EST 1983
VLAWMO
Vadnais Lake Area
Water Management Organization

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BOARD OF DIRECTORS MEETING AGENDA

7:00 PM FEBRUARY 26, 2020

Vadnais Heights City Hall, Council Chambers; 800 County Road E, East, Vadnais Heights

I. Call to Order, Chair, Jim Lindner

II. Approval of Agenda

III. Visitors and Presentations

A. TEC Report and Financial – February – Paul Duxbury
B. First Annual Stewardship Award – Nick
C. Public visitors – non agenda items

IV. Consent Agenda

A. Approval of Minutes December 11, 2019
B. Project update reports
C. Designation of legal notice – Press Publications and website
D. Set meeting dates for 2020
E. Adopt-a-Drain 2019 results
F. 2020 Education and Outreach activities
G. Wetlands/Development review – At Home Properties Vadnais Heights

V. Business

A. Administration
   1. Election of Board Officers
      a) Appointment of TEC Chair – Gloria Tessier
   2. Personnel committee update/ special meeting – Administrator
B. Education and Outreach
   1. 2019 Annual Report approval
   2. White Bear Center for the Arts – Community Blue Grant
C. Cost Share Program
   1. LL2 2020-01 TNC Teal Pond Restoration
   2. LL2 2020-02 Cty Rd F Raingardens Retrofit
   3. LL2 2020-03 Peterson Native Restoration, NO
D. Projects
   1. Birch Lake – 4th & Otter: Bid Selection & Authorize Signing of Contract – Tyler
   2. Pleasant Lake – Sediment study – Dawn
   3. Goose Lake Alum treatment grant – Stephanie
   4. WBF Goose Lake subshed BMP options

VI. Discussion

VII. Administration Communication – Metro INet – JPA direction

XI. Adjourn

Next regular meeting: April 22, 2020

Upcoming Municipal Event:

City Summit: MS4 info session and luncheon March 12th, 2020 – VH Fire Department Link for more information.
10:30 am – 12:45 pm

TEC Report to the Board
February 2020

Programs & Projects	Effort Level LOW MED HIGH	Completion Date	Comments
Projects			
Oak Knoll Pond		2020	Workplan and agreement between Barr and BWSR anticipating approval. Staff will be working to help coordinate application of spent lime and monitoring in 2020.
Goose Lk subshed project		2017-2020	Barr is is working on the 60% concept level plans for the top 3 recommended BMPs.
Lambert Creek - Ditch 14, branches		2020	S.E.H. has started the design work. This includes replacement of the sheet pile in the pond and design of the meander and treatment cells. MPCA loan was approved.
Birch Lake		2017-20	2nd round bidding results have come in with a recommendation from Barr for selection of the lowest responsible bidder for construction.
Wetland Assessment - Vadnais Sucker		2018-20	S.EH contract signed and work beginning for 2020 wetland assessment.Grant through Great River Greening for AIS removal and habitat restoration in select areas of Vadnais Sucker park is moving forward to LCCMR.
Whitaker Wetlands		2020	Monitoring & pathogen sampling is complete, working on reports
Programs			
Outreach		Oct-Dec	2019 Annual Report, summary, water monitoring summary are ready for Board review and approval. 2020 events, workshops, and watershed tours scheduled for April-August, see web calendar. Watershed steward award nominations Due Feb. 11th. An MS4/City workshop for planning new MS4 permitting is scheduled for Mar 12th, city staff encouraged to attend
Education		Oct-Dec	Lake factsheets are currently being updated. New graphs and emphasis on TSI (trophic state index) in data expression. . Community Blue grant project set for March 4th in North Oaks.
Website		Oct-Dec	Administrator job position posted on homepage. A Goose Lake issue summary with updated graphs for the latest lake data was added as was A Lambert Lake meander designated webpage andUpdates about Sucker/Vadnais Trumpeter Swan deaths:
WAV		Oct-Dec	Citizen advisory meeting March 5th. Two new WAV volunteers for 2020, one master water steward currently in training. Upcoming projects include cost-share project photographing, raingarden maintenance, AIS detection, macroinvertebrate monitoring.
Cost Share		ongoing	4 application have been received at the beginning of 2020; 2 LL1s and 2 LL2s. Funding recommendations are outlined in the Feb. TEC staff memo.
GIS		ongoing	New subwatershed maps, annual report materials and CIP support.
Monitoring		ongoing	Season has ended, working on reports/data analysis
WCA		ongoing	Year end reporting complete, 2020 season beginning

TEC Report to the Board
February 2020

Administration & Operation			
SLMPs		2020	Lake surveys and studies planned for 2020 on SLMP lakes.
Budget		April 2020	Audit preparation is underway with the auditors on site Feb. 11-12.
Administration		April 2020	VLAWMO has received a claim against our insurance from a resident on Twin Lake. A denial letter has been sent - no negligence on VLAWMOs part. The position for VLAWMO administrator is posted until Feb. 21st. There has
SSU		ongoing	Final divisions for 2020 SSU fees is complete for listing on May tax statements.
Water Plan		ongoing	The Water Plan Amendment was adopted by the Board. The last two Local Water Plans from North Oaks and White Bear Lake are remaining for approval Comments on NO submitted.

FINANCIAL SUMMARY as of 2/1/2020		
4M Account (1.10)	4M Plus (1.23)	Total
$381,051	$411,939	$792,990

CD's	4M Term Series	
	Maturity	Rate
Term series		

Budget Summary	Actual Expense YTD	2020 Budget amended	Remaining in Budget	% YTD
Operations	*$80,121*	*$697,800*	*$617,679*	11%
CIP	*$40,447*	$666,695	*$626,248*	6%
Total	$120,568	$1,364,495	$1,243,927	9%

February-20		Actual 2/1/20	Actual to Date	2020 Budget	2019 carry over/Grants	Remaining in Budget	2020 Available	Act vs. Budget
BUDGET #	**INCOME**							
5.11	Storm Water Uti	$16,449	$16,449	$890,800	$0	$874,351	$890,800	2%
5.12	Service Fees	$0	$0	$200	$0	$200	$200	0%
5.13	Interest + mitiga	$970	$2,003	$5,000	$0	$2,997	$5,000	40%
5.14	Misc. income - V	$1,495	$1,555	$3,000	$0	$1,446	$3,000	52%
5.15	Other Income G	$12	$12	$0	$0	($12)	$0	
5.16	Transfer from re	$0	$0	$0	$0	$0	$0	
	TOTAL	$18,926	$20,019	$899,000	$0	$878,981	$899,000	2%
	EXPENSES							
3.1	**Operations & Administration**							
3.110	Office - rent, cop	$1,846	$4,015	$25,200	$0	$21,185	$25,200	16%
3.120	Information Sys	$2,172	$2,639	$20,000	$2,000	$19,361	$22,000	12%
3.130	Insurance	$0	$0	$5,800	$0	$5,800	$5,800	0%
3.141	Consulting - Aud	$0	$0	$6,700	$0	$6,700	$6,700	0%
3.142	Consulting - Boo	$0	$0	$1,500	$0	$1,500	$1,500	0%
3.143	Consulting - Leg	$0	$199	$4,000	$2,500	$6,301	$6,500	3%
3.144	Consulting - Eng	$0	$0	$30,000	$0	$30,000	$30,000	0%
3.150	Storm Sewer Ut	$0	$1,103	$14,000	$0	$12,897	$14,000	8%
3.160	Training (staff/b	$0	$0	$4,500	$1,500	$6,000	$6,000	0%
3.170	Misc. & mileage	$639	$1,368	$5,500	$800	$4,932	$6,300	22%
3.191	Administration -	$24,997	$52,993	$347,200	$50,000	$344,207	$397,200	13%
3.192	Employer Liabili	$7,800	$14,072	$89,600	$12,000	$87,528	$101,600	14%
3.2	**Monitoring and Studies**							
3.210	Lake and Creek	$0	$322	$22,000	$10,000	$31,678	$32,000	1%
3.220	Equipment	$299	$352	$4,000	$0	$3,648	$4,000	9%
3.230	Wetland assess	$0	$0	$10,000	$0	$10,000	$10,000	0%
3.3	**Education and Outreach**							
3.310	Public Educatio	$2,000	$2,004	$8,500	$1,000	$7,496	$9,500	21%
3.320	Marketing	$250	$509	$7,500	$0	$6,991	$7,500	7%
3.330	Community Blue	$545	$545	$10,000	$2,000	$11,455	$12,000	5%
Total Core functions: Ops, Monit		*$40,548*	*$80,121*	*$616,000*	*$81,800*	*$617,679*	*$697,800*	*11%*
Capital Improvement Projects and Programs								
3.4	**Subwatershed Activity**							
3.410	Gem Lake	$0	$0	$0	$0	$0	$0	
3.420	Lambert Creek	$5,015	$9,330	$120,000	$63,275	$173,945	$183,275	5%
3.425	Goose Lake	$2,678	$6,603	$60,000	$150,316	$203,713	$210,316	3%
3.430	Birch Lake	$11,360	$11,360	$10,000	$39,067	$37,707	$49,067	23%
3.440	Gilf Black Tam V	$0	$0	$30,000	$50,000	$80,000	$80,000	0%
3.450	Pleasant Charle	$0	$0	$10,000	$9,000	$19,000	$19,000	0%
3.460	Sucker Vadnais	$3,164	$3,164	$12,000	$10,000	$18,836	$22,000	14%
3.48	**Programs**							
3.481	Landscape 1	$0	$0	$24,000	$11,500	$35,500	$35,500	0%
3.482	Landscape 2	$265	$265	$20,000	$11,361	$31,096	$31,361	1%
3.483	Project Researc	$8,750	$9,725	$0	$0	($9,725)	$0	#DIV/0!
3.470	Facilities Mainte	$0	$0	$5,000	$29,176	$34,176	$34,176	0%
3.5	**Regulatory**							
3.510	Engineer Plan re	$0	$0	$2,000	$0	$2,000	$2,000	0%
	Total CIP & Prog	*$31,232*	*$40,447*	$293,000	$373,695	*$626,248*	*$666,695*	*6%*
	Total of Core Op	**$71,780**	$120,568	$909,000	$455,495	**$1,243,927**	$1,364,495	**9%**

Fund Balance		1/1/2020	2/1/2020
4M Account		$418,796	$381,051
4M Plus Savings		$411,435	$411,939
Total		$830,231	$792,990

Restricted funds	2/1/2020
Mitigation Savings	$29,105
Term Series (3/28/19)	$0

Vadnais Lake Area Water Management Orgai

10:29 AM

Profit & Loss

02/07/2020

January 11 through February 14, 2020

Cash Basis

	Jan 11 - Feb 14, 20
Ordinary Income/Expense	
Income	
Mitigation Interest	1.48
Reimbursed Expenses	12.00
5.1 · Income	
5.11 · Storm Water Utility	16,448.93
5.13 · Interest	968.76
5.14 · WCA sub-grant & Misc.	1,495.00
Total 5.1 · Income	18,912.69
Total Income	18,926.17
Gross Profit	18,926.17
Expense	
3.1 · Administrative/Operations	
3.110 · Office	
Copies	21.39
Phone/Internet/Machine Overhead	275.00
Postage	9.25
Rent	1,540.00
Total 3.110 · Office	1,845.64
3.120 · Information Systems	
GIS Support & updates	254.26
IT Support	1,918.00
Total 3.120 · Information Systems	2,172.26
3.160 · Training (staff/board)	0.00
3.170 · Misc. & mileage	639.47
3.191 · Employee Payroll	
Payroll	24,996.80
Total 3.191 · Employee Payroll	24,996.80
3.192 · Employer Liabilities	
Admin payroll processing	44.92
Administration FICA	1,844.73
Administration PERA	1,874.76
Insurance Benefit	2,551.20
3.192 · Employer Liabilities - Other	1,484.50
Total 3.192 · Employer Liabilities	7,800.11
Total 3.1 · Administrative/Operations	37,454.28
3.2 · Monitoring and Studies	
3.220 · Equipment	299.00
Total 3.2 · Monitoring and Studies	299.00
3.3 · Education and Outreach	
3.310 · Public Education	2,000.00
3.320 · Marketing	250.00
3.330 · Community Blue Education Grant	545.00

Total 3.3 · Education and Outreach	2,795.00
3.4 · Capital Imp. Projects/Programs	
3.420 · Lambert Creek Restoration	
Whitaker Wetlands	5,014.62
Total 3.420 · Lambert Creek Restoration	5,014.62
3.425 · Goose Lake	2,678.00
3.430 · Birch Lake	
4th & Otter project	7,582.02
3.430 · Birch Lake - Other	3,778.00
Total 3.430 · Birch Lake	11,360.02
3.460 · Sucker Vadnais	3,164.00
Total 3.4 · Capital Imp. Projects/Programs	22,216.64
3.48 · Programs	
3.482 · Landscape 2	265.50
3.483 · Project Research & feasibility	8,749.86
Total 3.48 · Programs	9,015.36
Total Expense	71,780.28
Net Ordinary Income	-52,854.11
Net Income	**-52,854.11**

Vadnais Lake Area Water Management Organization
Check Detail
January 11 through February 14, 2020

Type	Num	Date	Name	Item	Account	Paid Amount	Original Amount
Check	**EFT**	**01/28/2020**	**Reliance Standard**		**Checking - 1987**		**-177.68**
					Insurance Benefit	-177.68	177.68
TOTAL						-177.68	177.68
Check	**4866**	**02/14/2020**	**Brian Corcoran**		**Checking - 1987**		**-34.22**
					3.170 · Misc. & mileage	-34.22	34.22
TOTAL						-34.22	34.22
Check	**4867**	**02/14/2020**	**City Of Roseville**		**Checking - 1987**		**-1,918.00**
					IT Support	-959.00	959.00
					IT Support	-959.00	959.00
TOTAL						-1,918.00	1,918.00
Check	**4868**	**02/14/2020**	**Nicholas Voss**		**Checking - 1987**		**-11.60**
					3.170 · Misc. & mileage	-11.60	11.60
TOTAL						-11.60	11.60
Check	**4869**	**02/14/2020**	**Tyler J Thompson**		**Checking - 1987**		**-27.20**
					3.170 · Misc. & mileage	-27.20	27.20
TOTAL						-27.20	27.20
Check	**4870**	**02/14/2020**	**Noah & Associates, Inc**		**Checking - 1987**		**-1,250.00**
					3.192 · Employer Liabilities	-1,250.00	1,250.00
TOTAL						-1,250.00	1,250.00
Check	**4871**	**02/14/2020**	**City of Vadnais Heights**		**Checking - 1987**		**-1,845.64**
					Rent	-1,540.00	1,540.00
					Phone/Internet/Machine Overhead	-200.00	200.00
					Phone/Internet/Machine Overhead	-75.00	75.00
					Postage	-9.25	9.25
					Copies	-21.39	21.39
TOTAL						-1,845.64	1,845.64
Check	**4872**	**02/14/2020**	**City of White Bear Lake**		**Checking - 1987**		**-31,388.99**
					Payroll	-24,996.80	24,996.80
					Administration FICA	-1,844.73	1,844.73
					Administration PERA	-1,874.76	1,874.76
					Insurance Benefit	-2,373.52	2,373.52
					Admin payroll processing	-44.92	44.92
					GIS Support & updates	-254.26	254.26
TOTAL						-31,388.99	31,388.99
Check	**4873**	**02/14/2020**	**Prairie Moon Nursery**		**Checking - 1987**		**-5,185.02**
					4th & Otter project	-5,185.02	5,185.02
TOTAL						-5,185.02	5,185.02
Check	**4874**	**02/14/2020**	**Barr Engineering Co**		**Checking - 1987**		**-2,397.00**
					4th & Otter project	-2,397.00	2,397.00
TOTAL						-2,397.00	2,397.00

Check	**4875**	**02/14/2020**	**Windsong Homeowners Association**	**Checking - 1987**	**-265.50**
			3.482 · Landscape 2	-265.50	265.50
TOTAL				-265.50	265.50
Check	**4876**	**02/14/2020**	**MN Board of Water & Soil Resources**	**Checking - 1987**	**-40.00**
			3.170 · Misc. & mileage	-40.00	40.00
TOTAL				-40.00	40.00
Check	**4877**	**02/14/2020**	**Kate Winsor**	**Checking - 1987**	**-420.00**
			3.330 · Community Blue Education Grant	-420.00	420.00
TOTAL				-420.00	420.00
Check	**4878**	**02/14/2020**	**Blue Thumb**	**Checking - 1987**	**-250.00**
			3.320 · Marketing	-250.00	250.00
TOTAL				-250.00	250.00
Check	**4879**	**02/14/2020**	**Metro WaterShed Partners**	**Checking - 1987**	**-2,000.00**
			3.310 · Public Education	-2,000.00	2,000.00
TOTAL				-2,000.00	2,000.00
Check	**4880**	**02/14/2020**	**Stephanie Oliver McNamara**	**Checking - 1987**	**-234.50**
			3.192 · Employer Liabilities	-234.50	234.50
TOTAL				-234.50	234.50
Check	**4881**	**02/14/2020**	**Dawn Tanner**	**Checking - 1987**	**-26.45**
			3.170 · Misc. & mileage	-26.45	26.45
TOTAL				-26.45	26.45
Check	**4882**	**02/14/2020**	**Regents of the University of Minnesota**	**Checking - 1987**	**-5,014.62**
			Whitaker Wetlands	-5,014.62	5,014.62
TOTAL				-5,014.62	5,014.62
Check	**4883**	**02/14/2020**	**SEH**	**Checking - 1987**	**-8,749.86**
			3.483 · Project Research & feasibility	-8,749.86	8,749.86
TOTAL				-8,749.86	8,749.86
Check	**4884**	**02/14/2020**	**MAWD**	**Checking - 1987**	**-500.00**
			3.170 · Misc. & mileage	-500.00	500.00
TOTAL				-500.00	500.00
Check	**4885**	**02/14/2020**	**Ramsey County**	**Checking - 1987**	**-9,620.00**
			3.425 · Goose Lake	-2,678.00	2,678.00
			3.430 · Birch Lake	-3,778.00	3,778.00
			3.460 · Sucker Vadnais	-3,164.00	3,164.00
TOTAL				-9,620.00	9,620.00

Vadnais Lake Area Water Management Organization

9:11 AM

Custom Transaction Detail Report

02/07/2020

January 1 through February 1, 2020

Accrual Basis

	Type	Date	Num	Name	Memo	Account	Clr	Split	Amount	Balance
Jan 1 - Feb 1, 20										
	Credit Card Charge	01/03/2020		Google*SVCAPPS_VLAWM		US Bank CC		WEB	20.83	20.83
	Credit Card Charge	01/08/2020		University of Minnesota	climate adaptation conf. Dawn	US Bank CC		3.160 · Training (staff/board)	100.00	120.83
	Credit Card Charge	01/08/2020		University of Minnesota	climate adaptation conf. Nick	US Bank CC		3.160 · Training (staff/board)	100.00	220.83
	Credit Card Charge	01/09/2020		Fresh Thyme	tec snacks	US Bank CC		3.170 · Misc. & mileage	10.76	231.59
	Credit Card Charge	01/21/2020		Matrix Media Press, LLC	north oaks CB grant movie download	US Bank CC		3.330 · Community Blue Education Grant	125.00	356.59
	Credit Card Charge	01/27/2020		Amazon.com	cabinet	US Bank CC		3.220 · Equipment	299.00	655.59
Jan 1 - Feb 1, 20									**655.59**	**655.59**

To: Board of Directors

From: Nick Voss, EOC

Date: February, 2020

Re: III. B: First Annual Watershed Steward Award

The nominations were received and voted on for the first annual watershed steward award winner. Results indicated our winner is – Diane Gorder! The award will be presented with a photo with the BOD during the meeting.

Honorable mention went to Susan Miller.

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Watershed Steward Award Nomination

Nominee name and affiliation:

Diane Gorder, NOHOA

Project:

Lake focus group development, Carp removal project, Oriental bittersweet and Japanese barberry support, Lake sedimentation project support for Pleasant, Deep Lake Yellow iris removal, education event planning and promotion, communication and coordination with residents through listserv and email blasts, TEC representation, support and coordination for stakeholder meetings in North Oaks, and more.

Diane is fully engaged with the community and is a skilled networker for environment and water-quality improvement in North Oaks. She calmly navigates difficult situations, provides logistical support, and keeps all parties engaged and involved. She has served on committees that interface with VLAWMO for more than 8 years. She recently stepped down from the NOHOA Board, and remains a dedicated liaison between VLAWMO, NOHOA, and the North Oaks community.

VLAWMO would not have accomplished the rapid development of projects that have resulted from completed SLMPs and especially the stakeholder surveys that were part of those without Diane.

Hours and time duration:

I am not able to estimate the hours that Diane has worked. They seem endless! 😊 She may have turned in hours for 2019, and the rate of involvement has not changed.

Description of watershed impact:

The direct results of Diane's involvement is wider community engagement, financial support for VLAWMO projects, habitat restoration and maintenance for previously restored sites, the addition of contracted entities (e.g., Mark Rehder Forestry, Natural Shore Technologies, Blue Water Science), access for VLAWMO for remote-camera projects and invasive species removal, cable filming of meetings (e.g., carp, coyotes, stakeholder meetings) that are broadcast to the NO community, newspaper article ideas and support, and additional articles submitted by NEST and the Natural Resources Commission.

Quote or summary statement:

Diane is passionate about improving the environment and water quality. She has a long-term vision, is a skilled communicator, effective at networking, and understands how to connect people on challenging projects to keep initiatives moving. She doesn't give up or get disheartened; instead she finds a way and makes the process enjoyable for everybody involved. She is interested in natural history and sees that helping others understand nature is important for improving water quality. She finds ways to facilitate formal and informal sessions where people learn more about wildlife, habitat, and water quality, and she makes it fun.

She also takes on hard physical work, like buckthorn removal, and helps others become involved. She supports trainings and brings in experts. Everybody is elevated through the process when they work with Diane.

The Vadnais Lake Area Water Management Organization
800 East County Road E, Vadnais Heights, 55127 651-204-6070
Website: www.vlawmo.org; Email: office@vlawmo.org

MINUTES OF THE BOARD OF DIRECTORS
December 11, 2019

Attendance		Present	Absent
Jim Lindner, Chair	City of Gem Lake	X	
Dan Jones	City of White Bear Lake	X	
Rob Rafferty, Secretary-Treasurer	City of Lino Lakes	X	
Ed Prudhon	White Bear Township	X	
Kara Ries	City of North Oaks (Alternate)	X	
Patricia Youker	City of Vadnais Heights	X	
Stephanie McNamara	Administrator	X	
Brian Corcoran	Water Resources Mgr.	X	
Dawn Tanner	Program Development Coord.	X	
Nick Voss	Education & Outreach Coord.	X	
Tyler Thompson	GIS Watershed Tech.	X	

Others in attendance: Paul Duxbury (VLAWMO TEC commissioner & rep.); Katherine Kanne (VLAWMO CAC); Melissa King (BWSR); Kurt & Lindsey Carpenter, Scott Schoeneman, Paul Gartzke (WBL residents), Jill Sims (NMMA).

I. **Call to Order**
The meeting was called to order at 7:02 pm by Chair Lindner.

II. **Approval of Agenda**
The agenda for the meeting was presented with no changes proposed.
A motion was made by Prudhon and seconded by Jones to approve the December meeting agenda as presented. Vote: all aye. Motion passed.

III. **Visitors and Presentations**

A. **October TEC Report to the Board and December 2019 Finance Report,**
Duxbury presented the TEC's operations and recommendations to the Board from November, with TEC recommendation for 2019 budget carry-overs into 2020. McNamara presented the December Finance Report.

B. **Citizen Advisory Committee (CAC) Annual Summary – CAC Chair**
Voss gave an overview of the CAC and their involvement in the watershed, and outlined that the CAC is now in a position to interact more with the Board and TEC. Doll presented the minutes and discussion topics from the November 6th CAC meeting and announced she's excited and glad to have this opportunity.

C. **Public Visitors**
McNamara introduced Melissa King, VLAWMO's BWSR Board Conservationist, who gave an overview of her role and ongoing programs and grant opportunities at BWSR.

IV. **Consent Agenda**

A. **Approval of Minutes**
The minutes from the October 23rd, 2019 Board meeting are placed on the consent agenda for approval, as presented.

B. **Project update reports**
Staff has completed a list updates to report on projects and programs not up for discussion on the Board meeting agenda. These updates were included in the December Board packet and may be discussed if any Directors would so choose.

Discussion: none.

C. Lawns to Legumes Blue Thumb Announcement

The Lawns to Legumes Program that is funded through BWSR and Blue Thumb is coordinating the Individual Support wing of the program. All MN residents are eligible to apply for up to $350 in cost share funding, though priority will be given to projects in higher priority zones in an effort to target Rusty patched bumble bee (MN state bee) and other pollinator habitat area. All of VLAWMO is within Priority Area 1, so staff will be promoting this to residents. Larger neighborhood grants are being offered between $20K & $40K through RFPs to be managed by local governments (including WMOs & WDs) and nonprofits. The deadline for the first round of RFPs is January 10th for these large projects.

A motion was made by Jones and seconded by Youker to approve the December 11, 2019 meeting consent agenda, including the October 23rd, 2019 Board meeting minutes, as presented, and staff project update reports. Vote: all aye. Motion passed.

V. Business

A. Administration

1. Goose Lake recommendation update

McNamara explained that there was discussion for the possibility of VLAWMO moving to rescind its recommendation to the City of White Bear Lake regarding a boating ordinance on East Goose Lake, contingent on results of grant funding for an alum treatment. Staff discussed that they recommend VLAWMO's official recommendation stand, based on best available science, ability to achieve Organization's mission, and affirming confidence and following the best-available science on the issue. McNamara explained that staff corrections had been sent to the City Council and the recommendation was sent to the City.

Discussion: Lindner opened the discussion to the Board. Jones explained that he does not believe the City will not pass the boating ordinance. He also explained he thought it was unlikely grant funding would be rejected for an alum treatment, contingent on boating restrictions. Jones continued that all partners are trying to come together for the benefit of the Lake and is asking the Board to rescind the previous recommendation to White Bear Lake for motorized boating. Lindner asked for more comments. Rafferty asserted that Jones is speaking on behalf of the City of White Bear Lake and that he agrees it should be rescinded, if that is Jones recommendation. Prudhon asked Tanner where we would stand with the alum treatment if the recommendation would be rescinded. Tanner answered that if boating is allowed and the alum treatment may be compromised, and VLAWMO would be financially responsible for the second round of alum treatment; Melissa King confirmed this. Rafferty asked King if alum treatments have been funded before without boating restrictions and how many alum treatments have been funded with boating restrictions. King answered that most of the funding proposals are deep lakes that don't necessitate boating restrictions, and couldn't speak to grants for alum treatments with boating restrictions, as she didn't have those figures with her. Rafferty addressed that he feels a boating restriction on East Goose Lake is asking too much of residents, that he supports rescinding of the August Board recommendation to the City of White Bear Lake and to continue to pursue grant funding for an alum treatment. Prudhon asked how East & West Goose are connected and if a filtration device could be installed for nutrient treatment. Tanner addressed that the largest nutrient loading is in the sediments, and treatment into or out of the Lake would have little effect. Jones made the point that he still supports an alum treatment, and to proceed with the grant if funds are awarded, as an alum treatment is the largest means to accomplish goals. Lindsey Carpenter (resident) addressed that the homeowners would like to move forward as partners on management of East Goose Lake, asked the Board to rescind their recommendation to the City, and urged the watershed to hear the concerns of its citizens.

Carpenter also mentioned that the grant application language is inferring that boating restrictions would be placed on the Lake. Carpenter insisted East Goose does not have excessive boat traffic, and that the reported good health of the fish population in the Lake is false. VLAWMO staff clarifies the alum grant application was using fish population data and assumptions from the 2017 fish survey, and was submitted before the 2019 fish survey showed an increase in the bullhead population. In reviewing grant applications for alum treatments, Carpenter could not find an example where boating restrictions were put in place. She urged the residents to remain partners with the Watershed. Jill Sims (NMMA) asserted her contacts with the DNR have not recommended a boating restriction as part of an alum treatment and expressed concern for setting a precedent, and thanked Commissioner Jones for his recommendation. Lindner thanked staff for the use of proper research and science, but the recommendation for a boating restriction has had an unintentional outcome of the issue that has arisen. Jones expressed his frustration with the DNR and the agency's position. Prudhon expressed he has no interest in pushing the issue of a boating restriction any further.

A motion was made by Rafferty and seconded by Jones to rescind the recommendation from the October 23rd Board meeting to the City of White Bear Lake regarding boating restrictions. Vote: all aye, Ries abstains. Motion passed.

2. Approval of 2019 fund balance, Res. 08-2019

McNamara outlined a fund balance for transferring leftover 2019 funds into the 2020 budget for upcoming projects and programs, going down the line of transfers into the New Year. McNamara mentioned that Wilkinson will be going for feasibility study in 2020. **Staff is recommending approval of the carry over funds from 2019 into 2020.**

Discussion: Youker questioned whether funds have been allocated for Lambert Creek and dredging Ditch 14. McNamara addressed that this is not in the budget, but that it may brought back before the Board for discussion and any possible action on future projects or funding. McNamara and Jones outlined the Lambert Lake meander project and that this project will aim to create even more storage capacity. Corcoran gave an overview of VLAWMO's involvement in ditch management, including recent studies and maintenance. Youker asked the last time the Branch ditches were dredged. McNamara addressed that it has been some time, and that VLAWMO is happy to work with the City as a partner, going forward towards targeted maintenance, utilizing the recent Ditch modeling, surveying and repair recommendations.

RESOLUTION 08-2019

Of the Vadnais Lake Area Water Management Organization (VLAWMO)

December 11, 2019

The Board of Directors of the Vadnais Lake Area Water Management Organization met in a regular meeting at the Vadnais Heights City Hall on Wednesday, the 11th day of December, 2019 at 7:00 o'clock p.m.

The following members were present:

Kara Ries (alternate), City of North Oaks
Patricia Youker, City of Vadnais Heights
Ed Prudhon, White Bear Township
Dan Jones, City of White Bear Lake
Jim Lindner, City of Gem Lake
Rob Rafferty, City of Lino Lakes

The following members were absent:

Director Rafferty introduced the following resolution and moved its adoption. Director Jones seconded the motion.

A RESOLUTION FOR COMMITTING THE FUND BALANCE FOR SPECIFIC PURPOSES

WHEREAS, the Board of Directors of the Vadnais Lake Area Water Management Organization, does hereby find as follows:

WHEREAS, the Governmental Accounting Standards Board's Statement No. 54 defines committed fund balance as amounts that can only be used for specific purposes pursuant to constraints imposed by formal action of the Board,

WHEREAS, Board action is required before year end to formalize the commitment of fund balance to specified purposes,

WHEREAS, those committed amounts cannot be used for any other purpose unless the VLAWMO removes or changes the specified use by taking the same type of action it employed to previously commit those amounts.

THEREFORE, BE IT RESOLVED by the VLAWMO, that the specific portions of fund balance in the identified funds are committed as follows:

Committed

Fund	Description	Purpose	Amount
General	Information systems	Purchase of IT equipment & help	$2,000
General	Legal assistance	Project contracting assistance	$2,500
General	Training	Staff, TEC & Board training	$1500
General	Misc. & mileage	Mileage reimburse, mtg. expense	$800
General	Admin-Payroll	Assist with staffing adjustment;	$62,000
General	Monitoring & Equipment	Survey equipment	$10,000
General	Education & Marketing	Program materials & swag replacement	$1,000
General	Community Blue	Ongoing projects	$2,000
General	Lambert Creek	Lambert maintenance project	$63,275
General	Goose Lake	Fund for implementation; Alum treatment & WBF project	$150,316
General	Birch Lake	Match & grant funds for iron filter project	$39,067
General	Gil, Black, Tam, Wilkin	Wilkinson feasibility	$50,000
General	Pleasant Charley Deep	Implementation funding SLMPs	$9,000
General	Sucker Vadnais	Sucker channel & others	$10,000
General	Landscape 1 cost-share	Approved projects not complete	$11,500
General	Landscape 2 cost-share	Approved projects not complete	$11,361
General	Facilities Maintenance	Ongoing maintenance of creek	$29,176

		and VLAWMO installations	
	Total		$455,496

The Board of Directors of the Vadnais Lake Area Water Management Organization, Minnesota this 11th day of December, 2019 passed the foregoing resolution.

CHAIR (or authorized): _____ Date: _____

ATTEST: Signed: _____ Date: _____

Vote: all aye.
Resolution 08-2019 was declared passed and adopted.

3. Approval of Auditing proposal for 2019 & 2020 Audits

Staff had issued a Request for Proposal for professional financial reporting and auditing services for fiscal years 2019 & 2020. In response, 2 proposals were received; one from Clifton Larson Allen LLP (CLA, current audit services), and one from Abdo Eick & Meyers (AEM, past audit services). The CLA proposal was the least expensive by more than $1,000 for both 2019 (not to exceed $6,893) & 2020 (not to exceed $7,025), and staff has worked with each firm in the past and have good experience with both.
Staff recommends proceeding with Clifton Larson Allen for auditing & financial reporting services for 2019 and 2020, according with their Request for Proposal, and to schedule VLAWMO's 2019 audit.
Discussion: None.

A motion was made by Youker and seconded by Jones for Board authorization of staff to select Clifton Larson Allen for auditing & financial reporting services for years 2019 (not to exceed $6,893) & 2020 (not to exceed $7,025), and to schedule VLAWMO's 2019 audit.
Vote: all aye. Motion passed.

4. VLAWMO grant policy updates

Voss & Thompson outlined proposed policy updates and changes for the Landscape Cost Share Program and Community Blue grant Program. The changes proposed for the Landscape Cost Share Program are specific to the Level 1 program, and include raising of the funding cap from $2,000 to $4,000 for proposed projects in target volume reduction zones (TVRZs) that infiltrate at least 40% of a property's runoff volume; reducing match amount from 25% to 10% for projects in target habitat priority zones (THPZs) for project amounts up to $750; allowing projects that have already begun some preliminary work (specified) to be funded, though these preliminary costs before grant approval will not be eligible for funding. Possible changes to the Community Blue grant Program include proposed coverage limits (coverage %, match % and funding cap), based on project type and applicant category. A new scoring chart has also been devised for review, and it is being questioned if the Board grant review threshold amount, currently $5,000, is still suitable.
Staff recommends to the Board the policy changes for the Landscape Level 1 Cost Share Program, as well as recommended changes for the Community Blue Grant Program, including coverage limits, scoring chart for funding selection, and Board grant review threshold amount.

Discussion: Prudhon asked how much interest this might stir with an application, altering the grant amount the Board reviews. Linder noted he is comfortable with keeping Board review of funding amounts at $5,000.

A motion was made by Rafferty and seconded by Youker for Board authorization of the above VLAWMO grant policy updates, as well as a Board review threshold of $5,000 for Community Blue grant applications. Vote: all aye. Motion passed.

5. HSA Policy Change

McNamara reviewed that VLAWMO has offered a small group health insurance plan to employees for the last few years, being high-deductible, low-premium plan. VLAWMO covers premiums for employees and contributes $1,000 to each employee in an HSA, annually. Plan options are limited with an employee pool of 5. The insurance plan deductible is rising to $4,000/year per individual and $8,000/yr per family policy. **The Policy & Personnel Committee recommends increasing annual VLAWMO HSA contributions to $2,000 annually, per employee for 2020. This budget impact of $5,000 would be covered by the fund balance carry over amount under Employee Liability.**

Discussion: Prudhon mentioned this is a must if VLAWMO wishes to maintain staff, especially moving forward and seeking to attract a new administrator.

A motion was made by Prudhon and seconded by Jones for Board authorization of increasing the annual HSA contribution to $2,000.00 per employee, beginning in 2020. Vote: all aye. Motion passed.

6. Personnel Committee update

McNamara addressed that she has been talking about it for a long time, and has mentioned the time has come for her to retire, setting the date for April 1st, 2020. She will help facilitate with staff changes to make them as smooth as possible. Lindner proposed composing a committee for the hiring of a new VLAWMO Administrator, and Jones voiced having a recommendation for the Board ready for the February meeting should be a goal.

B. Wetlands

1. MCC grant proposal

Last year staff applied for a MCC grant to complete restoration at the 4th & Otter site, though the area was likely too small to deem funding. This year, staff is proposing submitting an application for restoration of 20 acres at the Vadnais Heights City Hall. Time commitment for application completion is low and the deadline for submittal is December 15th. **Staff and TEC are requesting Board approval to submit the MCC grant proposal for 2020.**

Discussion: None.

A motion was made by Jones and seconded by Ries for Board approval to submit the MCC grant application for the VH City Hall site for 2020. Vote: all aye. Motion passed.

2. Survey Work for 2020 from RCSWCD

Ramsey Soil & Water Conservation Division authored a proposal, sought by VLAWMO staff, for lake surveys on East Vadnais and Sucker Lakes. Tasks in the Proposal include: surveying aquatic macrophytes, bathymetry, and shoreline vegetation. Both East Vadnais and Sucker are on the docket for SLMP completion in 2020, and these surveys play an important role in their direction for lake management. **Staff is requesting allocation of funds for these surveys in the total amount of $15,488; $6,880 for Sucker Lake, and $8,608 for East Vadnais.**

Discussion: None.

A motion was made by Rafferty and seconded by Jones for Board authorization of funds in the amount of $15,488 for the RSWCD to complete Lake Surveys on East Vadnais & Sucker Lakes in 2020. Vote: all aye. Motion passed.

C. Education and Outreach

1. 2020 Education and Outreach Plan, 2019 Summary

Voss provided a summary on the 2019 EOP review, as well as changes and goals for the 2020 EOP, moving into the New Year. The Education & Outreach Plan (EOP) addresses Priority Issue #3, in VLAWMO's 2017-2026 Comprehensive Watershed Management Plan. Voss says a new Watershed Stewardship award is a way to formally congratulate and recognize outstanding projects from citizens, volunteers, cities, or associations on an annual basis.

D. Projects

1. Birch Lake – 4th & Otter: authorization for 2nd round of bidding

Thompson reported the revised project specifications and bid documents will be ready for re-release of bid for the January 6th, 2020 and will be open until January 30th, 2020 for sealed bid openings at the Vadnais Heights City Hall at 10:00 am. This bid re-release comes after project specs being reworked by Barr Engineering in hopes to get bid prices in the range of the project construction cost estimate of $90,000. Bids solicited and returned in August 2019 came in substantially higher than estimated, and were deemed infeasible and all bids were rejected at the August 28 VLAWMO Board meeting. **Staff is recommending the Board authorize the project for bid re-release in January 2020.** After sealed bids are opened on January 30th, 2019, bid results will be reviewed and recommended for action by Barr Engineering and staff recommendation will be brought to the February TEC meeting, and then for action at the February 26, 2020 Board meeting.

Discussion: Prudhon questioned if plans and specs are being reworked to address the discrepancies of the 1st round of bidding. Thompson confirmed this.

A motion was made by Ries and seconded by Jones to authorize staff approval to release the 4th & Otter IESF for a second round of project bidding in January 2020. Vote: all aye. Motion passed.

VIII. Discussion

Lindner mentioned upcoming Board positions and elections for 2020 will take place at the February meeting, and to ponder these. Rafferty mentioned with the beginning of the New Year, Rafferty would like to see the VLAWMO Board to try and rework towards funding better healthcare for staff, especially with staff changes coming, and addressing this as a Board.

IX. Administration Communication

1. Water Matters – February 2020

McNamara proposed and sought Board direction for another Water Matters presentation for the February 26, 2020 regular VLAWMO Board meeting. One of the topics coming up could be the MPCA regarding issues at Water Gremlin that specifically relate to VLAWMO.

X. Adjourn

A motion was made by Jones and seconded by Ries to adjourn at 8:45 pm. Vote: all aye. Motion passed.

Minutes compiled and submitted by Tyler Thompson.

VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E E, Vadnais Heights, MN 55127
www.vlawmo.org; Office@vlawmo.org

To: VLAWMO Board of Directors

From: Dawn Tanner

Date: February 26, 2020

Re: **IV. B. Project Updates**

1. **Lambert Creek:** The contract with the University of Minnesota is signed. With that, the analysis of a range of biochar products is underway and design for biochar treatment cells has begun. VLAWMO staff, Vadnais Heights City staff, SEH, and MN DNR met on Feb. 19 to continue permit discussions and review emerging engineering designs. More remains to be done before DNR will be able to issue a permit. SEH is continuing to develop designs and add elements requested by MN DNR, including habitat elements to support known species using the area such as river otters. The designs are now at a point that we can involve additional people from DNR and continue working toward our permit. A question was raised as to whether an EAW will be required for the project. VLAWMO staff and consulting with DNR to make the determination.

2. **Pleasant and East Vadnais Lakes data comparison:** VLAWMO worked with SPRWS to compile and publish water-quality data from Pleasant and East Vadnais Lakes. Questions have been brought up during stakeholder discussions in North Oaks. The data analysis was completed to provide information about the lakes and to better understand impairments. The full article is included in the Board packet.

3. **Grants:**

   Conservation Partners Legacy grant: This grant in partnership with the City of White Bear Lake was awarded by MN DNR/CPL program. The grant funded native understory (shady) plants. Seeds were purchased from Prairie Moon Nursery and broadcast seeded by service-learning students from UMN. We have 6 students working with us as part of the service-learning program this semester. Each student will put in 24 hours. Seeding was completed on Feb. 14, 2020. The grant effort funded seeding only and is now complete. The grant was closed out on Feb. 20, 2020.

   Minnesota Conservation Corps grant: This grant, to remove buckthorn on the wooded wetland at Vadnais Heights City Hall was not funded.

   MN Zoo Foundation's Ulysses S. Seal Conservation Grant Program: This grant was funded and will result in increased partnership with the MN Zoo. We worked with an internal champion from the zoo staff who is an education/outreach professional. She will be involved in the project, along with UMN veterinary researchers and a local trapper. Live trapping will begin fall, 2020.

   Great River Greening/LCCMR grant: LCCMR funds were supposed to be signed this winter. The legislature decided not to vote on the suite of recommended projects. Our restoration of

40 acres in Vadnais-Sucker Park is part of this suite of projects. Great River Greening is managing the process and updating VLAWMO about the process. We expect that the projects will still be signed and approved for implementation during summer 2020. Restoration for VSP would start during fall 2020.

4. Corrections Crew: VLAWMO has a contract in place with the State of Minnesota to utilize corrections crews to conduct regular maintenance in the watershed. The contract is active 3/1/2020-2/28/2022. These crews can be hired to do buckthorn maintenance at Kohler (required to be done by VLAWMO), Lambert Creek clearing and cleanout, and other sites. We can hire a crew about 2 weeks out, often dependent upon weather.

5. Wilkinson Lake feasibility: VLAWMO is partnering with Ramsey County Soil and Water Conservation Division to conduct a feasibility study on Wilkinson Lake and identify optimal BMPs for water-quality improvement on this impaired lake. RCSWCD is contributing $9,000 in grant funds toward the effort. VLAWMO is using the engineering funds for 2020. SEH has compiled a scope of work and begun work on the project.

6. Swan Deaths: Two Trumpeter swan deaths were documented this winter on waterways in the watershed. The first was reported by a resident using the walking trail in Vadnais-Sucker Park. The swan was dead in the water at East Vadnais Lake. That swan was not retrievable. A second swan was located by VLAWMO staff at Sucker Channel. VLAWMO retrieved the carcass, contacted MN DNR and got approval for testing on the DNR account, and brought the carcass to the UMN Veterinary Diagnostic Center. The swan was confirmed to have died of lead toxicity. Lead levels in the liver were 99 ppm. Swans tested last year were: 41, 66, 75, and 101 ppm. All died of lead poisoning.

   KARE 11 ran a story on the swan deaths and lead poisoning. The Star Tribune also covered the issue. The Star Tribune was already covering the lead-sinker issue because of funds allocated to MPCA to bring back the Get the Lead Out program. The Girl Scout Troop that has been working on the issue with VLAWMO presented to the Environment and Natural Resources Finance Committee on Feb. 18. MPCA and MN DNR presented during the meeting. Funds were approved to be released to MPCA, and the Get the Lead Out program will be coming back as planned. Funds came from connections to the BP/Deep Horizon oilspill and are connected to loons, because loons were killed in the oil spill. The MPCA efforts will be focused on loon and lead poisoning from lead sinkers.

Below the Surface: What we do and don't know about Pleasant and East Vadnais Lakes

-Dawn Tanner, VLAWMO Program Development Coordinator

Water quality in Pleasant Lake is the source of a lot of questions: How has it changed over time? Is it getting better or worse? How does it compare to East Vadnais Lake? While we don't have answers that are as directly comparable to other VLAWMO lakes, because different data-collection methods have been used, we can explore available data, look at trends, and use this information to inform ongoing management.

The entire chain of lakes (Charley, Pleasant, Sucker, and East Vadnais) has complicated interactions that start with the Mississippi River water that flows through it. Mississippi issues are therefore North Oaks issues – from aquatic invasive species to water quality. Over the years, a variety of treatment options have been used on incoming river water. Currently, a ferric-chloride treatment is used prior to entry into North Oaks lakes, and liquid oxygenation is in place in Pleasant and East Vadnais. Invasive species in the lakes include: zebra mussels, curly-leaf pondweed, common carp, and Eurasian watermilfoil. Residential development has also expanded around North Oaks lakes during recent decades, likely increasing nutrient levels in the lakes.

At more than 50 feet deep, Pleasant and East Vadnais are both classified as deep lakes. Pleasant Lake is impaired for nutrients and listed by the Minnesota Pollution Control Agency (MPCA) on the Impaired Waters List, while East Vadnais is not. This difference in quality has raised valid questions about what might be the most important factors affecting the lakes and which strategies will work best to improve water quality.

VLAWMO has a robust monitoring program, but Pleasant and East Vadnais are not part of this program. These lakes are monitored by the Saint Paul Regional Water Services (SPRWS). VLAWMO collaborates with SPRWS and obtained data for locations that have been monitored for approximately 10 years for Pleasant and East Vadnais. The SPRWS monitoring program has varied and become more standardized in recent years, so 10 years of data were not always available. Still, data trends provide a foundation upon which to assess recent conditions and identify new questions.

Data for listing status on Pleasant and East Vadnais lakes were collected in 2010-2011 by MPCA (Pleasant) and MPCA/Ramsey County (East Vadnais). Those data resulted in the impairment for excess nutrients for Pleasant. Variables used to determine excess nutrients include phosphorus, chlorophyll *a*, and Secchi depth (or turbidity). Phosphorus and chlorophyll *a* are discussed here.

The phosphorus standard for deep lakes is 40 µg/L (micrograms per liter) for deep lakes, and 60 µg/L for shallow lakes. Phosphorus levels tell us how much food is available to stimulate "green growth" in the lake, either in the form of plants or algae. MPCA evaluates seasonal averages (June-Sept) for lakes. During 2010-2011, Pleasant Lake had a seasonal average of phosphorus of 57 µg/L, above the standard. East Vadnais had a seasonal average of 27 µg/L.

Chlorophyll *a* is what makes algae appear green and is an important pigment for photosynthesis. Sampled chlorophyll *a* provides a direct measure of algae in the water column but does not distinguish among types of algae. The deep lake standard is 20 µg/L. Pleasant Lake was at 19 µg/L, while East Vadnais was at 7 µg/L.

Based on these combined phosphorus and chlorophyll *a* levels, we would expect to see a healthy plant community in East Vadnais Lake with clear water, and we would expect to see periodic algae blooms, episodes of high turbidity, and an overall less healthy condition in Pleasant.

Trends through time can tell us more about whether a lake is improving or declining in quality. For this information, we looked again to SPRWS data. We selected locations monitored on the east and west sides of Pleasant Lake and on the north end of East Vadnais Lake. We also selected the June-Sept season to enable comparisons with MPCA data.

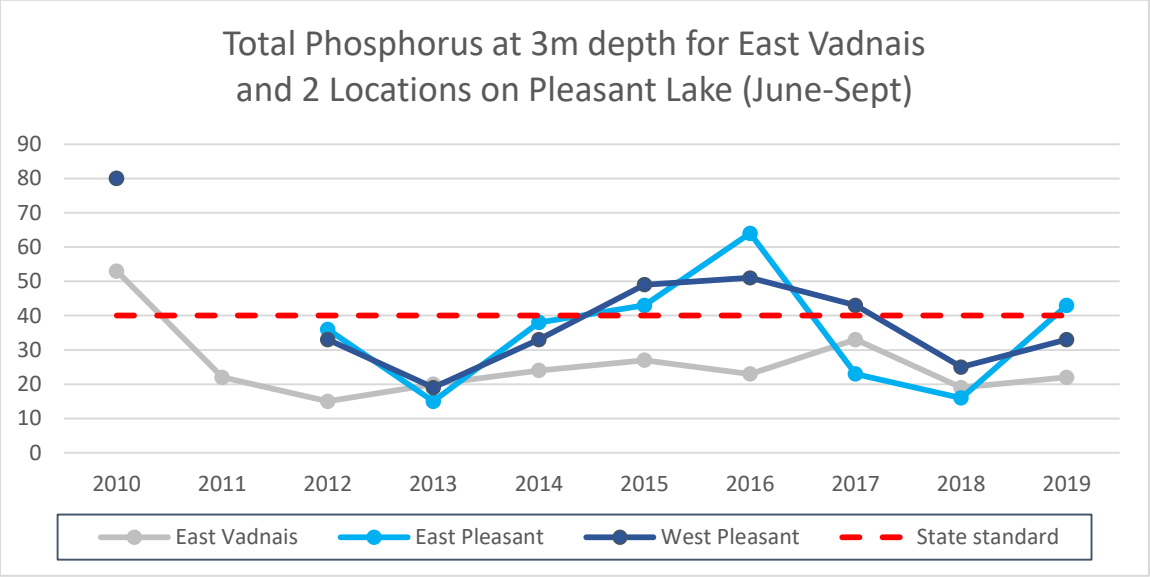


Figure caption: East Vadnais Lake has been consistently under the state standard for phosphorus, with the exception of one season above during 2010. The liquid oxygenation system was installed in East Vadnais in 2011 and appears to have had positive water-quality results. The liquid oxygenation system upgrade was installed in Pleasant in 2013. Prior to that time, aeration was used on both lakes.

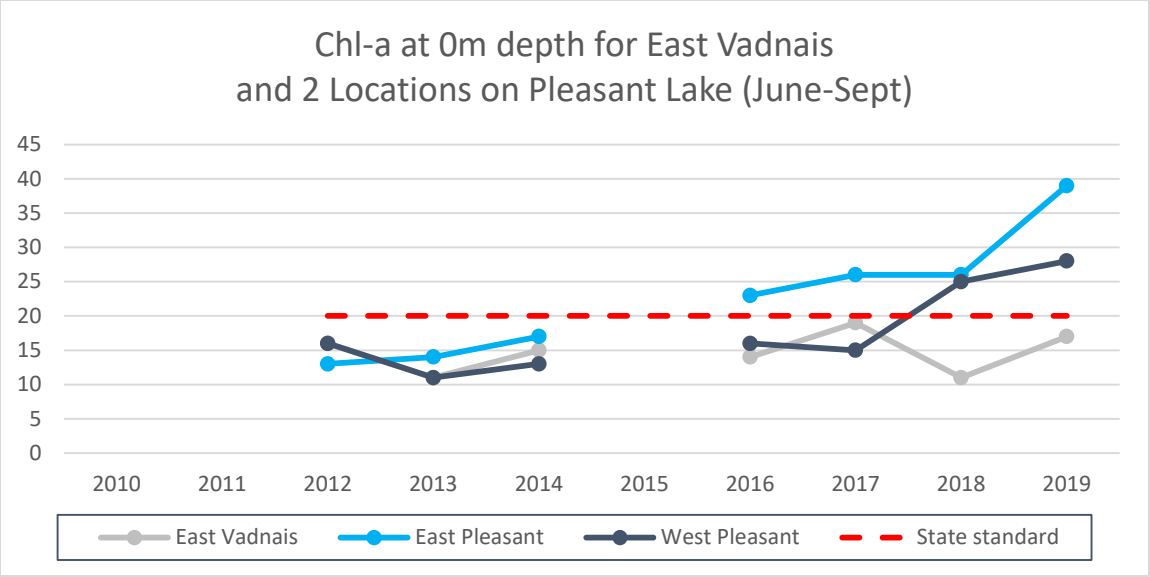


Figure caption: Chlorophyll *a* has remained low on East Vadnais. It has been increasing at both locations on east and west Pleasant Lake. Increasing chlorophyll *a* values mean more algae. The location on east Pleasant Lake has higher chlorophyll *a* levels compared to the west side. (Insufficient data were available during 2010-2011 to provide a measure of the season.)

Note: Additional graphs are available on the VLAWMO website under Pleasant Lake and Vadnais Lake.

When we look at data, we find new questions and priorities. For example, investigating nutrient contributions from Wilkinson Lake is now a priority for VLAWMO. Wilkinson's nutrient impairment may be considerable enough to influence Pleasant, as water flows from Wilkinson into Deep and then Pleasant. The Wilkinson contribution may be another reason for lower water quality on the east side of Pleasant.

These data do not answer all of our questions, but they do support residents' views that the Pleasant Lake quality has declined over the past couple of years. They provide important baseline information, as we look toward common carp removal in 2020. They also provide information for future directions, especially that there may be an opportunity to benefit the east side of the lake by increasing water-friendly lawn care practices, planting native perennial vegetation, reducing erosion and sedimentation, and improving buffer areas along the shoreline. Visit vlawmo.org/residents for more about water-friendly lawn care. Reviewing available strategies is a great way to decide where to start or what to do next.

VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E E, Vadnais Heights, MN 55127
www.vlawmo.org; Office@vlawmo.org

To: Board of Directors

From: Stephanie McNamara, Administrator

Date: February 15, 2019

Re: IV.C. Designation of Legal Publication

Legal Publication

Recommendation: that VLAWMO continue to use Press Publication and the VLAWMO website for public notices to our jurisdiction and VLAWMO will advertise in League of MN Cities publication as appropriate.

VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E E, Vadnais Heights, MN 55127
www.vlawmo.org; Office@vlawmo.org

To: Board of Directors

From: Stephanie McNamara, Administrator

Date: February 2020

Re: 2020 Board meeting dates

The following dates are offered for the regular Board meeting in 2020. They follow the pattern established.

February 26

April 22

June 24

August 26

October 28

December 9

Recommendation: approval.

VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E E, Vadnais Heights, MN 55127
www.vlawmo.org; Office@vlawmo.org

To: Board of Directors

From: Nick Voss, EOC

Date: February, 2020

Re: IV. E. Adopt-a-Drain 2019 Results, 2020 Education and Outreach activities

2019 Adopt-a-Drain Results

2019 was our first year participating in Adopt-a-Drain.org. White Bear Lake is the first municipality that has officially partnered with VLAWMO and has subscribed to the adopt-a-drain service. This subscription enables the City of White Bear Lake to use and claim adopt-a-drain efforts in their mandated MS4 (Municipal Separate Storm Sewer System) and SWPPP (Storm Water Pollution Prevention Plan) reporting. The adopt-a-drain.org website gathers self-reported citizen data, and organizes it for municipalities to have tangible lake nutrient reduction results. While subscribing to adopt-a-drain is a convenient option for municipalities to advance their MS4 program.

VLAWMO's connection to Adopt-a-Drain is paired with its membership in Watershed Partners, an initiative from the Hamline University School of Global Environmental Education. Since VLAWMO is not an MS4 our efforts aren't connected to an MS4 program, but are used for a practical public education tool in our lake management goals.

VLAWMO encourages its municipalities to learn more about adopt-a-drain by discussing it with commissions and City/Township councils, and contacting adopt-a-drain for questions and membership information. Similar to VLAWMO's 2019 report, a membership would provide your community with a City/Township specific report, and per Adopt-a-Drain's policy, the ability to include the reports in a SWPPP report.

2019 Adopt-a-Drain members include:

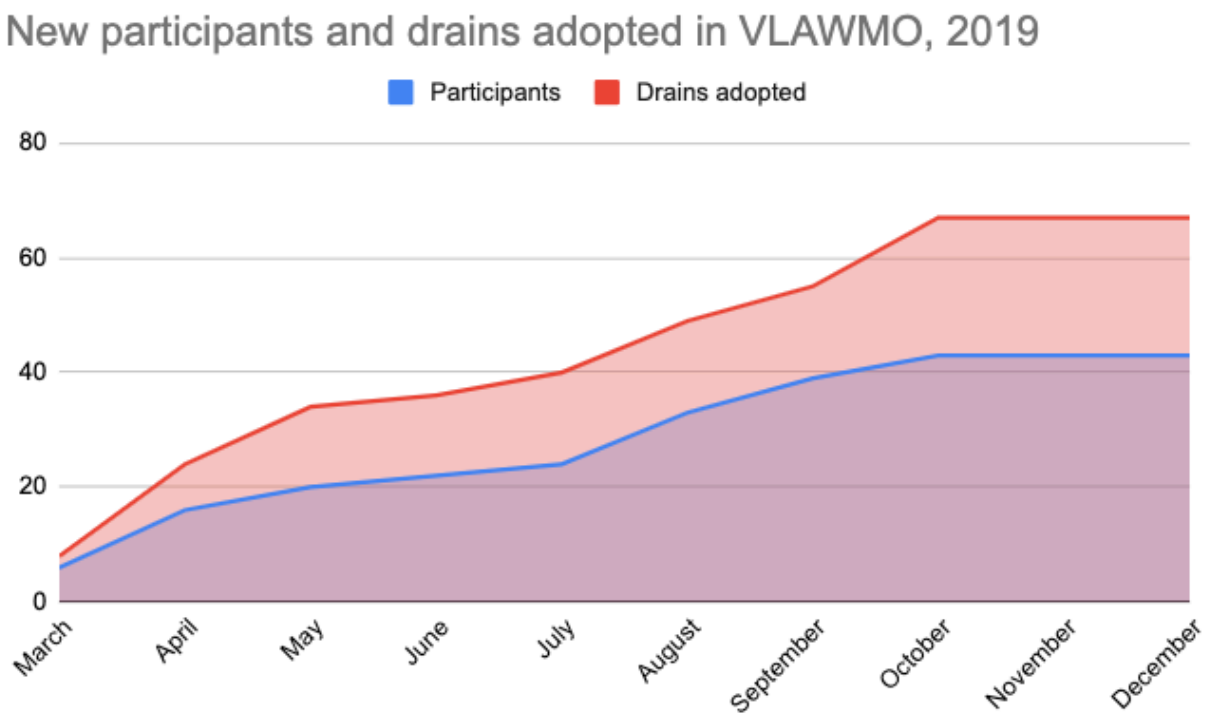
Andover, Blaine, Bloomington Circle Pines, Columbia Heights, Crystal, Eden Prairie, Edina, Excelsior, Fridley, Hastings, Hopkins, Lauderdale, Minneapolis, Minnetonka, Mound, New Brighton, Prior Lake, Richfield, Rochester, Roseville, Saint Louis Park, Saint Paul, Shoreview, Wayzata, White Bear Lake, Woodbury

Adopt-a-Drain in Vadnais Lake Area WMO, 2019

Annual Report

43
new participants in 2019

67
drains adopted in 2019



Reporting Data

21 VLAWMO participants reported cleanings, which represents 48.8% of all VLAWMO participants.

VLAWMO participants collected 489.4 lbs of debris from their adopted storm drains in 2019.

Debris Type	Amount (lbs)
Brown leaves	222.8
Grass and green leaves	115.6
Sediment and dirt	209.5
Trash	9.2
Salt	0

Month	New participants	Drains adopted	Debris collected (lbs)	Time spent (hours)
March	6	8	0	0.0
April	10	16	148	2.3
May	4	10	16.5	0.8
June	2	2	117.8	2.8
July	2	4	44.7	1.5
August	9	9	31.1	0.7
September	6	6	67.3	2.5
October	4	12	64	2.7
November	0	0	32	1.3
December	0	0	0	0
TOTALS	**43**	**67**	**521.4**	**14.6**

Geographic Breakdown: City and Subwatershed

City	Drains adopted	Debris collected (lbs)	Time spent (hours)
White Bear Lake	33	397.5	7.8
Vadnais Heights	22	117.6	8.7
White Bear Twp.	11	42	1.3
North Oaks	1	0	0.0

Subwatershed	Drains adopted	Debris collected (lbs)	Time spent (hours)
Lambert Creek	53	439.5	9.2
Sucker Lake & Vadnais Lakes	9	114.1	8.2
Birch Lake	4	3.5	0.4
Pleasant Lake & Charley Lake	1	0.0	0.0

VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E E, Vadnais Heights, MN 55127
www.vlawmo.org; Office@vlawmo.org

To: Board of Directors
From: Nick Voss, EOC
Date: February, 2020
Re: IV.F. 2020 Education and Outreach Activities – *Dates and locations subject to change*

3/25 **Aquatic Invasive Species (AIS) Detector Training**
7-8:30 pm– Gem Lake Heritage Hall

4/5 **Lions Waffle Breakfast: Public booth**
9am-1pm — Vadnais Heights Community Commons

5/16 **Trash Pick-up @ Vadnais Lake**
10-12pm — Vadnais/Sucker Regional Park

5/1 **Otter Celebration Day**
11 am-12 pm — White Bear Lake County Library

5/6 **Raingardens 101**
7:00-8:30 pm—Vadnais Heights City Hall

5/7 **Resilient Yards: Blue Thumb Workshop**
7-8:30pm—Location TBA

5/13 **Native Plants: Close to home**
7:00-8:30 pm—Vadnais Heights City Hall

6/6 **Landscape Revival & Native Plant Swap**
Landscape Revival: 9-1pm Shepard of the Hills Church, Shoreview
Plant Swap: 10-2pm Vadnais Heights City Hall

6/20 **Water Bugs Pop-up Event**
9am-noon—Sucker Channel, Vadnais/Sucker Regional Park

6/23 **Raingarden Refresher at Central Middle School**
6-8 pm—Central Middle School, White Bear Lake

7/18 **Watershed Bus Tour: Projects and Key Sites**
9-12 pm: Meet at Vadnais Heights City Hall

7/29 **White Bear Lake MarketFest**
4-9pm—White Bear Lake Downtown

8/13 **Shoreline Teatime**
6:15-6:45pm– 1323 Hedman Way, White Bear Lake

8/22 **Neighborhood Raingarden + Plant Tour**
1-4 pm: Meet at Vadnais Heights City Hall

9/19 **White Bear Township Celebration**
1-8pm: White Bear Township Town Hall

9/24 **Healthy Soils: Blue Thumb Workshop**
7-8:30pm—Shoreview County Library

11/12 **Volunteer Celebration Banquet**
7-8:30 pm—Vadnais Heights City Hall

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Water Management Organization

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www.vlawmo.org; Office@vlawmo.org

To: Board of Directors

From: Brian Corcoran

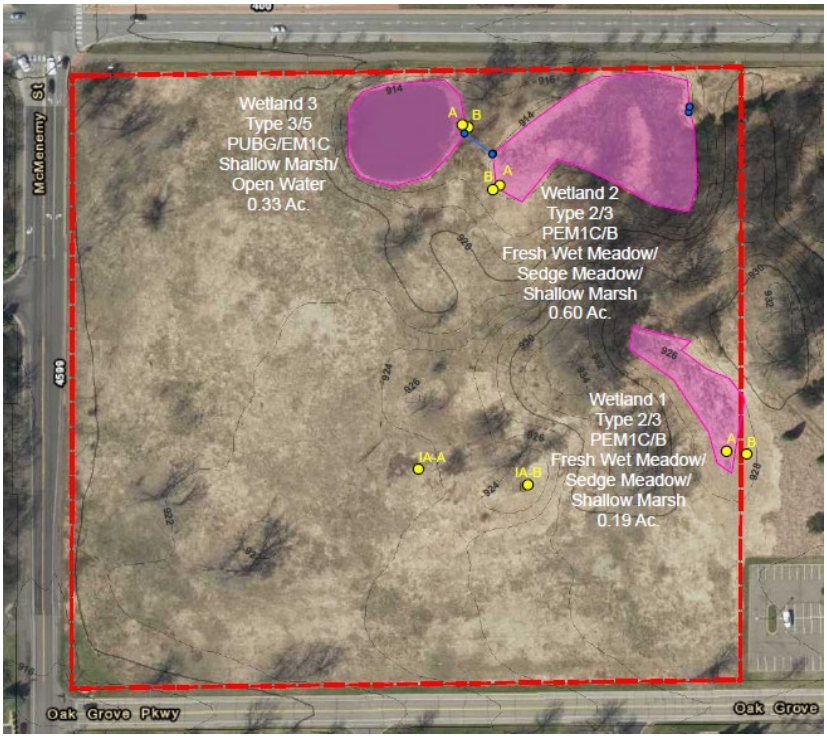
Date: February, 2020

Re: IV.G. Wetlands/Development review – At Home Properties-Vadnais Heights

At Home Properties Development - Vadnais Heights

A Planned Unit Development (PUD) has been submitted to the City of Vadnais Height for a rental community comprised of approximately 160-180 rental homes in the form of a 4-story apartment building and town home units.

13.4 acre Parcel is located on the corner of Hwy 96 and McMenemy Street in Vadnais Heights. A delineation was done on site fall of 2019. Three wetlands were confirmed and a Boundary & Type decision was issued 11/12/2019.



Preliminary plans have been reviewed and comments submitted by VLAWMO to City of Vadnais Heights. No wetland impact is anticipated at this time. Waiting on final development plans and storm water/hydro report for further VLAWMO review and comment.

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Water Management Organization

800 County Road E E, Vadnais Heights, MN 55127
www.vlawmo.org; Office@vlawmo.org

To: Board of Directors

From: Stephanie McNamara, Administrator

Date: February 2020

Re: V.A. Elections and Appointments

1. Election of officers. 2019 Slate: Chair: Jim Lindner; Vice Chair: Marty Long; Secretary Treasurer: Rob Rafferty. Please consider how you might best serve. Officers preside over the meeting (Chair, Vice Chair, Sec-Tres.) and become check signers through US Bank. Other duties: the Chair may speak for VLAWMO in public situations, and the Sec- Treasurer is a member of the Finance committee.
2. Committee Assignments. Finance, Policy & Personnel may meet 1-3 times per year. They make recommendations for Board action as far as new policies or policy updates. They also assist with human resources questions and direction as needed. Two Board members have served on the committee.
3. Technical Commission (TEC) Chair. VLAWMO process requires appointment of the TEC Chair by the Board. The TEC has recommended Gloria Tessier, commissioner from Gem Lake as its Chair.

VLAWMO
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Water Management Organization

800 County Road E E, Vadnais Heights, MN 55127
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To: Board of Directors

From: Stephanie McNamara, Administrator

Date: February 21, 2020

Re: Administrator search update

This memo is written on the closing date of the application period. To date, 5 application have been received. VLAWMO is fortunate in that while the numbers are small, there are some excellent candidates interested in VLAWMO.

After meeting with the search committee, it was decided that Sara Noah, Noah and Associates and myself would to the preliminary screening. We hope to be doing a first round of interviews with the semifinalists by the end of next week or possibly into the first week of March. Finalists will be given an assignment watershed scenario to assess and present a response to the committee. During one of the first two weekends of March, the Board search committee will then interview the candidate finalists.

It is hoped the committee could narrow the search to a first choice candidate so that an offer could be made. If the Board is agreeable to a special meeting in March, potentially a decision could be finalized. I will not be available for the regular April Board meeting.

Board direction is needed to confirm two questions. Does the Board wish the search committee to make an offer to top candidate or would any of the other Board members like to be involved before finalizing the top candidate?

Is the Board willing to add this to the agenda of a special March Board meeting to confirm the hiring of the new administrator?

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Water Management Organization

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To: Board of Directors

From: Nick Voss, EOC

Date: February, 2020

Re: V.B.1. 2019 Annual Report

The 2019 annual report is included in the meeting packet. The annual report is a requirement that watershed organizations have to complete under Minnesota Administrative Rules Chapter 8410, Part 8410.0150. The report gets submitted to the MN Board of Water and Soil Resources.

Staff is recommending approval of the report to easily meet BWSR's deadline and have grace time for fine-tuning. Staff are open to questions and suggestions for editing before the submittal.

Also included in the meeting packet is an annual report summary and a 2019 water monitoring summary. The later documents are supplementary materials that serve as education and outreach tools.

EST 1983

VLAWMO

Vadnais Lake Area
Water Management Organization

2019 ANNUAL REPORT

Vadnais Lake Area Water Management Organization (VLAWMO)
800 East County Road E
Vadnais Heights, Minnesota 55127

Website: www.vlawmo.org
Email: office@vlawmo.org
Phone: (651) 204-6070
Fax: (651) 204-6173

In compliance with Minnesota Administrative Rules | Chapter 8410 | Part 8410.0150

EST 1983 VLAWMO Vadnais Lake Area Water Management Organization

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2019 Review, 2020 Goals

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LOGISTICS
Administration, Water Standards, Finances

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WHO WE ARE
The people who make VLAWMO

APPENDICES (AVAILABLE ONLINE AT VLAWMO.ORG)
A-1: Legal publication
A-2: Audit
A-3: Full Monitoring Report

WHAT IS VLAWMO?
Introduction and background

IN THIS SECTION

- Letter from the Administrator
- Background
- Mission Statement
- Map

Letter from the Administrator

Greetings!

"The secret of change is to focus all of your energy, not on fighting the old, but on building the new."
-Socrates

Stephanie McNamara, VLAWMO Administrator (Left)
Jim Lindner, Board of Directors Chair (Center)
Nick Voss, VLAWMO Education and Outreach (Right)

Background

The Vadnais Lake Area Water Management Organization (VLAWMO) was formed in 1983 to protect the Vadnais Lake watershed area in northern Ramsey County and a small portion of Anoka County. Our organization was formed through a Joint Powers Agreement (JPA) that was ratified by the 6 cities within VLAWMO boundaries to comply with the State of Minnesota Metropolitan Surface Water Management Act (Minnesota statute Chapters 103A – 103H). We are governed by a 6 member Board of Directors that is represented by an elected official from each of the communities. VLAWMO covers approximately 25 square miles and includes portions of Vadnais Heights, White Bear Township, White Bear Lake, Gem Lake, Lino Lakes, and all of North Oaks.

OUR APPROACH

Managing a watershed area to protect our vital water resources has become the primary approach across the country. Since water flows across political boundaries, partnerships among local governments, regional, state and federal agencies are vital. Because Vadnais Lake is used as the drinking water reservoir for approximately 400,000 customers in the St. Paul area, VLAWMO frequently partners with the St. Paul Regional Water Service (SPRWS) on a variety of water quality monitoring and improvement projects.

OUR CORE PRINCIPLES

To guide our efforts towards achieving our mission. VLAWMO shares responsibility with its member communities to:

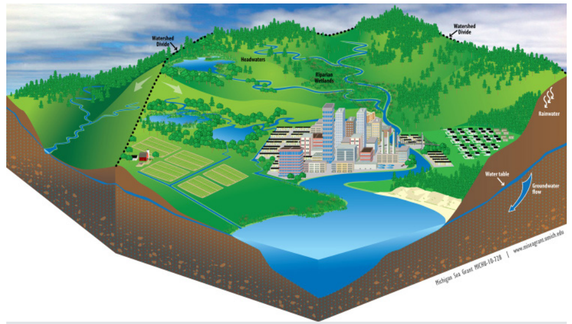
- Protect surface water quality
- Protect groundwater quality and recharge areas
- Provide public education to promote good stewardship of water resources
- Protect and manage wetlands through the Wetland Conservation Act
- Collaborate with other public and private organizations
- Manage stormwater and control flooding through the use of best management practices
- Require good erosion control practices, both during development and as a part of good stewardship

Homer Morancey and Leon Garceau, ca. 1904
Image courtesy of Vadnais Heights Historical Society

Mission Statement

Our mission at the Vadnais Lake Area Water Management Organization is to protect and enhance the water resources within the watershed.

Activities we work on include: water quality monitoring, education and outreach projects, wetland protection, and water quality enhancement projects.



"How Watersheds Work" courtesy of Michigan Sea Grant (MICHU-10-728)

What is a Watershed?

A watershed is all the land area that drains to a specific water resource, such as a lake or stream. Watersheds range in size from a few square miles to an entire continent. As rain and melting snow run downhill, they carry sediment and other materials into streams, lakes, and groundwater.

The land use activities within a watershed have a direct impact on the quality of the water. 96% of the land use within VLAWMO is urban with a small area of agricultural land in the northern end.

Watersheds provide water for drinking, irrigation, streams, and activities such as fishing, swimming, and boating. In addition, watersheds also provide food and shelter for wildlife.

OUR GOALS

Accomplishing our mission requires a focus on common goals. The VLAWMO will pursue the following goals as a way of proceeding towards the mission.

- Protect and improve surface water quality
- Protect and enhance wetland resources
- Protect and improve waters for wildlife habitat and recreation
- Enhance public participation and stewardship
- Make and enable informed decisions
- Optimize public resources
- Protect and improve groundwater quality and quantity
- Analyze and use alternative funding sources
- Improve communications
- Prevent flooding

WHAT IS A WMO?

A watershed management organization (WMO) is a local government agency charged with protecting water resources within its boundaries. All land within the metropolitan area must be within an organized watershed (State Statutes Chapters 103B & 103D). Watershed Districts are governed by County Commissioners while Water Management Organizations are governed on the municipal level.

WHO PAYS FOR IT?

The Vadnais Lake Area Water Management Organization is funded by a stormwater utility fee. Property owners within the watershed are charged a fee to manage the stormwater that runs off their property. This public utility fee is determined by land use (eg. residential, commercial etc), and is included on Ramsey County property tax statements. The authority to charge and collect a stormwater utility fee is governed by Minnesota State Law.

Water Resources in the Watershed

LAKES

There are 16 lakes within VLAWMO. East Goose Lake, West Goose Lake and Birch Lake are located in White Bear Lake. Tamarack Lake, Fish Lake and Ox Lake are Located in White Bear Township. Gem Lake is located in Gem Lake. Amelia Lake is Located in Lino Lakes. Pleasant Lake, Charley Lake, Deep Lake, Black Lake, Wilkinson Lake and Gilfillan Lake are located in North Oaks. Sucker Lake, East and West Vadnais Lake are located in Vadnais Heights.

East Vadnais Lake is the drinking water reservoir for the City of Saint Paul. East Vadnais Lake is supplied with water pumped from the Mississippi River in Fridley that flows via underground aqueduct into Lake Charley in North Oaks. The water then flows east to Pleasant Lake, then south into Sucker Lake, and then into East Vadnais.

LAMBERT CREEK

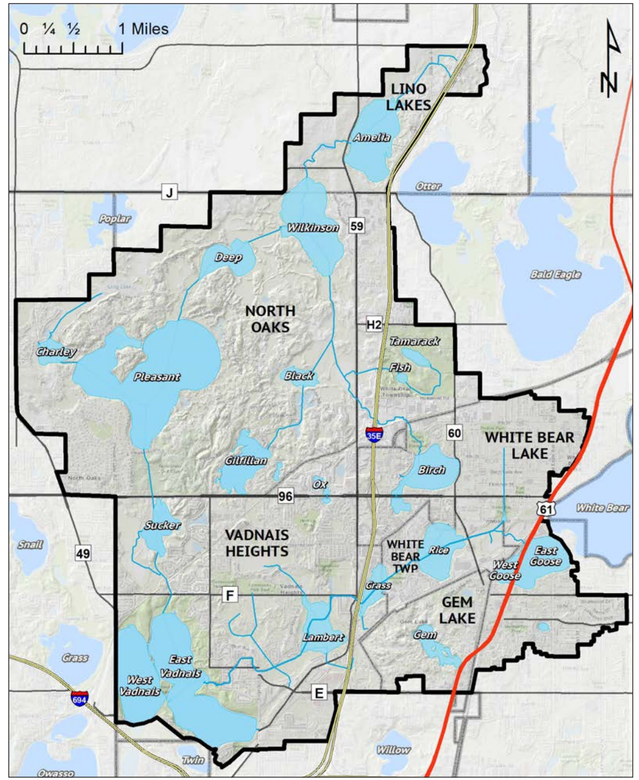
VLAWMO has jurisdiction over Lambert Creek, 4.5 miles of creek and wetland that runs from West Goose Lake and eventually empties into East Vadnais Lake.

WETLANDS

There are over 500 wetlands within VLAWMO. Tamarack, Grass, Wilkinson, Rice, Lambert, and Sobota Slough are a few of the largest tracts of wetlands in the watershed.

GROUNDWATER

Groundwater beneath the land surface of the Watershed flows to local lakes, the Mississippi River, and aquifers including the Prairie du Chien aquifer.



THE YEAR IN REVIEW:
2016 activities, projects, and improvements

IN THIS SECTION

- What problems does the watershed face?
- Project Updates
- In the Community
- Education Programs
- Cost Share Programs
- Community Blue
- City Engagement
- Outreach
- Volunteer Activities
- Be part of the solution!
- Water Monitoring
- Lambert Creek Maintenance

What problems does the watershed face?

IMPAIRED LAKES:

Several lakes in the watershed are on the State Impaired List for high nutrients. These include Wilkinson, Goose, West Vadnais, and Gilfillan Lakes, as well as Lambert Creek. Lambert Creek has the additional impairment of high E. coli bacteria levels. Our studies show that the E. coli is coming from canine and avian sources.

Improving these waterbodies requires cooperation between cities, land owners, businesses, and the watershed organization. Each home, park, and property connects to a waterbody through stormwater runoff and is part of the puzzle.

RISING CHLORIDE LEVELS:

Road salt has a permanent impact on fresh water, with no economical way to remove it once it's in the water. When it washed into lakes and wetlands, the chlorides in salt interrupt the natural nutrient cycling that fish depend on.

While some water bodies flush salt downstream to another watershed, some lakes in VLAWMO are accumulating salt. All of VLAWMO's lakes are currently below state standards, but VLAWMO is monitoring this closely to track changes and guide management.

SEDIMENTATION:

Erosion and sedimentation is a natural process that can be accelerated with human activity. Bare soil, degraded slopes, and poorly protected drainage routes are common sources of excess sediment.

Small amounts of sediment accumulate in stormwater runoff to create a big issue for lakes and streams. Sediment clogs wetlands, culverts, and drainage ditches, suffocates aquatic plants that stabilize lake beds, and carries excess nutrients with it.

DEGRADED WETLANDS

Many shorelines on lakes and ponds contain turf grass up to the water's edge. This causes problems for water quality and degrades nature's ability to protect water resources.

Sometimes wetlands are altered or filled in illegally. Even small infringements on wetland boundaries contribute to a state-wide struggle in preventing the gradual loss and degradation of wetlands. Preventing this loss supports clean and secure surface and groundwater for the future.

See page 17 for how to be part of the solution.

Major Updates

PRIORITY WATERSHED STATUS

VLAWMO applied to become a priority small watershed through the Minnesota Pollution Control Agency (MPCA) in early 2019. After a robust interview process, VLAWMO was selected as a priority small watershed for 2021. VLAWMO is part of a cohort of 10 small watersheds that will work closely with the MPCA to identify and pursue with federal EPA funds. The evaluation procedure weighed VLAWMO's current program capacity, grant writing capacity, partnership network, current needs, and the importance of the water resources to the region. We're grateful to the many city, county, and local partners that supported us through the application and interview process.

The program will place VLAWMO and the rest of the cohort in a prioritized position to receive four, four-year grant awards, spanning over a total of 16 years. Specific projects are not outlined at this time. Projects will be identified with partnership from the MPCA and build upon previous projects over the life of the program. VLAWMO is thankful for its many partners that supported the application process, from interviewing to taking time to document and verify past projects.

Celebrating our new priority watershed status at Gem Lake

LAMBERT CREEK REMOTE MONITORING

To better understand and evaluate the needs of Lambert Creek, VLAWMO has installed four new monitoring stations at various locations along the creek. Each station is equipped with a sensor that is programmed to take readings of the water levels with open-source technology. Data from the sensor is sent to a cellular service account, which is then sent to the internet.

Stream flow, depth, and macroinvertebrate sampling data are publically available through the Monitor My Watershed web portal, linked from our website:

http://www.vlawmo.org/waterbodies/lambert-creek/

Remote sensors are positioned at Whitaker Pond, Oakmede, County Road F, and Kohler Road, fastened to existing creek flume structures. VLAWMO staff assembled the sensors with the help of EnvironDIY staff.

In the Community

COMMUNITY EVENTS

Staffing a booth at local events is a fun and valuable way to connect with community members. At events VLAWMO has the opportunity to share its work, provide brochures, give away prizes such as rainbarrels or tote bags, and answer questions for event goers. This year, community events served a dual purpose by also providing a place to conduct community surveys for the Education and Outreach Plan (p. 11).

VLAWMO booths were presented at the following 2019 events:

- Bearly Open - White Bear Lake
- Landscape Revival - Shoreview
- North Oaks Plant Sale - North Oaks
- Saint Paul Regional Water Service Treatment Facility Open House
- Vadnais Heights Ice Cream Social - Berwood Park, Vadnais Heights
- Marketfest Conservation and Environment Day - White Bear Lake
- Children's Water Festival, MN State Fair grounds
- Heritage Days - Vadnais Heights (Education materials rented by volunteers)
- Whitaker Treatment Wetlands Tour - Columbia Park, White Bear Township
- North Oaks Company Information Gathering - North Oaks
- Aquatic Invasive Species (AIS) and You: Ramsey County Public Works
- White Bear Lake Volunteer Fair, South Campus High School

MarketFest


Heritage Days


Bearly Open


Heritage Days


Vadnais Heights Ice Cream Social


North Oaks Plant Sale

Education Programs

SCHOOL PROGRAMS

VLAWMO staff provides water-focused activities for elementary, middle, and high schools in the watershed. If a school has a stormwater best management practice such as a raingarden on the grounds, this often becomes a living, outdoor classroom. Students learn how to maintain the raingarden, observe nature, work with topographic maps, and much more.


Left: Students pose with Drippy at Lakeaires Elementary.

Below: Students at Vadnais Heights Elementary help with raingarden maintenance after a stormwater lesson on the school grounds.

PUBLIC WORKSHOPS

VLAWMO offers a raingarden workshop each Spring. Participants in the raingarden workshop learned about the watershed, stormwater runoff, how to build and maintain a raingarden, and got a head start with tools to select plants and get funding assistance.

The native plant workshop is the most popular workshop for the second year in a row. This workshop dug deep into plant identification, planting plans and strategies, and how perennial vegetation is a valuable asset for the watershed.

Right: Raingarden workshop participants learn about the watershed, how raingardens work, and calculated runoff on their own properties.

Left: Shoreline Restoration on Birch Lake
Shoreline Restoration on a stormpond in Vadnais Heights

Cost Share Programs

VLAWMO's Cost Share Program provides assistance to public and private landowners for implementing stormwater improvement projects. Qualifying projects support one or more of the following:

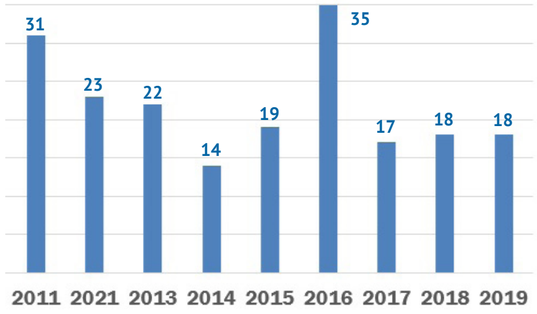
- Prevention of flooding or mitigation of drought
- Water quality improvement or increase in watershed storage capacity
- Preservation, protection, and restoration of native plant and wildlife communities, especially along lakes, streams, and wetlands
- Protection and preservation of groundwater quality and quantity

Funds vary by year and are granted on a first come first serve basis. Once the annual amount is depleted, applicants are advised to re-apply the following year.

There are 3 cost share programs:

- Rainbarrel
- Landscape Level 1
- Landscape Level 2

Cost Share Grants by Year: Landscape & Rainbarrel



LANDSCAPE COST SHARE PROGRAMS

Landscape Level 1: Reimburses property owners 75% of the costs associated with implementing approved water quality improvement projects. The maximum reimbursement is $2,000 for this program. Typical projects include raingardens, shoreline restoration, native habitat restoration, or pervious paver installation.

Landscape Level 2: Projects with a larger total cost (minimum total cost of $5,000) and will reimburse 75% of the costs, up to $20,000. The program was updated in 2015 to allow funding to be more available for applicants.

VLAWMO uses Minimal Impact Design Standards (MIDS) to measure the impact of landscape improvement projects. The impact of 2019's projects are estimated to improve water quality by:

- Reducing total phosphorus by **.797 lbs** per year.
- Reducing suspended solids by **144.2 lbs** per year.
- Infiltrating **300,141 gallons** of water into the ground annually.

A 2019 shoreline restoration on Birch Lake

LANDSCAPE LEVEL 1 SUMMARY

For Landscape level one, *10* grants were awarded funding for a total of $15,580.26. Funding for the year was not completely utilized.

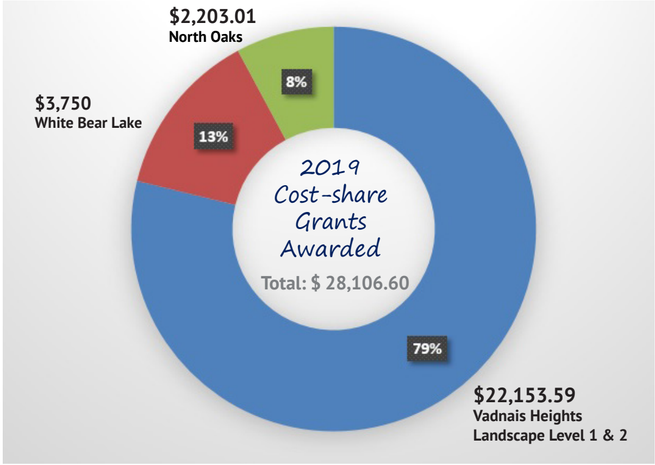
A raingarden in Vadnais Heights featuring a pop-up connection from the downspout.

Of the 10 level one grants, 6 were native plant restorations totaling 37,375 ft^2. 3 were raingardens totaling 922 ft^2.
1 was a shoreline restoration totaling 990 ft^2.

2017 project square footage:	2018 project square footage:
45,596 ft^2	56,507 ft^2

LANDSCAPE LEVEL 2 SUMMARY

1 landscape level two grant was awarded for a total of $11,928. The project was a raingarden plus native plant restoration in Vadnais Heights, covering 2,550 sq ft.



RAINBARREL COST SHARE PROGRAM

The Rainbarrel Program reimburses residents 50% of the cost towards the purchase of up to 2 rainbarrels. Applicants are limited to $125 maximum reimbursement per rainbarrel.

RAINBARREL SUMMARY

In 2019 VLAWMO awarded grants for *6* rainbarrels, for a total of $598.34.
A total of 98 rainbarrel grants have been awarded since the program began in 2007. Each time the barrels are filled, up to 4,900 gallons of rain water is available for reuse. If each rainbarrel gets filled 10 times throughout the year from various storm events, up to 49,000 gallons of water is available for reuse. Four additional rainbarrels were awarded in 2019 as prizes for public events.

Community Blue

DESCRIPTION

Community Blue is an education focused grant program for community groups within VLAWMO. It funds educational events and resources as they relate to water resources, and provides support in making existing stormwater, wetland, or watershed improvements into educational tools with public exposure.

2019 PROJECTS

Connect the Drops

Growing Green Hearts, an organization specializing in watershed education in public school and religious settings, has networked between several local congregations for this project. Following a multi-congregation kick-off event, Growing Green Hearts will lead youth and community members in watershed education sessions and service projects. Service project examples include outreach and education for smart salting, building raingardens and native plantings, cleaning and adopting stormdrains, and more. Partners include Frassatti academy, Christ the Servant Lutheran Church, and Peace United Methodist.

Picture Posts & Native Planting Signage

Community Blue is also a tool to support educational signage on existing projects. In 2019, the City of Vadnais Heights used Community Blue funds to accompany a new native planting at the Vadnais Heights Commons, and the Birch Lake Improvement District (BLID) used it to build a picture post station for shoreline, algae, and ice monitoring.

Visit http://www.vlawmo.org/get-involved/picturepost/ for more information on picture posts.

Creative Landscaping

Serving as a capstone project in the Master Water Stewards Program (see pg 16), Ed and Ceci Shapland used Community Blue to improve stormwater runoff on their property, create a video of the project construction, and conduct a neighborhood tour of spotlight raingardens and native plantings.

City Engagement

ADOPT-A-DRAIN: GOOSE LAKE

In a partnership between VLAWMO, the City of White Bear Lake, and Clean Water MN, VLAWMO pioneered adopt-a-drain outreach in the Goose Lake subwatershed. Using the website Adopt-a-Drain.org, residents signed up to adopt a specific stormdrain near their propery. The website guides users in reporting the amount of debris that's cleaned from the drain, which is tracked across the Twin Cities metro. Yard signs were provided for residents to help spread the word and encourage others to try out this easy way to help Goose Lake. VLAWMO is excited to continue this effort in other cities in 2020!

PET WASTE OUTREACH

VLAWMO and White Bear Township partnered together for a targed pet waste pick-up outreach effort. Mailings were sent to homeowners who live in the Lambert Creek subwatershed within White Bear Township. Studies by VLAWMO staff have detected canine-sourced E. coli in Lambert Creek. Such partnerships are possible and encouraged with other cities in the watershed.

Photo: Clean Water MN

In the News

TRUMPETER SWANS AT SUCKER CHANNEL

Debbie Hartmann was a concerned resident simply walking through Vadnais/Sucker Lake Park, taking photos. Upon discovering several dead swans, she alterted VLAWMO staff. Through partnerships and collaboration, tests showed that lead poisoning was the cause of their deaths. What followed was a year-long education effort to raise awareness about the harmful impacts of lead sinkers and fishing tackle on wildlife. Signage is now posted at the Sucker Channel south of Hwy 96, where the swans were orignally discovered.

MEDIA

Our collection of videos and media is a tool for residents and cities to glimpse the work of the watershed. Our YouTube channel contains education videos, recorded presentations, event summaries, and more!

Videos produced in 2019 include:

- Climate Change in Minnesota
- Turf Talk: Part 1 and 2
- "Who Lives in the Watershed?" series
- Managing stormwater at home

Visit our blog at VLAWMO.org

Follow our social media with the handle: "@VLAWMO"

Watershed Action Volunteers

Volunteers bring VLAWMO's work into the community. In addition to the volunteer programs outlined on this page, volunteers help present booths at public events, conduct wetland surveys, and photograph wildlife in the watershed. Thanks to Jerome Strom, Debbie Hartmann, and Kyra Oliver for contributing to these efforts in 2019.

CITIZEN LAKE MONITORING PROGRAM (CLMP)

VLAWMO would like to thank the following volunteers for their role in the Citizen Lake Monitoring Program, collecting water samples bi-weekly from May through September. The volunteers for 2017 were: Jim Grisim (Birch Lake), Justine Rowe (East Vadnais Lake) and Shannon Stewart (Tamarack Lake).

ADOPT-A-RAINGARDEN & ADOPT-A-DRAIN

Volunteers help maintain public raingardens throughout the watershed. VLAWMO would like to thank Christ the Servant Lutheran Church, Mick Jost, Susan Miller, and the Vadnais Heights City Hall staff for making raingarden maintenance a regular part of everyday life.

In its first year under the new Adopt-a-Drian.org, over 60 stormdrains in the watershed have been adopted and maintained by residents - thank you!

ADOPT A STORM DRAIN

MONITORING: MACROINVERTEBRATES & PHENOLOGY

2019 began a new effort in biological monitoring. With the Leaf Pack Method, VLAWMO volunteers are now actively monitoring four locations along Lambert Creek for aquatic macroinvertebrates. Thank you to Ceci and Ed Shapland, Katherine Doll, Alex Yang, and Susan Miller for contributing to this effort.
Four picture posts are placed throughout the watershed to monitor shoreline and lake changes, algae blooms, and ice conditions. A special thank you to Susan Miller, Diane Gorder, and Steve Elfstrom for supporting this effort.

picture post

Leaf Pack Network

CITIZEN ADVISORY COMMITTEE (CAC)

The CAC is a venue for residents to help advise and guide VLAWMO education and outreach efforts, help plan and gather public feedback (surveys, etc.), and convey public interests, concerns, and opportunities for networking to staff and the VLAWMO Board of Directors. Thank you to Tom Falk, Rika Pennington, Katherine Doll, Ceci Shalpland, and Ed Shapland for serving on the committee!

AQUATIC INVASIVE SPECIES (AIS)

Partnering with Ramsey Soil and Water Conservation Division (RSWCD), VLAWMO gathers volunteers to serve as citizen AIS detectors. RSWCD provides training and records of aquatic invasives across the county. Together we're able to have eyes-on-the-water for quick detection and response should new infestations occur.

Thank you to Jeannie Miller, Susan Miller, Ed Severson, and Gloria Tessier for participating in the AIS detection training and helping monitor VLAWMO lakes.

MASTER WATER STEWARDS

VLAWMO joined the Master Water Stewards program in 2018. This program is coordinated through the nonprofit Freshwater, who trains and prepares volunteers to be citizen champions in projects and outreach. After promoting the program and searching for two champion volunteers, VLAWMO is excited to host two Master Water Stewards in 2019, with close collaboration with stewards from neighboring watersheds. A big thank you to VLAWMO's stewards, Ed and Ceci Shapland!

Be a part of the solution!

How to help improve the watershed from home: Continued from page 8

WINTER:

Practice Smart Salting:

- Shovel and scrape early after a snowfall.
- Spread salt with 2-3" between crystals.
- Don't over salt: 1/2 - 2/3 of a coffee mug holds enough salt for one parking space.
- Practice spot-treatment, apply salt, sand, or grit in cold temps and as a salt alternative.
- Visit http://www.vlawmo.org/residents/water-stewardship/ for more info.
- Sweep up extra salt and sand when pavement is dry.
- Select your product according to the temperature.

SPRING & SUMMER:

- Adopt a stormdrain to promote local water quality.

Water with care:

- Water lawn in the morning and evening to reduce evaporation.
- Use sprinklers that keep water low to the ground.
- Direct sprinklers away from pavement.

Mow with care:

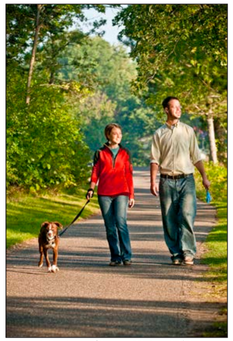
- Mow grass at 3" to hold moisture on the lawn and reduce runoff.
- Keep grass clippings out of the street.
- Leave grass clippings on lawn for free fertilizer, or fertilize sparingly.

FALL:

- Core aerate the lawn to increase root depth, durability, and water absorption.
- Continue adopt-a-drian efforts, cleaning out leaves and debris from stormdrains and the curb.
- Mulch leaves with a mower for free fertilizer.
- If you must use weed killer, do so now to make a bigger impact and use less compared to Spring/Summer.

ALL YEAR LONG:

- Prevent illegal dumping into stormdrains: "only rain down the drain".
- Build a native planting or raingarden. Plan with VLAWMO to make planting and installation easy and effective.
- Restore shorelines with deep-rooted native vegetation.
- Hire contractors certified in winter maintenance or turf maintenance best practices.
- Respect wetland boundaries. Each wetland plays a role in the watershed no matter how small.
- Always pick up pet waste.



Photos: Clean Water MN

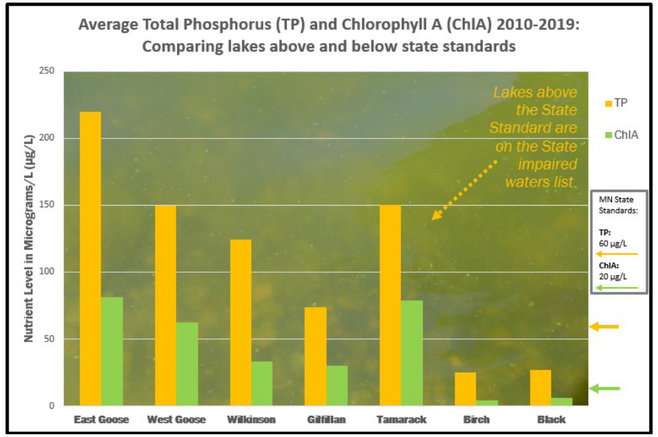
Water Monitoring

INTRODUCTION

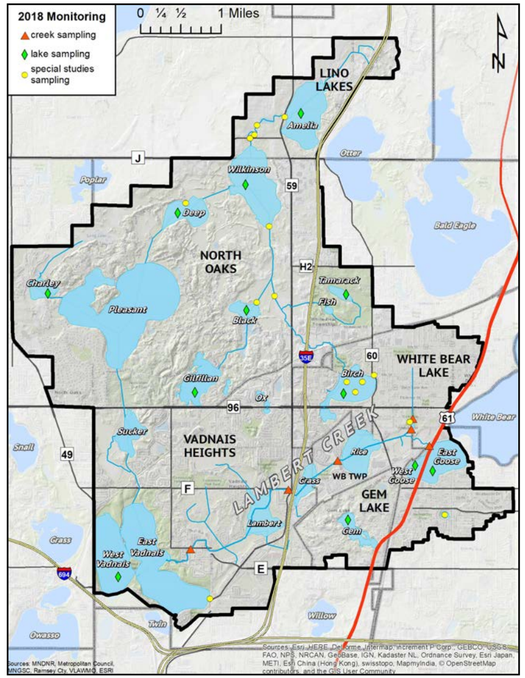
VLAWMO's regular water quality monitoring program includes nutrient sampling on 6 Lambert Creek sites, and nutrient sampling on 12 of the Vadnais Lake Area Watershed lakes. Nutrients and pollutants sampled for data include: total phosphorus, chlorophyll-A, soluble-reactive phosphorus, iron, total nitrogen, nitrate, total suspended solids, and chloride. VLAWMO's specialty monitoring programs, such as E coli and winter chloride sampling, will continue. See the 2016 Annual Report Summary for a map of monitoring locations.

Part of VLAWMO's water monitoring includes rainfall measurements because rainfall and the timing of rainfall are factors that influence water quality. Typically, more precipitation implies more water runoff, which carries more contaminants from the land surface into water bodies.

Lakes are summarized with a grading system called the Trophic State Index (TSI). This system was developed in the 1970's to calculate average phosphorus, chlorophyll-A, and Secchi disk readings, and generate a summarizing number. Letter grades are developed from the Metropolitan Council matrix for annual averages.



VLAWMO Monitoring Locations



Monitoring results are used to guide local water policies and management, and to help prioritize and locate future water quality projects such as raingardens, underground retention basins, and shoreline restorations. The full 2018 monitoring report is available at: **vlawmo.org/resources**

WATER MONITORING HIGHLIGHTS

Gem Lake: Gem Lake's chemistry has improved, coinciding with a 2014 Highway 61 swale reconstruction. The improved swale is likely capturing nutrients and sediment that drain into the lake from a large nearby parking lot. After 10 years on the State Impaired List and continued monitoring, the Minnesota Pollution Control Agency (MPCA) officially de-listed Gem Lake in 2018. This success story demonstrates that lake improvements are possible!

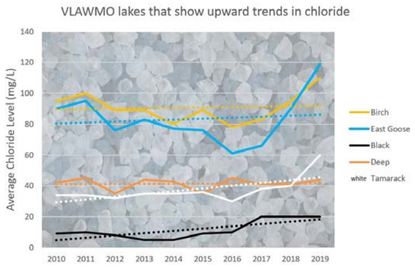
Birch Lake Storm Sampling: The automated storm sampler was installed at 4th and Otter Lake Rd for a third year. This area drains stormwater into Birch Lake. Results showed exceptionally high nutrient levels during storms. A sand iron filter system will be installed at this location in spring, 2020.

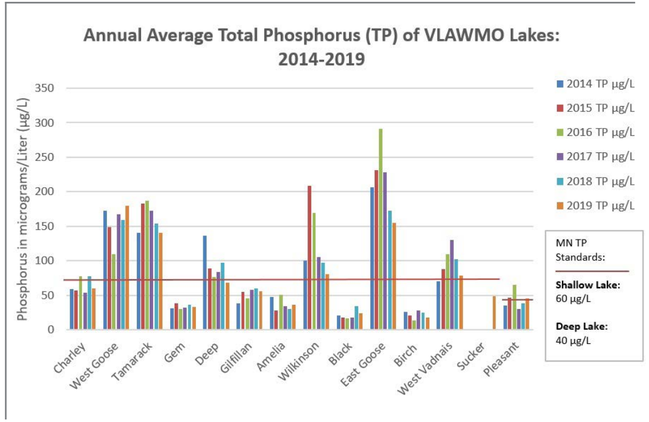
Goose Lake (East & West): East Goose and West Goose have nutrient levels exceeding State standards. A fish survey was done in August, 2019, and indicated the bullhead population has increased substantially. Ongoing fish management may be needed to help address water quality issues.

Wilkinson Lake: Wilkinson's phosphorus is over the State standard but Chlorophyll A is below the standard. Wilkinson acts more like a wetland than a lake, meaning what goes on in the surrounding watershed has a greater effect on the chemistry. A special study was done on the wetland complex connecting Amelia to Wilkinson and results indicate nutrient loading from the landscape. A special study was also done on the south complex to Wilkinson Lake from Black Lake. This area also showed high nutrient levels. A feasibility study is in the works for 2020 to help address the needs and outline potential projects that work to correct these loading issues.

Whitaker Teatment Wetlands: The wetland treatment system at Whitaker completed the second year of testing and 3 storm events were sampled. Results showed great reductions in E. coli and nutrients as well as pathogens. The U of M is doing the pathogen study.

» **Chloride Levels:** VLAWMO has been sampling chloride for 9 years with no significant changes detected. Birch Lake and East Goose have the highest chloride content and appear to be showing upward trends over the last few years. This is likely due to their close proximity to major roads. All of the lakes are below the current State standard of 230 mg/L, with Black Lake having the lowest chloride level.





Find the complete 2019 Monitoring Report and a summary at VLAWMO.org/resources/reports

MONITORING SUMMARY: CONTINUED

STATE OF THE LAKES

VLAWMO uses the Trophic Status Indicator (TSI) to summarize lake health. TSI is calculated from annual monitoring data, combining phosphorus, chlorophyll-a, and transparency readings.

TSI Status of VLAWMO Lakes: 2019

Lake Name	Clear (Oligotrophic)	Moderately Clear (Mesotrophic)	Green (Eutrophic)	Very Green (Hypereutrophic)
	20 30	40 50	60	70 80
Amelia				
Birch				
Black				
Charley				
Deep				
Gem				
Gilfillan				
Goose (East)				
Goose (West)				
Pleasant				
Sucker				
Tamarack				
Vadnais (East)				
Vadnais (West)				
Wilkinson				

VLAWMO staff monitoring Lambert Creek at the outlet of West Goose Lake

LAMBERT CREEK LEAD SAMPLING

To monitor sediment levels, sediment was scooped with a shovel from the bottom of Lambert Creek and brought to a lab for testing.

MACROINVERTEBRATES MONITORING

VLAWMO started a volunteer-based macroinvertebrate program to coincide with the implementation of remote sensors on Lambert Creek (pg. 9). Aquatic macroinvertebrates are organisms that live in lakes and streams, such as mayflies, damselflies, dragonflies, or leaches, scuds, and aquatic worms. Monitoring these organisms through collection and ID is a common technique in the aquatic sciences to gause the health of a waterbody. The presence of certain organisms and their diversity illumiate the conditions they live in. Some organisms only survive in clean water, while others can cope with pollution, sedimentation, or other contamination such as high nutrients and bacteria levels. While water quality monitoring focused on chemistry offers a consise numerical data point, biological monitoring such as looks at a long-term trend due to the time it takes for organisms to grow and populate an area.

Using the Leaf Pack method, a pack of leaves is placed in the creek for three weeks. After this time, the pack is retrieved and the organisms are identified indoors using tools such as petri dishes, eye-droppers, spoons, and magnifying glasses. Data is recorded and displayed according to the Monitor My Watershed Wiki website, which is where the VLAWMO remote sensor data is also displayed. In addition to the four current locations on Lambert Creek, VLAWMO hopes to build this program into other areas in the watershed with volunteer support. To provide time to build a base of data, initial findings on this effort will be available in 2021.

VLAWMO staff placing a Leaf Pack in Lambert Creek at County Road F and Centerville Road

CHARTING IT OUT:
Review of 2018 Goals, 2019 Projections

IN THIS SECTION

» 2018 Work Plan Review
» 2019 Work Plan

VLAWMO CORE ACTIVITIES

WATER PLAN STRUCTURE

2019 WORK PLAN PROJECTION

VLAWMO will put the 2017-2026 comprehensive water plan into action. The water plan structure (above) informs issues that will be addressed, goals that VLAWMO will set, and the strategies employed to reach those goals. See the 2017-2026 comprehensive water plan on our website under About > Why Water Matters for a more in-depth look at these plan components.

The tables for the 2018 review and 2019 work plan are color coded according to the VLAWMO core activities diagram (above). Each core activity also has a number, conveyed in the 2017-2026 comprehensive water plan.

ACRONYMS:

WLA: Waste Load Allocation
DNR: Department of Natural Resources
MS4: Municipal Separate Storm Sewer System
NEMO: Northland
SWPPP: Storm Water Pollution Prevention Program
STEM: Science, Technology, Engineering, Mathematics
BMP's: Best Management Practices
CIP's: Capital Improvement Project
LGU: Local Governing Unit
LCCMR: Legislative Citizen Commission on Minnesota Resources
AIS: Aquatic Invasive Species
TMDL: Total Maximum Daily Load
TEP: Technical Evaluation Panel
BOD: Board of Directors
BMP: Best Management Practice (pertaining to stormwater treatment)
RFP: Request for Proposal
TEC: Technical Commission

Review of 2019 Work Plan

CAPITAL IMPROVEMENT PROJECTS

Project Name	Description	Goal: Going into 2019	Goal: 2019 Result
Goose Lake Improvement	Work with contracted engineer using Watershed-based Funding to identify 3 BMP's with 60% design completion, choosing one project for 100% design and installation in 2019. Vegetation and ecosystems management. Reapply for 2020 CWF grant for alum treatment.	Alum Grant Channel restoration Stakeholder presentation ID and install BMP project	Grant awarded Jan, 2020. Channel still in planning. Stakeholder presentation complete Jan 2019. Install by end of 2021.
Whitaker Treatment Wetlands	A stormwater treatment project partnering with the U of MN with funding through LCCMR grant funding. Stormwater from Whitaker Pond will be routed to underground wetland treatment cells and then infiltrated into shallow groundwater. Treatment cells contain different sorption material - the study will determine which material is most effective at filtering pollutants. VLAWMO will monitor for nutrients and bacteria, while the U of MN will monitor for pathogens.	Complete 2nd season of monitoring. Partner with the U of M to monitor pathogens.	Second season of monitoring complete. Pathogen monitoring complete.
Oak Knoll Pond Spent Lime Study	Partner with Barr Engineering for spent lime treatment and monitoring on Oak Knoll Pond (tributary to Goose Lake). VLAWMO staff will assist in monitoring efforts, supported by homeowner and City coordination.	Complete spent lime treatment and seasonal storm monitoring.	Project delayed into 2020.
Birch Lake: 4th & Otter Lake Road Project Development	VLAWMO will work with a consultant to assess the options for BMPs at the 4th and Otter Lake Rd site. Conceptual designs of best possible projects will be completed and VLAWMO will work with its partners to finalize design and secure funding for 2019 installation.	Installation of project. Complete partner agreements.	Project delayed into 2020 due to contractor bid process and associated costs. Installation to be complete 2020.

GRANT PROGRAMS

Review of 2019 Work Plan

CORE ACTIVITY #	Project Name	Description	Goal: Going into 2019	Goal: 2019 Result
3.4	**Landscape Level 1**	Establish relationships and provide grants to property owners within the watershed to install water quality enhancement projects.	Install at least 10 projects Achieve .25 lbs of phosphorus/year removed from local waters.	10 landscape grands approved .231 lbs modeled annual TP removal
3.4	**Landscape Level 2**	Landscape Level 2 Cost Share Program is aimed at assisting landowners with implementing larger BMP projects within the watershed. Preference for projects that have high visibility, educational value and/or local citizen support.	Install at least 1 project. Achieve .25 lbs of phosphorus/year removed from local waters.	1 project approved, construction in 2020. .57 lbs of phosphorus annually.
3.3	**Community Blue**	A communication and outreach grant program to provide money for projects big and small that otherwise might not qualify for other grant awards. Projects must provide education and outreach benefits that directly relate to water quality.	Complete 3 active grants initiated in 2018. Secure all results and grant measurables through collection of final reports.	3 grants complete, 2 mini-grants complete. Results and measurables secured for all but one grant, Birch Lake

PUBLIC EDUCATION AND OUTREACH

CORE ACTIVITY #	Project Name	Description	Goal: Going into 2019	Goal: 2019 Result
3.3	**Watershed Action Volunteers (WAV)**	The WAV consists of Master Water Stewards (Freshwater partnership), Citizen Advisory Commission (CAC), and VLAWMO-specific volunteers who have their own volunteer job description.	Plan, mentor, and complete job descriptions with two VLAWMO-specific volunteers. Guide and complete two Master Water Steward (MWS) capstone projects. Hold three CAC meetings throughout the year, each achieving tangible insight for VLAWMO.	One VLAWMO-specific volunteer complete. MWS capstones complete. Two CAC meetings in 2019, three deemed unneccessary.
3.3	**Workshops**	Workshops educate residents on watershed processes, raingarden and native plant function, and installation. They also introduce VLAWMO's cost-share program to participants and encourage them to apply.	Hold a raingarden workshop, native plant workshop, and general sustainable landscaping workshop. At least 3 residents who attend a raingarden or native plant workshop will pursue a cost-share grant.	All workshops complete 2 workshop residents also pursued a cost-share.

PUBLIC EDUCATION AND OUTREACH

Review of 2019 Work Plan

CORE ACTIVITY #	Project Name	Description	Goal: Going into 2019	Goal: 2019 Result
3.3	**Community Events**	Staff a VLAWMO booth at various community events. Develop information and engagement components for community events. A rainbarrel giveaway contest is used to attract event goers, and number of entries signify how many people stopped by the VLAWMO booth. Prizes such as tote bags, boating kits, and craft soda will be provided for free to guests who engage the booth.	Attend at least 6 community events annually. Accrue at least 1 new volunteer. Grow general email list by 150 people, volunteer email list by 15 people.	12 community events attended
3.3	**Commun-ications**	Create and update material and publications for social media, website, seasonal Enews, and local publications. Make all sections of the website active. Create and maintain communications to promote public awareness for responsible use of our water resources.	Appear in at least 6 news articles in local papers. Appear in at least 3 City/Township newsletters with events and education opportunities. Maintain weekly social media postings all year. Maintain monthly blog and news postings on the VLAWMO website. Create at least 4 neighborhood spotlight articles.	Over 15 newspaper articles complete 3 City/Township newsletters complete Social media maintained all year Monthly blog and news postings on the website complete. Four neighborhood spotlight articles complete.
3.3	**K-12**	Develop youth involvement opportunities and programs that improve/ benefit VLAWMO's goals and activities: Macroinvertabrates field days, STEM lessons. Reach multiple age demographics through school involvement. Assist schools in establishing and maintaining stormwater best management practices (BMP's).	Reach 10% of the school age population in 2019 through education and BMP maintenance. At least 5 adults will contact VLAWMO about cost-share grants as a result of hearing about their student's school activities.	5% of school age population reached. No adults contacted VLAWMO as a result of student school activities.

Review of 2019 Work Plan

MONITORING PROGRAM

SUB-WATERSHED	Project Name	Description	Goals: Going into 2019	Goals: 2019 Result
Lambert Creek	***E. coli* Sourcing**	Dry and wet weather monitoring of the Goose, Oakmede, County Road F, and Whitaker sites (wet weather= during rainfall event). Four-year summary is currently in the works, presentation to be completed in 2018.	Complete final report of four-year project, present report to stakeholders.	Final report under review, presentation to stakeholders extended to 2020 for study to complete.
Lambert Creek	**Lambert Creek monitoring program**	Monitor basic phosphorus, nitrogen, Chlorophyll A, chloride, and sediment levels at 6 sites along with pH, conductivity and DO at the 3 flumes. Maintain automated flow meter and precipitation gauge at Whitaker.	Document and evaluate the general health of the creek.	Monitoring complete, no change in creek health.
Multiple	**Lake Level Program**	Gilfillan, Birch, Gem & Goose Lake gauges are calibrated in the spring and read up to 11 times during the summer.	Monitor lake levels on 4 targeted lakes in the watershed to track short & long term trends.	Complete.
Multiple	**Stormwater Monitoring**	Automated and manual sampling, including flow measurements on targeted streams into Birch Lake and Wilkinson Lake.	Document watershed nutrient loading into Birch and Wilkinson to assist selection of implementation strategies.	All identified lake surveys complete.
Multiple	**Lake Monitoring Program**	Monitor chemistry of 12 of VLAWMO's lakes through nutrient and sediment sampling, along with pH, conductivity, and dissolved oxygen (DO) measurements. Continue integration of automated sampling.	Keep water quality record of watershed's lakes. Utilize water quality data for future projects and CIPs.	3rd season of stormwater monitoring completed at Birch Lake.
Multiple	**Chloride Measurements**	Sample lakes and Lambert Creek. Partner with Birch Lake Improvement District (BLID) for summer monitoring of Birch Lake.	Check monthly measurement.	Complete.
Multiple	**Lake Monitoring Program**	Monitor chemistry of 12 of VLAWMO's lakes through nutrient and sediment sampling, along with pH, conductivity, and dissolved oxygen (DO) measurements. Continue integration of automated sampling.	Keep water quality record of watershed's lakes. Utilize water quality data for future projects and CIPs.	Complete.

ADMINISTRATION & REGULATION

Project Name	Description	Goals: Going into 2019	Goals: 2019 Results
Budget & Stormwater Utility	Storm sewer rates are based on the adopted budget and certified to the counties for collection.	Provide necessary financing for watershed.	Complete
Plan Amendment		Complete plan amendment and approval by VLAWMO Board.	Complete
Wetland Conservation Act (WCA)	Complete boundary and type & other determinations in consultation with the TEP. Respond to WCA questions.	Administer WCA Rules with VLAWMO as LGU.	Complete

SUSTAINABLE LAKE MANAGEMENT PLAN (SLMP)

Project Name	Description	Goals: Going into 2019	Goals: 2019 Results
Pleasant Lake SLMP	A report covering the sub-watershed of Deep Lake on its health and trends, with lake management plans to sustain its health.	» Collect background data, share with lake stakeholders to develop a prioritized list of management strategies.	Complete

2020 Work Plan

CAPITAL IMPROVEMENT PROJECTS

SUB-WATERSHED	Project Name	Description	Goals	Timeline
Goose Lake	**Goose Lake Improvement**	Work with contracted engineer using Watershed-based Funding to identify 3 BMP's with 60% design completion, choosing one project for 100% design and installation in 2019. Vegetation and ecosystems management. Reapply for 2020 CWF grant for alum treatment.	Installation of BMP project. Complete partner agreements. 20 new adopt-a-drain adoptions in Goose subwatershed.	Grant awarded Jan, 2020. Treatment and treatment plan ongoing. Install by end of 2021.
Lambert Creek	**Whitaker Treatment Wetlands**	A stormwater treatment project partnering with the U of MN with funding through LCCMR grant funding. Stormwater from Whitaker Pond will be routed to underground wetland treatment cells and then infiltrated into shallow groundwater. Treatment cells contain different sorption material - the study will determine which material is most effective at filtering pollutants. VLAWMO will monitor for nutrients and bacteria, while the U of MN will monitor for pathogens.	Final report and data analysis complete. Present to stakeholders via webinar.	June 2020
Goose Lake	**Oak Knoll Pond Spent Lime Study**	Partner with Barr Engineering for spent lime treatment and monitoring on Oak Knoll Pond (tributary to Goose Lake). VLAWMO staff will assist in monitoring efforts, supported by homeowner and City coordination.	Complete study	Spring-Summer 2020
Lambert Creek	**Birch Lake: 4th & Otter Lake Road Project Development**	VLAWMO will work with a consultant to assess the options for BMPs at the 4th and Otter Lake Rd site. Conceptual designs of best possible projects will be completed and VLAWMO will work with its partners to finalize design and secure funding for 2019 installation.	Complete installatoin Invasive species removal and vegetation restoration near filter to optimize function.	Summer 2020

CAPITAL IMPROVEMENT PROJECTS

SUB-WATERSHED	Project Name	Description	Goals	Time line
Lambert Creek	**Lambert Lake Meander**	Replace sheetpile at Lambert Lake, meander a portion of ditch, add biochar treatment ceels for bacteria and nutrient removal. Partnership with SEH, City of Vadnais Heights, and various contractors, University of Minnesota. Grant provided by the MPCA.	Grant signed, designs, construction, and lab study	Construction winters '20-'21. Vegetation restoration '21-'22 Biochar monitoring '21-'23
Pleasant Lake	**Pleasant Lake Carp Removal**	Partnership with Carp Solutions to electro tag, track, and remove carp.	Begin invasive carp removal in Pleasant Lake	December 2020

GRANT PROGRAMS

CORE ACTIVITY #	Project Name	Description	Goals	Time line
3.4	**Landscape Level 1**	Establish relationships and provide grants to property owners within the watershed to install water quality enhancement projects.	Install 2 target priority zone funding projects, award 75% of LL! funds. Identify and confirm 4 cost-share spotlights.	Ongoing
3.4	**Landscape Level 2**	Landscape Level 2 Cost Share Program is aimed at assisting landowners with implementing larger BMP projects within the watershed. Preference for projects that have high visibility, educational value and/or local citizen support.	Fund 2 LL2 projects and acheive .5 lbs of annual phosphorus removal with project implementation.	Ongoing
3.3	**Community Blue**	A communication and outreach grant program to provide money for projects big and small that otherwise might not qualify for other grant awards. Projects must provide education and outreach benefits that directly relate to water quality.	Use 75% of allocated funds. Complete 2 grants over $100 Complete 2 mini-grants under $100	Ongoing

PUBLIC EDUCATION AND OUTREACH

2020 Work Plan

CORE ACTIVITY #	Project Name	Description	Goals	Time line
3.3	**Watershed Action Volunteers (WAV) and other volunteering**	The WAV consists of Master Water Stewards (Freshwater partnership), Citizen Advisory Commission (CAC), and VLAWMO-specific volunteers who have their own volunteer job description. Service Learning Partnership with the U of M Custom volunteer job descriptions.	Assist 1 Master Water Steward in capstone project Fulfill 50 hour volunteer requirement in MWS program for 2 Master Water Stewards. Host 3 student service learners. Host 2 successful volunteers with job descriptions.	Ongoing
3.3	**Workshops**	Workshops educate residents on watershed processes, raingarden and native plant function, and installation. They also introduce VLAWMO's cost-share program to participants and encourage them to apply.	Host 3 workshops independently, 3 workshops in partnership	Spring-Fall
3.3	**Community Events**	Staff a VLAWMO booth at various community events. Develop information and engagement components for community events. A rainbarrel giveaway contest is used to attract event goers, and number of entries signify how many people stopped by the VLAWMO booth. Prizes such as tote bags, boating kits, and craft soda will be provided for free to guests who engage the booth.	Attend 6 community events with a booth Conduct 2 watershed education tours Conduct 3 nature-based education activitities	Spring-Summer
3.3	**Commun-ications**	Create and update material and publications for social media, website, seasonal Enews, and local publications. Make all sections of the website active. Create and maintain communications to promote public awareness for responsible use of our water resources.	Complete updated lake factsheets Maintain social media and email communications Maintain specific project webpages for Lambert Lake and Goose Lake regular updates.	Ongoing
3.3	**K-12**	Develop youth involvement opportunities and programs that improve/benefit VLAWMO's goals and activities. Reach multiple age demographics through school involvement. Assist schools in establishing and maintaining stormwater best management practices (BMP's).	Complete two volunteer raingarden maintenance events at each school. Interact with each school in the watershed once each year through either an in-person class visit or providing tools, maps, or resources to a class.	Ongoing

MONITORING PROGRAM

2020 Work Plan

SUB-WATERSHED	Project Name	Description	Goals	Time line
Lambert Creek	***E. coli* Sourcing**	Dry and wet weather monitoring of the Goose, Oakmede, County Road F, and Whitaker sites (wet weather= during rainfall event). Four-year summary is currently in the works, presentation to be completed in 2018.	Complete final report of four-year project, present report to stakeholders.	Final report to be complete June, 2020.
Lambert Creek	**Lambert Creek monitoring program**	Monitor basic phosphorus, nitrogen, Chlorophyll A, chloride, and sediment levels at 6 sites along with pH, conductivity and DO at the 3 flumes. Maintain automated flow meter and precipitation gauge at Whitaker. Four remote sensors installed along creek, live updated volume and water levels displayed online.	Document and evaluate the general health of the creek.	Monitoring May-Sept
Multiple	**Lake Level Program**	Gilfillan, Birch, Gem & Goose Lake gauges are calibrated in the spring and read up to 11 times during the summer.	Monitor lake levels on 4 targeted lakes in the watershed to track short & long term trends.	Monitoring May-Sept
Multiple	**Stormwater Monitoring**	Automated and manual sampling, including flow measurements on targeted streams into Birch Lake and Wilkinson Lake.	Document watershed nutrient loading into Birch and Wilkinson to assist selection of implementation strategies.	December, 2020
Multiple	**Biological monitoring**	Volunteer-based macroinvertebrate monitoring in Lambert Creek, Lambert Lake, and Deep and Charley Lake channels. Utilizing the LeafPack monitoring method by trained volunteers. Results posted on the VLAWMO Monitor My Watershed Wiki. Remota camera monitoring, otter telemetry project, frog and toad call surveys to build baesline information on wetland health and function and to build measures for comparison into long-term implementation initiatives.	Complete 5 Leaf Pack monitoring sessions on Lambert Creek/Lake. Begin monitoring Deep and Charly channels.	Ongoing

2020 Work Plan

ADMINISTRATION & REGULATION

CORE ACTIVITY #

3.1	Project Name	Description	Goals	Time line
	Budget & Stormwater Utility	Storm sewer rates are based on the adopted budget and certified to the counties for collection.	Continued county participation and budgeting for future years.	Ongoing
	Wetland Conservation Act (WCA)	Complete boundary and type & other determinations in consultation with the TEP. Respond to WCA questions.	Continued administration of WCA.	Ongoing

SUSTAINABLE LAKE MANAGEMENT PLAN (SLMP) AND FEASIBILITY STUDIES

Project Name	Description	Goals	Time line
Pleasant Lake Feasibility	A feasibility study to analyze sediment accumulation and possible removal in the west bay of Pleasant Lake	» Complete study	December 2020
Wilkinson Lake Feasibility	Partner with Ramsey County and SEH to identify improvement projects in the Wilkinson subwatershed, such as best management practice (BMP) installations.	» Complete study	December 2020
West Vadnais, East Vadnais, and Sucker Lake SLMP's	Surveys and research to be completed to support sustainable lake management plans.	» Complete plans	December 2020

Wildlife captured by remote camera in various VLAWMO wetlands.

Vadnais Lake Area Water Management Organization

LOGISTICS:
Financial statement and budget

IN THIS SECTION

- Finance and Budget
- WCA Summary
- Water Standards
- Local Plan Adoption
- Biennial Solicitations

Wetland Conservation Act (WCA)

VLAWMO administers the Wetland Conservation Act with review. There were 25 landowner contacts in which wetland related technical assistance was provided during 2019. There were 4 potential WCA violation sites investigated, all 4 were resolved.

WCA SUMMARY

Type of Application	Approved	Denied	Withdrawn
Boundary and Type	7	0	0
No-Loss	2	0	0
Exemption	1	0	0
Sequencing	1	0	0
Replacement Plan	1	0	0

Local Plan Adoption

Adoption of Local Plans: Gem Lake, Lino Lakes, North Oaks, White Bear Lake, White Bear Township, Vadnais Heights are all complete and have been adopted.

Member Community	Last Local Water Plan Update Year
Gem Lake	2018
Lino Lakes	2018
North Oaks	2009
Vadnais Heights	2018
White Bear Lake	2007
White Bear Township	2010

Partnerships

One of VLAWMO's greatest successes is working together with partners to use resources wisely and maximize effectiveness. Workshops, meetings, and webinars allow VLAWMO to be on the cutting edge of the water resources in the Northeast Metro.

- Metro Watershed Partners provides monthly meetings to keep updated with other watersheds, receive feedback and strategy assistance, as well as hear from guest speakers to enhance education and outreach efforts.
- Ramsey County GIS User Group focuses on sharing, developing, and promoting GIS data and technology. As a member agency, VLAWMO contributes and receives data, and has a voting hand in the content the Group funds and develops. Regular RCGISUG membership fees go to producing aerial images of Ramsey County and other GIS data.
- Ramsey Conservation District holds informative forums on topics of general concern (AIS, State of the Waters, groundwater). They also provide technical assistance for lake studies and BMP design. Lastly, they provide financial partnership in grant funding of projects.
- Many other organizations and groups (p. 35) help carry out VLAWMO's mission through events, outreach strategies, and project planning.

Biennial Solicitation for Proposals

Proposals for professional auditing services and legal services will be solicited for in 2020.

2019 Partners

- **Metro Watershed Partners**
- **Ramsey County GIS User Group**
- **Ramsey Conservation District**
- **Vadnais Heights Economic Development Corp.**
- **Birch Lake Improvement District**
- **North Oaks Home Owners Association**
- **Tamarack Nature Center**
- **Minnesota Pollution Control Agency**
- **MN Erosion Control Association**
- **Conservation Minnesota**
- **H_2O for Life**
- **SCC Local Cable TV**
- **White Bear Lake School District**
- **White Bear Preserve Town homes**
- **Cities in VLAWMO**

Stormwater Plinko is a big hit for kids at VLAWMO's public booth events.

Special Thanks

Each year our fabulous partners provide leadership, guidance, resources, to support our goals. 2019 saw the completion of some efforts and the continued investment of others. VLAWMO would like to thank:

- Tracy Lawler: Tracy generously supported a Birch Lake wetland and shoreline educational event, in addition to presenting a native plant talk at the Vadnais Heights City Hall.
- Debbie Hartmann: Debbie notified VLAWMO of dead trumpeter swans at Sucker Lake. Upon investigation, VLAWMO found that the swans died of lead poisoning. Debbie continued to support the watershed through photography, capturing dozens of birds, landscapes, and plants to demonstrate the beauty of our local natural resources.
- Jeff Melcoch: Jeff recorded multiple presentations for VLAWMO, complete with editing.
- Ed and Ceci Shapland: Ed and Ceci became VLAWMO's first Master Water Stewards in 2019. Completing a year of coursework, they became trained in watershed resources to support a capstone project.
- Rika Pennington and Katherine Doll: As residents and members of the Citizen Advisory Committee (CAC), Rika and Katherine helped gather valuable survey responses for VLAWMO's 2019 end-of-year survey.
- Girl Scout Troop 56087 for supporting education and outreach about the harmful impacts of lead on wildlife.

VLAWMO staff presenting the swans and lead education initiative (p. 15) with Local Girl Scout Troop 56087. Pictured with State representatives Peter Fischer and Chuck Wiger at the 2019 Water Resources Conference.

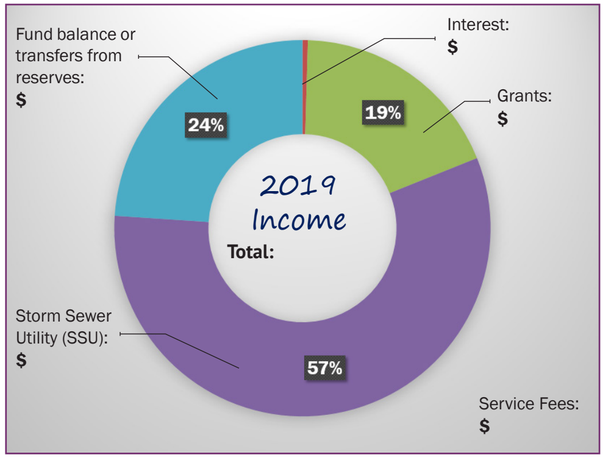
Finance and Budget

The 2019 budget was established by the Board of Directors in June, 2018 with designated project and program funds carried over in December, 2018. The Finance and Policy Committee with members from the Technical Commission and the Board reviewed and made recommendations on the 2019 budget to the Board in June, 2018. The Board added additional funds to address two priorities: 1) The understanding and maintenance of Lambert Creek required historical reviews, surveying and modeling of the system as well as consultation with the VLAWMO attorney. 2) A focus on Goose Lake and its subwatershed. Funds to complete feasibility studies, targeted sampling, and grant applications were needed.

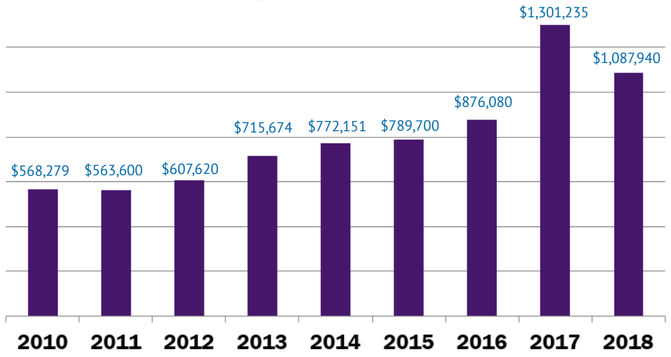
Approved budget for 2019:
$

Actual income from 2019:
$

Money spent in 2019:
$

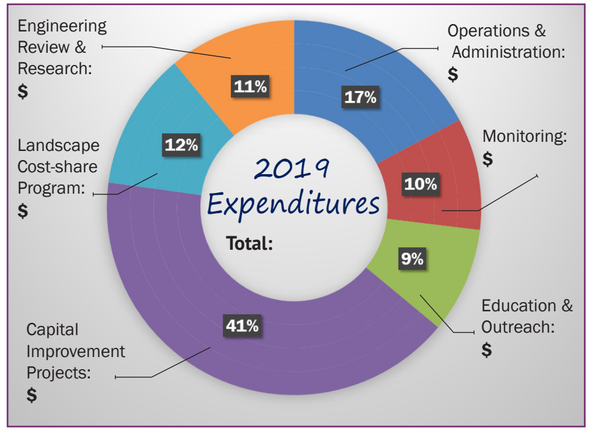


Annual Budget with Fund Balance



INCOME

The mainstay of support for VLAWMO work comes from its Storm Sewer Utility (SSU) fees. These fees are based on an estimate of impervious surface for each parcel of land that is in line with its land use classification. $ 752,436.12 in SSU was certified to Ramsey and Anoka Counties for 11,502 parcels. The average single family homeowner paid $ $42.36 per year to support all of the projects and programs conducted by the watershed. That's about $3.53 per month. The 15.5% increase in storm sewer utility fees allowed VLAWMO's budget to sustainably support the programs and projects of the Water Plan. Ongoing projects resulted in a significant amount of funding being carried over from 2017 to 2018 and again into 2019.



EXPENSES

Total cash expenses for 2018 were less than budgeted at $780,277. Funding for Sucker channel restoration and work on Lambert Creek and Goose Lake will be carried over into 2019. The Whitaker treatment cells project was installed in 2018 with the help of grant funding from the Legislative Citizens Commission for Minnesota Resources. Studies on Goose, Wilkinson and Deep Lakes were also completed setting the stage for the next phase of projects. Further financial detail is available in the annual audit attached as an Appendix to this Report.

GRANTS AND PARTNERSHIPS

Grant funds received in 2018 totaled $244,536. The LCCMR supported the Whitaker Treatment wetlands installation ($166,516). Clean Water Legacy funding supported the Birch Lake hot-spot remediation project targeting nutrient loading to one of the cleanest lakes in the watershed ($48,500) and completing a robust feasibility study on the Goose Lake subwatershed ($29,520). Much of the Legacy funds have been carried over as the projects continue into 2019. Wetland Conservation Act reimbursement funds totaled $ 1380.

CAPITAL IMPROVEMENT PROJECTS

Installation of the Whitaker Treatment Wetlands was completed in 2018 and monitoring began (see page 20). The focus of the project is to research new ways to filter bacteria, excess nutrients, and pathogens out of stormwater runoff. A linked study on pathogens will be done by the University of Minnesota.

Design of the 4th and Otter hot spot remediation project for Birch Lake was nearing completion with the close of 2018. The partners include White Bear Lake, Ramsey County, the Birch Lake Improvement District and VLAWMO along with Barr Engineering. Together all are working hard to complete the preparations for a 2019 installation. The sand-iron filter should be influential in addressing neighborhood runoff that has been loading nutrients into Birch Lake.

Goose Lake work received a substantial boost from the Watershed Based Funding (WBF). These funds from the State's pilot grant will be harnessed to complete modeling and a feasibility study of the Goose Lake subwatershed, along with installation of a best management practice in 2019. VLAWMO will continue to pursue grant funding for an in-lake treatment of Goose Lake.

A full survey of Lambert Creek formed the basis of hydraulic and hydrologic modeling of the creek system and its branch ditches. VLAWMO partnered with Vadnais Heights to complete the study and prioritize maintenance needs.

Tamarack Nature Center, White Bear Township

WHO WE ARE:
The people who make VLAWMO

IN THIS SECTION

» Staff
» Consultants
» Partnerships
» Board of Directors
» Technical Commission (TEC)

The VLAWMO office is located at:
800 E County Road E
Vadnais Heights, MN 55127

Who we are:

VLAWMO Employs five full-time staff for everyday operations. Consultants are required for a variety of purposes including auditing, bookkeeping, engineering, and technical assistance. The VLAWMO Board of Directors consists of one elected official from each of the six cities within the watershed. Each board member is appointed for a three year term. The VLAWMO Technical Commission consists of one citizen representative from each of the six cities. The Technical Commission meets to review and consider watershed business as well as make recommendations to the Board for wider scope decisions.

BOARD OF DIRECTORS (BOD)

Primary Directors	*Alternate Directors*
Jim Lindner, Chair 4200 Otter Lake Rd Gem Lake, MN 55110 651.492.5083	Rick Bosak Gem Lake
Dan Jones 1956 Lakeaires Blvd White Bear Lake, MN 55110 651.283.6097	Bill Walsh White Bear Lake
Marty Long 10 Larch Lane North Oaks, MN 55127 651.407.8507	Gregg Nelson North Oaks
Ed Prudhon 470 Otter Lake Rd White Bear Twp, MN 55110 651.426.2311	Bob Kermes White Bear Township
Patti Youker Vadnais Heights, MN 55127 ####	Craig Johnson Vadnais Heights
Rob Rafferty 1573 Merganser Ct Lino Lakes, MN 55038 651.982.2492	Dave Roeser Lino Lakes

TECHNICAL COMMISSION (TEC)

Commissioners can be reached by contacting VLAWMO

Primary	*Alternate*
Jim Grisim, Chair White Bear Lake	Connie Taillon White Bear Lake
Jesse Farrel Vadnais Heights	Kevin Watson Vadnais Heights
Gloria Tessier Gem Lake	Gretchen Artig-Swomley Gem Lake
Bob Larson, Treasurer North Oaks	Diane Gorder North Oaks
Paul Duxbury White Bear Township	Tom Riedesel White Bear Township
Marty Asleson Lino Lakes	*No alternate available* Lino Lakes

STAFF

Stephanie McNamara
Administrator
stephanie.o.mcnamara@vlawmo.org
651.204.6073

Dawn Tanner, PhD
Program Development Coordinator
dawn.tanner@vlawmo.org
651.204.6074

Brian Corcoran
Water Resources Manager
brian.corcoran@vlawmo.org
651.204.6075

Nick Voss
Education and Outreach Coordinator
nick.voss@vlawmo.org
651.204.6070

Tyler Thompson
GIS Watershed Technician
tyler.thompson@vlawmo.org
651.204.6071

CONSULTANTS

SEH - *Engineer on retainer*
3535 Vadnais Center Dr
Vadnais Heights, MN 55110
800.325.2055

Abdo, Eick & Meyers LLP.
5201 Eden Ave. Ste. 250
Eden Prairie, MN 55436
952.835.9090

Burns & McDonnell
8201 Norman Center Dr
Bloomington, MN 55437
952.656.6003

Ehlers & Associates
3060 Centre Point Dr
Roseville, MN 55113
651.697.8500

HDR Engineering, Inc.
701 Xenia Ave. S. Ste. 600
Minneapolis, MN 55416
763.591.5400

Houston Engineering Inc.
6901 E Fish Lake Rd
Maple Grove, MN 55369
763.493.4522

Kennedy & Graven, Chartered
200 South Sixth St Ste. 470
Minneapolis, MN 55402
612.337.9215

Ramsey Soil and Water Conservation Division
2015 Van Dyke Street
Maplewood, MN 55109

St Paul Regional Water Service
1900 Rice St
St Paul, MN 55113
651.266.6350

Barr Engineering
4300 Market Pointe
Minneapolis, MN 55435
952.832.2600

LAKE DATA & INVOLVEMENT

VLAWMO's primary source of income is Storm Sewer Utility (SSU) fees. The average single family homeowner in VLAWMO pays $28.92/year ($2.41/month) to support projects and programs that improve the watershed.

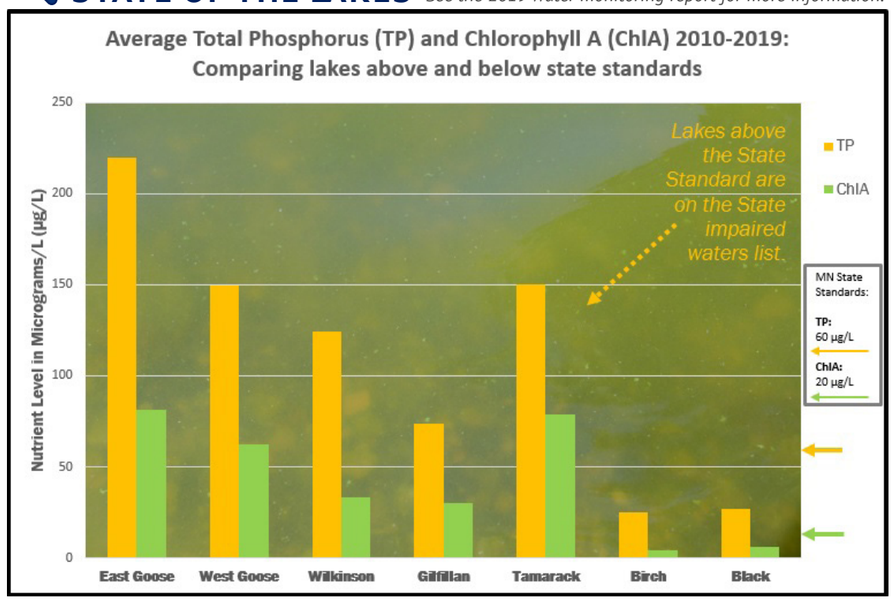
Additional funding for projects comes from grants from the Minnesota Board of Water and Soil Resources (BWSR) and the Legislative-Citizen Commission on Minnesota Recourses (LCCMR).

2019 Quick Stats:

11	5	12	12
Cost-share grants	Workshops facilitated	Events attended	WCA* permits approved

STATE OF THE LAKES

See the 2019 water monitoring report for more information.



VLAWMO has seven lakes impaired for nutrients, and Lambert Creek is impaired for bacteria. To improve these impairments, VLAWMO looks at the unique needs of each lake - some lake issues are internal, while others are from the surrounding watershed including upland areas, streets and yards, and wetlands. Sometimes, it's a combination of both! But beyond VLAWMO, every City, Township, business, and property connects to water. Learning and working together, we can improve our impaired water and protect our clean water.

A NEW ERA

In 2019, VLAWMO achieved the title of "priority small watershed" through the Minnesota Pollution Control Agency (MPCA). Great partnerships and key water resources supported VLAWMO's selection. This designation will provide VLAWMO with unique funding opportunities every four years for a span of 16 years, providing for more project proposals and installations!

COST-SHARE PROGRAM

VLAWMO completed 18 cost-share grants in 2019. These grants supported the creation of raingardens, native plantings, shoreline restoration, and rainbarrels. All together the projects totaled 42,037 ft^2, and infiltrate an estimated 300,141 gallons of water per year. VLAWMO awarded a total of $28,107 in designated cost-share funds for these projects.
Visit VLAWMO.org/grants for more info and to inquire about a project of your own!

REGULATIONS

As a local governing unit, VLAWMO administers the Wetland Conservation Act (WCA). WCA oversees new development as it pertains to wetland conservation. Any wetlands lost to development, by law, are to be replaced either on-site or elsewhere in the state through the purchase of wetland banking credits.

What can you do?

ADOPT-A-DRAIN

Cleaning one or several nearby stormdrains is a convenient and effective way to support clean water. While the stormdrain system is effective at keeping our neighborhoods dry, it wasn't designed for lake health. Sediment, salt, trash, grass clippings, and other debris travel through stormdrains into into lakes, streams and wetlands. Although leaves and grass clippings are natural, these are excess nutrients that are coming in from dozens of drains - which is often more than what lakes can handle. Visit **adopt-a-drain.org** to learn more, name your drain, and get started!

ADOPT A STORM DRAIN

Water stewardship includes everyday lawn care, fixing auto leaks, proper use of de-icers, water conservation in the home, and more. Learn how to help on our website under the 'Residents' tab. Check out the Watershed Action Volunteers (WAV) for more ways to engage with your watershed!

www.vlawmo.org

YOUR WATERSHED AT A GLANCE

VLAWMO

Vadnais Lake Area Water Management Organization

Established in 1983, VLAWMO is a unit of government co-created by Gem Lake, Lino Lakes, North Oaks, Vadnais Heights, White Bear Lake, and White Bear Township. Together, we use science and partnerships to protect and improve the water resources in the watershed.

From the administrator

V L A W M O

Stephanie McNamara
651-204-6073
stephanie.o.mcnamara@vlawmo.org

Photo: Debbie Hartmann

WHAT DID WE DO IN 2019?

Technical Commission:

- **Jim Grisim** — White Bear Lake — Chair
- **Jesse Farrell** — Vadnais Heights — Vice Chair
- **Bob Larson** — North Oaks — Treasurer
- **Marty Asleson** — Lino Lakes
- **Gloria Tessier** — Gem Lake
- **Paul Duxbury** — White Bear Township

- Event/booth locations
- Water monitoring sites
- Workshops/stakeholder planning
- Projects

LOCAL LEARNING AND SERVICE

Master Water Stewards conducted a stormdrain clean-up event in Vadnais Heights, a native plant swap, and a raingarden/native plant tour around the neighborhood.

CARP ELECTROSHOCKING

To understand the impact of invasive European carp on Pleasant Lake, we started with a quest to understand the carp populaiton. Using a non-leathal electric shock, staff and partners at Carp Solutions netted stunned carp and tagged each one. With a population estimate and the ability to track their movements, we're set up with the tools to remove the carp in 2020. Removing invasive carp is removing their influence of bottom-feeding, which re-suspends nutrients into the water column to create excessive algae.

WHITAKER TREATMENT WETLANDS

Three lined wetland cells are being used to study bacteria treatment and treat polluted stormwwater at the start of Lambert Creek. Filtration happens through various fill materials and native wetland plants. The final report of the three-year study is scheduled for June, 2020.

SWANS AND LEAD

With the help of local residents and Girl Scouts, VLAWMO conducted education about the dangers of using lead sinkers and fishing tackle. The effort was a reponse to trumpeter swans dying of lead poisoning at Sucker CHannel.

ADOPT-A-DRAIN

VLAWMO and the City of White Bear Lake led a special adopt-a-drain promotion to help impvove Goose Lake.

ADOPT a STORM DRAIN

Visit adopt-a-drain.org to join in!

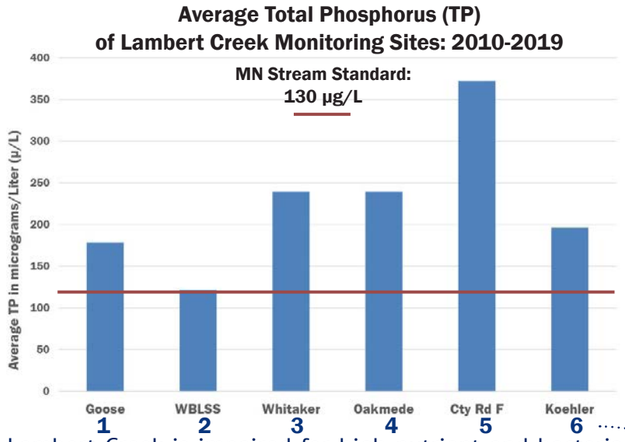
BUCKTHORN REMOVAL

Local volunteers and AFSA High School students helped remove buckthorn to restora a wooded wetland.

REMOTE MONITORING

Combining internet and cell phone technologies, VLAWMO installed four remote sensors to monitor flows in Lambert Creek in real time.

Lambert Creek



Lambert Creek is impaired for high nutrient and bacteria levels. Samples from six sites are taken along the creek every other week from May to September. The order of sites on the bar graph above, reading from left to right, is the order they occur on the creek (mapped right). E. coli levels have been detected as primarily avian and canine.

Waterbody impairments: VLAWMO has seven lakes and one creek impaired under MN water quality standards (right). For a lake to be listed as "impaired", it must show a trend in being above State standards in two of three readings: Chl-A, TP, and/or Secchi disk (turbidity). Deep and shallow lakes have different standards, Pleasant Lake is a deep lake.

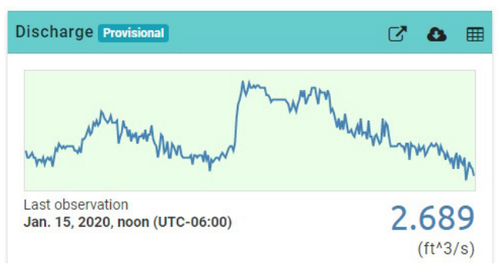
Remote Sensors

To better understand and evaluate the needs of Lambert Creek, VLAWMO has installed four new monitoring stations at various locations along the creek. Each station is equipped with a sensor that is programmed to take readings of the water levels every 15 minutes. Data from the sensor is sent to a cellular service account, which is then sent to our online portal.

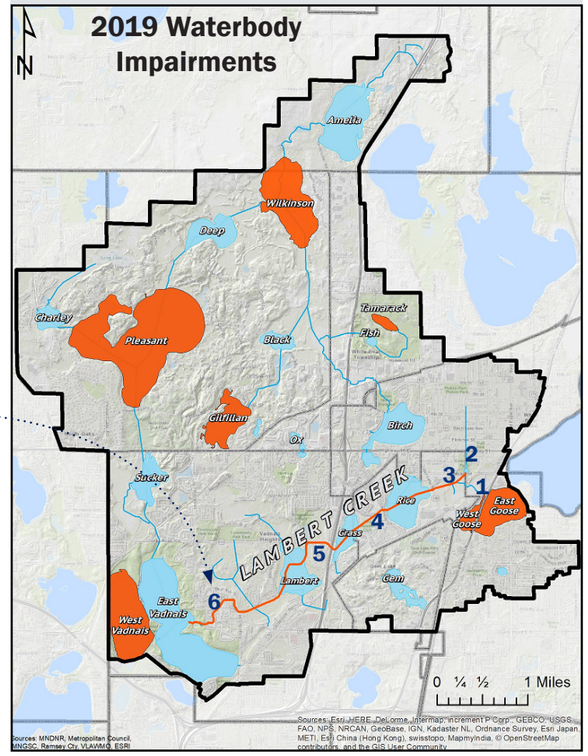
Stream flow, depth, and macroinvertebrate sampling data from the four creek sites is publically available through the Monitor My Watershed web portal, linked from our website: http://www.vlawmo.org/waterbodies/lambert-creek/

Below: The distance reading indicates creek depth - the distance from the sensor to the water surface.

Right: The discharge reading tells the volume of water moving beneath the sensor at that site.



Visit **VLAWMO.org** to learn what's being done to resolve these issues and see how you can be a part of the solution!



Above: Anthony Aufdenkampe of LimnoTech guides VLAWMO staff in assembling remote sensor devices.

Brian Corcoran
Water Resources Manager
brian.corcoran@vlawmo.org
(651) 204-6075

EST 1983 VLAWMO Vadnais Lake Area Water Management Organization

Vadnais Lake Area Water Management Organization

2019 Water Monitoring Summary

VLAWMO's monitoring program consists of:

- 12 Lakes: *Grab samples*
- Lambert Creek: *Grab samples, remote sensors*
- Water quality sampling every other week from May to September:

  Phosphorus, nitrates, chlorophyll-A, chloride, turbidity, bacteria, pH, and storm sampling

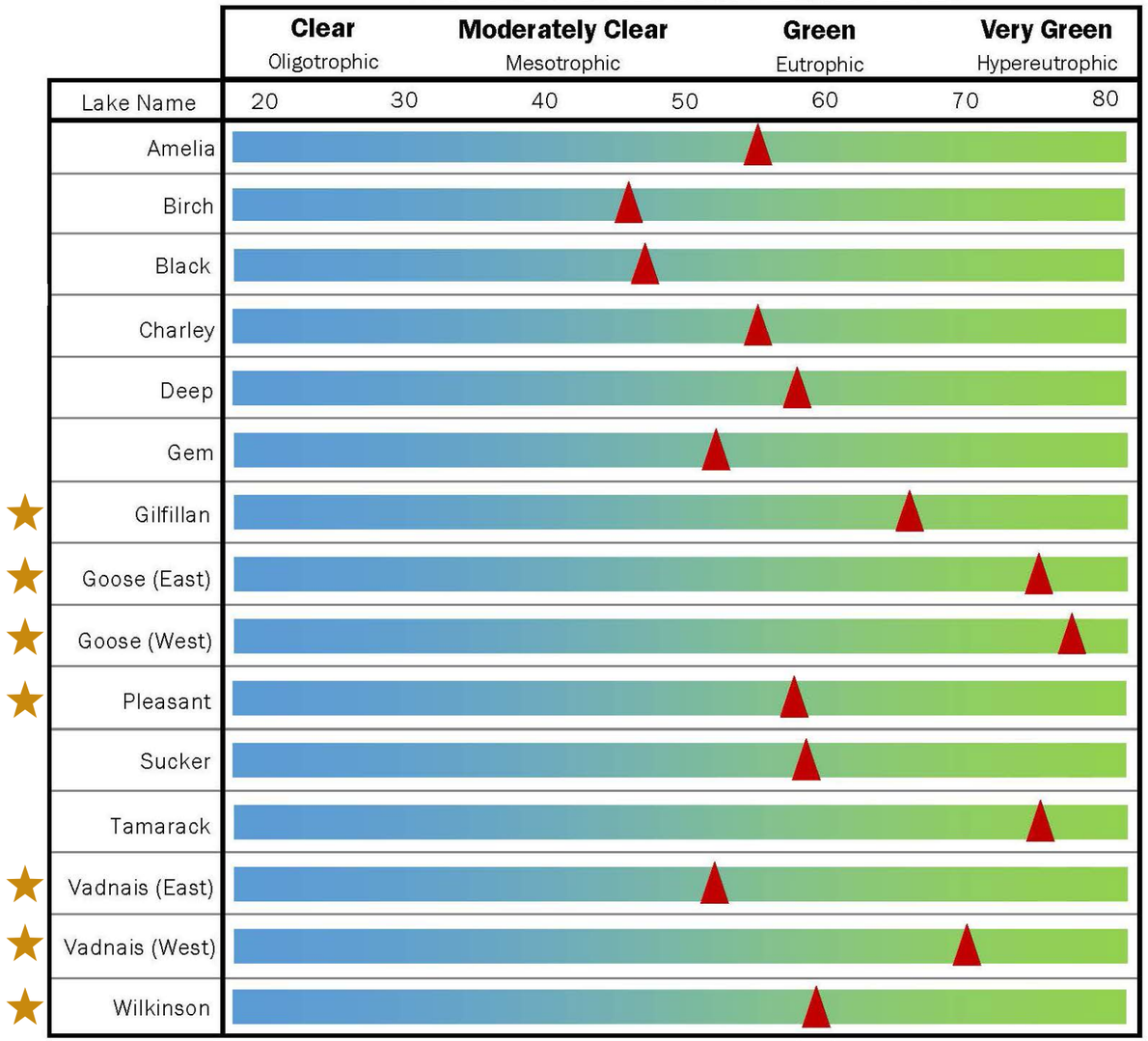
See the complete report at www.VLAWMO.org/resources/reports

The Watershed at a Glance

★ = Impaired waterbody (see reverse)

*See the 2019 water monitoring report at **vlawmo.org/reports** for more information.*

TSI Status of VLAWMO Lakes: 2019



Definitions:

TSI: Trophic Status Indicator. The trophic status of a lake pertains to its nutrient levels, transparency, and chlorophyll. The data for each reading is combined to create a single value, which is a TSI index, depicted with red arrows.

Oligotrophic: Low nutrient levels and abundant oxygen. May be suitable as an unfiltered water supply.

Mesotrophic: A moderate amount of dissolved nutrients. Iron or manganese taste/odors, turbidity increases.

Eutrophic: Rich in nutrients, supporting either a dense plant population or large algae blooms.

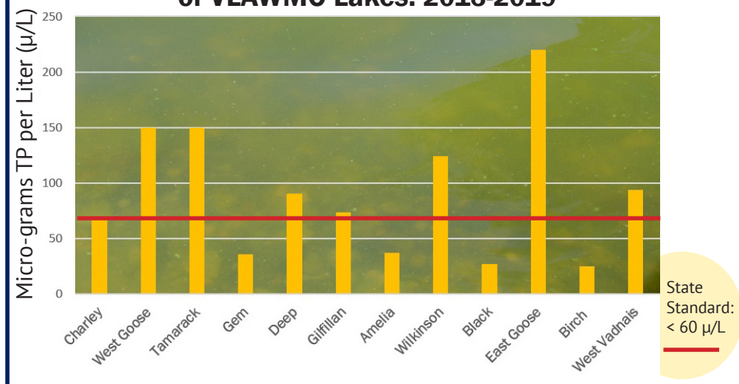
Eutrophication is the process of nutrient loading into a waterbody from the surrounding watershed (i.e. upland area). It is a natural process that can be accelerated by stormwater runoff and erosion.

Hypereutrophic: Exceptionally high nutrients causing dense algae and macrophyes. Rough fish (bullhead, carp) dominate, blue-green algae most likely, fish kills possible during algae blooms. Episodes of severe taste and odor.

Nutrients and Chlorides

*Visit **vlawmo.org/waterbodies** for specific lake studies, reports, and lake fact sheets.*

Average Total Phosphorus (TP) of VLAWMO Lakes: 2013-2019



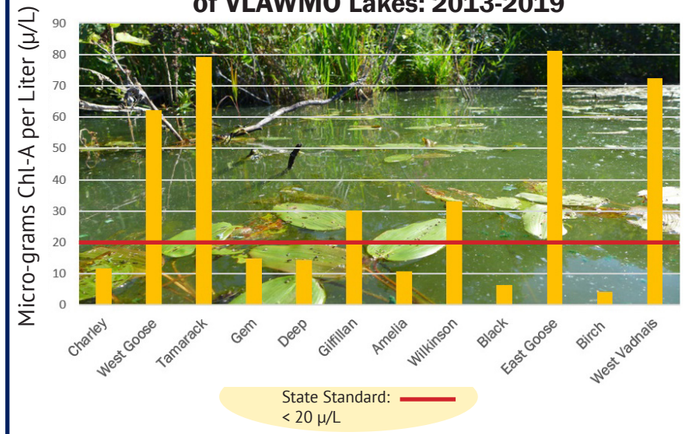
Phosphorus: What is it?

Phosphorus is a naturally occurring nutrient. and a main driver of algae growth. 1 lb. of phosphorus can produce up to 500 lbs. of algae. Increased algae levels create low oxygen, poor light penetration, and reduced fish and wildlife habitat.

What it means to me:

Human activities can accelerate phosphorus levels and algae growth. To control this, it's important to keep sediment and nutrients on the landscape. We can can do this by keeping grass clippings out of the street, covering bare soil, picking up pet waste, and more. Visit vlawmo.org/residents for more info.

Average Chlorophyll-A (Chl-A) of VLAWMO Lakes: 2013-2019



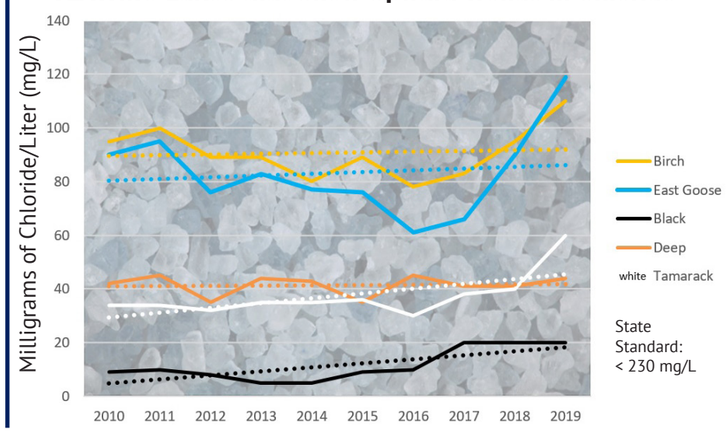
Chlorophyll-A: What is it?

Chloride is the green pigment that helps algae and other plants produce food. The concentration of chlorophyll present in the water is directly related to the amount of algae living in the water.

What it means to me:

Six VLAWMO lakes exceed the State Chlorophyll-A standard. Chlorophyll is a key ingredient in photosynthesis. While phosphorus is a nutrient for plants and algae, chlorophyll is what enables plant growth and algae blooms. Too much chlorophyll indicates a risk for large algae blooms that can deplete lake oxygen and kill fish.

VLAWMO Lakes that Show Upward Trends in Chloride



Chloride: What is it?

Chloride is common ingredient in de-icers such as sodium chloride (rock salt). Chloride is a permanent pollutant to water quality, requiring only 1 tsp. to pollute 5 gallons of water. It is toxic to aquatic life and interrupts temperature and nutrient cycles in lakes.

What it means to me:

VLAWMO has no waterbodies impaired for chloride, but some lakes show upward trends. Chloride level can decline as water flushes through lakes, but incoming salt from winter de-icing increases chloride levels in the system as a whole . This is why it's important to practice smart salting - visit VLAWMO.org/residents to learn how.

VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E E, Vadnais Heights, MN 55127
www.vlawmo.org; Office@vlawmo.org

To: Board of Directors

From: Nick Voss, EOC

Date: February, 2020

Re: V.B.2. Community Blue Grant: White Bear Center for the Arts (WBCA): "Upstream"

The White Bear Center for the Arts completed a Community Blue application requesting **$7,566.80.**

This project contracts with a professional artist (Anna Metcalfe) who will facilitate 10 tea ceremonies. Participants receive custom mugs created by the artist, all focused on human interactions with water resources. In addition to the tea ceremonies, actions, information, and volunteer opportunities are embedded into the project design.

WBCA will be organizing a volunteer maintenance day at the Central Middle School Bio-swale, promoting VLAWMO's cost-share program, promoting Adopt-a-Drain to residents and businesses, and promote other water-friendly actions such as smart salting and water-friendly lawn care.

The project starts with a kick-off event and ends with a culmination event, all of which will be documented in an artistic summary video at the end of the project.

Measurables have been carefully crafted between WBCA staff and VLAWMO staff. In addition to basic attendance numbers, the application contains target goals for adopt-a-drain adoptions, raingarden maintenance (Central) volunteers, private property watershed behavior commitments, and participation in other public raingarden maintenance beyond Central Middle School. VLAWMO's Master Water Stewards will have the opportunity to serve as leaders and consultants in the project.

Because WBCA draws on an audience larger than the VLAWMO watershed, WBCA has agreed to place special targeting on VLAWMO residents and provide a special 20% WBCA membership for VLAWMO residents as incentive.

This project is a benefit to VLAWMO through direct participation as well as the indirect publicity and messaging that will follow. VLAWMO education materials will be displayed at the high traffic WBCA entrance during active times in the project. VLAWMO staff is excited to embrace this unique partnership with an influential, established, and positive community figure, and sees it as a foundation in future collaborations. Possible future collaboration includes the expansion and development of WBCA's center on a new parcel of land that is within VLAWMO's boundary.

This project draws from Community Blue's main funding pool of $10,000. As of the February 2020 Board meeting, $9,455 remains after a small ($545) project in North Oaks ("Movie Showing") was approved at the December, 2019 TEC meeting. $2,000 in carry-over funds are separately designated in Community Blue's 2020 budget for upcoming Master Water Steward projects.

Staff recommendation: Approval of CB-2020-02: "WBCA/Upstream"

Vadnais Lake Area Water Management Organization
800 East County Rd E
Vadnais Heights, MN 55127
vlawmo.org
(651) 204-6070

COMMUNITY BLUE GRANT APPLICATION

Please submit form and required materials to: NICK VOSS
Nick.Voss@vlawmo.org

PROJECT BACKGROUND

BASIC INFORMATION

PROJECT NAME	Upstream: Connecting & collecting stories about our water
CONTACT PERSON	Alex Legeros, Development & Marketing Director, White Bear Center for the Arts (WBCA)
ADDRESS	4971 Long Ave
CITY ZIP	White Bear Lake 55110
ORGANIZATION	WBCA
PHONE	651-407-0597
EMAIL ADDRESS	alegeros@whitebeararts.org
WHAT GEOGRAPHIC AND/OR DEMOGRAPHIC AREA DO YOU SERVE?	NE Metro Region, primarily within 10 miles of White Bear Lake
HOW MUCH ARE YOU REQUESTING? (BETWEEN $200 AND $10,000)	$7,566.80
HOW MUCH ARE YOU PREPARED TO MATCH OR PROVIDE IN-KIND?	$2,725

INTRODUCTION & GOAL

1. A: DESCRIBE THE MISSION AND GOALS OF YOUR ORGANIZATION/PROFESSION AND WAYS IT RELATES TO WATER RESOURCES.

B: IN 2-3 SENTENCES: WHAT DOES THE PROJECT DO (LIST HARD DETAILS OF #, PLACE, EVENT, ETC). AND WHAT'S THE GOAL?

A: White Bear Center for the Arts (WBCA) enriches lives, nourishes imagination, and builds understanding through the arts in all forms. WBCA offers 900+ classes, serves all ages and abilities, and reaches over 17,000 people per year from a regional community. WBCA has an implicit relationship with water management and conservation because of its location, adjoining a wetlands and sitting atop two watersheds. WBCA is again addressing water stewardship as it expands its campus in 2020-2021, an opportunity to engage the public in local water's history and stewardship.

B: WBCA will work with artist Anna Metcalfe to: 1) gather local stakeholders to assemble key stories related to the Vadnais Lake Area Watershed, 2) host a public kickoff event with a round table of stakeholders at WBCA, 3) host 10 intimate conversations about water in "Upstream" tea ceremonies, 4) record 80 stories relating to water, and 5) host a post-event to share stories to the broader community and spark future action.

PROJECT BACKGROUND

2. DESCRIBE HOW YOUR PROJECT WILL PROTECT OR IMPROVE WATER QUALITY. FOR EDUCATIONAL COMPONENTS, DESCRIBE BEHAVIORS AND ACTIONS THAT WILL BE ENCOURAGED THROUGH THE PROJECT AS THEY RELATE TO WATER.

1. WBCA will spread information critical to local stakeholders about the risks and challenges faced today to event attendees (est. 150-200) and on digital platforms (6000+). People will receive information on VLAWMO volunteer opportunities and be encouraged to sign up for programs like Adopt-a-drain and refreshing community/public raingardens and bio-swales.
2. WBCA activities will raise awareness for the bio-swale at Central Middle School and organize one volunteer refresh (maintenance) event for this critical piece of local infrastructure.
3. Convening events will showcase the work of VLAWMO's Master Water Stewards and provide opportunities for those stewards to share their experiences with others. Pertinent watershed issues including but not limited to high water levels, salt/deicer, pollinators, civic engagement concerning water, and impaired waterbodies will be addressed.
4. Native history and culture will be incorporated by highlighting the impact of rapid suburban development in the watershed and the participation of Native leaders and community members in the tea ceremonies.
5. Through convening public events, WBCA and VLAWMO will be able to track the number of new actions (such as volunteer registrations, event sign-ups) and attitude changes generated by the hosting activities.
6. VLAWMO will be able to share additional resources (cost chare brochures, etc.) to the WBCA audience, improving visibility long-term for VLAWMO events & opportunities.
7. WBCA will be in process of developing its expanded campus, mitigating water run-off and addressing environmental impact concerns of WBCA's enlarged building and parking lot footprint. This project will increase WBCA's knowledge and tools of water stewardship, leading to better design of its campus through the planned expansion.

Numbers 2-4 are subject to partnership planning. WBCA will seek all of these partnerships upon grant acceptance, and to factor in unseen circumstances beyond WBCA's control, will guarantee two of the three to successful completion.

3. DESCRIBE ANY PROJECT PARTNERS, THEIR ROLE IN THE PROJECT, THEIR QUALIFICATIONS, AND THEIR ROLE IN YOUR PROJECT. FOR PROJECTS WITH INVOLVED PARTNERSHIPS, A SEPARATE CONFIRMATION LETTER MAY BE REQUESTED.

Please provide specifics (names, titles, email or phone #)

Anna Metcalfe: Artist, founder of Upstream, 2020 McKnight Mid-Career Artist Grant recipient.

AnnaMetcalfe@gmail.com | 540—905-1091 | upstreamtea.com

Anna is an established artist who began hosting tea ceremonies to connect people and share stories related to water, in a project called "Upstream." Participants each receive tea in a cup with a printed story: people read someone else's story on their cup, have a conversation, and ultimately share their own water stories. Participants write down their story on a template, which Anna later prints on a teacup through a ceramic transfer process. Cups collected are passed down to future sessions; participants leave with their initial cup.

Guy Wagner: Videographer. Guy produced the video featured on upstreamtea.com. Guy will record the activities of the project and both WBCA and VLAWMO will be able to distribute the video to promote Community Blue.

VLAWMO staff and other community stakeholders with watershed leadership qualities will be solicited to participate in the planning and creating "seed cups" for this project. Their input will be critical in shaping key messages for the public and creating a local starting point for the tea ceremony conversations. WBCA has 50 years of community connections to rely on, and with the support of VLAWMO, feels confident in its ability to gather input from exemplary "water leaders" for the project.

PROJECT OBJECTIVES

4. IN THE SPACE BELOW, PLEASE BREAK DOWN YOUR PROJECT INTO OBJECTIVES (**UP TO 5**). THESE SHOULD TELL THE STORY OF YOUR PROJECT FROM PREPARATION TO ACTION TO FOLLOW-UP MEASURES. INCLUDE AN ESTIMATED COMPLETION DATE (left box) AND COST (right box) TO EXPIDITE PROJECT BUDGETING AND FUND DISPERSAL.

1

OBJECTIVE	Assemble Stakeholders & Plan	COMPLETION DATE (M/Y) COST (right box)	05/20	$1,420
DESCRIPTION	Anna will train WBCA staff on hosting a tea ceremony. Anna will travel to WBCA to host a pre-kickoff tea conversation with stakeholders assembled by WBCA, and cast the teacups they created to seed the project's tea ceremonies.			
POSSIBLE BARRIERS	Soliciting 6-8 community stakeholders ("water leaders"); ensuring equitable representation of local communities.			

2

OBJECTIVE	Kickoff public program	COMPLETION DATE (D/M/Y) COST (right box)	06/20	$460
DESCRIPTION	Anna will host a round table at WBCA with 3 key stakeholders. Audience members will learn about Upstream tea ceremonies and receive a schedule of upcoming opportunities (10). Based on the number of story areas identified by the stakeholder group, approximately half of the ceremonies will have a theme and half will be open-ended.			
POSSIBLE BARRIERS	Barriers: securing a time available for all panelists, ensuring dates are available			

3

OBJECTIVE	Upstream Tea Ceremonies	COMPLETION DATE (D/M/Y) COST (right box)	08/20	$3,527
DESCRIPTION	WBCA will hold 10 free tea ceremonies from June – September, creating space to share important stories about water. Anna will host five; two will be outdoors: 1 at the Central Middle School/ Lambert Creek bio-swale and another at Matoska park. A trained WBCA staff member will host the remainder.			
POSSIBLE BARRIERS	Possible rain & weather, presume some registrants may not attend.			

4

OBJECTIVE	Culmination Event	COMPLETION DATE (D/M/Y) COST (right box)	09/20	$2,160
DESCRIPTION	Community members and tea participants will return to WBCA for an event that reviews what was learned through the process. Anna will share stories collected through the conversations, and insights from stakeholders. WBCA will coordinate community resources to encourage sign-ups and future VLAWMO participation.			
POSSIBLE BARRIERS	Finding an optimal time in September – academic & school calendars			

5

OBJECTIVE		COMPLETION DATE (D/M/Y): COSTS: (right box)		
DESCRIPTION				
POSSIBLE BARRIERS				

PROJECT PLAN

PROJECT PLAN

MEASUREMENT AND EVALUATION

5. DESCRIBE HOW YOU WILL MEASURE THE SUCCESS OF YOUR PROJECT.
Measurements should be phrased as a final result. What tangibles will prove that the objective was met? Example: Number of participants, number of installations, gallons of storm water infiltrated, etc. Effective measurables relate back to the goal and purpose of the project – VLAWMO will make recommendations as needed. If an objective doesn't need a measurable please indicate another objective that has a measureable that serves to measure both.

OBJECTIVE 1: Share information about the Vadnais Lake Area Watershed: history, communities, needs.

- Track number of attendees, informational flyers, and web traffic to VLAWMO resources
- Gather key stakeholders and record their stories (8-10) as seed stories for the project & participants
- Share video and images on social media platforms, creating permanent record of project
- Document the stories generated by the project, contributing to future Upstream ceremonies.
- Incentivize participation by offering WBCA membership discounts (20% off) to VLAWMO residents & volunteers

Goal: 100 participants registered for ceremonies or volunteer events who live or work in the VLAWMO watershed. Generate 1000 website views for the project. 40 new VLAWMO @ WBCA memberships.

OBJECTIVE 2: Generate registration for VLAWMO volunteer opportunities

- Track #'s: Adopt-a-drain, Rain garden maintenance, master steward sign-ups
- Track commitments for private property behaviors: water-friendly lawn care, rain gardens/pollinator garden installation.

Goal: 50 adopt-a-drain adoptions, 50 private property commitments, 12 raingarden maintenance volunteers engaged at Central Middle School bioswale, 5 adopt-a-raingarden registrations for other public raingardens, 10 participants seeking new VLAWMO cost-share grants or Lawns to Legumes grants. 15 miscellaneous behavior commitments (independent trash pick-up, stormdrain stenciling, macroinvertebrate monitoring, phenology/picture post involvement, civic engagement, smart salting promotion, other relevant but unforeseen behaviors screened by VLAWMO staff).

OBJECTIVE 3: Survey changes in awareness around key local issues

- Design a short list of local risks, projects, and opportunities for involvement.
- Use a pre-survey to collect people's assumptions about water issues (developed in Objective 1)
- Collect post-survey to measure a change/growth in attitude, knowledge, skills, and behavior (Distributed at all events).

Goal: 80 pre-and post survey responses. 50% document increase in attitude, knowledge, skills, and behavior.

OBJECTIVE 4: Retention after engagement

Goal: 50% retention of participants – participants involved in any step of the way are retained and appear at the culmination event. News release, video summary unveiling, and social media exposure.

BUDGET DESCRIPTION

DESCRIBE THE BUDGET: List 1) materials and services that the requested funds will go towards and 2) description of Match funds that go with that objective/expense.

Please note: In-kind expenses (WBCA space & volunteer time) were excluded from total figures. **For ease of accounting, placed all miles under one objective.*

OBJECTIVE 1/EXPENSE 1: **$1,420**

Anna's training & prep time= $320; Materials = $200; WBCA staff time = $900 (plan & publicity)

OBJECTIVE 2: **$460**

Honoraria = $400; WBCA Staff time = $60 (event only); WBCA Space (in-kind) = $187.50

OBJECTIVE 3: **$3526.80**

Anna 5 sessions= $1,000; Anna Materials = $2,000; WBCA staff time = $300 (session only); *Project miles = $226.80; WBCA space & volunteer time (in-kind) = $2,400

OBJECTIVE 4: **$2,160**

Honoraria = $2,100; WBCA staff = $60 (event only); WBCA space = $187.50

BUDGET

7. COMPLETE THE FOLLOWING TABLE FOR PROJECT COSTS. IF ADDITIONAL COSTS EXIST INDEPENDENT OF GRANT FUNDING LIST THEM AS FUNDING AS OTHER SOURCE. PLEASE SPECIFY AN AMMOUNT PER EXPENSE AND A TOTAL. THE GREEN BOX IN PART 7 MUST EQUAL THE GREEN BOX IN PART 8. USE WORK PLAN SPREADSHEET FOR MORE DETAIL. TIP: ALIGN EXPENSES ACCORDING TO OBJECTIVES IN PART 5.

EXPENSES Reflect objective #	**PERSONNEL COSTS** "N/A" if blank	**MATERIALS / SUPPLIES** "N/A" if blank	**FUNDING FROM OTHER SOURCE** "N/A" if blank	**TOTAL**
EXPENSE 1: Anna's planning, prep, and training time @ $40/hr	$320	8 cups - $200	N/A	$520
EXPENSE 2: Tea ceremony (x10), contact hours & materials	$200 x 5 - Anna	80 cups - $2000	5 adt'l sessions	$3,000
EXPENSE 3: Round table & video honoraria	$100/speaker, Anna x2 $2000 - Video	N/A	N/A	$2,500
EXPENSE 4: Mileage (Anna)	43.2 Miles, 10 trips			$226.80
EXPENSE 5: Event space, copies, WBCA staff time (plan, prep, host, survey, publicity)	30 hrs plan & publicity, 14 hrs events/ceremonies @ $30/hr		$2,325 ($125/hr *19 hrs)	$3,645
TOTALS	$5,336.80	$2,200	$2,725	$10,291.80

Description of other source funding: WBCA will contribute its space in-kind for events & ceremonies

TOTAL EXCLUDING MATCH FUNDS: $7.566.80

GRANT FUNDING & MATCH FUNDS

8. PLEASE FILL IN THE TABLE BELOW WITH HOW YOU PLAN TO ALLOCATE YOUR FUNDING.
Match funds are required assets for the project that strive to support community investment and exposure. Match funds may be cash from other sources, mileage, pre-existing materials involved in the project, or provided in-kind (i.e. volunteer services). In-kind match hours may be volunteer service hours, voluntary presentations, etc.
Consult with VLAWMO staff for discussion on what applies as match funds.
THE BLUE BOX SHOULD BE AN ADDITIONAL 25-100% OF THE GREEN BOX.
PROJECT APPLICATIONS ARE WEIGHED WITH A PREFERENCE FOR PROJECTS WITH HIGHER MATCH FUNDS, IN ADDITION AND ARE VOTED ON THROUGH THE VLAWMO TECHNICAL COMMISION.

VOLUNTEER HOURS ARE VALUED AT **$25/HR**
MILEAGE IS VALUED AT **$0.525/MI**

EXPENSES	**REQUESTED VLAWMO FUNDING**	**MATCH FUNDS**		**TOTAL**
		Cash	In-kind	
EXPENSE 1: Anna Metcalfe, Artist	$1,746.80	N/A		$1,746.80
EXPENSE 2: Anna Metcalfe, Materials	$2,200	N/A		$2,200
EXPENSE 3: Honoraria + Video	$2,300	N/A		$1,300
EXPENSE 4: WBCA Staff time	$1,320	N/A		$1,320
EXPENSE 5: WBCA Space & Volunteer Hours (bio-swale, 2hrs * 8 people @ $25 = $400)	$0		$2,725	$2,725
TOTALS	$7,566.80			$10,291.80

BUDGET CONTINUED

9) DESCRIPTION OF MATCH FUNDS: CASH AND/OR IN-KIND HOURS. Briefly describe the nature, activity, or function of the match funds for each expense line. I.e. "volunteer hours", "honorarium", etc.

EXPENSE 1: Anna is allotted 8 hours of planning & prep time. This will cover two planning meetings at WBCA (stakeholder 1st mtg & ceremony, staff training session on tea ceremony), maintenance of her mobile tea ceremony kit, and contribute to evaluation.

EXPENSE 2: Anna is paid $200 per tea ceremony, which includes associated prep & clean-up and approximately 2 hours of contact time. Anna will buy tea and refreshments as part of this stipend. Each cup costs $25, accounting for production & materials. Each ceremony participant receives a cup: est. 8/ceremony, 10 ceremonies.

EXPENSE 3: The kickoff event will have a round table (x3 stakeholders) hosted by Anna Metcalfe. Anna will present at the culmination event, coinciding with the release of the project video, edited by Guy Wagner.

EXPENSE 4: Anna makes a 43.2-mile commute round trip; mileage allots for 10 trips.

EXPENSE 5: WBCA's staff time accounts for planning, training, prep, and publicity. WBCA will contribute the use of its space in-kind, and coordinate with public spaces for the outdoor & volunteer components. *Note: Additional volunteers will support both hosted events, as well as additional WBCA staff – both are excluded from these estimates.*

FUTURE POTENTIAL

10.) WILL YOU OR THE PROJECT PARTNERS BE ABLE TO REPEAT THIS PROJECT? EXPLAIN HOW THE PROJECT WILL BE CARRIED ON IF 1) THE PROJECT IS A SUCCESS AND 2) ADDITIONAL FUNDS WERE AVAILABLE

This project can extend in two different ways: first, by continuing to repeat Upstream tea ceremonies, a multi-year endeavor by Anna Metcalfe; second, by expanding partnership and collaboration between WBCA, VLAWMO, and other area organizations & nonprofits.

Anna's Upstream model is inherently replicable and continues to build richness over many years. Additional funding could: 1) fund the transfer & firing process for all or a portion of the 80 (est.) cups made by participants; 2) create a self-published book or booklet with photographs and stories collected through the process.

WBCA+VLAWMO events will be shared with local associations such as the WBL Chamber of Commerce and Many Faces: Many Stories. These connections will help spread future events & programs among a broader, shared audience, and further integrate both WBCA and VLAWMO into the community. WBCA will be drawing from past Community Blue participants & stakeholders, creating continuity for the program long-term.

11.) HOW DID YOU HEAR ABOUT OUR GRANT PROGRAM?

Nick Voss helped introduce us to Community Blue and guided us through shaping the proposal.

VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E E, Vadnais Heights, MN 55127
www.vlawmo.org; Office@vlawmo.org

To: Board of Directors

From: Tyler Thompson

Date: February 21, 2020

Re: **V. C. 1 – 3 Cost Share Program – Landscape Level 2 Grants**

V. C. 1. LL2 2020-01 TNC Teal Pond Restoration
Tanner has been working with Justin Townsend at the Ramsey Soil & Water Conservation Division on the restoration of Teal Pond at the Tamarack Nature Center in White Bear Township. An application has been submitted for Landscape Level 2 grant funding that includes revegetation with custom native seed mixes, as well as plugs and pots for larger plants. An educational sign, to be designed by VLAWMO staff, is also included in the cost of this project. The RCSWCD is applying for the LL2 2020-01 Landscape Level 2 grant in the amount of $5,890. The project would begin in the fall of 2020 and be completed in the spring/early summer of 2021.
Staff and TEC is recommending approval and funding to the Board for the LL2 2020-01 application in the amount of $5,890.

Recommendation: TEC & staff recommend approval and funding of the LL2-2020-01 grant application in the amount of $5,890.00

V. C. 2. LL2 2020-02 Cty Rd F Raingardens Retrofit
Ramsey County and the City of White Bear Lake have submitted a joint LL2 application for the retrofitting of 6 raingardens that receive and treat runoff from County Road F in White Bear Lake, and were first installed in 2003. As the curb-cut raingardens have no inlet protection, their performance is greatly hampered to intake storm water runoff that flows to East Goose Lake. The total project cost is $72,268.92 to retrofit the raingardens with Rain Guardians and Foxhole devices for inlet protection, cleanout, and proper routing of storm water into the 6 basins, as well as vegetation reestablishment. This is a great opportunity for enhanced storm water capture and reduction that otherwise flows into East Goose Lake.
Staff and TEC is recommending approval and funding to the Board for the LL2 2020-02 application in the amount of $15,000.

Recommendation: TEC & staff recommend approval and funding of the LL2-2020-02 grant application in the amount of $15,000.00

V. C. 3. LL2 2020-03 Peterson Native Restoration, NO
An application was received for LL2 cost share funding in the amount of $9,024 for a .26 acre native restoration at a private residence in North Oaks. A large buckthorn and weed clearing has left the property owners' steep hillside bare, and Prairie Restorations prepared a proposal in total of $12,032 for a native restoration and stabilization. Their property is on Sora Pond, which is tributary on a chain of ponds that eventually flows to Black Lake. Staff recognizes stabilization BMPs as a priority due to recent large-scale erosion issues in North Oaks, and as an opportunity to prevent future large-scale failures. **Staff has recommended a 50% match of requested LL2 funding for the project, resulting in total recommended amount of $4,000 for funding of LL2 2020-03. TEC concurs and is recommending Board approval.**

Recommendation: TEC & staff recommend approval and funding of the LL2-2020-03 grant application in the amount of $4,000.00

Vadnais Lake Area Water Management Organization
800 East County Rd E
Vadnais Heights, MN 55127
www.vlawmo.org
(651) 204-6070

LANDSCAPE LEVEL 2 GRANT APPLICATION FORM

Please submit form and required materials to: TYLER THOMPSON
tyler.thompson@vlawmo.org
(651) 204-6071

Please fill in the application as best as possible and use additional pages if necessary. Refer to the Grant Guidance document for further information or contact Tyler Thompson with any questions.

APPLICANT INFORMATION

ORGANIZATION NAME: Ramsey County Soil and Water Conservation Division

CONTACT PERSON: Justin Townsend, partnering with Dawn Tanner at VLAWMO

ADDRESS: 1425 Paul Kirkwold Drive CITY: Arden Hills ZIP: 55117

PHONE: 651-266-7277 EMAIL:

PROJECT SUMMARY

ESTIMATED **TOTAL** COST OF YOUR PROJECT: $ 7840 AMOUNT OF GRANT REQUESTED: $ 5880

AMOUNT & SOURCE OF MATCHING FUNDS? (25% MATCH REQUIRED): $1950; match funds for reed canary grass treatment from current CPL grant awarded to RCSWCD. Treatment includes chemical & burn (during fall 2021).

WHEN DO YOU PLAN TO COMPLETE YOUR PROJECT? During spring/summer 2021

TYPE OF PROJECT THAT WILL BE COMPLETED:

Raingarden/ Infiltration Basin ☐ Shoreline Restoration ☐ Native Plant Restoration ☒ Other ☐

If other, please describe proposed project: This project is specifically wetland restoration at Tamarack Nature Center.

PROJECT BACKGROUND

DESCRIBE YOUR PROPERTY (INCLUDING WATER RESOURCES WHICH MAY BORDER THE PROPERTY), AND WHAT ISSUE YOU HOPE TO ADDRESS WITH THIS PROJECT.

The property is located within Tamarack Nature Center. The larger area is part of a multi-year restoration effort including invasive species removal, and prairie and woodland restoration. This project focuses on restoration of Teal Pond by removing invasive reed canary grass through treatment with glyphosate and burning in fall (2020), followed by reseeding (fall, 2020), spot treatment of reed canary grass (spring, 2021), and shrub/native wetland planting (spring, 2021).

Restoration of Teal Pond will allow a larger connected landscape of restored habitats at Tamarack, provide increased area and quality of pollinator habitat, provide a demonstration space for wetland restoration. Restored functional wetlands with a diverse plant community are better able to filter pollutants and provide quality habitat.

Following restoration of Teal Pond, we would like to continue working at Tamrack and expand to areas around Tamarack and Fish Lakes with a direct goal of improving water quality.

Plants and seed mixes for this project were identified using peer-reviewed research specific to our area, MN DNR Native Plant Communities, and BWSR resources. Resulting plans were reviewed and modified by experts at Prairie Moon Nursery with a focus on local ecotypes.

WHAT RESULTS DO YOU HOPE TO ACHIEVE WITH THIS PROJECT?

We hope to restore a degraded wetland into a functional wetland with high quality habitat for pollinators and other wildlife, build a demonstration site for people visiting from the public, provide educational materials and signage about the value of native plants and healthy wetlands, and increase resiliency of the wetland.

This wetland restoration will serve as a model for continuing efforts in the parks focused on improving water quality.

HOW WILL THIS PROJECT BE USED TO EDUCATE THE PUBLIC ABOUT GOOD WATER RESOURCE STEWARDSHIP?

Teal Pond is part of public land at Tamarack Nature Center, which is already an educational center for the watershed and communities. Signage will be included at the existing viewing platform about the value of healthy wetlands and featured species incorporated into the planting design. VLAWMO will design the educational sign and review with partners.

Remote-camera monitoring was done by VLAWMO at Teal Pond in 2019. Post-restoration monitoring will be conducted by VLAWMO, and photos will be shared as part of educational intitiatives as has been done in the past.

PLEASE LIST OTHER PARTNERS WHO ARE PROVIDING FUNDING OR OTHER FORMS OF SUPPORT.

VLAWMO is providing support including design of planting area and planting supervision, volunteer coordination, coordination with Prairie Moon Nursery and Prairie Restorations, placement of a Picture Post, design and order placement for 2 educational signs (1 large sign for the restoration ($800) and 1 small sign ($60) for the Picture Post), post-restoration remote-camera monitoring, and will provide a corrections crew to assist with planting of shrubs and plants during spring 2021.

Tamarack Nature Center will help organize volunteers and promote the area through ongoing educational activities (including but not limited to dragonfly monitoring).

An existing State of MN CPL grant is providing match funds that will be used to chemically treat reed canary grass and follow-up with a burn and spot treatment.

PROJECT SPECIFICATIONS

In order to be considered for a LL2 grant, information regarding the water quality benefit of your project (amount of stormwater and phosphorus captured) must be included. If you are working with a professional designer/contractor and they are able to determine the pollutant capture, include that information with the application. If they are not able to provide the data, please fill in the information below so that VLAWMO staff can perform the calculations.

TOTAL PROPERTY AREA (SQ.FT): 310 acres

PROJECT SIZE (SQ.FT.): 3.37 acres

IMPERVIOUS AREA DRAINING TO PROJECT (SQ.FT.): _____

PERVIOUS AREA DRAINING TO PROJECT (SQ.FT.): _____

IF YOUR PROJECT IS A RAINGARDEN, PLEASE PROVIDE THE FOLLOWING INFORMATION

SOIL INFILTRATION RATE (INCHES/HR): _____

DEPTH OF RAINGARDEN (INCHES): _____

ADDITIONAL REQUIRED MATERIALS

PROJECT DRAWINGS, SPECIFICATIONS, TIMELINE, ANTICIPATED PLANT LIST AND A DETAILED BUDGET MUST BE SUBMITTED IN ADDITION TO PROVIDING THE ABOVE INFORMATION.

Vadnais Lake Area Water Management Organization
800 East County Rd E
Vadnais Heights, MN 55127
www.vlawmo.org
(651) 204-6070

LANDSCAPE LEVEL 2 GRANT APPLICATION FORM

Please submit form and required materials to: TYLER THOMPSON
tyler.thompson@vlawmo.org
(651) 204-6071

Please fill in the application as best as possible and use additional pages if necessary. Refer to the Grant Guidance document for further information or contact Tyler Thompson with any questions.

APPLICANT INFORMATION

ORGANIZTION NAME: Ramsey County Public Works and City of White Bear Lake

CONTACT PERSON: Molly Churchich and Connie Taillon

ADDRESS: 1425 Paul Kirkwold Drive CITY: Arden Hills ZIP: 55112

PHONE: 651-266-7159 EMAIL: Molly.Churchich@ramseycounty.us

PROJECT SUMMARY

ESTIMATED **TOTAL** COST OF YOUR PROJECT: $ 72,268.92 AMOUNT OF GRANT REQUESTED: $ 15,000.00

AMOUNT & SOURCE OF MATCHING FUNDS? (25% MATCH REQUIRED): $35,845.38 county match from CSAH funding, $39,314.29 city match. Cost split per agreement PW2002-17

WHEN DO YOU PLAN TO COMPLETE YOUR PROJECT? 2020

TYPE OF PROJECT THAT WILL BE COMPLETED:

Raingarden [x] Shoreline Restoration [ ] Native Plant Restoration [ ] Other [ ]

If other, please describe proposed project:

PROJECT BACKGROUND

DESCRIBE YOUR PROPERTY (INCLUDING WATER RESOURCES WHICH MAY BORDER THE PROPERTY), AND WHAT ISSUE YOU HOPE TO ADDRESS WITH THIS PROJECT.

Six rain gardens were installed as part of 2003 project at the following locations:
1850/1858 County Road F
1914/1936 County Road F
1939 County Road F
1942 County Road F
1969 County Road F
2215/2223 County Road F
These stormwater BMP practices were installed by the city and the county as a joint partnership to improve water quality of Goose Lake.

WHAT RESULTS DO YOU HOPE TO ACHIEVE WITH THIS PROJECT?

The original inlet design of the rain gardens does not function well and requires modifications. We hope to build a structure that is easier to maintain for better performance of the stormwater BMP. Our design includes three Rain Guardian Bunkers and three Rain Guardian Foxhole devices, which are proprietary devices of the Anoka Conservation District. In addition, the rain gardens will be re-planted with new vegetation by separate forces.

HOW WILL THIS PROJECT BE USED TO EDUCATE THE PUBLIC ABOUT GOOD WATER RESOURCE STEWARDSHIP?

The residents in the area have enjoyed the rain gardens for many years. We often get inquiries and comments about these features. Installing the Rain Guardian devices may be beneficial to other cities, who are contemplating installing them in their projects.

PLEASE LIST OTHER PARTNERS WHO ARE PROVIDING FUNDING OR OTHER FORMS OF SUPPORT.

The city of White Bear Lake and Ramsey County are joint partners to this project. Maintenance contribution is based on agreement PW2002-17 which states county has 49.6% and city has 50.4% cost-participation.

PROJECT SPECIFICATIONS

In order to be considered for a LL2 grant, information regarding the water quality benefit of your project (amount of stormwater and phosphorus captured) must be included. If you are working with a professional designer/contractor and they are able to determine the pollutant capture, include that information with the application. If they are not able to provide the data, please fill in the information below so that VLAWMO staff can perform the calculations.

TOTAL PROPERTY AREA (SQ.FT): 4,705 sf

PROJECT SIZE (SQ.FT.): 4,705 sf

IMPERVIOUS AREA DRAINING TO PROJECT (SQ.FT.): 38,289.24 sf

PERVIOUS AREA DRAINING TO PROJECT (SQ.FT.): 242,193.60 sf

IF YOUR PROJECT IS A RAINGARDEN, PLEASE PROVIDE THE FOLLOWING INFORMATION

SOIL INFILTRATION RATE (INCHES/HR): 0.6in/hr

DEPTH OF RAINGARDEN (INCHES): range from 2"- 15"

ADDITIONAL REQUIRED MATERIALS

PROJECT DRAWINGS, SPECIFICATIONS, TIMELINE, ANTICIPATED PLANT LIST AND A DETAILED BUDGET MUST BE SUBMITTED IN ADDITION TO PROVIDING THE ABOVE INFORMATION.

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(651) 204-6071

Please fill in the application as best as possible and use additional pages if necessary. Refer to the Grant Guidance document for further information or contact Tyler Thompson with any questions.

APPLICANT INFORMATION

ORGANIZATION NAME: Dawn and Don Peterson

CONTACT PERSON: Dawn or Don Peterson

ADDRESS: 10 Blue Goose Rd. CITY: North Oaks ZIP: 55127

PHONE: 651-431-1441 - Dawn
651-315-1278 Don EMAIL: peterson.dawn@comcast.net

PROJECT SUMMARY

ESTIMATED **TOTAL** COST OF YOUR PROJECT: $ 12,032 AMOUNT OF GRANT REQUESTED: $ $9,024

AMOUNT & SOURCE OF MATCHING FUNDS? (25% MATCH REQUIRED): $3008 – homeowner

WHEN DO YOU PLAN TO COMPLETE YOUR PROJECT? We have already had the hill mowed by a brush mower. would like to have Prairie restorations begin in the spring.

TYPE OF PROJECT THAT WILL BE COMPLETED:

Raingarden/ Infiltration Basin ☐ Shoreline Restoration ☐ Native Plant Restoration ☒ Other ☐

If other, please describe proposed project: See enclosed plan from Prairie Restorations.

PROJECT BACKGROUND

DESCRIBE YOUR PROPERTY (INCLUDING WATER RESOURCES WHICH MAY BORDER THE PROPERTY), AND WHAT ISSUE YOU HOPE TO ADDRESS WITH THIS PROJECT.

Our home sits on a large hill that drains into a wetland pond. This hill was full of buckthorn and other noxious weeds. This fall we paid to have it brush mowed except for our septic hill which currently has long yard grass. It is so steep my husband just quit mowing it.

WHAT RESULTS DO YOU HOPE TO ACHIEVE WITH THIS PROJECT?

We want this large hillside on our property to be restored to native plants. ~~We did it ourselves for a large~~ The amount of buckthorn needed to be eradicated was overwhelming to us. We tried to keep it at bay on another property & it was hard. Decided to get professional help with the property.

HOW WILL THIS PROJECT BE USED TO EDUCATE THE PUBLIC ABOUT GOOD WATER RESOURCE STEWARDSHIP?

We are open to neighbors touring our project & telling them about how it was done & about the project's benefits for the environment.

PLEASE LIST OTHER PARTNERS WHO ARE PROVIDING FUNDING OR OTHER FORMS OF SUPPORT.

Ø None We enjoyed watching the project on Dove Lane matures. We talked to these homeowners about their process and they told us about working with you.

I just read the Dec. North Oaks News & saw the article about your program.

PROJECT SPECIFICATIONS

see Prairie Restoration Proposal.

In order to be considered for a LL2 grant, information regarding the water quality benefit of your project (amount of stormwater and phosphorus captured) must be included. If you are working with a professional designer/contractor and they are able to determine the pollutant capture, include that information with the application. If they are not able to provide the data, please fill in the information below so that VLAWMO staff can perform the calculations.

TOTAL PROPERTY AREA (SQ.FT): _____

PROJECT SIZE (SQ.FT.): _____

IMPERVIOUS AREA DRAINING TO PROJECT (SQ.FT.): _____

PERVIOUS AREA DRAINING TO PROJECT (SQ.FT.): _____

IF YOUR PROJECT IS A RAINGARDEN, PLEASE PROVIDE THE FOLLOWING INFORMATION

SOIL INFILTRATION RATE (INCHES/HR): _____

DEPTH OF RAINGARDEN (INCHES): _____

ADDITIONAL REQUIRED MATERIALS

PROJECT DRAWINGS, SPECIFICATIONS, TIMELINE, ANTICIPATED PLANT LIST AND A DETAILED BUDGET MUST BE SUBMITTED IN ADDITION TO PROVIDING THE ABOVE INFORMATION.

VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E E, Vadnais Heights, MN 55127
www.vlawmo.org; Office@vlawmo.org

To: Board of Directors

From: Tyler Thompson

Date: February 21, 2020

Re: **V. D. 1. Birch Lake – 4th & Otter: Bid Selection & Authorize Signing of Contract**

After the second round of bidding, and bid opening took place, 10 bids for construction were received, double the amount received during the first round of bidding in August. The bid documents were updated in this second round to include making the construction schedule more flexible, contract modifications, and removing the decorative brick façade on the basin, in favor of colorized concrete, to decrease costs. It's estimated that prevailing wage likely adds 20% to labor costs, due to stipulation of the BWSR grant. The Engineer's Estimate of project cost was updated to $109,953.80 for construction.

Barr Engineering tabulated and analyzed the 10 bids, verifying each contractor signed the bid and submitted the required bid security, affidavit/oath, exhibit, and looked for discrepancies in bid line items. Attached is Barr's Technical memo for bid selection recommendation and attachments A (Bid Results Summary Table) & B (Engineer's Estimate and Bid Abstract). Compared to the first round of bidding, 4 of the 10 contractor bids this round came in lower than the lowest bid of the 1st round. Attachment B shows that Blackstone Contractors, LLC. is the lowest responsible bidder at $111,292.25. Second lowest is Minger Construction Co., Inc. at $113,057.16, but did not attach a Contractor Affidavit/Oath, and 3rd lowest was Lametti & Sons, Inc. at $126,781.20 will all necessary bid items. The rest of the bid results can be found on Attachment A. **Barr Engineering's recommendation is to select the lowest responsible bidder, Blackstone Construction LLC at $111,292.25, and enter into agreement to complete project construction of the Birch Lake Iron-Enhanced Sand Filter. VLAWMO staff is recommending the same action.** Work shall commence within 5 calendar days after date stated in notice to proceed, and shall be complete and ready for final payment not later than June 30, 2020.

Recommendation: staff recommends the Board authorization to notice bid award, enter into construction services agreement, and sign notice to proceed with construction with Blackstone Construction LLC as the lowest responsible bidder

resourceful. naturally.
engineering and environmental consultants

BARR

Technical Memorandum

To: Tyler Thompson, Vadnais Lake Area Water Management Organization (VLAWMO)
From: Greg Wilson, Barr Engineering Company (Barr)
Subject: Birch Lake 4th & Otter Wetland Iron-Enhanced Sand Filter (IESF) 2020 Bid Recommendation
Date: February 7, 2020
Project: 23621274.00

Project Background and Summary of 2020 Bids Received for Iron-Enhanced Sand Filter (IESF) Construction

Past stormwater grab sampling conducted during runoff events indicated that high levels of phosphorus were entering Birch Lake from the 4th & Otter wetland. An engineering assessment and feasibility study was completed based on information collected during a review of available data and preliminary site and water quantity/quality assessment. Based on the results of the engineering assessment, potential upland and wetland impacts, and cost per pound of phosphorous removed, iron enhanced sand filtration with a wetland outlet retrofit was recommended as the most feasible and cost-effective BMP that aligned with the project goals. VLAWMO successfully obtained Clean Water Funding (CWF) from BWSR to implement the recommended project.

Collection of more data and additional site-specific information that became available in the first stage of design resulted in modifications to the proposed configuration, cost, and function of the iron enhanced sand filtration system designed for the 4th & Otter wetland site. Project design and development of construction plans and Contract Documents were completed and advertised for bids on August 14, 2019. The bid opening was conducted at the VLAWMO office on Wednesday August 27, 2019 at 10 a.m. Since the low bidder was $138,851.87, all of the bids were rejected as they greatly exceeded the construction budget for the project.

Following discussions with contractors that had bid on the project, Barr identified a few design and contractual modifications that could be made to value engineer the project and bring the costs down. It was also determined that the prevailing wages requirements attached to the BWSR grant likely adds 20% to the labor costs, compared to the corresponding unit costs on projects without similar requirements. Project design and development of construction plans and Contract Documents were updated and advertised for bids on January 6, 2020. The bid opening was conducted at the VLAWMO office on Thursday January 30, 2020 at 10 a.m. This memorandum is intended to provide an analysis of the second round of bids received to construct the iron-enhanced sand filtration system at the 4th & Otter wetland location.

Attachment A provides a summary of the bid results from the bid opening, including verification that each contractor signed the bid and submitted the necessary bid security, affidavit/oath and exhibit. The Contract Documents call for us to resolve discrepancies in the multiplication of units of Work and unit prices (if used) in favor of the unit prices. The highlighted cells in Attachment A show that there were discrepancies for two of the contract bids.

The updated Engineer's estimate is reported in Attachment B, along with a detailed tabulation of the bid items received from the ten contractors that responded to the advertisement for bids (out of 18 prime contractor planholders). Yellow highlighting in Attachment B also shows where necessary discrepancies were resolved in favor of the unit prices for two of the contractor bids. As a result, Attachment B shows that Blackstone Contractors, LLC. is the low bidder at $111,292.25. Comparing Attachment B to the last round of bidding shows that four of the ten contractor base bids are lower than the lowest bid received during the previous round of bidding.

Recommendation

It is recommended that VLAWMO select the lowest responsible bid of $111,292.25, from Blackstone Contractors LLC, and enter into an agreement to complete project construction.

Attachment A

Bid Results Summary Table

Bid Results Summary Table

Vadnais Lake Area Water Management Organization
Birch Lake Iron Enhanced Sand Filter (IESF)
Bid Opening: Thursday, January 30, 2020 at 10:00 a.m. CDT

Contractor Name	Bid Signed	5% Bid Bond	Addendum No. 1 Acknowledged	Successful Bidder Contractor Affidavit/Oath	Subcontractor Verification - Exhibit A	Base Bid Amount	Order
Blackstone Contractors LLC	Yes	Yes	Yes	Yes	Yes - none	$111,292.25	1
Minger Construction Co., Inc.	Yes	Yes	Yes	No	Yes	$113,057.16	2
Lametti & Sons, Inc.	Yes	Yes	Yes	Yes	Yes	$126,781.20	3
G.F. Jedlicki, Inc.	Yes	Yes	Yes	Yes	Yes	$128,452.80	4
Meyer Contracting, Inc.	Yes	Yes	Yes	No	No	$140,845.50	5
Peterson Companies, Inc.	Yes	Yes	Yes	Yes	Yes	$148,428.00	6
Urban Companies	Yes	Yes	Yes	Yes	Yes - none	$173,041.00	7
Veit & Company	Yes	Yes	Yes	No	No	$184,120.67	8
Vinco, Inc.	Yes	Yes	Yes	No	No	$188,732.00	9
Rosti Construction	Yes	Yes	Yes	Yes	Yes - none	$257,633.48	10
					yellow denotes discrepancy		

Attachment B

Engineer's Estimate and Bid Abstract

Birch Lake Iron Enhanced Sand Filter (IESF)
Vadnais Lake Area Water Management Organization
Bid Opening: Thursday, January 30, 2020 at 10:00 a.m. CDT

				Engineer's Estimate			Blackstone Contractors LLC		Minger Construction Co., Inc.		Lametti & Sons, Inc.		G.F. Jedlicki, Inc.		Meyer Contracting, Inc.	
Item	Description	Unit	Estimated Quantity	Unit Price	Extension	Average Unit Prices	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension
1.04.A	Mobilization/Demobilization	L.S.	1	10,000.00	10,000.00	20,404.10	9,500.00	9,500.00	6,000.00	6,000.00	5,000.00	5,000.00	2,500.00	2,500.00	7,000.00	7,000.00
1.04.B	Control of Water	L.S.	1	5,500.00	5,500.00	12,699.20	2,500.00	2,500.00	3,750.00	3,750.00	14,000.00	14,000.00	3,450.00	3,450.00	6,610.00	6,610.00
1.04.C	Traffic Control	L.S.	1	2,500.00	2,500.00	4,380.80	5,500.00	5,500.00	5,000.00	5,000.00	2,500.00	2,500.00	2,700.00	2,700.00	4,500.00	4,500.00
1.04.D	Construction Entrance (Wood Chip)	EACH	1	2,500.00	2,500.00	3,279.20	2,000.00	2,000.00	1,900.00	1,900.00	8,000.00	8,000.00	3,000.00	3,000.00	2,842.00	2,842.00
1.04.E	Clear and Grub; Removal of Trees, Brush, and Debris (Disposal Off Site)	L.S.	1	10,000.00	10,000.00	15,091.20	15,000.00	15,000.00	11,000.00	11,000.00	13,000.00	13,000.00	11,500.00	11,500.00	9,000.00	9,000.00
1.04.F	Silt Fence	L.F.	416	4.00	1,664.00	3.98	6.00	2,496.00	3.25	1,352.00	5.00	2,080.00	4.00	1,664.00	2.50	1,040.00
1.04.G	Sediment Log (9-Inch Diameter)	L.F.	50	5.50	275.00	5.80	6.00	300.00	3.25	162.50	6.00	300.00	6.00	300.00	4.00	200.00
1.04.H	Inlet Protection	EACH	2	350.00	700.00	214.00	200.00	400.00	165.00	330.00	300.00	600.00	215.00	430.00	125.00	250.00
1.04.I	Erosion Control Blanket	S.Y.	304	3.50	1,064.00	3.91	4.00	1,216.00	3.25	988.00	8.00	2,432.00	4.55	1,383.20	2.00	608.00
1.04.J	Access Mud Mats Through Wetland	L.S.	1	2,300.00	2,300.00	8,088.00	5,000.00	5,000.00	2,900.00	2,900.00	4,500.00	4,500.00	11,400.00	11,400.00	12,305.00	12,305.00
1.04.K	Salvage and Replace Existing Top Soil (P)	C.Y.	25	35.00	875.00	101.68	90.00	2,250.00	215.00	5,375.00	250.00	6,250.00	18.00	450.00	99.00	2,475.00
1.04.L	Common Excavation (P)	C.Y.	60	30.00	1,800.00	53.37	45.00	2,700.00	28.00	1,680.00	50.00	3,000.00	44.00	2,640.00	47.25	2,835.00
1.04.M	Construct Control Berm Embankment (P)	C.Y.	25	50.00	1,250.00	75.39	125.00	3,125.00	78.00	1,950.00	80.00	2,000.00	12.00	300.00	86.50	2,162.50
1.04.N	Reinforced Concrete Wall	L.S.	1	20,000.00	20,000.00	26,554.10	12,500.00	12,500.00	17,500.00	17,500.00	20,000.00	20,000.00	31,020.00	31,020.00	23,021.00	23,021.00
1.04.O	Stop Logs and Rails	L.S.	1	4,000.00	4,000.00	4,640.10	4,000.00	4,000.00	2,600.00	2,600.00	2,000.00	2,000.00	4,500.00	4,500.00	2,815.00	2,815.00
1.04.P	Disposal of Excess Excavated Materials	C.Y.	35	65.00	2,275.00	54.86	55.00	1,925.00	35.00	1,225.00	30.00	1,050.00	65.00	2,275.00	76.00	2,660.00
1.04.Q	Geotextile Fabric Sand Filter Liner, Mn/DOT Type V	S.Y.	150	4.50	675.00	5.35	5.00	750.00	1.75	262.50	13.00	1,950.00	5.00	750.00	2.80	420.00
1.04.R	Iron Aggregate (Filings)	TON	3.5	1,040.00	3,640.00	1,264.50	1,500.00	5,250.00	1.00	3.50	2,000.00	7,000.00	600.00	2,100.00	1,370.00	4,795.00
1.04.S	Clean Washed Filter Sand	TON	70	80.00	5,600.00	106.28	65.00	4,550.00	236.00	16,520.00	80.00	5,600.00	185.00	12,950.00	194.00	13,580.00
1.04.T	Connect to Existing 30” RCP, Core Drill and Install Inserta-Tee Water Tight Fitting for 10” CPEP	EACH	1	2,750.00	2,750.00	3,763.20	3,500.00	3,500.00	3,800.00	3,800.00	1,500.00	1,500.00	3,650.00	3,650.00	4,064.00	4,064.00
1.04.U	10” Dual Wall CPEP-WT with 45 Degree Bend	L.F.	60	70.00	4,200.00	68.38	30.00	1,800.00	69.00	4,140.00	35.00	2,100.00	58.00	3,480.00	68.00	4,080.00
1.04.V	8” Slotted PVC Underdrain Pipe	L.F.	38	60.00	2,280.00	64.08	55.00	2,090.00	40.50	1,539.00	45.00	1,710.00	47.00	1,786.00	88.75	3,372.50
1.04.W	10” Backflow Preventer	EACH	1	5,000.00	5,000.00	5,318.10	4,000.00	4,000.00	4,600.00	4,600.00	5,000.00	5,000.00	5,330.00	5,330.00	6,731.00	6,731.00
1.04.X	30” PVC Nyloplast™ Control Structure with Locking Dome Grate	EACH	1	3,500.00	3,500.00	3,671.90	4,500.00	4,500.00	2,810.00	2,810.00	2,600.00	2,600.00	3,350.00	3,350.00	4,054.00	4,054.00
1.04.Y	12” PVC Nyloplast™ Cleanout Structure with Locking Dome Grate	EACH	1	1,500.00	1,500.00	1,853.80	2,000.00	2,000.00	1,115.00	1,115.00	1,200.00	1,200.00	2,800.00	2,800.00	1,257.00	1,257.00
1.04 Z	Remove and Dispose of Existing Rip Rap	C.Y.	20	65.00	1,300.00	61.39	75.00	1,500.00	45.00	900.00	60.00	1,200.00	38.00	760.00	118.50	2,370.00
1.04.AA	Rip Rap Mn/DOT Class III and Filter Materials	TON	15	125.00	1,875.00	128.75	145.00	2,175.00	105.00	1,575.00	100.00	1,500.00	150.00	2,250.00	166.50	2,497.50
1.04.AA	Rip Rap Mn/DOT Class II and Filter Fabric	TON	18	125.00	2,250.00	125.50	145.00	2,610.00	97.00	1,746.00	100.00	1,800.00	150.00	2,700.00	168.00	3,024.00
1.04.AB	Gravel Surface Driveway	S.Y.	122	25.00	3,050.00	26.38	20.00	2,440.00	45.00	5,490.00	32.00	3,904.00	17.50	2,135.00	18.75	2,287.50
1.04.AC	Seed Area	S.Y.	405	3.50	1,417.50	3.70	3.65	1,478.25	1.10	445.50	2.00	810.00	2.00	810.00	3.00	1,215.00
1.04.AD	Wet Prairie, BWSR Seed Mix 34-262	LBS.	1.12	90.00	100.80	152.90	100.00	112.00	168.00	188.16	85.00	95.20	80.00	89.60	100.00	112.00
1.04.AE	Mesic Prairie Southeast, BWSR Seed Mix 35-641	LBS.	1.25	90.00	112.50	139.10	100.00	125.00	168.00	210.00	80.00	100.00	80.00	100.00	50.00	62.50
1.04.AF	Site Restoration and Clean-up	L.S.	1	4,000.00	4,000.00	4,604.10	2,000.00	2,000.00	4,000.00	4,000.00	2,000.00	2,000.00	3,900.00	3,900.00	6,600.00	6,600.00
			TOTAL BASE BID		**109,953.80**			**111,292.25**		**113,057.16**		**126,781.20**		**128,452.80**		**140,845.50**

Bid Form reads:
Actual:
Difference:

Birch Lake Iron Enhanced Sand Filter (IESF)
Vadnais Lake Area Water Management Organization
Bid Opening: Thursday, January 30, 2020 at 10:00 a.m. CDT

				Peterson Companies, Inc.		Urban Companies		Veit & Company		Vinco, Inc.		Rosti Construction	
Item	Description	Unit	Estimated Quantity	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension
1.04.A	Mobilization/Demobilization	L.S.	1	7,791.00	7,791.00	33,000.00	33,000.00	49,250.00	49,250.00	9,000.00	9,000.00	75,000.00	75,000.00
1.04.B	Control of Water	L.S.	1	3,682.00	3,682.00	2,000.00	2,000.00	16,000.00	16,000.00	20,000.00	20,000.00	55,000.00	55,000.00
1.04.C	Traffic Control	L.S.	1	7,108.00	7,108.00	2,000.00	2,000.00	5,000.00	5,000.00	6,000.00	6,000.00	3,500.00	3,500.00
1.04.D	Construction Entrance (Wood Chip)	EACH	1	1,650.00	1,650.00	2,500.00	2,500.00	3,600.00	3,600.00	5,300.00	5,300.00	2,000.00	2,000.00
1.04.E	Clear and Grub; Removal of Trees, Brush, and Debris (Disposal Off Site)	L.S.	1	11,812.00	11,812.00	20,000.00	20,000.00	14,600.00	14,600.00	40,000.00	40,000.00	5,000.00	5,000.00
1.04.F	Silt Fence	L.F.	416	5.50	2,288.00	7.00	2,912.00	1.50	624.00	2.00	832.00	3.00	1,248.00
1.04.G	Sediment Log (9-Inch Diameter)	L.F.	50	7.74	387.00	10.00	500.00	6.00	300.00	5.00	250.00	4.00	200.00
1.04.H	Inlet Protection	EACH	2	165.00	330.00	400.00	800.00	170.00	340.00	150.00	300.00	250.00	500.00
1.04.I	Erosion Control Blanket	S.Y.	304	5.00	1,520.00	5.00	1,520.00	2.25	684.00	2.00	608.00	3.00	912.00
1.04.J	Access Mud Mats Through Wetland	L.S.	1	2,775.00	2,775.00	2,500.00	2,500.00	9,500.00	9,500.00	15,000.00	15,000.00	15,000.00	15,000.00
1.04.K	Salvage and Replace Existing Top Soil (P)	C.Y.	25	84.80	2,120.00	60.00	1,500.00	150.00	3,750.00	15.00	375.00	35.00	875.00
1.04.L	Common Excavation (P)	C.Y.	60	86.40	5,184.00	100.00	6,000.00	23.00	1,380.00	15.00	900.00	95.00	5,700.00
1.04.M	Construct Control Berm Embankment (P)	C.Y.	25	42.40	1,060.00	65.00	1,625.00	190.00	4,750.00	20.00	500.00	55.00	1,375.00
1.04.N	Reinforced Concrete Wall	L.S.	1	54,900.00	54,900.00	35,000.00	35,000.00	16,600.00	16,600.00	30,000.00	30,000.00	25,000.00	25,000.00
1.04.O	Stop Logs and Rails	L.S.	1	1,386.00	1,386.00	7,000.00	7,000.00	6,100.00	6,100.00	1,000.00	1,000.00	15,000.00	15,000.00
1.04.P	Disposal of Excess Excavated Materials	C.Y.	35	59.60	2,086.00	60.00	2,100.00	28.00	980.00	15.00	525.00	125.00	4,375.00
1.04.Q	Geotextile Fabric Sand Filter Liner, Mn/DOT Type V	S.Y.	150	3.90	585.00	10.00	1,500.00	5.00	750.00	2.00	300.00	5.00	750.00
1.04.R	Iron Aggregate (Filings)	TON	3.5	2,524.00	8,834.00	1,600.00	5,600.00	1,050.00	3,675.00	1,500.00	5,250.00	500.00	1,750.00
1.04.S	Clean Washed Filter Sand	TON	70	65.80	4,606.00	45.00	3,150.00	67.00	4,690.00	70.00	4,900.00	55.00	3,850.00
1.04.T	Connect to Existing 30” RCP, Core Drill and Install Inserta-Tee Water Tight Fitting for 10” CPEP	EACH	1	1,818.00	1,818.00	4,000.00	4,000.00	5,800.00	5,800.00	2,000.00	2,000.00	7,500.00	7,500.00
1.04.U	10” Dual Wall CPEP-WT with 45 Degree Bend	L.F.	60	25.75	1,545.00	60.00	3,600.00	93.00	5,580.00	150.00	9,000.00	95.00	5,700.00
1.04.V	8” Slotted PVC Underdrain Pipe	L.F.	38	42.50	1,615.00	100.00	3,800.00	62.00	2,356.00	115.00	4,370.00	45.00	1,710.00
1.04.W	10” Backflow Preventer	EACH	1	4,700.00	4,700.00	7,500.00	7,500.00	8,820.00	8,820.00	4,000.00	4,000.00	2,500.00	2,500.00
1.04.X	30” PVC Nyloplast™ Control Structure with Locking Dome Grate	EACH	1	3,365.00	3,365.00	6,000.00	6,000.00	4,540.00	4,540.00	3,000.00	3,000.00	2,500.00	2,500.00
1.04.Y	12” PVC Nyloplast™ Cleanout Structure with Locking Dome Grate	EACH	1	1,466.00	1,466.00	2,500.00	2,500.00	2,200.00	2,200.00	1,500.00	1,500.00	2,500.00	2,500.00
1.04 Z	Remove and Dispose of Existing Rip Rap	C.Y.	20	72.40	1,448.00	60.00	1,200.00	75.00	1,500.00	15.00	300.00	55.00	1,100.00
1.04.AA	Rip Rap Mn/DOT Class III and Filter Materials	TON	15	88.00	1,320.00	150.00	2,250.00	123.00	1,845.00	110.00	1,650.00	150.00	2,250.00
1.04.AA	Rip Rap Mn/DOT Class II and Filter Fabric	TON	18	71.00	1,278.00	150.00	2,700.00	114.00	2,052.00	110.00	1,980.00	150.00	2,700.00
1.04.AB	Gravel Surface Driveway	S.Y.	122	23.50	2,867.00	17.00	2,074.00	25.00	3,050.00	20.00	2,440.00	45.00	5,490.00
1.04.AC	Seed Area	S.Y.	405	10.00	4,050.00	5.00	2,025.00	2.25	911.25	3.00	1,215.00	5.00	2,025.00
1.04.AD	Wet Prairie, BWSR Seed Mix 34-262	LBS.	1.12	175.00	196.00	500.00	560.00	166.00	185.92	100.00	112.00	55.00	61.60
1.04.AE	Mesic Prairie Southeast, BWSR Seed Mix 35-641	LBS.	1.25	92.00	115.00	500.00	625.00	166.00	207.50	100.00	125.00	55.00	68.75
1.04.AF	Site Restoration and Clean-up	L.S.	1	2,541.00	2,541.00	3,000.00	3,000.00	2,500.00	2,500.00	15,000.00	15,000.00	4,500.00	4,500.00
			TOTAL BASE BID		**148,428.00**		**173,041.00**		**184,120.67**		**187,732.00**		**257,640.35**

Bid Form reads:	188,732.00	257,633.48
Actual:	187,732.00	257,640.35
Difference:	1,000.00	-6.87

NOTICE OF AWARD

BIRCH LAKE IESF WHITE BEAR LAKE, MINNESOTA

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION
VADNAIS HEIGHTS, MINNESOTA

Dated: _____

OWNER: Vadnais Lake Area Water Management Organization

TO CONTRACTOR: _____

_____

_____

CONTRACT FOR: Birch Lake IESF White Bear Lake, Minnesota

Owner has requested that we notify you that your Bid dated _____ has been accepted as the successful Bidder and _____, has been awarded the contract to perform the Work. The Contract Price is stated in the Agreement.

_____ must comply with the following conditions precedent within fifteen (15) days of the date of this Notice of Award, that is by _____.

1. Return to Owner three fully executed counterparts of the Agreement (attached).
2. Performance and Payment Bond
3. Certificate of Insurance and endorsement(s)

Failure to comply with these conditions within the time specified will entitle Owner to consider your bid in default, to annul this Notice of Award and to declare your Bid Security forfeited.

OWNER: Vadnais Lake Area Water Management Organization

By: _____

(AUTHORIZED SIGNATURE)

ACKNOWLEDGEMENT OF NOTICE

_____

CONTRACTOR

By: _____

(AUTHORIZED SIGNATURE)

_____

(TITLE)

_____

(DATE)

END OF DOCUMENT 00 51 00

CONSTRUCTION SERVICES AGREEMENT

THIS CONSTRUCTION SERVICES AGREEMENT ("**Agreement**") is made by and between the Vadnais Lake Area Water Management Organization ("**VLAWMO**"), a Minnesota joint powers organization, and the following contractor ("**Contractor**"):

Contractor Name/ Organization:	Federal EIN:
Mailing Address:	Telephone Number:
Contact Person:	Email:

The following person is designated the Engineer of this Agreement for the VLAWMO ("**Engineer**"). The Project has been designed by Engineer (defined in the Supplementary Conditions) and Engineer is to act as Owner's representative, assume all duties and responsibilities and have the limited rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents. The duties and responsibilities and rights and authority of Engineer cannot be extended without written consent of Owner and Engineer.

Name:	Email:
Mailing Address:	Telephone Number:

The following person is designated the Owner's Project Manager of this Agreement for the VLAWMO (" **Owner**"):

Name:	Email:
Mailing Address:	Telephone Number:

The VLAWMO, the Engineer and the Contractor may hereinafter be referred to individually as a "party" or collectively as the "parties."

RECITALS

A. The VLAWMO is in need of certain constructions services, as further described herein, (collectively, the "**Work**");

B. Because the total estimate cost of the Work is less than $175,000, sealed bids are not required by law and this Agreement was not let using sealed bids;

C. The VLAWMO has selected the Contractor to work with the Engineer to perform the Work and the Contractor desires to perform that Work in accordance with the terms and conditions of this Agreement.

AGREEMENT

In consideration of the mutual promises contained herein, and intending to be legally bound, the VLAWMO and Contractor hereby mutually agree as follows:

SECTION I
WORK

1.1 Work. Contractor shall complete all Work as specified or indicated in the Contract Documents for Birch Lake IESF White Bear Lake, Minnesota. The Contractor agrees to provide the VLAWMO the Work specified in the Contractor's proposal attached as Attachment A. The Work is generally described in Division 1 (General Requirements) of the Technical Specifications. The Work to be provided under the Contract Documents may be the whole or only a part of the total construction for the Project attached as Attachment B. To the extent there are any material inconsistencies in the requirements of the text of this document or of any of the exhibits, they shall be resolved in the following order of priority: Attachment B, the text of this document, and then Attachment A. The Work to be provided includes all of those described in Attachment A and Attachment B. The Contractor shall be responsible for complying with the specifications and description of the Work and any special provisions attached as Attachment B. If the Contractor believes there are any inconsistencies with the information attached as Attachment A and the specifications or information attached as Attachment B, the Contractor shall seek clarification and a determination from the VLAWMO before proceeding with the any aspect of the Work affected by the inconsistency. The Contractor shall perform all Work required by this Agreement in a good workmanlike manner, consistent with industry standards for Work of a similar type.

1.2 Personnel, Equipment, and Signage. The Contractor shall be responsible for providing appropriate equipment and properly trained, experienced and licensed equipment operators as may be necessary to complete the Work. The Contractor shall be responsible for any damage to or loss of its equipment caused by its performance of this Agreement. The Contractor shall also be responsible for placing and maintaining such traffic control devices as may be required to warn the travelling public of the work being performed. The selection and placement of traffic control devices if required to provide the Work shall be consistent with the standards established in the Minnesota Manual on Uniform Traffic Control Devices.

1.4 Materials. The Contractor shall supply, at its own cost, all materials required to complete the Services.

1.5 Contract Times..

1.51 *Time is of the Essence*. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

1.52 Dates of Substantial Completion and Final Payment. The number of calendar days within which, or the dates by which, the Work is to be substantially completed and also completed and ready for final payment (the Contract Times) are set forth in the Instructions to Bidders With NO EXECEPTIONS. The Contractor shall finish all work to complete the Services no later than _____

1.53 Liquidated Damages. Owner and Contractor recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not completed within the times referred to or specified in paragraph 1.5.2. above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. Owner reserves the right to assess Contractor and Contractor agrees to pay liquidated damages as provided in the Instructions to Bidders.

1.6 Notice, Inspection, and Acceptance. The VLAWMO, through the Engineer and its appointed representative, shall be allowed access to all parts of the project site at all times and shall be furnished such information and assistance from the Contractor as may be required to make a complete and detailed inspection of the Work. The Contractor shall provide the Engineer and VLAWMO notice of it having completed the Work. The Engineer shall provide for the inspection of the project site and, upon determining the Work has been completed in accordance with the terms of this Agreement, the Engineer shall notify the VLAWMO representative and the Contractor that the work is accepted. The VLAWMO, or its representative, shall provide the Contractor a written notice of acceptance and the date on which it accepted the completed Services. If the Engineer or the VLAWMO representative reasonably determines that any portion of the work was not completed in accordance with this Agreement, it shall notify the Contractor of the additional or corrective work needing to be done in order to satisfactorily complete the Work. The Contractor shall be responsible for promptly completing the additional or corrective work at its own cost. Once the additional or corrective work is complete, the Contractor will request another inspection and, if properly completed, issuance of a written notice of acceptance.

1.7 Document Ownership. Any reports, studies, photographs, negatives, or other documents or deliverables prepared by the Contractor in the performance of its obligations under this Agreement shall be the exclusive property of the VLAWMO, and all such documents shall be remitted to the VLAWMO by the Contractor upon completion, termination, or cancellation of this Agreement.

1.8 Independent Contractor. The Contractor acknowledges and agrees that it is an independent contractor of the VLAWMO and that nothing contained herein shall be construed to

create the relationship of employer-employee or joint venture between the VLAWMO and the Contractor. The Contractor acknowledges that any general instructions it may receive from the VLAWMO will have no effect on its status as an independent contractor. The standards of performance, discipline of employees, method of providing the work, and other matters incident to the performance of the obligations under this Agreement, including personnel to be employed, shall be determined by the Contractor. Contractor shall provide competent, suitably qualified personnel to perform the work as required by this Agreement. Contractor shall at all times maintain good discipline and order of its employees, contractors, and agents performing work under this Agreement. The Contractor acknowledges and agrees that it is not entitled to receive any of the benefits received by the VLAWMO employees and is not eligible for workers' or unemployment compensation benefits under the VLAWMO. The Contractor also acknowledges and agrees that no withholding or deduction for State or Federal income taxes, FICA, FUTA or otherwise will be made from the payments due Contractor and that it is the Contractor's sole obligation to comply with the applicable provisions of all federal and state laws.

1.9 Suspension of Work. Upon written notification from the VLAWMO, the Contractor shall suspend Work under this Agreement as directed in the notice. Failure to comply with this section shall bar the Contractor from making any claim for compensation for Service done after it has received written notification to suspend such Services. To the extent practicable, the term of the Agreement may be extended by the VLAWMO in an effort to replace any time when Work was suspended.

SECTION II
COST AND PAYMENT

2.1 Total Cost. The VLAWMO agrees to pay the Contractor for completion of the Work, all as Unit Price Work, in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to paragraph 2.1.A and 2.01.C below. The initial or estimated Contract Price as determined by the sum of the established unit price for each item of Work times the estimated quantity of that item as set forth in the Bid Form. This amount of $_____ (Total Payment) is all-inclusive and covers all work and materials to complete the Work, including, but not limited to, all transportation, set-up, material delivery, salaries, wages, and other personnel costs of Contractor, sales and other taxes, equipment and tool costs, fuel costs and any and all other costs and expenses of the Work. Unless expressly stated otherwise in the attached Attachment B, no change to the Total Payment amount shall occur except upon written amendment to this Agreement signed by both parties and specifying the amount of the additional payment.

2.2 Payments.

2.21 *Submittal and Processing of Payments*. The Contractor shall provide the VLAWMO the Engineer in accordance with Article 14 of the General Conditions as may be modified by Supplemental Conditions, detailed invoices for the Services completed no more often than once a month. Upon approval by the Engineer, the VLAWMO shall pay the Contractor the amount of the invoice within 30 calendar days. In the event any disagreement occurs about any amounts invoiced,

the VLAWMO may withhold payment regarding such disputed Services if the VLAWMO provides the Contractor a written notice of the basis for the dispute and the amount being withheld. The parties agree to work in good faith to resolve the dispute.

2.22. *Retainage*. Retainage on account of progress payments will be as provided for in the Instructions to Bidders.

2.23. *Final Payment*. Final payment on this Agreement shall be prepared and paid in accordance with paragraph 14.07 of the General Conditions and its receipt from the Contractor of a signed IC-134 form from the Minnesota Department of Revenue within 30 days of the VLAWMO's acceptance of the Work.

2.3 Prevailing Wage. To the extent the "Prevailing Wage Act" is mandated to this Agreement under Minn. Stat. § 177.41, et. seq., the Contractor shall compensate employees at the prevailing wage rate for similarly situated employees. The Contractor shall also compensate Jobs Training Program participants at the federal, state, or local minimum wage or the prevailing wage rate of similarly situated employees, whichever is highest.

2.4 Interest. All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at a maximum rate equal to the sum of the prevailing "Prime Rate" in the geographical area of the Project plus 2 percent (2%).

SECTION III
CONTRACTOR'S REPRESENTATIONS

3.1 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

3.11 Contractor has examined and carefully studied the Contract Documents including all Addenda and the other related data identified in the Bidding Documents including "technical data."

3.12 Contractor has visited the sites and become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, performance or furnishing of the Work.

3.13. Contractor is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work.

3.14. Contractor makes all representations, previously made as Bidder, upon signing and submitting the Bid Form as though fully repeated herein.

3.15. Contractor is aware of the general nature of the work to be performed by Owner and others at the site that relates to the Work as indicated in the Contract Documents.

3.16.Contractor has correlated the information known to Contractor, information and observations obtained from visits to the site, reports, and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

3.17 Contractor has given Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Contractor has discovered in the Contract Documents and the written resolution thereof by Engineer is acceptable to Contractor, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.

SECTION IV
TERM AND WARRANTY

4.1 Term. This Agreement shall commence as of the date first written above and shall terminate at the later of the conclusion of the warranty period or the completion of all warranty work.

4.2 Warranty. The Contractor agrees to warrant all work and materials provided as part of the Services against defects in labor and materials for a period of one year from the date of the written notice of acceptance of the Services by the VLAWMO. During such period, the Contractor agrees to repair or replace any aspect of the work or materials which show signs of failure, normal wear and tear excepted. The VLAWMO, in the exercise of its reasonable judgment, shall make a decision regarding whether any portion of the Services show signs of failure. If the Contractor fails to repair or replace any defective aspect of the Services during the warranty period, the VLAWMO may file a claim against any security received to have necessary repairs or replacements completed or, the VLAWMO may perform the work and the Contractor shall be responsible for reimbursing the VLAWMO for all of its costs to complete the work, including all costs incurred to seek performance of the work and all collection costs. Such reimbursement shall be made within 30 days of the date upon which the VLAWMO notifies the Contractor of the cost due under this paragraph.

SECTION V
DEFAULT

5.1 Inability to Perform. The Contractor shall make every reasonable effort to maintain staff, facilities, and equipment to deliver the Work required by this Agreement. The Contractor shall immediately notify the VLAWMO in writing whenever it is unable to, or reasonably believes it is going to be unable to complete any aspect of the Work in accordance with this Agreement. Upon such notification, the VLAWMO shall determine whether such inability requires a modification or cancellation of this Agreement.

5.2 Failure to Perform. The VLAWMO may, by written notice to the Contractor, immediately terminate this Agreement if it determines any of the following have occurred: failure to adequately perform or deliver the required materials or work; failure to follow the

specifications or standards established by this Agreement; failure to perform or complete the work in a timely fashion as established by the VLAWMO; failure to provide the required bonds or insurances; or failure to correct deficiencies within ten (10) days' notice thereof. If the VLAWMO terminates this Agreement for the Contractor's failure to perform, it shall provide the Contractor written notice that includes the reasons for the Termination. Upon such termination, the VLAWMO shall only be required to pay for the portion of the materials and work that were in accordance with this Agreement, but may offset that amount by the costs the VLAWMO will incur to correct any defective materials or work.

5.3 Default by Contractor. Unless excused by the VLAWMO's default, the occurrence of an uncontrollable circumstance, or the VLAWMO issuing a written waiver of default, each of the following shall constitute default on the part of the Contractor:

(a) The written admission by the Contractor that it is bankrupt; or filing by the Contractor of a voluntary petition under the Federal Bankruptcy Act; or the filing of an involuntary petition under the Federal Bankruptcy Act against the Contractor unless dismissed within ninety (90) days. The Notice of Default and cure provision of this Agreement do not apply to this paragraph;

(b) The making of any arrangement with or for the benefit of the Contractor's creditors involving an assignment to a trustee, receiver or similar fiduciary. The Notice of Default and cure provisions of this Agreement do not apply to this paragraph;

(c) Making material misrepresentations in the information it presents to the VLAWMO and which the VLAWMO relied upon in making or modifying this Agreement;

(d) Failure to comply with any laws, ordinances, rules, regulations or orders of any public authority having jurisdiction related to the Services;

(e) Failure to make satisfactory progress towards completion of this Agreement; or

(f) Failure to perform or comply with any material provision of this Agreement.

5.4 Default by the VLAWMO. Unless excused by the Contractor's default, the occurrence of uncontrollable circumstances, or the Contractor waiver of default, each of the following shall constitute a default on the part of the VLAWMO:

(a) The persistent or repeated failure or refusal by the VLAWMO to pay or prevent payment of any uncontested amount to the Contractor timely and properly submitted as required by this Agreement;

(b) Making material misrepresentations either in the attached exhibits and documents or in any other provisions or conditions relied upon by the Contractor in making this Agreement; or

(c) Persistent or repeated failure to perform any other material provision of this Agreement.

5.5 Written Notice of Default. Unless otherwise provided, no event shall constitute a default giving rise to the right to terminate unless and until written Notice of Default is given to the defaulting party, specifying the particular event, series of events, or failure constituting the default and the cure period.

5.6 Cure Period. If the party in default fails to cure the specified circumstances as described by the Notice of Default within ten (10) days or such other time as may be specified under the terms of this Agreement, then the non-defaulting party may terminate this Agreement by written notice as stated in this Agreement.

5 .7 Withholding of Payment. Notwithstanding any other provision of this Agreement, the VLAWMO may, after giving Notice of Default, withhold, without penalty or interest, any payment which becomes due after Notice of Default is given, until the default is excused, waived in writing, cured, or the Agreement is terminated.

5.8 Enforcement Actions. In the event the Contractor fails to perform the services in compliance with all applicable local, state, and federal laws, permits, rules, and regulations, the Contractor shall reimburse the VLAWMO for any civil or criminal penalties or costs of defense it incurs due to such violations.

5.9 Preservation of Other Remedies. The rights and remedies of the VLAWMO provided in this Section are not exclusive and are in addition to any other rights and remedies provided by law or under this Agreement.

SECTION VI
LIABILITY AND INDEMNIFICATION

6.1 Indemnification. Any and all claims that arise or may arise against the Contractor, its officers, agents, employees or contractors as a consequence of any act or omission on the part of the Contractor or its officers, agents, employees or contractors while engaged in the performance of the Agreement shall in no way be the obligation or responsibility of the VLAWMO. The Contractor shall indemnify, hold harmless, and defend the VLAWMO, its officials, agents, and employees against any and all liabilities, losses, costs, damages, expenses, claims or actions, including attorneys' fees, which the VLAWMO, its officials, agents, contractors or employees may hereafter sustain, incur, or be required to pay, arising out of or by reason of any act or omission of the Contractor, its officers, agents, contractors or employees, in the execution, performance, or failure to adequately perform the Contractor's obligations pursuant to this Agreement. This obligation shall survive the termination of this Agreement.

6.2 Nonwaiver of Rights. Nothing in this Agreement shall constitute a waiver by the

VLAWMO of any statutory limits or immunities from liability whether provided in Minnesota Statutes, Chapter 466 or elsewhere. Each right, power or remedy conferred upon the VLAWMO by this Agreement is cumulative and in addition to every other right, power or remedy, express or implied, now or hereafter arising, or available to the VLAWMO at law or in equity, or under any other agreement. Each and every right, power and remedy herein set forth or otherwise so existing may be exercised from time to time as often and in such order as may be deemed expedient by the VLAWMO and shall not be a waiver of the right to exercise at any time thereafter any other right, power or remedy.

SECTION VII
BONDS

A performance bond and payment bond are required. Each bond must be in an amount at least equal to the Total Payment amount indicated above and shall be on forms acceptable to the VLAWMO. Such bonds are subject to the provisions of Minnesota Statutes, sections 574.26 to 574.32. The bonds must be presented to and accepted by the VLAWMO's representative prior to the Contractor starting the Services. The VLAWMO may draw upon the performance bond if the Contractor fails to complete the work in accordance with the terms of this Agreement, including any warranty work.

If a performance bond and payment bond are not required, which will be assumed to be the case if there is no indication above (unless the request for quotes expressly requires such bonds), the Contractor is not required to submit such bonds. The VLAWMO not requiring bonds does not relieve the Contractor from its obligation to complete the Services in accordance with this Agreement, paying all subcontractors and materials suppliers, and for repairing or replacing any of the work as may be needed during the warranty period.

SECTION VIII
INSURANCE

The Contractor shall not commence work under this Agreement until it has obtained all insurances required by this Agreement and all required insurances have been approved by the VLAWMO. The Contractor shall provide and maintain at all times during the term of this Agreement such insurance coverages as indicated herein. Such policy or policies shall apply to the extent of, but not as a limitation upon or in satisfaction of, the indemnity provisions of this Agreement. Financially responsible insurers licensed to do business in the State of Minnesota shall issue all policies required by this Agreement.

8.1 Automobile Liability. The Contractor shall maintain business automobile liability insurance covering liability for bodily injury and property damage arising out of the ownership, use, maintenance, or operation of all owned, non-owned, and hired automobiles and other motor vehicles utilized by the Contractor in connection with its performance under this Agreement. Such policy shall provide total liability limits for combined bodily injury and property damage in the amount of at least $1,000,000 per accident, which total limits may be satisfied by the limits afforded under such policy, or by such policy in combination with the limits afforded by an umbrella or excess

liability policy(ies); and provided that the coverage afforded under any such umbrella or excess liability policy(ies) shall be at least as broad with respect to such business automobile liability insurance as that afforded by the underlying policy. Unless included within the scope of the Contractor's commercial general liability policy, such business automobile liability policy shall also include coverage for motor vehicle liability assumed under contract. The policy shall name the VLAWMO as an additional insured.

8.2 Workers' Compensation. The Contractor shall maintain workers' compensation insurance in compliance with all applicable statutes including an all-states or universal endorsement where applicable. Such policy shall include employer's liability coverage in an amount of no less than $500,000.

8.3 Commercial General Liability Insurance. The Contractor shall maintain commercial general liability insurance coverage providing coverage on an "occurrence" rather than on a "claims made" basis, which policy shall include, but not be limited to, coverage for bodily injury, property damage, personal injury, and contractual liability (applying to this Agreement). The Contractor agrees to maintain at all times during the period of this Agreement a total combined general liability policy limit of at least $1,500,000 per occurrence and aggregate, applying to liability for bodily injury, personal injury and property damage, which total limit may be satisfied by the limit afforded under its commercial general liability policy, or equivalent policy, or by such policy in combination with the limits afforded by an umbrella or excess liability policy (or policies); provided that the coverage afforded under any such policy in combination with the limits afforded by an umbrella or excess liability policy is at least as broad as that afforded by the underlying commercial general liability policy. The policy shall name the VLAWMO as an additional insured.

SECTION IX
GENERAL PROVISIONS

9.1 Entire Agreement. It is understood that this Agreement contains the entire agreement between the VLAWMO and the Contractor and that no statement, promise or inducement made by any party hereto, or officer, agent or employee of either party hereto, which is not contained in this written Agreement shall be valid and binding. This Agreement may not be amended, modified, or altered except in writing signed by the parties. Any such amendments, including any change orders, must specifically identify the effect it has in reducing or increasing the total payment. Furthermore, failure of the VLAWMO to strictly enforce the provisions of this Agreement shall not be considered a waiver of either its right to require Contractor to strictly comply, or the Contractor's obligation to strictly comply, with all of the terms, conditions, and requirements of this Agreement.

9.2 Assignment. The Contractor shall not enter into any subcontract for performance of any services contemplated under this Agreement nor assign any interest in this Agreement without the prior approval of the VLAWMO and subject to such conditions and provisions as the VLAWMO may deem necessary or desirable in its sole discretion. The Contractor shall be responsible for the performance of all subcontractors.

9.3 Non-discrimination. The provisions of Minnesota Statutes, section 181.59 and of any applicable local ordinance relating to civil rights and discrimination shall be considered a part of this Agreement as though fully set forth herein.

9.4 Audit. In accordance with Minnesota Statutes Section 16C.05, subdivision 5, the Contractor's books, records, documents and accounting procedures and practices relevant to this Agreement are subject to examination by the VLAWMO and the Minnesota State Auditor or legislative auditor for a minimum of six years from the expiration date of this Agreement.

9.5 Data Privacy. Files and records created in connection with this Agreement shall be subject to the provisions of the Minnesota Data Practices Act, and specifically Minnesota Statutes, section 13.05, subd. 11. Contractor shall direct any requests for data it receives related to the Agreement to the VLAWMO and shall assist as may be needed in the VLAWMO responding to the request.

9.6 Legal Compliance. The Contractor shall abide by all federal, state or local laws, statutes, ordinances, rules and regulations in its performance of this Agreement including, but not limited to, obtaining all permits and permissions required to provide the Services.

9.7 Minnesota Law Governs. This Agreement shall be governed by and construed in accordance with the substantive and procedural laws of the State of Minnesota, without giving effect to the principles of conflict of laws. All proceedings related to this Agreement shall be venued in the State of Minnesota and Ramsey County.

9.8 Severability. The provisions of this Agreement shall be deemed severable. If any part of this Agreement is rendered void, invalid or otherwise unenforceable, such rendering shall not affect the validity and enforceability of the remainder of this Agreement unless the part or parts that are void, invalid, or otherwise unenforceable shall substantially impair the value of the entire Agreement with respect to either party.

9.9 VLAWMO Obligation. All covenants, promises, agreements, and obligations of the VLAWMO contained herein shall be deemed to be the covenants, stipulations, promises, agreements, and obligations of the VLAWMO, and not of any governing body member, officer, agent, servant, or employee of the VLAWMO in the individual capacity thereof.

9.10 Conflict of Interest. Contractor agrees that it will not, during the term of this Agreement, enter into a contract or otherwise accept employment for the performance of any work or service with any individual, business, partnership, corporation, government, governmental unit, or any other organization that would create a conflict of interest in the performance of its obligations under this Agreement.

9.11 Subcontractor Payments. Pursuant to Minnesota Statutes, section 471.425, subdivision 4a, the Contractor must pay any subcontractors within 10 days of the Contractor's

receipt of payment from the VLAWMO for undisputed services provided by the subcontractor. Any undisputed amounts not paid to a subcontractor within 10 days shall be subject to, and the Contractor shall pay, interest of 1-1/2 percent per month. The minimum monthly interest penalty the Contractor shall pay for an unpaid balance of $100 or more is $10. For an unpaid balance of less than $100, the Contractor shall pay the actual penalty due to the subcontractor. A subcontractor who prevails in a civil action to collect interest penalties from the Contractor must be awarded its costs and disbursements, including attorney's fees, incurred in bringing the action.

9.12 Force Majeure. Neither party shall be held responsible for delay or failure to perform when such delay or failure is due to any of the following uncontrollable circumstances, unless the act or occurrence could have been foreseen and reasonable action could have been taken to prevent the delay or failure: fire, flood, epidemic, strikes, wars, acts of God, acts of public authorities, or delays or defaults caused by public carriers; provided the non-performing party gives notice as soon as possible to the other party of the inability to perform and an explanation of the reasons. The VLAWMO and the Contractor agree to attempt to resolve quickly all matters related to uncontrollable circumstances and use all reasonable efforts to mitigate its effects. If a matter arising under this paragraph is unable to be resolved within 30 days, the party aggrieved by the other party's non-performance may terminate this Agreement upon 10 days' written notice.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date and year first written above.

CONTRACTOR

Company Name:_____

By:_____

Its:_____

Signature:_____

Date:_____

Attest:

Address for giving notices:

_____

_____

License No.

Agent for service of process:

VLAWMO

By: James Lindner

Its: Chair

Signature:_____

Date:_____

Attest: _____

Address for giving notices:

800 East County Road E.

Vadnais Heights, MN 55127

ATTACHMENT A
Contractor's Proposal

(attached hereto)

ATTACHMENT B

Contract Document, Specifications and/or Description of Services & Special Provisions

(attached hereto)

NOTICE TO PROCEED

BIRCH LAKE IESF WHITE BEAR LAKE, MINNESOTA
VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION
800 EAST COUNTY ROAD E.
VADNAIS HEIGHTS, MINNESOTA

Dated: _____

OWNER: Vadnais Lake Area Water Management Organization

TO CONTRACTOR: _____

_____

_____

CONTRACT FOR: Birch Lake IESF White Bear Lake, Minnesota

OWNER has requested that you be notified that the Contract Times under the above Contract will commence to run on _____. By that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 8 of the Instructions to Bidders and Article 3 of the Agreement the dates of Substantial Completion and Final Completion and ready for final payment on _____and_____, respectively.

Before starting the Work at the site, including delivery or storage of equipment or materials, deliver to Owner, unless previously provided:

1. Schedule of Operations
2. Schedule of Values

OWNER: Vadnais Lake Area Water Management Organization

By: _____

(AUTHORIZED SIGNATURE)

ACKNOWLEDGEMENT OF NOTICE

_____

CONTRACTOR

By: _____

(AUTHORIZED SIGNATURE)

_____

(TITLE)

_____

(DATE)

END OF DOCUMENT 005500

VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E E, Vadnais Heights, MN 55127
www.vlawmo.org; Office@vlawmo.org

To: Board of Directors
From: Dawn Tanner
Date: February 26, 2020

Re: V. D. 2. Pleasant Lake Sedimentation study and internal loading preliminary investigation

VLAWMO Need: Study with data collection and transport modeling to determine potential issues with sediment transport on Charley and Pleasant Lakes, to inform future maintenance needs and TMDL studies.

Engineering Firm and Contact: Michelle A. Stockness, ENV SP, PE

Senior Civil/Environmental Engineer
Minneapolis, MN office: 952.832.2754 MStockness@barr.com www.barr.com

Estimated work scope:

	Task	Description	Cost	Duration	Schedule
1.	Sandbar cores	Soil samples, 1-page summary memo	$7,000	1 month, open water	2020
2.	Internal loading cores	Test internal loading on cores above	$8,000	1 month, open water	2020
3.	Bathymetry of E/W Bays	Surveys plus 1-page memo	$6,000	1 month, open water	2020
4.	Transport modeling & Recommendations	Hydrodynamic/sediment transport modeling based on historical flow data, prior studies, and field data	$25,000-$40,000	3 months	2021 per budget availability

Summary: The Pleasant SLMP was completed in 2019. During stakeholder meetings in NO, residents identified priority implementation efforts from their perspective of living and recreating on the lake.

Additionally, Pleasant lake is listed (MPCA Impaired Waters List) as impaired for mercury and high levels of nutrients. MPCA requires a TMDL or equivalent study to address the nutrient impairment. The carp study is already underway, with harvesting anticipated later this year. Carp are known bottom feeders that increase turbidity in a lake and reduce water quality.

The next implementation priority, which would address both the SLMP implementation list and the TLMD efforts, is to assess the potential for internal (sediment release) loading in the lake and external loading (modeling the hydraulic influence of the water flow through the lake). Some lake residents also have observed lower water levels in the west bay of Pleasant, possibly caused by deposited sediment. As preliminary modeling of Pleasant Lake was done by the Capstone students from the U of M with help from Barr Engineering, staff asked engineers at Barr for a proposal to do follow-up work on the sediment assessment and modeling of the hydraulics.

Tasks 1-3 are planned for 2020. Task 4 is intended to occur in 2021, pending approval of TEC and Board.

Recommendation: staff recommends the Board authorization of $21,000 for the sedimentation study and internal loading core analysis with Barr Engineering.

VLAWMO
Vadnais Lake Area
Water Management Organization

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To: Board of Directors

From: Stephanie McNamara, Administrator

Date: February 2020

Re: Goose Lake Alum Treatment grant

As mentioned in an earlier email, VLAWMO received the highest score in the grant category, and in January had the grant award approved by the BWSR Board. The alum treatment hasn't been without controversy already. But when VLAWMO staff met with BWSR staff there was a new twist in the story. BWSR staff reviewed the VLAWMO application and felt that enough things had changed since the application was submitted last summer that it would not have scored as high. They assumed the boating restrictions would be in place when they were scoring our application. They are requesting that VLAWMO consider withdrawing the alum treatment grant request for this year with the assurance that a possible future application would not be faulted for withdrawing. **These are the two concerns BWSR staff mentioned:**

1. Bullhead population has again skyrocketed according to a fish survey done by Steve McComas last fall. Residents alerted VLAWMO that there were more bullheads. VLAWMO harvested bullheads in 2012 and the population was still in check in 2017 thanks to a healthy game fish population. Unfortunately, a partial fish kill after that left the population of game fish out of balance and unable to control the young bullhead numbers. Game fish are more vulnerable to low oxygen levels than bullheads. Response: another bullhead harvest with possible restocking of game fish could be considered to address the situation before any treatment of the lake. Staff feels there is a manageable way to address the bullheads in Goose Lake.
2. The lack of boating restriction for East Goose Lake is a little more complicated. VLAWMO Board and staff recommended this, of course, but implementing restrictions is not within VLAWMO's purview. The Board withdrew their recommendation for post alum treatment boating restrictions when it became evident that it wasn't going to pass the City council. BWSR is now concerned that the metrics we set out in our application are less attainable without the boating restrictions. Could we meet 800 pounds of phosphorus per year for 10 – 15 years without the boating restrictions?

Next Steps:

Greg Wilson, Barr Eng. has been asked to consider the second question in particular. His review of the modeling and additional research will be available early in March, in time for the TEC meeting, but unfortunately not for our February Board meeting. Besides reviewing the modeling done for Goose, the engineer will review other shallow lakes that have had alum treatments and the results will give VLAWMO an answer on whether or not 800 lbs. of TP / year for 10 – 15 years is still a reasonable expectation. There are no guarantees when dealing with a natural system such as a lake and no two lakes are the same. That said, VLAWMO will be asked to sign an assurance agreement that says the

success measurements will be met for 10 – 15 years, and if not something, perhaps another treatment might need to be done. This would be local funds paying for any extra treatments. Melissa King, our BWSR Board Conservationist will be at the meeting to discuss the assurances and the concerns expressed by BWSR staff.

Continued management efforts on Goose Lake has always been a part of this alum treatment grant. This includes a vegetation management plan development. VLAWMO may look at controlling aquatic invasive vegetation such as curly leaf pondweed. Fish management will also be important to the success of the alum treatment. Certainly a bullhead harvest before a treatment. Putting together a fish management plan that will provide flexibility to respond to differing circumstances will be important.

Options:

The Board could certainly still press for the grant; it has been approved by the BWSR Board. Or VLAWMO could withdraw its request and the funds would go to another grant applicant.

In speaking with Greg Wilson, there may a third option to consider. It will require a little flexibility from BWSR. If VLAMWO were to go ahead with the first alum treatment (after a bullhead harvest) but offer to use all of our match money ($47,500) and request only the other rest of the cost from the BWSR grant, VLAWMO would be establishing its belief that this treatment will work and is critical to any substantive improvement in the lake. This would allow VLAWMO to monitor the response of the lake to the treatment (with boating activity) for clarity, TP removals, vegetation response, fish response, oxygen levels, pH, sediment, etc. If these metrics are doing well, the remainder of the grant funds for the second treatment could be requested. Many of these different components can work together synergistically if the lake gets enough of boost – the alum treatment. If one or more elements needed to be addressed, VLAWMO would need to consider some adaptive management.

It appeared BWSR was willing to wait for a response from VLAWMO until March. The staff requests the Board consider all this information and wait for the report from the alum treatment engineer regarding the effectiveness of this carefully modeled treatment plan even with some boating activity on the lake. If the Board is willing to have a special meeting in March, this could be on the agenda.

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To: The Board of Directors

From: Stephanie McNamara, Administrator

Re: WBF Goose Subwatershed BMP options

The list has been narrowed down to three main project areas based on feasibility and effectiveness. At the time of this memo, the cost estimate for each is still coming from our engineer. We would like to introduce them as well as two projects underway with other partners. Please refer to the map included.

Two projects underway with others in the lead:

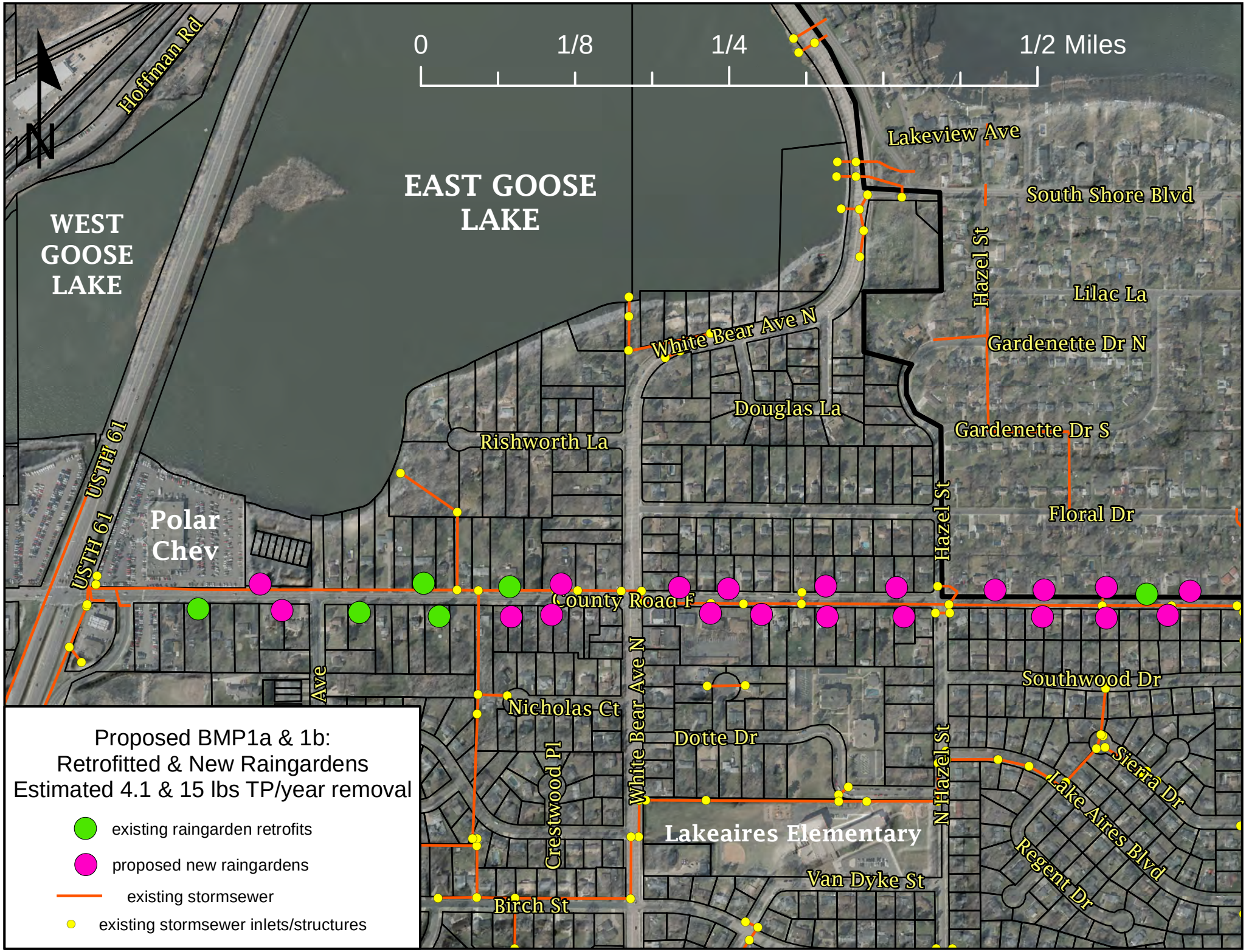
1. **Polar Chevrolet reconstruction**. A new building, reworking the parking area and for the first time, stormwater treatment systems are planned for this 2020 remodel of the site. Two sand-iron filters, a shoreline buffer along Goose Lake are among the features that will deliver **10.8 lbs. of phosphorus** reduction / year for Goose Lake. The City of WBL has been active in working with the landowner.
2. **Retrofit several existing raingardens along County Road F** will become effective again with addition of updated technology (Foxhole stormdrain systems). Ramsey County, White Bear Lake and VLAWMO are partnering on this $76,000 project. Raingardens that take flow from streets are among the most effective. **Removal: 4.1 lbs TP/yr**.

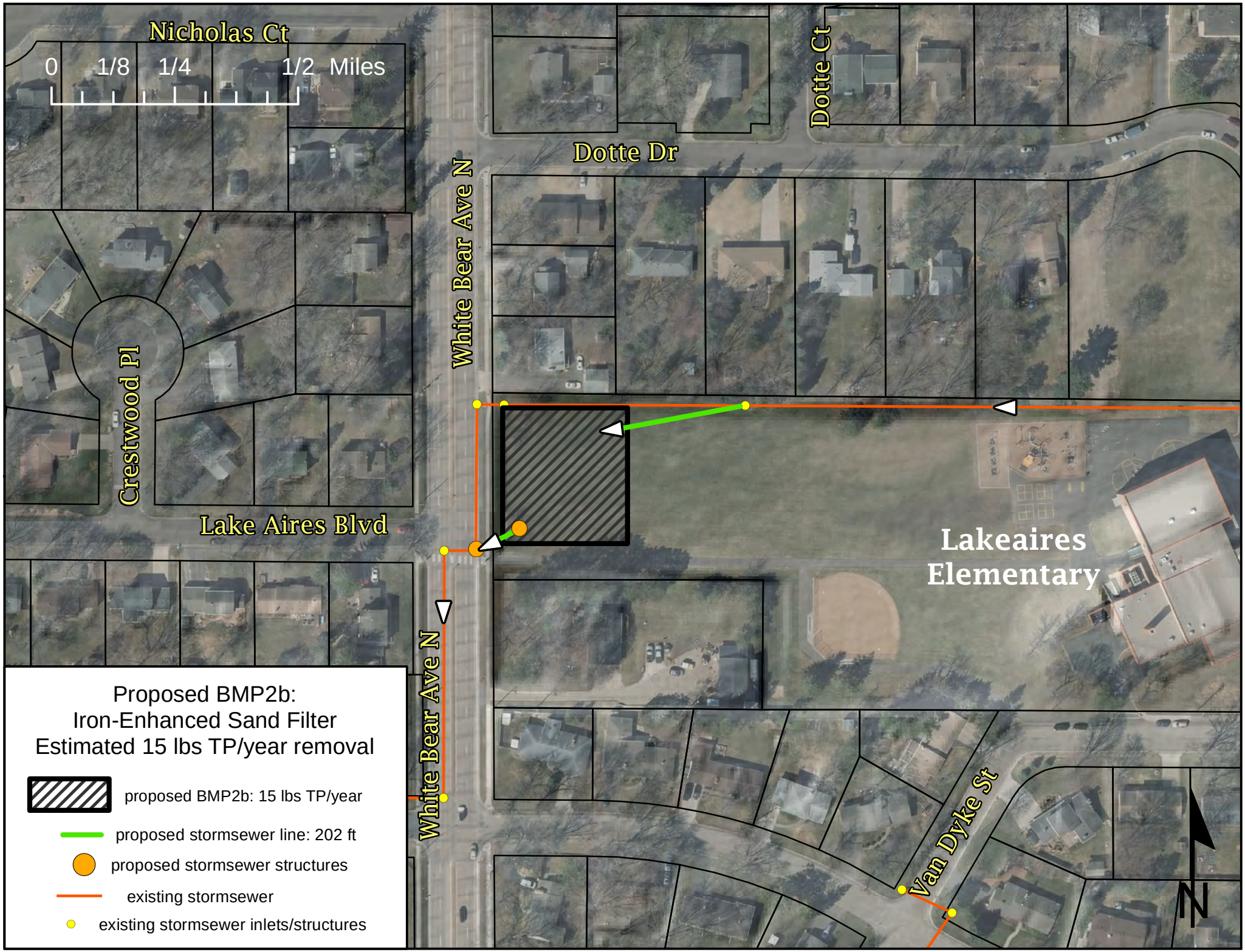
Best Management Projects (BMP) Options

*** TP yearly loading from A & B (CR F) **currently: 170 lbs. /yr.** Annual TP loading from C (Hwy 61): **89.3 lbs/yr***

A. Part 1. Construct **Highland Ave underground iron enhanced sand filtration chamber** that would outlet to Goose Lake. The system would take stormwater for Co. Rd. F. that currently goes to the Polar Chev channel. Part 2. Change the flows at the Co. Rd. F trunk line to increase the flows to the Highland underground filter system. Total removals: **33.2 lbs. of phosphorus/yr.**
B. Continuing Co. Road F work by adding **20 more curb-cut raingardens** to the east of the existing BMPs. This would add to the **removal of TP by 15 lbs./yr**. If both A & B are done, **total** TP removal: **42.9** lbs./yr.
C. Construct a **large sand-iron filter treatment system in a church lawn** area along Linden Street, treating some of the water that comes down Highway 61. This is on private property and the landowner has not been approached. **Total removal of TP: 21.3.**
D. Construct a **sand- iron filter next to White Bear Ave**. on the Lakeaires Elementary School parcel. Total **removal of TP: 15.0 lbs. / yr.**

Recommendation: The TEC and staff request the Board hold over a decision on which option to proceed with until the cost estimates are available for the March TEC meeting. They further request that the Board consider approving an option for 2020 at a special meeting in March to ensure timely bidding and construction this year.


0
1/8
1/4
1/2 Miles
N
Hoffman Rd
WEST GOOSE LAKE
EAST GOOSE LAKE
Lakeview Ave
South Shore Blvd
Hazel St
Lilac La
White Bear Ave N
Gardenette Dr N
Douglas La
Rishworth La
Gardenette Dr S
Floral Dr
USTH 61
USTH 61
Polar Chev
County Road F
Hazel St
Ave
Nicholas Ct
White Bear Ave N
Southwood Dr
Dotte Dr
Crestwood Pl
N Hazel St
Sierra Dr
Lake Aires Blvd
Regent Dr
Lakeaires Elementary
Van Dyke St
Birch St
Proposed BMP1a & 1b:
Retrofitted & New Raingardens
Estimated 4.1 & 15 lbs TP/year removal
existing raingarden retrofits
proposed new raingardens
existing stormsewer
existing stormsewer inlets/structures


Nicholas Ct
0 1/8 1/4 1/2 Miles
Dotte Ct
Dotte Dr
White Bear Ave N
Crestwood Pl
Lake Aires Blvd
Lakeaires Elementary
White Bear Ave N
Van Dyke St
N
Proposed BMP2b:
Iron-Enhanced Sand Filter
Estimated 15 lbs TP/year removal
proposed BMP2b: 15 lbs TP/year
proposed stormsewer line: 202 ft
proposed stormsewer structures
existing stormsewer
existing stormsewer inlets/structures


0 1/8 1/4 1/2 Miles
Pine St
USTH 61
USTH 61
White Bear Lake United Methodist Church
61
Birch St
WBL GMC
Linden St
Stellmacher Ball Field
N
Proposed BMP5:
Iron-Enhanced Sand Filter
Estimated 21.3 TP/year removal
proposed BMP5
existing stormsewer
proposed stormsewer lines: 723 ft
existing stormsewer inlets/structures
proposed stormsewer inlets/structures


EAST
GOOSE
LAKE
Rishworth La
Goose Lake
Townhomes
Highland Ave
County Road F
N
Proposed BMP12A & 12B:
Iron-Enhanced Sand Filter Vault
and Trunkline Diversion
Estimated 33.2 lbs TP/year removal
proposed BMP12A: 7.1 lbs TP/year
proposed stormsewer line: 40 ft
proposed BMP 12B trunkline split: 33.2 lbs TP/year
combined removal
existing stormsewer
existing stormsewer inlets/structures

0 1/8 1/4 1/2 Miles

Proposed Goose BMPs: 1A&B, 2B, 5, 12A&B

- BMP 1A&B: 19.1 lbs TP/year removal
- BMP 2B: 15 lbs TP/year removal
- BMP 5: 21.3 lbs TP/year removal
- BMP 12A&B: 33.2 lbs TP/year removal

N

EAST GOOSE LAKE

WEST GOOSE LAKE

BMP 12A & 12B

BMP 1A & 1B

BMP 2B

BMP 5

Otter Lake Rd

USTH 61

Old White Bear Ave

Lakeview

Hazel St

Lilac La

White Bear Ave N

Douglas La

Rishworth La

Gardenette Dr S

Lakeridge Dr

Floral Dr

Polar Chev

County Road F

Kahl Cir

Lake Aires Blvd

Highland Ave

Nicholas Ct

Dotte Dr

Southwood Dr

Sierra Dr

Lake Aires Blvd

Regent Dr

Cranbrook Dr

Mcknight Rd N

Pine St

Lakeaires Elementary

N Hazel St

Van Dyke St

Hoffman Rd

Scheuneman Rd

Linden St

Birch St

Oak Knoll Dr

OAK KNOLL POND

White Bear Ave N

WBL GMC

Cedar Ave

Kingsley Ave

Roth St

Roth Pl

Randy Ave