EST 1983
VLAWMO
Vadnais Lake Area
Water Management Organization

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VLAWMO TECHNICAL COMMISSION MEETING
7:30 AM February 14th, 2020
Vadnais Heights City Hall, Lakes Room; Action items:

I. **Call to Order – 7:30am –Chair Gloria Tessier**
II. **Approval of Agenda**
III. **Approval of Minutes (January 10th, 2020)**
IV. **Presentations: Water Gremlin monitoring results**- current and planned, **MPCA staff**
V. **Administration & Operations**
   A. TEC Report & Financial Report for February & authorization for payment – Stephanie
   B. Admin update
VI. **Programs**
   A. Education & Outreach – Nick
      1. Watershed Steward Award Nominations
      2. 2019 annual report and summary review
      3. E/O calendar overview
   B. Cost Share
      1. Landscape Level 1: 2020-01 Cloisters Shoreline Restoration
      2. Landscape Level 1: 2020-02 Hisdahls Reconstruction Raingarden
      3. Landscape Level 2: 2020-02 Cty Rd F RG Retrofits, recommendation
      4. Landscape Level 2: 2020-03 Peterson Native Restoration, recommendation
   C. SLMP – Pleasant Lake – tour of Fridley treatment – Dawn

VII. **Projects**
   A. Goose Lake
      1. WBF BMP options for subshed – Tyler / Dawn
      2. East Goose Alum Grant update and recommendation for next steps – Stephanie / Dawn / Nick
   B. Lambert Lake – agreement w- U of M, outreach – Dawn / Nick
   C. Carp project Pleasant Lake and West Vadnais Lake – Dawn
   D. Service-learning with UMN students – Dawn
   E. Birch Lake 4th & Otter: Bid results Rec. & restoration of WBL parcel
VIII. **Commisioner Reports**
IX. **NOHOA**
X. **Ramsey Soil & Water Conservation Division**
XI. **St. Paul Regional Water Services**
XII. **Public Comment**
XIII. **Next Meetings:** TEC: March 13th, Regular Board Meeting: February 26, 2020
XIV. **Adjourn**

Upcoming Events: *vlawmo.org/events*

Feb 12th: Cost-share how-to workshop:
"Summer Dreamin: How to get grants for property improvements" 6:30-7:30pm @ VH City Hall
March 12th: MS4 Summit event
VH Fire Dept 10:30am-12:30pm

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

Vadnais Lake Area Water Management Organization
Technical Commission Minutes
January 10, 2020
Vadnais Heights City Hall, Lakes Room

Commission Members Present:

Gloria Tessier	Chair, Gem Lake (GL)
Jesse Farrell	Vice Chair, Vadnais Heights (VH)
Paul Duxbury	White Bear Township (WBT)
Terry Huntrods	White Bear Lake (WBL)
Andy Nelson	Lino Lakes (LL)

Commission Members Absent: Bob Larson, Treasurer (NO)

Others in attendance: Stephanie McNamara, Brian Corcoran, Dawn Tanner, Tyler Thompson (VLAWMO); Justine Roe and Jeremy Erickson (SPRWS); Brian Olsen (RCSWCD); Connie Tailon and Rick Johnston (WBL), Diane Gorder, Kate Winsor, and Patricia Orvid (NO); Melissa King (BWSR).

I. **Call to Order** Chair Tessier called the meeting to order at 7:31 am.

II. **Approval of Agenda**

The agenda for the January 10, 2020 Technical Commission Meeting was presented for approval. Tanner asked that an addition be made for a Landscape Level 2 application action be made under: Projects VI. D.

It was moved by Duxbury and seconded by Farrell to approve the December 13, 2019 TEC agenda, as amended. Vote: all aye. Motion passed.

III. **Approval of Minutes**

It was moved by Huntrods and seconded by Duxbury to approve the December 13, 2019 meeting minutes, as presented. Vote: all aye; Motion passed.

IV. **Administration & Operations**

A. **Election of TEC Officers**

McNamara announced that the roles for TEC officers must once again be renewed for 2020. Duxbury and Huntrods proposed keeping the TEC officer roles the same as in 2019, and nominating as such: Tessier as Chair, Farrell as Vice Chair, and Larson as Treasurer.

It was moved by Duxbury and seconded by Huntrods to reelect the Technical Commission officers in 2020 as: Tessier (Chair), Farrell (Vice Chair), and Larson (Treasurer). Vote: all aye. Motion passed.

B. **January 2020 Financial Report for authorization for payment of checks.**

McNamara presented the January 2020 Financial Report for review and authorization of payments.

It was moved by Huntrods and seconded by Duxbury to approve the January Treasurer's Report. Vote: all aye. Motion passed.

C. **WBL Shoreland Ordinance amendment consideration**

The City of White Bear Lake is noticing potential changes and updates to their shoreland ordinance for comments or suggestions, including from the VLAWMO TEC. Tailon spoke to the proposed changes within the ordinance, including changes in allowed shoreline barrier materials and construction, along with new setback limits.

V. Programs

A. Education & Outreach

1. Community Blue Application: Hometown Habitat in North Oaks

Staff received an application for a Community Blue project from the North Oaks Natural Environment Stewardship Team (NEST) requesting $545.00 for a project in North Oaks for the screening of "Hometown Habitat", a documentary about green infrastructure and sustainable design. The showing will be hosted at the North Oaks Country Club and would include refreshments and take-home native seed packets. Staff is recommending approval of this grant in the amount of $545.00. TEC members were invited to complete a score chart to rate the application prior to the TEC meeting. Winsor mentioned that NOHOA, and the NO Golf Club are partnering and letting the space for free. The application is for the Natural Resources Commission.

It was moved by Farrell and seconded by Duxbury to approve the 2020 Hometown Habitat Community Blue application in the amount of $545.00. Vote: all aye. Motion passed.

2. Watershed Travels: North Carolina

Voss presented photos of his holiday vacation travels at Sierra Nevada Brewery in North Carolina and the different stormwater infrastructure that they've employed.

3. TEC photo

Voss asked that Technical Commission members gather for an updated group photo.

B. Cost Share

1. 2019 Cost Share Results

Thompson presented a summary and results of the 2019 Cost Share Program season. There were 7 rainbarrel grants for a total of 9 rainbarrels funded and installed. There were 10 Landscape Level 1 grants approved: 5 were completed and 5 will be completed in spring 2020. One Landscape Level 2 grant was funded and will begin in spring 2020 and completed in the summer. A recap of the new targeted and prioritized zone funding for infiltration & habitat grants was summarized.

C. Lead monitoring results – Lambert Creek

Staff collected sediment samples testing for lead on Lambert Creek in 11 locations to compare concentration to sediment lead samples taken on the Water Gremlin site. Staff explained what these results could mean and coordinating with the MPCA. Corcoran presented VLAWMO lead sediment testing and only one of the 11 sites had concern for benthic organisms, but no sediment samples along the creek were found to be a concern for human exposure. The TEC agreed that they would like a MPCA representative to give a talk on current results and operations, moving forward.

D. SLMP – Pleasant Lake – sediment assessment and modeling

Staff has consulted with a team at Barr Engineering for a proposal to undertake a sediment study on Pleasant Lake, using some preliminary information and data gather by the U of M capstone project a few years ago. The proposal includes sediment cores, internal loading cores, bathymetry of the east & west bays of Pleasant, and sediment transport modeling. Staff is seeking recommendation from the TEC to seek funding support from partners for tasks 1-3 in 2020, while wait to engage task 4 until funding is identified. Duxbury asked for clarification between the sediment cores and internal loading cores

It was moved by Duxbury and seconded by Farrell to recommend staff seek funding support from partners for tasks 1-3 from Barr Engineering proposal. Vote: all aye. Motion passed.

VI. Projects

A. 1. WBF Goose Lake project identification

Barr Engineering has completed a list of potential projects to choose from for 60% designs in the Goose subwatershed, where one of these projects would be chosen for 100% design and implementation. Staff has selected 3 projects from this list for 60% design: an iron-enhanced sand filter, underground stormwater filtration, and a suite of BMPs along County Rd F to tie in with the raingarden rehabilitation Ramsey County & the City of White Bear Lake will be undertaking in 2020. Staff will be bringing these to the TEC for recommendation when more information is received from Barr.

2. Watershed Based Implementation Funding – Phase 2 update

Planning for the second phase of Watershed-Based Funding has begun and VLAWMO staff will be attending the first meeting, which will identify the process and priorities. Subsequent meeting will convene to identify what types of projects will be funded. Staff will keep the TEC updated and VLAWMO will need to be ready with potential projects that are identified in the Comprehensive Watershed Management Plan, along with supporting data and studies. King outlined the process, going forward in the Metro where all municipalities and WMO & WDs are being involved in the process to identify how to distribute funding. Eligible projects must already be identified in a state-approved water management plan.

B. Data comparison Pleasant vs. East Vadnais data and article

Stakeholders in North Oaks have fielded question regarding the water quality of Pleasant Lake and have the perception that water quality is declining on the Lake. The SPRWS provided their water quality monitoring data that Tanner extrapolated for graphing and interpretation. Tanner wrote an article for the February 2020 edition of North Oaks News that will feature this data.

C. Early plans for wetland restoration with RCSWCD and Tamarack Nature Center

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

It was moved by Huntrods and seconded by Duxbury to recommend to the VLAWMO Board for approval of the LL2 2020-01 grant application for funding in the amount of $5,890. Vote: all aye. Motion passed.

D. Service-learning appreciation and desire to continue from UMN

The 2019 U of M service learning students that took part in various projects and programs with VLAWMO during last season presented their results of their service learning experience. U of M staff has expressed that they are interested in pursuing service learning opportunities for future students.

E. Birch Lake 4th & Otter

1. Re-bid update

Thompson reported that the 4th & Otter IESF project was reposted for construction bid on Monday January 6th by Barr on the week of the TEC meeting. Calls have been fielded regarding interest in bidding on the project and staff is optimistic bids will come in closer to the Engineer's estimate for this second round.

2. Conservation Partners Legacy grant funded

Staff received news that the grant application for habitat restoration on the City of WBL parcel on 4th & Otter has been approved and awarded in the amount of $8,636. The cost includes native seed for revegetation. A 10% local match will be contributed to the grant.

VII. Commissioner Reports

Duxbury mentioned he won't be at the February meeting. Farrell mentioned there are public complaints about nuisance flooding in Vadnais Heights, specifically around the branch ditches.

VIII. NOHOA

Gorder thank VLAWMO for their work around the City and proposing staff collaborate with NOHOA to work on upcoming educational material.

IX. St. Paul Regional Water Service (SPRWS) Report

SPRWS is giving tours to interested construction firms for prospective bidding of upgrading SPRWS's water treatment plan.

X. Ramsey Soil & Water Conservation Division (RSWCD) Report

Olsen announced RSWCD is submitting a large application for the Lawns to Legumes grant to BWSR for project implementation.

XI. Public Comment

None.

XII. Next Meetings

TEC: February 14th, 2020; Board: February 26th, 2020

XIII. Adjourn

It was moved by Farrell and seconded by Huntrods to adjourn at 9:29 am. Vote: All aye. Motion passed.

Minutes compiled and submitted by Tyler Thompson.

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TEC Staff Memo – February 2020

IV. Presentations: Water Gremlin monitoring results – current & planned, MPCA staff

MPCA Staff will do a short presentation on the lead testing results on the Water Gremlin site as well as discuss planned testing moving forward.

V. Administration & Operations

A. **TEC Report & Financial Report for February, see attached.**

B. **Admin update.** The administrator position is posted through Feb. 21st.

VI. Programs

A. Education and Outreach:

1. Nominations are still open for the Watershed Stewardship Award: Feb 11th due date. http://www.vlawmo.org/get-involved/watershed-steward-award/
2. The 2019 annual report, annual report summary, and water monitoring summary are all included in the TEC packet in draft form. Staff will bring the drafts to the February Board meeting for approval to print and submit to BWSR for our required annual report submission.
3. The E/O calendar is hoppin'! Events, workshops, and tours are booked out from now until August. Nick will go over the calendar overview, including a description of the March 12th MS4 event (posted at bottom of TEC agenda).

B. Cost Share Program

1. **Landscape Level 1: 2020-01 Cloisters Shoreline Restoration**
   An application was received to complete a shoreline restoration within the Cloisters HOA on Birch Lake, for an area of shoreline that was cleared of buckthorn and now requires revegetation. The Cloisters has hired Natural Shore Technologies to identify and complete a phased approach to completing restoration work within the HOA property. This is the first and most critical identified project to undertake in NST's proposal. The estimated total project cost for natural restoration of the shoreline for "site B" is $3,552, and the Cloisters is requesting $2,000 in LL1 funding. **Staff recommends funding of $2,000.00 for the LL1 2020-01 grant application to the Cloisters HOA.**
2. **Landscape Level 1: 2020-02 Hisdahls Reconstruction Raingarden**
   Staff has been working with Keith Hisdahl on implementing a raingarden that would infiltrate roof runoff as part of the reconstruction of Hisdahl's Sportswear in White Bear Lake. This is a great opportunity that has been in the works for years to partner in establishing a BMP as part of this site reconstruction. The cost estimate for the proposed raingarden construction from Letourneau Landscaping is $4,440.45, and $2,000 is being requested in LL1 grant funding. **Staff recommends funding for LL1 2020-02 in the amount of $2,000.00.**

3. **Landscape Level2: 2020-02 Cty Rd F Rain Garden Retrofits**
   Ramsey County and the City of White Bear Lake have submitted a joint LL2 application for the retrofitting of 6 raingardens that receive and treat runoff from County Road F in White Bear Lake, and were first installed in 2003. As the curb-cut raingardens have no inlet protection, their performance is greatly hampered to intake storm water runoff that flows to East Goose Lake. The total project cost is $72,268.92 to retrofit the raingardens with Rain Guardians and Foxhole devices for inlet protection, cleanout, and proper routing of storm water into the 6 basins, as well as vegetation reestablishment. This is a great opportunity for enhanced storm water capture and reduction that otherwise flows into East Goose Lake. **Staff is recommending a funding recommendation to the Board for the LL2 2020-02 application in the amount of $15,000.**
4. **Landscape Level2: 2020-03 Peterson Native Restoration**
   An application was received for LL2 cost share funding in the amount of $9,024 for a .26 acre native restoration at a private residence in North Oaks. A large buckthorn and weed clearing has left the property owners' steep hillside bare, and Prairie Restorations prepared a proposal in total of $12,032 for a native restoration and stabilization. Their property is on Sora Pond, which is tributary on a chain of ponds that eventually flows to Black Lake. Staff recognizes stabilization BMPs as a priority due to recent large-scale erosion issues in North Oaks, and as an opportunity to prevent future large-scale failures. **Staff is recommending a 50% match of requested LL2 funding for the project, resulting in total recommended amount of $4,000 for funding of LL2 2020-03.**

C. SLMP – Pleasant Lake – tour of Fridley intake facility

Special thanks to Justine Roe at SPRWS for setting up our tour at the Fridley intake facility. We had 10 people attend the tour, and together we had representation from: TEC, Board, VLAWMO staff, NOHOA, North Oaks Company, and Carp Solutions. Jim Burchard (SPRWS) met us at the facility and led the tour. He explained technical aspects of the facility, connections, process, and history. He was knowledgeable and friendly responding to a range of questions from the group including sampling, pumping process, architecture, and more.

VLAWMO and Carp Solutions were especially interested to tour the facility to see the fish barrier/screening that is in place. The screen has approximately 1.25" gaps, which is wide enough for fingerling fish to easily swim through. Carp Solutions is working on an idea to use a low-voltage electrified barrier to prevent fish (especially Common carp) from reentering the chain of lakes in Mississippi River water. Carp Solutions and VLAWMO would like to visit the facility again in April or May when the lead engineer working with CS is in town. A barrier seems quite feasible based on diameter of pipes and water velocity during pumping.

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VII. Projects

A. Goose Lake.

1. Watershed-Based Funding Goose Lake:

After Barr Engineering had completed a list of potential best management practices (BMPs) for the Goose Lake subwatershed, staff, along with partner input, has selected 3 projects options for 60% design completion. From the list, staff is recommending design of an iron-enhanced sand filter (BMP 2b), underground stormwater filtration at the GMC dealership (BMP 5), and a suite of stormwater BMPs on Cty Rd F that include adding more raingardens to Cty Rd F (BMP 1b), existing Cty Rd F raingarden retrofits (BMP 1a- County already has plans to execute), and diverting stormwater flows into a underground filtration for treatment and volume reduction (BMPs 12a & b). Staff will be outlining the list and proposed options for discussion at the February TEC meeting. One of these project options will be selected for final 100% designs and construction implementation following completion of 60% designs.

2. East Goose Alum Grant update & recommendations for next steps.

The alum treatment grant was approved by the BWSR Board Jan. 22nd. You might be happy to know that the VLAWMO request for an alum treatment grant (and scored highest in its grant area)!

The Board will consider the grant at its Feb. 26th meeting. A TEC recommendation on acceptance of the grant and other possible steps is for your consideration at the meeting. Our BWSR Board Conservationist, Melissa King who was at our last TEC meeting may be in attendance at the Board meeting to discuss the grant and the state system of 'assurances' for the use of state grant funds. The grant application set out a way to measure success, in this case 800 lbs of phosphorus / year. If we drop below that during the life span of the grant, VLAWMO may be required to enact other measures such as another treatment.

A variety of sediment testing and analysis has been done to ensure the right dosing for the Goose Lake alum treatment. BMP's and targeted storm drain cleanoutsHowever, many things have been done and will be done to ensure the ongoing success of the alum treatment. Four more areas are recommended by staff

1. VLAWMO should engage Barr Eng. to complete the alum treatment engineering oversight of the project.
2. Schedule a bullhead harvest for summer 2020 to reduce the population. This will be a critical step prior to the alum treatment. Consider stocking game fish such as bass to help control the bullhead numbers. Work with the DNR.
3. Schedule a town meeting with neighbors, the city of White Bear Lake and other stakeholders to discuss management efforts for Goose Lake. Focus: acknowledge efforts that help the lake such as the bullhead info, discuss lake vegetation management for Goose, and consider the timeline of activity. Should VLAWMO engage a neutral -3rd party facilitator to help with those discussions? This may allow more productive dialogue, with all views heard. It may help reset the interaction with Goose Lake neighbors. An excellent facilitator is available who has worked globally but happens to live right here in town. It is not without cost to have someone assist. Est. $1200-$1500.

4. Established access to Goose Lake is critical to all management activities on the lake. There is public property (WBL) but some modifications are needed to be able to back a boat into the lake at the site. Tree removal, minor grading and some gravel or concrete planks would be part of the effort. Any soil disturbed would be stabilized. Cost is TBD. Conversations with WBL continue.

Recommend the VLAWMO Board accept the Alum treatment grant for East Goose Lake, engage Barr to complete oversight of the project and go out for bid for the treatment. Further, that VLAWMO should schedule a bullhead harvest and work with the DNR to establish a management plan for the fisheries. VLAWMO should host a meeting of stakeholders to discuss next steps, lake vegetation, fisheries and subwatershed practices. VLAWMO should consider engaging a neutral facilitator to help with transitional discussions with stakeholders.

B. Lambert Lake agreement with UMN and outreach

Staff has continued working on the formal agreements that are part of the Lambert Lake project. A contract with the UMN lab is nearly complete and was held up waiting on insurance language changes requested by UMN and verified by VLAWMO's insurance company and League of MN Cities. Permitting work continues. VLAWMO and SEH are meeting with MN DNR on Feb. 19.

SEH provided schematics for VLAWMO to use in community engagement about the Lambert Lake project. Those schematics are included in the packet. Please feel welcome to share them with friends and interested parties.

E/O created a dedicated webpage to provide regular updates on the project. It is live now and has a video including drone footage and schematics to help explain the project.

http://www.vlawmo.org/projects/maps/project-map/lambert-lake-meander/

An article about the project was submitted to the Vandais Heights and White Bear Press following internal review, and review by Vadnais Heights and SEH. The article includes schematics of the project.

C. **Carp project:** VLAWMO and RWMWD are coordinating more closely together on the carp project and including West Vadnais. Staff from both entities met with Carp Solutions to begin planning for spring. VLAWMO is continuing to work with Carp Solutions for spring planning on Pleasant and in the NO chain of lakes.

D. **Service-Learning students:** We have 6 service-learning students for spring semester. The students met at the Vadnais Heights City Hall (Jan. 31) and did a tour of work sites including: City Hall wooded wetland restoration, 4th and Otter (where we will be seeding later today,

Feb. 14), Lambert Lake, and Vadnais-Sucker Park. With the students, we verified a report of a dead Trumpeter swan at on the north end of East Vadnais Lake. A second swan was found later at Sucker Channel and brought to UMN for testing.

Students will put in 24 hours each over the course of the semester. They will be working on invasive species removal, restoration, planting, telemetry testing, scat sampling, and other projects as they arise.

E. Birch Lake 4th & Otter: Bid Action Recommendation to Board

After the second round of bidding has closed, with the official sealed bids opened on January 30th, 10 bids were received and Barr Engineering has evaluated and tabulated the results. Barr has provided a Technical Memo summarizing the bid results, along with a recommendation to select the lowest responsible bidder, Blackstone Contractors LLC, with a bid total of $111,292.25, as the general construction contractor for the Birch lake Iron Enhanced Sand Filter project. **Staff concurs with Barr's finding, and is recommending the TEC recommends to the VLAWMO Board at their February 26th meeting to enter into construction contract with Blackstone Contractors LLC as being the lowest responsible bidder.**

TEC Report to the Board
February 2020

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

TEC Report to the Board
February 2020

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

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

CD's	4M Term Series	
	Maturity	Rate
Term series		

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

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

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

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

Vadnais Lake Area Water Management Orgai

10:29 AM

Profit & Loss

02/07/2020

January 11 through February 14, 2020

Cash Basis

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

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

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

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

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

Vadnais Lake Area Water Management Organization

Custom Transaction Detail Report

January 1 through February 1, 2020

9:11 AM
02/07/2020
Accrual Basis

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

LAKE DATA & INVOLVEMENT

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

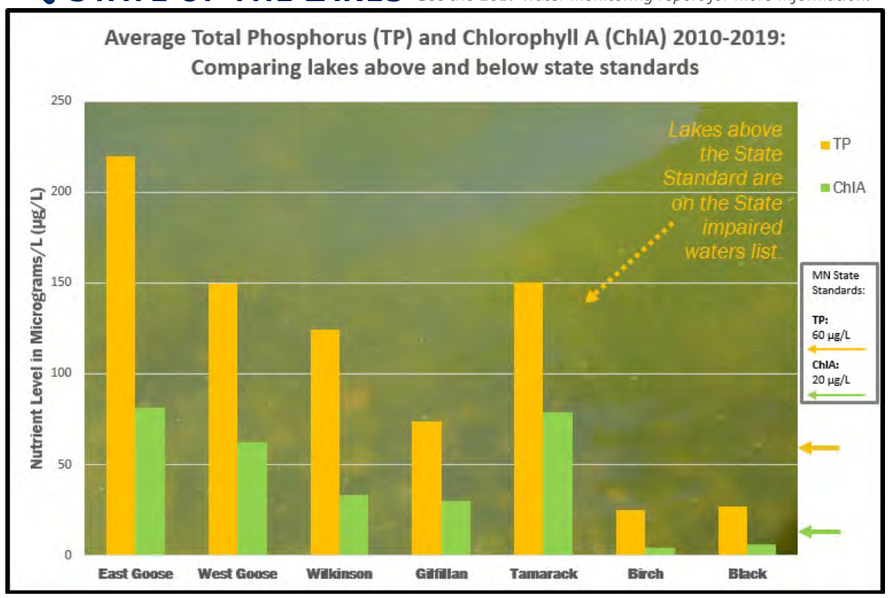
Additional funding for projects comes from grants from the Minnesota Board of Water and Soil Resources (BWSR) and the Legislative-Citizen Commission on Minnesota Recourses (LCCMR).

2019 Quick Stats:

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

STATE OF THE LAKES

See the 2019 water monitoring report for more information.



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

A NEW ERA

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

COST-SHARE PROGRAM

VLAWMO completed 17 cost-share grants in 2019. These grants supported the creation of raingardens, native plantings, permeable pavement, shoreline restoration, and rainbarrels. The projects all together total 56,507 ft^2, and infiltrate an estimated 123,172 gallons of water per year. VLAWMO awarded a total of $45,500 in designated cost-share funds for these projects. Visit VLAWMO.org/grants for more info and to inquire about a project of your own!

REGULATIONS

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

What can you do?

ADOPT-A-DRAIN

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

ADOPT A STORM DRAIN

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

www.vlawmo.org

YOUR WATERSHED AT A GLANCE

VLAWMO

Vadnais Lake Area Water Management Organization

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

From the administrator

V L A W M O

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

Photo: Debbie Hartmann

WHAT DID WE DO IN 2019?

Technical Commission:

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

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

LOCAL LEARNING AND SERVICE

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

CARP ELECTROSHOCKING

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

WHITAKER TREATMENT WETLANDS

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

SWANS AND LEAD

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

ADOPT-A-DRAIN

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

ADOPT a STORM DRAIN

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

BUCKTHORN REMOVAL

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

REMOTE MONITORING

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

Amelia
Wilkinson
Deep
Charley
Pleasant
Black
Tamarack
Fish
Gilfillan
Ox
Birch
Sucker
Rice
West Goose
East Goose
Grass
Lambert
Gem
Lambert Creek
West Vadnais
East Vadnais

EST 1983

VLAWMO

Vadnais Lake Area
Water Management Organization

2019 ANNUAL REPORT

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

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

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

EST 1983
VLAWMO
Vadnais Lake Area
Water Management Organization

Table of Contents

WHAT IS VLAWMO?

Introduction and background

IN THIS SECTION

Letter from the Administrator

Greetings!

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

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

Background

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

OUR APPROACH

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

OUR CORE PRINCIPLES

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

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

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

Mission Statement

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

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

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

What is a Watershed?

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

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

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

OUR GOALS

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

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

WHAT IS A WMO?

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

WHO PAYS FOR IT?

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

Water Resources in the Watershed

LAKES

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

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

LAMBERT CREEK

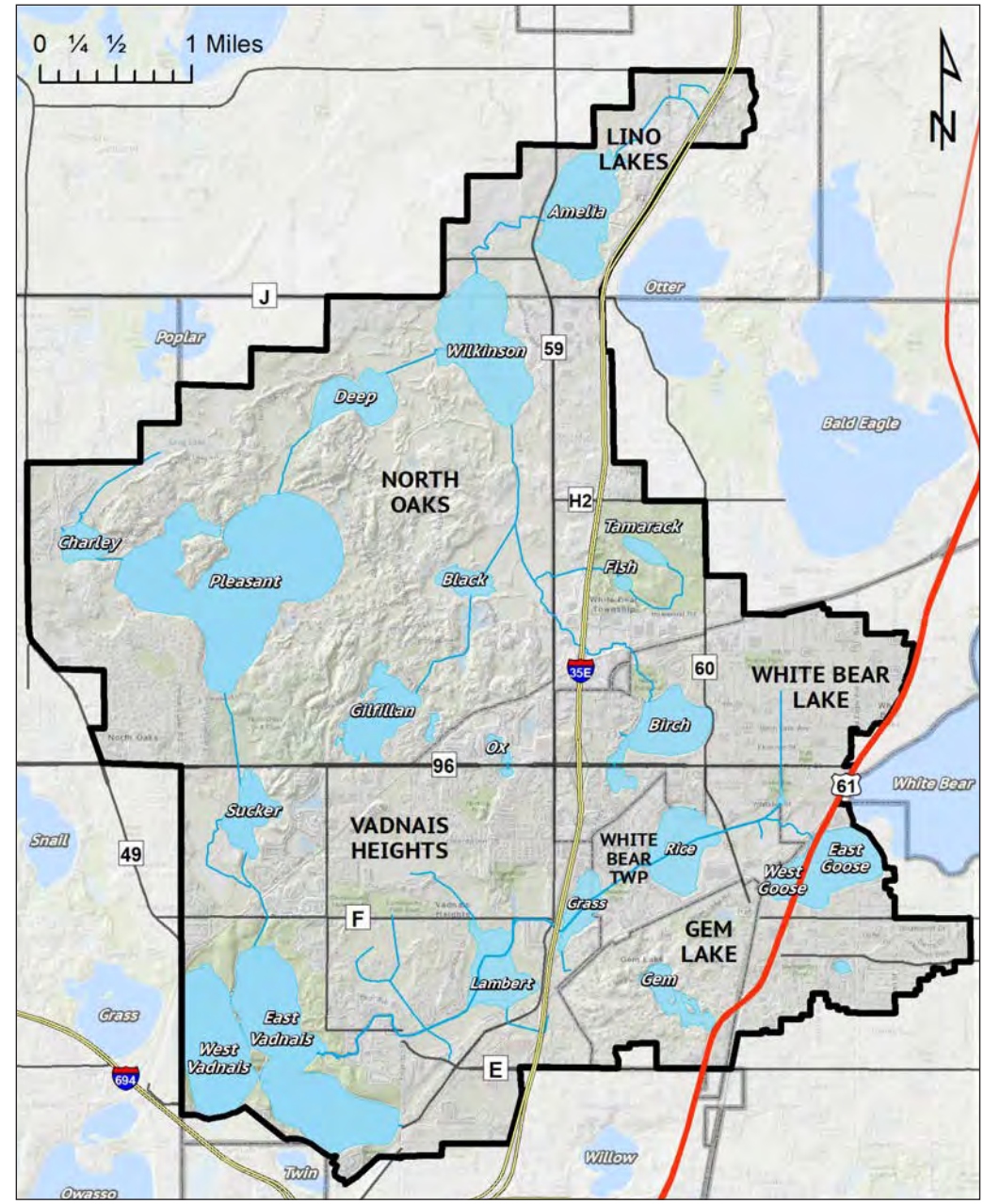
VLAWMO has jurisdiction over Lambert Creek, 4.5 miles of creek and wetland that runs from West Goose Lake and eventually empties into East Vadnais Lake.

WETLANDS

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

GROUNDWATER

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



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

IN THIS SECTION

What problems does the watershed face?

IMPAIRED LAKES:

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

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

RISING CHLORIDE LEVELS:

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

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

SEDIMENTATION:

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

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

DEGRADED WETLANDS

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

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

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

Major Updates

PRIORITY WATERSHED STATUS

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

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

Celebrating our new priority watershed status at Gem Lake

LAMBERT CREEK REMOTE MONITORING

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

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

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

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

In the Community

COMMUNITY EVENTS

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

VLAWMO booths were presented at the following 2019 events:

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

MarketFest


Heritage Days


Bearly Open


Heritage Days


Vadnais Heights Ice Cream Social


North Oaks Plant Sale

Education Programs

SCHOOL PROGRAMS

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

Left: Students pose with Drippy at Lakeaires Elementary.

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

PUBLIC WORKSHOPS

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

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

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

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

Cost Share Programs

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

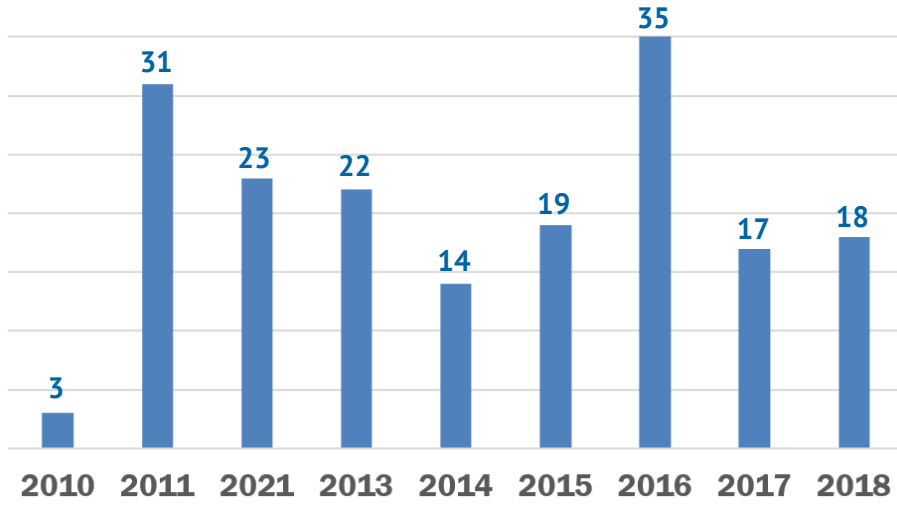
- Prevention of flooding or mitigation of drought
- Water quality improvement or increase in watershed storage capacity
- Preservation, protection, and restoration of native plant and wildlife communities, especially along lakes, streams, and wetlands
- Protection and preservation of groundwater quality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

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

There are 3 cost share programs:

- Rainbarrel
- Landscape Level 1
- Landscape Level 2

Cost Share Grants by Year: Landscape & Rainbarrel



LANDSCAPE COST SHARE PROGRAMS

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

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

VLAWMO uses Minimal Impact Design Standards (MIDS) to measure the impact of landscape improvement projects. The impact of 2018's projects are estimated to improve water quality by:

- Reducing phosphorus by **.307 lbs** per year.
- Reducing suspended solids by **56 lbs** per year.
- Infiltrating **123,172 gallons** of water into groundwater annually.

A 2019 shoreline restoration on Birch Lake

LANDSCAPE LEVEL 1 SUMMARY

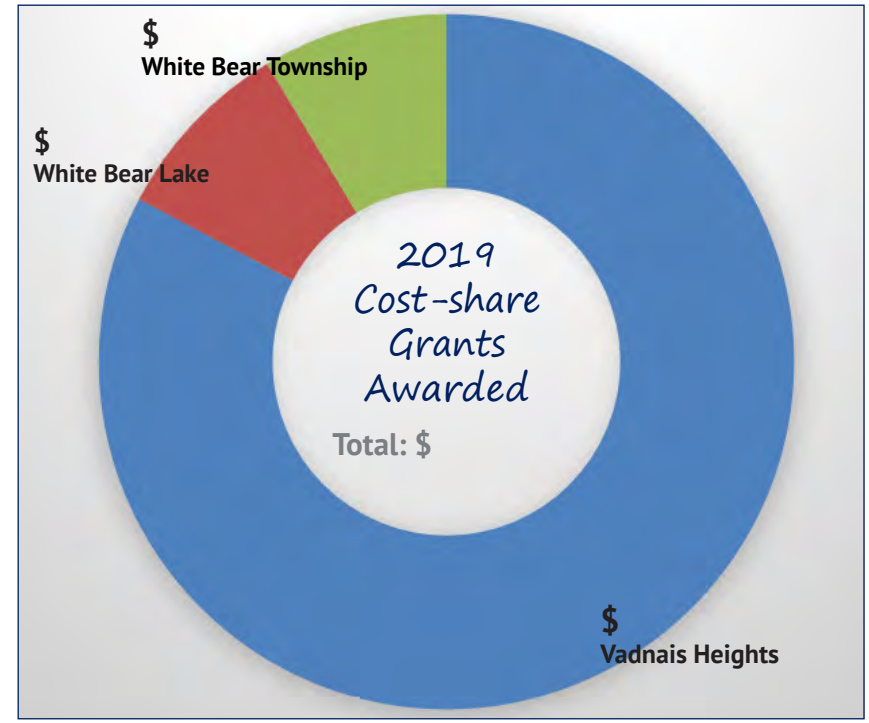
For Landscape level one, *17* grants were awarded funding for a total of $15,481. Funding for the year was not completely utilized.

Of the 17 level one grants, 3 were native plant restorations totaling 10,775 ft^2. 2 were raingardens totaling 5,282 ft^2.
1 was a shoreline restoration totaling 4,500 ft^2.
2 were pervious pavement or infiltration driveways totaling 15,950 ft^2.

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

LANDSCAPE LEVEL 2 SUMMARY

1 landscape level two grant was awarded for a total of $7,700. The project was a native plant restoration in Vadnais Heights, covering 20,000 sq ft.



RAINBARREL COST SHARE PROGRAM

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

RAINBARREL SUMMARY

In 2018 VLAWMO awarded grants for *9* rainbarrels, for a total of $610.23.
A total of 92 rainbarrel grants have been awarded since the program began in 2007. Each time the barrels are filled, up to 4,850 gallons of rain water is available for reuse. If each rainbarrel gets filled 10 times throughout the year from various storm events, up to 46,000 gallons of water is available for reuse. 5 additional rainbarrels were awarded in 2018 as prizes for public events.

Community Blue

DESCRIPTION

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

2019 PROJECTS

Connect the Drops

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

Picture Posts & Native Planting Signage

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

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

Creative Landscaping

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

City Engagement

ADOPT-A-DRAIN: GOOSE LAKE

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

PET WASTE OUTREACH

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

Photo: Clean Water MN

In the News

TRUMPETER SWANS AT SUCKER CHANNEL

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

MEDIA

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

Videos produced in 2019 include:

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

Visit our blog at VLAWMO.org

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

Watershed Action Volunteers

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

CITIZEN LAKE MONITORING PROGRAM (CLMP)

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

ADOPT-A-RAINGARDEN & ADOPT-A-DRAIN

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

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

ADOPT A STORM DRAIN

MONITORING: MACROINVERTEBRATES & PHENOLOGY

2019 began a new effort in biological monitoring. With the Leaf Pack Method, VLAWMO volunteers are now actively monitoring four locations along Lambert Creek for aquatic macroinvertebrates. Thank you to Ceci and Ed Shapland, Katherine Doll, Alex Yang, and Susan Miller for contributing to this effort.

Four picture posts are placed throughout the watershed to monitor shoreline and lake changes, algae blooms, and ice conditions. A special thank you to Susan Miller, Diane Gorder, and Steve Elfstrom for supporting this effort.

picture post

Leaf Pack Network

CITIZEN ADVISORY COMMITTEE (CAC)

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

WAV WATERSHED ACTION VOLUNTEERS

AQUATIC INVASIVE SPECIES (AIS)

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

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

MASTER WATER STEWARDS

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

Be a part of the solution!

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

WINTER:

Practice Smart Salting:

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

SPRING & SUMMER:

- Adopt a stormdrain to promote local water quality.

Water with care:

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

Mow with care:

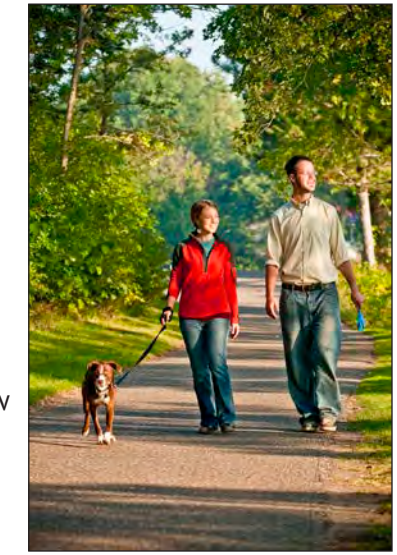
- Mow grass at 3" to hold moisture on the lawn and reduce runoff.
- Keep grass clippings out of the street.
- Leave grass clippings on lawn for free fertilizer, or fertilize sparingly.

FALL:

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

ALL YEAR LONG:

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



Photos: Clean Water MN

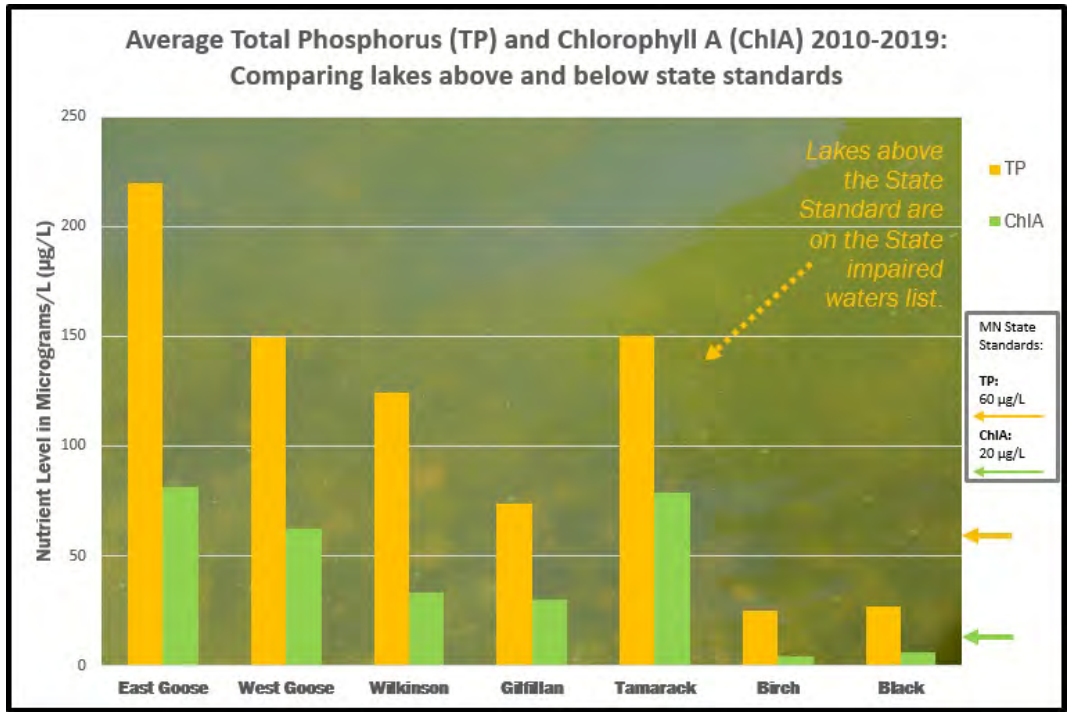
Water Monitoring

INTRODUCTION

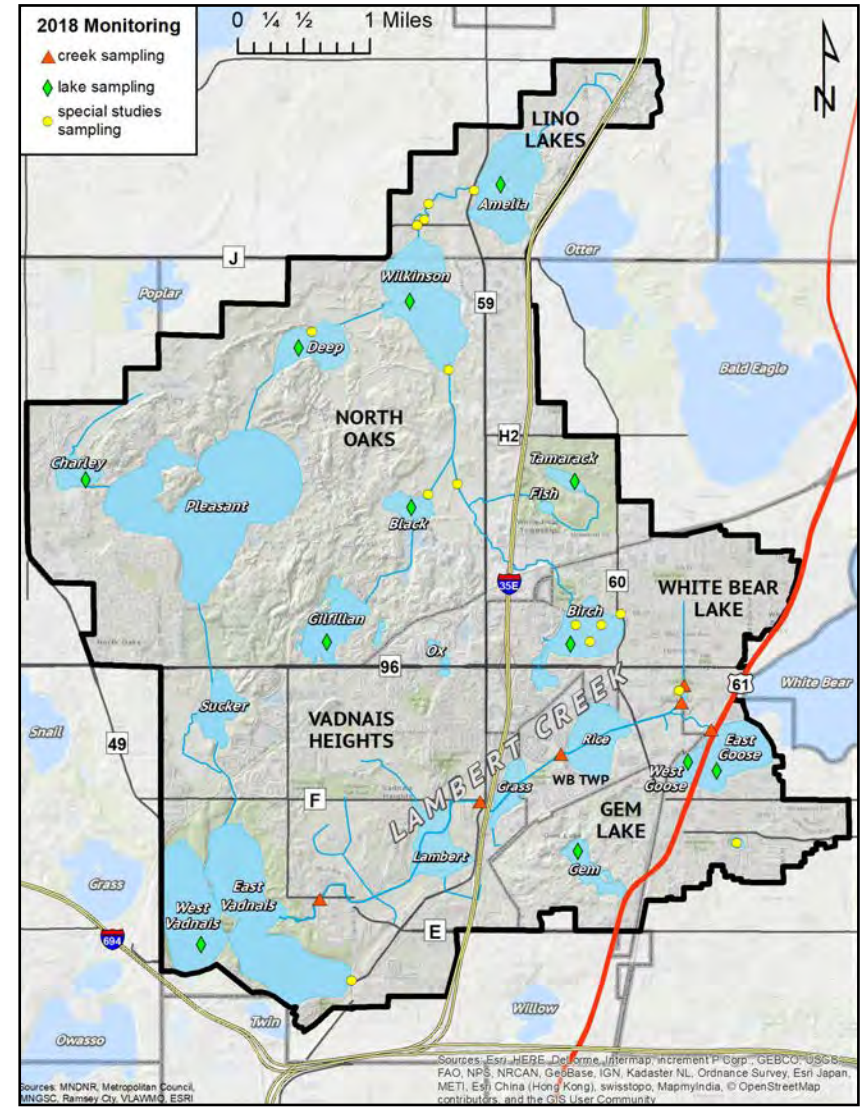
VLAWMO's regular water quality monitoring program includes nutrient sampling on 6 Lambert Creek sites, and nutrient sampling on 12 of the Vadnais Lake Area Watershed lakes. Nutrients and pollutants sampled for data include: total phosphorus, chlorophyll-A, soluble-reactive phosphorus, iron, total nitrogen,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

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

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



VLAWMO Monitoring Locations



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

WATER MONITORING HIGHLIGHTS

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

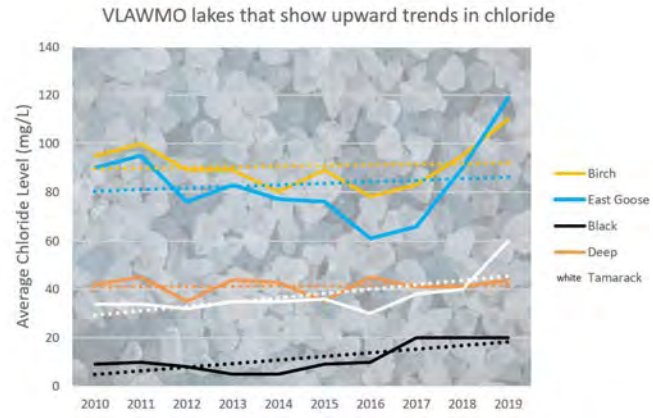
Birch Lake Storm Sampling: The automated storm sampler was installed at 4th and Otter Lake Rd for a third year. This area drains stormwater into Birch Lake. Results showed exceptionally high nutrient levels during storms. A sand iron filter system will be installed at this location in spring, 2020.

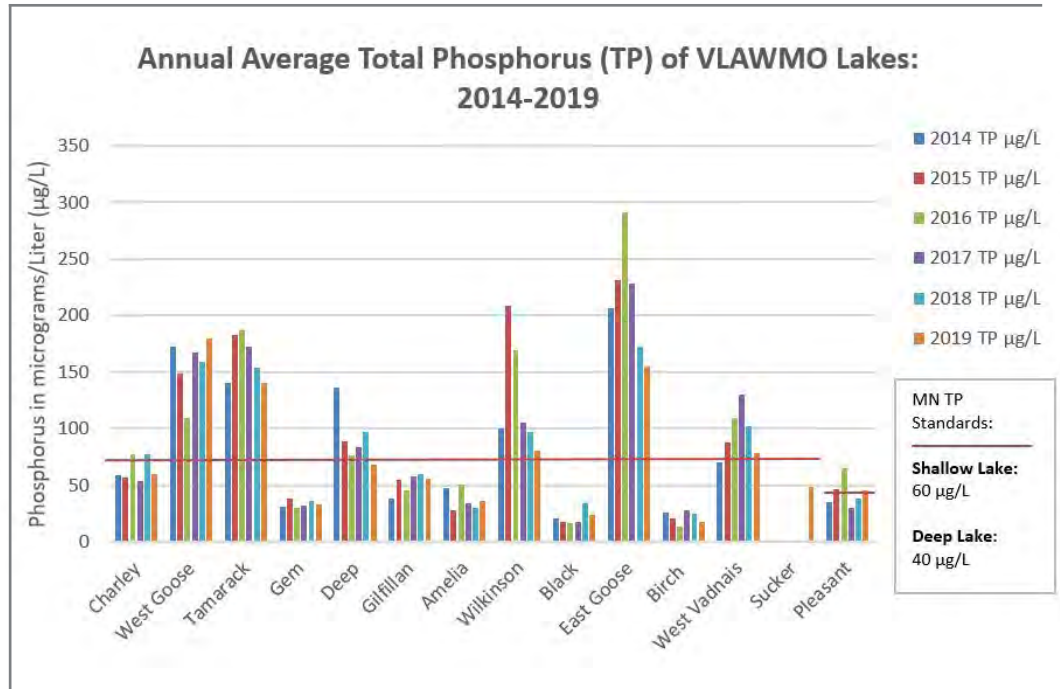
Goose Lake (East & West): East Goose and West Goose have nutrient levels exceeding State standards. A fish survey was done in August, 2019, and indicated the bullhead population has increased substantially. Ongoing fish management may be needed to help address water quality issues.

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

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

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



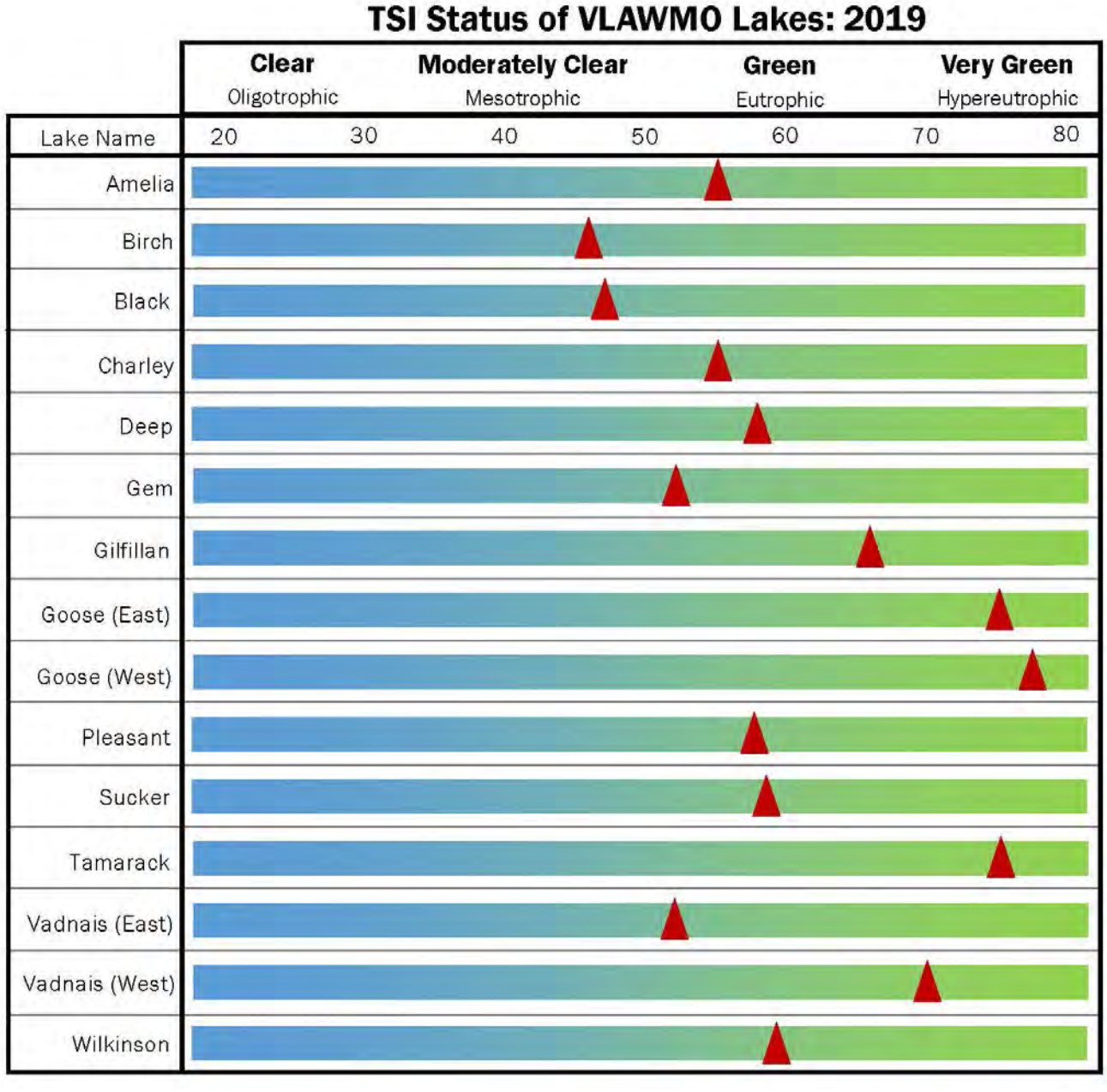


Find the complete 2019 Monitoring Report and a summary at VLAWMO.org/resources/reports

MONITORING SUMMARY: CONTINUED

STATE OF THE LAKES

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



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

LAMBERT CREEK LEAD SAMPLING

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

MACROINVERTEBRATES MONITORING

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

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

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

CHARTING IT OUT:
Review of 2018 Goals, 2019 Projections

IN THIS SECTION

VLAWMO CORE ACTIVITIES

WATER PLAN STRUCTURE

2019 WORK PLAN PROJECTION

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

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

ACRONYMS:

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

Review of 2019 Work Plan

CAPITAL IMPROVEMENT PROJECTS

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

Review of 2019 Work Plan

GRANT PROGRAMS

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

PUBLIC EDUCATION AND OUTREACH

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

PUBLIC EDUCATION AND OUTREACH

Review of 2019 Work Plan

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

MONITORING PROGRAM

Review of 2019 Work Plan

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

Review of 2019 Work Plan

ADMINISTRATION & REGULATION

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

SUSTAINABLE LAKE MANAGEMENT PLAN (SLMP)

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

2020 Work Plan

CAPITAL IMPROVEMENT PROJECTS

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

CAPITAL IMPROVEMENT PROJECTS

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

GRANT PROGRAMS

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

PUBLIC EDUCATION AND OUTREACH

2020 Work Plan

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

MONITORING PROGRAM

2020 Work Plan

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

2020 Work Plan

CORE ACTIVITY #

ADMINISTRATION & REGULATION

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

SUSTAINABLE LAKE MANAGEMENT PLAN (SLMP) AND FEASIBILITY STUDIES

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

Wildlife captured by remote camera in various VLAWMO wetlands.

Vadnais Lake Area Water Management Organization

LOGISTICS:
Financial statement and budget

IN THIS SECTION

Wetland Conservation Act (WCA)

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

WCA SUMMARY

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

Local Plan Adoption

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

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

Partnerships

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

» Metro Watershed Partners provides monthly meetings to keep updated with other watersheds, receive feedback and strategy assistance, as well as hear from guest speakers to enhance education and outreach efforts.

» Ramsey County GIS User Group focuses on sharing, developing, and promoting GIS data and technology. As a member agency, VLAWMO contributes and receives data, and has a voting hand in the content the Group funds and develops. Regular RCGISUG membership fees go to producing aerial images of Ramsey County and other GIS data.

» Ramsey Conservation District holds informative forums on topics of general concern (AIS, State of the Waters, groundwater). They also provide technical assistance for lake studies and BMP design. Lastly, they provide financial partnership in grant funding of projects.

» Many other organizations and groups (p. 35) help carry out VLAWMO's mission through events, outreach strategies, and project planning.

Biennial Solicitation for Proposals

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

2019 Partners

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

Special Thanks

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

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

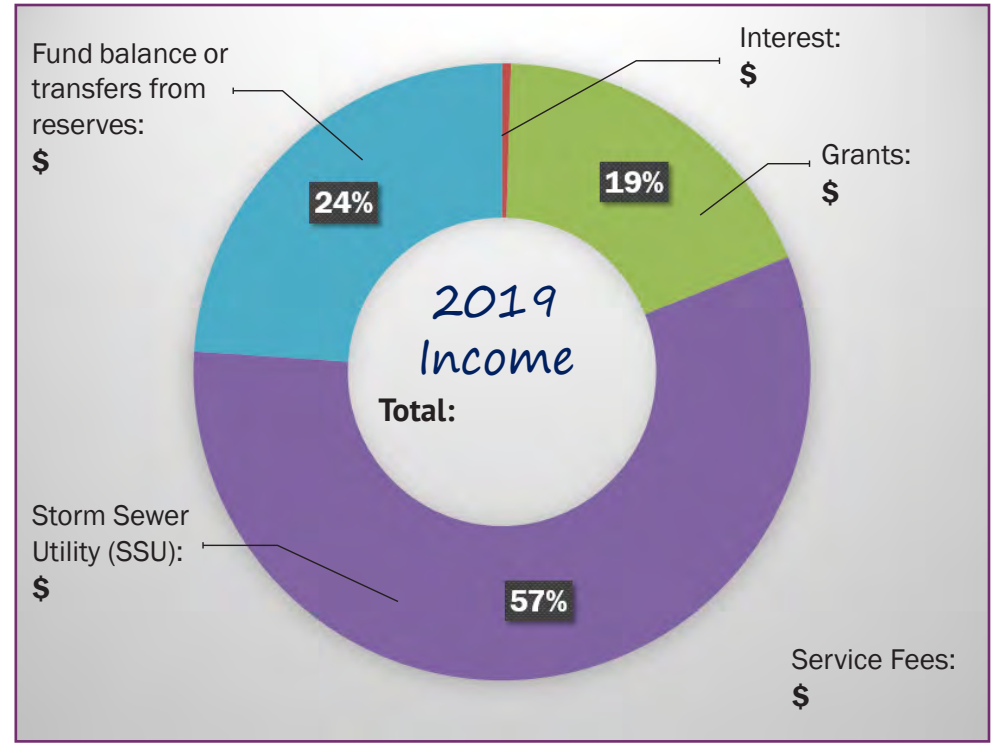
VLAWMO staff presenting the swans and lead education initiative (p. 15) with Local Girl Scout Troop 56087. Pictured with State representatives Peter Fischer and Chuck Wiger at the 2019 Water Resources Conference.

Volunteer stormdrain clean-up events.

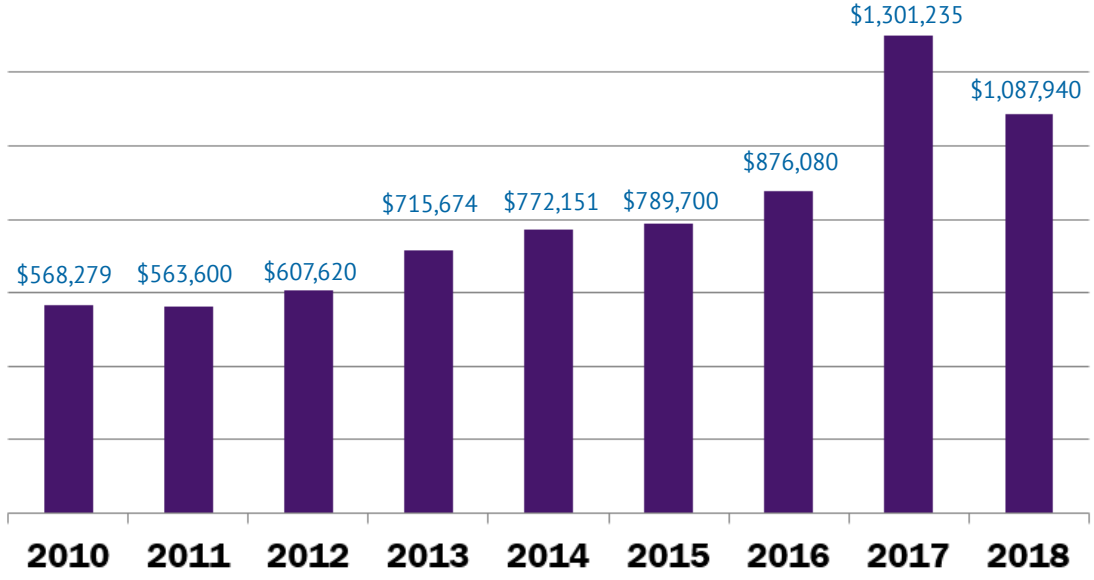
Finance and Budget

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

Approved budget for 2019: **$**
Actual income from 2019: **$**
Money spent in 2019: **$**

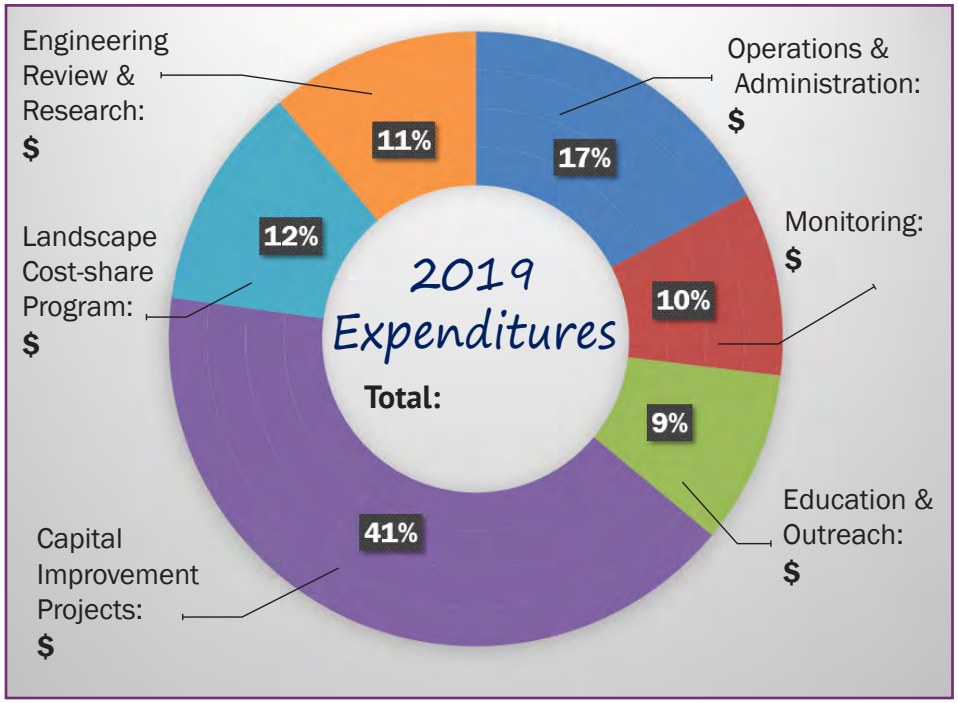


Annual Budget with Fund Balance



INCOME

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



EXPENSES

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

GRANTS AND PARTNERSHIPS

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

CAPITAL IMPROVEMENT PROJECTS

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

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

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

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

Tamarack Nature Center, White Bear Township

WHO WE ARE:
The people who make VLAWMO

IN THIS SECTION

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

Who we are:

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

BOARD OF DIRECTORS (BOD)

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

TECHNICAL COMMISSION (TEC)

Commissioners can be reached by contacting VLAWMO

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

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Eden Prairie, MN 55436
952.835.9090

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

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

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

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

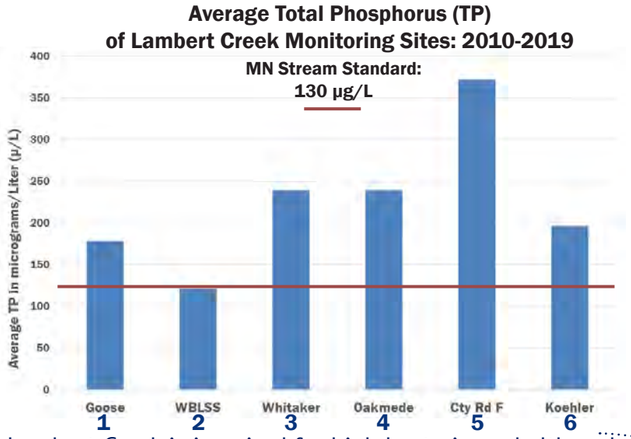
Kennedy & Graven, Chartered
200 South Sixth St Ste. 470
Minneapolis, MN 55402
612.337.9215

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

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

Barr Engineering
4300 Market Pointe
Minneapolis, MN 55435
952.832.2600

Lambert Creek



Lambert Creek is impaired for high bacteria, and although not officially impaired for nutrients, the overall creek results show it's above the state standard. Water samples from six sites are taken along the creek every other week from May to September (locations mapped on right). E. coli bacteria has been detected as largely avian and canine.

Waterbody impairments: VLAWMO has seven lakes and one creek impaired under MN water quality standards (right). For a lake to be listed as "impaired", it must show a trend in being above state standards in two of three readings: Chl-A, TP, and/or Secchi disk (turbidity). Deep and shallow lakes have different standards for impairment. Pleasant and East Vadnais Lakes are deep lakes primarily monitored by the Saint Paul Regional Water Services.

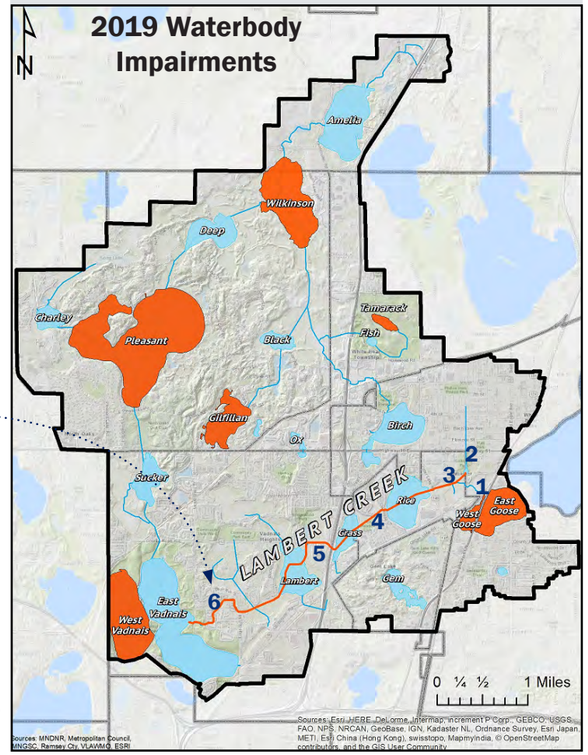
Remote Sensors

To better understand and evaluate the needs of Lambert Creek, VLAWMO has installed four new monitoring devices at existing monitoring locations along the creek. Each station is equipped with a sensor that is programmed to take readings of the water levels every 15 minutes. Data from the sensor is sent to a cellular service account, which is then sent to our on-line portal. Stream flow, depth, and macroinvertebrate sampling data from the four creek sites is publicly available through the Monitor My Watershed web portal, linked from our website: http://www.vlawmo.org/waterbodies/lambert-creek/

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

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

Visit **VLAWMO.org/get-involved** to see how you can be a part of the solution!



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

Brian Corcoran
Water Resources Manager
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(651) 204-6075

Vadnais Lake Area Water Management Organization

2019 Water Monitoring Summary

VLAWMO's monitoring program consists of:

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

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

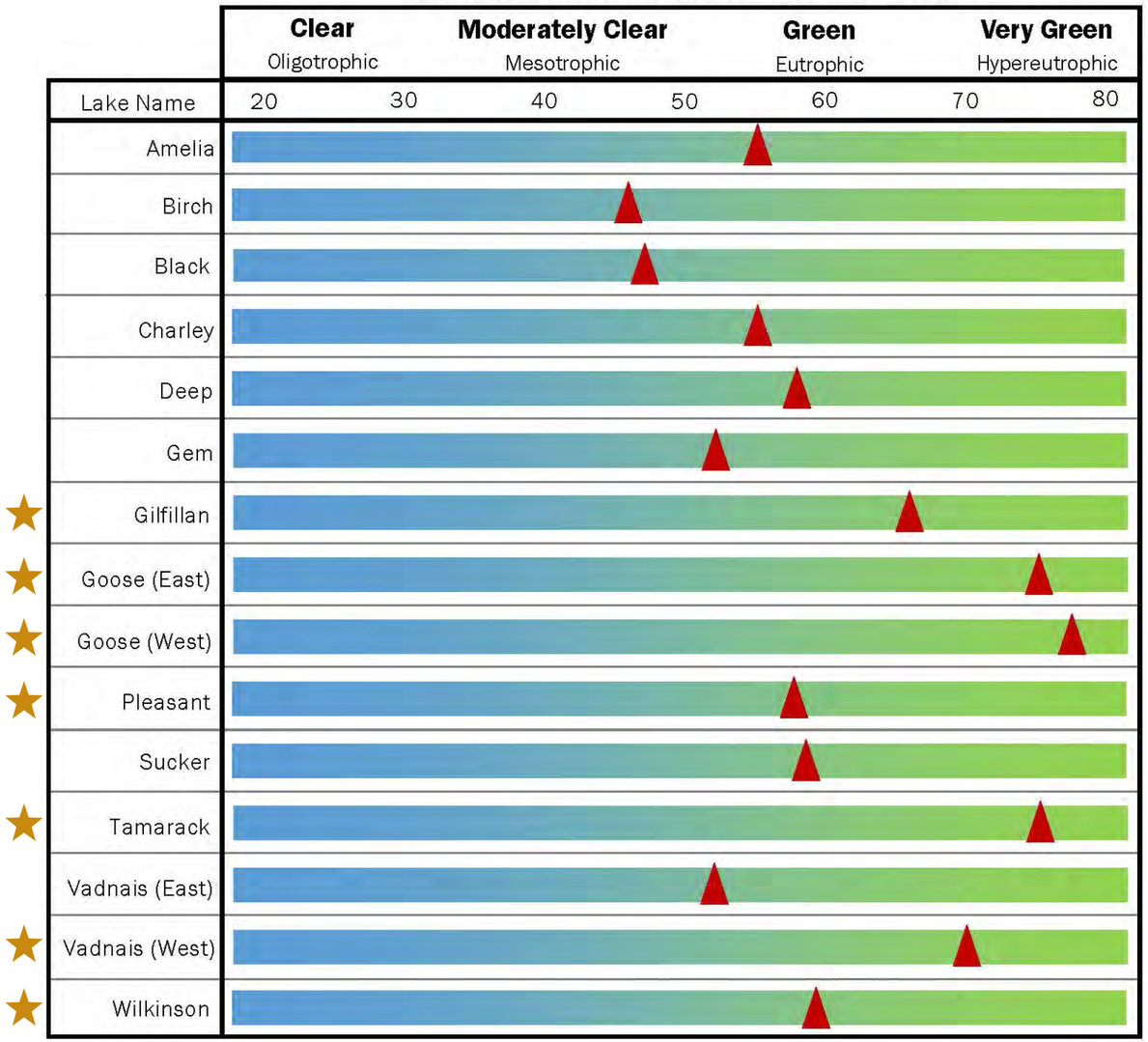
See the complete report at www.VLAWMO.org/resources/reports

The Watershed at a Glance

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

★ = Nutrient impaired waterbody (see reverse)

TSI Status of VLAWMO Lakes: 2019



Definitions:

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

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

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

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

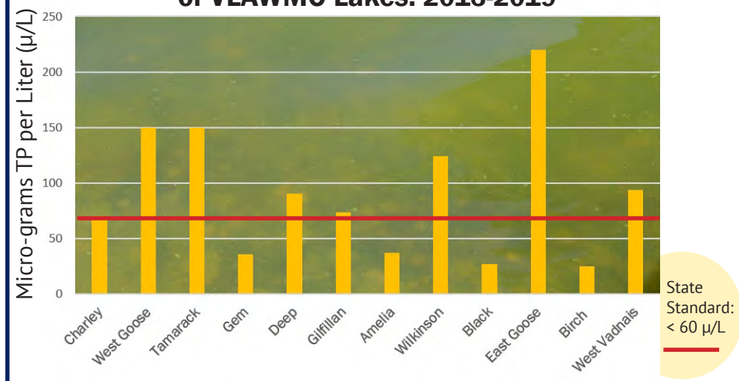
Eutrophication is the process of nutrient loading into a waterbody from the surrounding watershed (i.e. upland area). It is a natural process that can be accelerated by stormwater runoff and erosion.

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

Nutrients and Chlorides

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

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



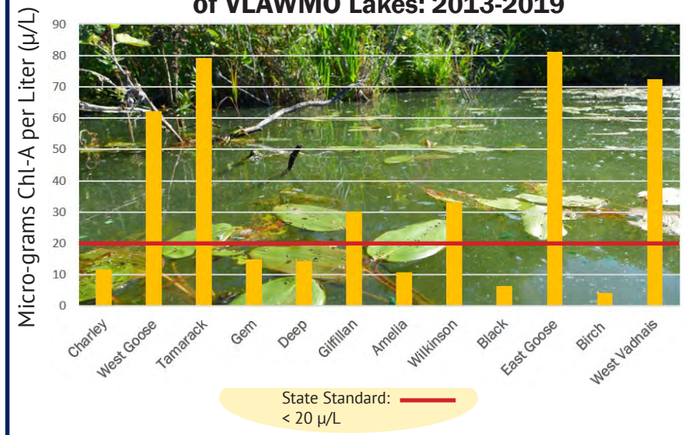
Phosphorus: What is it?

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

What it means to me:

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

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



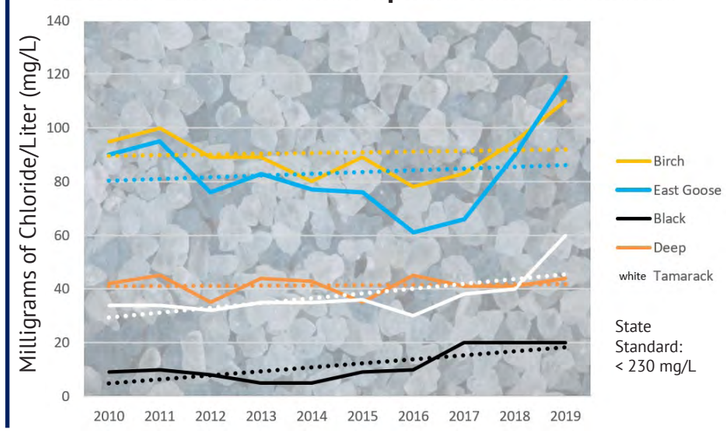
Chlorophyll-A: What is it?

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

What it means to me:

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

VLAWMO Lakes That Show Upward Trends in Chloride



Chloride: What is it?

Chloride is a common ingredient in de-icers and home water softening. Chloride is a permanent pollutant to water quality, requiring only 1 tsp to pollute 5 gallons of water. It is toxic to aquatic life and interrupts lake temperature and nutrient cycles.

What it means to me:

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

Vadnais Lake Area Water
Management Organization
800 County Road E East
Vadnais Heights, MN 55127
www.vlawmo.org
(651) 204-6071

LANDSCAPE LEVEL 1 GRANT APPLICATION FORM

Please submit form and required materials
to: TYLER THOMPSON
tyler.thompson@vlawmo.org

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

APPLICANT INFORMATION

NAME: The Cloisters at Birch Lake (Sharon Merritt) DATE: January 15, 2020

ADDRESS: 4728 Bouleau Rd. CITY: White Bear Lake ZIP: 55110

PHONE: 651-429-2621 EMAIL: merrittsharon@aol.com

PROJECT SUMMARY

ESTIMATED TOTAL COST OF YOUR PROJECT: $ 3552

AMOUNT OF GRANT REQUESTED: ($2,000 MAXIMUM) $ 2000

WHEN DO YOU PLAN TO COMPLETE YOUR PROJECT? Fall 2020

TYPE OF PROJECT THAT WILL BE COMPLETED:

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

If other, please describe proposed project:

PROJECT BACKGROUND

Describe your property: Does your property connect to a lake, stream, ditch, or wetland? What issues are you hoping to address with your project?

The proposed project area (Site B on the attached proposal) is a part of the western shoreline of Birch Lake. The lakeshore is overgrown with non-native invasive species. A homeowner has conducted an unauthorized vegetation removal on this site, but has done no replanting nor established an erosion buffer. We are wanting to return the lakeshore to a natural state that would have existed prior to the development in 1990. We also want to reestablish an erosion control buffer. Currently 2 other lakeshore restorations have been completed on Birch Lake.

Describe how your project will support the goals of the Landscape Grant Program (see guidance materials for more Information).

The existing vegetation consisted largely of buckthorn, honeysuckle, Amur maple, and Reed canary grass. The remaining invasive plant materials will be destoryed and removed. The lakeshore will then be restored with low-growing nativespecies. Prior to planting, the disturbed area will be covered with an erosion control blanket. This site will be maintained by the Cloisters Homeowners Association for a minimum of 5 years and longer.

PROJECT SPECIFICATIONS

In order to determine the water quality benefit of your project (amount of stormwater and pollutants captured), specific information is required for VLAWMO staff to perform the calculations. If you are working with a professional landscaper, they should be able to provide you with thisinformation.

TOTAL PROPERTY AREA (SQ.FT): 275,000

PROJECT SIZE (SQ.FT.): 1302 (Site B on the Attached Proposal)

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

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

IF YOUR PROJECT I**NCLUDES INFILTRATION, P**LEASE PROVIDE THE FOLLOWING INFORMATION

SOIL INFILTRATION RATE (INCHES/HR):

DEPTH OF RAINGARDEN (INCHES):

ADDITIONAL REQUIRED MATERIALS

Include a detailed drawing and budget for your project compiled by either yourself or your contractor that provides information for how the project will be installed, lists the materials that will be purchased (see guidance regarding what can be included as part of the grant program) and a list of the plants that will be used. Native restoration projects are required to use ONLY plants that are native to this ecoregion. All other projects must include AT LEAST 50% native plants. Hybrids of native plants will not count towards this requirement. **This information may be scanned and emailed to VLAWMO GIS Watershed Technician, Tyler Thompson (tyler.thompson@vlawmo.org)**

See Attached Proposal

Vadnais Lake Area Water
Management Organization
800 County Road E East
Vadnais Heights, MN 55127
www.vlawmo.org
(651) 204-6071

LANDSCAPE LEVEL 1 GRANT APPLICATION FORM

Please submit form and required materials
to: TYLER THOMPSON
tyler.thompson@vlawmo.org

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

APPLICANT INFORMATION

NAME: KEITH HISDAHL DATE: 1/22/2020

ADDRESS: 1978 Hwy 96 E CITY: W.B.L. ZIP: 55110

PHONE: CELL 651-307-9097 EMAIL:

PROJECT SUMMARY

ESTIMATED TOTAL COST OF YOUR PROJECT: $4,440.45 ~~$2,700~~ 2/6/20

AMOUNT OF GRANT REQUESTED: ($2,000 MAXIMUM) $ 2,000

WHEN DO YOU PLAN TO COMPLETE YOUR PROJECT? Fall 2020 11 1/28/20

TYPE OF PROJECT THAT WILL BE COMPLETED:

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

If other, please describe proposed project:

PROJECT BACKGROUND

Describe your property: Does your property connect to a lake, stream, ditch, or wetland? What issues are you hoping to address with your project?

Describe how your project will support the goals of the Landscape Grant Program (see guidance materials for more Information).

Describe your property: Does you property connect to a lake, stream, ditch, or wetland? What issues are you hope to address with your project?

Hisdahl's located at 1978 Hwy 96 mostly of sandy soil and the property is in the VLAWMO watershed district. Hisdahl's has been doing business in White Bear Lake for over 52 years. Hisdahl's is a community supporter and a valued asset in the small business community. With this new development Hisdahl's is investing in the surrounding community. There are no issues with the property in the current state of design, the property has all its civil engineering taken care of in regards with water run-off and hard surface area.

The issue we want to address is that the city of White Bear Lake has required me to submit the application for the Landscape Level 1 Grant program order to file for a building permit. The City of White Bear Lake wants me to have a water garden on the property and with the acceptance of the VLAWMO landscape Level 1 grant, this water garden will be built. If I don't receive the grant for the water garden, it is agreed that I don't have to install a water garden on the property.

Describe how your project will support the goals of the Landscape Grant Program.

I would think that the project will help with the prevention of flooding or mitigation of drought, along with improving water quality and storage of rainwater rather than run off into the street sewer. This is a commercial PUD development. I would think that the city wants to reduce water run off into city sewer system while also being a driving force for a green society. Because the city of White Bear Lake is close to a 100% land use city. This property owner wants re-develop their property to have an efficient and code compliant buildings in order to maximize their future investment.

This plan has been developed by Tyler Thompson, I'm sure all the plans submitted are design to support the goals of the landscape level 1 grant program.

PROJECT SPECIFICATIONS

In order to determine the water quality benefit of your project (amount of stormwater and pollutants captured), specific information is required for VLAWMO staff to perform the calculations. If you are working with a professional landscaper, they should be able to provide you with thisinformation.

TOTAL PROPERTY AREA (SQ.FT): 14,484

PROJECT SIZE (SQ.FT.): [illegible] 147

IMPERVIOUS AREA DRAINING TO PROJECT (SQ.FT.): [illegible] 648

PERVIOUS AREA DRAINING TO PROJECT (SQ.FT.): [illegible] 612

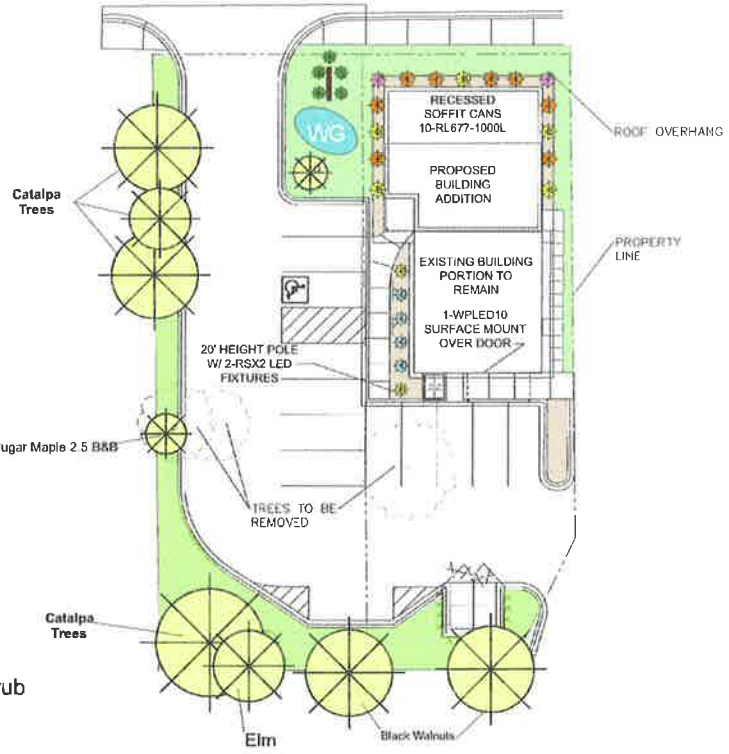
IF YOUR PROJECT **INCLUDES INFILTRATION,** PLEASE PROVIDE THE FOLLOWING INFORMATION

SOIL INFILTRATION RATE (INCHES/HR): — 1.63 in/hr TT

DEPTH OF RAINGARDEN (INCHES): — 9 in. TT

ADDITIONAL REQUIRED MATERIALS

Include a detailed drawing and budget for your project compiled by either yourself or your contractor that provides information for how the project will be installed, lists the materials that will be purchased (see guidance regarding what can be included as part of the grant program) and a list of the plants that will be used. Native restoration projects are required to use ONLY plants that are native to this ecoregion. All other projects must include AT LEAST 50% native plants. Hybrids of native plants will not count towards this requirement. **This information may be scanned and emailed to VLAWMO GIS Watershed Technician, Tyler Thompson (tyler.thompson@vlawmo.org)**



WG Water Garden

3455 SQUARE FEET		Turf
800 SQUARE FEET		River Rock Mulch
A-(2) #3 GAL		Rhododendron
B-(7) #5 GAL		Magic Carpet Spirea Shrub (Spiraea japonica 'magic carpet')
C-(5) #3 GAL		Repurpused Hosta
D-(4) #5 GAL		Elegans Drawf Norway Spruce Schub (picas abies 'elegans')
E-(8) #3 GAL		Repurpose Tiger Lilly
F-(8) 2.5 B&B		Sugar Maple
G-(8) 2.5 B&B		Spring Snow Crabapple

N

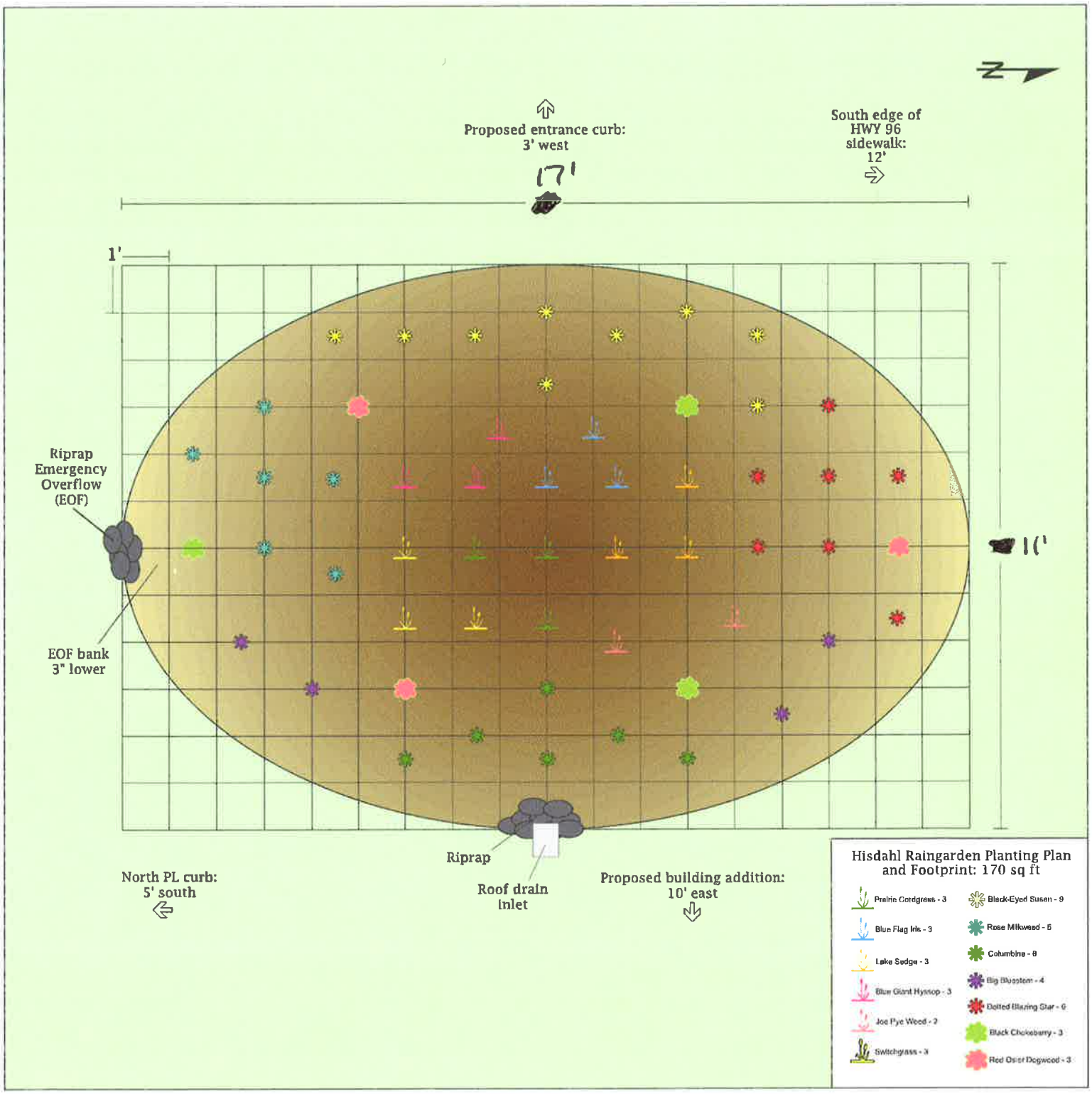
EXTERIOR LIGHTING PLAN WITH PROPOSED LANDSCAPE

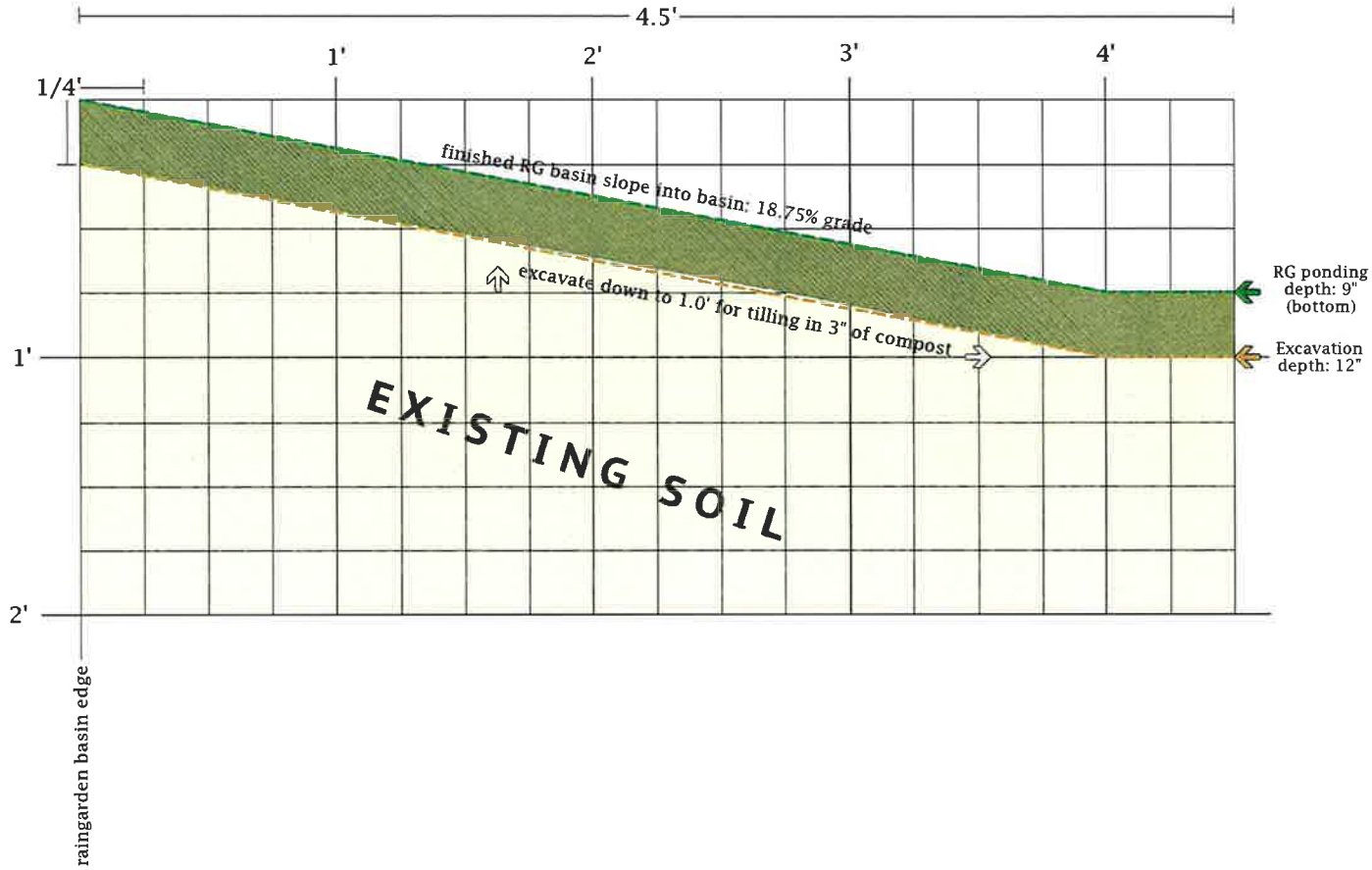
Husnik Homes, Inc.
2370 County Road J #105
White Bear Lake, MN. 55110
P. 651-426-7462
MOBILE
e-mail: phusnik@husnikhomes.com

REMODEL AND ADDITION FOR:
HISDAHL TROPHY-KEITH HISDAHL
1978 HWY 96 E.
WHITE BEAR LAKE, MINNESOTA 55110

ISSUE DATE
JANUARY 24, 2021
REVISIONS

JOB #201804
SHEET
E1


N
Proposed entrance curb:
3' west
South edge of
HWY 96
sidewalk:
12'
17'
1'
Riprap
Emergency
Overflow
(EOF)
EOF bank
3" lower
11'
Riprap
Roof drain
inlet
North PL curb:
5' south
Proposed building addition:
10' east
Hisdahl Raingarden Planting Plan
and Footprint: 170 sq ft
Prairie Cordgrass - 3
Blue Flag Iris - 3
Lake Sedge - 3
Blue Giant Hyssop - 3
Joe Pye Weed - 2
Switchgrass - 3
Black-Eyed Susan - 9
Rose Milkweed - 6
Columbine - 8
Big Bluestem - 4
Dotted Blazing Star - 6
Black Chokeberry - 3
Red Osier Dogwood - 3



Hisdahl Raingarden Basin
Slope Profile

Plant common name	Plant scientific name	Plant type	Quantity	Planting type	Est. Cost/plant
	"Wet" plants				
Blue Flag Iris	*Iris versicolor*	meadow forb	3	mix plugs	$3.75
Blue (or Purple) Giant Hyssop	*Agastache scrophulariaefolia*	wildflower	3	mix plugs	$3.75
Joe Pye Weed	*Eutrochium maculatum*	meadow forb	2	4" pots	$12
Lake Sedge (common or yellow common)	*Carex lacustris (or utriculata)*	sedge	3	mix plugs	$3.75
Prairie Cordgrass	*Spartina pectinata*	grass	3	mix plugs	$3.75
Switchgrass	*Panicum virgatum*	grass	3	mix plugs	$3.75
	"Medium" plants				
Black-Eyed Susan	*Rudbeckia hirta*	meadow forb	9		$11.25
Big Bluestem	*Andropogon gerardii*	grass	4	4" pots	$12
Columbine	*Aquilegia canadensis*	wildflower	6		$7.50
Dotted Blazing Star	*Liatris punctata*	prairie forb	6		$7.50
Rose Milkweed	*Asclepias incarnata*	wildflower	6		$7.50
	Shrubs				
Black Chokeberry	*Aronia melanocarpa*	shrub	3		$24
Red Osier Dogwood	*Cornus stolonifera*	shrub	3		$24
				Total:	$124.50
				RC Tax: 8%	**$134.46**

MN Nat Landscapes Pricing: $7.50 per 6-pack (mixed plants); $3.00 per 4" potted plant; Shrubs: $8.00/ "#1" pot

Prairie Moon Nursery sells flats of 38 potted plants "mix & match" for $149.00. Plant preorder will be available winter 2019

Recommend sourcing these materials from local garden center. Big box store is fine, too, but come in smaller quantities

Material	Amount needed	Quantity to buy	Est. cost/unit	
Gertens Best Compost Aged & Screened	1.57 yd^3	2 yd^3	$26.99/$yd^3$	$53.98
Green Loon Hardwood Mulch	1.13 yd^3	2 yd^3	$32.99/$yd^3$	$65.98
Limestone rock riprap for EOF- 3"- 12"	.15 yd^3	1 yd^3	$129.99/$yd^3$	$129.99
			total:	$249.95
	Gertens, Inver Grove Heights		**WC Tax: 6.875%**	**$267.13**

Materials total: $401.59

Letourneau Landscaping, Inc.
5656 Centerville Road
White Bear Township, MN 55127
(651) 426-0410

Estimate

DATE	ESTIMATE #
2/3/2020	1049

NAME / ADDRESS of CUSTOMER
HISDAHL INC. 1978 HIGHWAY 96 E WHITE BEAR LAKE, MN 55110

To accept this estimate, please sign below and return with your down payment within 14 days. We will contact you with an approximate schedule of the job start date.

DESCRIPTION	TOTAL
Rain Garden Installation: Using Skid Steer, excavate an approximate 18' x 12' oval, to rain garden specifications, and haul away up to 15 yards of soil. Deliver and install 1 1/2 to 2 yards of Garden Compost and till into soil at bottom of rain garden. Deliver and install 1/2 yard of Limestone Rip Rap at Emergency Overflow, and Roof Drain Inlet, as per Rain Garden Design. Deliver and install 2 yards of Shredded Hardwood Mulch (after plant installation). Deliver and install the following Native Plant Material: Three (3) plugs - Blue Flag Iris, Three (3) plugs - Giant Hyssop, Two (2) 4" - Joe Pye Weed, Three (3) plugs - Lake Sedge, Three (3) plugs - Switchgrass, Nine (9) plugs - Black-Eyed Susan, Four (4) 4" - Big Bluestem, Six (6) plugs - Columbine, Six (6) plugs - Blazing Star, Six (6) plugs - Rose Milkweed, Three (3) #2 Black Chokeberry Shrubs, and three (3) #2 Red Osier Dogwood shrubs.	4,440.45
Notes: Estimated Cost quoted here, is for 2019 price lists. The completed cost may increase due to an increase in materials, in 2020.	0.00

Down Payment Due: Half of the Estimated Amount Listed

TOTAL ESTIMATE

Thank You for having us provide you with this estimate!
Letourneau Landscaping, Inc has been providing professional landscaping for over 25 years. We are licensed and insured, and members of MNLA.

Customer Acceptance Signature

Payment Options: Cash or Check. Electronic and Credit Card payments are accepted through Paypal or Square. A transaction fee may be added to Credit Card payments. Please fill out Credit Card information below if applicable.

Credit Card Information:

Name on Card	Credit Card Number	Exp Date	CVV

The estimate above is an approximate cost for the work listed. Any extra labor and materials not listed above, will be added as an additional cost on your invoice.
Access Agreement: Occassionally turf or other damage may occur from equipment accessing the job area. Repair is not included in this estimate, unless specified above. Any damage can be repaired at an additional cost to the above estimate.

Limited Guarantee's: There are different limited guarantee's for each area of landscaping. All hardscaping has a one year limited guarantee for installation issues. There is a Limited Plant Guarantee. This is listed above in detail, or on a seperate hand out. We do not guarantee B & B Tree's or transplanted plant material. We only guarantee plants if there was a defect in the plant or roots at installation. Mother Nature (winter kill, drought, under & over watering, animal damage, insects, wind), and damage from other human acts are not covered. Any replacement will have a trip charge. Letourneau Landscaping, Inc. does not offer a Turf/Grass Seed Guarantee.

A signed estimate may be cancelled with written notice. However, we will be charged for re-stocking fees for any materials that have been purchased for your job. These fees will be charged to the customer and taken out of the down payment. A refund will be sent for any remaining down payment.

Final payment will be due upon completion. Pre Lien Notice: Please note that a lien and judgement may be filed against your property, if the final invoice is not paid. Any interest, legal, collection, court, attorney fees will be added to the balance owed. Any over due balances will be charged a 2% interest charge per month.

Letourneau Landscaping, Inc.
5656 Centerville Road
White Bear Township, MN 55127
(651) 426-0410

Estimate

DATE	ESTIMATE #
2/3/2020	1049

NAME / ADDRESS of CUSTOMER
HISDAHL INC. 1978 HIGHWAY 96 E WHITE BEAR LAKE, MN 55110

To accept this estimate, please sign below and return with your down payment within 14 days. We will contact you with an approximate schedule of the job start date.

DESCRIPTION	TOTAL
Limited Plant Material Guarantee: We provide a Limited (1) one year guarantee on delivered and installed plant material. This limited guarantee does not cover plant damage due to: under or over watering, Acts of Nature (winter kill, drought, flooding, wind, etc), Pet damage, deer, rabbit, animal, pest, insect or rodent damage, vandalism, damage, damage by humans (lawn mowers, weed whips, bicycles, toys, etc.) This Limited Guarantee basically covers the plant if there is proven root or plant damage that was undetected at installation. We DO NOT guarantee any B & B plant material or trees. We DO NOT guarantee any transplanted plant material. This Limited Guarantee will cover the cost of the plant material. There will be a $100.00 per trip charge for installation of replacement plant material. We DO NOT guarantee the replacement plant material. Please sign here to agree to this Limited Plant Guarantee: (Signature Required: non-signature will remove any Limited Plant Guarantee from this estimate and landscape project. Making Limited Plant Guarantee null and void.)	0.00
_____ Customer Acknowledgment	
Sales Tax	0.00

Down Payment Due: Half of the Estimated Amount Listed

TOTAL ESTIMATE $4,440.45

Thank You for having us provide you with this estimate!
Letourneau Landscaping, Inc has been providing professional landscaping for over 25 years. We are licensed and insured, and members of MNLA.

_____
Customer Acceptance Signature

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_____	_____	_____	_____

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

LANDSCAPE LEVEL 2 GRANT APPLICATION FORM

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

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

APPLICANT INFORMATION

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

CONTACT PERSON: Molly Churchich and Connie Taillon

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

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

PROJECT SUMMARY

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

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

WHEN DO YOU PLAN TO COMPLETE YOUR PROJECT? 2020

TYPE OF PROJECT THAT WILL BE COMPLETED:

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

If other, please describe proposed project:

PROJECT BACKGROUND

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

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

WHAT RESULTS DO YOU HOPE TO ACHIEVE WITH THIS PROJECT?

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

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

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

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

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

PROJECT SPECIFICATIONS

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

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

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

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

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

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

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

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

ADDITIONAL REQUIRED MATERIALS

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

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

LANDSCAPE LEVEL 2 GRANT APPLICATION FORM

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

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

APPLICANT INFORMATION

ORGANIZATION NAME: Dawn and Don Peterson

CONTACT PERSON: Dawn or Don Peterson

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

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

PROJECT SUMMARY

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

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

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

TYPE OF PROJECT THAT WILL BE COMPLETED:

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

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

PROJECT BACKGROUND

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

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

WHAT RESULTS DO YOU HOPE TO ACHIEVE WITH THIS PROJECT?

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

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

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

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

Ø Note We enjoyed watching the project on Dove Lane mature. We talked to them homeowners about their process and they told us about working with you.

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

PROJECT SPECIFICATIONS

see Prairie Restoration Proposal.

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

TOTAL PROPERTY AREA (SQ.FT): _____

PROJECT SIZE (SQ.FT.): _____

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

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

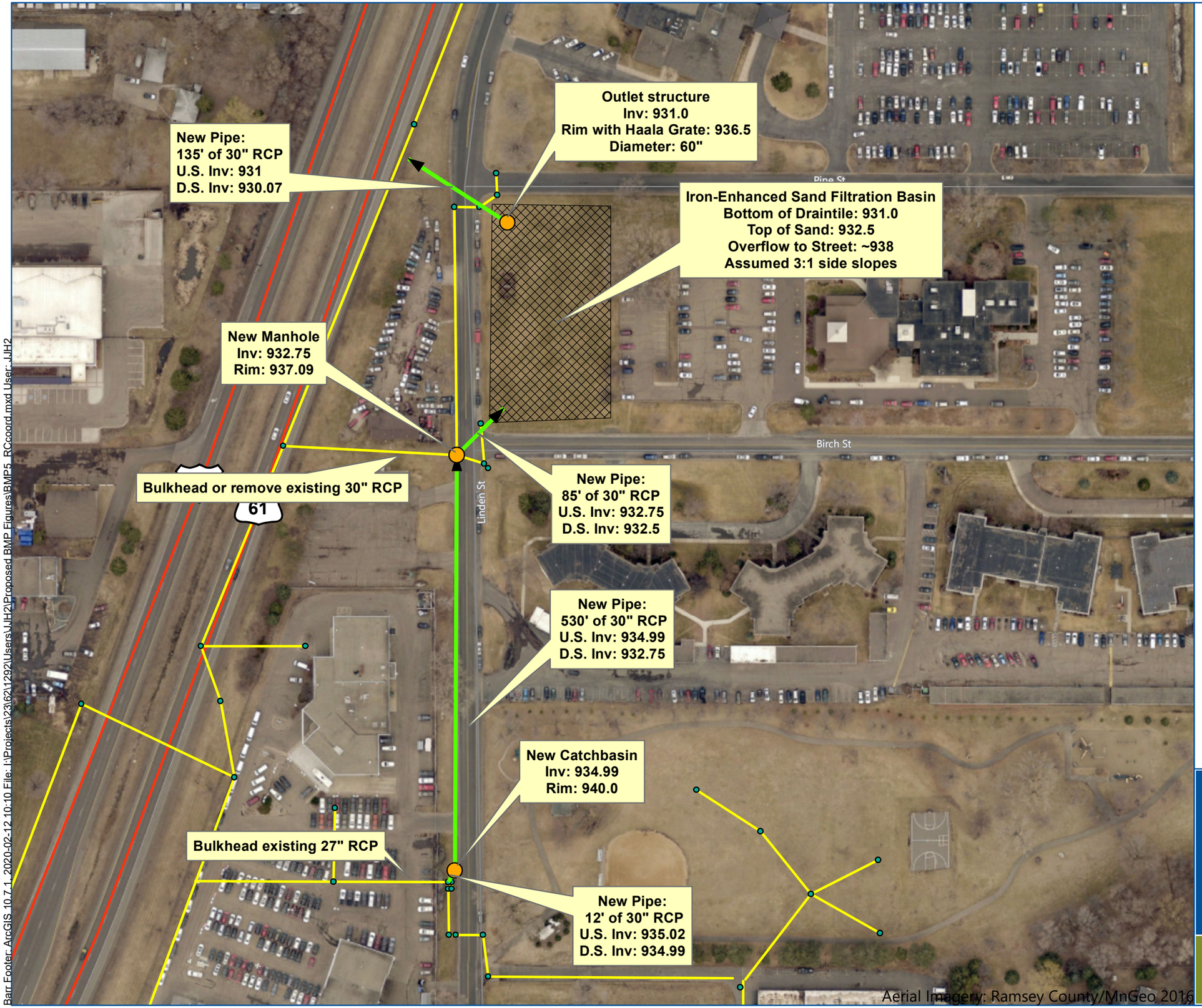
IF YOUR PROJECT IS A RAINGARDEN, PLEASE PROVIDE THE FOLLOWING INFORMATION

SOIL INFILTRATION RATE (INCHES/HR): _____

DEPTH OF RAINGARDEN (INCHES): _____

ADDITIONAL REQUIRED MATERIALS

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



BMP5 New Structures

BMP5 NewPipes

BMP5 Location

Existing SS Structures

Existing SS Pipe

BARR

N

0 100 200 300

Feet

Proposed BMP5: Iron-Enhanced Sand Filtration Basin Vadnais Lakes Area Watershed Management Organization

FIGURE 1

Iron-Enhanced Sand Filtration Basin
Bottom of Draintile: 933.6
Top of Sand: 935.1
Top of Berm 939.0
Assumed 3:1 side slopes

Outlet structure
Inv: 933.6
Rim with Haala Grate: 937.0
Diameter: 48"

Bulkhead or remove existing pipe.

New Pipe:
160' of 24" RCP
U.S. Inv: 935.99
D.S. Inv: 935.1

Regrade a portion
of the open field to provide
compensatory storage for the
volume of the pond berm.

New Pipe:
44' of 24" RCP
U.S. Inv: 933.6
D.S. Inv: 933.52

Tie into existing manhole.
May need to upsize the manhole.

Add backflow prevention on
existing outlet pipe.

Dotte Ct
Dotte Dr
Lake Aires Blvd
White Bear Ave N
Birch St
Van Dyke St
65 COUNTY

Aerial Imagery: Ramsey County/MnGeo 2016

- BMP2b New Structure
- BMP2b New Pipes
- BMP2b Location
- Existing SS Structures
- Existing SS Pipe

BARR

N

0 100 200
Feet

Proposed BMP2b:
Iron-Enhanced Sand Filtration Basin
Vadnais Lakes Area
Watershed Management
Organization

FIGURE 2

Iron-Enhanced Sand Filtration
Rectangular Vault

Bottom of Draintile/Vault: 925
Top of Sand: 926.5
Top of inside of structure: 930.4
Inside length: 265'
Inside width: 40'
Overflow at north end at 929.4

New Pipe
40' of 42" RCP
US Inv: 925.0
DS Inv: 924.0

Run County Road F trunkine into east side of vault.

Connect County Road F trunkline to west side of vault.

Overflow weir ito County Road F trunkline at 929.4

New Diversion Structure
No change to existing pipes
Internal weir forces low flows to go west

Inv: 924.22
Rim: 936.52
Internal Weir Crest: 929.4
East/West Pipe Inverts: 927.22
North Pipe Invert: 926.47

Highland Ave

Highland Ave

12 COUNTY

County Road F

Aerial Imagery: Ramsey County/MnGeo 2016

BMP12b New Structure
BMP12a New Pipe
BMP12a Underground Vault
Existing SS Structures
Existing SS Pipe

BARR

N

0 100 200
Feet

Proposed BMP12a&b:
Iron-Enhanced Sand Filtration Vault
Vadnais Lakes Area
Watershed Management
Organization

FIGURE 3

Barr Footer: ArcGIS 10.7.1, 2020-02-12 14:34 File: I:\Projects\23\62\1292\Users\JJH2\Proposed BMP Figures\BMP12a_b_RCcoord.mxd User: JJH2

Retrofitting the 6 existing raingardens includes curb cuts and lowering overflow structure rims.

The 20 proposed raingardens are approximately the same size as existing and include curb cuts, overflow structures and draintile connections to the County Road F storm sewer.

BMP1a Retrofitted Raingardens

BMP1b New Raingardens

Existing SS Structures

Existing SS Pipe

BARR

N

0 400 800

Feet

Proposed BMP1a&b: New and Retrofitted Raingardens Vadnais Lakes Area Watershed Management Organization

FIGURE 4

Aerial Imagery: Ramsey County/MnGeo 2016

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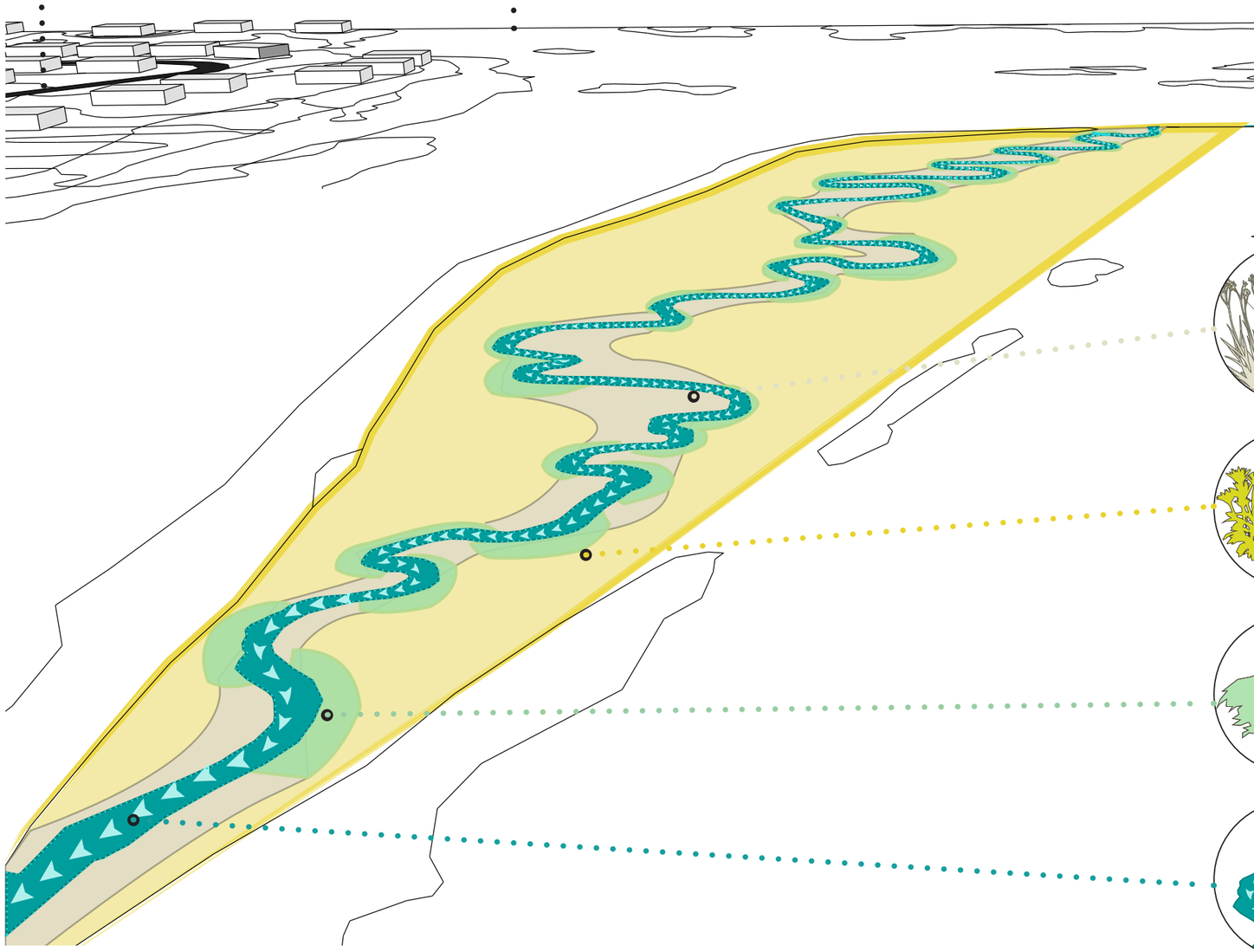
Stockdale Dr

County Rd F

Lambert Creek

Lambert Lake Pond

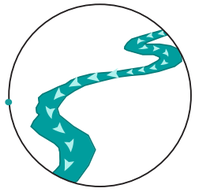
Alpine Ave



Native Planting

Native Planting Buffer

Bioengineering Armoring



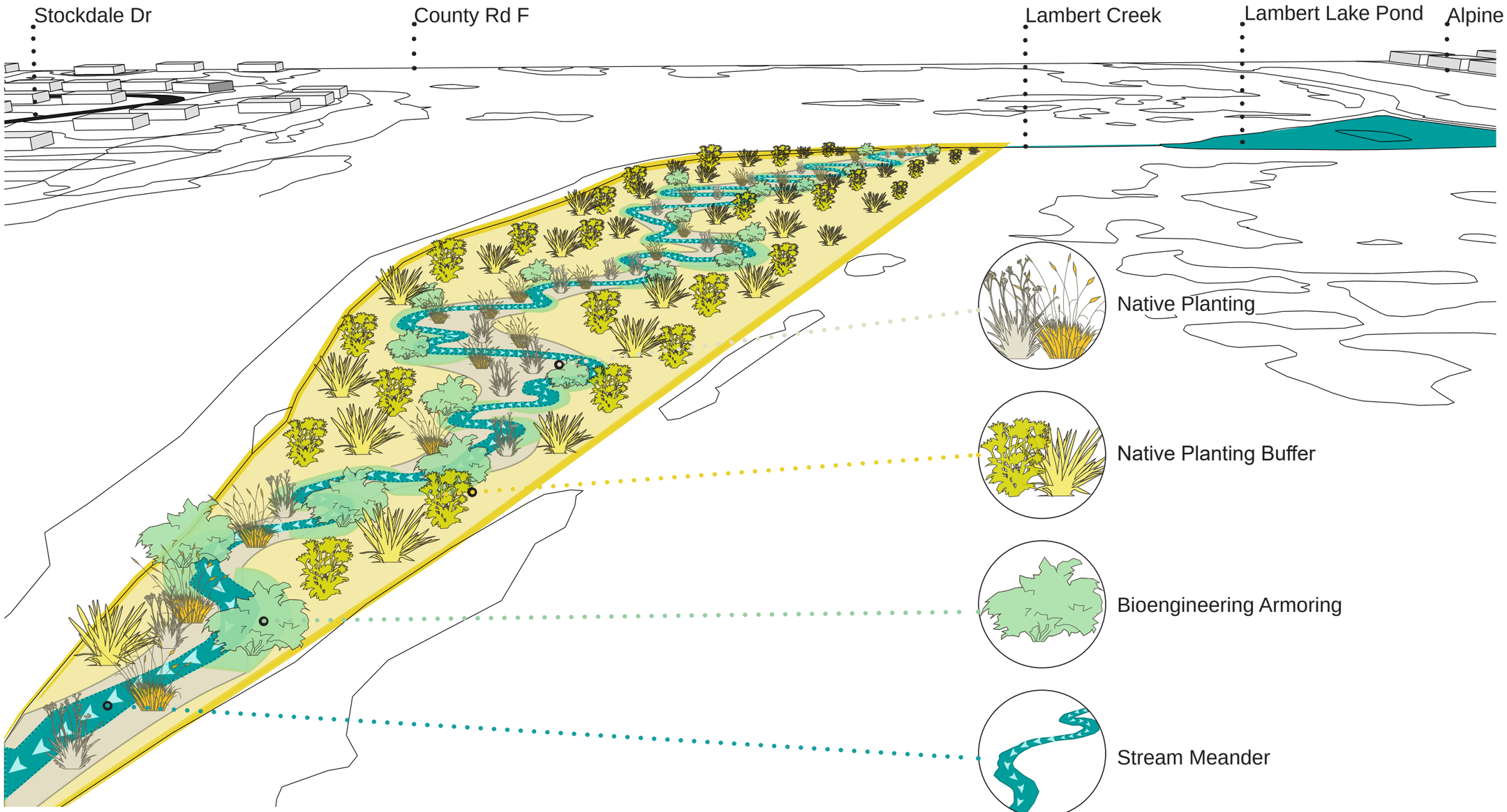
Stream Meander

Drone Image Jan. 2020

Existing Conditions

Lambert Lake Pond Improvements

SEH



Lambert Lake Pond Improvements

Stockdale Dr

Strategic Filling of Lambert Creek

County Rd F

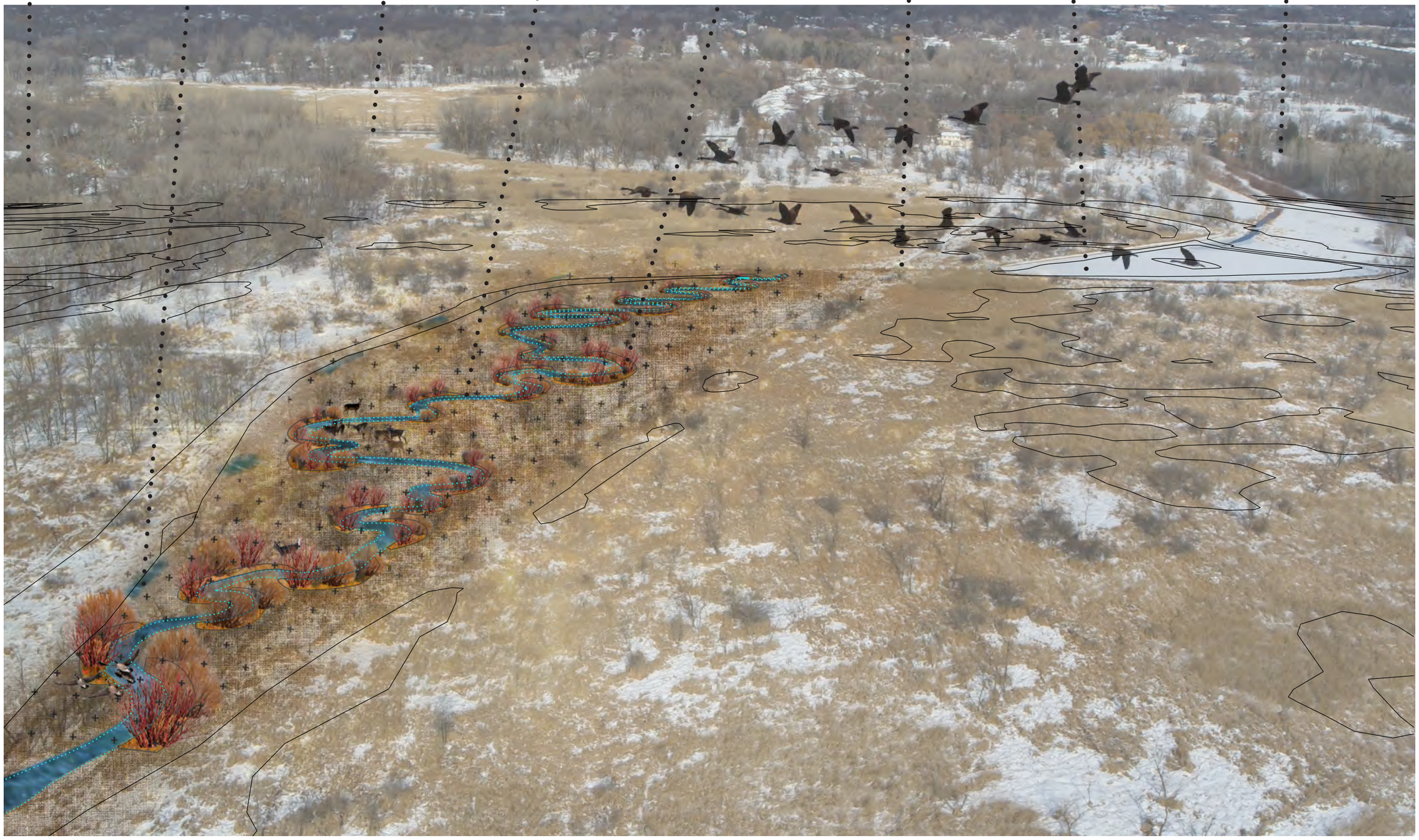
Stream Meander

Bioengineering Armoring

Lambert Creek

Lambert Lake Pond

Alpine Ave



Lambert Lake Pond Improvements

SEH

resourceful. naturally.
engineering and environmental consultants

BARR

Technical Memorandum

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

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

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

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

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

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

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

Recommendation

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

Attachment A

Bid Results Summary Table

Bid Results Summary Table

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

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

Attachment B

Engineer's Estimate and Bid Abstract

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

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

Bid Form reads:
Actual:
Difference:

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

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

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