Wisconsin Department of Natural Resources

2015 Urban Nonpoint Source & Storm Water Program – Planning Grant Application

2016 Stormwater Management and Master Planning

Hudson, Wisconsin

SEH No. HUDSO 131022

April 13, 2015

SEH

Building a Better World for All of Us®

Engineers | Architects | Planners | Scientists

State of Wisconsin
Runoff Management Section-WT/3
Department of Natural Resources
101 South Webster Street
Madison, WI 53703 **or**
P.O. Box 7921
Madison Wi 53707-7921

Urban Nonpoint Source & Storm Water (UNPS&SW)Program Planning Grant Application

Form 8700-299A (R 1/15)

Notice: This application form template was created by the Wisconsin Department of Natural Resources. Application is hereby made to the Wisconsin Department of Natural Resources, Bureau of Watershed Management, for grant assistance consistent with s. 281.66, Wis. Stats., and Chapters NR 151, 154, and 155, Wis. Adm. Code. Collection of this information is authorized under the authority of s. 281.66, Wis. Stats. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law [ss. 19.31 - 19.39, Wis. Stats.]. *Unless otherwise noted, all citations refer to Wisconsin Administrative Code.*

Please read the instructions prior to completion of this form. Complete all sections as applicable. Tab to each section or click in answer spaces.

Applicant Information

Calendar Year of Grant Start: 2016

Project Name: City of Hudson Storm Water Management and Master Planning

Applicant (governmental unit applying; name and type, e.g. Wausau, City; Randall, Town; Waunakee, Village): Hudson, City of

Name of Government Official - Authorized Signatory (First Last)	Name of Government Official - Grant Contact Person (First Last)
Devin J. Willi	Tom Zeuli
Title: City Administrator	Title: Public Works Director
Area Code + Phone Number: (715) 386-4765	Area Code + Phone Number: (715) 386-4765
E-Mail Address: dwilli@ci.hudson.wi.us	E-Mail Address: tomzeuli@ci.hudson.wi.us
Mailing Address - Street or PO Box: 505 3rd Street	Mailing Address - Street or PO Box: 505 3rd Street
City: Hudson; State: WI; ZIP Code: 54016	City: Hudson; State: WI; ZIP Code: 54016

Project Information

A. Location of Project

County: St. Croix

State Senate District number: 10

State Assembly District number: 30

Minor Civil Division (city, town, village, *e.g.*, Wrightstown, Village of)	Township (N)	Range	E or W	Section	Quarter	Quarter-Quarter	Latitude (North, 4 to 7 decimal places)	Longitude (West, 4 to 7 decimal places)
Hudson, City of	29 N	20	W	25			44.9622	-92.7352
Hudson, City of	29 N	19	W	30				
Hudson, City of	29 N	19	W	31				
Hudson, City of	29 N	19	W	32				
Hudson, City of	29 N	20	W	36				

Method for Determining Latitude & Longitude (check one)

○ GPS ◉ DNR Surface Water Data Viewer (http://dnrmaps.wi.gov/SL/?Viewer=SWDV)
○ Other (specify):

B. Project Summary and Description. Use this space for the project summary and description, not an attachment.
Mention every activity being proposed in Part II; Question 1.

The City of Hudson is planning to update and create new stormwater ordinances including construction site erosion control, post-construction stormwater management, illicit discharge, detection and elimination, and stormwater utility ordinances. The City of Hudson will conduct public education and outreach and public participation and involvement plans as well. A GIS based storm system map and stormwater quality treatment model will also be created. These stormwater planning and implementation activities will enable the City to achieve compliance with the recent MS4 Permit coverage granted to the City.

C. Watershed, Waterbody and Pollutants (see Attachment A and http://dnrmaps.wi.gov/SL/?Viewer=SWDV).
Note: Planning areas may encompass several square miles and may affect multiple watersheds.

Watershed Name	Watershed Code	12-digit Hydrologic Unit Code (HUC)	% of Project Area	Nearest Waterbody Name
Lower Willow River	SC02	070300051008	100	St. Croix River, Willow River

Nonpoint Source Pollutant(s) Controlled by the Project
☐ Nutrients ☐ Sediment ☐ Other, specify:

Part I. Screening Requirements

A. Maps and Photographs

Yes
☒ An 8.5" x 11" map from the DNR data/map viewers, showing the project area, is attached (link to http://dnrmaps.wi.gov/SL/?Viewer=SWDV).

☒ Aerial photo maps and project area photos are also included.

B. Filters *Note: The applicant must be able to check "Yes" to questions 1 through 8 below to be eligible for a grant. Check "Yes" to question 9 , if applicable.*

Yes

☒ 1. Project is in an area that is urban or will be urban within 20 years (see Attachment B).

☒ 2. Project will be completed within 24 months of the start of the grant period.

☒ 3. Staff and consultants designated to work on this project have adequate training, knowledge, and experience to implement the proposed project.

☒ 4. Staff or contractual services, in addition to those funded by this grant, will be provided if needed.

☒ 5. Planning products prepared under this grant will not work at cross-purposes to (are consistent with) the non-agricultural performance standards under ch. NR 151 (see Attachment D).

☒ 6. The local DNR District Nonpoint Source Coordinator has been contacted and the project was discussed. See contacts at: http://dnr.wi.gov/topic/nonpoint/NPScontacts.html.

Name of the District Nonpoint Source Coordinator Contacted	Date Contacted	Subject of Contact
Cindy Koperski	04/09/2015	UNPS Eligibility

☒ 7. The applicant can declare that **one** of the two statements below is TRUE.

- ◉ a. Statement A: The grant application is for a local governmental unit that has jurisdiction over the project area. (Jurisdiction over the project area means that the governmental unit has control over whether the planning recommendations are carried out.)
- ○ b. Statement B: The applicant does not have jurisdiction over the project area; however conditions "i" and "ii" or "i" and "iii" are met
  - ☐ i. The applicant is required to obtain a permit under subchapter I. of ch. NR 216; **and**
  - ○ ii. In addition, Inter-Governmental Agreements (IGAs) are in place,
  - ○ iii. **or**, will be put in place prior to the commencement of the grant period, to assure urban best management practices included on the grant are installed and maintained (see Attachment G).

☒ 8. The applicant can declare that **one** of the two statements below is TRUE.

- ◉ a. Statement A: The applicant is not the University of Wisconsin Board of Regents.
- ○ b. Statement B: The applicant is the University of Wisconsin Board of Regents **and** the project will develop recommendations for a UW Campus area located in a municipality that meets **both** of the following criteria:
  - ☐ i. The municipality is required to obtain a municipal storm water permit under ch. NR 216 **and**
  - ☐ ii. The municipality is located either in a priority watershed or lake area identified under s. 281.65, Wis. Stats., or in an area of concern as identified by the International Joint Commission under the Great Lakes Water Quality Agreement.

☐ 9. This application is a joint application among local units of government, and

☐ If yes, the required Inter-Governmental Agreement (maybe a DRAFT) is attached (see Attachment G).

If the applicant answered "No" to any of the items in 1-8, above, stop here. This project is ineligible.

Part II. Competitive Elements

Question 1. Project Activities and Extent of Pollutant Control
A project can consist of one or more of the following planning activity categories (A through F). For each category below, check the boxes that describe the work products which will be produced under **this** grant. **Do not check boxes based on prior work.**

A. Ordinance Preparation

Develop New	Update Existing	The project is to develop or update one or more of the following ordinances (must be the applying Governmental Unit's ordinances), including associated information, education and public participation activities. Check all that apply.
☐	☒	1. Construction erosion control ordinance including all the requirements of s. NR 151.11.
☒	☐	2. Storm water ordinance for new development and re-development including all the requirements of ss. NR 151.12, NR 151.121-128, and NR 151.241-249. (See NR 151 at: http://docs.legis.wi.gov/code/admin_code/nr/100/151.pdf#page=1.)
☐	☐	3. Low impact development/conservation subdivision ordinances.
☒	☐	4. Other ordinances such as an illicit discharge ordinance, storm water ordinances affecting runoff from developed urban areas (*e.g.*, pet waste management ordinances, nutrient management ordinances), or ordinances that regulate the application of fertilizers to non-municipal properties in accordance with s. NR 151.14.

B. Financing Mechanisms

Develop New / Update Existing

The project will evaluate financing mechanisms for storm water management, including associated information, education and public participation activities. Recommendations will be presented to the governing board for approval and DNR will be notified of the governing board's action. Check **one** of the following:

- ☐ ☒ 1. The project develops a dedicated revenue source, such as a storm water utility, to implement a storm water program focusing on implementation of performance standards in Subchapter III of ch. NR 151.

  OR

- ☐ ☐ 2. The project is a general feasibility analysis of alternative funding mechanisms

C. Storm Water Plan for Developed Urban Areas (includes redevelopment)

Develop New / Update Existing

The project is to develop or update a storm water management plan for developed urban areas, including redevelopment, which addresses all applicable performance standards under NR 151 including associated information, education and public participation activities.
Check **one** of the following

- ☒ ☐ 1. This project will cover the entire geographic area of the governmental unit.

  OR

- ☐ ☐ 2. This project will cover only part of the geographic area of the governmental unit.

D. Storm Water Plan for New Development

Develop New / Update Existing

The project will develop or update a storm water management plan for new development that addresses all of the performance standards under ss. NR 151.12, NR 151.121-128, and NR 151.241-249, including associated information, education and public participation activities. Check **one** of the following:

- ☒ ☐ 1. This project will cover the entire geographic area of the governmental unit.

  OR

- ☐ ☐ 2. This project will cover only part of the geographic area of the governmental unit.

E. Comprehensive Storm Water Information and Education Program

☐ Check this box if the project will develop and/or implement a comprehensive storm water information and education program.
Note: This category may **not** be checked if any boxes in categories A through D, above, have been checked.

Information and education activities are expected to be included as necessary components of projects under categories A through D.

F. Inter-Municipal and Watershed-based Cooperation (bonus)

☐ Check this box if this project is being conducted as part of an inter-governmental storm water management strategy for a common water resource. This also includes entering into a Watershed-based Storm Water Management Permit with other municipalities.
Note: *If more than one local unit of government is joining in this project application (a "joint application"), then an Inter-Governmental Agreement (IGA) meeting the requirements of Attachment G must be submitted with this application.*

Provide a description of the inter-governmental effort that will be used to complete the project.

Question 2. Fiscal Accountability

A. Timeline and Source of Staff
For each applicable milestone listed below, fill in the appropriate data.

Milestone	Target Completion Date (month/year)	Source(s) of Staff
Basic Milestones		
Prepare preliminary scope of services and discuss with DNR NPS Coordinator	03/2016	Municipal Staff
Prepare Request for Proposal		Municipal Staff - Conducted QBS in 2014
Select Consultant	04/2016	Municipal Staff
Finalize Scope of Service and Professional Services Contract	05/2016	Municipal Staff and Consultant
Get DNR approval of Professional Services Contract	05/2016	Municipal Staff and DNR
Hold "kick-off" meeting	06/2016	Municipal Staff and Consultant
Interim meeting with DNR	01/2017 & 07/2017	Municipal Staff, DNR, and Consultant
Presentation to Municipal Council	10/2017	Muncipal Staff & Consultant
Submit project and final report to DNR	12/2017	Municipal Staff
Additional Milestones (list below)		

B. Adequate Financial Budget
Provide detailed budget information for every proposed project activity in Question 1. and supporting activities for which DNR funding is requested. Please note: the state share may not exceed 70% of eligible costs. The grant amount is capped at $85,000 for the eligible planning activities.

B.1. Financial Budget Table - Planning Activities

A Project Activity for Which DNR Funding is Requested Use this space, not an attachment.	B Estimated Total Cost ($)	C Amount from Column B Eligible for DNR Cost Sharing ($)
Records Review & Project Workplan	5,000	5,000
Stormwater Mapping	70,000	70,000
Stormwater Modeling	50,000	50,000
Update Erosion Control Ordinance	2,000	2,000
Create New Post-Construction SW Ordinance	3,000	3,000
Create New Illicit Discharge Detention/Elimination Ordinance	3,000	3,000
Municipal Pollution Prevention Plan	4,000	4,000
Update SWU Ordinance/Program	4,000	4,000
Create Public Education and Outreach Program	4,000	4,000
Create Public Involvement/Participation Program	2,000	2,000

1. Total	147,000	147,000

B.1. (continued) Cost Sharing Worksheet

Eligible Costs:	
2. 70% of Column C Total Row 1 above	$ 102,900
Cap Test:	
3. Maximum State Share Row 2 or $85,000, whichever is less	$ 85,000
State and Local Share:	
4. Requested State Share Amount (Enter Requested Grant Amount)	85,000
5. Local Share Amount (Total of Row 1 Column B less Row 4)	$ 62,000

B.2. Use of Additional Funding

☐ Check this box if both of the following conditions are met.

- The requested state share amount in row 4 is less than the $85,000 grant cap.
- The requested state share amount in row 4 is below the maximum state-share in row 3. (The resulting cost-share rate is less than 70%.)

B.3. Cost Estimate Quality Describe the quality of cost estimates including whether the cost estimate is based on a competitive bid, scope of services, similar projects conducted locally, similar projects conducted elsewhere in the state or region, or other more generalized data. Provide documentation.

The cost estimate for stormwater planning services is based upon input from City Staff and the Consultant. The City has communicated with other communities for consistency with their investment in similar services. The Consultant has provided similar services for a number of communities and a detailed Scope of Services can be found as an attachment to this application.

Identify the source of the local share:
The City of Hudson Stormwater Utility

Question 3. Project Evaluation Strategy

Information that will be developed and presented to DNR to evaluate the environmental benefits of completing this project. Check all that apply.

☒ A. Information that quantifies how project implementation is projected to decrease storm water impacts on state waters will be provided to the DNR. The information may be provided as part of the planning product *(e.g.*, storm water plan, I&E plan) or in the Final Report.

☒ B. Information that tracks progress in carrying out recommendations of this project will be provided to the Department for one or two years after the project is completed. Specify if it is going to be one or two years that tracking information will be provided and describe how this annual post-project tracking process will work:

The City of Hudson will provide DNR an Annual Report detailing status of elements of MS4 Permitting, including public education and outreach, public involvement and participation, illicit discharge and detection, construction and post-construction site pollution control, pollution prevention, and periodic updating of stormwater mapping and modeling.

Question 4. Water Quality Needs

The project must be consistent with at least one of the following seven watershed priorities. For each watershed in the project area, identify the category that best identifies the project goals. If more than one category is checked (because the project area contains more than one watershed), estimate the portion of the project area to be assigned to each category.

Note: For border waters where a State of the Basin Report does not exist, another governmental document acceptable to the District NPS Coordinator may be used to identify the water quality need.

	Percent of Project Area (Total should equal 100%)	Surface Water Considerations
☒	80	**A. Clean Water Act section 303(d) List of Impaired Waters** Project with water quality goals directly dealing with a water body (lake or stream) on the latest Clean Water Act (CWA) s. 303(d) List of Impaired Waters, where the cause of the impairment is nonpoint source pollution and this project will reduce the type of nonpoint pollutants for which the water is listed (see Attachment A and http://dnrmaps.wi.gov/SL/?Viewer=SWDV). **Name of Applicable Impaired Water:** Lake St. Croix **Name of Pollutant Causing Impairment:** Total Phosphorus
☒	20	**B. Outstanding or Exceptional Resource Waters or Other Areas of Special Natural Resource Interest** Prevention of degradation due to nonpoint sources of outstanding resource waters (ORW) (per s. NR 102.10) or exceptional resource waters (ERW) (per s. NR 102.11) or other areas of special natural resource interest (ASNRI). To locate ORW/ERW and other ASNRIs see Attachment A and go to DNR's Surface Water Data Viewer Designated Waters Theme at http://dnrmaps.wi.gov/SL/Viewer.html?Viewer=SWDV&runWorkflow=DesignatedWaters. **Name of Applicable ORW/ERW or ASNRI:** Willow River
☐		**C. Not Fully Supporting Uses or NPS Ranking of High or Medium** A water body (lake or stream) identified in a DNR-approved Basin/Watershed Plan as not supporting designated uses due to nonpoint sources, but is not on the section 303(d) List. In newer plans, these waters are categorized as "supporting" (as opposed to "fully supporting") designated uses; in plans prior to 2010 they were labeled as "partially meeting" designated uses. Or, the project is located in watershed, lake watershed, or other area ranked high or medium on the NPS Rankings List, where the goals of the project are directly associated with the reason for the ranking on the NPS Rankings List.
☐		**D. Surface Water Quality** Prevention of degradation of surface water quality due to nonpoint sources
		Groundwater Considerations For assistance with this section, please consult the DNR District Drinking Water and Groundwater Specialist at: http://dnr.wi.gov/topic/drinkingWater/documents/CountyContacts.pdf or the County Extension office.
☐		**E. Exceeds Groundwater Enforcement Standard** Groundwater within the project area where representative information indicates that stormwater pollutants in groundwater exceed the Enforcement Standard (ES).
☐		**F. Exceeds Groundwater Preventive Action Limit** Groundwater within the project area where representative information indicates that storm water pollutants in groundwater exceed the Preventative Action Limit (PAL).

☐		**G. Groundwater Quality** (see Attachment F) The project area is within a geological area defined in Attachment F as susceptible to groundwater contamination.
	Total: 100	

Drinking Water Bonus Points (see Attachment E)

Yes ☐ Check this box if the project water quality goals identified above relate to the reduction of nonpoint source contaminants in community or non-community public drinking water supplies. This includes any of the following: Municipal supplies governed by chs. NR 809 and 811; Other-Than-Municipal (OTM) water supplies governed by chs. NR 809 and 811; Non-Transient water supplies governed by chs. NR 809 and 811; Transient water supplies governed by chs. NR 809 and 812.

1. If "Yes," and you checked boxes E, F, or G, above, then mark a, b, or c, below and move on to question 6. (You will need assistance from your DNR District NPS Coordinator at http://dnr.wi.gov/topic/nonpoint/NPSContacts.html or Water Supply Specialist at http://dnr.wi.gov/topic/drinkingWater/documents/CountyContacts.pdf to answer.)

○ a. Check this box if the project is located: within the wellhead protection area of a municipal well; or within 1,200 feet of a municipal well for which a wellhead protection area is not delineated; or within 1,200 feet of an Other-Than-Municipal (OTM) water supply well; or within 1,200 feet of a Non-Transient water supply well.

○ b. Check this box if the project is located within 200 feet of a Transient water supply well.

○ c. Check this box if **neither** a nor b applies

2. If "Yes," and you checked box **A, B, or C or D above**, then place a check mark next to the appropriate drainage area where the project is located. If the project is in more than one drainage area, enter the appropriate percentages in the boxes provided. (See Attachment E .)

	Source Water Drainage Area	Portion of Project in Assessment Area (%)
☐	Pike River and Creek	
☐	Root River	
☐	Oak Creek	
☐	Milwaukee River	
☐	Sauk Creek	
☐	Sheboygan and Onion Rivers	
☐	Manitowoc River	
☐	Twin Rivers	
☐	Kewaunee and Ahnapee Rivers	
☐	Menominee River	
☐	Fish Creek	
☐	St. Louis and Nemadji Rivers	
☐	Lake Winnebago	

Question 5. Evidence of Local Support

For A. and B., check the applicable situation that exists at the time of application. Submit supporting information and documentation with the application.

A. Government

○ 1. The local-share funds for this project's expenses are already included specifically in an **adopted** budget.

☒ Evidence of the adopted budget is included with the application submittal.

Describe the document and list date of adoption:

○ 2. The local-share funds for the project expenses are or will be included in a **proposed** budget.

☐ Evidence of the proposed budget is included with the application submittal.
Describe the document and list date for adoption;

B. Community Supporting information must be submitted with the application.

◉ 1. There is local community support from community stakeholders specifically for the project.

☒ a. There is local support from citizen groups.

☐ b. There is local support from municipal committees or councils representing the applicant.

○ 2. There is community support for addressing general water resource needs in the community, even though there may not be evidence of support for this specific project.

☐ a. There is general support from citizen groups.

☐ b. There is general support from municipal committees or councils representing the applicant.

Question 6. Plans and Regulations

A. Consistency With Resource Management Plans

☒ Check this box if the proposed project focuses on plans to implement a water quality recommendation from a locally-approved resource management plan. Examples include Smart Growth plans, Legacy Community plans, Water Star plans, local Storm Water Management plans, wellhead protection, lake management, regional water quality plans, Remedial Action plans and other watershed-based nonpoint source control plans.
(This question does not include a TMDL report, TMDL implementation plan, or County Land and Water Resource Management Plan.)

If Yes, summarize the water quality recommendation and describe how it relates to the goals of this proposed project. Cite the title, author and date(s) of publication of the resource management plan. Attach pertinent page(s) or provide URL and page numbers.
City of Hudson has a number of approved resource management plans including: The City of Hudson Comprehensive Surface Water Drainage Plan, 1992, Bonestroo; Surface Water Management Plan Update for the Stageline Road District, 1999, Bonestroo; Final Report - Lake Mallalieu Stormwater Assessment, 2008, Bonestroo; City of Hudson Wellhead Protection Ordianance; and the City of Hudson Comprehensive Plan. All of which have stormwater quality priorities and goals consistent with the proposed activities. Exerpts of each of these documents are included in the attachments and complete documents are available upon request.

B. Supporting Regulations
Check the box for the statement(s) that applies to this project. The project is located within an area which has:

☒ 1. The applicant (applying governmental unit) has regulations in place to administer and enforce construction erosion controls in the governmental unit that are consistent with the non-agricultural performance standards in s. NR 151.11
Include the web site where the regulation can be found (most direct web page URL) and page number(s).
Ordinance 106-20
http://ecode360.com/9772379

☐ Or check the box if a copy of the regulation is attached to this application.

☐ 2. The applicant (applying governmental unit) has regulations in place to administer and enforce post-construction runoff for areas of new development and redevelopment in the governmental unit consistent with the non-agricultural performance standards in s. NR 151.12.

Include the web site where the regulation can be found (most direct web page URL) and page number(s).

☐ Or check the box if a copy of the regulation is attached to this application.

Question 7. City of Racine

☐ Check this box if this is an application from the City of Racine for a project that is necessary for the city to comply with state storm water permitting requirements.

Part III. Eligibility for Multipliers

Completion of this part of the application is optional. However, an applicant can increase the final project score by qualifying for a project multiplier.

Local Implementation Program (select all that are in place as of the application submittal date)

☒ A. The governmental unit is implementing a pollution prevention information and education program targeted for property owners and other residents.

☒ B. The governmental unit is tracking storm water permitting activity (construction and post-construction) in the governmental unit and can make summary information available to the DNR upon request.

N/A

☒ ☐ C. The governmental unit is implementing a nutrient management plan for municipally-owned properties of pervious area where nutrients are applied.

Optional Additional Information

Carefully review the answers to all of the questions above. Is there additional information that will add to the understanding of thisroject? If so, describe here.

With regard to Question 5A1 - the City of Hudson has an established storm water utility which as a current (2015) budget of $286,000, which is adopted annually by the City (see attachment).

Applicant Certification

A Responsible Governmental Official (authorized signatory) must sign and date the application form prior to submittal to the DNR. The governmental official with signatory authority must be the person authorized by the Governmental Responsibility Resolution. I certify that, to the best of my knowledge, the information contained in this application and attachments is correct and true.

Signature of Government Official - Authorized Signatory	Date Signed
Devin Willi	April 14, 2015
Name (*Please Print*) Devin J. Willi	Title City Administrator

☐ Check this box if the required, completed Governmental Responsibility Resolution (GRR) (see Attachment H) is attached. Authorized signatory must be approved in the GRR.

Submittal Directions

To be considered for funding, provide the following for each application submitted:

- One hard copy of the completed application form [DNR Form 8700-299A (R 1/15) with original signature in blue ink and all attachments.
- Three additional hard copies of the completed, signed application form and all attachments.
- One electronic copy of the completed application form (this saved application form) in **PDF format only** plus all attachments on CD.

All application materials must be postmarked by midnight **April 15 of the same calendar year.**

Mail to: State of Wisconsin
Runoff Management Section-WT/3
Department of Natural Resources
101 South Webster Street
Madison, WI 53703

or PO Box 7921
Madison WI 53707-7921

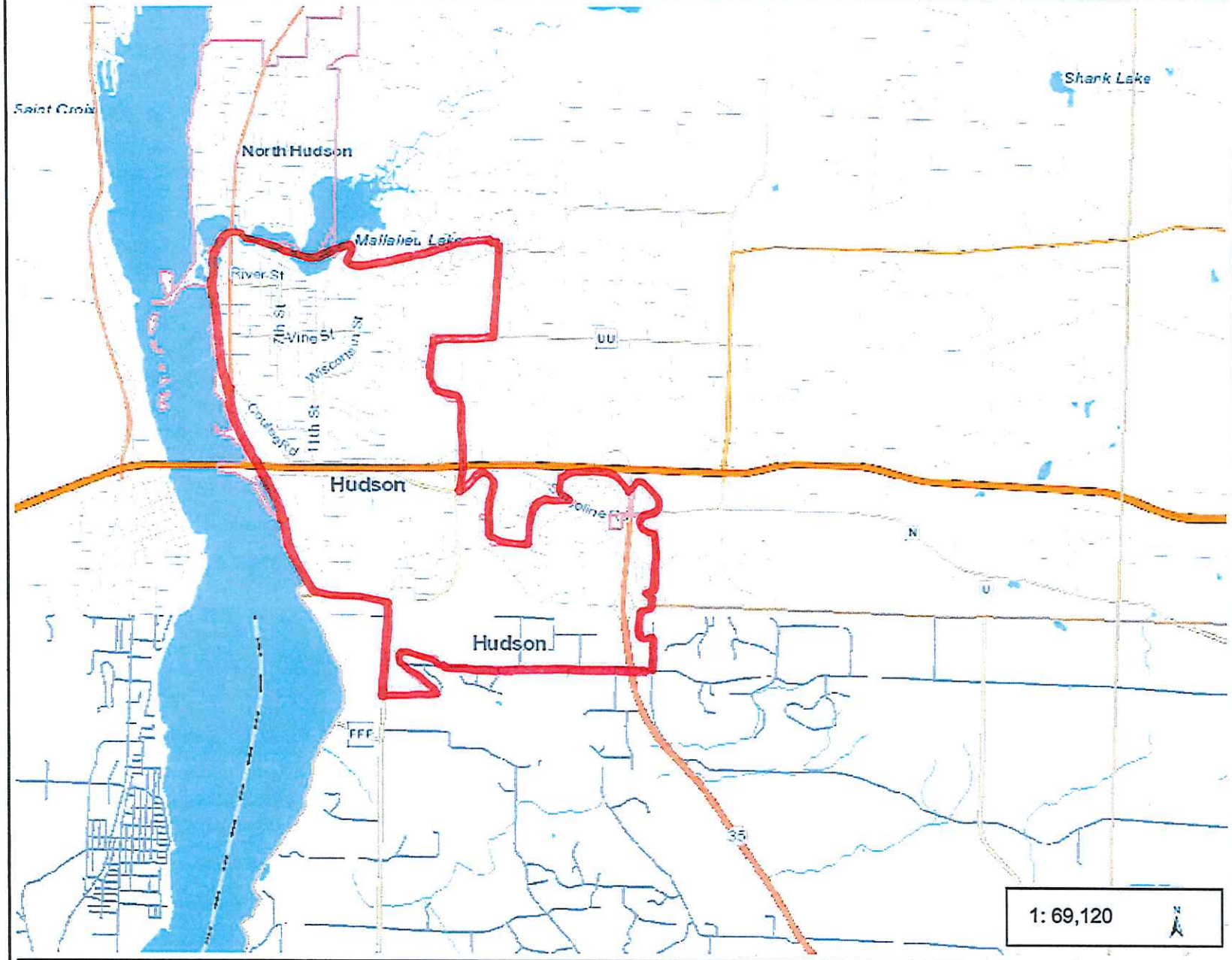
Please use this page to write any constructive comment(s) you might have to improve this application.
Thank you.

Appendix A

Project Location Maps

Surface Water Data Viewer Map
Aerial Map

Surface Water Data Viewer Map



Legend

Cities, Towns & Villages
- City
- Village
- Civil Town

Rivers and Streams

Open Water

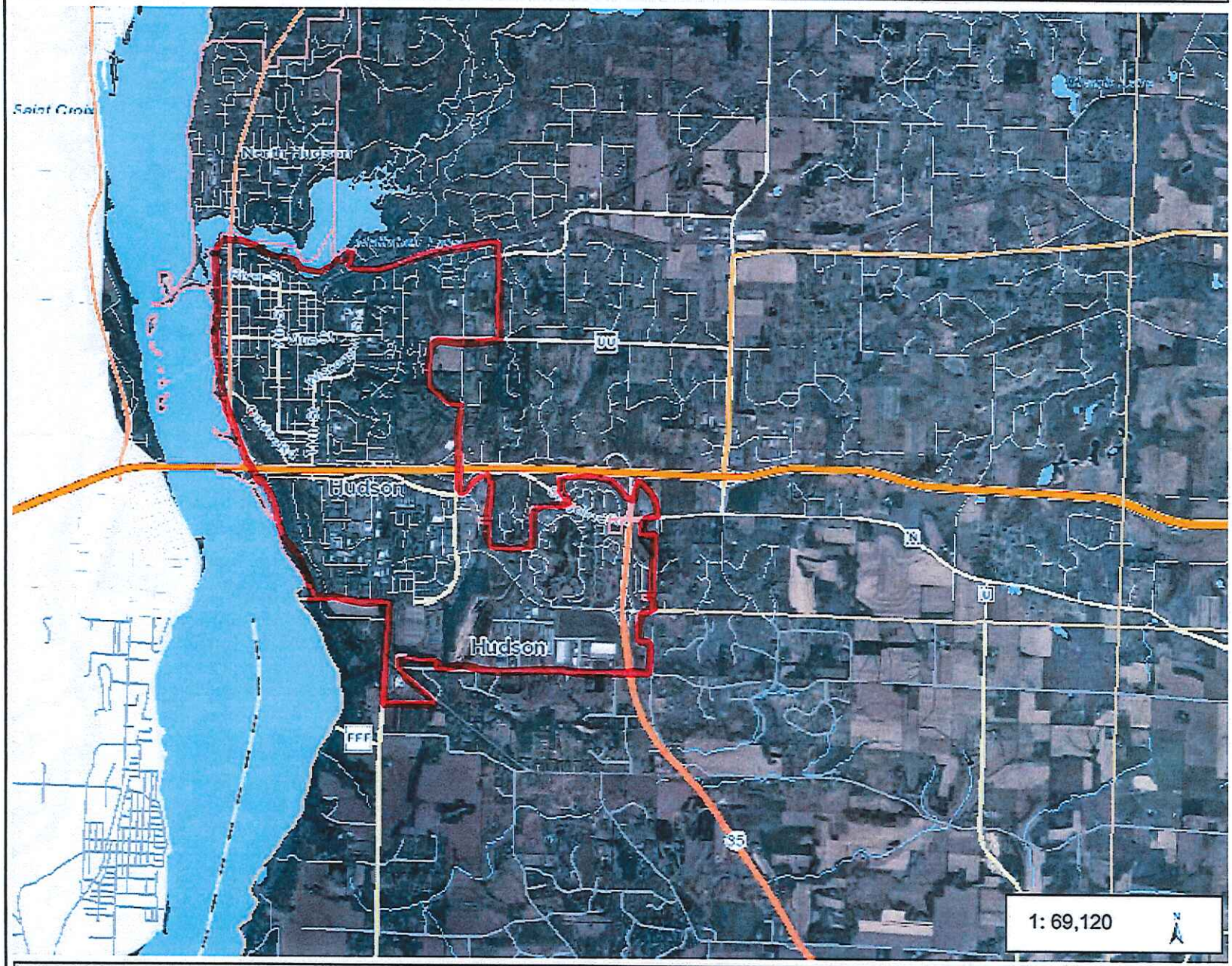
Notes

2.2 0 1.09 2.2 Miles

NAD_1983_HARN_Wisconsin_TM

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made aregarding accuracy, applicability for a particular use, completemenss, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: http://dnr.wi.gov/org/legal/

Surface Water Data Viewer Map



Legend

Cities, Towns & Villages
- City
- Village
- Civil Town

Rivers and Streams

Open Water

2010 Air Photos (WROC)

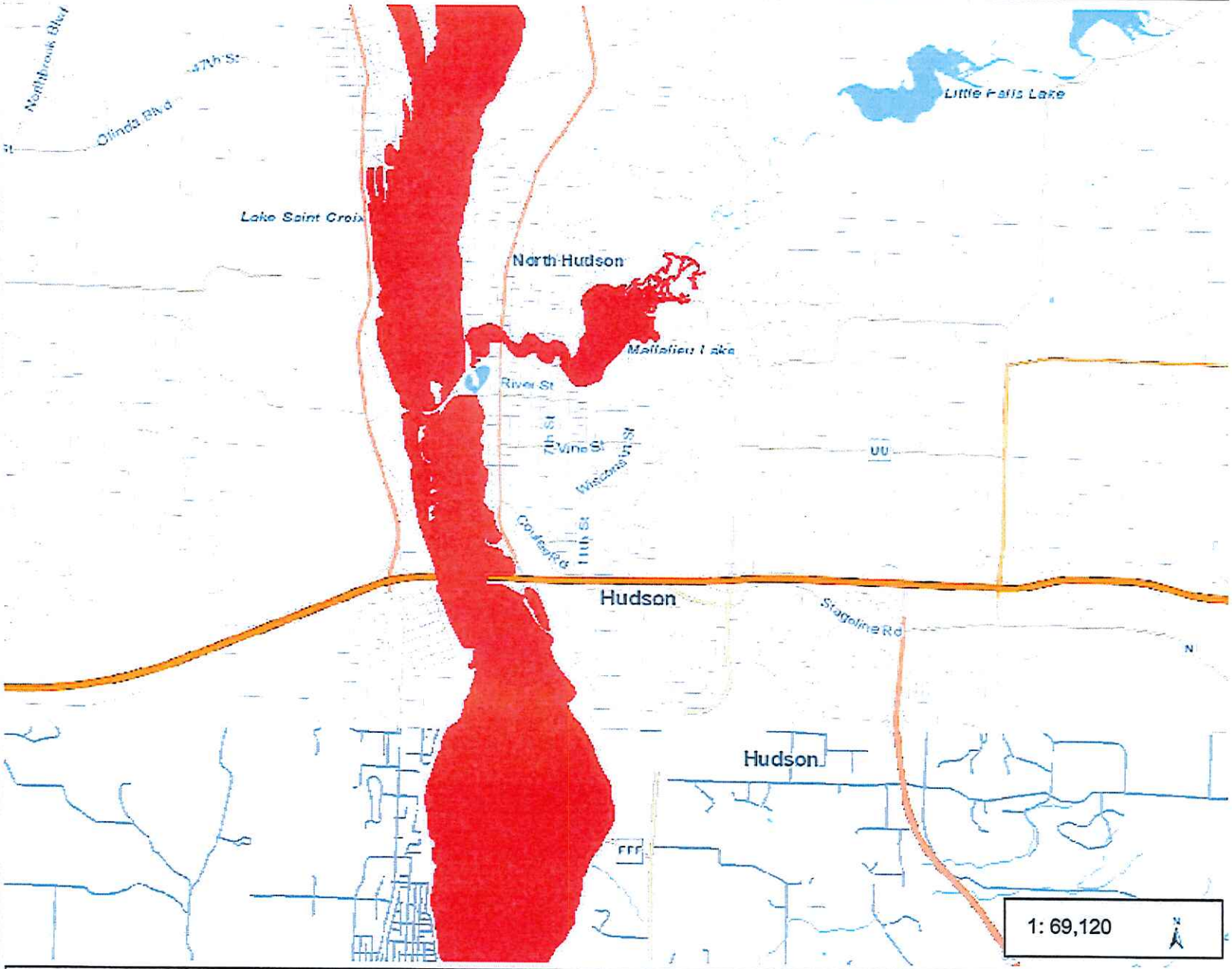
1: 69,120

Notes

2.2 0 1.09 2.2 Miles

NAD_1983_HARN_Wisconsin_TM

Surface Water Data Viewer Map



Legend

- Impaired Rivers and Streams
- Impaired Lakes
- Rivers and Streams
- Open Water

Notes

2.2 0 1.09 2.2 Miles

NAD_1983_HARN_Wisconsin_TM

Appendix B

Scope of Work

SEH

Building a Better World
for All of Us®

April 13, 2015

RE: City of Hudson
Stormwater Planning Proposal
SEH No. HUDSO 131022

Mr. Denny Darnold
Community Development Director
City of Hudson
505 3rd Street
Hudson, WI 54016

Dear Denny:

We commend the City of Hudson for your commitment to developing a storm water management program to comply with MS4 requirements and protect the environment. We are pleased with the opportunity to assist you with these efforts. Please consider this letter our proposal to assist the City of Hudson with storm water planning services.

SCOPE OF WORK

Task 1 – Records Review and Develop Project Work Plan

Meet with the City for a project Kick-Off Meeting to set up a working schedule and refine the project scope. SEH will utilize existing storm water studies and/or maps to avoid duplication of work and reduce costs. We will set up lines of communication between SEH and Hudson staff, and collect resources and information available from the City to perform the work.

Also under this task we anticipate having an additional 2 to 3 meetings that will keep the project team and the City staff in regular contact as the work progresses.

Estimated Hours: 40

Estimated Cost: $5,000

Task 2 – Stormwater Mapping

SEH will create a GIS based storm sewer system map based on existing information available including existing storm sewer mapping, public/private storm water BMP design information, and recent record plans for storm water BMP's. We will supplement this information with GPS topo survey data of the storm sewer system structures and outfalls including structure attributes based on an estimated 3,500 structures. The deliverable will be a fully functioning web-based GIS system which will enable the City to inventory and track storm sewer maintenance activities.

Estimated Hours: 500-600

Estimated Cost: $70,000

Task 3 – Stormwater Quality Management – Pollutant Loading Modeling

We will use the resulting map to create a storm water water quality model. We will use the Windows based Source Loading and Management Model (WinSLAMM) software, a water quality based modeling program, to model the pollutant loading from each defined subwatershed. WinSLAMM provides pollutant modeling for both total suspended solids (TSS) and total phosphorus (TP). This model will provide the information necessary to:

- Prioritize subwatersheds by pollutant loading
- Describe existing loads and sources of pollutants
- Identify and evaluate any existing management measures and their effectiveness
- Identify and evaluate proposed management measures and their effectiveness

SEH will develop a WinSLAMM Model for the following scenarios:

- Current land use conditions with no storm water best management practices (BMP's)
- Current land use conditions with existing BMP's
- Current land use conditions with proposed BMP's

SEH will prepare a report detailing findings and recommendations of identified activities.

Estimated Hours: 300-400

Estimated Cost: $50,000

Task 4 – Stormwater Ordinances

SEH will assist the City update the current Erosion Control Ordinance, create a new Post-Construction Storm Water Management Ordinance, create a new Illicit Discharge, Detection, and Elimination Ordinance, as well as update the existing Storm Water Utility Ordinance as may be desired.

Estimated Hours: 80-100

Estimated Cost: $12,000

Task 5 – Municipal Pollution Prevention Plan

SEH will work with City staff to develop a storm water management plan for municipally-owned public works facilities as required by statewide MS4 Permit requirements.

Estimated Hours: 25-35

Estimated Cost: $4,000

Task 6 – Public Education and Outreach Plan

SEH will create a Public Education and Outreach Plan to be reviewed and adopted by the City. It is envisioned that the City will become a member of the Chippewa Valley Stormwater Forum (CVSWF) and utilize available CVSWF resources. This task includes attendance and facilitation of public meetings that may be desired by the City.

Estimated Hours: 25-35

Estimated Cost: $4,000

Task 7 – Public Involvement and Participation Plan

SEH will create a Public Involvement and Participation Plan to be reviewed and adopted by the City. This task includes attendance and facilitation of public meetings that may be desired by the City.

Estimated Hours: 15-20

Estimated Cost: $2,000

PROJECT SCHEDULE

The project schedule listed below is tentative at the time of this proposal. A final scope of work and final schedule will be coordinated with the City at the project kick-off meeting. SEH will remain flexible on scheduling, depending on the funding available to support the project.

Task	Milestone
Project Award	January 2016
Project Kick-off Meeting	April 2016
Stormwater Mapping	July 2016
Stormwater Modeling	November 2016
Draft Ordinances to City	March 2017
Municipal Pollution Prevention Plan	April 2017
Public Education and Outreach Plan	April 2017
Public Involvement and Participation Plan	April 2017
Final Ordinances to City	June 2017
Final Presentation to City Council	October 2017

PROPOSED COST OF ENGINEERING SERVICES

Our fees will be invoiced for the time, equipment, and materials on an hourly basis. We have estimated the time and expenses necessary to perform these professional services to be approximately $147,000.

It is recommended that you review the schedule and scope of work outlined. If the scope differs significantly from that anticipated by you, please advise us and we will review the scope of services and adjust the fee accordingly.

We hope this proposal meets your needs. If the City secures the funding to move ahead with this project, we will provide an agreement for professional services, including the refined scope and fees, for DNR approval and City authorization to proceed at that time. We appreciate the opportunity to be of service to the City of Hudson.

If you have any questions regarding this proposal or the information contained herein, please contact Dave Simons at 715.861.4870. We appreciate your consideration and look forward to continuing our working relationship with the City of Hudson.

Sincerely,

David F. Simons

David F. Simons, PE
Client Service Manager

p:\hudso\common\UNPS\proposal March 2015.docx

Appendix C

Stormwater Utility Budget – Local Match Source

CITY OF HUDSON
REVENUE AND EXPENDITURE SUMMARY

STORM SEWER UTILITY

ACCOUNT	DESCRIPTION	ACTUAL 2013	ACTUAL 2014	BUDGET APPROVED 2015
STORM WATER SUMMARY				
REVENUES				
640.48.46324.000	CHARGES FOR SERVI CE	$ 299,992	$ 303,823	$ 295,000
640.48.46412.000	OTHER INCOME	$ (0)	$ 263	$ -
640.48.48100.000	INTEREST INCOME	$ 2,000	$ 2,085	$ 1,000
	TOTAL REVENUES	**$ 301,991**	**$ 306,172**	**$ 296,000**
EXPENDITURES BY ACTIVITY				
STREET SWEEPING		$ 35,786	$ 86,629	$ 60,000
COLLECTION SYSTEM MAINTENANCE		$ 90,661	$ 76,711	$ 164,000
STORM LIFT STATIONS		$ 205	$ 6,226	$ 1,600
INSPECTION, TESTING & MONITOR		$ -	$ 2,043	$ 31,000
ADMINISTRATION		$ 14,410	$ 26,856	$ 27,519
TRANSFER TO DEBT SERVICE FUND		$ -	$ 10,166	$ 11,860
TRANSFER TO PROJECT FUNDS		$ -	$ 95,139	$ -
	TOTAL EXPENDITURES	**$ 141,062**	**$ 198,466**	**$ 284,119**
EXPENDITURES BY OBJECT				
PERSONAL SERVICE		$ 61,737	$ 76,175	$ 85,319
CONTRACTUAL SERVICES		$ 40,310	$ 96,581	$ 165,900
MATERIALS AND SUPPLIES		$ 26,209	$ 23,920	$ 31,000
FIXED CHARGES		$ 1,423	$ 1,790	$ 1,900
CAPITAL OUTLAY		$ 11,383	$ -	$ -
OTHER EXPENDITURES		$ -	$ 105,305	$ 11,860
	TOTAL EXPENDITURES	**$ 141,062**	**$ 303,771**	**$ 295,979**

CITY OF HUDSON
REVENUE AND EXPENDITURE SUMMARY

STORM SEWER UTILITY

ACCOUNT	DESCRIPTION	ACTUAL 2013	ACTUAL 2014	BUDGET APPROVED 2015
	REVENUES			
640.48.46324.000	STORM SEWER CHARGES	$ 299,992	$ 303,823	$ 295,000
640.48.46412.000	OTHER OPERATING REVENUES	$ -		
640.48.48100.000	INVESTMENT INCOME	$ 2,000	$ 2,085	$ 1,000
640.48.48400.000	INSURANCE REFUND		$ 263	
640.48.48600.000	MISCELLANEOUS INCOME			
640.48.49210.000	TRANSFER FROM GENERAL FUND			
TOTAL REVENUES		**$ 301,991**	**$ 306,172**	**$ 296,000**
	EXPENDITURES			
	STREET SWEEPING			
PERSONNEL				
640.48.53441.121	SALARY-WAGES FULL-TIME	$ 12,428	$ 11,990	$ 11,373
640.48.53441.122	SALARY-WAGES OVERTIME	$ 1,521	$ 1,351	
640.48.53441.125	SALARY-WAGES PART-TIME		$ 9,054	$ 13,366
640.48.53441.151	FICA	$ 1,015	$ 1,647	$ 1,893
640.48.53441.152	RETIREMENT	$ 928	$ 1,568	$ 682
640.48.53441.154	HEALTH INSURANCE	$ 7,250	$ 8,110	$ 5,687
	PERSONNEL	**$ 23,142**	**$ 33,719**	**$ 33,000**
CONTRACTUAL SERVICE				
640.48.53441.242	REPAIRS - MACHINERY & EQUIP	$ 60	$ 6,404	$ 6,000
640.48.53441.296	REFUSE SERVICES	$ -	$ 32,253	$ 5,000
640.48.53441.299	OTHER CONTRACTED SERVICE	$ 105		$ 1,000
	CONTRACTUAL SERVICE	**$ 165**	**$ 38,657**	**$ 12,000**
SUPPLIES & EXPENSE				
640.48.53441.351	SUPPLIES-MOTOR FUELS	$ 6,671	$ 9,130	$ 10,000

Appendix D

Letters of Support

ST. CROIX COUNTY Wisconsin
Innovation Through Cooperation

Land Use
Planning & Land Information
Resource Management

Community Development Department

4/10/2015

Cindy Koperski
Urban Nonpoint Source Program
Wisconsin Department of Natural Resources
West Central Region
1300 W Clairemont Ave.
Eau Claire, WI 54701

Subject: City of Hudson Urban Non-Point & Storm Water Planning Grant

Dear Ms. Koperski:

The St. Croix County Community Development Department supports the City of Hudson's application for a Wisconsin Department of Natural Resources Urban Non-Point Source Stormwater Planning grant to implement the WPDES MS4 General Permit requirements.

Lake St. Croix is an important scenic and recreational resource in St. Croix County, but with urbanization emanating from the Twin Cities it is taking its toll on the landscape. With stormwater pollution threats increasing, community leaders within the St. Croix Watershed need to work together to protect this treasured resource so further degradation doesn't occur.

The City of Hudson like many municipalities within the St. Croix Basin, struggles to balance the pressures of development while protecting the quality of the natural resources and the quality of life within their communities. The successful award of this grant is an important part of addressing current and future development impacts and will help the City of Hudson adopt innovative methods to improve stormwater quality, infiltration and public education.

The Community Development Department is committed to supporting St. Croix County's goal of protecting and enhancing our communities and natural resources thereby protecting the integrity of our surface waters, such as the St. Croix River, for future generations. Working collaboratively with municipalities to address urban stormwater quality is part of that goal.

Sincerely,

Ellen Denzer
St. Croix County
Community Development Director

cc: Denny Darnold, Community Development Director-City of Hudson
Tom Zeuli, Public Works Director-City of Hudson
Michael Van Gilder mvangilder@sehinc.com John Parotti jparotti@sehinc.com

ST. CROIX riverfest

Party with a Purpose

Partnering to Celebrate Hudson's St. Croix River Awareness Week
• St. Croix YMCA & Camp St. Croix • Sustain Hudson • Corps of Engineers
• Carpenter Nature Center • Youth Action Hudson • Hudson Area Library
• St. Croix County Parks Department • National Park Service
• Phipps Center for the Arts • Hudson Daybreak Rotary • Purple Tree
• St. Croix County Historical Society • St. Croix River Association
• Let's Go Fishing • St. Croix Sailing School • St. Croix Rowing Club
• St. Croix Marina • Hudson Area Chamber of Commerce & Tourism Bureau

Mr. Devin Willi
City Administrator
City of Hudson
505 Third St.
Hudson, WI 54016

Re: Grant Application to Wisconsin Department of Natural Resources

Dear Mr. Willi:

Riverfest St. Croix, Inc. is committed to working with the City of Hudson in its effort to improve the water quality of the St. Croix River. It is part of the continuing mission of this organization to improve water quality and reduce pollution in the Hudson area of the St. Croix watershed. We stage a multi-day celebration and stream bank trash pickup for several hundred people each July.

Therefore we support the City of Hudson in its grant application to the Department to proactively plan for water quality improvements, including efforts such as creating a GIS based storm water system map, performing storm water quality modeling and improving ordinances to comply with MS4 requirements.

We look forward to the implementation of this project in Hudson.

Sincerely,
/s/ C. W. Malick
C. W. Buck Malick
President

Transmitted by email to tzeuli@ci.hudson.wi.us

Lake Mallalieu Association
Linda Robertson, President
868 Strawberry Drive
Hudson, WI 54016
Lindainhudson@baldwin-telecom.net
651.341.1095 Mobile

9 April 2015

Mr. Devin Willi
City Administrator
City of Hudson
505 Third St.
Hudson, WI 54016

Re: Grant Application to Wisconsin Department of Natural Resources

Dear Mr. Willi:

The Lake Mallalieu Association is committed to working with the City of Hudson in its effort to improve the water quality of the St. Croix River. It is part of the continuing mission of our organization to improve water quality and reduce pollution in our part of the St. Croix watershed.

Therefore we support the City of Hudson in its grant application to the Department to proactively plan for water quality improvements, including efforts such as creating a GIS based storm water system map, performing storm water quality modeling and improving ordinances to comply with MS4 requirements.

We look forward to the implementation of this project in Hudson.

Sincerely,

Linda Robertson

Linda Robertson, President
Lake Mallalieu Association

Appendix E

Consistency with Resource Management Plans - Plan Excerpts

City of
HUDSON

Comprehensive Surface Water Drainage Plan

Hudson, Wisconsin

1992

File No. 97132

Bonestroo
Rosene
Anderlik &
Associates
Engineers & Architects
St. Paul • Milwaukee

Bonestroo
Rosene
Anderlik &
Associates
Engineers & Architects

Otto G. Bonestroo, P.E.
Robert W. Rosene, P.E.*
Joseph C. Anderlik, P.E.
Marvin L. Sorvala, P.E.
Richard E. Turner, P.E.
Glenn R. Cook, P.E.
Thomas E. Noyes, P.E.
Robert G. Schunicht, P.E.
Susan M. Eberlin, C.P.A.
*Senior Consultant

Howard A. Sanford, P.E.
Keith A. Gordon, P.E.
Robert R. Pfefferle, P.E.
Richard W. Foster, P.E.
David O. Loskota, P.E.
Robert C. Russek, A.I.A.
Jerry A. Bourdon, P.E.
Mark A. Hanson, P.E.
Michael T. Rautmann, P.E.
Ted K. Field, P.E.
Thomas R. Anderson, A.I.A.
Donald C. Burgardt, P.E.
Thomas E. Angus, P.E.

Gary F. Rylander, P.E.
Ismael Martinez, P.E.
Michael P. Rau, P.E.
Agnes M. Ring, A.I.C.P.
Thomas W. Peterson, P.E.
Michael C. Lynch, P.E.
James R. Maland, P.E.
Jerry D. Pertzsch, P.E.
Kenneth P. Anderson, P.E.
Mark R. Rolfs, P.E.
Mark A. Selp, P.E.
Gary W. Morlen, P.E.
Daniel J. Edgerton, P.E.

Philip J. Caswell, P.E.
Mark D. Wallis, P.E.
Miles B. Jensen, P.E.
L. Phillip Gravel III, P.E.
Karen L. Wiemeri, P.E.
F. Todd Foster, P.E.
Keith R. Yapp, P.E.
Shawn D. Gustafson, P.E.
Cecilio Olivier, P.E.
Charles A. Erickson
Leo M. Pawelsky
Harlan M. Olson
James F. Engelhardt

August 18, 1992

Honorable Mayor and City Council
City of Hudson
505 Third Street
Hudson, Wisconsin 54016

Re: Hudson Comprehensive Surface Water Drainage Plan
Our File No. 97132

Dear Mayor and Council Members:

Transmitted herewith is our final report on the Comprehensive Surface Water Drainage Plan for the City of Hudson. The information presented in this report is intended to provide a basis for the development of an adequate and economical storm drainage system in Hudson.

This report provides information on pipe sizes, storm water flows, pond locations and areas, pond storage requirements, and pond water levels throughout the City. A map is included at the back of the report showing the drainage system layout and the area subdivisions that were used in the preparation of the report. The map shows both the existing storm sewers and the proposed future trunk storm sewer lines. Cost estimates for the area inside the 5-year storm trunk design boundary are included for the Council's consideration.

It is important that the storm water drainage system be developed as presented in this report and that pond storage requirements be provided as development occurs. If this plan is followed, adequate drainage facilities will be provided and future duplication of lines will be unnecessary.

We would be pleased to discuss the contents of this report and the findings of our study with the Council and other interested persons at any mutually convenient time.

Respectfully submitted,

BONESTROO, ROSENE, ANDERLIK & ASSOCIATES, INC.

Cecilio Olivier

Cecilio Olivier, P.E.
CO:kf

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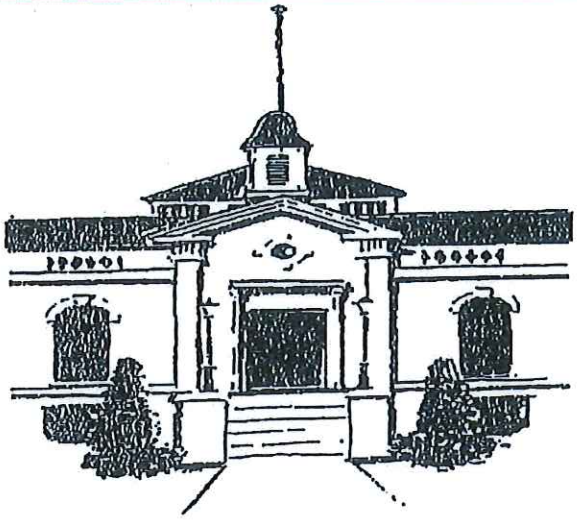
TABLE OF CONTENTS (CONT'D)

APPENDICES



CITY OF HUDSON, WISCONSIN

Surface Water Management Plan Update For the Stageline Road District DRAFT REPORT

October, 1999
File No. 97-99-105

Bonestroo
Rosene
Anderlik &
Associates
Engineers & Architects

Table of Contents

Final Report

Lake Mallalieu Stormwater Assessment

City of Hudson, WI

February, 2008

Project Number: 000097-06333-0

Bonestroo

2335 Highway 36 W
St. Paul, MN 55113
Tel 651-636-4600
Fax 651-636-1311
www.bonestroo.com

Bonestroo

February 8, 2007

Mr. Tom Zeuli, Director
Department of Public Works
City of Hudson
505 Third Street
Hudson, WI 54016

Re: Lake Mallalieu Stormwater Assessment
City of Hudson
Bonestroo File No.: 000097-06333-0

Dear Tom:

Attached with this letter is the Report for the above referenced project. This report includes a description of the sewersheds comprising the project area, modeled estimates of pollutant loads from those sewersheds to Lake Mallalieu, recommendations for projects to reduce loadings from the highest priority sewersheds, and planning-level estimates of the costs and benefits of those projects.

Please feel free to contact me at 651-604-4861 or at rich.brasch@bonestroo.com with any questions or to discuss the contents of this report.

Sincerely,

BONESTROO

Rich Brasch, Project Manager

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Professional Engineer under the laws of the State of Wisconsin.

WISCONSIN
CHARLES D. SCHWARTZ
34507
APPLE VALLEY, MN
2/8/07
PROFESSIONAL ENGINEER

Charles D. Schwartz

Date: 2/8/07 Reg. No. 34507

Table of Contents

1.0 Introduction

This project was initiated to provide direction to the City of Hudson in reducing pollutant loads from the City's storm drainage system to Lake Mallalieu, a locally important recreational reservoir on the Willow River that lies along the City's northern border. Discharges from Lake Mallalieu in turn reach the designated recreational segment of the nationally-known St. Croix River, the protection of which is the subject of a partnership effort between the states of Minnesota and Wisconsin. While the City of Hudson comprises only a small portion of the overall watershed draining to Lake Mallalieu, the City's portion of the watershed is highly impervious. Modeling of the urban drainage suggests proportionately high loads of both the plant nutrient phosphorus as well as total suspended solids are being discharged largely un-treated to the Lake and are likely contributing to poor water quality in the Lake.

With financial support from a Large Scale Lake Management Planning grant from the Wisconsin Department of Natural Resources in 2006, this project was initiated with the following specific objectives in mind:

1. Identify the drainage boundaries associated with each of the four major storm sewer outfalls discharging to Lake Mallalieu from the City of Hudson.
2. Perform water quality modeling to estimate average annual total phosphorus and total suspended loads discharged from each sewershed.
3. Prioritize the sewersheds based on their estimated pollutant load discharged to Lake Mallalieu.
4. Review, evaluate, and recommend treatment options – including the estimated benefits in pollutant load reduction as well as construction and maintenance costs – for the highest priority areas.

CITY OF HUDSON
ORDINANCE NO. 9-98

AN ORDINANCE AMENDING THE MUNICIPAL CODE OF THE CITY OF HUDSON, WISCONSIN.

THE COMMON COUNCIL OF THE CITY OF HUDSON DO ORDAIN AS FOLLOWS:

Chapter 17.33 is hereby created to read as follows:

Sec. 17.33.1 TITLE OF CHAPTER

This Chapter shall be known, cited and referred to as the "Wellhead Protection (WHP) Ordinance".

Sec. 17.33.2 PURPOSE AND AUTHORITY

The residents of the City of Hudson depend on groundwater for a safe drinking water supply. Certain practices and activities can seriously threaten or degrade groundwater quality. The purpose of this Wellhead Protection (WHP) Ordinance is to institute regulations and restrictions to protect the City's municipal water supply (wells), and to promote the public health, safety, and general welfare of the residents of the City of Hudson.

Statutory authority of the City to enact these regulations was established by the Wisconsin Legislature in 1983, Wisconsin Act 410 (effective May 11, 1984), which specifically added groundwater protection to the statutory authorization for municipalities to protect public health, safety, and welfare.

Chapter NR 811 of the Wisconsin Administrative Code (Department of Natural Resources) Environmental Protection - Water Supply Regulations, as currently defined in the following provisions of Section NR 811.16 (4) (d) 1-6 are adopted by reference and made a part of these rules as if set forth in full. A violation of any such rules shall constitute a violation of this Chapter and any violation of this Chapter shall be punishable as provided in Section 17.101, City of Hudson Municipal Ordinance.

Sec. 17.33.3 APPLICATION OF REGULATIONS

The regulations specified in this Wellhead Protection (WHP) Ordinance shall apply only to areas that lie within the Wellhead Protection Zone (WHPZ) of the municipal wells within the City of Hudson corporate limits.

The area is shown as an official Wellhead Protection Zone Map of the City and is based on information contained within the Wellhead Protection Area Delineation Report dated October 1994. The map and report are on file at the Hudson City Hall.

Where any terms or requirements of this ordinance may be inconsistent or conflicting, the more restrictive requirements or interpretations shall apply.

Sec. 17.33.4 DEFINITIONS

AQUIFER. A saturated, permeable geologic formation that contains and will yield significant quantities of water.

WELLS. An encased hole to an aquifer used primarily for the purpose of supplying safe drinking water to private or municipal water supply systems.

CONE OF DEPRESSION. The area around a well, in which the water level has been lowered at least one tenth of a foot by pumping of the well.

RECHARGE AREA. Area in which water reaches the zone of saturation by surface infiltration and encompasses all areas or features that supply groundwater recharge to a well.

TIME OF TRAVEL ZONES (TOTZ). The TOTZ are the recharge areas upgradient of a pumping well, the outer boundaries of which are determined or estimated in the number of years that groundwater or potential contaminants will take to reach a pumping well. These areas are identified in the report and on the maps as one, five, ten, and twenty-year TOTZ.

WELLHEAD PROTECTION ZONE (WHPZ). The recharge area upgradient of a pumping well, the outer boundary of which it is determined or estimated that groundwater and potential contaminants will take twenty years to reach a pumping well and/or those areas inside a twelve hundred (1200) foot radius of a pumping well. The outer boundary is identified on the official WHPZ map with a solid black line. The one, five, ten, and twenty year TOTZ, and six hundred (600) and twelve hundred (1200) foot radii are also indicated.

APPROPRIATE GOVERNMENTAL AGENCY(S). United States Environmental Protection Agency (USEPA), Wisconsin Department of Natural Resources (WIDNR), Wisconsin Department of Commerce, City of Hudson, Public Utility Commission, and any Federal, State, County, Township, City, Village, and/or any other governmental jurisdictions that apply concerning the issues of this ordinance, presently and in the future.

Sec. 17.33.5 WELLHEAD PROTECTION ZONE AND SEPARATION DISTANCE REQUIREMENTS.

(A) INTENT. The recharge area to be protected is the area that lies within the outer boundary of the WHPZ, upgradient from the municipal wells as shown on the official WHPZ map. Management practices minimizing uses of pesticides, herbicides and fertilizers are strongly encouraged.

(B) PERMITTED USES. The following uses are permitted within the WHPZ provided the minimum horizontal separation distance from a municipal well is maintained as outlined in Section (C), Separation Distance Requirements:

(1) Parks and playgrounds.
(2) Wildlife areas including biking, skiing, nature and fitness trails.
(3) Residential, commercial, industrial, and public and/or institutional developments served by municipal sanitary sewer, municipal storm sewer and municipal water except those listed in Section (D), Prohibited Uses.

(C) SEPARATION DISTANCE REQUIREMENTS. Areas surrounding each municipal well shall be subject to the following minimum horizontal separation distances between a municipal well and the following uses and facilities:

(1) Fifty (50) feet from any:
   (a) Storm sewer main.
   (b) Sanitary sewer main constructed of water main material and joints, which is pressure tested in place, and meets the current water main pressure test standards of the Public Utility Commission.

(2) Two hundred (200) feet from any:
   (a) Sanitary sewer main not meeting the above specifications and/or sanitary lift station.
   (b) Petroleum (except LP/propane gas), storage tank installation of five hundred (500) gallons or less that has received written approval and meets the current requirements of all appropriate governmental agency(s).

(3) Four hundred (400) feet from any:
   (a) Cemetery.
   (b) Storm water drainage pond.

(4) Six hundred (600) feet from any:
   (a) Petroleum (except LP/propane gas) storage tank installation greater than five hundred (500) gallons that has received written approval and meets the current requirements of all appropriate governmental agency(s).
   (b) Septic and/or holding tank and/or wastewater soil absorption treatment system receiving less than eight thousand (8000) gallons per day that has received written approval and meets the current requirements of all appropriate governmental agency(s).

(5) One thousand (1000) feet from any:

(a) Agricultural activities and/or plant nurseries (pesticide, herbicide and fertilizer storage only in limited use, retail sales quantity containers).

(b) Golf Course (pesticide, herbicide, and fertilizer storage only in limited use, retail sales quantity containers).

(6) Twelve hundred (1200) feet from any:

(a) Asphalt products manufacturing (with adequate containment).

(b) Recycling facility (with adequate containment).

(c) Salt and/or de-icing material storage (with adequate containment), except retail sales quantity containers.

(d) Coal storage area (with adequate containment).

(e) Wastewater treatment facility and/or sludge storage (with adequate containment).

(f) Bulk fertilizer and/or pesticide/herbicide facilities (with adequate containment).

(g) Bulk petroleum storage facility (with adequate containment).

PROHIBITED USES. The following uses are prohibited uses within the WHPZ. These uses are prohibited based on the high probability that activities routinely associated with these uses (storage, use, and handling of potential pollutants) could cause groundwater contamination:

(1) Petroleum (except LP/propane gas) storage tank installations without written approval from the appropriate governmental agencies.

(2) Classified hazardous or extremely hazardous substances, as currently defined by USEPA, 40 Code of Federal Regulations (CFR), Table 302.4, and Part 355 Appendix A, waste facility and/or material storage facility (except retail sales quantity containers), and/or production facility.

(3) Land application of municipal, commercial, industrial, or animal waste.

(4) Municipal, commercial, industrial, or animal waste lagoon or storage structure.

(5) Septic and/or holding tank and/or wastewater soil absorption treatment system receiving eight thousand (8000) gallons or more per day.

(6) Radioactive waste facility.

(7) Landfills and/or waste disposal facilities.

(8) Junkyards and/or auto salvage yards.

(9) Improperly abandoned well or septic and/or holding tank.

(10) Improperly abandoned wastewater soil absorption treatment system.

(11) Stockyard and/or feedlot.

(E) DESIGN STANDARDS AND REQUIREMENTS. The owner and/or occupant shall comply with the following standards and requirements, which apply to all uses within the WHPZ:

(1) Provide copies of all appropriate governmental agency(s) approvals and/or certificates and any on-going environmental monitoring and/or inspection results to the Public Utility Commission.

(2) As facilities and/or equipment are replaced and/or upgraded, they shall meet the current requirements and approvals of all appropriate governmental agency(s).

(3) Have the responsibility of developing and filing, with the Public Utility Commission, a procedure for the immediate notification of Public Utility Commission officials in the event of an emergency which involves the release of any contaminants that endangers the WHPZ.

(4) In the event any owner and/or occupant of a facility which causes the release of any contaminants, endangering the WHPZ, the activity causing said release shall immediately cease and a cleanup satisfactory to the Public Utility Commission shall occur.

(5) The owner and/or occupant of a facility which causes the release of any contaminants shall be responsible for all costs of cleanup, Public Utility Commission consultant fees at the invoice amount, plus administrative costs for oversight, review, and documentation.

(6) All petroleum (except LP/propane gas) storage tanks shall meet the current requirements and approvals of all appropriate governmental agency(s).

(7) Pesticide, herbicide and fertilizer storage is permitted at the location of retail sales of these products, provided that the products are delivered in retail quantity containers and no repackaging and/or mixing is done on the site.

(8) All storm drainage shall be approved by the City Engineer and retained on site or discharged to a municipally operated storm drainage system. If approved to be retained on site, storm drainage shall be discharged to settling ponds where it will percolate through at least four inches of topsoil. Use of drywells or other subsurface drains for storm water drainage is prohibited.

(F) The owner and/or occupant of facilities whose uses do not meet the minimum separation distances listed in Section (C), Separation Distance Requirements or whose uses are listed in Section (D), Prohibited Uses, which exist within the WHPZ on the effective date of this Ordinance, may be allowed by the Public Utility Commission to upgrade to promote or enhance groundwater protection provided they meet the current requirements and approvals of all appropriate governmental agency(s).

This Ordinance shall take effect upon passage and publication as provided by law.

Dated this 21st day of September, 1998.

THE CITY OF HUDSON

APPROVED:

John D. Breault

John D. Breault, Mayor

ATTESTED:

Patricia A. Dotseth

Patricia A. Dotseth, City Clerk

1st Reading: -

Date Adopted: 9/21/98

Date Published: 10/1/98;
Send affidavit of publication

UTILITIES & PUBLIC FACILITIES

Stormwater Management Facilities

System Description

The existing stormwater management system is presented in Figure 5-1, and consists of a series of pipes, manholes, ponding areas, ditches, culverts, lift stations, and force mains that convey stormwater to designated areas in order to prevent flooding. The primary function of a storm drainage system is to minimize property damage and inconvenience due to periodic flooding of streets, basements and other low-lying areas.

Unlike the municipal water and wastewater systems, the stormwater management system discussed in this Plan serves only the City of Hudson. The Village of North Hudson owns and operates its own stormwater management system.

The City of Hudson's stormwater management facilities are generally in good to excellent condition. Most of the newer stormwater lines are constructed of reinforced concrete pipe, and the manholes are constructed of precast concrete. In the older parts of the City, some manholes may still be constructed of brick or block materials. These structures should be considered for reconstruction when the streets are next resurfaced.

Currently, there is one stormwater pumping station in the system, located at a ponding area near the intersection of CTH F and Coulee Trail. This pumping station operates only when water levels in the pond become high enough to require pumping. The water is pumped north to an existing ponding area located near the intersection of Hanley Road and O'Keefe Road.

The City's drainage is generally from east to west toward the St. Croix River and south to north toward Lake Mallalieu. The locations of these water bodies are on the west and north sides of the system, whereas most of the growth is occurring on the east and south sides of the system. Growth located in the newer parts of the system generates additional water runoff which must be conveyed through the older parts of the system to the downstream receiving waters. The older parts of the system were sized and constructed many years ago and now have a limited capacity. For this reason, it is important to control runoff from new development sites in accordance with the City's stormwater standards and ordinances so as not to overload the older downstream facilities.

taken from the City of Hudson Comprehensive Plan

Applicable Stormwater Studies

A Comprehensive Surface Water Management Plan was completed in 1992 which outlined the stormwater management guidelines for the City and provided recommendations for locations and sizes of future stormwater facilities. Since the 1992 Plan was completed, much of the growth in the system has been to the south and southeast, specifically in the area south of I-94 and west of STH 35. In 1999, an update to the 1992 Plan was completed to address this southeasterly area, entitled "Surface Water Management Plan Update for the Stageline Road District". Both the 1992 Plan and the 1999 Plan Update have been used as effective tools for the planning and construction of stormwater facilities in the City.

These plans identify the future stormwater facilities that are anticipated to be needed as development continues. In addition, detailed design information and standards are listed for the guidance of both the City and potential developers. Ponding areas are to be designed for 100-year storm events, while storm sewer pipes are to be designed for a minimum 5-year storm event. Other guidelines for construction of ponds, overflows, freeboard requirements, etc. are also listed.

Another study, "Lake Mallalieu Stormwater Assessment Final Report", was completed in 2008. This study provided direction to the City in reducing pollutant loads from the City's storm drainage system to Lake Mallalieu. Four different discharge locations along Lake Mallalieu were studied, and options were discussed for reducing the pollutant loads at these locations. Some of the options for this area include detention basin construction, stormwater infiltration features, installation of hydrodynamic separators, increased street sweeping, additional public education, and fertilizer control.

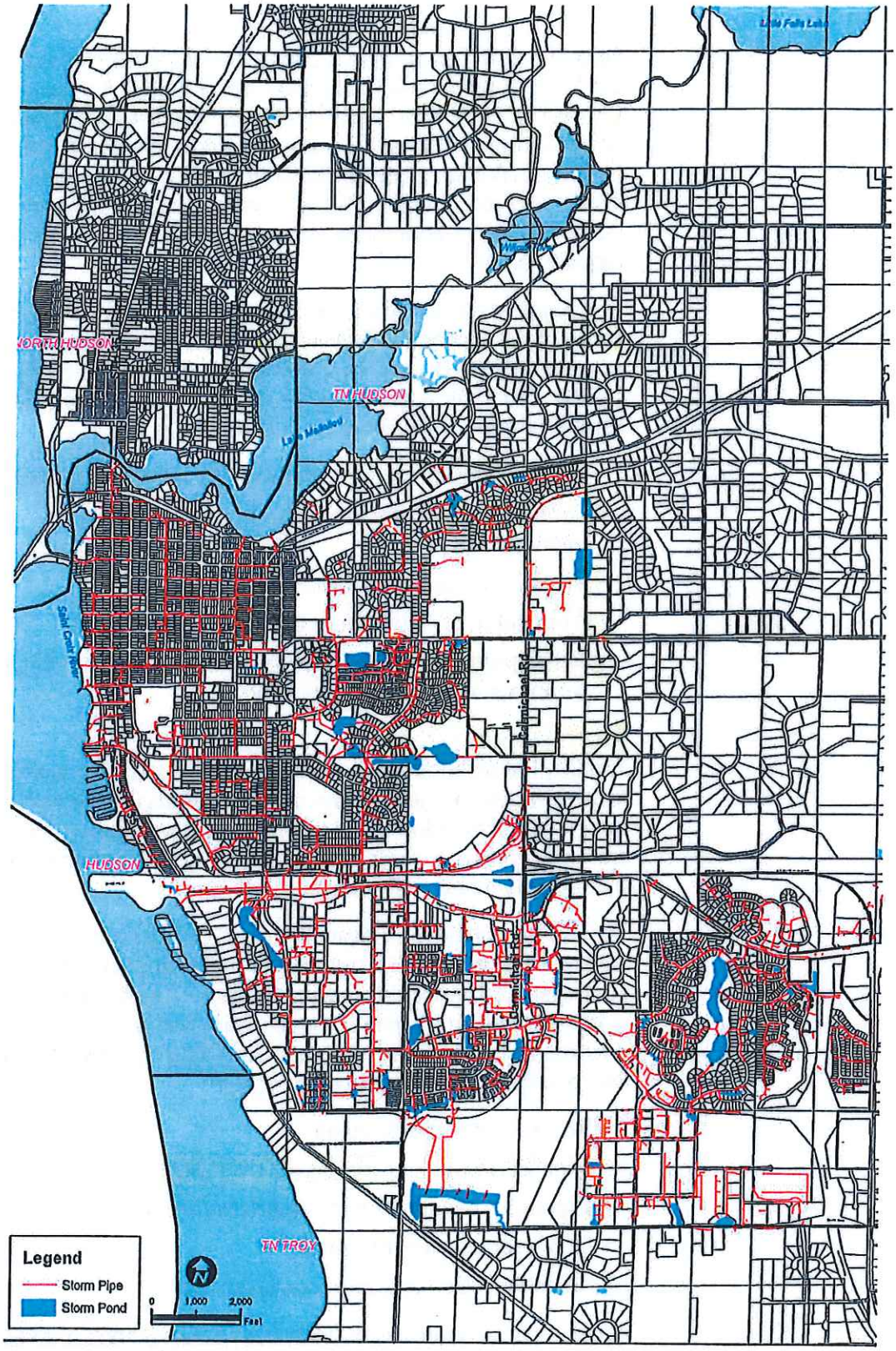


Figure 5-1: Storm Sewer System Map

Pending Stormwater Requirements

Once the 2010 Census data is published for the City of Hudson, the City's population will officially exceed 10,000. As a result, the City will be designated as an MS4 (Municipal Separate Storm Sewer System) community, and will need to obtain a WPDES (Wisconsin Pollutant Discharge Elimination System) permit from the Wisconsin DNR. This will require the City to implement additional stormwater management activities to meet the permit requirements.

One of the most significant requirements will be the need to reduce Total Suspended Solid (TSS) loads from existing developed areas discharging to waters of the state by 40 percent by March of 2013. Other items which the City must implement in order to comply with the WPDES permit include:

- Public involvement, participation, education and outreach.
- Construction and post-construction site stormwater management.
- Illicit discharge detection and elimination.
- Preparation of an updated stormwater facility map.
- Developing a schedule of compliance and documenting this compliance with annual reporting.

Stormwater Utility

The City has an impact fee ordinance, which is used to collect fees from new development for the purposes of paying the cost of the initial construction of the trunk storm sewer system. However, currently there is not a good method in place to generate funds to operate and maintain the existing system.

The City completed a study in March of 2008 to lay the ground work for the creation of a stormwater utility. Implementing a stormwater utility would create a dedicated funding source for storm drainage improvements and maintenance. The report documents the following potential benefits from a well-funded improvement and maintenance program:

- Flood control and drainage
- Enhanced water quality in area rivers and lakes
- Improved maintenance of existing infrastructure
- Erosion and sediment control
- An enhanced stormwater conveyance system

At this time, the stormwater utility has not been implemented. The City is considering the options and working through the details of how to best structure a stormwater utility. It is anticipated that

annual revenues from the utility could be used for items such as pond dredging, pond mowing, catch basin replacements, pipe replacements, depreciation, and water quality projects.

A draft ordinance has been prepared which could be used to adopt the stormwater utility. The ordinance covers methodology for computing fees, land use categories considered exempt from the fees, non-payment penalties, and the utility fee appeals process.

Operation and Maintenance

In the past, the City has done its best to operate and maintain the stormwater system as budgets allow. In 1997, an Erosion Control Ordinance was approved by the City. This has helped to reduce sedimentation and improve stormwater quality. However, even with such controls in place, significant maintenance of the system is still necessary to insure the successful operation of the storm drainage system.

The Public Works Department has historically performed pond maintenance work on an as-needed basis. One recent example was the Woodlands Pond dredging project near Chestnut Street. This project included dredging, re-grading, and structural repairs on the pond slopes. Another example was the dredging project at Pond No. 5 located near Heggen Street and Crestview Drive, which included construction of a new pre-treatment cell to improve water quality. Under the new stormwater regulations that are pending for the City, pond inspection and maintenance will need to be performed and documented on an established schedule.

As the City moves to the new stormwater regulations, operation and maintenance needs and expenses will increase significantly. Some ponds will need to be retrofitted to include not only an infiltration component but also a water quality component. Some of the dry pond areas may need to be converted to wet pond areas. Space, cost and man power to implement new best management practices will be a challenge in the future. The City owns very little property, and will need to take advantage of the property that is available. Maintenance activities such as sweeping will need to increase, which may put additional loads on manpower and on the available maintenance budget.

Stormwater Management System Goals

Suggested goals for the stormwater management system are listed below:

- Reconstruct any brick or block structures in the oldest parts of the system when the streets above the pipes are next resurfaced.
- Continue with a regular cleaning and inspection program of the piping system, structures and stormwater ponding areas.
- Implement the recommendations listed in the "Lake Mallalieu Stormwater Assessment Final Report" completed in 2008.
- Implement the Stormwater Utility to provide a dedicated funding source for stormwater drainage improvements and maintenance.
- Continue to follow the guidelines and recommendations listed in the 1992 Comprehensive Surface Water Management Plan and the 1999 update that was completed to address growth in the southeastern area, entitled "Surface Water Management Plan Update for the Stageline Road District".
- Plan and begin implementing measures necessary to meet the DNR's Municipal Stormwater Permit Program, which the City will be required to meet when the 2010 Census data becomes published.
- Land areas necessary for ponds and overflow routes should be described and adopted as part of a city official map pursuant to state statutes, so that these areas are protected and set aside prior to development.
- Continue to look for opportunities to implement low cost, effective stormwater practices, such as rain gardens, infiltration swales, fertilizer control, street sweeping, and public education.
- Continue to seek funding opportunities through the DNR's Runoff Management Grant program, and other similar grant programs.

TURFGRASS NUTRIENT MANAGEMENT PLAN

Site: City of Hudson, Wisconsin
Location: Lakefront Park and Grandview Park Ballfields
Owner: City of Hudson
Land Manager: Deb Andrews
Mailing address: 505 3rd Avenue, Hudson, WI 54016
Phone: (715) 386-4767

Nutrient Management Planner: Gary J. Chamberlain
Credentials: B.S. Agriculture (Agronomy) 1971, Ohio State University
Date Created: March 29, 2010
Updates:

TABLE OF CONTENTS

NARRATIVE DESCRIPTION (this should be the last section that you write)

GOAL:

To minimize entry of sediment and nutrients into water resources while maintaining high quality turfgrass.

SITE DESCRIPTION:

The Lakefront Park is an area constructed for community activities along the shores of the St. Croix River in Hudson, Wisconsin. Soils are predominately Plainfield loamy sand that is highly permeable. However, the soils are deep and the water table is greater than 200 cm. from the soil surface. Turf is the primary vegetation. However there is a border of shrubbery and trees along the river which serve as a buffer to prevent a misapplication of fertilizer directly into the river. This would be classified as a Type II Surface Water Management Area limiting nitrogen applications to no more than 2.0 pounds of nitrogen/1,000 square feet/year. Also, only liquid applications of fertilizer are permitted.

The Grandview Park ballfields are constructed of native soils that are primarily silt loam. All four ballfields are abutting in the center with each comprising a quarter of the circle. The slope of the native soil changed with grading and construction. Turf is the vegetation that covers the playing fields. One application of fertilizer is currently scheduled for the year. As much as 8 pounds of nitrogen/1,000 sq. ft. can be applied over the course of the season. It is highly unlikely that the turf density can be maintained at lower fertility levels.

CHARACTERISTICS OF FERTILIZED AREAS

Site:	Lakefront Park – Bandshell area
Location:	1st and Walnut Street, Hudson, WI
Size:	Approximately 6.6 acres.
Age:	> 5 years, well established
Grass species:	Mixture of Kentucky bluegrass and perennial ryegrass
Root zone or soil type:	Predominately loamy sand with some silt loam close to First Street. Soil depth is > 200 cm.
Traffic:	Varies with community activities – Heavy to light.
Max. allowable N/year:	2 lbs. of N/1,000 sq. ft. applied at rates of .5 lbs. of N/1,000 or less with each application.
Soil Test P Level:	Unknown.
Max. allowable P_2O_5/year:	N/A

Site:	Grandview Park Ballfields
Location:	County Road UU and Carmichael Road Hudson, WI
Size:	6.0 acres
Age:	>5 years and well established
Grass species:	Primarily Kentucky bluegrass and perennial ryegrass.
Root zone or soil type:	Onamia-Antigo Complex and Silt Loam before construction of the ball fields.
Traffic:	Heavy
Max. allowable N/year:	8 lbs. of N/1,000 sq. ft./year with no more than 1.0 lb of N/1,000 sq. ft. at any one time.
Soil Test P Level:	Unknown
Max. allowable P_2O_5/year:	N/A

Site: GROUNDWATER MANAGEMENT AREAS

Location(s):

Size:

Restrictions: Fertilizers with 50% or more slow-release N can be used in accordance with the rest of the nutrient management plan.

Fertilizers with less than 50% should be applied at rates of 0.25 lbs N/1000 sq. ft.

Site: TYPE I SURFACE WATER MANAGEMENT AREAS (Areas with slopes >10% within 1000 feet of lake, pond (with an outlet) or wetland; or areas with slopes >10% within 300 feet of a perennial stream or river)

Location:

Size: N/A

Restrictions: Fertilizers with 50% or less slow-release N can be used in accordance with the rest of the nutrient management plan.

Site: TYPE II SURFACE WATER MANAGEMENT AREAS (Areas within 20 feet of lake, pond (with an outlet), river, stream or wetland)

Location: Lakefront Park, First and Walnut St., Hudson, WI alongside the St. Croix River.

Size: Approximately 6 acres.

Restrictions: Only foliar (liquid) N and P applications are allowed, except on greens and surrounds where drop spreaders may be used.

No more than 2 lbs N/1000 sq. ft. can be applied annually.

Fertilizer Spill Response Plan

If a spill occurs, take appropriate cleanup actions.

Spills involving over 250 lbs of dry or 25 gallons of liquid fertilizer must be immediately reported to the WDNR

24-hour spills hotline: 1-800-943-0003

Spills of lesser amounts are exempt from the reporting unless the spill had adversely impacted or threatens to adversely impact the air, lands, or waters of the state either as a single discharge or when accumulated with past discharges.

General Fertilizer Application Schedule
2015

Frequency of fertilization equipment calibration

Establishment Plan

General Nutrient Application Schedule – Nitrogen/Phosphorus (lbs/1000 ft^2)

Location	April	May	June	July	Aug	Sept	Oct	Nov	Total
Lakefront park		.5 lb N	.5 lb N		.5 lb N	.5 lb N			2.0 lbs N/1,000 sq. ft. All applications with 17-0-3 liquid base mxi.
Grandview Park		.75 lb N							

Spreader Calibration Table

Date	Fertilizer Grade	Intended N Rate	Width of Drop Spreader of HALF throw pattern of rotary	Calibration Distance	Fertilizer needed per calibration area[1]	Fertilizer needed per 1000 ft^2	Operator
	$N\text{-}P_2O_5\text{-}K_2O$	lbs/1000ft^2	feet	feet	lbs	lbs	

[1] **To calculate the amount of fertilizer needed follow these calculations:**

Step 1: Multiply calibration distance x width of drop spreader (or half throw pattern of rotary) (50 x 3 = 150 ft^2)

Step 2: Divide intended N rate by the percentage of N in the fertilizer (0.25/0.30) = 0.833, this is the amount of fertilizer you'll need per thousand square feet, put this number in the second to last column

Step 3: Divide 1000 ft^2 by the answer to Step 1 (1000/150 = 6.67)

Step 4: Divide the fertilizer needed per 1000 ft^2 by the answer to Step 3 (0.833/6.67 = 0.125) this is the weight of fertilizer that should be applied in your calibration area to achieve the proper fertilization rate. If your scale only displays grams multiply by 454 (0.125 x 454 = 56.7 grams)

ACTUAL FERTILIZER APPLICATION RECORDS

Area_____

Date	Applied to	N rate (lbs/M)	P_2O_5 rate (lbs/M)	Fertilizer Grade	N source	SRN (%)	Liquid/Granular	Applicator

Appendix F

Authorizing Resolution

CITY OF HUDSON
RESOLUTION NO. 1-15

GOVERNMENTAL RESPONSIBILITY RESOLUTION
FOR RUNOFF MANAGEMENT GRANTS

WHEREAS, the City of Hudson, Wisconsin is interested in acquiring a Grant from the Wisconsin Department of Natural Resources for the purpose of implementing measures to control agricultural or urban storm water runoff pollution sources (as described in the application and pursuant to ss.281.65 or 281.66, Wis. Stats., and chs. NR 151, 153 and 155); and

WHEREAS, a cost-sharing grant is required to carry out the project:

NOW, THEREFORE, BE IT RESOLVED that the City of Hudson hereby authorizes City Administrator Devin J. Willi to act on behalf of the City of Hudson to:

Submit and sign an application to the State of Wisconsin Department of Natural Resources for any financial aid that may be available:

Sign a grant agreement between the local government (applicant) and the Department of Natural Resources;

Submit reimbursement claims along with necessary supporting documentation;

Submit signed documents; and
Take necessary action to undertake, direct and complete the approved project.

BE IT FURTHER RESOLVED that the City of Hudson shall comply with all state and federal laws, regulations and permit requirements pertaining to implementation of this project and to fulfillment of the grant document provisions.

Adopted this 30th day of March, 2015.

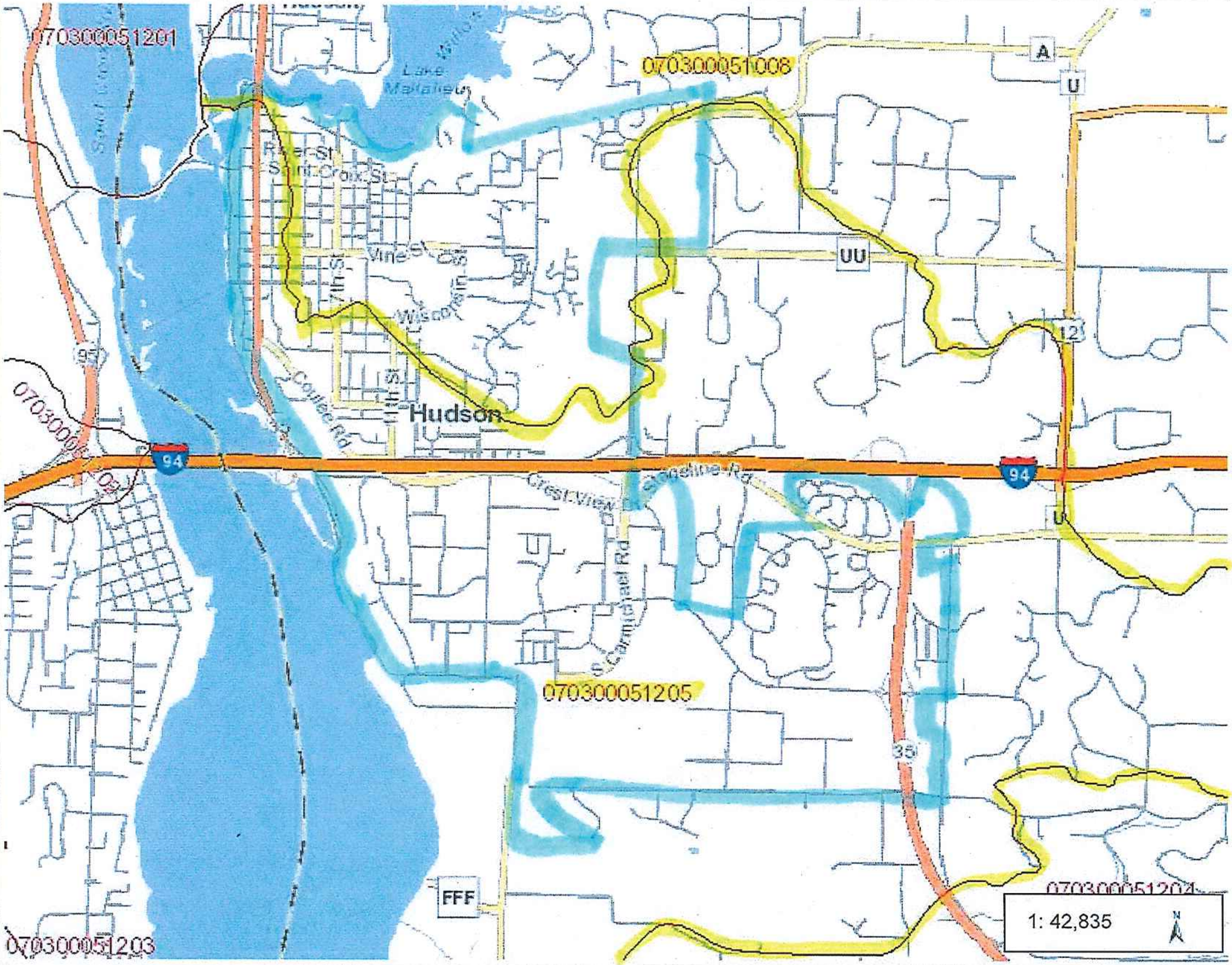
APPROVED:

Allan Burchill, Mayor

ATTEST:

Nancy J. Korson, City Clerk

City of Hudson HUC 12



Legend

- 12-digit HUCs (Subwatersheds
- Major Roads
  - Interstates
  - US Highways
  - State Highways
- Rivers and Streams
- Open Water
- Airports

City of Hudson Boundaries

HUC12 Boundaries

Notes

1.4 | 0 | 0.68 | 1.4 Miles

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