

PROJECT REQUEST FORM
Lower St. Croix Partnership – Watershed Based Implementation Funding

To: A3 (non-structural) Subcommittee, Steering Committee **Date:** 2/23/2023
From: Anoka Conservation District (ACD)
Subject: WBIF Project Request: **Linwood Township Enhanced Street Sweeping**

Table of Acronyms

CWMP: Comprehensive Watershed Management Plan	LSC: Lower St. Croix
SWCD: Soil & Water Conservation District	WD: Watershed District
WBIF: Watershed Based Implementation Funding	WMO: Watershed Management Organization

Eligible Project Sponsors

A sponsoring agency is required for each submitted project. The sponsor fills out this request. That agency must be a party to the Joint Powers Agreement for the implementation of the Lower St. Croix Comprehensive Watershed Management Plan. The sponsor, if the project is selected for funding, will enter into a subcontract with the Chisago Soil and Water Conservation District (SWCD) for project funding.

Description of Project (brief paragraph)

Linwood Township will implement enhanced street sweeping as recommended in the study entitled “Enhanced Street Sweeping Analysis Martin and Linwood Lakes: Direct Drainage Subwatersheds” dated 2 Feb 2023. Specifically, the township will implement option 4 identified in the study which involves sweeping all “high priority” road segments (draining directly to the lakes through stormwater conveyances) four times a year in approximately March, May, October, and November. Presently these streets are swept 1x/yr in May. This is an increase of 12.1 curb miles per year or 36.3 curb miles over a three-year contract.

The ACD will execute a contract for the above work with the township. Annually for three years ACD will: receive sweeping documentation from the township; provide an estimate of phosphorus recovery by the sweeper using the enhanced sweeping planning study estimate, MPCA credit calculator or other estimate based on curb miles swept; and provide annual reimbursement payments to the township.

Benefitted Waterbody Information (add rows for additional waterbodies if necessary)

Target waterbody	Sunrise River W Branch, Martin Lake, Linwood Lake
Waterbody area (acres)	NA, 223 ac, 559 ac
Watershed area (acres)	Sunrise R: 4,832 ac above study location, Martin Lake: 4,832 ac, Linwood Lake: 7,366
DNR shoreline classification	Martin: general development, Linwood: recreational development
Description of the watershed and near-shore land uses	Rural residential
Impairment status	Sunrise river in the project area: aquatic life Martin & Linwood Lakes: Impaired for excess nutrients
Protection or restoration	Restoration

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Project Details

Project Name	Linwood Township Enhanced Street Sweeping
Project Sponsor	Anoka Conservation District
Additional Project Partner(s) (other than sponsor)	
Project Location (lat/long, address, or description)	Linwood Township, Anoka Co
DNR Level 8 Subwatershed	073030005
Applicable WBIF Work Plan Activity	A3 – Nonstructural practices
Funding Specifically Allocated to this Project in Work Plan (if applicable)	NA
Estimated Construction Timeline	Enhanced sweeping in 2023, 2024, 2025
Total Project Cost	\$3,144/yr x 3 yrs = \$9,432
Estimated Lifetime Project Cost (incl. O&M)	\$9,432
Requested Grant Funding	\$100/curb-mi x 12.1 curb-mi/yr x 3 yrs = \$3,630
Match provided, match source (cannot be state funds)	\$5,802 Linwood Township
Target Waterbody (from CWMP Table 5-2, 5-3, 5-4)	Sunrise River W Branch, Martin Lake, Linwood Lake
Est. Phosphorus Load Reduction @ Target Waterbody	Not applicable Note: enhanced sweeping study estimates 23.9 lbs/yr load recovery by the sweeper
Est. TSS Load Reduction @ Target Waterbody	NA
Calculation Tool Used	Kalinosky et al. Planning Calculator Tool for Estimating Nutrient and Solids Recovery through Street Sweeping, 2014
Project Lifespan	3 yrs
Lifetime Cost-Benefit (\$/lb phosphorus removed)	

Pre-Project Identification

Total phosphorus load entering target waterbody	Martin Lake – 7,213 lbs/yr Linwood Lake – 1,649 lbs/yr Sunrise R, W Branch – 18.4 lbs/day at mid flows
Total suspended solids load entering target waterbody	Not available
Major sources of nutrient loading	Watershed runoff (~90%), internal loading
P reduction required to achieve water quality goal	Martin Lake – 2,973 lbs/yr Linwood Lake – 341 lbs/yr Sunrise R, W Branch – 12-18% at mid & dry flows
Completed projects, load reduction	Six stormwater retrofits, 4+ lakeshore restorations = 25 lbs/yr Carp mgmt. removing 13,440 carp and 4 carp barriers.
Alternative projects, load reduction	Other projects underway or planned: additional stormwater retrofits, adopt-a-drain, wetland restoration.

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Required Attachments for Requesting Partner to Complete (check all that apply):

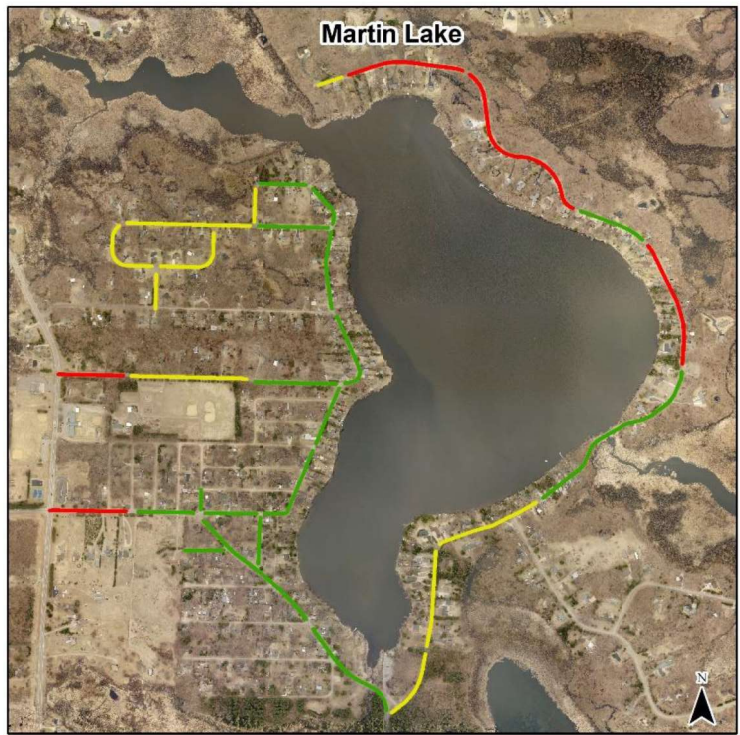
- Project Plans/Visual/Map (for all requests)
- Completed Appendix C Project Scoring Matrix (for [Activities 2, 4, 5, 9](#))
- Completed Wetland Restoration Scoring Matrix (for [Activity 6](#))
- Completed Internal Analysis Request for Funding (for [Activity 7](#))
- Completed Internal Analysis Selection Criteria (for [Activity 7](#))
- Completed Targeting Analysis Scoring Matrix (for [Activity 8](#))

Steering Committee Roll Call Vote

Steering Committee roll call vote to recommend [Project Sponsor] project for Lower St. Croix Watershed Based Implementation Funding in the amount of \$_____ for the [Project Name].

Organization	Aye	Nay	Absent
Anoka SWCD			
Brown's Creek WD			
Carnelian Marine St Croix WD			
Chisago County			
Chisago Lakes LID			
Chisago SWCD			
Comfort Lake Forest Lake WD			
Isanti County			
Isanti SWCD			
Middle St. Croix WMO			
Pine County			
Pine SWCD			
South Washington WD			
Valley Branch WD			
Washington CD			
Washington County			
TOTAL (need majority vote to pass)			

Enhanced Street Sweeping Route and Schedule Options



Load Recovery and Cost Estimates for Street Sweeping Scenarios					
	Existing (Current)	Option 1*	Option 2	Option 3	Option 4*
Month Swept	Frequency	Frequency	Frequency	Frequency	Frequency
March		1	1	1	1
May	1		1		1
October		1	1	1	1
November			1	1	1
Streets Swept	Most High and Lower Priority	All High and Lower Priority	All High and Lower Priority	All High Priority	All High Priority
Total Curb Miles Swept/ Year	9.1	20.6	41.2	10.6	21.2
Est. Sweeping Cost/ Year	\$2,200	\$5,192	\$10,384	\$2,772	\$5,344
Est. Phosphorus Recovery (total lbs/year)	6.9	31.2	46.8	20.2	29.9
Average Cost Effectiveness (\$/ lb Phosphorus Recovered)	\$331.00	\$166.00	\$222.00	\$137.00	\$178.00

Selected Option

MAP LEGEND

Sweeping Priority Ranking

- High Priority
- Lower Priority
- Not Recommended

*Option 4 is recommended for enhanced sweeping. However, if mobilization costs for contracted sweeping services are high and worsen the cost effectiveness of Option 4, Option 1 is recommended.

Figure 4. Street sweeping route and schedule options for the direct drainage subwatersheds of Martin and Linwood Lakes. Cost and phosphorus recovery estimates for each sweeping option are provided in the table. Option 4 is the top recommendation, followed by Option 1.