information (except as modified under the details of each feature asset):

- Unique ID, Village road name, side of road (north, south, etc.), roadway functional classification (arterial, major collector, etc.), average daily traffic (ADT), ADT year, posted speed limit, ownership, maintenance patrol, county board district, village ward, construction section number, feature installation date, feature description, feature material type,

feature condition, feature inspection date, feature comments, feature status, general comments, created by, created date, edited by, edited date, edit comments, horizontal datum (NAD83 IL-W), vertical datum (NAVD88), feature length (FT), feature length (Mile), Hyperlink to Plans, Hyperlink to Pictures

Where applicable, features, such as driveway lines, should be extracted out to or near the right-of-way (ROW) limits. From the collected LiDAR point cloud and the 360-degree street level imagery, the Village of Winnebago seeks the following elements to be extracted into individual point or linear GIS geodatabases:

- Stormwater catch basins, manholes and inlets
- Culverts (driveway and side street culverts and roadway culverts)
- Water valves
- Fire hydrants
- Street / roadway and bike path centerlines
- Street and roadway edges of pavement lines
- Street and roadway back of curb lines
- Bike path and sidewalk edge lines
- ADA sidewalk ramps
- Street signs (pole mounted and mast arm mounted)
- Luminaire poles (all poles in the corridor containing street lighting and can include wood utility poles, galvanized steel or aluminum poles)
- Linear pavement markings (edge lines, passing/no passing lines, diagonals, stop bars, dashed and solid lines for turn lanes, cross-walks, etc.)
- Point pavement markings (turn arrows, advanced RR warnings, bicycle shared lane symbols, etc.)
- Guardrail

4) Rockford Township

At a minimum, each extracted GIS feature classified as a point feature class shall contain individual fields for the following information (except as modified under the details of each feature):

- Unique ID, Township roadway number, Township roadway name, IDOT log point, Township log point, street address, distance from nearest intersection, side of road (north, south, etc.), roadway functional classification (arterial, major collector, etc.), average daily traffic (ADT), ADT year, posted speed limit, ownership, maintenance patrol, county board district, city ward, construction section number, plan STA, plan offset, feature installation date, feature description, feature material type, feature condition, feature inspection date, feature comments, feature status, general comments, created by, created date, edited by, edited date, edit comments, northing (NAD83 IL-W), easting (NAD83 IL-W), elevation (NAVD88)

At a minimum, each extracted GIS feature classified as a line or polyline feature class shall contain individual fields for the following information (except as modified under the details of each feature):

- Unique ID, Township roadway number, Township roadway name, side of road (north, south, etc.), roadway functional classification (arterial, major collector, etc.), average daily traffic (ADT), ADT year, posted speed limit, ownership, township, maintenance patrol, county board district, city ward, construction section number, feature installation date, feature description, feature material type, feature condition, feature inspection date, feature comments, feature status, general comments, created by, created date, edited by, edited date, edit comments, horizontal datum (NAD83 IL-W), vertical datum (NAVD88), feature length (FT), feature length (Mile)

Linear features as well as point features shall be created such that all vertices or points are drawn to the appropriate elevation (Z coordinate) so that a true 3D line / polyline or point is created. Additional fields unique to the extracted element are listed under each described element below and shall be added to the list provided above. Where applicable, "drop down" lists or domains will be created and developed for both the fields listed above and the feature specific fields listed below. The domains will aid in standardizing data entries and provide database integrity across all features. A metadata or data source item description, such as the general template available in ArcMap, shall be provided for each extracted layer and shall contain at a minimum the following items: layer summary, layer description (to include a description or definition of each field in the layer), layer credits, layer use limitations, and layer extents.

Where applicable, features, such as driveway lines, should be extracted out to or near the right-of-way (ROW) limits. Where applicable, the Rockford Township features will utilize the same fields as described and provided for WCHD, except where modified above. From the collected LiDAR point cloud and the 360-degree street level imagery, Rockford Township seeks the following elements to be extracted into individual point or linear GIS geodatabases:

- Stormwater catch basins, manholes and inlets
- Culverts (driveway and side street culverts and roadway culverts)
- Street / roadway centerlines
- Street and roadway edges of pavement lines
- Street and roadway back of curb lines
- Linear pavement markings (edge lines, passing/no passing lines, diagonals, stop bars, dashed and solid lines for turn lanes, cross-walks, etc.)
- Point pavement markings (turn arrows, advanced RR warnings, bicycle shared lane symbols, etc.)
- Guardrail
- Luminaire poles (all poles in the corridor containing street lighting and can include wood utility poles, galvanized steel or aluminum poles)
- Street signs (pole mounted and mast arm mounted)

- Bike path and sidewalk edge lines
- ADA sidewalk ramps

III. Deliverables

A. Progress Reports

1) Data collection

   A monthly progress report segregated by agency will be provided to the WCHD project manager and will detail the following items:

   - Number of miles collected, the percentage of the total miles collected, and the percentage of data post-processed and validated.
   - Anticipated work and goals for the subsequent reporting period
   - Real problems that occurred during the reporting period as well as anticipated problems in the next reporting period
   - Updates to the project schedule that will include explanations for any delays or schedule changes or changes to the agency work plan

2) Feature Extraction

   Prior to beginning any extraction work, the successful vender will develop data dictionaries unique to each participating agency for review and approval using the minimum fields detailed in this RFP. The data dictionary will list all fields, field data types, and field lengths (as applicable). This coordination will include the development of all domains to be used in the geodatabases for the establishment of data integrity and consistency.

   A monthly progress report segregated by agency will be provided to the WCHD project manager and will detail the following items:

   - Number of assets extracted and the percentage of extracted assets that have been validated.
   - Of the number of assets extracted, the percentage of the attributes completed
   - Anticipated work and goals for the subsequent reporting period
   - Real problems that occurred during the reporting period as well as anticipated problems in the next reporting period
   - Updates to the project schedule that will include explanations for any delays or schedule changes or changes to the work plan

B. Extracted GIS Features, Break Lines, & DTM

Data collection will be performed utilizing the horizontal datum of North American Datum of 1983 (NAD83) and the Illinois-West state plane coordinate system using the US foot definition. The vertical datum to be utilized is the North American Vertical Datum of 1988 (NAVD88) in US feet. The vertical datum will utilize GEOID12A to determine vertical positions. All asset features, break lines, and DTM work described in the scope of services of this RFP will be delivered in these datums. Upon agency final acceptance, all extracted GIS features will be segregated by agency and

delivered to the RFP project manager. The RFP project manager will be responsible for providing the data to WINGIS.

All extracted assets, as detailed in this RFP, will be delivered as ESRI GIS geodatabases.

If budget allows, all "Bare Earth" DTM's will be delivered as LandXML files.

C. Point Cloud and 360-Degree Imagery

At the agency's choice, all agency specific point cloud and 360-degree imagery will either be delivered on portable USB hard drives or for download via a vender supplied web-based interface or link.

Point clouds will be collected and processed in accordance with this RFP and will be delivered in the most current version of LAS or LAZ file format.

360-degree imagery will be collected and processed in accordance with the details of this RFP and will be delivered in either .tiff or .jpg format.

D. Final Report

A final report will be delivered that will document all the deliverables of this RFP. Five (5) hard copies and one (1) PDF copy will be made available. An appendix shall include all the submitted work plans segregated by agency. A separate appendix shall include all the submitted progress reports segregated by agency. A separate appendix shall document the features extracted and the associated data dictionary and shall be segregated by agency. The narrative will document items in this RFP that were not achievable due to the fixed project budget and will provide a range of the estimated cost per mile that would be necessary to complete these items outside of this RFP.

The narrative of the report will include the data collection, extraction and validation approaches. The narrative will also summarize the horizontal and vertical accuracy, and point density achieved. The report will document other value adding services that the partnering agencies can consider outside of this RFP. The report will make recommendations to each agency concerning future GIS or asset management related work to consider for future grant applications and implementation outside of this RFP.

IV. Instructions for Proposal & Submittal Requirements

The RFP submittal shall include five (5) original copies along with five (5) USB drives containing an electronic PDF copy of the RFP. The submittal can be mailed or hand delivered to:

Winnebago County Highway Department
Attn: Carlos Molina, P.E.
424 N. Springfield Avenue
Rockford, IL 61101-5097

Proposals must be received by March 3, 2023 at 12:00 PM CST.

The main text of the Consultant's proposal must not exceed twenty-five (25) letter sized (8.5" x 11") pages to address the topics listed below. Proposals shall include and address the following items:

A. Cover Letter

Include general information about the firm and its history. The general information should include a discussion about the services provided by the firm.

B. Staffing Plan and Qualifications

Include the following information to describe the proposed team and staffing plan:

- Name, address, and phone number for each proposed organization on the team
- Provide the name and contact information for the project manager along with an organizational chart for the proposed team
- Provide name, contact information, anticipated role, qualification, education, training and expertise as well as prior relevant experience of all key staff intended to perform services.
- List and describe at least three (3) past projects of similar size and scope performed for public agencies. The description will include past projects with data collection and feature extraction. The description should include a discussion about the size of the agency for which services were performed, data collection equipment used, features extracted, project schedules, project deliverables, and project budget.

C. Data Collection

Describe the proposed methodology and equipment to be used to collect the LiDAR data and associated imagery data, including the range / distance from vehicle that can be captured within the proposed accuracy, the level of precision that can be obtained, the level of precision and accuracy required for extraction of the features identified in the scope, and the extent of features and geometries that are generally visible and extractable from the raw data for both divided and undivided highways. List and describe the LiDAR equipment and high-resolution cameras to be used on this RFP. Describe data collection strategies to prevent weak GPS/GNSS signal, vegetation, traffic, work zones, etc. from impeding data extraction.

The narrative should include a discussion about the impact of accuracy and density of points to the project cost and shall make an accuracy recommendation based on the details in this RFP and the fixed project budget for data collection. Reference the accuracy / density classifications listed in NCHRP 15-44 Table 1 (Matrix of application and suggested accuracy and resolution requirements) and NCHRP 15-44 (Guidelines for the Use of Mobile LiDAR in Transportation Applications) in the cost impact discussion. This recommendation shall include a description of the acceptable limits of use for the extracted data based on the accuracy and density of points being recommended.

In addition to the accuracy being recommended, a description of the work required to achieve 1A accuracy should be included. The 1A accuracy would be

focused on specific corridors, such as major arterials or routes scheduled for major capital improvements. This narrative should include a range of cost per mile for consideration by WCHD and partner agencies outside of this RFP.

To standardize the narrative, the proposer should fill out Attachment A of this RFP and supplement with an appendix, as needed, for inclusion in the proposal.

D. Data Extraction

Describe the methodology for extracting the features from the point cloud and imagery and populating the associated attributes for the assets and features detailed in this RFP. Describe the extent of machine learning / automation that can be applied to feature extraction and the extent of manual data extraction or verification that would need to be provided manually. The narrative should include a list of the features and attributes that can be reasonably extracted from the point cloud and 360-degree imagery. The proposer shall also evaluate the list of features and the list of attributes described in this RFP against the fixed project budget for data collection and shall provide a recommendation of what is achievable under this RFP. The narrative will include a list of attributes that will need to be completed by the agency outside of this RFP. The description should also provide any assumptions being made in developing the aforementioned list(s).

To standardize the narrative, the proposer should fill out Attachment B1 – B4 of this RFP and supplement with an appendix, as needed, for inclusion in the proposal.

The proposer shall evaluate the details and specifications of this RFP and the fixed project budget associated with data collection and as detailed on page 8 (Itemized Budget Estimate by Agency) and shall make a recommendation concerning the feasibility of developing and delivering a "bare earth" or ground DTM. The "bare earth" DTM will be considered a value added product in this RFP and the DTM will only be developed if funding is available after accomplishing the other priorities of this RFP. If the proposer determines that the scope of work to prepare "bare earth" DTMs exceeds the available project funding, then the proposer shall include in the description a range of cost per mile to prepare "bare earth" DTMs consistent with the RFP scope for consideration by partnering agencies outside of this RFP. If the proposer determines that there is sufficient funding to prepare a DTM for some corridors but not all corridors then the proposer should estimate the number of miles for which a DTM can be delivered as part of this RFP.

E. Data Format and Conflation with Existing Data

Describe the process of how attributes will be populated from existing GIS layers provided by the agency. Also describe the simplicity or complexity of working with existing and incomplete agency GIS asset layers. WCHD will provide the awarded team the Linear Referencing System (LRS) used by IDOT in its roadway database. WCHD will also provide the awarded team the county address locator file for assigning addresses to features. Political boundaries such as municipalities, townships, county board districts, etc. will be provided to the awarded team in polygon GIS shapefiles. Linear GIS shapefiles will be provided to the awarded team

to extract such things as county highway number, road name, functional classification, average daily traffic, maintenance patrol, etc.

F. Data Validation and Quality Control Process

Please describe your team's process for assuring data quality, both for raw point cloud / imagery data, as well as for the extracted data. The proposal should address data completeness (ensuring all features are extracted); precision of location data; precision of measurements of length, width, height, and distance; and how changes in continuous data (such as shoulder width) are detected and recorded. The narrative should include how the following are monitored and documented: loss of GNNS reception, vehicle speed, uncorrected inertial measurement unit (IMU) drift (both in distance and in time), and proper functioning of the laser scanner. Describe how the data collection and extraction plans may be modified to address WCHD and partner agencies concerns or questions regarding data quality or completeness.

G. Project Schedule

Provide your recommended project schedule outlining key milestones for data collection and extraction.

H. Value Added Services and Capabilities

Please describe innovative or value-added services, products, or processes your team can offer to:

- Enhance the user experience when viewing and extracting features from the raw data in the future (features not collected as part of this project)
- Improve data quality or reliability
- Improve data extraction efficiency to allow more data extraction for a lower cost
- Extraction of "bare earth" digital terrain models
- Extraction of solids (guardrail, traffic signals, ect.)

I. Data Ownership, Storage, and Access

WCHD and partner agencies require to retain ownership of the raw collected data, the raw extracted data, and the final data deliverables, as well as the ability to grant access of the data to other public agencies, consultants, vendors and the general public.

Describe the estimated total size of the point cloud files and the estimated 360-degree imagery files, segregated by agency. Describe any tools or "widgets" that have been developed or are available to view the point cloud and 360-degree imagery in an ArcMap or ArcPro environment.

Exhibit A: NCHRP 15-44 Guidelines for Mobile LiDAR Table 1

NCHRP 15-44 Guidelines for the Use of Mobile LIDAR in Transportation Applications

- ***Recommendation: Agencies should take into consideration all potential uses when deciding on the level of accuracy and resolution for a specific project.***

Table 1: Matrix of application and suggested accuracy and resolution requirements.
Network accuracies may be relaxed for applications identified in red italics. Note that these are only suggestions and may change based on project needs and specific transportation agency requirements.

Accuracy	HIGH < 0.05 m (< 0.16 ft)	MEDIUM 0.05 to 0.20 m (0.16 to 0.66 ft)	LOW > 0.20 m (> 0.66 ft)
Density	**1A**	**2A**	**3A**
FINE >100 pts/m² (>9 pts/ft²)	• Engineering surveys • Digital Terrain Modeling • Construction Automation/ Machine Control • ADA compliance • *Clearances* • *Pavement analysis* • Drainage\flooding analysis • Virtual, 3D design • CAD models\baseline data • BIM\BRIM • Post-construction quality control • As-built/As-is/repair documentation • Structural inspection	• *Forensics/Accident Investigation* • *Historical Preservation* • Power line clearance	• Roadway condition assessment (general)
	1B	**2B**	**3B**
INTERMEDIATE 30 to 100 pts/m² (3 to 9 pts/ft²)	• Unstable slopes • Landslide assessment	• General Mapping • *General measurements* • Driver Assistance • Autonomous Navigation • Automated\semi-automatic extraction of signs and other features • Coastal change • *Safety* • Environmental studies	• Asset Management • Inventory mapping (*e.g.* GIS) • Virtual Tour
	1C	**2C**	**3C**
COARSE <30 pts/m² (<3 pts/ft²)	• *Quantities (e.g., Earthwork)* • Natural Terrain Mapping	• *Vegetation Management*	• Emergency Response • Planning • Land Use\Zoning • Urban modeling • Traffic Congestion\ Parking Utilization • Billboard Management

Exhibit B: NCHRP 15-44 Guidelines for Mobile LiDAR Figure 10

NCHRP 15-44 Guidelines for the Use of Mobile LIDAR in Transportation Applications

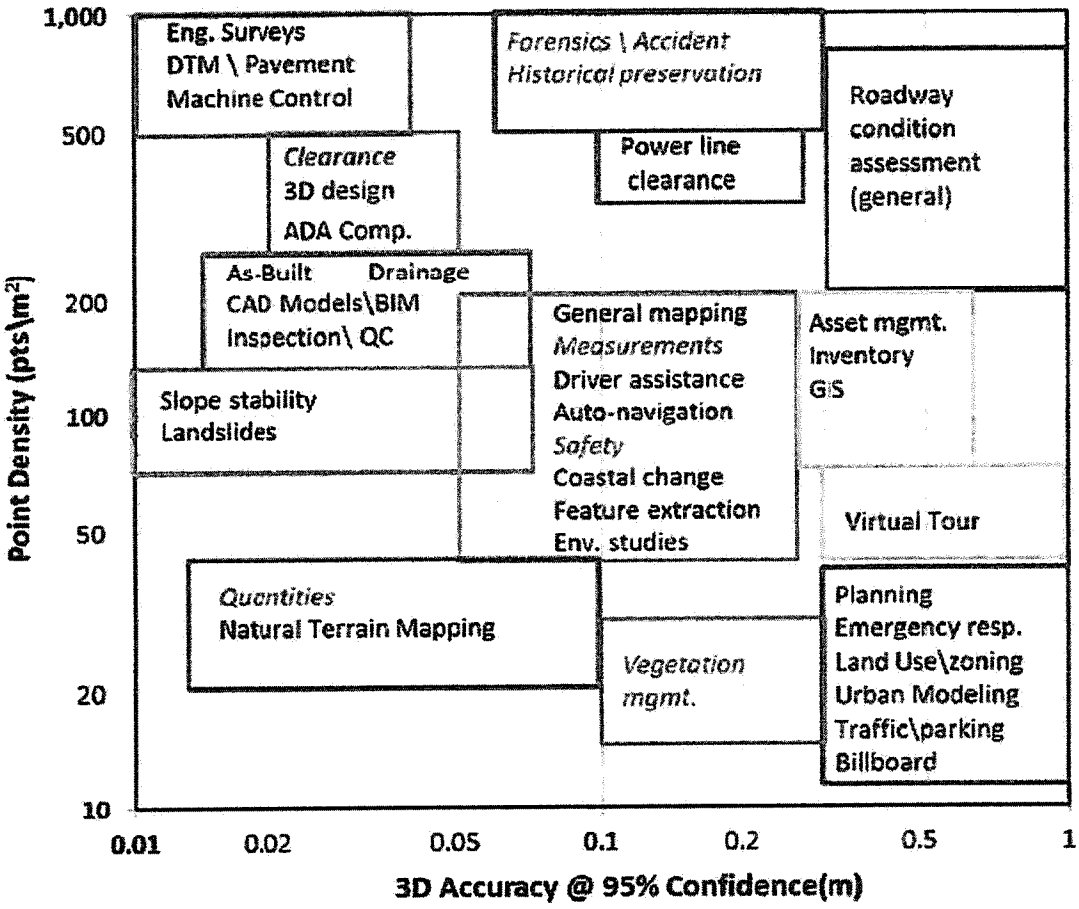
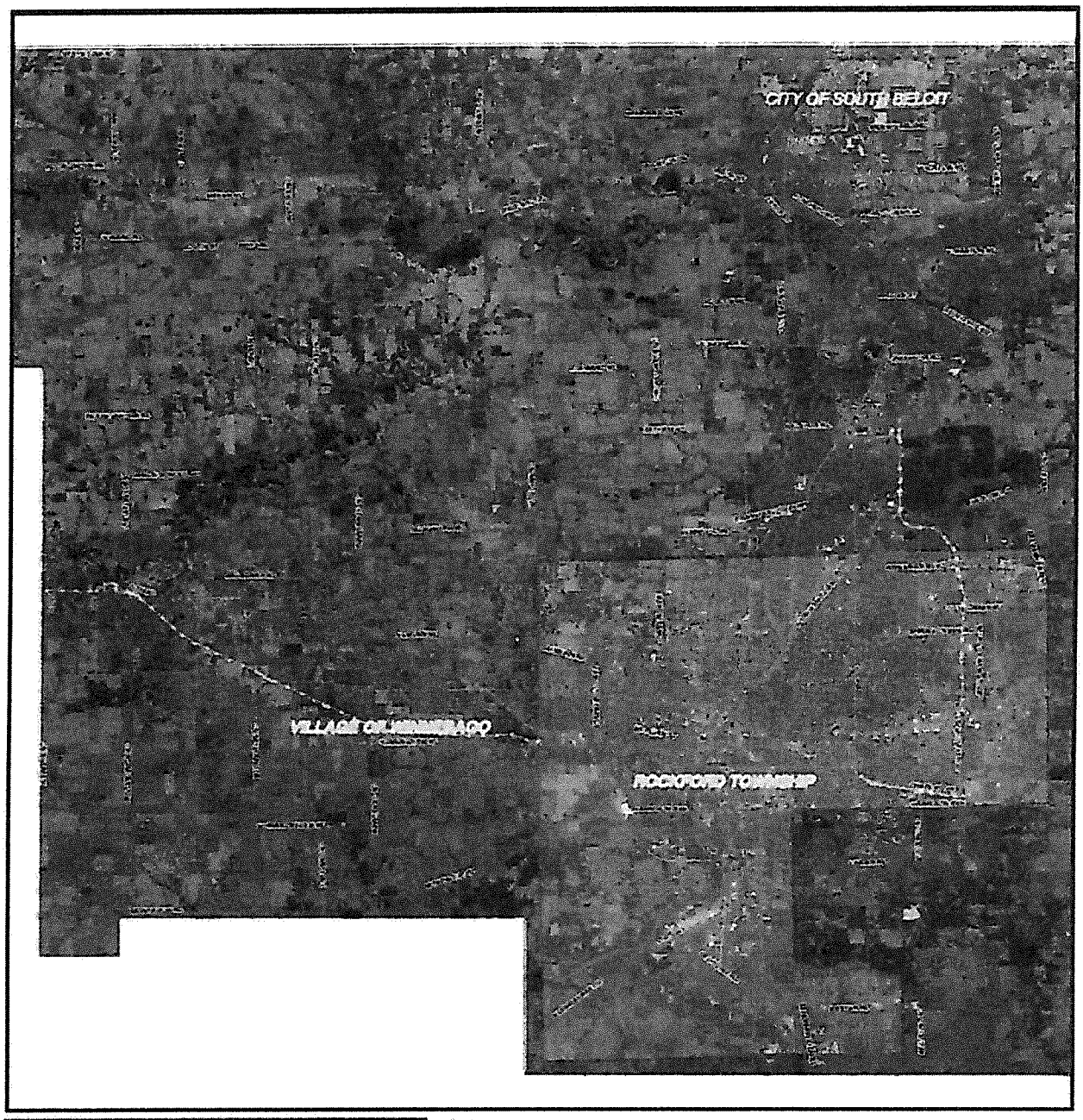


Figure 10: Suggested accuracies and point density for several transportation applications. Note the use of a log scale on both axes. *Network accuracies may be relaxed for applications identified in red italics.*

Exhibit C: Winnebago County Routes for Data Collection

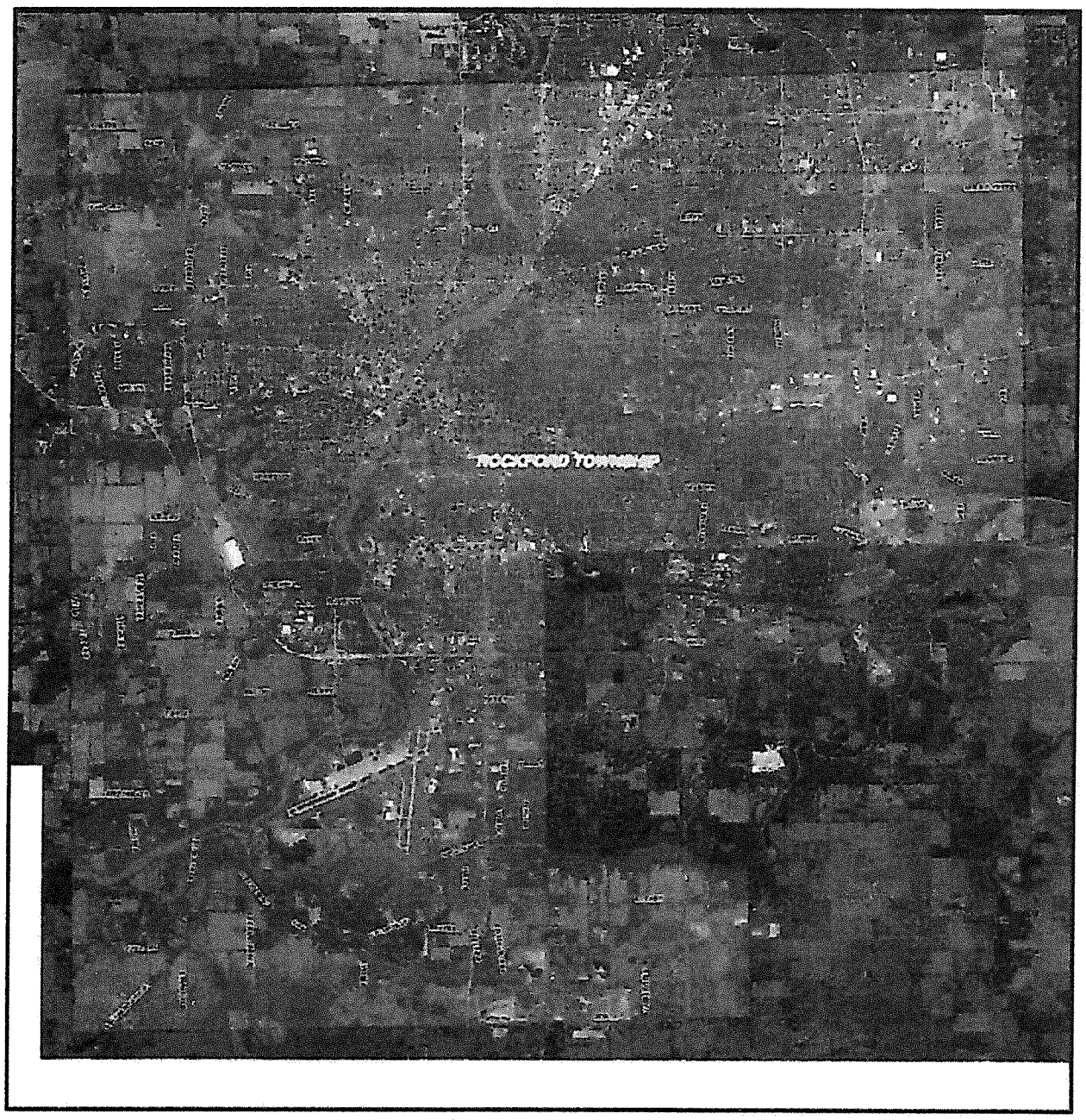
Digital ESRI shapefiles can be made available upon request.



Revised 1/25/2023

Exhibit D: Rockford Township Routes for Data Collection

Digital ESRI shapefiles can be made available upon request.



Revised 1/25/2023

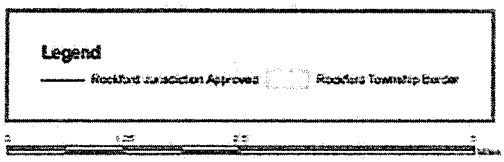


Exhibit E: City of South Beloit Routes for Data Collection

Digital ESRI shapefiles can be made available upon request.

Revised 1/25/2023

Exhibit F: Village of Winnebago Routes for Data Collection

Digital ESRI shapefiles can be made available upon request.

Revised 1/25/2023

Attachment A: Data Collection Procedures & Deliverables

In an effort to standardize the evaluation of the data collection and deliverables, the proposer will fill out this form for inclusion in the proposal submittal. If the space in "Comments" is insufficient for a desired response, the proposer shall reference and attach an appendix. To standardize the accuracy and resolution information provided by the proposer on this form, please refer to the categories referenced in Exhibit A and B when filling out this column. Additional information concerning the accuracy and resolution can be included in the comments or associated appendix.

Data Collection Items	***Item Completion or Inclusion in Proposal (Y or N or See Comments)***	***RFP Proposal Recommendation for Accuracy & Resolution (1A through 3C – Ref. Exhibit A)***	***Comments***
Raw Point Cloud			
Collect & store point intensity			
Collect & store point color			
Point Cloud GPS post-processing			
Delivered with color & intensity attributes			
Delivered in current LAS or LAZ file format			
Delivered with point classification			
Delivered via a download link			
Delivered via hard drive(s)			
Estimated file storage required (by Agency)			
Deliver Tools or "Widgets" for use in ArcMap or in ArcPro to view point cloud			
360-degree spherical images			
Maximum 6 meter spacing			
Minimum 30 megapixel resolution			
Delivered in .JPG image file format			
Delivered in .TIFF image file format			
Positional information GPS post-processed			
Final positional information stored & delivered in CSV			
Delivered via a download link			
Delivered via hard drive(s)			
Estimated file storage required (by Agency)			
Deliver Tools or "Widgets" for use in ArcMap or in ArcPro to view point cloud			
"Bare Earth" or Ground DTM Deliverable			
Data tiling			
Noise Removal			
Point Classification			

Point Cloud Attributes - Intensity			
Point Cloud Attributes - Colorization			
Point Filtering			
Break Line Extraction			
Est. file storage required (by Agency)			

Attachment A: Continued

Attachment B1: WCHD Feature Extraction List

In an effort to standardize the evaluation of the proposed data extraction deliverables, the proposer will fill out this form for inclusion in its submittal. If the space in "List Attributes that cannot be completed as part of this RFP" is insufficient for a desired response, the proposer shall reference and attach an appendix.

Agency Priority	***Feature Category***	***Feature Type***	***Complete Feature Extraction (Y or N)***	***Complete All Feature Fields / Attributes (Y or N)***	***List Attributes that cannot be completed as part of this RFP (Reference an appendix as necessary)***
1	Street / roadway and bike path centerlines	Linear			
2	Roadway edges of pavement (EOP)	Linear			
3	Roadway edges of shoulder (EOS)	Linear			
4	Back of curb (BOC)	Linear			
5	Pavement markings	Linear			
6	Traffic signal detector loops	Linear			
7	Guardrail	Linear			
8	Driveway edge	Linear			
9	Bike path and sidewalk EOP	Linear			
10	Culverts	Point			
11	ADA ramps	Point			
12	Stormwater catch basins, manholes and inlets	Point			
13	Street signs	Point			
14	Pavement markings	Point			
15	Traffic signal and lighting cabinets	Point			
16	Traffic signal handholes & double handholes	Point			
17	Traffic signal poles	Point			
18	Luminaire poles	Point			
19	Mailboxes	Point			

Attachment B2: City of South Beloit Feature Extraction List

In an effort to standardize the evaluation of the proposed data extraction deliverables, the proposer will fill out this form for inclusion in its submittal. If the space in "List Attributes that cannot be completed as part of this RFP" is insufficient for a desired response, the proposer shall reference and attach an appendix.

Agency Priority	***Feature Category***	***Feature Type***	***Complete Feature Extraction (Y or N)***	***Complete All Feature Fields / Attributes (Y or N)***	***List Attributes that cannot be completed as part of this RFP (Reference an appendix as necessary)***
1	Street / roadway centerlines	Linear			
2	ADA Ramps	Point			
3	Guardrail	Linear			
4	Street Signs	Point			
5	Stormwater inlets and catch basins	Point			

Attachment B3: Village of Winnebago Feature Extraction List

In an effort to standardize the evaluation of the proposed data extraction deliverables, the proposer will fill out this form for inclusion in its submittal. If the space in "List Attributes that cannot be completed as part of this RFP" is insufficient for a desired response, the proposer shall reference and attach an appendix.

Agency Priority	***Feature Category***	***Feature Type***	***Complete Feature Extraction (Y or N)***	***Complete All Feature Fields / Attributes (Y or N)***	***List Attributes that cannot be completed as part of this RFP (Reference an appendix as necessary)***
1	Street / roadway and bike path centerlines	Linear			
2	Roadway edges of pavement (EOP)	Linear			
3	Back of curb (BOC)	Linear			
4	Pavement markings	Linear			
5	Culverts	Linear			
6	Guardrail	Linear			
7	Bike path and sidewalk EOP	Linear			
8	Water valves	Point			
9	Fire hydrants	Point			
10	Stormwater catch basins, manholes and inlets	Point			
11	Street signs	Point			
12	Pavement markings	Point			
13	Luminaire poles	Point			
14	ADA ramps	Point			

Attachment B4: Rockford Township Feature Extraction List

In an effort to standardize the evaluation of the proposed data extraction deliverables, the proposer will fill out this form for inclusion in its submittal. If the space in "List Attributes that cannot be completed as part of this RFP" is insufficient for a desired response, the proposer shall reference and attach an appendix.

Agency Priority	***Feature Category***	***Feature Type***	***Complete Feature Extraction (Y or N)***	***Complete All Feature Fields / Attributes (Y or N)***	***List Attributes that cannot be completed as part of this RFP (Reference an appendix as necessary)***
1	Street / roadway centerlines	Linear			
2	Roadway edges of pavement (EOP)	Linear			
3	Back of curb (BOC)	Linear			
4	Pavement markings	Linear			
5	Guardrail	Linear			
6	Bike path and sidewalk EOP	Linear			
7	Stormwater catch basins, manholes and inlets	Point			
8	Culverts	Point			
9	ADA ramps	Point			
10	Street signs	Point			
11	Pavement markings	Point			
12	Luminaire poles	Point			

ROCKFORD TOWNSHIP HIGHWAY DEPARTMENT

Daniel P. Conness
HIGHWAY COMMISSIONER

404 N. Springfield Avenue • Rockford, IL 61101-5098 • (815) 962-7313 • Fax (815) 962-7350

Christine Davis
Illinois Environmental Protection Agency
Bureau of Water, NPS Unit #15
1021 North Grand Avenue East
Springfield, Illinois 62702

Dear Ms. Davis,

Rockford Township Highway Department is pleased to provide Region 1 Planning Council a letter of support for its application to the Illinois Environmental Protection Agency Section 319(h) Nonpoint Source Pollution Control Financial Assistance Program.

If selected for funding, Region 1 Planning Council will work to engage its targeted outreach audience to better understand the importance of water quality and nonpoint source pollution (NPS) control in the region. Additionally, Region 1 Planning Council will create two Best Management Practice (BMP) demonstration projects, one in the South Fork Kent Creek Watershed and one in Buckbee Creek Watershed.

This project is a great opportunity to highlight BMPs to stakeholders that will improve NPS pollution in priority watersheds and engage in outreach best practices through implementing components of two IEPA approved Watershed-Based Management Plans. Rockford Township Highway Department strongly supports RPC's application and urges IEPA to give it the highest consideration.

Sincerely,

Daniel P. Conness
Highway Commissioner

Barry Palm

From: Sean Von Bergen <SVonBergen@WinCoIL.us>
Sent: Friday, November 12, 2021 9:55 AM
To: Barry Palm
Cc: Shelby Best; Caitlin Eastman
Subject: FW: 319 - Rockford Township Letter of Support
Attachments: 319 LOS Template.docx

Barry,

The plan for Park-Er-Woods that we previously discussed is being downsized to one bioswale on RPD property just south of the pond. R1PC is looking for a commitment of approximately $10,000 of in-kind services form Rockford Township for this project. WCHD will also contribute approximately $10,000 worth of in-kind services. RPD will be giving $10,000 in cash for the project and will be responsible for future O&M costs. R1PC has also asked if the Township would write a letter of support for this grant (please see the attached sample). Please let me know if you have any qustions...

Thank you,

Sean Von Bergen

Sean Von Bergen, Highway Department
424 N. Springfield Ave, Rockford, IL 61101
Desk (815) 319-4034 I svonbergen@wincoil.us

WINNEBAGO COUNTY
ILLINOIS

From: Shelby Best
Sent: Wednesday, November 10, 2021 7:41 AM
To: Tom Lind <TomLind@rockfordparkdistrict.org>; Sean Von Bergen <SVonBergen@WinCoIL.us>
Cc: Caitlin Eastman <CEastman@r1planning.org>
Subject: 319 - Letter of Support

Good morning Tom and Sean,

We've prepared a letter of support for the 319 grant (attached). It's not required, but it would be nice to have as additional supplementary materials. If you both have the time this week, we would appreciate if you could complete/sign. Feel free to edit the text or add text as you see fit.

Thank you,
Shelby

Shelby Best
Sustainability & Resiliency Coordinator
A 127 N Wyman St, First Floor | Rockford, Illinois 61101
D 815-319-4190

M 815-408-1287
E sbest@r1planning.org ***W*** r1planning.org

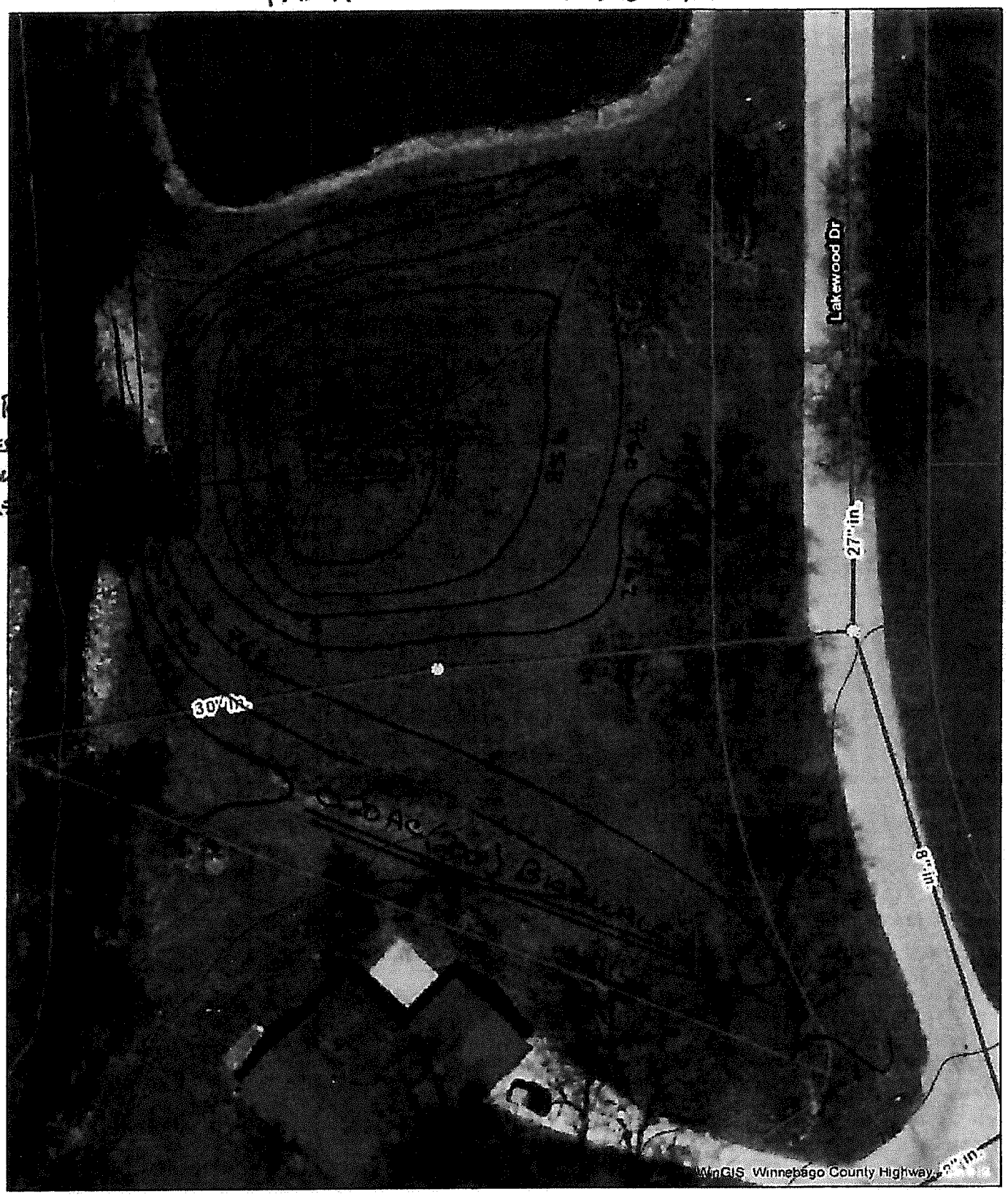
There's good news in government! Subscribe to the RPC newsletter to learn more.

COLLABORATIVE PLANNING FOR NORTHERN ILLINOIS

November 10, 2021

PARK-ER-WOODS LOCATION MAP

RIP
OVE
FLO
761.



N
W E
S

WinGIS cannot and does not warrant the accuracy of: property and boundary lines, dimensions of parcels and lots, location of structures or improvements, and topographic or geologic features on the land. Only on-site verification or field surveys by a licensed professional land surveyor can provide such accuracy.

0 37.5 75 Feet

SCALE: 1:472

WIN GIS
Winnebago County Geographic Information System

Park-Er-Woods Bioswale Detailed Cost Estimate

Practice Component	Unit Type	Amount	Cost Per Unit	Total
Seeding, Bioswale Mix	Acres	0.15	$ 1,000.00	$ 150.00
Seeding, Class 2A	Acres	0.05	$ 800.00	$ 40.00
Planting Plugs	Number Of	2180	$ 4.13	$ 9,003.40
Rip Rap, Class A3	Cubic Yards	30	$ 35.00	$ 1,050.00
Erosion Control Blanket	Square Feet	8000	$ 0.10	$ 800.00
Silt Fence	Linear Feet	400	$ 0.80	$ 320.00
Check Dam	Linear Feet	90	$ 35.00	$ 3,150.00
Engineered Topsoil	Cubic Yards	250	$ 50.00	$ 12,500.00
Topsoil	Cubic Yards	50	$ 20.00	$ 1,000.00
Planting Design Plan	Number Of	1	$ 2,400.00	$ 2,400.00
Design Engineering	Number Of	1	$ 7,000.00	$ 7,000.00
Stabilized Construction Entrance	Number Of	1	$ 1,500.00	$ 1,500.00
Project Sign	Number Of	1	$ 486.60	$ 486.60
Instalation Services*	Number Of	1	$ 40,600.00	$ 40,600.00
Total Conceptual Cost Estimate				$ 80,000.00

* Instalation Services would be split 4 ways between WCHD, Rockford TWP, RPD & OES ($11k of In-Kind Services from WCHD & Rockford Twp, $7.6k of In-Kind Services from OES, $11k cash from RPD)