EST 1983 VLAWMO Vadnais Lake Area Water Management Organization

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VLAWMO TECHNICAL COMMISSION MEETING

8:00 AM October 9, 2024

Vadnais Heights City Hall, Council Chambers, 800 County Road E East, Vadnais Heights, MN 55127

Action items:

I. Call to Order – 8:00 am – Chair Tessier

II. Approval of Agenda

III. Approval of Minutes (September 11, 2024)

IV. Administration & Operations

A. October Financial Report and Authorization for Payment– Phil Pg. 6

B. October TEC Report to the Board of Directors - Phil Pg. 14

V. Programs - Lauren

A. LL1 2024-01 Schwarz Vegetated Swale Pgs. 15 & 22

VI. Projects - Dawn and Phil

A. Watershed Management Plan Update and Consideration of Approach for Review of Draft Sections Pgs. 15 & 42
B. Tamarack Lake Alum Project Update Pg. 16
C. Wilkinson Deep-Water Wetland Project Update Pg. 16
D. Hybrid EWM Sampling Pleasant, Charley, Deep Results Pg. 19
E. Vadnais Heights City Hall Summer Goat Grazing Complete Pg. 19

VII. Commissioner Reports

VIII. NOHOA

IX. Ramsey Soil & Water Conservation Division

X. St. Paul Regional Water Services

XI. Public Comment

XII. **Next meetings:** Board Meeting: October 23, 2024; TEC: November 13, 2024

XIII. Adjourn

Upcoming Events: Visit vlawmo.org/events

Vadnais Lake Area Water Management Organization
Technical Commission (TEC) Minutes
September 11, 2024
Vadnais Heights City Hall, Council Chambers
800 County Road E East, Vadnais Heights, MN 55127

Commission Members Present:

Gloria Tessier	Gem Lake (GL)
Nick Ousky	Vadnais Heights (VH)
Susan Miller	City of North Oaks (NO)
Connie Taillon	City of White Bear Lake (WBL), alternate for Terry Huntrods
Jami Philip	White Bear Township (WBT)
Mike Grochala	City of Lino Lakes

Absent: Terry Huntrods, City of White Bear Lake (WBL)

Others in attendance: Dawn Tanner, Lauren Sampedro, Brian Corcoran (VLAWMO staff)

I. Call to Order

Chair Tessier called the meeting to order at 8:01 am.

II. Approval of Agenda

It was moved by Commissioner Miller and seconded by Commissioner Philip to approve the September 11, 2024, TEC agenda. Vote: all aye. Motion passed.

III. Approval of Minutes (August 14, 2024)

It was moved by Commissioner Miller and seconded by Commissioner Philip to approve the August 14, 2024 meeting minutes as presented. Vote: all aye. Motion passed.

IV. Administration & Operations

A. September Financial Report and Authorization for Payment

Corcoran summarized the September financial statement as included in the Packet. Notable items include funds received by Ramsey County and the City of Vadnais Heights for the East Vadnais resiliency study, payments in the Goose Lake subwatershed for the spent lime project, and the final payment to the contractor for the Wilkinson deep water wetland project.

It was moved by Commissioner Miller and seconded by Commissioner Philip to approve the September Financial Report and authorize for payment. Vote: all aye. Motion passed.

V. Programs

A. Update on BWSR Watershed Based Implementation Funding Grant Process

Sampedro presented about the process, highlighting that Jim Hauth with the City of Vadnais Heights and Connie Taillon with the White Bear Lake volunteered to be the two municipal representatives. She said the next step is to schedule the convene meeting, which is anticipated for some time in November.

B. Update on BWSR Accelerated Implementation Grant Application

Sampedro presented that BWSR released the RFP in June for this grant program. The purpose is to help applicants get ready for implementation of water quality projects. The ultimate goal is to expedite implementation of projects. Vadnais Heights expressed interest in a large project for 2027 that would focus on exploring the feasibility of a green street model for their Greenhaven street reconstruction project for that year. A green street model includes incorporating multiple types of stormwater BMPs into the reconstruction process along with adding walking or biking trails and reducing street widths. Vadnais Heights and VLAWMO partnered on the grant application that has been submitted. A decision is expected in December.

Commissioner Miller commented on the complexity of green street planning. Commissioner Ousky mentioned that utilities and right-of-way will be important considerations. Commissioner Taillon provided support of green streets and advised including the fire department with planning to make sure emergency vehicles have sufficient access.

C. Update on City of White Bear Lake Curb Cut Raingarden Project

Sampedro presented about the project as included in the packet. The project includes five curb cut raingardens that will go in with the City's current pavement rehabilitation project. The grant application to VLAWMO was received after the August TEC meeting.

Final designs have been received for the project. Sampedro highlighted one of the curb cut designs to show more specific details including species that will be included. The project includes a simplified suite of species for improved ease of maintenance and a uniform look.

Commissioner Miller asked if other adjacent homeowners could also add curb cut raingardens once these are installed. Sampedro responded that it depends upon City guidance. Other raingardens probably wouldn't be added right away because the construction will have just been completed. Commissioner Taillon said that the City sometimes allows retrofit curb cut raingardens not part of a City street reconstruction project, but would not cover the cost of the curb cut.

Sampedro presented that three bids were received for the project. The low bid was from Sandstrom Land Management for $38,533. The Board approved the application at the

August 28, 2024, Board meeting.

Commissioner Tessier commented on the low bid and wondered why there was such a difference in bids received. Sampedro discussed VLAWMO's prior experience with Sandstrom and mentioned that part of the low bid may be because they had availability in their schedule. Commissioner Taillon shared that Sandstrom has done a good job on projects with the City previously as well. Commissioner Tessier asked who maintains the curb cut raingardens once they are completed. Sampedro said that the homeowners are responsible for maintenance for ten years. The maintenance agreement is not declared to the property, but VLAWMO provides educational materials to support maintenance.

VI. Projects

A. Tamarack Lake Alum Project Update

Tanner presented an update that the contract has been signed and the project is underway. A partner meeting at Tamarack Nature Center will be held next Monday, September 16. The project will be divided into phases. Phase 1 is scheduled for completion by October 23, 2024, to accommodate Tamarack Nature Center's schedule. The temporary access agreement with Ramsey County Parks will be extended for additional phases. Additional phase initiation will be dependent upon results on monitoring. Updates will be provided at future meetings.

B. Wilkinson Deep-Water Wetland Project Update

Tanner provided an update that the final request for payment from the contractor was received and paid. Natural Shore Technologies has been working on enhancing the restoration and installed new plants and temporary fencing. Tanner discussed some plant transplant work has also occurred this week to support the restoration. She shared a drone video of the project from Houston Engineering, Inc. (HEI).

C. Comprehensive Watershed Management Plan Update

Tanner provided an update that HEI has been working on drafting sections of the plan. Plan sections will be provided to the TEC in October for review. In the review process, VLAWMO intends to invite municipal partners to participate. More specifics about the plan for increased input will be discussed at the October TEC meeting. A style guide has been put together that is contained in the packet. Sections 1 and 2 are currently under review by staff and will be provided to the TEC in October. Section 3 is being drafted by HEI. Staff will be providing more regular updates to the TEC.

VII. Commissioner Reports

Taillon presented an update on Otter Lake Road, which is a County road area that has been the focus of a reconstruction project this summer. Construction is currently wrapping up. The City

role in the project was to review plans. The County design had to meet rate control and stormwater stipulations. Native seed is included in reseeding areas and vegetated swale. A sump catch basin was built to receive stormwater from curb and gutter that was added as part of the project. An underground filtration system is part of the project. Infiltration is not feasible because groundwater is too high. Commissioner Miller commented on the intricate design. Commissioner Taillon mentioned the trail that has been added on the east side of Otter Lake Road that connects to previously completed trails was also part of this project.

VIII. NOHOA

None

IX. Ramsey Soil & Water Conservation Division

None

X. St. Paul Regional Water Services

None

XI. Public Comment:

None

XII. Next Meetings:

Next TEC meeting October 9, 2024. Next BOD meeting October 23, 2024.

XIII. Adjourn

It was moved by Commissioner Miller and seconded by Commissioner Grochala to adjourn the meeting at 8:28 am. Vote: all aye. Motion passed.

Minutes compiled by D. Tanner.

VLAWMO Finance Summary: October 2024

Oct-24		Actual 10/1/24	Actual to Date	2024 Budget (June 2023 Board Approved)	Carry over from 2023 to 2024	Remaining in Budget	2024 Available (Dec. 2023 Board approved)	Act vs. Budget
BUDGET #	**INCOME**							
5.11	Storm Water Utility		$673,987	$1,145,431	$0	$471,444	$1,145,431	59%
5.12	Service Fees			$1,000	$0	$1,000	$1,000	0%
5.13	Interest + mitigation acct	$4,674	$50,253	$30,000	$0	($20,253)	$30,000	168%
5.14	Misc. income - WCA admin & other	$33,202	$124,042	$3,000	$0	($121,042)	$3,000	4135%
5.15	Other Income Grants/loan		$56,456	$365,000	$0	$308,544	$365,000	15%
5.16	Transfer from reserves			$791,380	$193,062	$984,442	$984,442	0%
	TOTAL	$37,876	$904,738	$2,335,811	$193,062	$1,624,135	$2,528,873	39%
EXPENSES								
3.1	**Operations & Administration**							
3.110	Office - rent, copies, post tel supplies	$2,144	$20,657	$32,239	$0	$11,582	$32,239	64%
3.120	Information Systems	$3,119	$17,857	$33,850	$0	$15,993	$33,850	53%
3.130	Insurance		$11,329	$10,050	$0	($1,279)	$10,050	113%
3.141	Consulting - Audit		$20,171	$12,000	$7,000	($1,171)	$19,000	106%
3.142	Consulting - Bookkeeping	$46	$449	$1,500	$0	$1,051	$1,500	30%
3.143	Consulting - Legal		$5,428	$7,000	$0	$1,572	$7,000	78%
3.144	Consulting - Eng. & Tech.	$3,320	$14,563	$30,000	$20,000	$35,437	$50,000	29%
3.150	Storm Sewer Utility		$10,807	$22,500	$0	$11,693	$22,500	48%
3.160	Training (staff/board)		$974	$14,250	$0	$13,276	$14,250	7%
3.170	Misc. & mileage	$987	$3,247	$6,930	$0	$3,683	$6,930	47%
3.191	Administration - staff	$39,772	$331,052	$435,554	$0	$104,502	$435,554	76%
3.192	Employer Liability	$9,675	$93,650	$129,869	$0	$36,219	$129,869	72%
3.2	**Monitoring and Studies**							
3.210	Lake and Creek lab analysis	$4,964	$18,939	$18,000	$0	($939)	$18,000	105%
3.220	Equipment	$5	$125	$3,000	$0	$2,875	$3,000	4%
3.230	Wetland assessment & management	$5,900	$5,900	$15,000	$0	$9,100	$15,000	39%
3.240	Watershed planning /special study		$36,126	$100,000	$15,000	$78,874	$115,000	31%
3.3	**Education and Outreach**							
3.310	Public Education		$2,026	$6,000	$0	$3,974	$6,000	34%
3.320	Comm., Outreach & Marketing	$2,125	$7,824	$20,000	$2,000	$14,176	$22,000	36%
3.330	Community Blue Ed Grant		$739	$8,000	$0	$7,261	$8,000	9%
Total Core functions: Ops, Monitoring, Education		*$72,057*	*$601,863*	*$905,742*	*$44,000*	*$347,879*	*$949,742*	*63%*
Capital Improvement Projects and Programs								
3.4	**Subwatershed Activity**							
3.410	Gem Lake			$25,000	$10,000	$35,000	$35,000	
3.420	Lambert Creek		$11,895	$90,000	$0	$78,105	$90,000	13%
3.421	Lambert Lake Loan		$19,284	$38,569	$0	$19,285	$38,569	50%

3.425	Goose Lake		$62,606	$85,000	$0	$22,394	$85,000	74%
3.430	Birch Lake		$1,150	$48,000	$0	$46,850	$48,000	2%
3.440	Gilf Black Tam Wilk Amelia	$7,015	$128,302	$345,000	$60,000	$276,698	$405,000	32%
3.450	Pleasant Charley Deep		$62,721	$145,000	$0	$82,279	$145,000	43%
3.460	Sucker Vadnais	$156	$50,191	$90,000	$33,000	$72,809	$123,000	41%
3.48	**Programs**							
3.480	Soil Health Grant	$3,248	$10,376	$10,500	$4,500	$4,624	$15,000	69%
3.481	Landscape 1	$4,364	$9,364	$40,000	$16,263	$46,899	$56,263	17%
3.482	Landscape 2/BWSR WBF	$43,760	$52,998	$60,000	$25,299	$32,301	$85,299	62%
3.483	Project Research & feasibility			$5,000	$0	$5,000	$5,000	0%
3.485	Facilities Maintenan/ Pub. Ditch Main.		$5,849	$78,000	$0	$72,151	$78,000	7%
3.5	**Regulatory**							
3.510	Engineer Plan review			$5,000	$0	$5,000	$5,000	0%
	Total CIP & Program	*$58,543*	*$414,736*	$1,065,069	$149,062	*$799,395*	*$1,214,131*	*34%*
	Total of Core Operations & CIP	**$130,600**	$1,016,599	$1,970,811	$193,062	**$1,147,274**	$2,163,873	**47%**

Fund Balance		9/1/2024	10/1/2024
4M Account		$894,152	$816,830
4M Plus Savings		$248,770	$249,808
Total		$1,142,922	$1,066,638

Restricted funds		10/1/2024
Mitigation Savings		$21,028
Term Series		$300,000

Vadnais Lake Area Water Management Organization
Check Detail
September 12 through October 9, 2024

Type	Num	Date	Name	Item	Account	Paid Amount	Original Amount
Check	**eft**	**09/18/2024**	**US Bank**		**Checking - 1987**		**-46.05**
					3.142 · Bookkeeping help	-46.05	46.05
TOTAL						-46.05	46.05
Check	**5859**	**10/09/2024**	**Dawn Tanner**		**Checking - 1987**		**-72.36**
					3.170 · Misc. & mileage	-72.36	72.36
TOTAL						-72.36	72.36
Check	**5860**	**10/09/2024**	**Lauren Sampedro**		**Checking - 1987**		**-90.18**
					3.170 · Misc. & mileage	-90.18	90.18
TOTAL						-90.18	90.18
Check	**5861**	**10/09/2024**	**Brian Corcoran**		**Checking - 1987**		**-181.57**
					3.170 · Misc. & mileage	-181.57	181.57
TOTAL						-181.57	181.57
Check	**5862**	**10/09/2024**	**Metro - Inet**		**Checking - 1987**		**-1,571.00**
					IT Support	-1,571.00	1,571.00
TOTAL						-1,571.00	1,571.00
Check	**5863**	**10/09/2024**	**SEH**		**Checking - 1987**		**-306.33**
					3.144 · Eng. & Tech.	-306.33	306.33
TOTAL						-306.33	306.33
Check	**5864**	**10/09/2024**	**HDR Engineering, Inc.**		**Checking - 1987**		**-2,124.85**
					3.320 · Marketing	-417.50	417.50
					3.320 · Marketing	-1,707.35	1,707.35
TOTAL						-2,124.85	2,124.85
Check	**5865**	**10/09/2024**	**Houston Engineering, Inc**		**Checking - 1987**		**-2,771.75**
					Wilk 319 cash match $182,137	-2,415.25	2,415.25
					Wilk 319 cash match $182,137	-356.50	356.50
TOTAL						-2,771.75	2,771.75
Check	**5866**	**10/09/2024**	**Barr Engineering Co**		**Checking - 1987**		**-7,061.15**
					3.440 · Gilfillan Black Tamarack Wilkin	-4,047.05	4,047.05
					3.144 · Eng. & Tech.	-1,963.80	1,963.80
					3.144 · Eng. & Tech.	-1,050.30	1,050.30

TOTAL				-7,061.15	7,061.15
Check	**5867**	**10/09/2024**	**RMB Environmental Laboratories, Inc.**	**Checking - 1987**	**-4,340.94**
			3.210 · Lake & Creek lab analysis	-635.36	635.36
			3.210 · Lake & Creek lab analysis	-1,360.59	1,360.59
			3.210 · Lake & Creek lab analysis	-76.29	76.29
			3.210 · Lake & Creek lab analysis	-564.30	564.30
			3.210 · Lake & Creek lab analysis	-147.35	147.35
			Wilk 319 cash match $182,137	-196.46	196.46
			3.210 · Lake & Creek lab analysis	-1,360.59	1,360.59
TOTAL				-4,340.94	4,340.94
Check	**5868**	**10/09/2024**	**ScapeGoats**	**Checking - 1987**	**-5,900.00**
			3.230 · Wetland Asses. & Manage	-5,900.00	5,900.00
TOTAL				-5,900.00	5,900.00
Check	**5869**	**10/09/2024**	**Montana State University**	**Checking - 1987**	**-820.00**
			3.210 · Lake & Creek lab analysis	-820.00	820.00
TOTAL				-820.00	820.00
Check	**5870**	**10/09/2024**	**Alex Smith**	**Checking - 1987**	**-1,000.00**
			3.480 · Soil Health Grant	-1,000.00	1,000.00
TOTAL				-1,000.00	1,000.00
Check	**5871**	**10/09/2024**	**Kristi Herman Hill**	**Checking - 1987**	**-4,363.50**
			3.481 · Landscape 1 - cost-share	-4,363.50	4,363.50
TOTAL				-4,363.50	4,363.50
Check	**5872**	**10/09/2024**	**City of Vadnais Heights**	**Checking - 1987**	**-2,144.32**
			Rent	-1,765.00	1,765.00
			Phone/Internet/Machine Overhead	-315.00	315.00
			Postage	-22.14	22.14
			Copies	-42.18	42.18
TOTAL				-2,144.32	2,144.32
Check	**5873**	**10/09/2024**	**Villas of Wilkinson Lake HOA**	**Checking - 1987**	**-17,732.50**
			3.482 · Landscape 2	-17,732.50	17,732.50
TOTAL				-17,732.50	17,732.50
Check	**5874**	**10/09/2024**	**Leslie Scherer**	**Checking - 1987**	**-1,048.15**
			3.480 · Soil Health Grant	-1,048.15	1,048.15
TOTAL				-1,048.15	1,048.15
Check	**5875**	**10/09/2024**	**The Pines of North Oaks**	**Checking - 1987**	**-19,115.96**

			3.482 · Landscape 2	-19,115.96	19,115.96
TOTAL				-19,115.96	19,115.96
Check	**5876**	**10/09/2024**	**Dell Marketing L.P.**	**Checking - 1987**	**-1,494.04**
			Hardware	-256.87	256.87
			Hardware	-1,237.17	1,237.17
TOTAL				-1,494.04	1,494.04
Check	**5877**	**10/09/2024**	**Press Publications**	**Checking - 1987**	**-369.00**
			3.170 · Misc. & mileage	-229.90	229.90
			3.170 · Misc. & mileage	-139.10	139.10
TOTAL				-369.00	369.00
Check	**5878**	**10/09/2024**	**Association of MN Counties**	**Checking - 1987**	**-75.00**
			3.170 · Misc. & mileage	-75.00	75.00
TOTAL				-75.00	75.00
Check	**5879**	**10/09/2024**	**Innovative Office Solutions**	**Checking - 1987**	**-53.54**
			Hardware	-53.54	53.54
TOTAL				-53.54	53.54
Check	**5880**	**10/09/2024**	**Three Oaks HOA**	**Checking - 1987**	**-6,911.97**
			3.482 · Landscape 2	-6,911.97	6,911.97
TOTAL				-6,911.97	6,911.97
Check	**5881**	**10/09/2024**	**Amy Westerlund**	**Checking - 1987**	**-1,199.72**
			3.480 · Soil Health Grant	-1,199.72	1,199.72
TOTAL				-1,199.72	1,199.72
Check	**5882**	**10/09/2024**	**City of White Bear Lake**	**Checking - 1987**	**-49,447.82**
			payroll	-39,772.43	39,772.43
			Administration FICA	-2,907.36	2,907.36
			Administration PERA	-2,250.46	2,250.46
			Insurance Benefit	-4,273.24	4,273.24
			Admin payroll processing	-244.33	244.33
TOTAL				-49,447.82	49,447.82

Vadnais Lake Area Water Management Organizatic

9:03 AM

Profit & Loss

10/02/2024

September 12 through October 9, 2024

Cash Basis

	Sep 12 - Oct 9, 24
Ordinary Income/Expense	
Income	
Misc.	33,202.00
5.1 · Income	
5.13 · Interest	4,674.08
Total 5.1 · Income	4,674.08
Total Income	37,876.08
Gross Profit	37,876.08
Expense	
3.1 · Administrative/Operations	
3.110 · Office	
Copies	42.18
Phone/Internet/Machine Overhead	315.00
Postage	22.14
Rent	1,765.00
Total 3.110 · Office	2,144.32
3.120 · Information Systems	
Hardware	1,547.58
IT Support	1,571.00
Total 3.120 · Information Systems	3,118.58
3.142 · Bookkeeping help	46.05
3.144 · Eng. & Tech.	3,320.43
3.170 · Misc. & mileage	987.11
3.191 · Employee Payroll	
payroll	39,772.43
Total 3.191 · Employee Payroll	39,772.43
3.192 · Employer Liabilities	
Admin payroll processing	244.33
Administration FICA	2,907.36
Administration PERA	2,250.46
Insurance Benefit	4,273.24
Total 3.192 · Employer Liabilities	9,675.39
Total 3.1 · Administrative/Operations	59,064.31
3.2 · Monitoring and Studies	
3.210 · Lake & Creek lab analysis	4,964.48
3.220 · Equipment	5.04
3.230 · Wetland Asses. & Manage	5,900.00
Total 3.2 · Monitoring and Studies	10,869.52
3.3 · Education and Outreach	
3.320 · Marketing	2,124.85
Total 3.3 · Education and Outreach	2,124.85
3.4 · Capital Imp. Projects/Programs	

3.440 · Gilfillan Black Tamarack Wilkin	
Wilk 319 cash match $182,137	2,968.21
3.440 · Gilfillan Black Tamarack Wilkin - Other	4,047.05
Total 3.440 · Gilfillan Black Tamarack Wilkin	7,015.26
3.460 · Sucker Vadnais	156.00
Total 3.4 · Capital Imp. Projects/Programs	7,171.26
3.48 · Programs	
3.480 · Soil Health Grant	3,247.87
3.481 · Landscape 1 - cost-share	4,363.50
3.482 · Landscape 2	43,760.43
Total 3.48 · Programs	51,371.80
Total Expense	130,601.74
Net Ordinary Income	-92,725.66
Net Income	**-92,725.66**

Vadnais Lake Area Water Management Organization

8:56 AM

Custom Transaction Detail Report

10/02/2024

August 1 through October 1, 2024

Accrual Basis

	Type	Date	Num	Name	Memo	Account	Clr	Split	Amount	Balance
Aug 1 - Oct 1, 24										
	Credit Card Charge	08/02/2024		Google*SVCAPPS_VLAWM		US Bank CC	√	WEB	42.00	42.00
	Credit Card Charge	08/06/2024		Allycat	sandwiches for Water Dept.	US Bank CC	√	Oak Knoll	74.84	116.84
	Credit Card Charge	08/08/2024		adobe *photography plan		US Bank CC	√	Software	9.99	126.83
	Credit Card Charge	08/19/2024		EDCO	nick award	US Bank CC	√	3.170 · Misc. & mileage	69.61	196.44
	Transfer	08/20/2024			Funds Transfer	US Bank CC	√	Checking - 1987	-591.84	-395.40
	Credit Card Charge	08/26/2024		Adobe "Creative Cloud		US Bank CC	√	Software	32.50	-362.90
	Credit Card Charge	09/02/2024		Google*SVCAPPS_VLAWM		US Bank CC	√	WEB	42.00	-320.90
	Credit Card Charge	09/05/2024		MN Association of Gov. Communicators	E&O job posting	US Bank CC	√	3.320 · Marketing	85.00	-235.90
	Credit Card Charge	09/09/2024		Menards	weed transplant supplies	US Bank CC		3.220 · Equipment	31.28	-204.62
	Credit Card Charge	09/17/2024		Hampden Park Coop	mustard Dawn	US Bank CC		3.220 · Equipment	5.04	-199.58
	Credit Card Charge	09/19/2024		Government Jobs	E&O job posting	US Bank CC		3.170 · Misc. & mileage	199.00	-0.58
	Credit Card Charge	09/24/2024		Prairie Moon Nursery	remnant seed	US Bank CC		3.460 · Sucker Vadnais	156.00	155.42
Aug 1 - Oct 1, 24									**155.42**	**155.42**

TEC Report to Board - October 2024

Programs & Projects	Effort Level (LOW / MED / HIGH)	Completion Date	Comments
Projects			
E. Vadnais Lake Subwatershed Resiliency Study		ongoing	Staff are continuing to work with the City of Vadnais Heights on Phase 2 of the E. Vadnais Lake Subwatershed Resiliency Study, which includes further investigation of the recommended BMPs identified in the study. SEH has completed design work that is under staff review.
Oak Knoll Pond/Wood Lake		2024	Spent lime applications complete; monitoring ongoing and report from Barr anticipated.
Polar Lake Park Reuse Study		Mid Late 2024	Discussions with WBT on possible grant application development ongoing.
MPCA 319 /Wilkinson Lake BMPs		2024	WQ monitoring ongoing, enhancement underway with NST. Planning underway for next round grant project.
Pleasant Lake Carp Management		ongoing	Planning for 2025 underway.
Tamarack Alum Project		2024	Phase 1 of the project scheduled to be completed by Oct. 23, 2024.
Programs			
City/Township MS4		On hold	Activities on hold until Communication and Outreach Coordinator position filled.
Education/Outreach		On hold	Education tools provided to community partners for fall events including a student field day at Birch Lake Elementary. A neighborhood spotlight article was also posted on the website blog featuring a shoreline project. Other activities on hold until C and O Coordination position filled.
Website		On hold	New website renovation process will restart upon hiring /onboarding of new C and O Coordinator position - stay tuned.
WAV		On hold	Further activities on hold until Communication and Outreach Coordinator position filled.
Cost Share & BWSR WBIF		ongoing	Site visits continue to close out awarded grant projects. Work on projects for the BWSR WBIF grant program also continues with partners, including Elmwood Park in Vadnais Heights, the 5 curb cut raingarden project in White Bear Lake, and a water quality project at the White Bear Lake Sports Center. Elmwood Park construction is moving forward and a feasibility study is underway for a BMP at the White Bear Lake Sports Center.
GIS		ongoing	Updating the online GIS viewer as needed.
Monitoring		ongoing	2024 season wrapping up.
WCA		ongoing	Administering WCA as needed.

Administration & Operation			
Audit		2024	
Budget		for 2025 budget	The Board approved 2025 budget at the 6/26 meeting.
Personnel /HR		ongoing	Hiring process for new Communications and Outreach Coordinator are underway.. Applications are Due Oct. 8th.
SSU		ongoing	The approved 2024 SSU certifications have been submitted to Anoka and Ramsey County.
2027-2036 Watershed Mngt. Plan		2023-2025	Draft phase and associated reviews underway.

FINANCIAL SUMMARY as of 10/1/2024		
4M Account (1.10)	4M Plus (1.23)	Total
$816,830	$249,808	$1,066,638

Budget Summary	Actual Expense YTD	2024 Budget "working"	Remaining in Budget	% YTD
Operations	*$601,863*	*$949,742*	*$347,879*	63%
CIP	*$414,736*	$1,214,131	*$799,395*	34%
Total	$1,016,599	$2,163,873	$1,147,274	47%

VLAWMO
Vadnais Lake Area
Water Management Organization

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

TEC Staff Memo – October 9, 2024

IV. Administration & Operations

A. October Financial Report and Consider Authorization for Payment

Please find the October financial report and authorization to pay bills in the ePacket for consideration and approval.

B. October TEC Report to the Board of Directors

Please find the October TEC report to the Board attached in the ePacket for review and approval.

V. Programs

A. LL1 2024-01 Schwarz Vegetated Swale

Landowners Isabelle and Pete Schwarz submitted a Landscape Level 1 grant application for the conversion of a turf roadside ditch to a vegetated swale over an area of 1,285 sq ft at their property in the City of Vadnais Heights. The vegetated swale would serve a similar function as a curb cut raingarden as it would capture runoff directly from Edgerton Street and several neighboring properties from the roadside ditch and impervious surfaces. This project area drains to East Vadnais Lake and is within the East Vadnais Lake Subwatershed Resiliency Study area. It is a high priority area for reducing stormwater volume. This area contributes drainage to the Edgerton St and Centerville Rd intersection that experiences significant flooding. This project would help reduce and slow stormwater runoff before it reaches the intersection and assist with flood reduction efforts. The East Vadnais Lake Subwatershed Resiliency Study recommended a potential BMP near this proposed project due to the significant drainage area and potential water quality benefits.

Ramsey County Soil and Water Conservation Division (RCSWCD) staff provided a design for the project, which would reduce volume by about 10,933 cubic feet/year (14%), total suspended solids by about 189.46 pounds/year (73%), and total phosphorus by about 0.67 pounds/year (44%). The applicant received six bids for the project and the total estimated project cost is $6,766.72. Staff recommends approval of Landscape Level 1 Grant 2024-01 in the amount of 75% of eligible project expenses, not to exceed $5,075.04 in accordance with program guidelines.

VI. Projects

A. Watershed Management Plan update and Consideration of Approach for Review of Draft Sections

VLAWMO and HEI continue working on the Draft portion of the Plan development process. Initial drafted sections 1 and 2 are included in the packet for initial review and to see how the style guide/formatting for the final document will look.

At the September meeting, staff mentioned that a process would be discussed at the October TEC meeting for an ongoing Plan review and input process including a larger input group in addition to the TEC. That process is described in the attached document: Watershed Management Plan Update "Draft" Review Participation Plan Advisory Committee (TEC+) and PPT.

Staff will present details of the upcoming proposed participation process included in the attached PPT.

The first TEC+ meeting will be held on November 13, 2024, at 9:00 am, in the Vadnais Heights Council Chambers. Sections of the Plan for review and a comment table will be provided to the TEC+ by November 6. Written feedback is requested by November 20 and can be emailed to Dawn Tanner.

Following today's TEC meeting, invitations will be emailed to TEC+ participants for the November meeting.

Attachments:

1) "Draft" Review Participation Plan/Advisory Committee (TEC+)
2) WMP update PowerPoint
3) WMP Section 1 Draft for preliminary review
4) WMP Section 2 Draft for preliminary review

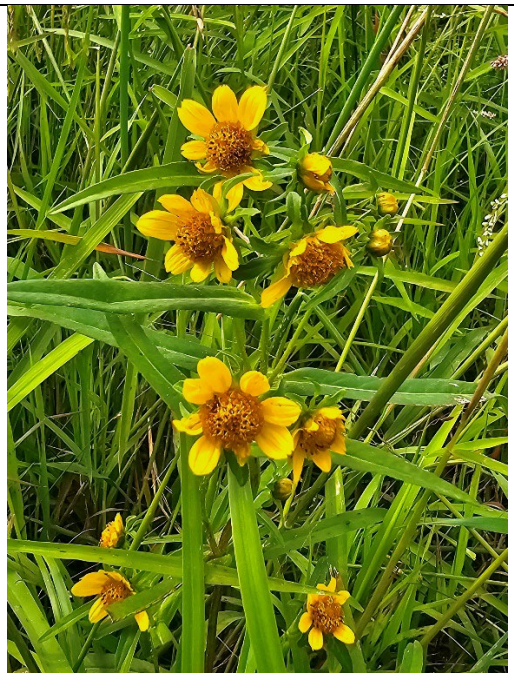
B. Tamarack Lake Alum Project Update

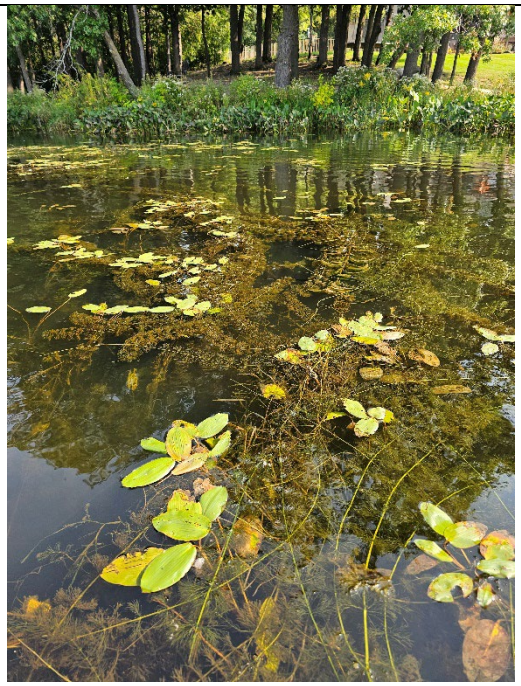
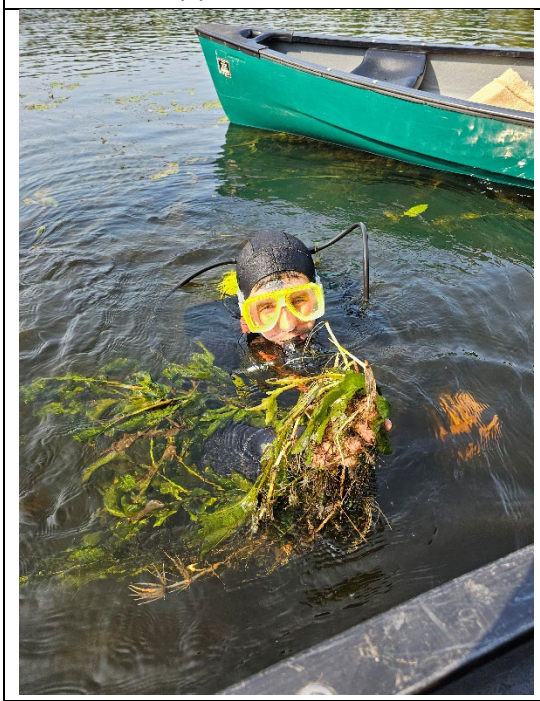
MPCA does not issue a formal permit for alum projects; a letter of support is issued instead of a permit. The letter of support from MPCA for the Tamarack Lake alum project was received, so pre-project logistics have been completed. At the time of packet preparation, Phase 1 project implementation is scheduled to begin the week of Oct. 7, with completion by October 23, 2024. Partners are actively coordinating activities.

C. Wilkinson Deep-Water Wetland Project Update

Enhancement work with NST is underway. A large planting effort and placement of temporary fencing was completed in September by NST. Additional invasive species treatment and native species planting will be conducted in October by NST. RCSWCD and VLAWMO staff conducted a native plant transplant from Gem Lake to the project site in early September. Gem Lake is an approved and permitted source lake according to VLAWMO's permit from the MN DNR because it has a healthy native plant community and no known invasive species infestations. The transplant effort went smoothly. A plant survey is planned for 2025 to assess how native, submerged plants are doing. Submerged plants are an essential component to shallow water areas and will increase nutrient removals in the wetland as the

plants become established. An article was submitted to the October issue of North Oaks News providing more information about the enhancement and transplant efforts.

Fencing and young emergent plants added to the site in September.	Native plants (*Bidens*/beggarticks shown below) continuing to establish.
	
Native submerged plants are beginning to establish at the deep-water wetland. Flat-stem pondweed and Coontail were both observed in small patches. Flat-stem pondweed is considered an indicator of good water quality.	Gem Lake is the approved and permitted source lake. VLAWMO appreciates the support of residents at Gem Lake who allow use of their dock and general access to VLAWMO for our work at Gem Lake.

	
Some plants were readily gathered from shallow areas; others required use of scuba to obtain healthy plants and roots.	Burlap wraps with pea gravel added were used to package plants for tranport and to allow them to stay put in their new habitat as they establish.
	
Plants were transported to the deep-water wetland and paddled in using a kayak and canoe.	The burlap wraps sank to the bottom and anchored the plants. The burlap will biodegrade as the plant roots continue to grow.

D. **Hybrid EWM Sampling Pleasant, Charley, Deep Results**
VLAWMO staff presented about sample collection and submission to the lab for hybrid EWM samples in Pleasant, Charley, and Deep Lakes earlier in the season. Results have been received and shared with partners.

Results for the 3 lakes are summarized in the report:

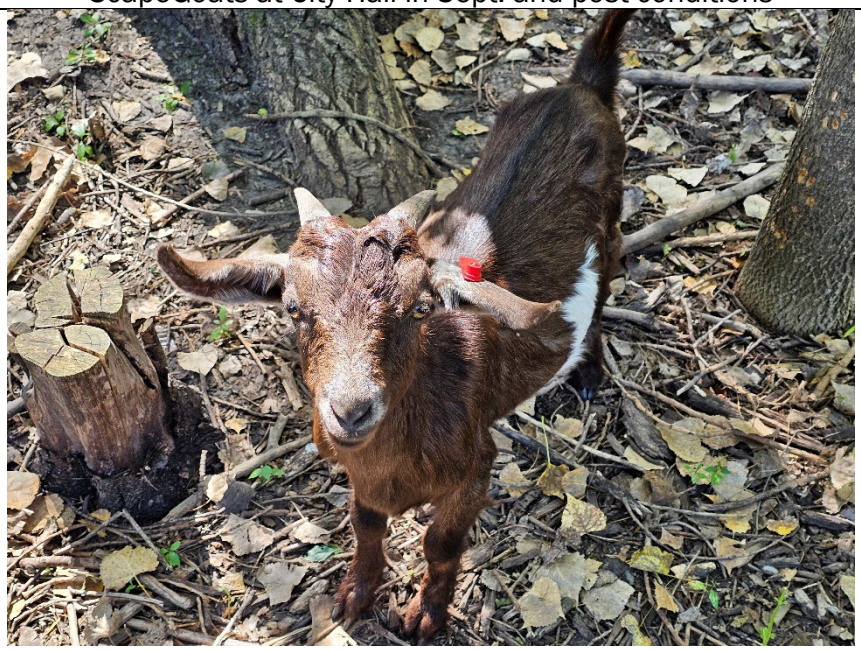
Samples were sent in from Charley Lake, Pleasant Lake and Deep Lake in Ramsey County, MN for genetic identifications. The samples that were successful from all three lakes were identified to be a hybrid watermilfoil strain, H_MYR_15445. This hybrid watermilfoil strain, thus far, is unique to these lakes and has not been found elsewhere. These data will be uploaded into the MilfoilMapper watermilfoil strain database for public viewing by December 2024.

Deep Lake was not previously listed as infested for EWM. The new infestation and full results have been provided to the MN DNR for inclusion and updating the infested waters list. Results were also provided to the RCSWCD AIS staff.

E. **Vadnais Heights City Hall Summer Goat Grazing Complete**
VLAWMO and the City of Vadnais Heights worked together to complete the second season of goat grazing in the City Hall wooded wetland. ScapeGoats completed the second round of grazing in September. VLAWMO and the City of Vadnais Heights plan to work with the Green Team volunteers to broadcast seed the area, using

funds from the MN DNR CPL grant, this fall. Join us in watching to see how the site responds next year, following the addition of native plant seed.

ScapeGoats at City Hall in Sept. and post conditions



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

LL1 Grant Application

Submit completed application to:

Lauren Sampedro

lauren.sampedro@vlawmo.org

Applicant Information:

Name:	Isabelle and Pete Schwarz
Address:	3520 Edgerton Street,
City/Township, State, Zip:	Vadnais Heights, MN 55127
Phone:	612.590.9028 and 507.217.7466
Email:	isabellegomezdesigns@gmail.com and peteschwarz72@gmail.com

Project Summary:

ESTIMATED TOTAL PROJECT COST ($)	$6,766.72
AMOUNT REQUESTED ($5,000 reg, $7,500 curb cut)	$5,075.04
EXPECTED PROJECT COMPLETION (Month, Year)	Spring 2025

PROJECT TYPE:

- (●) Raingarden/Infiltration Basin: Curb cut
- ( ) Raingarden/Infiltration Basin: Regular
- ( ) Shoreline/Streambank Stabilization and/or Restoration
- ( ) Filtration
- ( ) Other

If other, please describe the proposed project: _____

Project Background:

Describe the project location. Does it connect to a lake, stream, ditch, or wetland in VLAWMO? What issues will be addressed with this project?	This project would be taking place on the West-most part of 3520 Edgerton property, which butts up to Edgerton Street. The area currently has a "dip" and tunnels under driveways to help water flow down to Lake Vadnais. This proposed Rain Garden would help with water overflow with heavy rain and clean the water traveling to the Lake.

1

Project Background: Continued

Describe how your project will support the goals of the Landscape Level 1 Grant Program. (See LL1 policy)	This proposed rain garden project on 3520 Edgerton will reduce stormwater rate and water volume, reduce nutrient loading and improve water quality for Lake Vadnais, and protect and preserve groundwater quality and quantity in the Edgerton/Valento area of Vadnais Heights.

Briefly describe the planned installation and maintenance activities for your project.	The planned installation includes; 1. Removing existing turf/grass/vegetation in project area 2. Installing 3" shredded hardwood mulch over entire planting area 3. Planting native plants (as spec'd) throughout planting area 4. Installation of shovel edge at boundary of native planting area 5. Restoration of any damaged landscape/turf/grass outside of project area w/ seed or sod. Maintenance Activities: by landowner

Project Specifications:

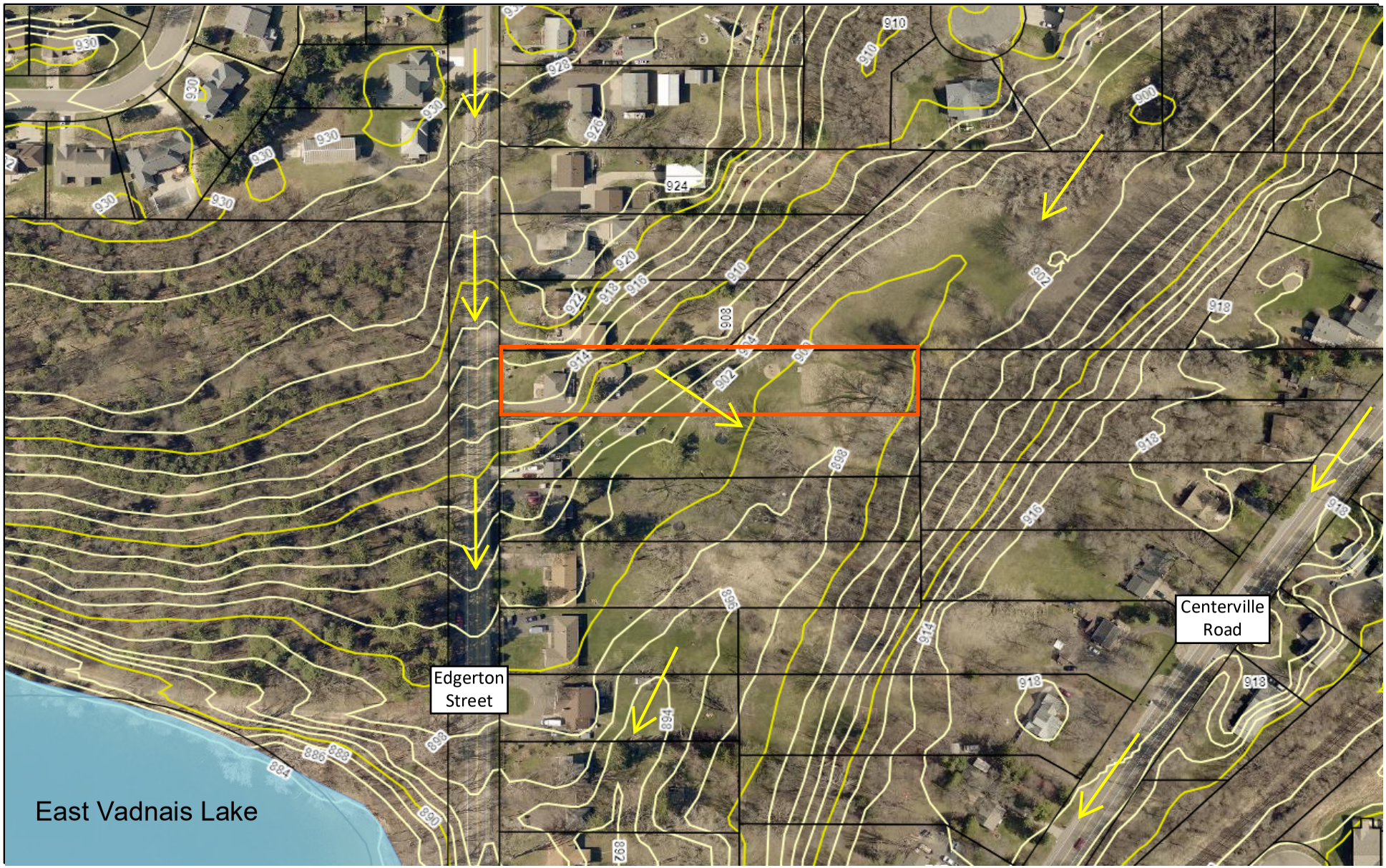
TOTAL PROPERTY AREA (Acres)	1.12 acres
IMPERVIOUS (HARD) AREA DRAINING TO PROJECT (Sq Ft):	27,150 SF
DEPTH OF PRACTICE (In): *Provide if project includes infiltration/filtration*	0

Total PROJECT SIZE (Sq Ft)	1,285 SF
PERVIOUS (GRASSY, NON-PAVEMENT) AREA DRAINING TO PROJECT (Sq Ft):	29,290 SF
BOTTOM SURFACE AREA (Sq Ft): *Provide if project includes infiltration/filtration*	0

Required Attachments:

- ⇒ Detailed drawing or plan of the proposed project. If project is complex, VLAWMO may require project final designs to be completed by a qualified professional or engineer. Drawing must include project dimensions that enable VLAWMO staff to model the project for estimated water quality benefits.
- ⇒ At least 2 bids for construction of proposed project.
- ⇒ Detailed project budget estimate with itemized materials and costs that equal the total project cost.

LL1 2024-01 Schwarz Vegetated Swale



10/1/2024 8:34:10 AM

VLAWMO Boundary 2020

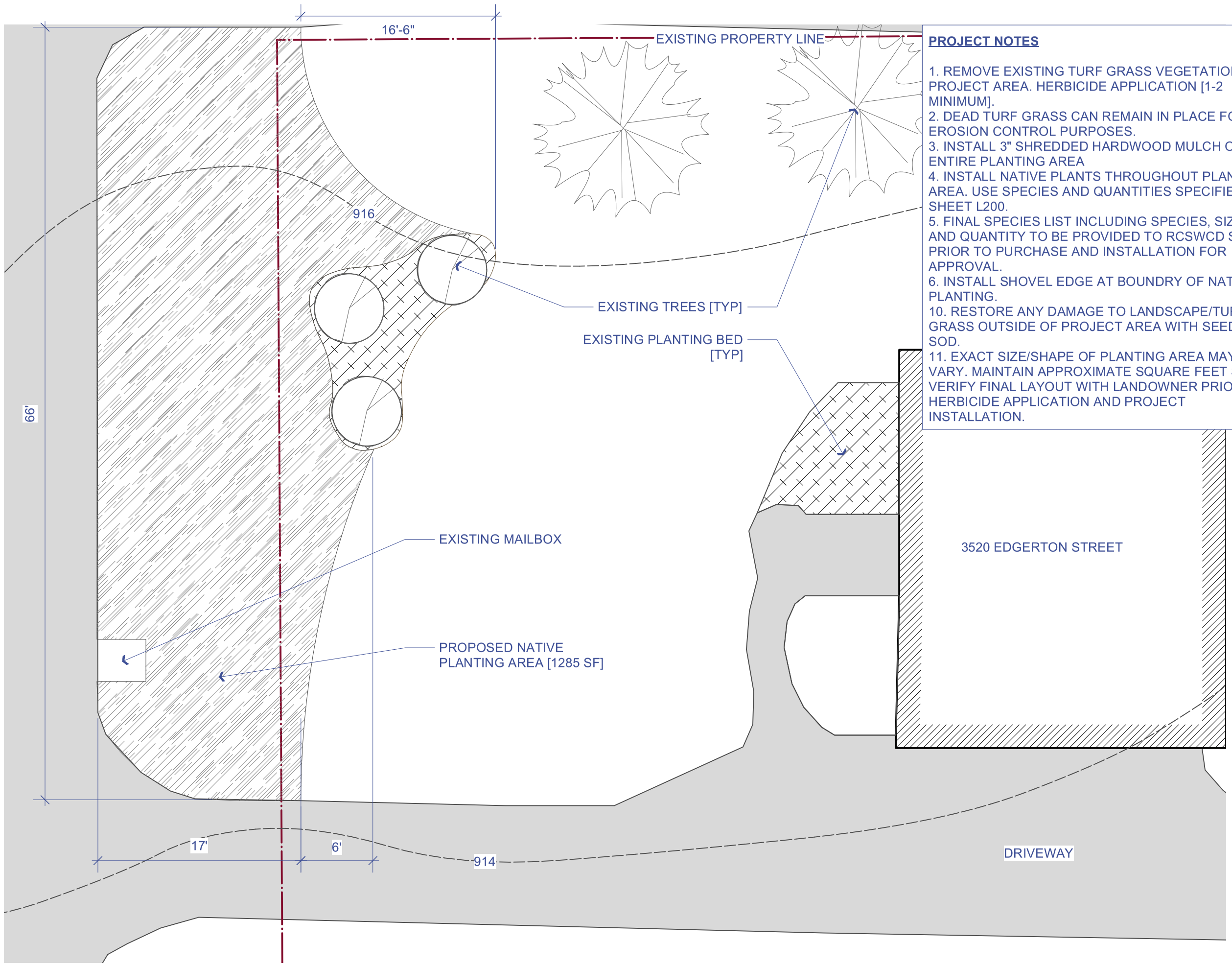
VLAWMO lakes

Project Location

Flow Arrows

0 0.03 0.05 0.1 mi

0 0.04 0.09 0.17 km



PROJECT NOTES

1. REMOVE EXISTING TURF GRASS VEGETATION IN PROJECT AREA. HERBICIDE APPLICATION [1-2 MINIMUM].
2. DEAD TURF GRASS CAN REMAIN IN PLACE FOR EROSION CONTROL PURPOSES.
3. INSTALL 3" SHREDDED HARDWOOD MULCH OVER ENTIRE PLANTING AREA
4. INSTALL NATIVE PLANTS THROUGHOUT PLANTING AREA. USE SPECIES AND QUANTITIES SPECIFIED ON SHEET L200.
5. FINAL SPECIES LIST INCLUDING SPECIES, SIZING, AND QUANTITY TO BE PROVIDED TO RCSWCD STAFF PRIOR TO PURCHASE AND INSTALLATION FOR APPROVAL.
6. INSTALL SHOVEL EDGE AT BOUNDRY OF NATIVE PLANTING.
10. RESTORE ANY DAMAGE TO LANDSCAPE/TURF GRASS OUTSIDE OF PROJECT AREA WITH SEED OR SOD.
11. EXACT SIZE/SHAPE OF PLANTING AREA MAY VARY. MAINTAIN APPROXIMATE SQUARE FEET SIZE. VERIFY FINAL LAYOUT WITH LANDOWNER PRIOR TO HERBICIDE APPLICATION AND PROJECT INSTALLATION.

RAMSEY COUNTY

RAMSEY COUNTY SWCD
1425 PAUL KIRKWOLD DR
ARDEN HILLS, MN 55112
651-266-7280
www.ramseycounty.us

PROJECT: SCHWARZ RESIDENCE
LOCATION:
3520 EDGERTON ST
VADNAIS HEIGHTS MN, 55127

WATERSHED DISTRICT: VLAWMO
Vadnais Lake Area Water Management Organization

DESIGNER: NICK NEYLON
DATE: 6/10/2024
REVISION:
REVISION:
REVISION:
REVISION:
CHECKED BY: BTO
TAA:

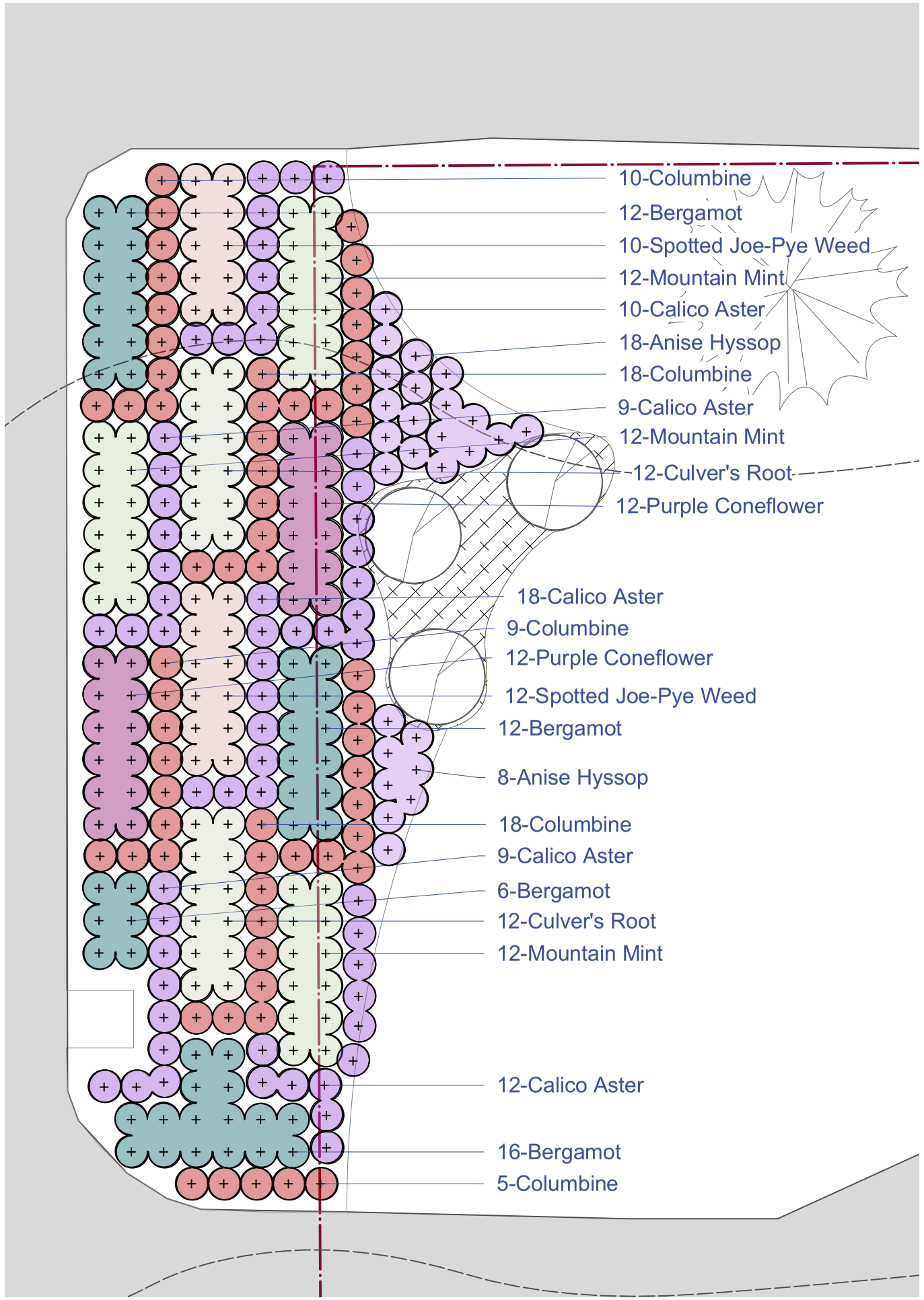
NOTES:
-ELEVATIONS ARE APPROXIMATE
-CONFRIM UTILITY LOCATIONS PRIOR TO WORK
-CONTRACTOR AQUIRE NECESSARY PERMITS PRIOR TO START
-SIZE AND SHAPE MAY VARY
-MAINTAIN SQUARE FEET
-ORIGINAL SHEET SIZE: 11"x17"

SCALE: 1/8"=1'-0"

N

SITE PLAN

L100



PLANT SCHEDULE - SEASONAL INTEREST LAYER			
ID	**Qty**	**Latin Name**	**Common Name**
F1	26	Agastache foeniculum	Anise Hyssop
F6	58	Symphyotrichum lateriflorum	Calico Aster
F12	46	Monarda fistulosa	Bergamot
F28	60	Aquilegia canadensis	Columbine
F29	24	Veronicastrum virginicum	Culver's Root
F44	22	Eupatorium maculatum	Spotted Joe-Pye Weed
F50	36	Pycnanthemum virginianum	Mountain Mint
F62	24	Echinacea purpurea	Purple Coneflower
	296	**TOTAL PLANTS**	

NOTES:
1. ALL PLANTS SHOULD BE ORDERED AS 2" PLUGS OR SIMILAR.
2. SPACING FOR ALL PLANTS IS 18"-24".
3. PLANT SEASONAL INTEREST LAYER AS DESIGNED IN LAYOUT.
4. PLANT GROUND COVER LAYER AS A GRID AROUND SEASONAL INTEREST LAYER. GROUND COVER LAYER DOES NOT NEED TO FOLLOW PLAN EXACTLY

RAMSEY COUNTY

RAMSEY COUNTY SWCD
1425 PAUL KIRKWOLD DR
ARDEN HILLS, MN 55112
651-266-7280
www.ramseycounty.us

PROJECT: SCHWARZ RESIDENCE
LOCATION:
3520 EDGERTON ST
VADNAIS HEIGHTS MN, 55127

WATERSHED DISTRICT:
VLAWMO
Vadnais Lake Area Water Management Organization

DESIGNER: NICK NEYLON
DATE: 6/10/2024
REVISION:
REVISION:
REVISION:
REVISION:
CHECKED BY: BTO
TAA:

NOTES:
-ELEVATIONS ARE APPROXIMATE
-CONTRACTOR AQUIRE NECESSARY PERMITS PRIOR TO START
-SIZE AND SHAPE MAY VARY
-MAINTAIN SQUARE FEET
-ORIGINAL SHEET SIZE: 11"x17"

SCALE: 1/8"=1'-0"

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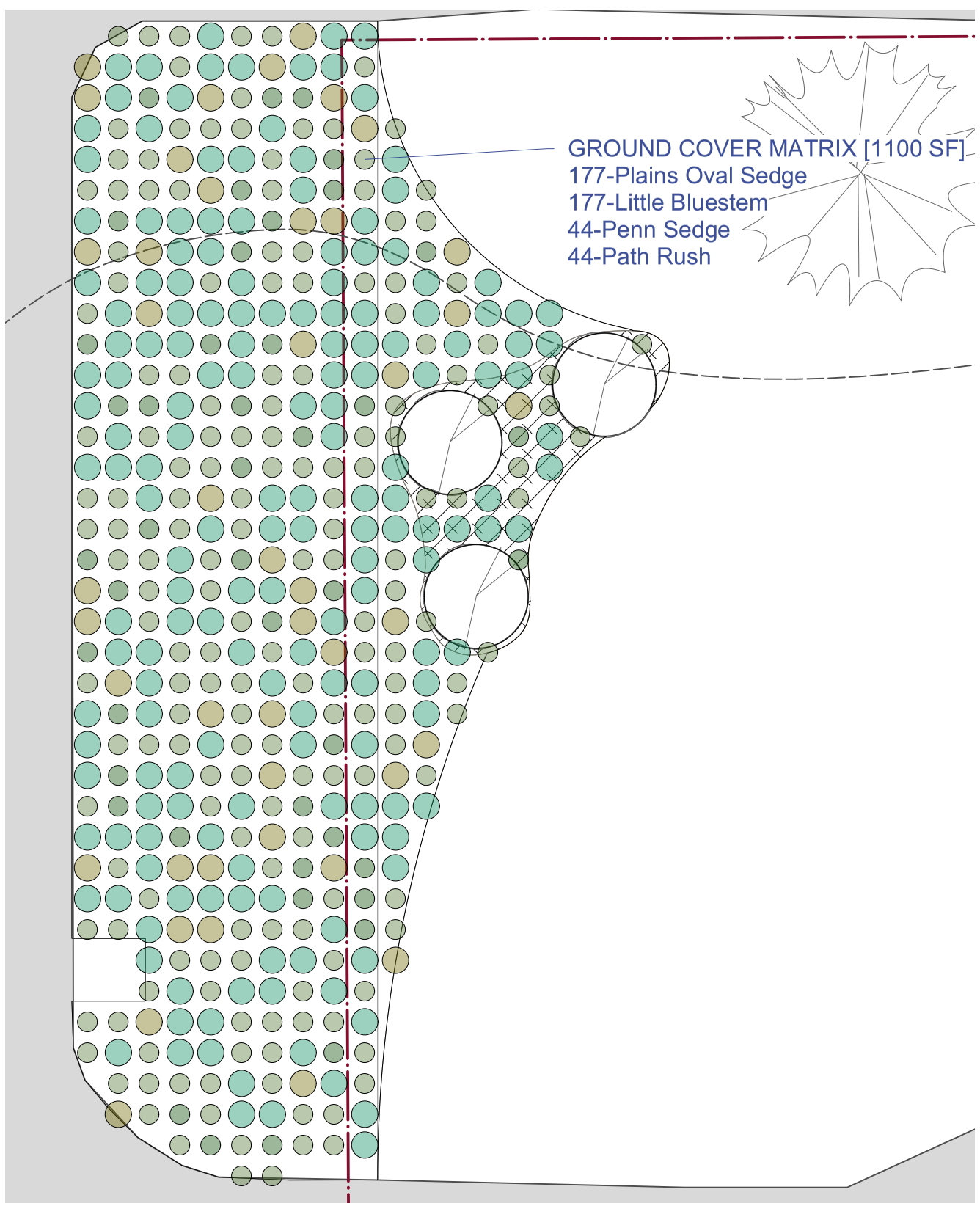
SEASONAL INTEREST PLANTING PLAN

L200



PLANT SCHEDULE - GROUNDCOVER LAYER			
ID	**Qty**	**Latin Name**	**Common Name**
C16	44	Carex pensylvanica	Penn Sedge
C17	177	Carex brevoir	Plains Oval Sedge
G9	177	Schizachyrium scoparium	Little Bluestem
R4	44	Juncus tenuis	Path Rush
	442	**TOTAL PLANTS**	

NOTES:
1. ALL PLANTS SHOULD BE ORDERED AS 2" PLUGS OR SIMILAR.
2. SPACING FOR ALL PLANTS IS 18"-24".
3. PLANT SEASONAL INTEREST LAYER AS DESIGNED IN LAYOUT.
4. PLANT GROUND COVER LAYER AS A GRID AROUND SEASONAL INTEREST LAYER. GROUND COVER LAYER DOES NOT NEED TO FOLLOW PLAN EXACTLY

RAMSEY COUNTY

RAMSEY COUNTY SWCD
1425 PAUL KIRKWOLD DR
ARDEN HILLS, MN 55112
651-266-7280
www.ramseycounty.us

PROJECT: SCHWARZ RESIDENCE
LOCATION:
3520 EDGERTON ST
VADNAIS HEIGHTS MN, 55127

WATERSHED DISTRICT: VLAWMO Vadnais Lake Area Water Management Organization

DESIGNER: NICK NEYLON
DATE: 6/10/2024
REVISION:
REVISION:
REVISION:
REVISION:
CHECKED BY: BTO
TAA:

NOTES:
-ELEVATIONS ARE APPROXIMATE
-CONTRACTOR AQUIRE NECESSARY PERMITS PRIOR TO START
-SIZE AND SHAPE MAY VARY
-MAINTAIN SQUARE FEET
-ORIGINAL SHEET SIZE: 11"x17"

SCALE: 1/8"=1'-0"

N

GROUND COVER PLANTING PLAN

L300

DATE: 8/5/24

Scope of Work - Rain Garden Planting

Pete Schwarz
3520 Edgerton St.
Vadnais Heights, MN 55127
Phone Number 1
peteschwarz72@gmail.com

412 Harding St. N.E.
Minneapolis, MN 55413

Notes & Unresolved Issues
-If there is irrigation, dog fence, or lighting in our work area we will most likely damage it with a machine or shovel. Client will need to work with another contractor at the end of the project to repair these items.

Demolition and Preparation **Demo is the most variable section of our estimate. When our crew notices a significant change they will speak with you to discuss the change order as soon as it arises.*

-Two applications of herbicide applied to kill off turf grass vegetation in the planting area. Price given is a budgeted number and will be adjusted as necessary.
-Dead turf grass will remain in place for erosion control purposes.
-To protect the new planitngs, install erosion control logs approximately every 15 feet to slow the movement of water through the drainage trench.
-This estimate does not include removal of soils, weeds or other vegetation.

Subcontractor Installation
-Herbicide applications by Home Sown or Barrett

Landscape Finishes
-Install aluminum edging to separate garden bed from lawn. Includes cutting a 5-6" deep trench to hold the edging, trimming and staking edging sections, and compacting soil around edging sides.
-Install a compost layer to planting area (over the dead turf grass). Includes applying 1-1.5" of composted organic material and incorporating into the planting beds.
-Mulch planting areas. Includes installing 2" of hardwood mulch in the planting areas. Hardwood mulch reduces weed colonization and helps maintain soil moisture (reducing watering).
-Install plant material through the dead turf grass. Includes planting according to highest industry standards. Note: Plants are listed at the end of the estimate.

NOTE: Some plant choices invariably change based on nursery availability and/or quality of plant material.

DATE: 8/5/24

Estimate - Rain Garden Planting

Demolition and Preparation

QTY	UNIT SIZE	DESCRIPTION	PRICE	PRICE TOTAL
1	yd.	Garbage/Recycling (pots)	$65.35	$65.35
4	ea.	Wood Chip Log 20'	$50.33	$201.30
20	ea.	Wood Stakes	$1.20	$24.02

total material costs		$290.68
total labor costs		$760.00
Demolition and Preparation	Total	**$1,050.68**

Lawn Care (Home Sown)

See addendum for details

Two applications of RoundUp herbicide. Budgeted $275 per application. Numbers to be adusted as needed.

$550.00

Subcontractor Setup and Coordination Fee (+10%)	$55.00
Estimated State Sales Tax	$44.14
Additional Install Labor Caused By Subcontractor	$0.00

Total		**$649.14**

Landscape Finishes

QTY	UNIT SIZE	DESCRIPTION	PRICE	PRICE TOTAL
6	16' Sect.	1/8" Aluminum Edging - Black Duraflex, 4" high	$79.79	$478.73
5	yd.	Green Loon Soil Conditioner G (compost layer)	$78.36	$391.82
1	ea.	Compost delivery	$182.00	$182.00
8	yd.	Shredded Hardwood Bark Mulch (2" layer)	$59.84	$478.73
1	ea.	Mulch delivery	$182.00	$182.00
1	ea.	**PLANTS (See Attachment)**	$3,693.76	$3,693.76
1	ea.	Delivery	$234.00	$234.00
1	ea.	Rabbit Scram (2.5lb)	$27.01	$27.01

total material costs		$5,668.06
total labor costs		$8,811.00
Landscape Finishes	Total	**$14,479.06**

DATE: 8/5/24

Fuel Charge

Crews may update fuel costs to reflect average Twin Cities fuel pricing at the time of invoicing.

DEISEL	GAS COST	PRICE TOTAL
$5.20	$3.50	**$198.35**

GRAND TOTAL	**$16,377.22**

Plant List*included in grand total

Quantity	Size	Botanical Name	Unit Price	Total Price
		Perennials		
20	#1	Agastache foeniculum	$9.38	$187.60
44	#1	Aster cordifoliumn	$9.38	$412.72
35	#1	Monarda fistulosa	$9.38	$328.30
45	#1	Aqualigia canadensis	$9.38	$422.10
18	#1	Veronicastrum virginicum	$9.38	$168.84
17	#1	Eupatorium maculatum	$9.38	$159.46
27	#1	Pycnanthemum virginicum	$9.38	$253.26
18	#1	Echinacea purpurea	$9.38	$168.84
17	4"	Carex pensylvanica	$6.30	$107.10
75	#1	Carex rosea (sub for C. brevior)*	$9.38	$703.50
75	4"	Schizachyrium scoparium	$6.30	$472.50
33	#1	Juncus tenuis	$9.38	$309.54
		Total:		$3,693.76

DAVEY Resource Group

Local Office
1196 7th Street E
St. Paul, MN 55106
651-202-3662

August 16, 2024

Pete & Isabelle Schwarz,
3520 Edgerton St.
Vadnais Heights, MN 55127

RE: Native Planting

Dear Pete and Isabelle,

Thank you for contacting Davey Resource Group, Inc. "DRG" to provide you with this proposal to complete a native planting at your home in Vadnais Heights, MN. This proposal is inclusive of all labor, material, and equipment required to perform the services described below.

Scope of Work

Planting Bed Prep

This project will be for the spring of 2025 per the client's request, as the spring is a more suitable time of year to plant plugs. DRG will provide two herbicide treatments using a non-selective herbicide to kill all the grass and weeds currently growing in the planting area. The dead grass will be left in place to help stabilize the soil and prevent erosion.

Native Plant Install

DRG will install twelve yards of natural double shredded hardwood mulch to cover the entire planting area with three inches of mulch. DRG will then install 738 native 2" plugs and follow the planting plan provided by Ramsey County dated 6/10/24. DRG will follow the exact planting plan to the best of our ability, but there may be small tweaks to field fit plants due to the site conditions. Due to the flow of water going through the planting area, DRG has also included three 6" erosion control logs to be installed across the flow of water. This will slow down the flow of water during rain events and help prevent erosion or damage to plants. Poly edging will be installed on the east side of the planting area to separate the planting area from the turf and keep the turf from encroaching on the native plants. This will run on the east side of the planting area from the homeowner's driveway to the existing planting bed, and then north to the neighbor's driveway. Watering the plants will be the responsibility of the homeowner.

Please note that native plugs do not carry a warranty.

This proposal can be implemented by either issuing a purchase order, or by signing the Authorization to Proceed below and returning to our office. Please feel free to only choose the line items for the work you would like DRG to perform at this time.

If you have any questions or wish to arrange for a meeting to discuss this scope of work and more specifically the treatment methods and areas, please call me at 651.202.3662. Thank you for allowing DRG the opportunity to work with the Schwarz family.

Sincerely,

Ben Rietz

Ben Rietz
Ecological Specialist
Davey Resource Group, Inc.
www.daveyresourcegroup.com

AUTHORIZATION TO PROCEED

The following pricing options have been developed for consultations and reports as requested. Any additional effort would be priced at our labor rate of $100 per hour.

Native Planting

Description of Service	Contract Type	Price
Task 1: Site Prep	Firm-Fixed Price	$730.00
Task 2: Native Plant Install	Firm-Fixed Price	$9,350.00
Project Total		**$10,080.00**

By signing this form, I do hereby acknowledge acceptance of the scope of work and associated fee, as well as the terms and conditions and limited warranty contained herein. Furthermore, my signature authorizes the work to be performed effective the date of my signature and denotes that I am an authorized representative of the Client with authority to authorize and bind my company.

Client Name:

Authorizing Signature:_____

Authorizing Name:

Title:

Date:

Phone Number:

Email:

Davey Resource Group, Inc.

Name/Title:

Date:

Prairie Restorations, Inc.

Estimate

 # EST-004911

Prairie Restorations
Tax ID : 41-1292279
31646 128th Street Northwest
Princeton, Minnesota 55371

Bill To
Pete Schwartz
3520 Edgerton St
Vadnais Heights, MN 55113

Ship To
Pete Schwartz
3520 Edgerton St
Vadnais Heights, MN, 55113

Estimate Date :	July 23, 2024
Sales person :	Jake Hoverman
Project Name :	Schwarz, Pete 2024 Install
Is Project Prevailing Wage? :	No

Subject :

Estimate for the site prep and installation of mulch and plants at 3520 Edgerton St.

#	Item & Description	Qty	Rate	Amount
1	Service Site Preparation Spray Herbicide visits to prepare the project area. Two visits minimum and three may be necessary. Rate is per application, and the assumed quantity is three.	3.00	350.00	1,050.00
2	Service Garden Installation Installation of black plastic edging to designer specifications along the boundary where the bed meets the lawn.	1.00	545.00	545.00
3	Service Mulch and Mulching Delivery and installation of 12 cu yds of natural twice-shredded hardwood mulch.	1.00	2,350.00	2,350.00
4	Service Plant and Planting Installation of 738 2-inch plugs per the planting plan from Ramsey County. Substitutions may be necessary depending on availability.	1.00	3,530.00	3,530.00
			Sub Total	7,475.00
			Total	**$7,475.00**

Notes

We appreciate your business!

Responsible Service Site: Two Oaks

Customer Email:
Customer Phone:

Proposal

MNL
8740 77th St NE
Otsego, MN 55362
763.295.0010
estimating@mnlcorp.com
https://mnlcorp.com/
Shop Native Seed & Plants

Women Owned Business

Pete and Isabelle Schwarz
3520 Edgerton Street
Vadnais Heights, MN 55127
Pete Schwarz
507-217-7466
peteschwarz72@gmail.com

Project Name: Schwarz Rain Garden

Project Location: 3520 Edgerton Street, Vadnais Heights, MN 55127

Category	Description	Qty.	Unit	Unit Price	Total
Mobilization	*Mobilization of Crew and Equipment to Project Location*	1	LS	$ 985.00	**$ 985.00**
Site Preparation	*Turf Grass/Vegetation Removal and Planting Bed Prep (Includes 3 Herbicide Treatments)*	1	LS	$ 1,025.00	**$ 1,025.00**
Live Plant Installation	*Native Perennial: Installation of 2" Native Plugs*	738	Each	$ 5.00	**$ 3,690.00**
Landscape Services	*Twice Shredded Hardwood Mulch Installation*	12	CY	$ 75.00	**$ 900.00**
Miscellaneous	*Deliveries*	1	LS	$ 150.00	**$ 150.00**
	Optional Services				
Landscape Services	*Installation of Steel Edging Around Rain Garden/Mulch Perimeter (65LF)*	1	LS	$ 650.00	**$** -

Project Notes:
Seed/plant availability subject to change.
Pricing assumes the project area is as shown on the attached map/plan.
Pricing based upon plans, designs, &/or specs. provided to MNL by others.
MNL is not liable for project delays due to situations beyond our control.
Pricing assumes access and parking for crew and equipment.
Pricing does not include any permits.
Pricing does not include any applicable sales tax.

Grand Total **$ 6,750.00**

+ $650.00

=$7,400.00
Actual Total

Pricing good for: 30 Days
Terms: 30 Days Net Invoice

Accepted by:

Date:

Provided by:

Chelsea Bratvold
Date: 7/26/2024

Heal the Earth

LANDBRIDGE ECOLOGICAL

QUOTE PROPOSAL

To: Pete Schwarz
Address: 3520 Edgerton St.

Contact: Erin O'Leary
Phone: 612.503.4472
Email: erin@landbridge.eco

Project Name: Schwarz Turf Conversion
Project Location: Vandais Heights, MN 55113

Date: 8/15/24
Quote is valid for 30 days from above date, afterwhich subject to change

Item #	Item Description	Unit	Est Qty	Unit Price	Total Price
1	Twice Shredded Hardwood Mulch (MnDoT Type 6)	CY	12.00	$ 155.38	$ 1,864.56
2	Native Perennial: 2" Plugs or equivalent	EA	738.00	$ 3.80	$ 2,804.40
3	Turf Grass/Vegetation Removal and Planting Bed Prep	SF	1285.00	$ 0.70	$ 899.50
4	Deliveries	LS	1.00	$ 231.00	$ 231.00
5	Mobilization	LS	1.00	$ 300.00	$ 300.00
	Optional				
6	Easy Flex 2" Plastic Edging	LF	33.00	$ 6.01	$ 198.33
7	Border Flex Steel Edging - Black 4"	LF	33.00	$ 14.21	$ 468.93

TOTAL QUOTE: $ 6,766.72

NOTES:

Landbridge Ecological is a locally-owned and operated small, Woman-Owned Business Enterprise (WBE) and is certified through the Minnesota Unified Certification Program (MnUCP) and by the Central Certification Program as a DBE- Small and Women Business Enterprise (S/WBE) in Hennepin and Ramsey Counties. Proof of certification is available on request.

Maintenance and Tree/Brush Removal Items may be subject to applicable taxes.

670 Vandalia Street
Saint Paul, MN 55114
612.503.4420
www.landbridge.eco

RAMSEY COUNTY
Parks & Recreation

ALL ITEMS AS SPECIFIED BELOW ARE FOR REFERENCE USE ONLY

Schwarz Residence
3520 Edgerton Street
Vadnais Heights, MN 55113
BMP Type: Native Planting
Number of BMPs: 1 of 1

County: Ramsey
Date: 10-Jun-24

INSTALLED MATERIALS & LABOR - NATIVE PLANTING

Item	Qty	Unit		Unit Cost		Amount
Twice-Shredded Hardwood Mulch (MnDOT Type 6 Mulch)	12.00	CY	$	100.00	$	1,200.00
Native Perennial: 2" Plugs; or equivalent [quanitity could be reduced if desired by landowner]	738.00	EA	$	6.00	$	4,428.00
Turf Grass/Vegetation Removal & Planting Bed Prep (turf grass, etc.) [2 herbicide applications minimum, dead turf to remain in place]	1285.00	SF	$	0.55	$	706.75
Deliveries	1.00	LS	$	200.00	$	200.00
Mobilization	1.00	LS	$	800.00	$	800.00
				Subtotal	$	7,334.75

INSTALLED MATERIALS & LABOR - ADDITIONAL ITEMS AS NECESSARY

			$	-	$	-
1]			$	-	$	-
2]			$	-	$	-
3]			$	-	$	-
4]			$	-	$	-
5]			$	-	$	-
				Subtotal	$	-

PROJECT TOTAL

Project Estimate	$	7,334.75
:-10%	$	6,601.28
:+10%	$	8,068.23

Estimated WD/WMO Grant Award:	TBD
Estimated RCPR Grant Award:	$0.00
Potential Grant Award Total:	TBD
Estimated Landowner Cost:	TBD

Soil & Water Conservation Division
2015 Van Dyke Street
Maplewood, MN 55109
www.ramseycounty.us

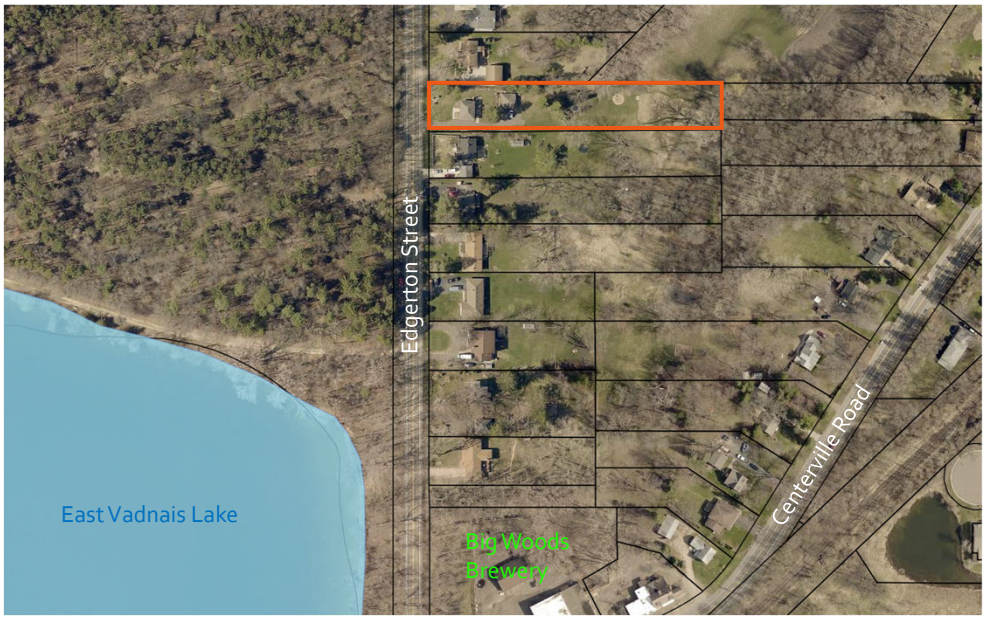
V. A. Schwarz Vegetated Swale

LL1 2024-01 Grant Application

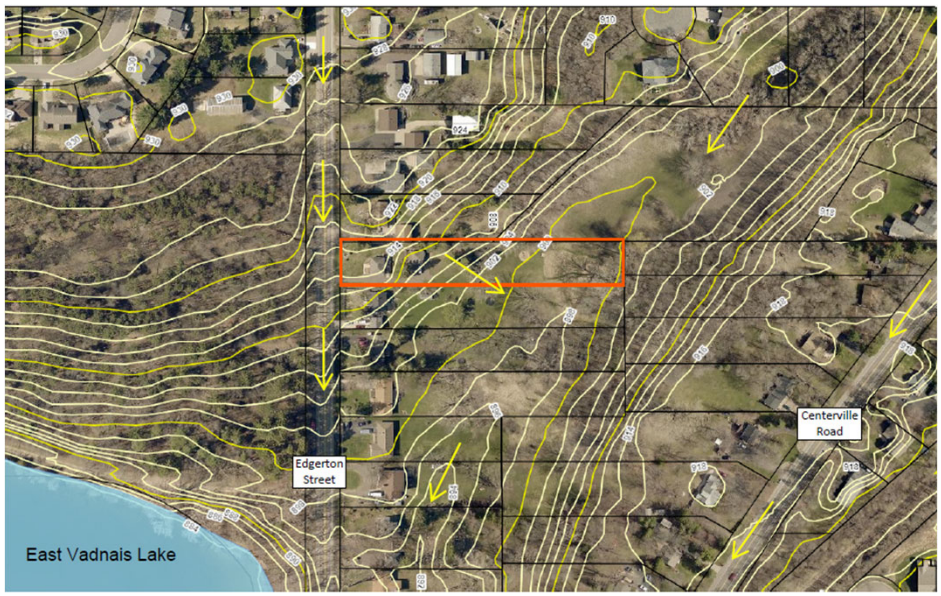
Lauren Sampedro
TEC Meeting
10/9/2024

EST 1983 VLAWMO Vadnais Lake Area Water Management Organization

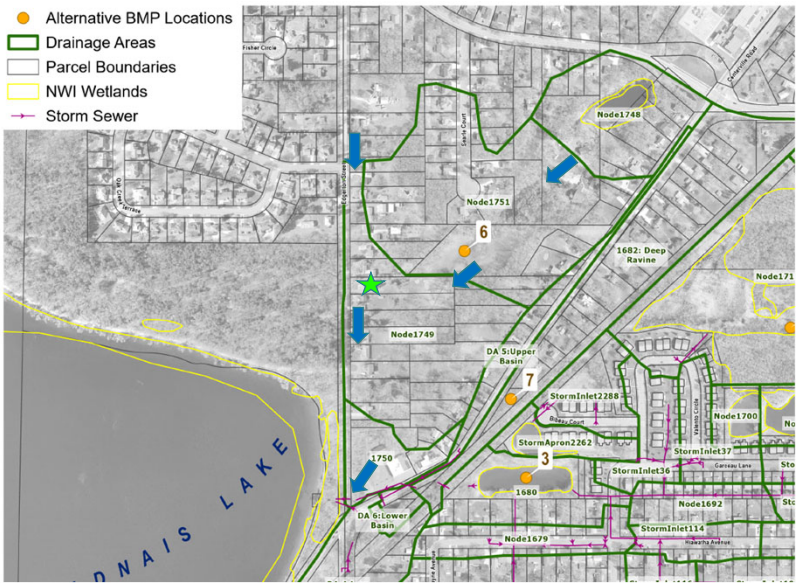
LL1 2024-01 Location Aerial

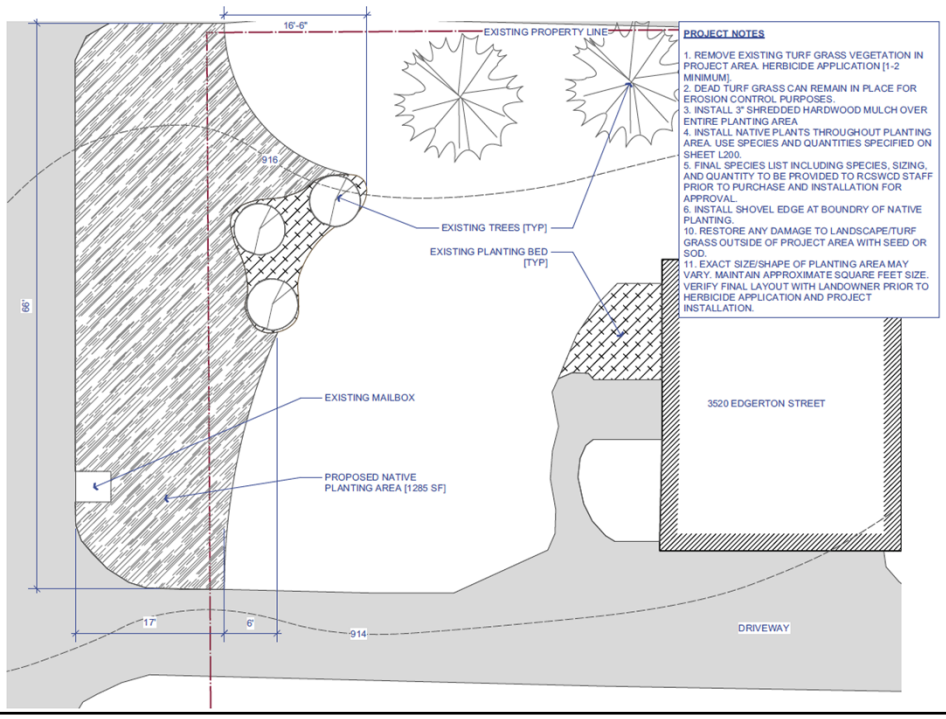


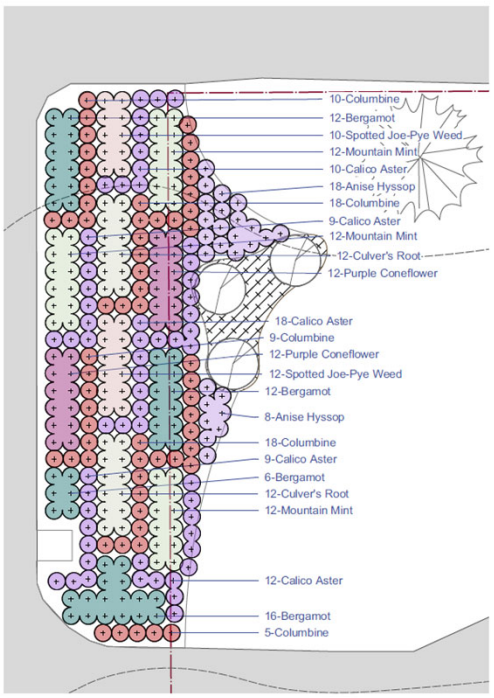
Drainage Area



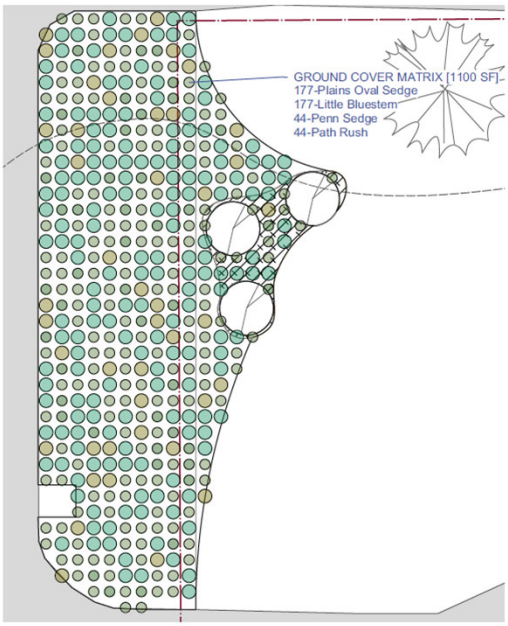
East Vadnais Lake Subw. Resiliency Study







PLANT SCHEDULE - SEASONAL INTEREST LAYER			
ID	Qty	Latin Name	Common Name
F1	26	Agastache foeniculum	Anise Hyssop
F6	58	Symphyotrichum lateriflorum	Calico Aster
F12	46	Monarda fistulosa	Bergamot
F28	60	Aquilegia canadensis	Columbine
F29	24	Veronicastrum virginicum	Culver's Root
F44	22	Eupatorium maculatum	Spotted Joe-Pye Weed
F50	36	Pycnanthemum virginianum	Mountain Mint
F62	24	Echinacea purpurea	Purple Coneflower
	296	TOTAL PLANTS	



PLANT SCHEDULE - GROUNDCOVER LAYER			
ID	Qty	Latin Name	Common Name
C16	44	Carex pensylvanica	Penn Sedge
C17	177	Carex brevoir	Plains Oval Sedge
G9	177	Schizachyrium scoparium	Little Bluestem
R4	44	Juncus tenuis	Path Rush
	442	TOTAL PLANTS	

Bid Summary

- **Field Outdoor Spaces:** $16,377.22
- **Davey Resource Group:** $10,080.00
- **Prairie Restorations, Inc. :** $7,475.00
- **MNL:** $7,400.00
- **Landbridge Ecological:** $6,766.72

VLAWMO 2027-2036 Watershed Management Plan
"Draft" Review Participation Plan
Advisory Committee (TEC+)

1 BACKGROUND

VLAWMO is working with Houston Engineering, Inc. (HEI) to complete VLAWMO's 2027-2036 Watershed Management Plan (Plan). The development of the Plan is required pursuant to Minnesota (MN) Rules Chapter 8410 and Minnesota Statutes (MS) 103B.

The Plan will address watershed-wide resources and issues, including (but not limited to) surface water management, capital improvement projects, public drainage systems, extreme conditions (e.g., flooding), watershed facilities, climate resiliency, and environmental justice. It will also address and provide guidance on communications and outreach, collaboration and partner projects, local administration of the Wetland Conservation Act (WCA), and funding. Using feedback received from local and State review entities, and the initial watershed-wide public engagement process, this effort will focus on prioritizing issues within the watershed, establishing goals, and developing a strategic plan for projects and activities aimed at addressing the watershed's priority issues.

This document describes the anticipated participation process for the Drafting phase of Plan development.

2 AUDIENCE AND ROLES

Technical Commission Plus (TEC+) Review

The TEC is the official advisory committee, as selected by the VLAWMO Board, to make recommendations on the issues and drafted content as identified in the Plan (MN Rules Chapter 8410.0045, Subpart 2). In this advisory role, the TEC is requested by the Board to review, provide comment, and make recommendations to the VLAWMO Board regarding the Plan development. Currently, VLAWMO is working with HEI on the Draft required step in the process.

As part of VLAWMO's annual process, representatives and City/Township staff from each member community and partner organization (e.g., representatives from St. Paul Regional Water Services, the North Oaks Homeowners' Association, Ramsey County Soil and Water Conservation Division) meet with VLAWMO to identify upcoming

partnership projects, communicate status regarding previously identified projects, and agree upon likely timing of project feasibility and implementation efforts for incorporation of funding into VLAWMO's budget. These representatives are being requested to participate in the TEC+ review process to ensure that project identification and timing of implementation is planned as thoroughly as possible for the next 10-year Plan.

For transparency and to maximize input throughout the process, VLAWMO staff propose review and comment of the draft process, as sections are ready for review, that focuses on the TEC review and also includes invited participation of local and State review entities. These additional participants form the "plus" part of the TEC+ committee. The TEC+ includes those parties which may be operationally affected by the contents of the Plan and/or its implementation, or those parties which have authority and responsibility to review and approve the Plan. The TEC+ is comprised of City, County, Regional, and State Agency staff.

It is anticipated that the TEC+ will meet 3-4 times during the plan development (dates to be determined). The first TEC+ meeting will be held on November 13, 2024.

Meeting materials (draft plan components or sections) will be distributed to the TEC+ no later than one week before the scheduled meeting(s) to ensure enough time for review. An in-person meeting will be held following the regular TEC meeting, at 9:00 am, in the Vadnais Heights Council Chambers. That meeting will focus on discussion of comments. Written comments, using the table and format provided by HEI, will be requested to be received by VLAWMO staff one week following the in-person TEC+ meeting. VLAWMO staff and HEI will then tabulate comments received and make decisions about if/how to implement suggested changes. Results of changes requested will be provided to the Board for their consideration of the Plan section. Comments received after the deadline for receipt will not be included in the tabulation.

VLAWMO Board of Directors

The primary role of the VLAWMO Board of Directors is to collectively provide the vision for, develop, and adopt a coordinated watershed management plan which guides watershed activities for the next 10 years. The VLAWMO Board is composed of an elected Township Board or City Council Member and Director from each of the six member communities. Each VLAWMO Director is appointed to serve on the VLAWMO Board by their Township Board or Council.

The VLAWMO Board authorizes the Plan sections as they are ready and recommended for authorization by the TEC. The Board may also be requested to participate in a workshop focused on the 10-year implementation actions. That workshop date and time is yet to be determined but anticipated to be in early- or mid-2025, perhaps before a regular Board meeting.

3 INTENT FOR INVOLVEMENT

The intent of involving the Advisory Committee/TEC+ during the Draft process is to build transparency, partnership, and ownership of the content within the Plan. Early partnership and ownership of drafted Plan sections are critical, because the watershed is focused on actively utilizing this Plan to implement collaborative projects and programs. Successful implementation depends highly upon the degree to which the parties (TEC+ and VLAWMO Board) believe their concerns, issues, and expectations are addressed within the Plan.

Input provided is also intended to help ensure the comprehensiveness of the Plan and help validate the implementation priorities of VLAWMO.

VLAWMO intends for participants to provide:

- Communication of priority issues, measurable goals, and expectations for action items (projects and activities) for the Plan to address
- Timely review and written comments provided on document drafts
- Coordination with respect to developing Capital Improvement Plans and indications for potential collaboration on implementation projects

4 OVERALL GOAL

The overall goal is to build acceptance of and support for the Plan through a credible yet timely process. Where appropriate, VLAWMO will strive to achieve consensus on objectives, approaches, programs and projects. However, because of the diversity of issues and range of resources, full agreement between or within all committees and groups is not realistic nor expected.

VI. A.

Watershed Management Plan:

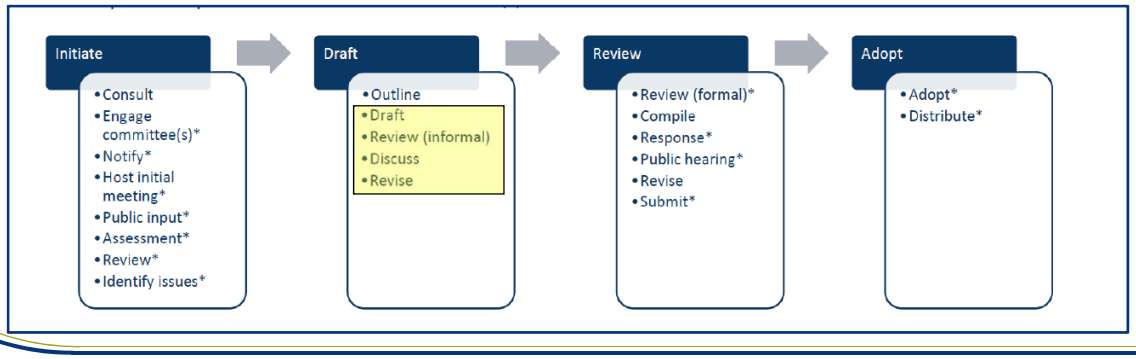
Draft Sections 1 and 2 and TEC+ Process

October 9, 2024
VLAWMO TEC Meeting

VLAWMO
Vadnais Lake Area
Water Management Organization

Background

- Since last update, Draft process continues
- VLAWMO staff working closely with HEI
- HEI has been working on Sections 1 (Introduction) and 2 (Land and Water Resources), with preliminary review from VLAWMO staff



Review

- TEC is official review/advisory committee for Plan
- In that role, TEC authorized priority issues and recommended them to the Board in June
- Board authorized priority issues in June
- Once priority issues were authorized, Draft phase began
- In September, style guide for Plan was provided to the TEC

Goals for today's meeting: Preliminary review

- Sections 1 and 2 are now in draft and formatted to the new style guide
- These sections are included in the packet for preliminary review and to provide context for November meeting
    - Section 1: Introduction, includes overview, watershed maps, administration, organizational structure, successes from previous Plan iterations, and a space for a summary of engagement process (to be added later)
    - Section 2: Land and Water resources includes historical information, land use, geology, surface water descriptions, invasive aquatic species, impairments, groundwater/drinking water, endangered species, climate status/trends, demographics

Goals for today's meeting: Structure for TEC+

- Review and comment throughout the draft process should integrate feedback from TEC (as established advisory committee), partner representatives, and local and State review entities
- This larger group is the TEC+
- To provide opportunities for review throughout the process, TEC+ meetings will be scheduled as needed (anticipated ~3 meetings)
- Materials will be provided 1 week prior to the TEC+ meeting, in-person meeting will be held at 9:00 am following the TEC meeting, and written comments will be requested by 1 week post TEC+ meeting

Goals for today's meeting: Structure for TEC+

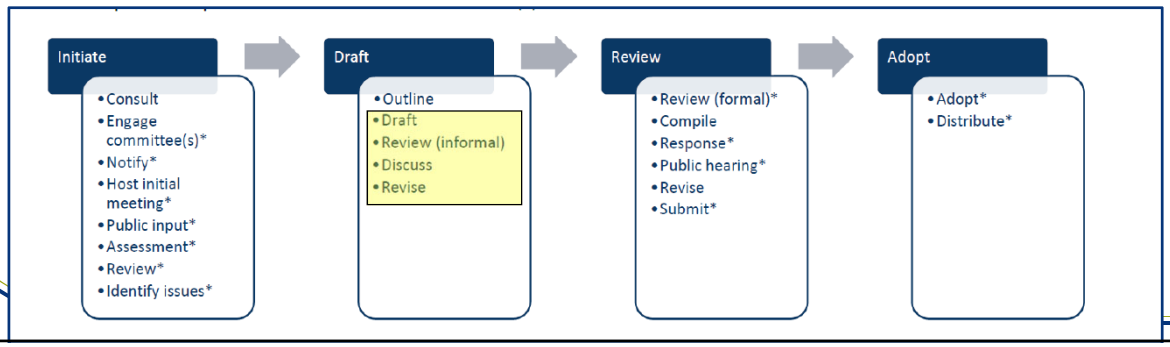
- Written comments will be compiled and reviewed by the Plan project team (VLAWMO and HEI staff)
- Comments received and decisions made (implemented or not/why) will be detailed and provided to the Board, along with the associated sections
- With the recommendation of the TEC, the Board will take the action to authorize sections as the review process is completed for each, with the understanding that the overall draft Plan will still need to go though required 60-day final review by agencies and stakeholders

First TEC+ Meeting

- The first meeting of TEC+ will follow the November TEC meeting
- 9:00 am in Vadnais Heights Council Chambers
- Review materials and guidance for providing comments will be emailed on or before Nov. 6

Next steps

- Draft/internal review process is expected to continue through the winter with a possible Board workshop to focus on 10-year implementation actions (anticipated to occur in early /mid 2025)



Recommended action

- VLAWMO staff request a recommendation to approve the TEC+ Draft Plan review process.

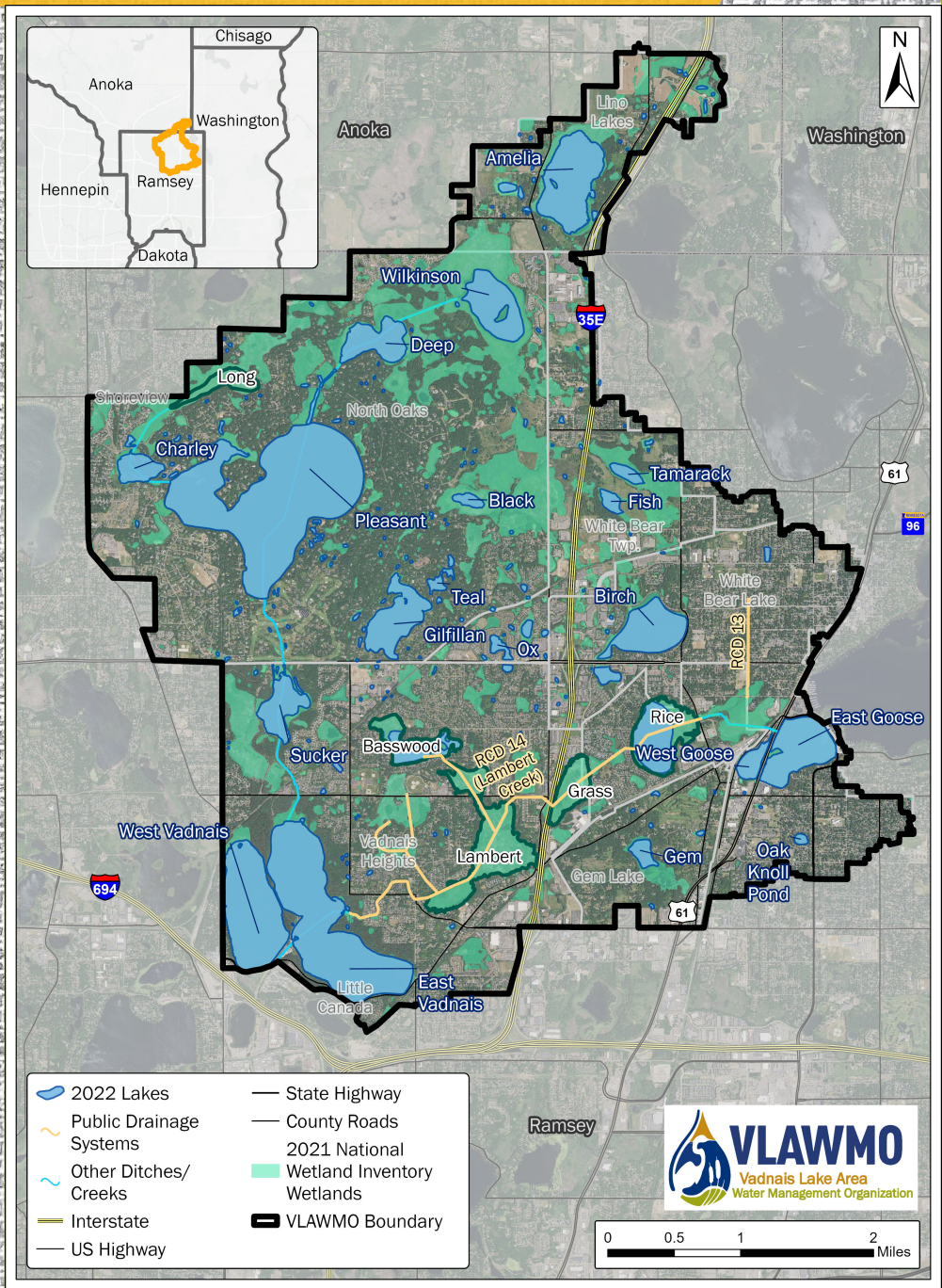
1. INTRODUCTION

The Vadnais Lake Area Watershed Management Organization (VLAWMO) covers 24.2 sq miles of northern Ramsey County and a small portion of Anoka County in the Twin Cities metropolitan area in Minnesota. VLAWMO encompasses the City of North Oaks, and portions of Gem Lake, Lino Lakes, Vadnais Heights, White Bear Lake, and White Bear Township. The watershed is bordered by the Rice Creek Watershed District to the north and the Ramsey Washington Metro Watershed District to the south. While VLAWMO is predominately urban, the watershed is known for numerous green and natural spaces, including over a thousand wetlands and 15 lakes (Figure 1-1).

THE MISSION OF VLAWMO IS TO PROTECT AND ENHANCE THE WATER AND NATURAL RESOURCES IN THE WATERSHED THROUGH WATER QUALITY MONITORING, EDUCATION AND OUTREACH, WETLAND PROTECTION, AND WATER-QUALITY ENHANCEMENT PROJECTS AND PROGRAMS.

VLAWMO was formed in 1983 to protect the Vadnais Lake watershed area. To achieve its mission of protecting and enhancing water resources in the watershed, VLAWMO has developed this Watershed Management Plan (Plan). This is the fifth Plan which builds on the foundation of goals and achievements of the previous plans, while evolving to meet the issues and goals of the next decade. This Plan was created to be useful for VLAWMO, its agency and local government partners, and its citizens to provide a guiding vision for management of water and natural resources in the watershed from 2027-2036.

Figure 1-1. VLAWMO general location.



1.1 VLAWMO Administration

In 1982, the Minnesota Legislature directed metro-area watersheds to develop watershed management plans through the Metropolitan Area Surface Water Management Act. Minnesota Statute 103B.201 outlines the purpose of WMOs:

1. protect, preserve, and use natural surface and groundwater storage and retention systems;

2. minimize public capital expenditures needed to correct flooding and water quality problems;

3. identify and plan for means to effectively protect and improve surface and groundwater quality;

4. establish more uniform local policies and official controls for surface and groundwater management;

5. prevent erosion of soil into surface water systems;

6. promote groundwater recharge;

7. protect and enhance fish and wildlife habitat and water recreational facilities; and

8. secure the other benefits associated with the proper management of surface and groundwater.

Pleasant Lake. Photo Credit: www.vlawmo.org

VLAWMO was organized in 1983 through a Joint Powers Agreement (JPA) between the cities of Gem Lake, Lino Lakes, North Oaks, Vadnais Heights, and White Bear Lake and the Township of White Bear, collectively referred to as the "members." The JPA was developed under authority granted by Minnesota Statues Sections 471.59 and 103B.201, and established a two-tier governance system consisting of a Board of Directors (Board) and a Technical Commission (TEC):

- The Board consists of one elected member from each of the six member communities and meets every two months. The Board is responsible for reviewing and voting on VLAWMO policies and larger scale projects and programs and oversees the VLAWMO budget.
- The TEC is comprised of one representative assigned by each member community and meets monthly. The TEC considers monthly watershed business, votes on small scale projects, and makes recommendations to the Board on large projects. The TEC, through the VLAWMO administrator and other staff members, fulfills its State-mandated purpose via its programs and projects.

In addition to the Board and TEC, VLAWMO organizational structure also includes two committees. The Citizen Advisory Committee (CAC) is comprised of community volunteers and meets twice yearly to advise on watershed projects. The VLAWMO Board Subcommittee is made up of Board representatives to review and recommend actions related to finance, policies and personnel.

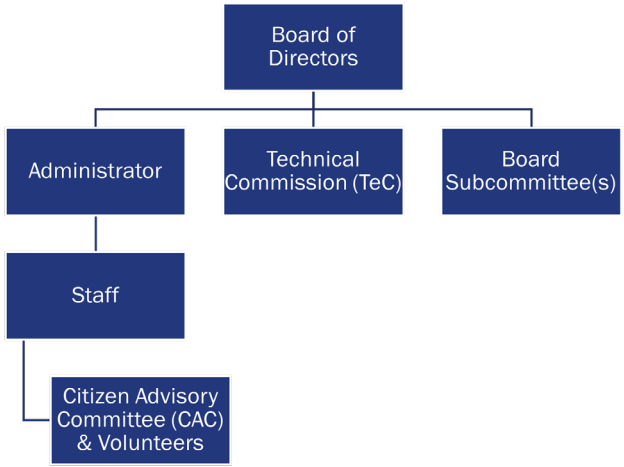


Figure 1-2. *VLAWMO Organizational Chart.*

1.2 Summary of Implementation Success

This is VLAWMO's fifth generation Plan. The first Plan was written in 1985, when key issues were flood control and water-quality protection, through watershed-scale development review and wetland protection. The second Plan, adopted in 1997, expanded VLAWMO's activities to include an annual monitoring program. Implementation of stream and wetland restoration strategies on Lambert Creek and the assessment and protection of wetlands were VLAWMO's priorities. VLAWMO and partners designed and installed projects that mitigated flooding by restoring wetlands along Lambert Creek and conducted a comprehensive wetland assessment for some wetland complexes.

With the third Plan in 2007, VLAWMO added staff, instituted cost-share programs and an enhanced education and outreach program, installed capital projects, and expanded its monitoring program. A funding mechanism (a storm sewer utility fee) was established in 2008 with special permission from the legislature, which provided financial stability for the watershed. During this time, an assessment of VLAWMO's lakes and streams resulted in the inclusion of several waterbodies on the Minnesota Impaired Waters List. A TMDL was developed in 2013/2014 that included nutrient impairments for Gem, Gilfillan, East Goose, West Goose, and Wilkinson Lakes, and a bacteria impairment for Lambert Creek. Additional impairments were listed after the TMDL was completed. Those included nutrient impairments for Pleasant, Tamarack, and West Vadnais Lakes.

The fourth Plan in 2017 recognized issues of groundwater aquifer concerns, fluctuating lake levels, new sources of potable water, and climate change. Goals of the Plan included feasibility efforts and installation of capital projects to work toward addressing impairments. Projects included construction of a meander and biochar filter on Lambert Creek, an invasive common carp removal program on the Pleasant Lake chain, a constructed wetland to improve Wilkinson Lake, initiation of an alum treatment on Tamarack Lake, and others. A comprehensive effort to build Sustainable Lake Management Plans (SLMPs) was completed. SLMPs have transitioned to Lake Reviews. Lake Reviews compile standardized surveys, monitoring, and results of feasibilities to build, compile, and maintain trends and current information for ongoing management of VLAWMO lakes.

In the fifth Plan beginning in 2027, VLAWMO will continue working with its partners to focus on increased implementation of capital projects to continue improving impaired lakes and protecting lakes with good water quality. High-intensity locations include the Pleasant Lake chain, Wilkinson Lake, Tamarack Lake, and ongoing efforts to improve Lambert Creek. Maintenance of completed projects, with project partners, is a high priority to protect gains made to date. All of VLAWMO's projects are undertaken through a lens of climate resiliency and environmental justice.

Birch Lake. Photo Credit: www.vlawmo.org

1.3 Looking Ahead to the Next 10 Years

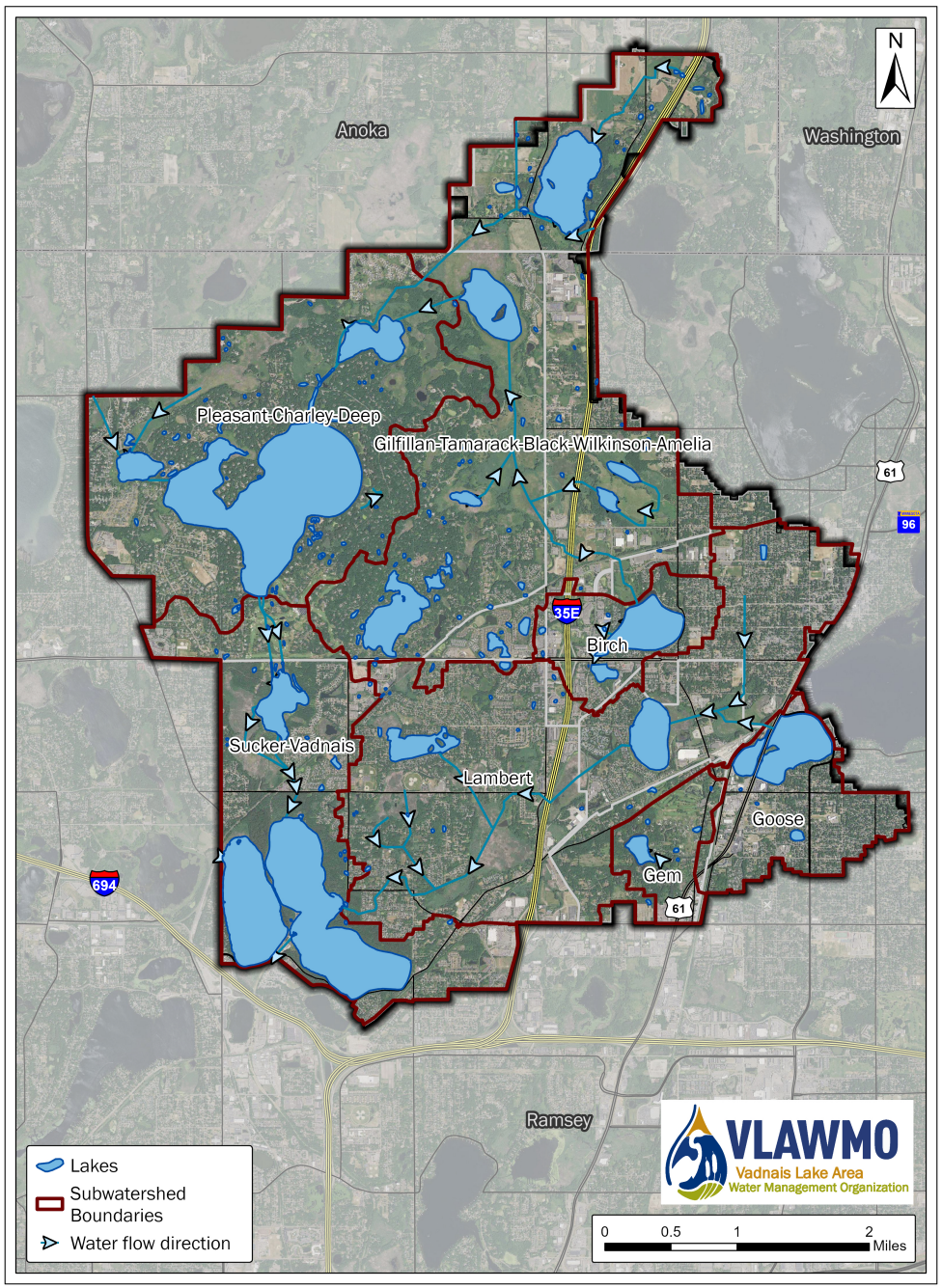
This Plan builds upon the success of previous plans and implementation efforts and sets a guiding vision for management of water and natural resources in the watershed from 2027-2036. To meet this vision, this Plan provides a summary of current conditions in the watershed (Section 2- Land and Water Resources Narrative), describes the issues and goals that are the focus of the Plan (Section 3- Priority Issues and Goals), and identifies the actions that will be implemented to make progress towards goals (Section 4- Implementation Plan).

The prominence of issues may shift based upon the location and associated conditions in a given area of the watershed, due to presence of resources (e.g. wetlands, lakes) or magnitude of issues (e.g. nutrient loading, flooding). Because of this, subwatersheds are referenced throughout this Plan to organize issues, actions, and potential projects to a finer management scale, while maintaining a watershed-wide focus.

1.3.1 Subwatersheds

There are seven smaller subwatersheds within the larger VLAWMO boundary (Figure 1-3). Most of the water in VLAWMO flows into East Vadnais Lake, with the exception of the self-contained Gem Lake subwatershed and West Vadnais Lake. There has been no detectable surface or subsurface connection between West Vadnais and East Vadnais Lakes. The southeastern section of the watershed, Lambert Creek sub-watershed, drains into ditches which connect to Lambert Creek, which drains to East Vadnais Lake. Water drains south along the western side of the watershed through Amelia, Deep, Pleasant, and Sucker Lakes into East Vadnais Lake, and the central area (Birch, Gilfillan, Black, and Tamarack Lakes) flowing north through Wilkinson Lake and into Deep Lake.

Figure 1-3. Subwatersheds within the VLAWMO.



Subwatershed-scale planning can target projects to a specific area and lakeshed. Both watershed-wide and subwatershed activities are included in this Plan. As can be seen in Figure 1-3, the political boundary of VLAWMO does not perfectly align with the hydrologic subwatershed boundaries.

1.4 Plan Development and Community Engagement

[Placeholder for future text summarizing community engagement during the plan development process]

2. LAND AND WATER RESOURCES

The Vadnais Lake Watershed Management Organization (VLAWMO) watershed covers 24.2 square miles of northern Ramsey County and a small portion of Anoka County in the Twin Cities metropolitan area. It encompasses the City of North Oaks and part of Gem Lake, Lino Lakes, Vadnais Heights, White Bear Lake, and White Bear Township. The watershed is a subsection of the larger Mississippi River – Twin Cities Watershed which covers the entire Twin Cities metropolitan area. This larger watershed is further split into smaller watershed units for management purposes. There are fifteen watershed districts and management organizations with jurisdiction in the Mississippi River – Twin Cities Watershed, including VLAWMO.

VLAWMO is an urban watershed with abundant lakes, streams, parks, and natural spaces, providing ecological, recreational, and cultural benefits to its residents and visitors. This section of the Plan aims to summarize these valuable resources and their current conditions, so that future efforts can be focused on effectively managing the watershed's resources into the future. More detailed information than what is included here is used in watershed planning and project development. This summary is intended to provide background, guidance, and reference information.

2.1 Past and Present

VLAWMO's landscape today looks much different than it did prior to European settlement. Historically, the land was predominately covered by maple-basswood forests that was interspersed with wetlands. The first inhabitants of the region were Native Americans that lived near the Mississippi River. Early settlers established Fort Snelling in the early 1800s to support the fur trade, and the development of St. Paul and surrounding areas followed. The location along the river allowed settlers to arrive to the new territory via steamboat, and later railroad. Many people settled outside the of the city to farm the land in what is now the suburbs and VLAWMO. Over time, and with the development of infrastructure, the area became more and more developed with homes and businesses replacing farmland. This residential, suburban, and industrial development continues today. In the late 1800s, wetlands were drained to accommodate farming and suburbanization, which eventually grew into a blend of residential, commercial, and industrial development. Today, VLAWMO is estimated to be home to close to 30,000 people (US Census, 2021; see Section 2.8).

Now, in present-day, over half of the watershed is developed; however, nearly 30% of the watershed remains as forested land or wetlands. This is a fairly large percentage for its location in the Twin Cities metropolitan area, compared to neighboring watersheds. A breakdown of watershed land uses is shown in Figure 2-1 and Table 2-1.

The land in VLAWMO is nearly fully developed or used as parks and open space. Most of the undeveloped land is either protected or not suitable for development. Current and future land use changes are primarily through redevelopment or retrofit projects. VLAWMO partners are required to develop local ordinances that are in compliance with VLAMWO's Water Management Policy (Appendix).

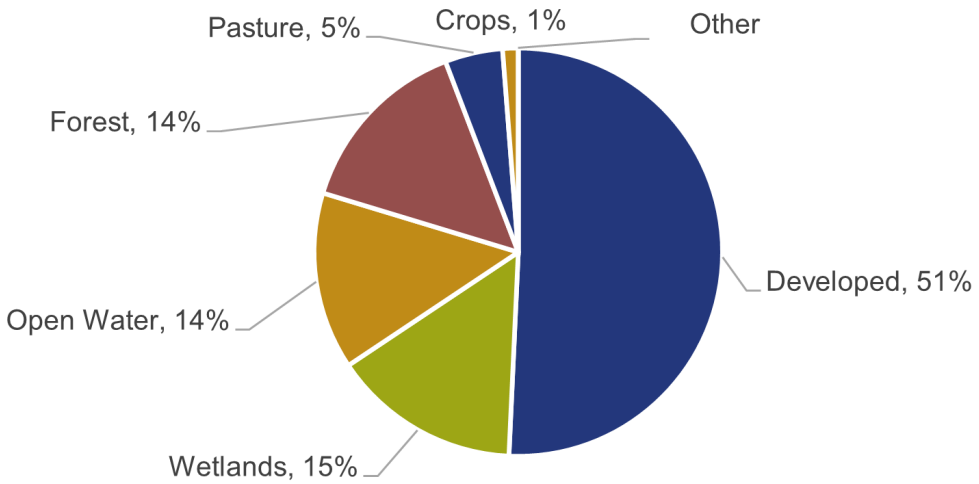


Figure 2-1: *Land use breakdown in VLAWMO (USGS, 2021).*

Description	Watershed Area
Single Family Detached	37%
Park, Recreational, or Preserve	16%
Open Water	14%
Undeveloped	14%
Single Family Attached	3%
Industrial or Utility	3%
Agricultural	2%
Retail and Other Commercial	2%
Major Highway	2%
Institutional	2%
Golf Course	2%
Multifamily	1%
Other (office, mixed industrial, farmstead)	1%

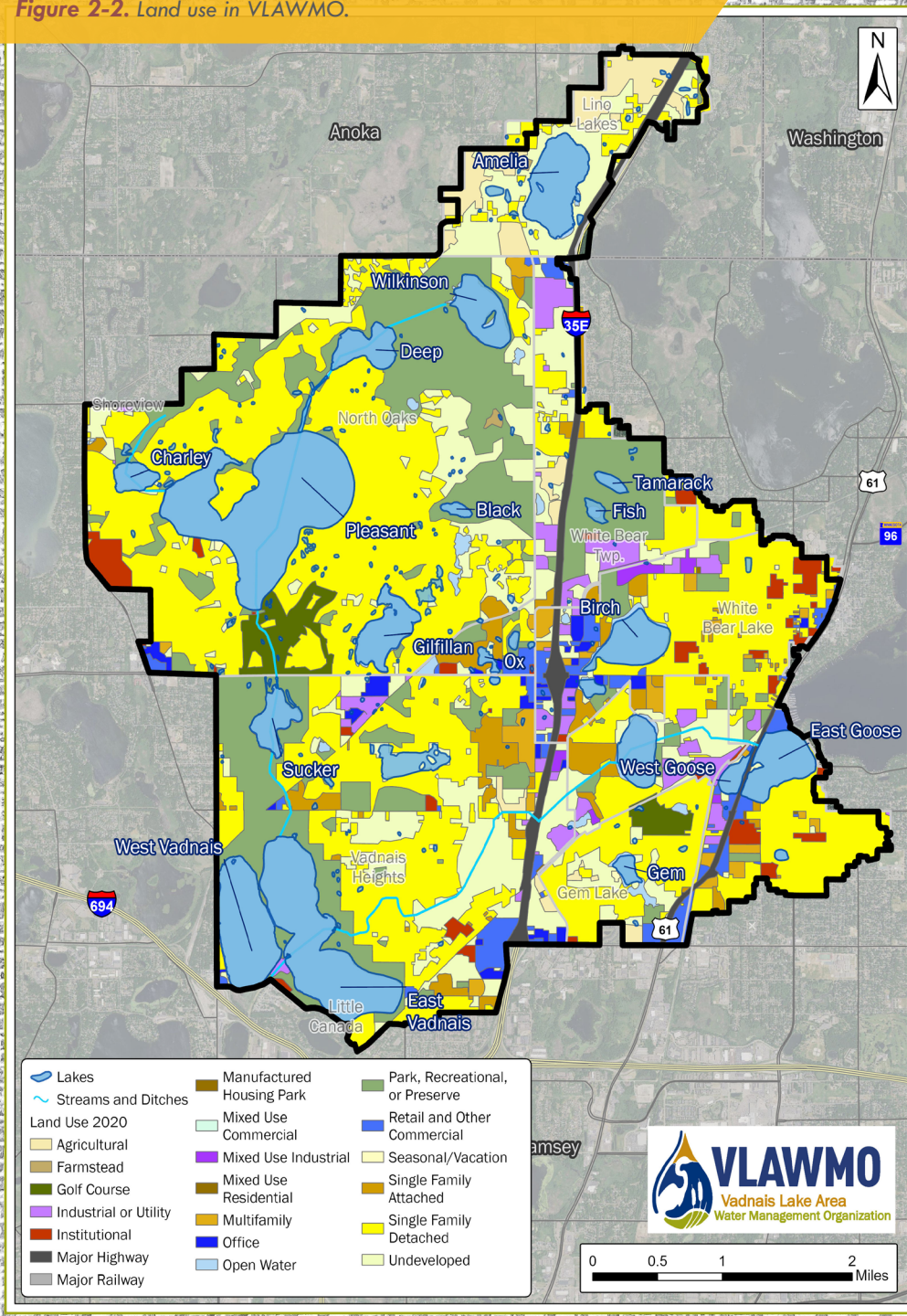
Table 2-1: *Land use in VLAWMO (Metropolitan Council, 2020).*

2.2 Geology

The geology and topography of the watershed is a result of thousands of years of glacial advance and retreat. The most recent glacial deposits that now form the sand, gravel, till, and lake sediment are from the movement of the Grantsburg and Superior glacial sublobes between 12,000 and 20,000 years ago. The glaciers left behind the relatively level or gently rolling topography that is present today.

The DNR developed an Ecological Classification System for categorizing regions across the state on various scales according to ecology, geology, and hydrology. Subsections in the system are defined by glacial depositions, surface bedrock, climate, topography, and plants. Most of VLAWMO is in the St. Paul-Baldwin Plains ecological subsection, with the southwestern edge in the Anoka Sand Plain subsection (a flat, sandy lake plain). The St. Paul-Baldwin subsection is composed of moraine material (debris, glacial till) deposited by the Superior lobe of a glacier and is bordered by flat outwash plains by created sand and gravel deposited by glacial streams.

Figure 2-2. *Land use in VLAWMO.*



There are many types of soil found in the watershed, but sandy loam and sandy till are widespread. Soils are classified into hydrologic groups based on soil permeability. The watershed has a mix of all four hydrologic soil groups (A, B, C, & D), which indicates that the infiltration capacity varies. In some areas, precipitation can infiltrate rapidly through the soil. In others, the soil is less permeable, and heavy precipitation results in primarily overland runoff. All bedrock, the solid rock beneath soils, in the watershed is from marine sedimentary rocks from the Paleozoic age. Aquifers can be found within bedrock, including specific formations in the watershed of St. Peter Sandstone, Prairie du Chien Group, and Platte Formation. Detailed information on geology of the region can be found in the Ramsey County Geologic Atlas.

2.3 Surface Water

The VLAWMO watershed area is known for its surface water features. The watershed is 14% open water, consisting of 15 public water basins (lakes), 47 public water wetlands, Lambert Creek with its associated tributaries, and a series of minor streams, ditches, and channels. This section highlights the prominence and condition of these surface water features.

2.3.1 Lakes

VLAWMO has a unique chain of lakes that drains into a drinking water reservoir for multiple communities. Because VLAWMO includes East Vadnais Lake, which is the drinking water source for St. Paul and surrounding communities, more than 450,000 people (in 2024) receive their drinking water from this watershed. The 15 public water lakes in the watershed are summarized in Table 2-2. The table includes a summary of each lake's size, impairment status (MPCA, 2024), trophic status index (which rates waterbodies on biological productivity and provides insight into water quality), if a shallow lake (DNR, 2019b), and invasive species detected and reported.

The Federal Clean Water Act requires states to adopt water quality standards to protect surface waters. These standards define how much of a pollutant can be in a waterbody while still allowing it to meet its designated uses, such as drinking water, fishing, and swimming. The Clean Water Act requires states to publish an updated list of streams and lakes that are not meeting their designated uses because of excess pollutants. The list, known as the 303(d) list or the Impaired Waters list, is based on those water quality standards.

MPCA monitors waterbodies statewide and classifies a resource as impaired if it does not support the designated use set for the resource. Eight VLAWMO lakes have impairments for aquatic life or recreation due to nutrients or mercury in fish tissue. While there are no public water (boating) access points in the VLAWMO, there is a public park and fishing pier along Sucker and East and West Vadnais Lakes, and VLAWMO's many lakes are still enjoyed by residents and visitors for recreation. Visitors or residents value boating, swimming, fishing, and wildlife watching in the watershed's lakes.

Gilfillan Lake (above) and East Goose Lake (right). Photos: https://www.vlawmo.org/waterbodies/

2.3.2 Streams, Ditches, and Channels

Lambert Creek and its associated tributaries are defining features of the VLAWMO. Lambert Creek, in addition to being a public watercourse, is also designated as a portion of Ramsey County Ditch 14 (RCD 14).

Ramsey County transferred two public drainage systems, RCD 13 and RCD 14, to VLAWMO in 1986. RCD 13 consists entirely of a storm sewer system beginning at 5th Street and flowing south to Whitaker Pond in White Bear Lake. RCD 14 consists of primarily open channel (with some storm sewer) and includes a Main Trunk (i.e. Lambert Creek) and five branches that span from White Bear Lake to Vadnais Heights flowing east to west or southwest.

Lambert Creek is assessed as a creek for water quality standards and is listed as impaired for aquatic recreation due to bacteria. While it is not officially impaired due to nutrients, the creek does have high nutrient concentrations and may be at elevated risk of becoming impaired in the future.

2.3.3 Wetlands

Wetlands make up 15% of the land area of the VLAWMO watershed. There are 47 public water wetlands in the watershed (DNR, 2024b) and over 1,000 wetlands in the watershed, with the majority being a freshwater emergent wetland type with a Simplified Plan Community Classification of shallow marsh or non-vegetative aquatic community (DNR, 2019b). The land was more heavily forested and covered in wetlands prior to settlement, and many wetlands were drained to accommodate agriculture and land development.

VLAWMO is the Wetland Conservation Act (WCA) local government unit for the watershed (excluding MnDOT projects) and is involved whenever there is development or other activities which occur near or in a wetland. VLAWMO provides resources and assistance but defers to member communities for enforcement.

Figure 2-3. Impaired waters (MPCA, 2024) in VLAWMO.

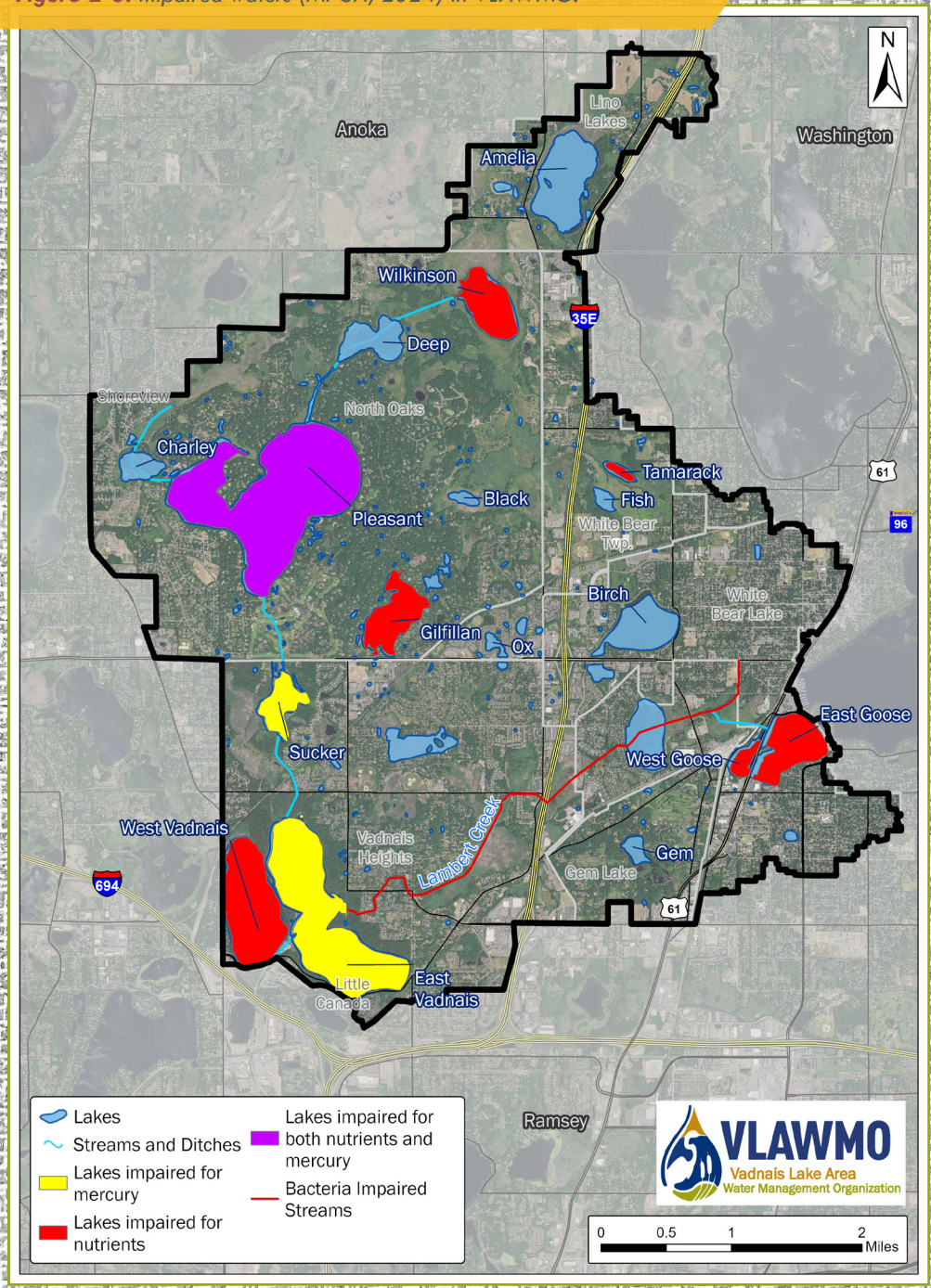


Table 2-2. Summary of VLAWMO lakes.

Name	Acres	Impairment(s)	Trophic State Index (TSI)	DNR Shallow Lake	Infested with AIS	Other
Amelia (02-0014-00)	156		55	X	Eurasian watermilfoil, *Flowering rush	DNR lake of outstanding biological significance. Highest LPSS priority class
Birch (62-0024-00)	113		49	X	Curly-leaf pondweed, Eurasian watermilfoil	
Black (62-0019-00)	11		N/A	X		
Charley (62-0062-00)	37		57		Curly-leaf pondweed, Eurasian watermilfoil, Zebra mussels	High LPSS priority class
Deep (62-0018-00)	72		N/A	X	Curly-leaf pondweed, Eurasian watermilfoil	High LPSS priority class
East Vadnais (62-00038-01)	393	Mercury in fish tissue	47		Curly-leaf pondweed, Eurasian watermilfoil	Higher LPSS priority class
Gem (62-0037-00)	17		52			Classified as public water wetland. Delisted for nutrient impairment in 2018
Gilfillan (62-0027-00)	96	Nutrients	62	X	Curly-leaf pondweed	
Goose (62-0034-00)	115	Nutrients	76	X	Curly-leaf pondweed	West Goose as an unnamed wetland
Fish (62-0021-00)	12		N/A			Classified as public water wetland

**Flowering rush is being treated in a nearby wetland, but it has not been detected in the lake in recent years*

Table 2-2. Summary of VLAWMO lakes

Pleasant (62-0046-00)	607	Nutrients, Mercury in fish tissue	55		Curly-leaf pondweed, Eurasian watermilfoil, Zebra mussels, Rusty crayfish	
Sucker (62-0028-00)	63	Mercury in fish tissue	55		Curly-leaf pondweed, Eurasian watermilfoil, Zebra mussels, Rusty crayfish	
Tamarack (62-0021-00)	12	Nutrients	N/A			Classified as public water wetland
West Vadnais (62-0038-02)	212	Nutrients	71		Curly-leaf pondweed, Eurasian watermilfoil, Zebra mussels	
Wilkinson (62-0043-00)	93	Nutrients	64	X	Curly-leaf pondweed	

VLAWMO requires a professional delineator to determine wetland boundaries. If it is deemed that there may be an impact to a wetland or to determine the required setbacks, information regarding four critical functions (floral diversity, wildlife habitat, water quality, and aesthetics and recreation) is entered into the Minnesota Routine Assessment Methodology for Evaluating Wetland Functions (MnRAM) program to determine the management class for a wetland. Each particular management class has requirements that must be met in order for a project to proceed. In addition to requiring wetland delineations, VLAWMO requires projects with temporary or permanent impacts to a wetland to submit plans and an application. VLAWMO partners with the Technical Evaluation Panel and encourages early communication to ensure WCA is adhered to. Information on WCA and VLAWMO's role is available on the VLAWMO website.

2.4 Groundwater and Drinking Water

Within the VLAWMO protection of both groundwater and surface water features are critical for protecting public drinking water and therefore public health. This section summarizes sources of drinking water and potential risks to be managed, both for groundwater and surface water.

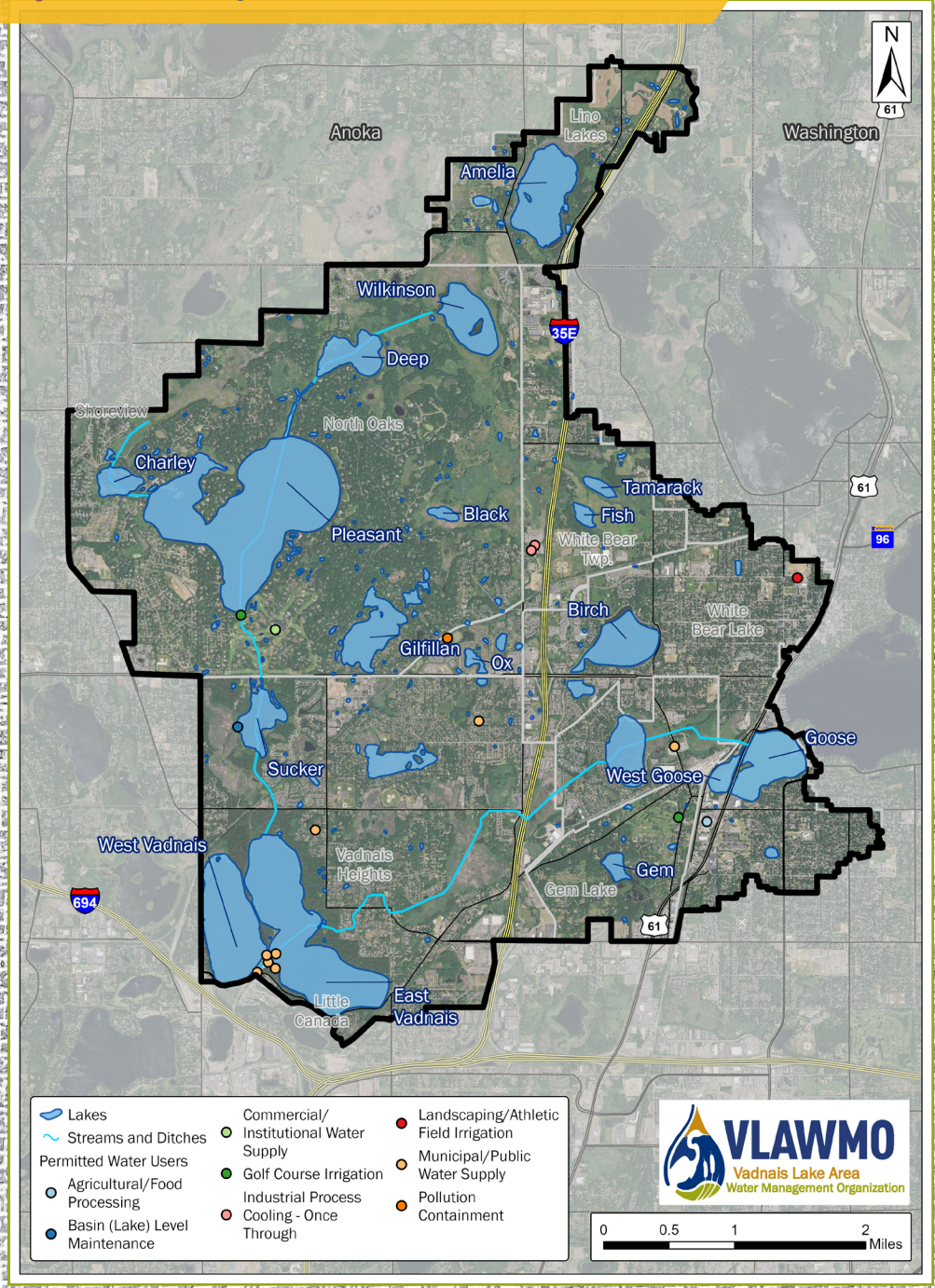
2.4.1 Groundwater Resources

The Minnesota Department of Health (MDH) works with public water systems to identify and manage potential threats around public drinking water sources. Part of this effort includes defining a protection area for drinking water sources, known as a Drinking Water Supply Management Area (DWSMA). Within DWSMAs, contamination on the land surface or in water can affect the drinking water supply, making the areas important to consider for managing threats to drinking water and public health.

Nearly the entire VLAWMO watershed overlaps with one or more groundwater DWSMAs, ranging from low to high vulnerability, with the majority (by area) being of moderate vulnerability (MDH, 2022). Most of the watershed is covered by the Saint Paul Regional Water Services DWSMA, Vadnais Heights North DWSMA, Vadnais Heights South DWSMA, and White Bear Township DWSMA. Other DWSMAs in the watershed include the Lino Lakes, White Bear Lake, and Five Star Mobile Home Park DWSMAs. Additionally, there are many private drinking water wells in the watershed, especially in the community of North Oaks.

DWSMAs are given a vulnerability rating based on the likelihood of groundwater contamination. Most of the watershed has a moderate vulnerability to contamination, but there are areas of low vulnerability from north to south along the center of the watershed and high vulnerability in the eastern half of the watershed. The pollution sensitivity of near-surface materials, which evaluates the time it takes for water to infiltrate 10 feet, varies from low to high throughout the watershed. Groundwater is sourced from the Saint Peter Sandstone aquifer and the deeper Prairie du Chien-Jordan aquifer. Aquifers in the watershed are largely buried sand and gravel and sandstone bedrock, with some limestone.

Figure 2-5. Permitted groundwater in VLAWMO.



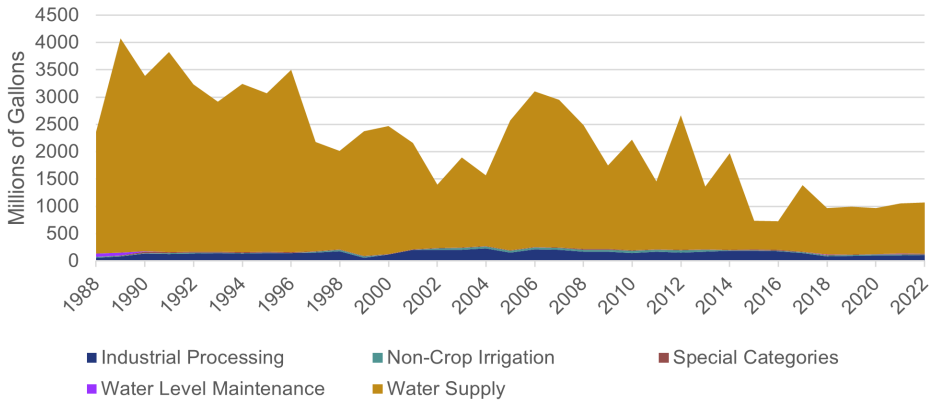


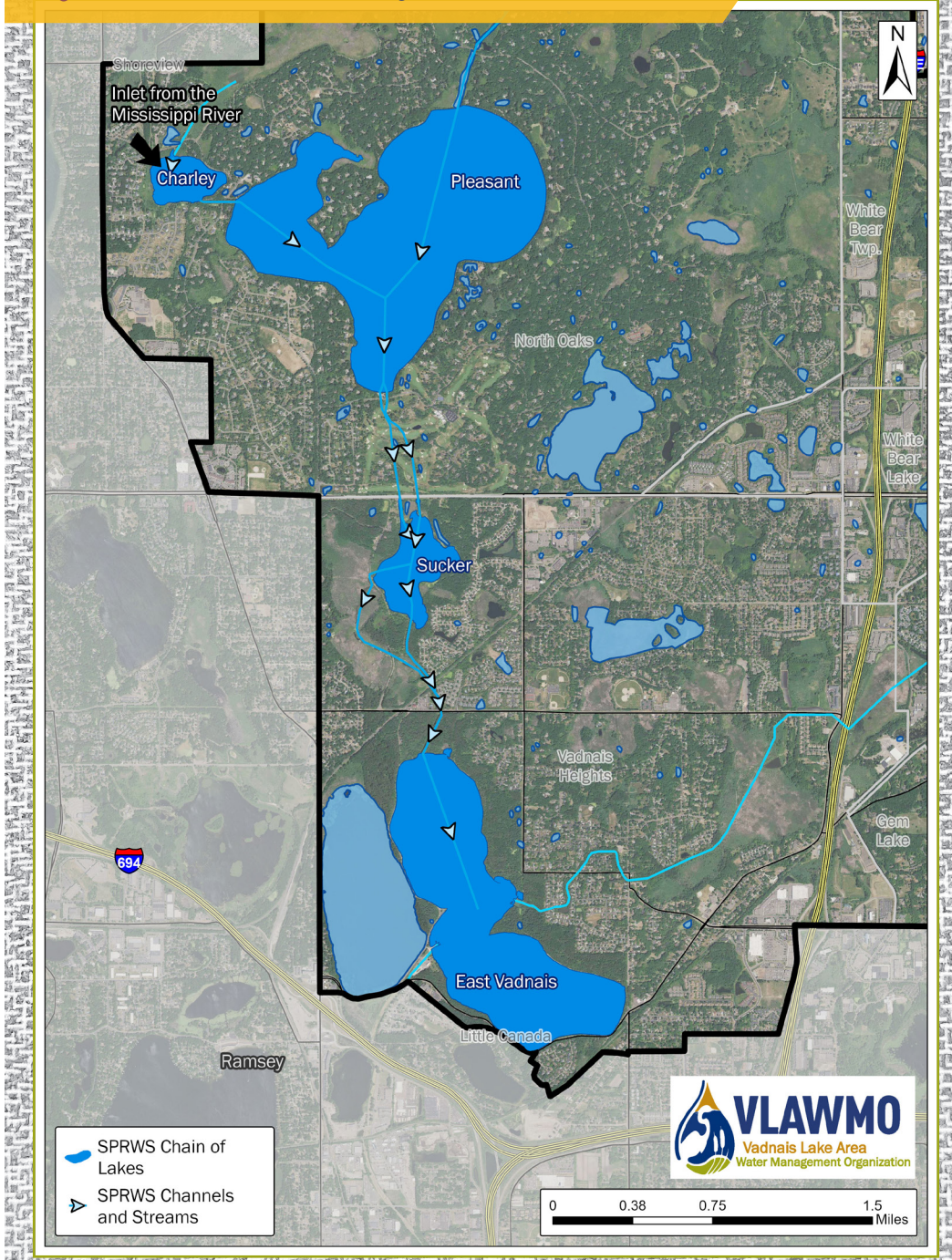
Figure 2-4. VLAWMO groundwater use categories.

As of 2022, there are 22 water use permits in the watershed. In order of volume used, the permits are for public water supply, agricultural or food processing, golf course irrigation, private water supply, pollution containment, industrial water supply, lake level maintenance, and landscaping irrigation (Figure 2-4). This includes both surface water and groundwater withdrawals- surface water far outweighs groundwater use in the watershed. Groundwater withdrawals have been generally decreasing in the watershed since the late 1980s (as far as the DNR records go) and in 2022, 1,073,000 million gallons of groundwater was withdrawn. The decrease may be due to water conservation efforts made by partner communities. The vast majority of groundwater is used for the public water supply (DNR, 2023b).

2.4.2 Surface Drinking Water

Almost the entirety of the VLAWMO watershed is within Priority Area A of the surface water DWSMA for the Saint Paul-Chain of Lakes public water supply system. VLAWMO works closely with the St. Paul Regional Water Service (SPRWS) to monitor surface water quality of East Vadnais Lake as well as the lakes that feed into it, as East Vadnais Lake is the drinking water source for over 450,000 people in the 14 cities, including the City of St. Paul. Water from the Mississippi River is pumped into Charley Lake, where it enters Pleasant Lake, Sucker Lake, then East Vadnais Lake (Figure 2-6). Monitoring and protecting surface water quality is essential for these

Figure 2-6. Surface water for drinking water in VLAWMO.



lakes due to the use for drinking water. A particular concern that SPRWS monitors for in the drinking water chain of lakes (especially Pleasant and East Vadnais) is algae blooms, which alter the taste of the water and can produce toxins.

2.5 Stormwater and Wastewater

Stormwater is runoff in urban areas. In a natural landscape, water infiltrates into the soil during a rain event and runs overland when infiltration capacity is reached. Construction of impervious land such as roads and buildings reduces the ability of the land to store water. Urban contaminants such as road salt, sediment, yard runoff, pet waste, and more are picked up by stormwater as it moves over urban areas. Stormwater is typically directed along gutters and curbs into the city's storm sewer system, which discharge into streams or ditches without filtration.

A Municipal Separate Storm Sewer System (or MS4) is a network of catch basins, gutters, roads, and storm drains that drain stormwater and are publicly owned. VLAWMO's six-member communities, Anoka County, Ramsey County, and MnDOT are covered by the MPCA MS4 general permit. MS4s are required to reduce the amount of sediment and pollutants in stormwater where possible and each has a stormwater pollution prevention program. VLAWMO actively supports MS4s in the watershed by providing education and outreach materials.

Residents learning about raingardens at White Bear Montessori. Photo: @vlawmo

Member community MS4s are required to meet the standards of the VLAWMO Water Management Policy, last updated in 2022. The Water Management Policy details WMO-specific regulations on erosion and sediment control, floodplain and drainage alteration, groundwater and stormwater management, shoreline and streambank alteration, stream and lake crossing, and wetlands and buffers.

There are two wastewater treatment facilities in the watershed, one privately owned for industry and the other owned by White Bear Lake Township. Subsurface sewage treatment systems (SSTS) are present in North Oaks, Vadnais Heights, Lino Lakes, and White Bear Township.

2.6 Habitat, Endangered, and Invasive Species

A pair of otters shared by watershed residents – Photo Credit: vlawmo.org

The Department of Natural Resources (DNR) identifies lakes of biological significance due to the presence of unique plants or animals. There is one lake of biological significance in the watershed (Amelia) and multiple lakes and wetlands that the Minnesota Biological Survey (MBS) identifies as sites of biodiversity significance. Outstanding biodiversity sites include the North Oaks Natural Area (which covers Deep Lake, Black Lake, and Wilkinson Lake) and Sucker Lake Natural Area west of Sucker Lake. There is one site with high significance (Long Lake wetlands on the western edge of VLAWMO) and nine sites of moderate significance (DNR, 2024a).

VLAWMO conducts aquatic plant surveys with partners (i.e., Ramsey County Soil and Water Conservation Division) to assess aquatic communities and manages invasive species. Aquatic plant surveys are available for all of VLAWMO's lakes. Eurasian watermilfoil, curly-leaf pondweed, rusty crayfish, and zebra mussels are invasive species found in the watershed. One infestation of flowering rush was detected in a wetland adjacent to Amelia Lake. That infestation is currently being treated (2024).

VLAWMO conducted frog and toad call surveys, remote-camera surveys, and otter monitoring including a citizen-science Otter Spotter online tool that all contribute to

understanding about wildlife and habitat quality watershed-wide.

There are 55 native plant communities identified by the DNR in 12 different community categories (DNR, 2014). Most are congregated around Deep, Wilkinson, Sucker, and Black Lakes. Table 2-3 includes a list of the state (NHIS) and federal (USFWS IPaC) endangered species found in VLAWMO. Please note, this list does not include proposed or candidate species.

Table 2-3. Endangered species in VLAWMO

Name	Scientific Name	Group
Blanding's Turtle	Emydoidea blandingii	Reptile
Jointed Rush	Juncus articulatus	Vascular plant
Northern Long-eared Bat	Myotis septentrionalis	Mammal
Rusty Patched Bumble Bee	Bombus affinis	Insect
Tubercled rein orchid	Platanthera flava var. herbiola	Vascular plant

Photo Credit: vlawmo.org

2.7 Climate

The watershed experiences a wide range of temperatures, from hot humid summers to cold snowy winters. The average annual temperature is 45 degrees Fahrenheit, with an average of 18 degrees in the winter and 70 degrees in the summer. The temperature has been increasing; specifically, it is getting less cold at night and in the winter. Since 1895, the watershed has been warming by an average of 0.22 degrees per decade (DNR, 2024c).

As the climate shifts, so too does the water cycle. Ice-out dates are occurring earlier, plant hardiness zones have changed, and heavier rainstorms are occurring. An increase in extreme rain events can be a burden on infrastructure. Stormwater infrastructure was designed for 10-100 year rain events, which are occurring more often. NOAA Atlas 14 rainfall depth for a 100-year, 24-hour storm in the watershed is 7.25 inches of rain. The watershed receives an average of 31 inches of rain a year, which is more than it historically received (DNR, 2024c). NOAA is revising national rainfall frequency data in Atlas 15 to account for climate change. Atlas 15 is expected to be available in 2026 and will be useful in designing infrastructure.

The MN DNR reviewed climate and hydrology data in the Mississippi River – Twin Cities Watershed and published the Evaluation of Hydrologic Change (EHC) report, summarizing how precipitation and flow have changed in the watershed. The impacts of more precipitation and heavier rain events are compounded by changes in land use that reduce the natural capacity of the land to store water. Hydrologic change can

**** All are declared endangered by the state except the Northern Long-eared Bat and Rusty Patch Bumble Bee, which are federally endangered.***

impact stream volume, flooding, erosion, and in-stream habitat. The EHC found that the mid-1970s could be identified as marking a shift in hydrology in the watershed, with statistically different streamflow and precipitation prior to and after the point of change. The report found the watershed receives an additional 4 inches of annual precipitation after the mid-1970s when compared to the decades before (DNR, 2023a).

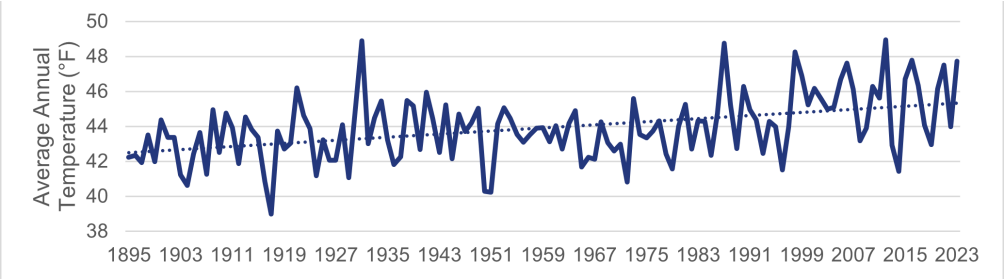


Figure 2-7. *Annual temperature in the Mississippi River – Twin Cities Watershed 1895-present.*

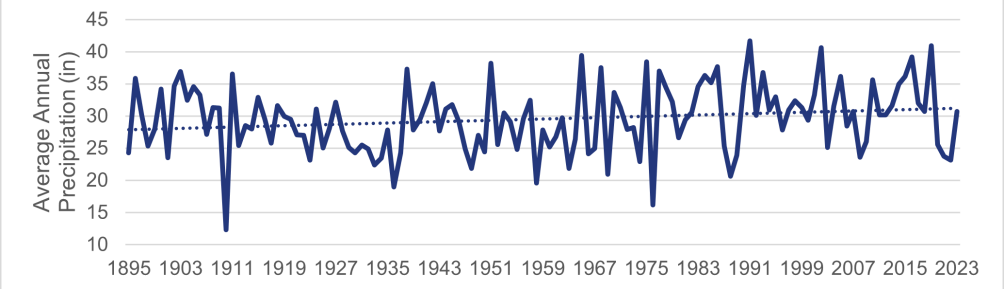


Figure 2-7. *Annual precipitation in the Mississippi River – Twin Cities Watershed 1895-present.*

2.7.1 Flooding, Peak Discharge, and Climate Resiliency

Changing precipitation trends can have profound impacts on water resources management, including flooding. Flood-prone areas within VLAWMO are centered primarily on roadway intersections where storm sewer is inadequately sized to accommodate modern runoff events. With increasing precipitation and heavier rain events, there is a pressing need for increasing climate resiliency to combat changing climate patterns. Section 4, Implementation, describes how VLAWMO will incorporate resiliency into the watershed, including analyzing locations in the watershed for increased water storage and infiltration, and partnering with our communities when infrastructure is replaced.

County Road F Flume Going West. Photo Credit: vlawmo.org

2.8 Demographics

Using census data, an estimate of watershed demographics can be made by weighing each city's data by the proportion that is in the watershed. The estimated population in the watershed is 28,600, with an average age of 44. 86% of the population identified as White, 5% Asian, 5% Hispanic, and 2% Black. Approximately 60% of residents have a household income of over $100,000 per year, while 18% have a household income under $50,000 a year. An estimated 40% of residents over age 25 have an associate or bachelor's degree, 24% have a graduate degree, and 33% have a high school diploma, 16% of which have some college education without a degree (US Census, 2021). The population of Ramsey County is expected to grow in the upcoming decade, although at a slower rate than the average statewide growth (DEET, 2024).

The MPCA designated areas of concern for environmental justice, which includes land where over 35% of people are below 200% of the federal poverty line, over 40% of people have limited English proficiency or are people of color, and in census tribal areas (Figure 2-8). For more information or an up-to-date map, please visit https://www.pca.state.mn.us/about-mpca/environmental-justice (MPCA, 2022).

Birch Lake Elementary Field Day at the Birch Lake Rotary Nature Preserve. Photo Credit: Instagram @vlawmo

Figure 2-8. *Environmental justice areas of concern in VLAWMO.*