



Bassett Creek Watershed Management Commission

Regular Meeting
Thursday, January 18, 2018
8:30 – 11:00 a.m.

Council Conference Room, Golden Valley City Hall, Golden Valley, MN

AGENDA

1. CALL TO ORDER and ROLL CALL

2. **CITIZEN FORUM ON NON-AGENDA ITEMS** - *Citizens may address the Commission about any item not contained on the regular agenda. A maximum of 15 minutes is allowed for the Forum. If the full 15 minutes are not needed for the Forum, the Commission will continue with the agenda. The Commission will take no official action on items discussed at the Forum, with the exception of referral to staff or a Commissions Committee for a recommendation to be brought back to the Commission for discussion/action.*

3. APPROVAL OF AGENDA

4. CONSENT AGENDA

- A. Approval of Minutes – December 21, 2017 Commission Meeting
- B. Approval of January 2018 Financial Report
- C. Approval of Payment of Invoices
 - i. Keystone Waters, LLC – December 2017 Administrator Services
 - ii. Keystone Waters, LLC – December 2017 Meeting Materials Distribution Expenses
 - iii. Barr Engineering – December 2017 Engineering Services
 - iv. Triple D Espresso – January 2018 Meeting Refreshments
 - v. Wenck – December 2017 WOMP Monitoring
 - vi. Wenck – December Routine Lake Monitoring
 - vii. Lawn Chair Gardener December 2017 Administrative and Education Services
 - viii. Kennedy & Graven – November Legal Services
 - ix. Metro Blooms – Harrison Neighborhood Project Local Match
 - x. Metropolitan Council – 2017 CAMP Payment
 - xi. HDR – Website Assistance and Hosting
 - xii. City of Golden Valley – 2017 Financial Services
 - xiii. CNA Surety – Premium Payment
- D. Approval to Reimburse City of Plymouth for Plymouth Creek Restoration Project (2017 CR-P) Expenses
- E. Approval to Reimburse Commissioner Scanlan for Aquatic Invaders Summit Registration Costs
- F. Approval of Resolution to Transfer Funds from CIP Account to Administrative Account
- G. Approval of Resolution to Transfer Funds from Administrative Account to Channel Maintenance Fund and Long-Term Maintenance Fund
- H. Approval of Proposal from MMKR to Perform 2017 Financial Audit
- I. Approval of Contract with Lawn Chair Gardener for 2018 Administrative Services
- J. Approval of Contract with Wenck Associates for 2018 WOMP Monitoring Services

5. BUSINESS

- A. Receive Presentation on Harrison Neighborhood Project
- B. Review and Consider Approval of AIS Rapid Response Plan

- C. Medicine Lake Items
 - i. Receive Update on Zebra Mussels and Review Draft Grant Application
 - ii. Consider Directing Staff to Apply for MnDNR Permit to Treat Curly-leaf Pondweed and Seek Contractors to Perform Treatment
 - iii. Review Existing Data on Common Carp in Medicine Lake
- D. Review Draft Scope of Work for FEMA Modeling Project
- E. Consider Approval of Resolution Authorizing Consideration of Accepting Grant from MnDNR
- F. Receive Update on BWSR's Watershed Based Funding Pilot Program and Direct Staff to Continue Meetings and Discussions
- G. Discuss Proposal from Freshwater Society for Lake Group Meeting Facilitation
- H. Consider Authorization to Increase Schaper Pond Effectiveness Monitoring Budget

6. COMMUNICATIONS

- A. Administrator
- B. Chair
- C. Commissioners
- D. TAC Members
- E. Committees
- F. Legal Counsel
- G. Engineer

7. INFORMATION ONLY (Information online only)

- A. [CIP Project Update Chart](#)
- B. Grant Tracking Summary and Spreadsheet
- C. WCA Notice of Decision, Plymouth
- D. [Road Salt Symposium](#)
- E. [Fundamentals of Lake Processes Workshop](#) (Feb 22 in Farmington)
- F. [Aquatic Invaders Summit III](#) (Feb 28 – Mar 1 in Brooklyn Center)
- G. [2017 River Watch Report](#)

8. ADJOURNMENT

Upcoming Meetings & Events

- [2018 Road Salt Symposium](#): Thursday February 8th, 8:30 a.m. – 3:00 p.m., Plymouth Creek Center
- [February Commission Meeting](#): Thursday February 15th, 8:30 a.m., Golden Valley City Hall



Bassett Creek Watershed Management Commission

AGENDA MEMO

Date: January 10, 2018

To: BCWMC Commissioners

From: Laura Jester, Administrator

RE: Background Information for 1/18/18 BCWMC Meeting

1. **CALL TO ORDER and ROLL CALL**
2. **CITIZEN FORUM ON NON-AGENDA ITEMS**
3. **APPROVAL OF AGENDA – ACTION ITEM with attachment**
4. **CONSENT AGENDA**
 - A. Approval of Minutes – December 21, 2017 Commission meeting- ACTION ITEM with attachment
 - B. Approval of January 2018 Financial Report - ACTION ITEM with attachment
 - C. Approval of Payment of Invoices - ACTION ITEM with attachments (online) – I have reviewed the following invoices and recommend approval of payment.
 - i. Keystone Waters, LLC – December 2017 Administrator Services
 - ii. Keystone Waters, LLC – December 2017 Meeting Materials Distribution Expenses
 - iii. Barr Engineering – December 2017 Engineering Services
 - iv. Triple D Espresso – January 2018 Meeting Refreshments
 - v. Wenck – December 2017 WOMP Monitoring
 - vi. Wenck – December Routine Lake Monitoring
 - vii. Lawn Chair Gardener December 2017 Administrative and Education Services
 - viii. Kennedy & Graven – November Legal Services
 - ix. Metro Blooms – Harrison Neighborhood Project Local Match
 - x. Metropolitan Council – 2017 CAMP Payment
 - xi. HDR – Website Assistance and Hosting
 - xii. City of Golden Valley – 2017 Financial Services
 - xiii. CNA Surety – Premium Payment
 - D. Approval to Reimburse City of Plymouth for Plymouth Creek Restoration Project (2017 CR-P) Expenses – ACTION ITEM with attachment (full document online) – At their meeting in September 2016, the Commission approved an [agreement](#) with the City of Plymouth to design and construct the Plymouth Creek Restoration Project. The city is requesting reimbursement for project design activities from March to December 2017. Staff recommends approving the request.
 - E. Approval to Reimburse Commissioner Scanlan for Aquatic Invaders Summit Registration Costs – ACTION ITEM no attachment – At their meeting in March 2017, the Commission approved the 2017 Education and Outreach Plan including allocating \$1,400 for reimbursement to Commissioners for applicable event registration and training costs. Commissioner Scanlan is requesting \$169 for the cost of the registration for the Aquatic Invaders Summit in Brooklyn Park. Staff recommends approval.
 - F. Approval of Resolution to Transfer Funds from CIP Account to Administrative Account – ACTION ITEM with attachment – Per its fiscal policies, each year the Commission transfers up to 2.5% of the taxes levied for CIP projects to the Commission’s administrative account (annual operating funds) to offset the administrative costs of managing the CIP projects. In 2017, the Commission levied \$1,303,600 through Hennepin County; the 2017 administrative budget included \$26,072 as a

transfer from the CIP account. Staff recommends approving the resolution to transfer 2.0% of the levy amount or \$26,072 from the CIP account to the administrative account.

- G. Approval of Resolution to Transfer Funds from Administrative Account to Channel Maintenance Fund and Long-Term Maintenance Fund – **ACTION ITEM with attachment** – *Per its fiscal policies, each year the Commission transfers \$25,000 from the administrative account into the Channel Maintenance Fund and another \$25,000 from the administrative account into the Flood Control Project Long Term Maintenance Fund. The Commission then transfers from the Flood Control Project Long Term Maintenance Fund into the administrative account the cost of Flood Control Project inspections for that year. Staff recommends approving the resolution to transfer \$25,000 into the Channel Maintenance Fund and \$17,200 into the Flood Control Project Long Term Maintenance Fund (which is \$25,000 less the cost of 2017 inspections of the Flood Control Project).*
- H. Approval of Proposal from MMKR to Perform 2017 Financial Audit – **ACTION ITEM with attachment online** – *Staff (including the Commission’s Deputy Treasurer) recommends accepting the proposal from MMKR to perform the FY2017 financial audit (see document online).*
- I. Approval of Contract with Lawn Chair Gardener for 2018 Administrative Services – **ACTION ITEM with attachment** – *Dawn Pape has been providing administrative services, including drafting and distributing press releases, newspaper columns, and newsletter articles and posting on the BCWMC Facebook page since 2016, and has been drafting meeting minutes since March 2017. I recommend continuing to use her services for these items throughout 2018 and approving the attached contract which fits into the 2018 Administrative Services budget.*
- J. Approval of Contract with Wenck Associates for 2018 WOMP Monitoring Services – **ACTION ITEM with attachment** – *Wenck Associates has been operating the Bassett Creek Watershed Outlet Monitoring Program (WOMP) station since 2013 and I recommend continuing to contract with them for this work. [Please note, the agreement between the BCWMC and the Met Council for WOMP activities (and some financial reimbursement from the Met Council) expired on 12/31/17. However, a new agreement (that will begin retroactively on 1/1/18) is being completed by Met Council and should be ready for approval at your February meeting.]*

5. BUSINESS

- A. Receive Presentation on Harrison Neighborhood Project – **INFORMATION ITEM no attachment** – *In July 2016, the BCWMC was awarded a \$100,000 Stormwater Grant from the Met Council for Metro Blooms’ Northside Neighborhood Engagement & Opportunities in Clean Water Initiatives (the Harrison Neighborhood Project). In the summer of 2016 and throughout 2017, Metro Blooms worked with Redeemer Lutheran Church and multiple residents in the Harrison Neighborhood to install “blooming boulevards” where ash trees were removed. The project exceeded expectations with more interest than expected and 37 areas being planted in one year! Metro Blooms staff will present results of the project at this meeting.*
- B. Review and Consider Approval of AIS Rapid Response Plan – **DISCUSSION (POSSIBLE ACTION) ITEM with attachment** – *At their meeting in September 2017, the Commission approved a [proposal](#) from the Commission Engineer to develop a draft AIS Rapid Response Plan (one of the recommendations of the APM/AIS Committee). The attached draft plan includes actions to take and the partner roles if AIS are discovered in Medicine, Parkers, Sweeney, Twin, Northwood, Westwood, and Wirth Lakes. Staff recommends reviewing and discussing the plan and the BCWMC roles laid out in the plan, and considering approval.*

C. Medicine Lake Items

- i. Receive Update on Zebra Mussels and Review Draft Grant Application – INFORMATION ITEM with attachment – *At their meeting in December, the Commission directed me to work with Three Rivers Park District, the MnDNR and others to plan for a zebra mussel survey in the spring and consider submitting an AIS Prevention Grant application to Hennepin County. Attached is a draft grant application for purchase of a decontamination unit for the boat launch at French Regional Park. I will verbally update the Commission on progress towards a survey.*
- ii. Consider Directing Staff to Apply for MnDNR Permit to Treat Curly-leaf Pondweed and Seek Contractors to Perform Treatment – ACTION ITEM no attachment - *At their meeting in January 2017, the Commission approved a recommendation from the APM/AIS Committee that the Commission perform herbicide spot treatments of aquatic invasive plants where the following conditions are met: 1) treatment of the plant is considered a management tool for improving water or habitat quality according to an approved management plan such as a TMDL; and 2) another entity or organization is sharing the cost of the treatment. The Commission treated curly-leaf pondweed in Medicine Lake in 2017 with financial and field support from Three Rivers Park District. Staff is seeking approval to begin plans for a similar treatment in 2018 including seeking a DNR permit, gathering quotes from contractors, and preparing an agreement with TRPD.*
- iii. Review Existing Data on Common Carp in Medicine Lake – INFORMATION ITEM with attachment – *At their meeting in October 2017, the Commission directed staff to gather and review existing data on carp populations in Medicine Lake (rather than waiting until routine monitoring there in 2019). Please see the attached memo and graph for results. There are no staff recommendations at this time, although staff may suggest the Commission consider performing a carp survey as part of the 2019 Medicine Lake monitoring.*

D. Review Draft Scope of Work for FEMA Modeling Project – INFORMATION ITEM with attachment – *At their meeting in October 2017, the Commission approved a [TAC recommendation](#) “that the Commission direct the Commission Engineer to develop a scope and budget for completing the tasks laid out for the FEMA modeling work and to submit that scope and budget to the DNR to seek FEMA grant funds to complete the work.” The attached scope was recently submitted to the MnDNR for this work, and final MnDNR approval is expected soon. Upon approval of the work scope, the DNR will provide an agreement for Commission consideration and approval. Staff expects to bring this agreement to the February Commission meeting.*

E. Consider Approval of Resolution Authorizing Consideration of Accepting Grant from MnDNR – ACTION ITEM with attachment – *In order to receive a grant from the MnDNR for the work contained in the scope in 5D above, the Commission must approve the attached resolution provided by the MnDNR.*

F. Receive Update on BWSR’s Watershed Based Funding Pilot Program and Direct Staff to Continue Meetings and Discussions – ACTION ITEM with attachment – *At the meeting December Commission meeting, I briefly described a new watershed funding policy approved by the BWSR Board. On January 8th, Commission Engineer Chandler and I attended an informational meeting*

about the new policy. Please see the attached memo for information and my recommendation to continue discussions with other watershed organizations in Hennepin County.

- G. Discuss Proposal from Freshwater Society for Lake Group Meeting Facilitation – **DISCUSSION (POSSIBLE ACTION) ITEM with attachment** – *At their meeting in October 2017, the Commission approved a recommendation from the APM/AIS Committee that the Commission “convene a meeting of lake groups and other interested groups/individuals in the BCWMC and request a presentation from the DNR and other experts to learn about lake improvement districts vs. lake associations and other less formal lake groups.” The Freshwater Society (a non-profit organization that promotes the conservation, protection and restoration of all freshwater resources) has facilitated these types of discussions with lake groups in other areas of the Metro and out-state. I recommend approving their proposal to facilitate one meeting with lake groups (for \$2,000) with funds from the 2018 AIS budget.*
- H. Consider Authorization to Increase Schaper Pond Effectiveness Monitoring Budget – **ACTION ITEM with attachment** – *At their meeting in August 2016, the Commission approved a Budget Committee recommendation that the Schaper Pond Effectiveness Monitoring budget of \$44,000 be paid with remaining funds from the Schaper Pond Diversion CIP Project. As part of the monitoring, the Commission Engineer encountered additional, unanticipated expenses totaling \$3,500. Please see the memo attached. I recommend increasing the monitoring budget to \$47,500.*

6. COMMUNICATIONS

- A. Administrator’s Report - **INFORMATION ITEM with attachment**
- B. Chair
- C. Commissioners
- D. TAC Members
- E. Committees
- F. Legal Counsel
- G. Engineer

7. INFORMATION ONLY (Information online only)

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Item 4A.
BCWMC 1-18-18

Bassett Creek Watershed Management Commission

DRFAT Minutes of Regular Meeting
Thursday, December 21, 2017
8:30 a.m.
Golden Valley City Hall, Golden Valley MN

1. CALL TO ORDER and ROLL CALL

On Thursday, December 21, 2017 at 8:34 a.m. in the Council Conference Room at Golden Valley City Hall (7800 Golden Valley Rd.), Chair de Lambert called to order the meeting of the Bassett Creek Watershed Management Commission (BCWMC) and asked for roll call to be taken.

Commissioners and city staff present:

City	Commissioner	Alternate Commissioner	Technical Advisory Committee Members (City Staff)
Crystal	Guy Mueller	<i>Absent</i>	Mark Ray
Golden Valley	<i>Absent</i>	Jane McDonald Black	Jeff Oliver
Medicine Lake	Clint Carlson	<i>Absent</i>	<i>Absent</i>
Minneapolis	Michael Welch	<i>NA</i>	Liz Stout
Mnettonka	Mike Fruen	<i>Absent</i>	<i>Absent</i>
New Hope	<i>Absent</i>	Pat Crough	<i>Absent</i>
Plymouth	Jim Prom	John Byrnes	Derrick Asche
Robbinsdale	<i>Absent</i>	<i>Absent</i>	Marta Roser
St. Louis Park	Jim de Lambert	<i>Absent</i>	Erick Francis
Administrator	Laura Jester, Keystone Waters		
Engineer	Karen Chandler, Greg Wilson and Meg Rattei: Barr Engineering		
Recorder	Dawn Pape, Lawn Chair Gardener Creative Services		
Legal Counsel	Troy Gilchrist, Kennedy & Graven		
Presenters/ Guests/Public	Brian Vlach, Three Rivers Park District		

2. CITIZEN FORUM ON NON-AGENDA ITEMS

None

3. APPROVAL OF AGENDA

Chair de Lambert requested to add item 5F to consider approval to comment on Minneapolis Phase I of NPDES permit.

MOTION: Alternate Commissioner McDonald Black moved to approve the agenda with added item 5F. Commissioner Welch seconded the motion. Upon a vote, the motion carried 7-0. [Cities of Crystal and Robbinsdale absent from the vote]

4. CONSENT AGENDA

The following items were approved as part of the consent agenda: November 15, 2017 Commission meeting minutes, December 2017 financial report, payment of invoices, amendment to agreement with Metropolitan Council for reimbursement of BCWMC expenses related to Blue Line LRT project, direct Commission Engineer to submit Flood Control inspection report to cities, Minnesota DNR, and U.S. Army Corps of Engineers; reimburse Commissioner Scanlan for Road Salt Symposium registration costs, and resolution of appreciation for Alternate Commissioner Jacob Millner’s services.

The general and construction account balances reported in the December 2017 Financial Report are as follows:

Checking Account Balance	\$ 462,591.15
TOTAL GENERAL FUND BALANCE	\$ 462,591.15
TOTAL CASH & INVESTMENTS ON-HAND (12/13/17)	\$3,917,564.86
CIP Projects Levied – Budget Remaining	(4,363,587.60)
Closed Projects Remaining Balance	(446,022.74)
2012-2016 Anticipated Tax Levy Revenue	\$9,558.89
2017 Anticipated Tax Levy Revenue	23,977.12
Anticipated Closed Project Balance	(412,486.73)

MOTION: Alternate Commissioner McDonald Black moved to approve the consent agenda. Commissioner Prom seconded the motion. Upon a vote, the motion carried 7-0. [Cities of Crystal and Robbinsdale absent from the vote]

5. BUSINESS

A. Receive Presentation on Results of Stormwater Pond Maintenance Prioritization Analysis

Commission Engineer Chandler gave a PowerPoint presentation and started by reviewing the objectives of the Commission’s P8 model development including water quality modeling, tracking progress on TMDLs, and evaluating proposed projects. She stated the model can also be used to map pollutant “hotspots” and prioritize maintenance of best management practices (BMPs) such as stormwater ponds.

Commission Engineer Chandler provided examples of hotspot mapping including the Medicine Lake direct watershed. She noted the red on the map indicated highest phosphorus loading and the green indicated lowest phosphorus loading. She presented a second example for the watershed downstream from Medicine Lake. She noted that hotspot maps like these are available for all member cities and Administrator Jester will help distribute them.

Commissioner Welch asked if developers should use this map and Engineer Chandler said the P8 model would be more useful. Commissioner Welch further inquired whether developments can change the colors on the map (impact either negatively or positively.) Engineer Chandler confirmed that developments' BMPs can impact the map coloration.

Commissioner Carlson asked why the XP-SWMM model wasn't used. Engineer Chandler explained the models were used for different things: XP-SWMM models hydrology, flows, and flood levels while the P8 model is used to model pollutant loading and treatment.

Commissioner Carlson asked if both models needed to be maintained. Commission Engineers Chandler and Wilson confirmed that they both need to be maintained and that cities are interested in this because their MS4 permits require assessment procedures and schedules.

Commission Engineer Chandler noted that the MS4 permit includes pollution prevention and good housekeeping categories. She noted stormwater ponds can be ranked by water quality impact and how quickly the pond is filling due to sedimentation. She noted the ranking methodology includes effective removal, percentage filled per year, and dead storage volume (which means the water can't go anywhere other than evaporation or infiltration). She reported that the exercise independently ranks both parameters and then combines the independent ranking to form final rank. She reported there are 600+ ranked ponds in the watershed and that the data are available to cities.

There was some discussion on what information was used to determine the hotspots. Commission Engineer Wilson reported that BMPs reported to the Commission by cities for model updates were included in this exercise. It was noted that if a development came to the Commission for review, the Commission Engineer does not know if the BMPs proposed in the plans were actually constructed. Therefore, that information is not included in the Commission's model unless it was specifically submitted by the city with an as-built record or other record. Engineer Chandler noted that the Commission Engineers send out reminders to cities to provide the information to the Commission.

Commissioner Welch wondered if the pond prioritization information was something cities already had and wondered if the exercise was redundant. Mr. Oliver replied that he has some of the pond data but is looking forward to reviewing Barr's report. Commission Engineer Wilson noted that 30 of the 600 ponds were field-surveyed and that the data generated from this exercise will give cities knowledge on what ponds should be surveyed/assessed next.

Commissioner Welch asked that the flow of information between the cities and the Commission is appropriate and that activities among entities aren't being duplicated. Commissioner Carlson asked if Commission should use the XP-SWMM and P8 models together. Commission Engineer Chandler replied that the model results can, indeed, be overlaid and used together.

[Commissioner Mueller arrives.]

B. Receive Update on Zebra Mussels in Medicine Lake and Consider Recommendations for Next Steps

Commission Engineer Chandler reviewed the existing information regarding zebra mussels in Medicine Lake, noting they were discovered on November 1st and confirmed by the MnDNR the following day.

She noted that since no “veligers” (babies) were found, it is unclear whether there are three isolated clusters of adults brought in separately or whether it is, in fact, a widespread infestation as the MnDNR suspects. She noted that a rapid response of a chemical treatment would only be warranted if there were isolated pockets of adults and that a survey of the lake is needed to fully understand the extent of the infestation.

Commission Engineer Chandler reported on the negative impact of zebra mussels in a lake, including blooms of blue green algae, which are not the preferred diet of zebra mussels. She noted that at first zebra mussels make water quality seem better because they eat the green algae. She noted that the Minnesota Aquatic Invasive Species Research Center (MAISRC) considers zebra mussels to be one of the worst invaders because they completely alter the food chain.

Commission Engineer Chandler reviewed the recommended next steps developed after talks with the MnDNR, MAISRC, Three Rivers Park District (TRPD), Hennepin County and the Commission Administrator:

- Direct staff to discuss and work with TRPD and, if deemed appropriate, apply for a Hennepin County AIS Prevention Grant, to help fund either a) installing a CD3 (Clean, Drain, Dry, Dispose) unit at the French Regional Park boat launch, or b) additional inspection hours at the park boat launch; and to include up to \$5,000 of BCWMC AIS/APM 2018 funding as a grant match. It was noted that the grant application deadline is January 12, 2018 – before the January Commission meeting.
- Perform a “meandering” survey of zebra mussel adults to determine the extent of the infestation in the lake and use up to \$8,000 of 2018 APM/AIS funds for this work, if needed. including applying for an AIS Prevention Grant from Hennepin County, if appropriate.
- If the meandering survey finds zebra mussels in a few locations (i.e., isolated clusters), and the MnDNR and MAISRC staff agree that the lake is a candidate for a rapid response treatment, use up to \$1,500 of staff time to apply for a MnDNR treatment permit.
- If the MnDNR issues the treatment permit, apply for a Hennepin County Rapid Response Grant (different from the AIS Prevention Grant discussed in #1 above) to pay/help pay for quarantine and treatment costs.

Brian Vlach with TRPD explained a “CD3” waterless cleaning station that can be installed at the boat launch and used by boaters. He noted it’s connected to a database so staff can tell which tools are used and when. He said TRPD is currently doing a survey to monitor the tools’ use at Bryant Lake and are hesitant about recommending investing in a CD3 unit for Medicine Lake because they are still determining its effectiveness/usefulness.

There was discussion about closing boat launches and Commission Engineer Rattei reviewed the life cycle of zebra mussels. There was further discussion about the need for a whole-lake survey of the lake to determine the extent of the infestation. It was noted that TRPD and/or MnDNR staff can likely help with a survey and the Commission may not need to spend funds on a survey. However, if an outside contractor was needed, the rough estimate by Blue Water Science was \$16,000 to complete the entire survey.

Commissioner Welch stated that the Commission should give authority to Administrator Jester so time isn’t wasted. He noted that the largest water body in the watershed is affected and that not working on the issue is not acceptable. Administrator Jester recommended the Commission approve recommendations 2 -4 as noted above.

Commissioner Carlson noted he thought it appropriate to approve recommendations 1-4. Mr. Asche wondered if the zooplankton survey scheduled for Parkers Lake in 2018 could be done on Medicine Lake instead (Medicine Lake slated for 2019). Administrator Jester reported that may be a possibility.

MOTION: Commissioner Welch moved to authorize the Administrator to spend up to \$8,000 for a zebra mussel survey on Medicine Lake and to take other warranted actions that includes applying for grants (without a BCWMC match). Commissioner Prom seconded the motion. Upon a vote, the motion carried 8-0. [City of Robbinsdale was absent from the vote.]

C. Receive Update on BWSR's Watershed-Based Funding Pilot Program

Administrator Jester reported that BWSR's Clean Water Fund competitive grant fund will eventually be replaced with watershed-based funding and that a pilot program to distribute funds to watersheds and other eligible entities will begin in January. She reported that the BWSR Board approved just over \$1M in Clean Water Funds to be used in Hennepin County and that all watersheds, cities, and other eligible entities will either need to work together to determine county-wide priorities or entities can alternatively opt into a competitive grant program. She reported that the State is working on providing funds on a more consistent basis rather than hyper-competitive grant processes. She noted that in several areas in out-state Minnesota, large basins are already working together to develop a list of priorities but acknowledged that there will be more of a challenge in the Metro area.

Administrator Jester reported she will attend an informational meeting in January and will bring more information and/or a recommendation to the January meeting.

D. Consider Recommendations of Administrative Services Committee

Commissioner Mueller, Chair of the Administrative Services Committee, asked Administrator Jester to give an overview of the November 15th committee meeting.

Administrator Jester reported on records management activities and noted that she has been going through historic paper files dating back to 1969, retaining and organizing records according to the Commission's Record Retention Schedule, and preparing records for digitization by volunteers with the City of Plymouth. She noted the remaining records (about 3 file cabinets full) must be moved out of Plymouth City Hall. She noted the Committee originally recommended using a private offsite records storage company to house the files. However, upon further research she now recommends moving the files to the City of Crystal's Public Works Facility, which offers free storage and easier access.

Administrator Jester reported on the committee's discussion of the Commission's role in lobbying at the State Legislature, including reviewing Attorney Gilchrist's opinion. The Committee recommends that since the Commission's Joint Powers Agreement allows for expenditures necessary to implement its purposes and powers, that the Commission discuss and seek legal advice on any lobbying or related membership requests that come before the Commission on a case by case basis.

Administrator Jester reported that in 2019, the Commission will turn 50 years old and that the Commission should capitalize on the landmark year with special events and/or dissemination of information to the public. The Committee recommended that the Commission's Education Committee develop plans and budget recommendations for anniversary events.

Administrator Jester reported on the Committee's discussion on the future of stormwater management. She noted that Committee members agreed that better prioritization of the Commission's capital projects is needed in order to better evaluate what CIP projects should be implemented and when. It was noted that subwatershed analyses and water quality impairments should be used to target projects where the need is greatest. Administrator Jester pointed out that Riley Purgatory Bluff Creek Watershed District uses a comprehensive project prioritization process that was highlighted at the MAWD conference. She reported that the Committee recommends that the Technical Advisory Committee draft a process to evaluate and prioritize projects as a first step in refining the implementation of the Commission's Capital Improvement Program.

Commissioner Welch thought the recommendations were smart, but thought the Capital Improvement Program evaluation and prioritization process should be developed by the Commission and the TAC together.

[Commissioner Fruen departs.]

MOTION: Commissioner Welch moved to approve the recommendations of the Administrative Services Committee and to develop a committee of at least three TAC members, BCWMC staff, and three Commissioners to develop and refine the CIP prioritization process. Commissioner Mueller seconded the motion.

Discussion: Alt. Commissioner McDonald Black stated that TAC members are the experts, there should be a balance of efficiency and that another layer of project review should not be created. Mr. Oliver stated that in cities, staff typically discuss project priorities and make recommendations to the city council rather than involving council members in the process of choosing projects.

Chair de Lambert noted that more Commission involvement in the CIP process is important and thought the motion was appropriate. Commissioner Mueller stated that the Commission needs to help sort through priorities to determine which are most valuable.

Administrator Jester stated she thought there are two different activities: 1) developing the prioritization process, in which it's appropriate to include Commissioners; and 2) using the prioritization process (once it's developed) to determine the CIP list and schedule.

Commissioner Welch noted that the Riley Purgatory Bluff Creek Watershed District performed exhaustive resource assessments and BCWMC didn't do assessments during its Plan development. Commissioner Prom restated the discussion and added that from a common-sense approach, having the Commissioners initially involved was not micro-managing, rather helping to set up a framework.

Attorney Gilchrist agreed that whatever recommendation this new subgroup comes up with would have to come back to the Commission for approval.

Upon a vote the motion carried 7-0. [Cities of Minnetonka and Robbinsdale are absent from the vote.]

E. Review Feedback from Staff, Commissioners, TAC Members on Staff Performance and Commission Direction

Commissioner Mueller distributed copies of the responses submitted by TAC members (4) and Commissioners (5) and started by saying no contracts with consultants need to be reconsidered at this time and that the Administrative Services Committee decided not to use "Olympic-style" ranking of staff, but to gather general comments instead.

Administrator Jester and Commission Engineer Chandler distributed copies of their own responses to their self-evaluations. Administrator Jester noted that these items weren't included in the meeting packet because responses are considered private data and should not be widely distributed.

Commissioner Mueller briefly reviewed TAC and Commissioner responses noting there were no glaring issues to be addressed, there were interesting and diverse comments and that further discussion may be needed by the Administrative Services Committee or others after further review. It was noted that meeting efficiency should be improved, including bringing information to the Commission prior to when a decision is needed.

Administrator Jester and Engineer Chandler each briefly reviewed their responses to questions.

Commissioner Welch recommended making this an agenda item at the next meeting.

F. Consider Approval to Comment on Minneapolis Phase I NPDES Permit

Commission Engineer Chandler commented that there are some changes in the draft NPDES permit for Minneapolis that should be reviewed and may warrant comment. She noted that comments are due before the January Commission meeting and that she would work with the Commission Chair and Administrator to develop

and send a comment letter, as warranted.

MOTION: Commissioner Welch moved to authorize Engineer Chandler not to exceed \$1,500 at the direction of the Administrator Jester to review and provide comments on the draft Phase I NPDES permit for Minneapolis. Commissioner Carlson seconded the motion. Upon a vote, the motion carried 7-0. [Cities of Minnetonka and Robbinsdale are absent from the vote.]

6. COMMUNICATIONS

A. Administrator

- i. CIP update chart is now online which is a quick reference indicating the phases of CIP projects
- ii. Report on Minnesota Association of Watershed Districts Annual Meeting
 - a. Administrator Jester thanked the Commission for the opportunity to attend
- iii. 2018 Road Salt Symposium in early February—registration is open
- iv. Conflict of interest forms need to be returned for auditors

B. Chair

Nothing to report.

C. Commissioners

Commissioner Carlson asked whether or not landowner permission was needed to inspect docks around Medicine Lake for zebra mussels. Attorney Gilchrist indicated the Commission should be more conservative with regards to trespassing and recommended getting permission from landowners.

D. TAC Members

Nothing to report.

E. Committees

Nothing to report.

F. Legal Counsel

Commented that he enjoys working with Administrator Jester because she’s clear, organized, and efficient.

G. Engineer

Nothing to report.

7. INFORMATION ONLY (Information online only)

- A. CIP Project Update Chart
- B. Grant Tracking Summary and Spreadsheet
- C. New Fact Sheet on Updated Flood Elevations and XP-SWMM Modeling Effort
- D. BCWMC Winter Maintenance Workshop Evaluations
- E. West Metro Water Alliance Fall Newsletter
- F. Children’s Water Festival Thank You
- G. Harrison Neighborhood Project Article
- H. WCA Notice of Decision, Plymouth
- I. WCA Notice of Application, Plymouth

8. ADJOURNMENT The meeting adjourned at 11:18 a.m.

Signature/Title Date

Signature/Title Date

Bassett Creek Watershed Management Commission General Account
 General Fund (Administration) Financial Report
 Fiscal Year: February 1, 2017 through January 31, 2018
 MEETING DATE: January 18, 2018

Item 4B.
 BCWMC 1-18-18

(UNAUDITED)

BEGINNING BALANCE	13-Dec-17	462,591.15	
ADD:			
General Fund Revenue:			
Interest less Bank Fees		21.16	
Assessments:			
Minneapolis		34,763.00	
Crystal		26,904.00	
Golden Valley		134,649.00	
New Hope		26,740.00	
League of MN Cities	Insurance Dividend	698.00	
Metropolitan Council	Tunnel (MT)	952.05	
Permits:			
City of Plymouth	Quail Ridge	1,500.00	
Reimbursed Construction Costs		77,236.44	
	Total Revenue and Transfers In		303,463.65
DEDUCT:			
Checks:			
3029 Barr Engineering	Dec Engineering	42,057.51	
3030 Kennedy & Graven	November Legal	278.60	
3031 VOID		0.00	
3032 Keystone Waters LLC	Dec Admin/Mtg Materials	4,615.55	
3033 Lawn Chair Gardener	Minutes/newsletter/Social Media	1,042.47	
3034 Metro Blooms	Harrison Blvd Project	4,000.00	
3035 Triple D Espresso	Jan Meeting	103.98	
3036 Wenck Associates	Outlet Monitoring	1,716.77	
3037 Wenck Associates	Lake Monitoring	8,131.40	
3038 HDR Engineering	Website Maint	702.42	
3039 Metropolitan Council	CAMP	4,560.00	
3040 City of Plymouth	Plymouth Creek Restoration	71,584.90	
3041 CNA Surety	2018 Treasurer Bond	100.00	PREPAID
3042 Mike Scanlan	Expense Reimbursement	135.00	
3043 City of Golden Valley	Financial Services	3,200.00	
	Total Checks/Deductions		142,228.60
ENDING BALANCE	13-Dec-17		623,826.20

Bassett Creek Watershed Management Commission General Account

General Fund (Administration) Financial Report

(UNAUDITED)

Fiscal Year: February 1, 2017 through January 31, 2018

MEETING DATE: January 18, 2018

	2017 / 2018 BUDGET	CURRENT MONTH	YTD 2017 / 2018	BALANCE
OTHER GENERAL FUND REVENUE				
ASSESSMENTS TO CITIES-PREPAID		223,056.00		
ASSESSMENTS TO CITIES	500,000	0.00	500,001.00	(1.00)
PROJECT REVIEW FEES	60,000	1,500.00	72,200.00	(12,200.00)
WOMP REIMBURSEMENT	5,000	0.00	4,500.00	500.00
MET COUNCIL REIMBURSEMENTS-LRT PROJECTS	7,000	952.05	13,953.77	(6,953.77)
MET COUNCIL - METRO BLOOMS	0	0.00	60,918.23	(60,918.23)
MISCELLANEOUS	0	698.00	3,587.50	(3,587.50)
TRANSFERS FROM LONG TERM FUND & CIP	38,072	0.00	0.00	38,072.00
REVENUE TOTAL	610,072	226,206.05	655,160.50	(45,088.50)
EXPENDITURES				
ENGINEERING & MONITORING				
TECHNICAL SERVICES	125,000	13,603.00	130,150.25	(5,150.25)
DEV/PROJECT REVIEWS	65,000	979.50	68,875.66	(3,875.66)
NON-FEE/PRELIM REVIEWS	15,000	837.00	20,428.46	(5,428.46)
COMMISSION AND TAC MEETINGS	14,000	1,479.50	10,892.54	3,107.46
SURVEYS & STUDIES	20,000	0.00	16,347.15	3,652.85
WATER QUALITY/MONITORING	74,300	9,063.90	67,561.70	6,738.30
WATER QUANTITY	11,500	170.00	8,109.01	3,390.99
WATERSHED INSPECTIONS -EROSION CONTROL	1,000	0.00	0.00	1,000.00
ANNUAL FLOOD CONTROL INSPECTIONS	12,000	1,739.00	6,701.43	5,298.57
REVIEW MUNICIPAL PLANS	8,000	656.00	1,835.00	6,165.00
WOMP	15,500	3,336.24	18,718.70	(3,218.70)
XP-SWMM MODEL UPDATES/REVIEWS	10,000	0.00	4,019.00	5,981.00
APM / AIS WORK	35,000	5,372.00	34,434.02	565.98
ENGINEERING & MONITORING TOTAL	406,300	37,236.14	388,072.92	18,227.08
ADMINISTRATION				
ADMINISTRATOR	67,200	4,532.50	53,663.64	13,536.36
LEGAL COSTS	18,500	278.60	14,199.23	4,300.77
AUDIT, INSURANCE & BONDING	15,500	0.00	17,304.00	(1,804.00)
FINANCIAL MANAGEMENT	3,200	3,200.00	3,240.76	(40.76)
MEETING EXPENSES	2,000	103.98	1,197.72	802.28
ADMINISTRATIVE SERVICES	18,000	1,125.52	12,049.61	5,950.39
ADMINISTRATION TOTAL	124,400	9,240.60	101,654.96	22,745.04
OUTREACH & EDUCATION				
PUBLICATIONS/ANNUAL REPORT	2,500	0.00	1,138.50	1,361.50
WEBSITE	4,400	702.42	1,228.41	3,171.59
PUBLIC COMMUNICATIONS	2,500	0.00	731.61	1,768.39
EDUCATION AND PUBLIC OUTREACH	20,000	4,135.00	91,697.12	(71,697.12)
WATERSHED EDUCATION PARTNERSHIPS	15,500	4,560.00	12,354.25	3,145.75
OUTREACH & EDUCATION TOTAL	44,900	9,397.42	107,149.89	(62,249.89)
MAINTENANCE FUNDS				
EROSION/SEDIMENT (CHANNEL MAINT)	25,000	0.00	0.00	25,000.00
LONG TERM MAINTENANCE (moved to CF)	25,000	0.00	0.00	25,000.00
MAINTENANCE FUNDS TOTAL	50,000	0.00	0.00	50,000.00
TMDL WORK				
TMDL IMPLEMENTATION REPORTING	20,000	9,018.00	9,715.50	10,284.50
TMDL WORK TOTAL	20,000	9,018.00	9,715.50	10,284.50
TOTAL EXPENSES	645,600	64,892.16	606,593.27	39,006.73

Cash Balance 12/13/17				
Cash			3,917,564.86	
		Total Cash		3,917,564.86
		Total Cash & Investments		3,917,564.86
Add:				
Interest Revenue (Bank Charges)			226.69	
State of MN - MVHS			2.35	
		Total Revenue		229.04
Less:				
CIP Projects Levied - Current Expenses - TABLE A			(71,686.90)	
Proposed & Future CIP Projects to Be Levied - Current Expenses - TABLE B			(5,549.54)	
		Total Current Expenses		(77,236.44)
		Total Cash & Investments On Hand	01/10/18	<u>3,840,557.46</u>
	Total Cash & Investments On Hand		3,840,557.46	
	CIP Projects Levied - Budget Remaining - TABLE A		(4,291,900.70)	
	Closed Projects Remaining Balance		(451,343.24)	
	2012 - 2016 Anticipated Tax Levy Revenue - TABLE C		9,558.89	
	2017 Anticipated Tax Levy Revenue - TABLE C		23,977.12	
	Anticipated Closed Project Balance		(417,807.23)	
	Proposed & Future CIP Project Amount to be Levied - TABLE B		0.00	

TABLE A - CIP PROJECTS LEVIED

	Approved Budget	Current Expenses	2017 YTD Expenses	INCEPTION To Date Expenses	Remaining Budget	Grant Funds Received
Lakeview Park Pond (ML-8) (2013)	196,000	0.00	0.00	11,589.50	184,410.50	
Four Seasons Mall Area Water Quality Proj (NL-2)	990,000	102.00	21,055.50	162,907.34	827,092.66	
2014						
Schaper Pond Enhance Feasibility/Project (SL-1)(SL-3)	612,000	0.00	42,797.95	346,061.40	265,938.60	
Briarwood / Dawnview Nature Area (BC-7)	250,000	0.00	0.00	250,000.00	0.00	
Twin Lake Alum Treatment Project (TW-2)	163,000	0.00	0.00	91,037.82	71,962.18	
2015						
Main Stem 10th to Duluth (CR2015)	1,503,000	0.00	57,299.09	1,003,746.24	499,253.76	
2016						
Honeywell Pond Expansion (BC-4) ¹	810,930	0.00	0.00	25,307.00	785,623.00	
Northwood Lake Pond (NL-1) ²	822,140					
Budget Amendment	611,600	1,433,740	0.00	416.00	1,438,689.98	(4,949.98)
2017						
Main Stem Cedar Lk Rd-Dupont (2017CR-M)	2017 Levy 400,000	1,064,472	0.00	196.00	114,757.79	949,714.21
	2018 Levy 664,472					
Plymouth Creek Restoration (2017 CR-P)	2017 Levy 580,930	863,573	71,584.90	85,113.10	150,717.23	712,855.77
	2018 Levy 282,643					267,298
		7,886,715	71,686.90	206,877.64	3,594,814.30	4,291,900.70

TABLE B - PROPOSED & FUTURE CIP PROJECTS TO BE LEVIED

	Approved Budget - To Be Levied	Current Expenses	2017 YTD Expenses	INCEPTION To Date Expenses	Remaining Budget
2018					
Bassett Creek Park & Winnetka Ponds Dredging (BCP-2)		0.00	29,750.20	61,069.25	(61,069.25)
2018 Project Totals	0	0.00	29,750.20	61,069.25	(61,069.25)
2019					
Bryn Mawr Meadows (BC-5)	0	1,220.84	19,332.35	24,615.15	(24,615.15)
Decola Ponds B&C Improvement(BC-2,BC-3,BC-8)	0	3,793.00	43,276.16	43,276.16	(43,276.16)
Westwood Lake Water Quality Improvement Project(Feasibility)	0	535.70	1,951.20	1,951.20	(1,951.20)
2019 Project Totals	0	5,549.54	64,559.71	69,842.51	(69,842.51)
Total Proposed & Future CIP Projects to be Levied	0	5,549.54	94,309.91	130,911.76	(130,911.76)

BCWMC Construction Account

Fiscal Year: February 1, 2017 through January 31, 2018

(UNAUDITED)

January 2018 Financial Report

TABLE C - TAX LEVY REVENUES

	County Levy	Abatements / Adjustments	Adjusted Levy	Current Received	Year to Date Received	Inception to Date Received	Balance to be Collected	BCWMO Levy
2017 Tax Levy	1,303,600.00		1,303,600.00	0.00	1,279,622.88	1,279,622.88	23,977.12	1,303,600.00
2016 Tax Levy	1,222,000.00	(6,075.91)	1,215,924.09	0.00	847.63	1,211,804.09	4,120.00	1,222,000.00
2015 Tax Levy	1,000,000.00	1,935.37	1,001,935.37	0.00	(1,043.36)	998,994.40	2,940.97	1,000,000.00
2014 Tax Levy	895,000.00	(7,436.49)	887,563.51	0.00	(508.63)	885,673.38	1,890.13	895,000.00
2013 Tax Levy	986,000.00	(10,440.29)	975,559.71	0.00	286.33	975,004.13	555.58	986,000.00
2012 Tax Levy	762,010.00	(7,488.24)	754,521.76	0.00	335.90	754,469.55	52.21	762,010.00
				<u>0.00</u>			<u>33,536.01</u>	

OTHER PROJECTS:

	Approved Budget	Current Expenses / (Revenue)	2017 YTD Expenses / (Revenue)	INCEPTION To Date Expenses / (Revenue)	Remaining Budget
TMDL Studies					
TMDL Studies	135,000.00	0.00	0.00	107,765.15	27,234.85
TOTAL TMDL Studies	135,000.00	0.00	0.00	107,765.15	27,234.85
Flood Control Long-Term					
Flood Control Long-Term Maintenance	673,373.00	0.00	14,912.00	320,742.41	
Less: State of MN - DNR Grants			(9,300.00)	(93,000.00)	
	673,373.00	0.00	5,612.00	227,742.41	445,630.59
Annual Flood Control Projects:					
Flood Control Emergency Maintenance	500,000.00	0.00	0.00	0.00	500,000.00
Annual Water Quality					
Channel Maintenance Fund	350,000.00	0.00	60,915.00	182,157.95	167,842.05
Total Other Projects	1,658,373.00	0.00	66,527.00	517,665.51	1,140,707.49

Bassett Creek Construction Project Details

1/10/2018

CIP Projects Levied											
	Total	2013	2013	2014	2014	2014	2015	2016	2016	2017	2017
	CIP Projects Levied	Lakeview Park Pond (ML-8)	Four Seasons Mall Area Water Quality Project (NL-2)	Schaper Pond Enhancement Feasibility / Project (SL-1) (SL-3)	Briarwood / Dawnview Water Quality Improve Proj (BC-7)	Twin Lake In-Lake Alum Treatment Project (TW-2)	Main Stem - 10th Ave to Duluth (CR2015)	Honeywell Pond Expansion (BC-4)	Northwood Lake Pond (NL-1)	Main Stem-Cedar Lk Rd to Dupont (CR-M)	Plymouth Creek Restoration (CR-P)
Original Budget	7,275,115	196,000	990,000	612,000	250,000	163,000	1,503,000	810,930	822,140	1,064,472	863,573
Added to Budget	611,600								611,600		
Expenditures:											
Feb 2004 - Jan 2014	269,971.68	11,589.50	101,635.49	89,594.90	19,598.09	23,793.65	11,179.35	7,461.95	5,118.75		
Feb 2015-Jan 2016	313,510.98		25,866.35			432.00	93,862.65	6,442.53	94,823.44	42,671.88	49,412.13
Feb 2016-Jan 2017	2,804,454.00		14,350.00	213,668.55	230,401.91	66,812.17	841,405.15	11,402.52	1,338,331.79	71,889.91	16,192.00
Feb 2017-Jan 2018	206,877.64		21,055.50	42,797.95			57,299.09		416.00	196.00	85,113.10
Total Expenditures:	3,594,814.30	11,589.50	162,907.34	346,061.40	250,000.00	91,037.82	1,003,746.24	25,307.00	1,438,689.98	114,757.79	150,717.23
Project Balance	4,291,900.70	184,410.50	827,092.66	265,938.60		71,962.18	499,253.76	785,623.00	(4,949.98)	949,714.21	712,855.77
CIP Projects Levied											
	Total	2013	2013	2014	2014	2014	2015	2016	2016	2017	2017
	CIP Projects Levied	Lakeview Park Pond (ML-8)	Four Seasons Mall Area Water Quality Project (NL-2)	Schaper Pond Enhancement Feasibility / Project (SL-1) (SL-3)	Briarwood / Dawnview Water Quality Improve Proj (BC-7)	Twin Lake In-Lake Alum Treatment Project (TW-2)	Main Stem - 10th Ave to Duluth (CR2015)	Honeywell Pond Expansion (BC-4)	Northwood Lake Pond (NL-1)	Main Stem-Cedar Lk Rd to Dupont (CR-M)	Plymouth Creek Restoration (CR-P)
Project Totals By Vendor											
Barr Engineering	455,127.68	6,338.95	64,076.04	118,049.45	13,089.74	15,712.00	15,825.00	13,157.98	17,966.00	111,939.39	78,973.13
Kennedy & Graven	11,961.70	1,200.55	2,471.95	993.40	1,038.35	1,058.65	2,223.75	796.00	1,701.45	318.40	159.20
City of Golden Valley	1,471,580.12			213,668.55	230,401.91	66,812.17	960,697.49				
City of Minneapolis			75,759.35								71,584.90
City of Plymouth	147,344.25								1,413,267.55		
City of New Hope	1,413,267.55										
City of Crystal										2,500.00	
MPCA	2,500.00										
Blue Water Science	3,900.00					3,900.00					
Misc											
2.5% Admin Transfer	83,378.02	4,050.00	20,600.00	13,350.00	5,470.00	3,555.00	25,000.00	11,353.02			
Transfer to General Fund											
Total Expenditures	3,589,059.32	11,589.50	162,907.34	346,061.40	250,000.00	91,037.82	1,003,746.24	25,307.00	1,432,935.00	114,757.79	150,717.23
CIP Projects Levied											
	Total	2013	2013	2014	2014	2014	2015	2016	2016	2017	2017
	CIP Projects Levied	Lakeview Park Pond (ML-8)	Four Seasons Mall Area Water Quality Project (NL-2)	Schaper Pond Enhancement Feasibility / Project (SL-1) (SL-3)	Briarwood / Dawnview Water Quality Improve Proj (BC-7)	Twin Lake In-Lake Alum Treatment Project (TW-2)	Main Stem - 10th Ave to Duluth (CR2015)	Honeywell Pond Expansion (BC-4)	Northwood Lake Pond (NL-1)	Main Stem-Cedar Lk Rd to Dupont (CR-M)	Plymouth Creek Restoration (CR-P)
Levy/Grant Details											
2010 - 2014 Levies	1,881,000	162,000	824,000	534,000	218,800	142,200					
2014/2015 Levy	1,000,000						1,000,000				
2015-2016 Levy	1,222,000							810,930	411,070		
2016-2017 Levy	1,303,600								322,670	580,930	400,000
2017-2018 Levy	947,115									282,643	664,472
Construction Fund Balance	703,000	34,000	166,000				503,000		470,000		
BWSR Grant- BCWMO	470,000										
DNR Grants-LT Maint											
Total Levy/Grants	7,526,715	196,000	990,000	534,000	218,800	142,200	1,503,000	810,930	1,203,740	863,573	1,064,472
BWSR Grants Received									670,000		267,298
MPCA Grant-CWP (Total \$300,000)									75,000.00		
									19,932.80		

Bassett Creek Construction Project Details

Proposed & Future CIP Projects (to be Levied)

Other Projects

	Proposed & Future CIP Projects (to be Levied)					DNR Grant From GF	Other Projects					Totals - All Projects
	Total Proposed & Future CIP Projects (to be Levied)	2018 Bassett Cr Pk & Winnetka Ponds Dredging (BCP-2)	2019 Bryn Mawr Meadows (BC-5)	2019 DeCola Ponds B&C Improve (BC-2,BC-3,BC-8)	Westwood Lake Water Quality - Feasibility		Total Other Projects	TMDL Studies	Flood Control Emergency Maint	Flood Control Long-Term Maint	Channel Maint	
Original Budget Added to Budget												
Expenditures:												
Feb 2004 - Jan 2014	5,282.80		5,282.80									
Feb 2015-Jan 2016												
Feb 2016-Jan 2017	31,319.05	31,319.05										
Feb 2017-Jan 2018	94,309.91	29,750.20	19,332.35	43,276.16	1,951.20							
Total Expenditures:	130,911.76	61,069.25	24,615.15	43,276.16	1,951.20							
Project Balance	(130,911.76)	(61,069.25)	(24,615.15)	(43,276.16)	(1,951.20)							
Project Totals By Vendor												
Barr Engineering	130,911.76	61,069.25	24,615.15	43,276.16	1,951.20							
Kennedy & Graven												
City of Golden Valley												
City of Minneapolis												
City of Plymouth												
City of New Hope												
City of Crystal												
MPCA												
Blue Water Science												
Misc												
2.5% Admin Transfer												
Transfer to General Fund												
Total Expenditures	130,911.76	61,069.25	24,615.15	43,276.16	1,951.20							
Levy/Grant Details												
2010 -2014 Levies						2010-2013						
2014/2015 Levy						2014/2015	50,000.00	30,000	100,000	100,000		1,881,000
2015-2016 Levy						2015/2016			25,000	25,000		1,050,000
2016-2017 Levy						2016/2017						
2017-2018 Levy						2017/2018						
Construction Fund Balance						2015/2016	50,000.00		25,000	25,000		753,000
BWSR Grant- BCWMO						2016/2017	50,000.00		25,000	25,000		520,000
DNR Grants-LT Maint						DNR Grant	93,000.00		93,000			
Total Levy/Grants							473,000.00	30,000	268,000	175,000		4,204,000



Adding Quality to Life

Item 4D.
BCWMC 1-18-18
Full document online

December 15, 2017

Laura Jester, Administrator
Bassett Creek Watershed Management Commission
16145 Hillcrest Lane
Eden Prairie MN 55346

SUBJECT: Plymouth Creek Stream Restoration Project
City Project No. 16007

Dear Ms. Jester,

Enclosed/attached you will find payment documentation totaling \$71,584.90 for construction of the Plymouth Creek Stream Restoration Project in Plymouth. Per the Cooperative Agreement for the Plymouth Creek Stream Restoration Project between the City of Plymouth and the Bassett Creek Watershed Management Commission, the City is requesting reimbursement of \$71,548.90 for this project at this time.

The City is grateful for the partnership with the Bassett Creek Watershed Management Commission on water quality improvements and protections.

Sincerely,

A handwritten signature in blue ink that reads 'Derek Asche'.

Derek Asche
Water Resources Manager

enc



Table 1. Design, Construction, and Monitoring Costs through December 6, 2017.

Design Costs			
<u>Date</u>	<u>Vendor</u>	<u>Description</u>	<u>Amount</u>
3/3/2017	Wenck Associates	Professional Design Services	\$6,309.60
4/4/2017	Wenck Associates	Professional Design Services	\$21,560.50
5/3/2017	Wenck Associates	Professional Design Services	\$14,397.90
6/7/2017	Wenck Associates	Professional Design Services	\$7,618.05
7/10/2017	Wenck Associates	Professional Design Services	\$7,880.40
8/3/2017	Wenck Associates	Professional Design Services	\$6,634.50
9/6/2017	Wenck Associates	Professional Design Services	\$2,890.85
9/21/2017	ECM Publishers	Advertisement for Bids	\$540.50
10/3/2017	Wenck Associates	Professional Design Services	\$2,290.70
12/6/2017	Wenck Associates	Professional Design Services	\$1,461.90
Total Design Costs:			\$71,584.90

Construction Costs			
<u>Date</u>	<u>Vendor</u>	<u>Description</u>	<u>Amount</u>
Total Construction Costs:			\$0.00

Grand Total:	\$71,584.90
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Item 4F.
BCWMC 1-18-18

Bassett Creek Watershed Management Commission

RESOLUTION NO. 18-01

Member _____ introduced the following resolution and moved its adoption:

A RESOLUTION APPROVING THE REIMBURSEMENT TO THE BASSETT CREEK WATERSHED MANAGEMENT COMMISSION 2.0% OF THE TAX LEVY REQUEST TO HENNEPIN COUNTY FOR COLLECTION IN 2017, FOR ADMINISTRATIVE EXPENSES FOR CAPITAL IMPROVEMENT PROGRAM (CIP) PROJECTS AND APPROVING THE TRANSFER OF THE FUNDS FROM THE CIP ACCOUNT TO THE ADMINISTRATIVE ACCOUNT

BE IT RESOLVED by the Bassett Creek Watershed Management Commission of the Cities of Crystal, Golden Valley, Medicine Lake, Minneapolis, Minnetonka, New Hope, Plymouth, Robbinsdale, and St. Louis Park that:

1. The Bassett Creek Watershed Management Commission (BCWMC) will be reimbursed \$26,072, which is 2.0% of the BCWMC's September 2016 tax request in the amount of \$1,303,600 to Hennepin County for collection in 2017, for administrative expenses for Capital Improvement Projects.
2. The Bassett Creek Watershed Management Commission directs its Deputy Treasurer to transfer the reimbursed funds from the Commission's CIP Account to its Administrative Account.

Chair Date

Attest:

Secretary Date

The motion for adoption of the foregoing resolution was seconded by Member _____ and upon a vote being taken thereon, the following voted in favor thereof: _____ and the following voted against the same _____ whereupon said resolution was declared duly passed and adopted.



Bassett Creek Watershed Management Commission

RESOLUTION NO. 18-02

Member _____ introduced the following resolution and moved its adoption:

A RESOLUTION APPROVING THE TRANSFER OF BASSETT CREEK WATERSHED MANAGEMENT COMMISSION FUNDS FROM THE ADMINISTRATIVE ACCOUNT TO THE EROSION/SEDIMENT (CHANNEL MAINTENANCE) ACCOUNT AND LONG-TERM MAINTENANCE ACCOUNT

BE IT RESOLVED by the Bassett Creek Watershed Management Commission that:

1. \$25,000 will be transferred from the Bassett Creek Watershed Management Commission's Administrative Account to the Erosion/Sediment (Channel Maintenance Fund) account.
2. \$17,200 will be transferred from the Bassett Creek Watershed Management Commission's Administrative Account to the Long-Term Maintenance account which equals the annual \$25,000 transfer amount less the estimated cost of the 2017 inspections of the BCWMC Flood Control Project of \$7,800.

Chair

Date

Attest:

Secretary

Date

The motion for adoption of the foregoing resolution was seconded by Member _____ and upon a vote being taken thereon, the following voted in favor thereof: _____ and the following voted against the same _____ whereupon said resolution was declared duly passed and adopted.

ADMINISTRATIVE SERVICES AGREEMENT

THIS ADMINISTRATIVE SERVICES AGREEMENT (“Agreement”) is made and entered into by and between the Bassett Creek Watershed Management Commission, a Minnesota joint powers organization (the “Commission”), and Dawn Pape, doing business as Lawn Chair Gardener, 5901 Birchwood Street, Shoreview, MN 55126 (the “Contractor”).

1. **SERVICES.** Contractor will perform the services outlined in the proposal (“Proposal”) dated January 5, 2018, which is attached hereto as Exhibit 1 and is incorporated herein, including performing social media tasks; writing newspaper columns and press releases; drafting meeting minutes for monthly Commission meetings; and posting WaterShed Partners articles to BCWMC website (collectively, the “Services”). The terms and conditions of this Agreement shall be controlling over any conflicting term or condition contained within the Proposal.
2. **COMPENSATION.** Contractor will be paid for Services at the rate of \$42 per hour. Contractor will be reimbursed for actual, reasonable and necessary out-of-pocket expenses including printing, materials, and travel (at the current IRS rate for privately owned automobiles). Travel outside of the Minneapolis/St. Paul metropolitan area and overnight accommodations must have the prior approval of the Commission. Meeting and meal expenses (other than meetings of the Commission or its committees) must have the prior approval of the Commission. The total compensation, including expenses, to be paid to Contractor for all the Services to be provided under this Agreement shall not exceed \$10,904.46.
3. **PAYMENT.** Contractor will submit monthly invoices for the Services providing detailed time records of Services provided and time spent, and shall provide receipts for eligible reimbursable expenses that are not otherwise reimbursed by the Commission through its consultants or otherwise. Invoices and records, together with supporting information, shall be submitted in a form acceptable to the Commission. The Commission will pay invoices within 45 days of receipt thereof. Invoices received by the first Thursday of the month will ordinarily be authorized for payment at that month’s regular meeting.
4. **TERM AND TERMINATION.** This Agreement shall be effective as of the date of the last party to execute it and it shall continue in effect until January 31, 2019. This Agreement may be terminated by either party at any time, and for any reason, on 35 days’ written notice of termination.
5. **SUBSTITUTION AND ASSIGNMENT.** Services provided by Contractor will generally be performed by Dawn Pape. Upon approval by the Commission, the Contractor may substitute other persons to perform some identified portion of the Services set forth in this Agreement. No assignment of this Agreement shall be permitted without a prior written amendment signed by the Commission and the Contractor.
6. **AMENDMENTS.** This document, together with any attached Exhibit, constitutes the entire Agreement between the parties and no modifications of its terms shall be valid unless reduced to writing and signed by both parties.

7. **INDEPENDENT CONTRACTOR.** The Contractor (including the Contractor's employees, if any) is not an employee of the Commission. Contractor will act as independent contractor and acquire no rights to tenure, workers' compensation benefits, unemployment compensation benefits, medical and hospital benefits, sick and vacation leave, severance pay, pension benefits or other rights or benefits offered to employees of the Commission. Contractor shall not be considered an employee of the Commission for any purpose including, but not limited to: income tax withholding; workers' compensation; unemployment compensation; FICA taxes; liability for torts; and eligibility for benefits.

Contractor will not be provided with a place of business and will retain control over the manner and means of the Services provided as an independent contractor. Contractor will provide, at Contractor's expense, necessary office space, transportation, computer capability, an internet email address, and incidental office supplies.

8. **DATA PRACTICES AND RECORDS.** All records, information, materials and other work product, in written, electronic, or any other form, developed in connection with providing Services under this Agreement shall be the exclusive property of the Commission. All such records shall be maintained with the records of the Commission and in accordance with the instructions of the Commission. The Contractor will comply with the Minnesota Government Data Practices Act and all other applicable state and federal laws relating to data privacy or confidentiality. The Commission will provide such advice and legal services as are necessary to comply with such laws and regulations as they relate to the data maintained by the Commission.

9. **COMPLIANCE WITH LAWS.** Contractor shall comply with all applicable federal, state and local laws, regulations or ordinances in performance of Contractor's duties hereunder, such laws including but not limited to those relating to non-discrimination in hiring or labor practices.

10. **AUDIT.** The Contractor agrees that the Commission, the State Auditor, or any of their duly authorized representatives, at any time during normal business hours and as often as they may reasonably deem necessary shall have access to and the right to examine, audit, excerpt, and transcribe any books, documents, papers, and records that are relevant to and involve transactions relating to this Agreement.

11. **HOLD HARMLESS.** Contractor shall defend, indemnify and hold harmless the Commission, its member cities and their elected officials, officers, employees, agents, and representatives, from and against any and all claims, costs, losses, expenses, demands, actions or causes of action, including reasonable attorneys' fees and other costs and expenses of litigation that may arise out of this Agreement for Services provided by Contractor hereunder.

12. **APPLICABLE LAW.** The law of the State of Minnesota shall govern all interpretations of this Agreement, and the appropriate venue and jurisdiction for any litigation that may arise under this Agreement will be in and under those courts located within the County of Hennepin, State of Minnesota, regardless of the place of business, residence, or incorporation of Contractor.

13. NO AGENCY. Contractor is an independent contractor and shall not be considered to be the agent or servant of the Commission for any purpose and shall have no authority to enter into any contracts, create any obligations, or make any warranties or representations on behalf of the Commission.

14. NOTICES. Any notice or demand, authorized or required under this Agreement shall be in writing and shall be sent by certified mail to the other party as follows:

To the Contractor: Dawn Pape
Lawn Chair Gardener
5901 Birchwood Street
Shoreview, MN 55126

To the Commission: Chairman
Bassett Creek Watershed Management Commission
City of Golden Valley City Hall
7800 Golden Valley Road
Golden Valley, MN 55427

IN WITNESS WHEREOF, the parties have executed this Agreement effective as of the date of the last party to execute it.

CONTRACTOR

By: _____
Dawn Pape (Lawn Chair Gardener) Date

**BASSETT CREEK WATERSHED
MANAGEMENT COMMISSION**

By: _____
Chair Date

By: _____
Secretary Date



ADMINISTRATIVE SERVICES

February. 1, 2018-January 31, 2019

PROPOSAL FOR BCWMC

Dawn Pape has twenty years of experience in the field of education and fourteen years of experience specifically in water-related public education. Pape started the Blue Thumb—Planting for Clean Water® program when she was the director of outreach at the Rice Creek Watershed District. In that position, she communicated and coordinated projects with 29 communities, four counties, and many water management organizations.

Dawn Pape brings a unique skill set to projects: writing, creativity, graphic design, photography, social media, website development, friendliness, energy, practicality, implementation experience, fiscal responsibility and even public speaking and performance. With a Masters of Science in Environmental Education from University of Wisconsin—Stevens Point, Pape keeps abreast of environmental issues and technology with continuing education.

Lawn Chair Gardener

BCWMC

Dawn Pape
5901 Birchwood St.
Shoreview, MN 55126
651.485.5171

Laura Jester

dawn@lawnchairgardener.com
lawnchairgardener.com

laura.jester@kestonewaters.com
bassettcreekwmo.org

Proposal Issued:
01.5.2018

Proposal Valid to:
03.30.2018

Services	Hourly Rate x Time	Total
Administrative Services not to exceed 21 hours/month • Breakdown of services and time estimates listed below	\$42 x 21 hrs. x 12 mos.	\$ 10,584
1. Board Minutes (Feb. 2018-Jan. 2019) • Attend monthly meetings and write minutes (approx. 8 hrs. ea. mo.) • 12 months (will be absent for 3/15/18 mtg., but will still do minutes)	\$42 x 96 hrs.= \$4,032	~\$ 4,032
2. Newspaper Column in Local Newspapers, Write and Send Press Releases as Needed, Post monthly Watershed Partners Articles to BCWMC Website	\$42 x 5 hrs./month	~\$ 2,520
3. Facebook posts (1-2/week), build followers with social media BMPs. Currently, BCWMC has 190 followers (up from 30 followers when I started in July of 2016). This fan base is steadily increasing its impact in educating the public about important water-related issues. The more fans BCWMC has, the greater the number of people that will see BCWMC posts in their timelines and the more effective BCWMC will be in informing and educating the public. Building fan bases takes time because it involves relationship building, interacting with other pages, as well as employing Facebook technology like "Page Engagement Custom Audiences" and various analytics tools. Many tools are available to help figure out which pages are most effective to interact with in order to gain the type of followers who live in will likely take action in BCWMC area.	\$42 x 1-2 hrs./week x 52 weeks	~\$ 3,276
4. Education Meetings and/or Meetings with Administrator • 4 meetings/year at approx. 4-5 hours in length	\$42 x 18 hrs.	~\$ 756
	<i>Labor</i>	\$ 10,584
Mileage • 42 miles round-trip at 2018 mileage rate of 54.5 cents/mile x 14 meetings	<i>Mileage</i>	~\$ 320.46
	Grand Total	\$10,904.46

AGREEMENT FOR ENGINEERING SERVICES

THIS AGREEMENT (“Agreement”) made and entered into this day January 18, 2018

Between: Bassett Creek Watershed Management Commission
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435
(hereinafter called “CLIENT”)

And: Wenck Associates, Inc.
1800 Pioneer Creek Center
P.O. Box 249
Maple Plain, Minnesota 55359-0249
(hereinafter called “WENCK”)

(and together “the Parties”)

Witnesseth that the Parties hereto agree, each with the other, as follows:

1. **PROJECT**
This Agreement pertains to the provision of engineering services for the Proposal for the Bassett Creek Watershed Outlet Monitoring Services dated January 5, 2018 (“Project”).
2. **SCOPE OF SERVICES**
The services to be performed by WENCK for the Project are set forth in WENCK’s proposal referred to as the “2018 Bassett Creek Watershed Outlet Monitoring Program Services” (collectively, the “Services”). The Services may be modified by a written, mutually agreeable Change Order. WENCK shall provide the Services as an independent contractor.
3. **COMPENSATION**
Compensation shall be paid for the Services actually provided in accordance with the WENCK’s proposal. The Project will be invoiced on a monthly basis for professional time completed and expenses incurred with a 0% mark-up. Invoices are to be paid within 45 days of receipt of the invoice.
4. **TERM**
WENCK will commence the Services beginning January 1, 2018 and provide appropriate expertise and will proceed with due diligence until December 31, 2018.
5. **TERMINATION**
This Agreement may be terminated by CLIENT upon 5 days’ notice in writing to WENCK. CLIENT shall forthwith pay to WENCK all amounts, including all expenses and other applicable charges, payable under this Agreement as of the termination date.
6. **STANDARD OF CARE/INDEMNITY** WENCK will provide:
 - A. The standards of care, skill and diligence normally provided by a professional in the performance of the Services contemplated by this Agreement.

- B. Wenck agrees to indemnify and hold CLIENT harmless from any claim, cause of action, demand or other liability of any nature or kind (including the costs of reasonable attorney's fees and expert witness fees) arising out of any negligent act or omission of Wenck or any subcontractor of Wenck in connection with the Services performed under the terms of this Agreement. Nothing herein shall be deemed a waiver by CLIENT of any limitations or exemptions from liability available to it under Minnesota Statutes, chapter 466 or other law.
- C. WENCK shall, during the entire term of this Agreement, maintain commercial general liability insurance and professional liability insurance, each with a policy limit of at least \$1,000,000. WENCK shall have CLIENT named as an additional insured on WENCK's commercial general liability policy. WENCK shall provide CLIENT a certificate of insurance showing proof of such coverages.

7. DISPUTE RESOLUTION/GOVERNING LAW

If a dispute arises out of or in connection with this Agreement or the breach thereof, the Parties will attempt to settle the dispute by negotiation before commencing legal action. The governing law shall be the law of the State of Minnesota.

8. NOTICE AND OFFICIALS

WENCK will appoint a Project Manager who shall be in charge of the Project for WENCK. CLIENT shall designate in writing an official who shall be authorized to act for the CLIENT. The person so appointed by WENCK will maintain close contact with the authorized representative of CLIENT. All notices to WENCK, including without limitation, those concerning changes in the scope of Services shall be directed in writing to the appointed Project Manager at the address shown above. Notices to CLIENT shall be directed in writing to CLIENT at the address of CLIENT shown above or to such other address as the CLIENT may designate in writing.

9. MISCELLANEOUS

This Agreement: i) constitutes the entire agreement between the Parties; ii) supersedes any previous representations or agreements between the Parties with respect to the Service; iii) may be modified or amended only in a writing signed by the Parties; and iv) shall inure to the benefit of and be binding upon the Parties, their respective permitted successors and assigns. Neither Party may assign this Agreement in whole or in part without the express written consent of the other Party. Nothing in this Agreement is to be construed to create any rights in any third party (including without limitation vendors and contractors working on the Project whether as third party beneficiaries or otherwise. WENCK shall comply with all applicable laws, rules, and regulations in providing the Services. WENCK agrees to comply with the Minnesota Data Practices Act with respect all data created, collected, received, stored, used, maintained, or disseminated by WENCK in the course of providing Services under this Agreement. This Agreement does not require data on individuals to be made available to WENCK. The books, records, documents, and accounting procedures of WENCK related to the Services are subject to examination by CLIENT and either the legislative auditor or the state auditor, as appropriate, for a minimum of six years.

10. GRANT REQUIREMENTS

WENCK recognizes that CLIENT will undertake certain obligations as part of a "Grant Agreement between the Metropolitan Council and Bassett Creek Watershed Commission For The Metropolitan Area Watershed Outlet Monitoring Program (WOMP2)" (the "Metropolitan Council Grant"), a copy of which will be attached to the proposal when executed. WENCK agrees that obligations imposed by the Metropolitan Council Grant on subgrantees and

subcontractors are hereby made binding on WENCK, and that the terms of said agreement are incorporated into this Agreement to the extent necessary for the Metropolitan Council to meet its obligations under the State Grant Agreement. The terms of the Metropolitan Council Grant are incorporated in and made part of this Agreement as needed to give effect to the purposes of this Agreement.

IN WITNESS WHEREOF the parties have duly executed this Agreement.

“CLIENT”
Bassett Creek Watershed
Management Commission

“WENCK”
Wenck Associates, Inc.

By: _____
Its Chair

By: _____

Its Secretary

Its:



Responsive partner.
Exceptional outcomes.

January 5, 2018

Ms. Laura Jester

Bassett Creek Watershed Management Commission
16145 Hillcrest Lane
Eden Prairie, MN 55346

RE: 2018 Bassett Creek Watershed Outlet Monitoring Program Services

Dear Ms. Jester:

Thank you for the opportunity to provide a scope of work and budget to continue operating the Met Council Environmental Services' (MCES) Watershed Outlet Monitoring Program (WOMP) station for Bassett Creek. Wenck has a long history of providing stream monitoring expertise to our clients and are confident this expertise will provide the Bassett Creek Watershed Management Commission (BCWMC) the highest quality stream monitoring.

Scope of Work

Wenck Associates will provide monitoring services and work with MCES staff to ensure that all monitoring needs/requirements for the Bassett Creek WOMP are satisfied. Wenck will complete the following tasks to accomplish the scope of work:

Task 1. Project Management.

This task assumes 1 hour of Wenck staff time per month for managing/coordinating budgets and field staff, and communication between Wenck, MCES, and BCWMC staff.

Task 2. Routine Monitoring.

Wenck will collect routine monitoring samples once every two weeks beginning in January 2018 through December 2018 (~25 total events). This task assumes 3 hours of staff time per sample event which includes field sampling preparation, sample collection, and sample delivery to MCES laboratory in St. Paul. This task also includes 4 hours of staff time for on-site equipment training with MCES staff

Task 3. Storm Event Monitoring.

Wenck will target and collect approximately 10 storm event samples in 2018. This task assumes 3 hours of staff time per sample event which includes field sampling prep, sample collection, and sample delivery to MCES laboratory in St. Paul.

Task 4. Attend MCES Cooperator Forum

One Wenck staff member will attend MCES's WOMP Station Cooperator Forum which is typically held in the spring.

Cost Estimate

Wenck proposes to perform the scope of work stated above on a time and materials basis for a total estimated cost of \$16,752 for the 2018 monitoring season. A detailed breakdown of our cost estimate is provided below.

Ms. Laura Jester
BCWMC
January 5, 2018



Responsive partner.
Exceptional outcomes.

Table 1: Tasks and estimated costs.

Staff	Task	Hours/ Quantity	Total Cost
Jeff Strom	Task 1: Project Management	12	\$1,704
Tom Langer/ Jeff Strom	Task 2: Routine Monitoring	79	\$8,908
Tom Langer	Task 3: Storm Event Monitoring	30	\$3,360
Tom Langer	Task 4: Attend MCES Cooperator Forum	6	\$672
--	Mileage	1,575 miles	\$858
	Equipment (Data Sonde)	\$50/day	\$1,250
Total Estimated Project Cost			\$16,752

Summary

On behalf of the 300+ employee-owners of Wenck, thank you for this opportunity to work with the BCWMC. Should you have any questions, or need clarification of anything presented in this scope of work, please do not hesitate to contact Jeff Strom at 763-252-6833 or jstrom@wenck.com.

Sincerely,

Wenck Associates, Inc.

A handwritten signature in black ink, appearing to read 'Jeff Strom', is written over a light blue horizontal line.

Jeff Strom
Associate

BCWMC Aquatic Invasive Species Rapid Response Plan

Medicine Lake, Northwood Lake, Parkers Lake, Sweeney Lake, Twin Lake,
Westwood Lake, and Wirth Lake



Prepared for:
Bassett Creek Watershed Management Commission



January 2018

BCWMC Aquatic Invasive Species Rapid Response Plan

Medicine Lake, Northwood Lake, Parkers Lake, Sweeney Lake, Twin Lake, Westwood Lake, and Wirth Lake

January 2018

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Acronyms

Acronym	Description
BCWMC	Bassett Creek Watershed Management Commission
AIS	Aquatic Invasive Species
EPA	Environmental Protection Agency
EWM	Eurasian watermilfoil
MAISRC	Minnesota Aquatic Invasive Species Research Center
MnDNR	Minnesota Department of Natural Resources
MN	Minnesota
MPRB	Minneapolis Park and Recreation Board
WDNR	Wisconsin Department of Natural Resources

1.0 Rapid Response to Aquatic Invasive Species (AIS) Detected in BCWMC Priority 1 Lakes

Aquatic species are adapted to habitats that are regularly or permanently inundated, including lakes, rivers, and many kinds of wetlands. Invasive species are those that, when moving into a new locale, spread rapidly, outcompete resident species and cause – or likely cause – ecological or economic harm or harm to human health (MAISRC, 2017). When new AIS infestations are detected, a prompt and coordinated containment and eradication response can reduce the potential establishment, spread, and harmful impacts of a species. This action results in lower cost and less resource damage than implementing a long-term control program after a species is established (Minnesota Department of Natural Resources, 2013). Effective rapid response to AIS is crucial to preventing establishment, minimizing ecological and economic impacts, and maximizing the effectiveness of efforts to contain, and if possible, eradicate newly introduced AIS. This AIS rapid response plan details the rapid response by BCWMC and other partnering entities to new infestations of AIS detected in BCWMC Priority 1 lakes. The plan is divided into three parts:

1. Overall framework for rapid response efforts
2. Rapid response to AIS detected in BCWMC Priority 1 lakes
3. Rapid response to key AIS: Eurasian watermilfoil, starry stonewort, and zebra mussels

2.0 Overall Framework

The following overall framework guides the response of BCWMC, its member cities, and other partners for all newly detected AIS in BCWMC Priority 1 lakes. The framework outlines the actions required to contain, and if possible, eradicate newly introduced AIS. The framework includes the following actions:

1. Contact Minnesota Department of Natural Resources (MnDNR) AIS coordinator to report possible introduction of AIS. MnDNR staff will verify the AIS infestation.
2. Communicate the AIS infestation to stakeholders, lake groups, and the general public.
3. Perform monitoring or hire contractor to perform monitoring to define the extent of the AIS infestation.
4. Determine whether quarantine of the infestation is necessary for containment and effective treatment and, if so, quarantine the AIS infestation.
5. Collaborate with MnDNR, Minnesota Aquatic Invasive Species Research Center (MAISRC), and stakeholders to determine appropriate rapid response treatment/removal (e.g., chemical treatment or manual removal of AIS) and associated costs.
6. Work with MnDNR to obtain treatment/removal permit
7. Perform additional pre-treatment monitoring, if required by MnDNR permit.
8. Hire contractor to complete AIS rapid response treatment/removal (e.g., chemical treatment or manual removal of AIS).
9. Fund the AIS treatment/removal.
10. Perform, or hire contractor to perform, post-treatment monitoring to determine treatment/removal effectiveness.
11. Communicate information about the AIS treatment/removal and results of AIS treatment/removal efforts to stakeholders, lake groups, and the general public.
12. Design and implement education program to help prevent future AIS infestations.

3.0 AIS Rapid Response in BCWMC Priority 1 Lakes

The BCWMC classified specific waterbodies within the watershed as priority waterbodies based on the desired water quality standards and uses for those waterbodies. Priority lakes with public access or adjacent public land are classified as Priority 1 lakes (Figure 1). Priority 1 lakes include Medicine Lake, Northwood Lake, Parkers Lake, Sweeney Lake, Twin Lake, Westwood Lake, and Wirth Lake. This AIS Rapid Response Plan details the rapid response by BCWMC and other partnering entities to new infestations of key AIS detected in BCWMC Priority 1 lakes.

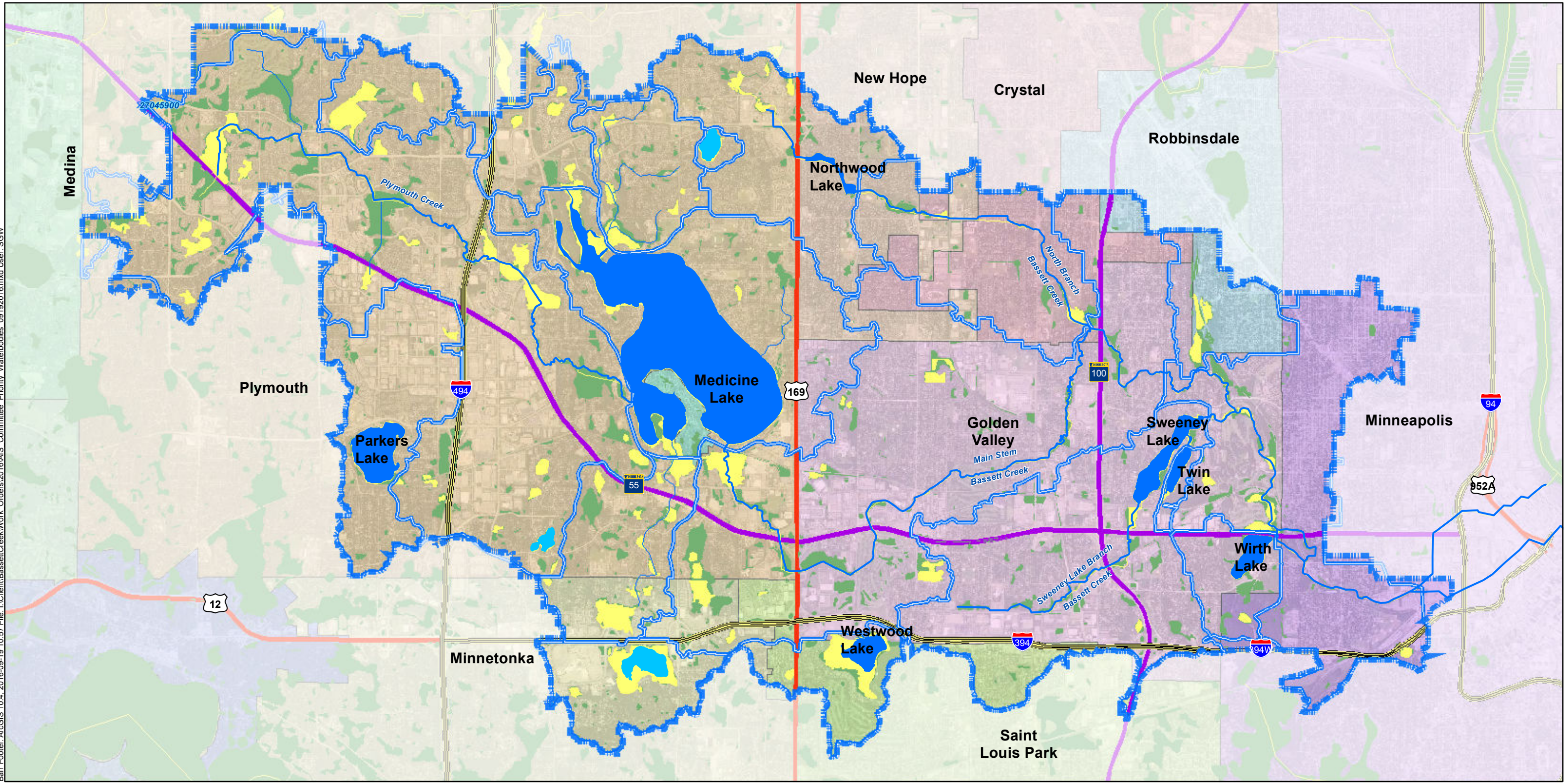
The response to infestation by newly introduced AIS may include quarantine, chemical treatment, and/or manual removal. Chemical treatment is often the most effective action. However, when chemical treatment is not permitted by MnDNR, small infestations of less than 2 acres will be managed by manual removal whenever feasible. In the future, additional options for treatment/removal may become available. The intent of this AIS rapid response plan is that the most effective available treatment/removal method would be used to rapidly respond to newly introduced AIS.









AIS rapid response efforts for BCWMC Priority 1 lakes are a partnership among stakeholders. This AIS rapid response plan defines the roles of the partnering entities that would work together to rapidly respond to a newly introduced AIS in BCWMC Priority 1 lakes. Meetings (telephone or in-person) were conducted with stakeholders to identify partner roles. Table 1 summarizes the partner entities, meeting participants, and meeting dates. Tables 2 through 8 provide the detailed partner roles for BCWMC Priority 1 lakes, as determined from the meetings. Partners will consider utilizing lake organizations to assist with communications, volunteer coordination, and other activities, as appropriate.

Table 1 Summary of partnering entities, meeting participants and meeting dates to determine partner roles for AIS rapid response in BCWMC Priority 1 Lakes

Priority 1 Lake	Partnering Entity	Meeting Participants	Meeting Date
Medicine Lake	City of Medicine Lake	Clint Carlson	11/14/2017
Medicine Lake and Parkers Lake	City of Plymouth	Derek Asche	11/16/2017
Medicine Lake and Parkers Lake	Three Rivers Park District (TRPD)	Brian Vlach	11/16/2017
Northwood Lake	City of New Hope	Megan Albert	11/14/2017
Sweeney Lake and Twin Lake	City of Golden Valley	Tom Hoffman	11/3/2017
Twin Lake	Minneapolis Park and Recreation Board (MPRB)	Rachael Crabb	1/4/2018
Westwood Lake	City of St. Louis Park	Erik Francis, Jim Vaughan, and Mark Oestreich	11/8/2017
Wirth Lake	City of Golden Valley	Tom Hoffman	12/8/2017
Wirth Lake	Minneapolis Park and Recreation Board (MPRB)	Rachael Crabb	11/13/2017 and 1/4/2018
All Priority 1 Lakes	MnDNR	Kylie Cattoor	11/9/2017
All Priority 1 Lakes	MnDNR	Keegan Lund	11/13/2017
All Priority 1 Lakes	MAISRC	Dr. Mike McCartney	11/6/2017 (and 12/7/2017, to specifically discuss Medicine Lake and zebra mussels)
All Priority 1 Lakes	Hennepin County	Tony Brough	11/8/2017
All Priority 1 Lakes	BCWMC	Meg Rattei	All meeting dates noted above

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-  BCWMC Jurisdictional Boundary
-  Major Subwatersheds
- BCWMC Priority Waterbodies**
-  Priority 1 Lake
-  Priority 2 Lake
-  BCWMC Priority Streams
-  Public Water Inventory Basins
-  Public Water Inventory Watercourses
-  Wetlands (MN DNR NWI East Central Update)

BCWMC WATERBODY CLASSIFICATION, PUBLIC WATERS, and NATIONAL WETLAND INVENTORY

Bassett Creek Watershed Management Commission AIS/APM Committee

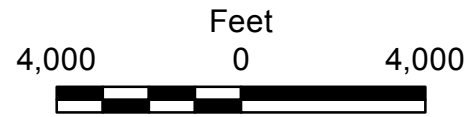


Figure 1 Priority Waterbodies

Bassett Creek Watershed Management Commission

Table 2 AIS Rapid Response Plan for Medicine Lake

Activity	Partner Roles						
	BCWMC	City of Plymouth	City of Medicine Lake*	Hennepin County	TRPD	MnDNR	MAISRC
Notify MnDNR of AIS infestation (MnDNR verifies AIS infestation)	—	—	—	—	Contacts the MnDNR.	Verifies AIS infestation	—
Communicate the infestation to all stakeholders, Association of Medicine Lake Area Citizens, (AMLAC) and the general public	Disseminates information provided by TRPD	Disseminates information provided by TRPD to AMLAC and the general public.	Disseminates information provided by TRPD	—	Communicates information about the infestation to all stakeholders and provides information to the City of Plymouth, the City of Medicine Lake, and BCWMC to communicate the infestation to AMLAC and the general public	MnDNR issues press release	—
Perform, or hire contractor to perform, monitoring to define the extent of the AIS infestation	Collaborates with TRPD, MnDNR, and MAISRC regarding monitoring design	—	—	—	Performs plant surveys and assists with zebra mussel sampling (snorkeling in shallow waters). TRPD would hire a contractor to perform zebra mussel SCUBA surveys	Collaborates with BCWMC, TRPD, and MAISRC	Collaborates with BCWMC, TRPD and MnDNR regarding monitoring design and recommendations for a contractor. For zebra mussel surveys, possibly perform pre-treatment and post-treatment surveys on a contract basis
Determine whether quarantine of the infestation is needed and, if so, quarantine the infestation	Collaborates with TRPD, MnDNR, and MAISRC	—	—	—	Makes the decision after collaborating with BCWMC, MnDNR and MAISRC. If feasible, TRPD will implement the quarantine.	Collaborates with BCWMC, TRPD and MAISRC	Collaborates with BCWMC, TRPD, and MnDNR
Determine appropriate rapid response treatment/removal (e.g., chemical treatment or manual removal of AIS) and associated costs	Collaborates with MnDNR, TRPD, City of Plymouth, City of Medicine Lake, and MAISRC.	Collaborates with MnDNR, TRPD, BCWMC, City of Medicine Lake, and MAISRC	Collaborates with MnDNR, TRPD, BCWMC, City of Plymouth, and MAISRC	—	Makes the decision after collaborating with MnDNR, BCWMC, City of Plymouth, City of Medicine Lake, and MAISRC.	Collaborates with BCWMC, TRPD, City of Plymouth, City of Medicine Lake, and MAISRC	Collaborates with BCWMC, TRPD, City of Plymouth, City of Medicine Lake, and MnDNR
Obtain MnDNR treatment/removal permit	Is copied on permit application and all communications	—	Is copied on permit application and all communications	—	Obtains treatment/removal permit from MnDNR	Works with TRPD to issue the permit	Collaborates with TRPD and MnDNR as needed to provide technical information.
Perform additional pre-treatment monitoring, if required by MnDNR permit	Collaborates with TRPD, MnDNR, and MAISRC regarding monitoring design	—	—	—	Performs plant surveys and assists with zebra mussel sampling (snorkeling in shallow waters). TRPD hires a contractor to perform zebra mussel SCUBA surveys	Collaborates with BCWMC, City of Plymouth, City of Medicine Lake, TRPD, and MAISRC regarding monitoring requirements of permit	Collaborates with TRPD, City of Plymouth, City of Medicine Lake, and BCWMC regarding monitoring design and recommendations for a contractor. For zebra mussel surveys, possibly perform pre-treatment and post-treatment surveys on a contract basis

Table 2 AIS Rapid Response Plan for Medicine Lake (Continued)

Activity	Partner Roles						
	BCWMC	City of Plymouth	City of Medicine Lake*	Hennepin County	TRPD	MnDNR	MAISRC
Hire contractor to perform AIS rapid response treatment/removal (e.g., chemical treatment or manual removal of AIS)	—	—	—	—	Hires contractor	—	—
Fund the AIS treatment/removal	Partners with Hennepin County and TRPD to fund the AIS treatment/removal	—	—	Considers providing AIS rapid response grant funding, if available, to help fund the treatment or removal	Funds up to 17 percent of the project cost. TRPD contribution includes the value of all services provided for the project.	—	—
Perform, or hire contractor to perform, post-treatment monitoring to determine treatment/removal effectiveness	Collaborates with TRPD, MnDNR, and MAISRC regarding monitoring design	—	—	—	Performs plant surveys and assists with zebra mussel sampling (snorkeling in shallow waters). TRPD hires a contractor to perform zebra mussel SCUBA surveys	Collaborates with BCWMC, City of Plymouth, City of Medicine Lake, TRPD, and MAISRC regarding monitoring requirements of permit	Collaborates with TRPD, City of Plymouth, City of Medicine Lake, and BCWMC regarding monitoring design and recommendations for a contractor. For zebra mussel surveys, possibly perform pre-treatment and post-treatment surveys on a contract basis
Communicate information about the AIS treatment/removal and results of AIS treatment/removal efforts to stakeholders, AMLAC, and the general public	—	Disseminates information provided by TRPD to AMLAC and the general public.	Disseminates information provided by TRPD	—	Provides information to the City of Plymouth, the City of Medicine Lake, BCWMC, MnDNR, and MAISRC	—	—
Design and implement education program to help prevent future infestation	Provides information to City of Plymouth and City of Medicine Lake	Disseminates information provided by BCWMC to AMLAC and the general public and may develop additional educational materials.	Disseminates information provided by BCWMC	—	Takes the lead on education activity at boat access and could present information at an AMLAC meeting coordinated by someone else (BCWMC or AMLAC)	—	—

*The City of Medicine Lake would like to be informed about the work completed for each activity.

Table 3 AIS Rapid Response Plan for Northwood Lake

Activity	Partner Roles				
	BCWMC	City of New Hope	Hennepin County	MnDNR	MAISRC
Notify MnDNR of AIS infestation (MnDNR verifies AIS infestation)	The first entity to find or be notified of possible infestation contacts MnDNR and the City of New Hope	The first entity to find or be notified of possible infestation contacts MnDNR and the BCWMC	—	Verifies AIS infestation	—
Communicate the infestation to stakeholders, Friends of Northwood Lake, and the general public	Provides technical assistance to City of New Hope as needed	Communicates information about the infestation to all stakeholders, Friends of Northwood Lake, and the general public	—	MnDNR issues press release	—
Perform, or hire contractor to perform, monitoring to define the extent of the AIS infestation	Collaborates with City of New Hope, MnDNR, and MAISRC and provides technical assistance to City of New Hope as needed	Hires the contractor after collaborating with BCWMC, MnDNR, and MAISRC	—	Collaborates with BCWMC, City of New Hope, and MAISRC	Collaborates with BCWMC, City of New Hope, and MnDNR
Determine appropriate rapid response treatment/removal (e.g., chemical treatment or manual removal of AIS) and associated costs	Collaborates with City of New Hope, MnDNR, and MAISRC	Makes the decision on treatment after collaborating with BCWMC, MnDNR, and MAISRC	—	Collaborates with BCWMC, City of New Hope, and MAISRC	Collaborates with BCWMC, City of New Hope, and MnDNR
Collaborate with MnDNR, MAISRC, and stakeholders to determine appropriate rapid response (e.g., chemical treatment or manual removal of AIS) and associated costs	Collaborates with City of New Hope, MnDNR, and MAISRC	The City will make a decision after collaborating with BCWMC, MnDNR, and MAISRC	—	Collaborates with BCWMC, City of New Hope, and MAISRC	Collaborates with BCWMC, City of New Hope, and MnDNR
Work with MnDNR to obtain treatment/removal permit	BCWMC works with MnDNR to obtain treatment/removal permit	Is copied on permit application and all communications	—	Works with BCWMC to issue the permit	Collaborates with BCWMC and MnDNR as needed to provide technical information.
Perform additional pre-treatment monitoring, if required by MnDNR permit	Collaborates with City of New Hope, MnDNR, and MAISRC and provides technical assistance to City of New Hope as needed	Hires the contractor after collaborating with BCWMC, MnDNR, and MAISRC	—	Collaborates with BCWMC, City of New Hope, and MAISRC	Collaborates with BCWMC, City of New Hope, and MnDNR
Hire contractor to perform AIS rapid response treatment/removal (e.g., chemical treatment or manual removal of AIS)	Is copied on communications with contractor and reviews contract/quote before hire	Hires the contractor	—	—	—
Fund the AIS treatment/removal	BCWMC partners with the City of New Hope and Hennepin County to fund the treatment	Partners with BCWMC and Hennepin County to fund the treatment, provided funding is approved by the City Council	Considers providing AIS rapid response grant funding, if available, to help fund the treatment or removal	—	—
Perform, or hire contractor to perform, post-treatment monitoring to determine treatment/removal effectiveness	Collaborates with City of New Hope, MnDNR, and MAISRC and provides technical assistance to City of New Hope as needed	Hires the contractor after collaborating with BCWMC, MnDNR, and MAISRC	—	Collaborates with BCWMC, City of New Hope, and MAISRC	Collaborates with BCWMC, City of New Hope, and MnDNR
Communicate information about the AIS treatment/removal and results of AIS treatment/removal efforts to stakeholders, Friends of Northwood Lake, and the general public	Provides technical assistance to City of New Hope as needed	Communicates information about the infestation and management to all stakeholders, Friends of Northwood Lake, and the general public	—	—	—
Design and implement education program to help prevent future infestation	Provides information to City of New Hope	Disseminates information provided by BCWMC to Friends of Northwood Lake and the general public	—	—	—

Table 4 AIS Rapid Response Plan for Parkers Lake

Activity	Partner Roles					
	BCWMC	City of Plymouth	TRPD	Hennepin County	MnDNR	MAISRC
Notify MnDNR of AIS infestation (MnDNR verifies AIS infestation)	The first entity to find or be notified of possible infestation contacts MnDNR, the City of Plymouth and TRPD	The first entity to find or be notified of possible infestation contacts MnDNR, the BCWMC and TRPD	The first entity to find or be notified of possible infestation contacts MnDNR, the City of Plymouth and BCWMC	—	Verifies AIS infestation	—
Communicate the infestation to all stakeholders and the public	Provides information to City of Plymouth	Disseminate information provided by BCWMC to all stakeholders and the public.	—	—	MnDNR issues press release	—
Perform, or hire contractor to perform, monitoring to define the extent of the AIS infestation.	Collaborates with City of Plymouth, MnDNR, TRPD, and MAISRC regarding monitoring design	Collaborates with BCWMC, MnDNR, TRPD, and MAISRC regarding monitoring design. Contract with TRPD to perform the monitoring whenever they are able. If TRPD are unavailable, the City hires a contractor to perform the monitoring	Collaborates with BCWMC, City of Plymouth, MnDNR, and MAISRC regarding monitoring design. TRPD performs the work on a contract basis whenever they are able	—	Collaborates with BCWMC, City of Plymouth, TRPD, and MAISRC	Collaborates with BCWMC, City of Plymouth, MnDNR, and TRPD regarding monitoring design.
Determine whether quarantine of the infestation is needed and, if so, quarantine the infestation	Makes a decision after collaborating with MnDNR, MAISRC, and TRPD	—	Collaborates with BCWMC, MnDNR, and MAISRC	—	Collaborates with BCWMC, MAISRC, and TRPD	Collaborates with BCWMC, MnDNR, and TRPD
Collaborate with MnDNR, MAISRC, and stakeholders to determine appropriate rapid response treatment/removal (e.g., chemical treatment or manual removal of AIS) and associated costs	Makes the decision after collaborating with City of Plymouth, TRPD, MnDNR, and MAISRC	Collaborates with BCWMC, TRPD, MnDNR, and MAISRC	Collaborates with BCWMC, City of Plymouth, MnDNR, and MAISRC	—	Collaborates with BCWMC, City of Plymouth, MAISRC, and TRPD	Collaborates with BCWMC, City of Plymouth, MnDNR, and TRPD
Work with MnDNR to obtain treatment/removal permit	Works with MnDNR to obtain treatment/removal permit	—	Provides guidance and technical expertise	—	Works with BCWMC to issue the permit	Collaborates with BCWMC and MnDNR as needed to provide technical information.
Perform additional pre-treatment monitoring, if required by MnDNR permit	Collaborates with City of Plymouth, MnDNR, TRPD, and MAISRC regarding monitoring design	Collaborates with BCWMC, MnDNR, TRPD, and MAISRC regarding monitoring design. City of Plymouth contracts with TRPD to perform the monitoring whenever they are able. If TRPD are unavailable, the City hires a contractor to perform the monitoring	Collaborates with BCWMC, City of Plymouth, MnDNR, and MAISRC regarding monitoring design. Perform the work on a contract basis whenever they are able	—	—	—
Hire contractor to perform AIS rapid response treatment/removal (e.g., chemical treatment or manual removal of AIS)	Hires contractor	—	—	—	—	—
Fund the AIS treatment/removal	Partner with Hennepin County to fund treatment	Considers funding the monitoring.	—	Considers providing AIS rapid response grant funding, if available, to help fund the treatment or removal	—	—

Table 4 AIS Rapid Response Plan for Parkers Lake (Continued)

Activity	Partner Roles					
	BCWMC	City of Plymouth	TRPD	Hennepin County	MnDNR	MAISRC
Perform, or hire contractor to perform, post-treatment monitoring to determine treatment/removal effectiveness	Collaborates with City of Plymouth, MnDNR, TRPD, and MAISRC regarding monitoring design	Collaborates with BCWMC, MnDNR, TRPD, and MAISRC regarding monitoring design. City of Plymouth contracts with TRPD to perform the monitoring whenever they are able. If TRPD are unavailable, the City hires a contractor to perform the monitoring	Collaborates with BCWMC, City of Plymouth, MnDNR, and MAISRC regarding monitoring design. Performs the work on a contract basis whenever they are able	—	Collaborates with BCWMC, City of Plymouth, TRPD, and MAISRC regarding monitoring requirements of permit	Collaborates with BCWMC, City of Plymouth, MnDNR, and TRPD regarding monitoring design.
Communicate information about the AIS treatment/removal and results of AIS treatment/removal efforts to all stakeholders and the public	Provides information to City of Plymouth	Disseminates information provided by BCWMC.	Provides monitoring data to City of Plymouth or presents the data to the public at an event coordinated by City of Plymouth	—	—	—
Design and implement education program to help prevent future infestation	Provides information to City of Plymouth	Disseminates information provided by BCWMC and may develop additional materials.	—	—	—	—

Table 5 AIS Rapid Response Plan for Sweeney Lake

Activity	Partner Roles				
	BCWMC	City of Golden Valley	Hennepin County	MnDNR	MAISRC
Notify MnDNR of AIS infestation (MnDNR verifies AIS infestation)	—	Notifies MnDNR	—	Verifies AIS infestation	—
Communicate the infestation to all stakeholders, Sweeney Lake Homeowners Association, and the general public	—	Communicates the infestation to all stakeholders, Sweeney Lake Homeowners Association, and the general public.	—	MnDNR issues press release	—
Perform, or hire contractor to perform, monitoring to define the extent of the AIS infestation.	Provides technical assistance such as monitoring design and recommendations for a contractor	Hires a contractor	—	Collaborates with the City of Golden Valley, BCWMC, and MAISRC	Provides technical assistance as needed for monitoring design and recommendations for a contractor
Determine whether quarantine of the infestation is needed and, if so, quarantine the infestation	Makes decision after collaborating with MnDNR, MAISRC, and City of Golden Valley	Collaborates with MAISRC, BCWMC, and MnDNR. (The City of Golden Valley prefers that MnDNR take the lead to implement the quarantine, but would implement the quarantine if necessary.)	—	Collaborates with MAISRC, BCWMC, and City of Golden Valley. Possibly take the lead in implementing quarantine	Collaborates with MnDNR, BCWMC, and City of Golden Valley
Collaborate with MnDNR, MAISRC, and stakeholders to determine appropriate rapid response treatment/removal (e.g., chemical treatment or manual removal of AIS) and associated costs	Collaborates with MnDNR, MAISRC, and City of Golden Valley	Makes the decision after considering the recommendations from BCWMC, MAISRC, and the MnDNR.	—	Collaborates with MAISRC, BCWMC, and City of Golden Valley	Collaborates with MnDNR, BCWMC, and City of Golden Valley
Work with MnDNR to obtain treatment/removal permit	Works with MnDNR to obtain treatment/removal permit	Is copied on permit application and all communications	—	Works with BCWMC to issue permit	Collaborates with BCWMC and MnDNR as needed to provide technical information.
Perform additional pre-treatment monitoring, if required by MnDNR permit	Provides technical assistance such as monitoring design and recommendations for a contractor.	Hires a contractor	—	Collaborates with City of Golden Valley, BCWMC, and MAISRC regarding monitoring requirements of permit.	Provides technical assistance as needed for monitoring design and recommendations for a contractor.
Hire contractor to perform AIS rapid response treatment/removal (e.g., chemical treatment or manual removal of AIS)	Provides technical assistance with contract development	Hires the contractor	—	—	—
Fund the AIS treatment/removal	Partners with City of Golden Valley and Hennepin County to fund the treatment	Partners with BCWMC and Hennepin County to fund the treatment	Considers providing AIS rapid response grant funding, if available, to help fund the treatment or removal	—	—
Perform, or hire contractor to perform, post-treatment monitoring to determine treatment/removal effectiveness	Provides technical assistance such as monitoring design and recommendations for a contractor.	Hires a contractor	—	Collaborates with the City of Golden Valley, BCWMC, and MAISRC regarding monitoring requirements of permit.	Provides technical assistance as needed for monitoring design and recommendations for a contractor.
Communicate information about the AIS treatment/removal and results of AIS treatment/removal efforts to stakeholders, Sweeney Lake Homeowners Association, and the general public	—	Provides information to all stakeholders, the Sweeney Lake Homeowners Association, and the general public.	—	—	—

Table 5 AIS Rapid Response Plan for Sweeney Lake (Continued)

Activity	Partner Roles				
	BCWMC	City of Golden Valley	Hennepin County	MnDNR	MAISRC
Design and implement education program to help prevent future infestation	Provides any available education materials to City of Golden Valley	Takes the lead, but collaborates with BCWMC, MnDNR, and MAISRC. Disseminates information to the Sweeney Lake Homeowners Association and the general public.	—	Provides any available education materials to City of Golden Valley	Provides any available education materials to City of Golden Valley

Table 6 AIS Rapid Response Plan for Twin Lake

Activity	Partner Roles					
	BCWMC	City of Golden Valley	Hennepin County	MPRB	MnDNR	MAISRC
Notify MnDNR of AIS infestation (MnDNR verifies AIS infestation)	—	Notifies MnDNR	—	—	Verifies AIS infestation	—
Communicate the infestation to all stakeholders and the public	—	Communicates the infestation to all stakeholders and the public.	—	—	MnDNR issues press release	—
Perform, or hire contractor to perform, monitoring to define the extent of the AIS infestation.	Provides technical assistance such as monitoring design and recommendations for a contractor	Hires a contractor unless MPRB performs monitoring.	—	Collaborates with the City of Golden Valley, BCWMC, MnDNR and MAISRC. May perform monitoring.	Collaborates with the City of Golden Valley, BCWMC, MPRB, and MAISRC	Provides technical assistance as needed for monitoring design and recommendations for a contractor
Determine whether quarantine of the infestation is needed and, if so, quarantine the infestation	Makes decision after collaborating with the City of Golden Valley, MPRB, MnDNR, and MAISRC	Collaborates with MAISRC, BCWMC, MPRB, and MnDNR. (The City prefers that MnDNR take the lead to implement the quarantine, but would implement the quarantine if necessary.)	—	Collaborates with the City of Golden Valley, BCWMC, MnDNR, and MAISRC	Collaborates with MAISRC, BCWMC, MPRB, and City of Golden Valley. Possibly take the lead in implementing quarantine	Collaborates with MnDNR, BCWMC, MPRB, and City of Golden Valley
Collaborate with MnDNR, MAISRC, and stakeholders to determine appropriate rapid response treatment/removal (e.g., chemical treatment or manual removal of AIS) and associated costs	Collaborates with MnDNR, MAISRC, MPRB, and City of Golden Valley	Makes the decision after considering the recommendations from BCWMC, MAISRC, MPRB, and the MnDNR.	—	Collaborates with the City of Golden Valley, BCWMC, MnDNR, and MAISRC	Collaborates with MAISRC, BCWMC, MPRB, and City of Golden Valley	Collaborates with MnDNR, BCWMC, MPRB, and City of Golden Valley
Work with MnDNR to obtain treatment/removal permit	Works with MnDNR to obtain treatment/removal permit	Is copied on permit application and all communications	—	Is copied on permit application and all communications	Works with BCWMC to issue permit	Collaborates with BCWMC and MnDNR as needed to provide technical information.
Perform additional pre-treatment monitoring, if required by MnDNR permit	Provides technical assistance such as monitoring design and recommendations for a contractor.	Hires a contractor unless MPRB performs monitoring	—	Collaborates with the City of Golden Valley, BCWMC, MnDNR and MAISRC. May perform monitoring.	Collaborates with City of Golden Valley, BCWMC, MPRB, and MAISRC regarding monitoring requirements of permit.	Provides technical assistance as needed for monitoring design and recommendations for a contractor.
Hire contractor to perform AIS rapid response treatment/removal (e.g., chemical treatment or manual removal of AIS)	Provides technical assistance with contract development	Hires the contractor	—	—	—	—
Fund the AIS treatment/removal	Partners with the City of Golden Valley and Hennepin County to fund the treatment	Partners with BCWMC and Hennepin County to fund the treatment	Considers providing AIS rapid response grant funding, if available, to help fund the treatment or removal	—	—	—

Table 6 AIS Rapid Response Plan for Twin Lake (Continued)

Activity	Partner Roles					
	BCWMC	City of Golden Valley	Hennepin County	MPRB	MnDNR	MAISRC
Perform, or hire contractor to perform, post-treatment monitoring to determine treatment/removal effectiveness	Provides technical assistance such as monitoring design and recommendations for a contractor.	Hires a contractor unless MPRB performs monitoring	—	Collaborates with the City of Golden Valley, BCWMC, MnDNR and MAISRC. May perform monitoring.	Collaborates with the City of Golden Valley, MPRB, BCWMC, and MAISRC regarding monitoring requirements of permit.	Provides technical assistance as needed for monitoring design and recommendations for a contractor.
Communicate information about the AIS treatment/removal and results of AIS treatment/removal efforts to stakeholders and the public	—	Provides information to all stakeholders and the public.	—	—	—	—
Design and implement education program to help prevent future infestation	Provides any available education materials to the City	Takes the lead, but collaborates with BCWMC, MPRB, MnDNR, and MAISRC. Disseminates information to the public.	—	Provides any available education materials to City of Golden Valley	Provides any available education materials to City of Golden Valley	Provides any available education materials to City of Golden Valley

Table 7 AIS Rapid Response Plan for Westwood Lake

Activity	Partner Roles				
	BCWMC	City of St. Louis Park/Westwood Hills Nature Center	Hennepin County	MnDNR	MAISRC
Notify MnDNR of AIS infestation (MnDNR verifies AIS infestation)	The first entity to find or be notified of possible infestation contacts MnDNR and the City of St. Louis Park	The first entity to find or be notified of possible infestation contacts MnDNR and the BCWMC	—	MnDNR verifies AIS infestation	—
Communicate the infestation to all stakeholders and the public	—	Communicates the infestation to all stakeholders and the public.	—	MnDNR issues press release	—
Perform, or hire contractor to perform, monitoring to define the extent of the AIS infestation.	The entity taking the lead depends on the scale of the project. If a small project, the City performs the monitoring or hires a contractor. If a larger project, BCWMC hires a contractor to perform the monitoring.	The entity taking the lead depends on the scale of the project. If a small project, the City performs the monitoring or hires a contractor. If a larger project, BCWMC hires a contractor to perform the monitoring	—	Collaborates with the City, BCWMC, and MAISRC	Provides technical assistance such as monitoring design and recommendations for a contractor
Determine whether quarantine of the infestation is needed and, if so, quarantine the infestation	BCWMC, City of St. Louis Park (including Westwood Hills Nature Center staff), and MnDNR make a uniform decision after collaborating as needed with MAISRC. The City implements the quarantine if a small project; BCWMC implements if a large project.	BCWMC, City of St. Louis Park (including Westwood Hills Nature Center staff), and MnDNR make a uniform decision after collaborating as needed with MAISRC. The City implements the quarantine if a small project; BCWMC implements if a large project.	—	BCWMC, City of St. Louis Park (including Westwood Hills Nature Center staff), and MnDNR make the decision after collaborating as needed with MAISRC.	Collaborates with MnDNR, BCWMC, and City
Collaborate with MnDNR, MAISRC, and stakeholders to determine appropriate rapid response treatment/removal (e.g., chemical treatment or manual removal of AIS) and associated costs	BCWMC, City of St. Louis Park (including Westwood Hills Nature Center staff), MnDNR, and MAISRC collaborate—the project size will determine whether the City or BCWMC would take the lead. If a small project, the City makes the decision after considering recommendations from BCWMC, MnDNR, and MAISRC. If it will be a bigger project, BCWMC makes the decision after considering recommendations from the City, MnDNR and MAISRC.	BCWMC, City of St. Louis Park (including Westwood Hills Nature Center staff), MnDNR, and MAISRC will collaborate—the project size will determine whether the City or BCWMC would take the lead. If a small project, the City makes the decision after considering recommendations from BCWMC, MnDNR, and MAISRC. If it will be a bigger project, BCWMC makes the decision after considering recommendations from the City, MnDNR and MAISRC.	—	Collaborates with MAISRC, BCWMC, and City of St. Louis Park	Collaborates with MnDNR, BCWMC, and City of St. Louis Park
Work with MnDNR to obtain treatment/removal permit	Works with MnDNR to obtain treatment/removal permit for large projects	Works with MnDNR to obtain treatment/removal permit for small projects	—	Works with BCWMC or City of St. Louis Park to issue permit	Collaborates with BCWMC City of St. Louis Park, and MnDNR as needed to provide technical information.
Perform additional pre-treatment monitoring, if required by MnDNR permit	The entity taking the lead depends on the scale of the project. If a small project, the City performs the monitoring or hires a contractor. If a larger project, BCWMC hires a contractor to perform the monitoring.	The entity taking the lead depends on the scale of the project. If a small project, the City performs the monitoring or hires a contractor. If a larger project, BCWMC hires a contractor to perform the monitoring.	—	Collaborates with the City, BCWMC, and MAISRC regarding monitoring requirements of permit.	Provides technical assistance such as monitoring design and recommendations for a contractor

Table 7 AIS Rapid Response Plan for Westwood Lake (Continued)

Activity	Partner Roles				
	BCWMC	City of St. Louis Park/Westwood Hills Nature Center	Hennepin County	MnDNR	MAISRC
Hire contractor to perform AIS rapid response treatment/removal (e.g., chemical treatment or manual removal of AIS)	The entity taking the lead depends on the scale of the project. If a small project, the City hires the contractor to perform the treatment/ removal. If a larger project, it would be a collaborative effort with BCWMC taking the lead.	The entity taking the lead depends on the scale of the project. If a small project, the City hires the contractor to perform the treatment/ removal. If a larger project, it would be a collaborative effort with BCWMC taking the lead.	—	—	—
Fund the AIS treatment/removal	BCWMC partners with Hennepin County and the City of St. Louis Park to fund larger projects.	Seeks Hennepin County AIS rapid response monies if available. If grant monies are not available and the project is small, the City funds it. For larger projects, the City partners with BCWMC and Hennepin County to fund the project.	Considers providing AIS rapid response grant funding, if available, to help fund the treatment or removal	—	—
Perform, or hire contractor to perform, post-treatment monitoring to determine treatment/removal effectiveness	The entity taking the lead depends on the scale of the project. If a small project, the City performs the monitoring or hires a contractor. If a larger project, BCWMC hires a contractor to perform the monitoring.	The entity taking the lead depends on the scale of the project. If a small project, the City performs the monitoring or hires a contractor. If a larger project, BCWMC hires a contractor to perform the monitoring.	—	Collaborates with the City, BCWMC, and MAISRC regarding monitoring requirements of permit.	Provides technical assistance such as monitoring design and recommendations for a contractor
Communicate information about the AIS treatment/removal and results of AIS treatment/removal efforts to stakeholders and the public	Collaborates with the City of St. Louis Park and MnDNR	Communications about the AIS infestation and management after collaboration with the BCWMC and MnDNR.	—	Collaborates with BCWMC and City of St. Louis Park	—
Design and implement education program to help prevent future infestation	Collaborative effort between City and BCWMC.	Collaborative effort between City and BCWMC to educate the public. The City takes the lead to educate City staff. The City collaborates with BCWMC to obtain available education materials to disseminate via their website, FaceBook, or Twitter.	—	Provides any available education materials to the City of St. Louis Park	Provides any available education materials to the City of St. Louis Park

Table 8 AIS Rapid Response Plan for Wirth Lake

Activity	Partner Roles					
	BCWMC	City of Golden Valley	MPRB	Hennepin County	MnDNR	MAISRC
Notify MnDNR of AIS infestation (MnDNR verifies AIS infestation)	The first entity to find or be notified of possible infestation contacts MnDNR, the City of Golden Valley and MPRB.	The first entity to find or be notified of possible infestation contacts MnDNR, the BCWMC and MPRB	The first entity to find or be notified of possible infestation contacts MnDNR, the City of Golden Valley and BCWMC	—	MnDNR verifies AIS infestation	—
Communicate the infestation to all stakeholders and the public	Collaborates with MPRB, City of Golden Valley, and MnDNR. Takes the lead unless MPRB requests to take the lead.	Collaborates with BCWMC, MPRB, and MnDNR	Collaborates with BCWMC, City of Golden Valley, and MnDNR. May request to take the lead.	—	MnDNR issues press release	—
Perform, or hire contractor to perform, monitoring to define the extent of the AIS infestation.	Collaborates with City of Golden Valley, MPRB, BCWMC, MAISRC, and MnDNR. Takes the lead unless MPRB requests to take the lead.	Collaborates with BCWMC, MPRB, MnDNR, and MAISRC	Collaborates with BCWMC, and MnDNR. May request to take the lead.	—	Collaborates with MPRB, City of Golden Valley, BCWMC, and/or MAISRC	Provides technical assistance such as monitoring design and recommendations for a contractor
Determine whether quarantine of the infestation is needed and, if so, quarantine the infestation	Collaborates with City of Golden Valley, MPRB, MnDNR, and MAISRC. Takes the lead unless MPRB requests to take the lead.	Collaborates with BCWMC, MPRB, MnDNR, and MAISRC	Collaborates with BCWMC, City of Golden Valley, MnDNR, and MAISRC. May request to take the lead.	—	Collaborates with MPRB, BCWMC, City of Golden Valley, and MAISRC	Collaborates with MPRB, BCWMC, City of Golden Valley, and MAISRC
Collaborate with MnDNR, MAISRC, and stakeholders to determine appropriate rapid response treatment/removal (e.g., chemical treatment or manual removal of AIS) and associated costs	Collaborates with City of Golden Valley, MPRB, MnDNR, and MAISRC. Takes the lead unless MPRB requests to take the lead.	Collaborates with BCWMC, MPRB, MnDNR, and MAISRC	Collaborates with BCWMC, City of Golden Valley, MnDNR, and MAISRC. May request to take the lead.	—	Collaborates with MAISRC, BCWMC, and MPRB	Collaborates with MnDNR, BCWMC, and MPRB
Work with MnDNR to obtain treatment/removal permit	Collaborate with MPRB. Takes the lead unless MPRB requests to take the lead.	—	Collaborates with BCWMC. May request to take the lead.	—	Works with BCWMC or MPRB to issue permit	Collaborates with BCWMC or the MPRB, and MnDNR as needed to provide technical information.
Perform additional pre-treatment monitoring, if required by MnDNR permit	Collaborates with City of Golden Valley, MPRB, MnDNR, and MAISRC. Takes the lead unless MPRB requests to take the lead.	Collaborates with BCWMC, MPRB, MnDNR, and MAISRC	Collaborates with BCWMC, City of Golden Valley, MnDNR, and MAISRC. May request to take the lead.	—	Collaborates with MPRB, City of Golden Valley, BCWMC, and/or MAISRC regarding monitoring requirements of permit.	Provides technical assistance such as monitoring design and recommendations for a contractor.
Hire contractor to perform AIS rapid response treatment/removal (e.g., chemical treatment or manual removal of AIS)	Collaborates with City of Golden Valley, MPRB, MnDNR, and MAISRC. Takes the lead unless MPRB requests to take the lead.	—	Collaborates with BCWMC, City of Golden Valley, MnDNR, and MAISRC. May request to take the lead. MPRB has an herbicide applicator (PLM Lake & Land Management Corp.) under contract and could respond rapidly because a contract is already in place.	—	Collaborates with BCWMC, City of Golden Valley, MPRB, and MAISRC.	—

Table 8 AIS Rapid Response Plan for Wirth Lake (Continued)

Activity	Partner Roles					
	BCWMC	City of Golden Valley	MPRB	Hennepin County	MnDNR	MAISRC
Fund the AIS treatment/removal	Partnership with Hennepin County and MPRB for projects that support MPRB interests and are consistent with their policies. BCWMC will partner with Hennepin County for projects MPRB chooses not to participate in.	Possible partnership in funding the treatment	Partnership with Hennepin County and BCWMC for projects that support MPRB interests and are consistent with their policies. MPRB would take the lead on such projects. MPRB has an AIS response fund and could pay up front costs and then cost share later. MPRB may choose not to participate in some projects.	AIS rapid response grant funding may be available to help fund the treatment or removal	—	—
Perform, or hire contractor to perform, post-treatment monitoring to determine treatment/removal effectiveness.	Collaborates with City of Golden Valley, MPRB, MnDNR, and MAISRC. Takes the lead unless MPRB requests to take the lead.	Collaborates with BCWMC, MPRB, MnDNR, and MAISRC	Collaborates with BCWMC, City of Golden Valley, MnDNR, and MAISRC. May request to take the lead.	—	Collaborates with MPRB, City of Golden Valley, BCWMC, and/or MAISRC regarding monitoring requirements of permit.	Provides technical assistance such as monitoring design and recommendations for a contractor
Communicate information about the AIS treatment/removal and results of AIS treatment/removal efforts to stakeholders and the public	Collaborates with City of Golden Valley, MPRB, MnDNR, and MAISRC. Takes the lead unless MPRB requests to take the lead.	Collaborates with BCWMC, MPRB, MnDNR, and MAISRC	Collaborates with BCWMC, City of Golden Valley, MnDNR, and MAISRC. May request to take the lead.	—	Partnership between MPRB, BCWMC, and MnDNR	—
Design and implement education program to help prevent future infestation	Collaborates with City of Golden Valley, MPRB, MnDNR, and MAISRC. Takes the lead unless MPRB requests to take the lead.	—	Collaborates with BCWMC, City of Golden Valley, MnDNR, and MAISRC. May request to take the lead. MPRB could share its education resources (such as an “AIS trunk”) with BCWMC to amplify the message.	—	Provides any available education materials to BCWMC or MPRB, whichever takes the lead.	Provides any available education materials to BCWMC or MPRB, whichever takes the lead.

4.0 Rapid Response to Key AIS: Zebra Mussels, Starry Stonewort, and Eurasian Watermilfoil

Zebra mussels, starry stonewort, and Eurasian watermilfoil are considered key AIS species because of their high risk of spread to uninfested BCWMC Priority 1 lakes. Eurasian watermilfoil is currently present in Medicine Lake, Parkers Lake, and Wirth Lake, but not in the remaining four Priority 1 lakes. Zebra mussels are currently present in Medicine Lake, but not in the remaining six Priority 1 lakes. Although not present in BCWMC waterbodies, starry stonewort is currently present in 11 Minnesota lakes and has spread quickly during the two years since its first MN sighting in Lake Koronis (Stearns County, MN). Hence, these three species pose a high infestation risk to uninfested BCWMC Priority 1 lakes. The detailed rapid response plans below for each species will help the BCWMC, cities, and other organizations to be poised to respond to an infestation efficiently and effectively.

4.1 Zebra Mussels

Zebra mussels (*Dreissena polymorpha*) are one of the most widespread invasive freshwater animals in the world. Their huge populations attach to hard surfaces, clog intake pipes for water treatment and power generating plants, encrust boat motors and hulls, may greatly reduce lakefront property values, and their sharp shells cut swimmers feet. Ecologically, they filter enormous quantities of microscopic algae, alter energy flow through aquatic systems, smother and cause extinctions of native bivalves, and promote toxic blue-green algal blooms through their selective filtration (MAISRC, 2017b and Vanderploeg et al, 2001). According to MAISRC staff, zebra mussels are one of the worst aquatic invasive species, in terms of their ecological impact, as they completely “re-route” the food chain in the water body.

Zebra mussels are native to Eastern Europe and Western Russia. They were first found in North America in 1988 (MAISRC, 2017b).

Zebra mussels are ¼ to 1 ½ inch-long bivalve (2-shelled) mollusks. They have a D- or wedge-shaped shell, which is often marked by alternating brown and yellow bands in a zigzag pattern. They live on lake and river bottoms, rocks, aquatic plants, docks, lifts, and boats to which they attach using small dark fibers called “byssal threads” (MAISRC, 2017b).

Each mussel is either male or female, and they release eggs (500,000 or more per female per year) or sperm into the water. Fertilization yields a tiny (<1/10th millimeter) larvae called a veliger. Veligers feed on algae and grow for about 3 weeks, drifting in the plankton, during which time wind and currents can transport them over large distances. After this, they settle down and attach to the lake or river bottom, and after about 12 to 18 months, they grow to reproductive size. Reproduction begins each spring when the water temperature reaches 53° F and continues through mid-August. (MAISRC, 2017b).



Pictured above, zebra mussels found in Medicine Lake on November 2, 2017. (Photo Credit: Keegan Lund, MnDNR)

Zebra mussels are spread by larvae (veligers) transported down connected streams and waterways, and overland via mussels attached to vegetation and to surfaces of recreational boats, trailers, docks, and lifts. Veliger larvae may also be transported in the “residual water” remaining inside boat compartments when trailered boats are moved between waterways (MAISRC, 2017b).

MnDNR approves permits for rapid response management of zebra mussels on a case-by-case basis. A MnDNR committee, with input from MAISRC, considers a number of variables prior to making a decision as to whether or not management will be permitted. The MnDNR generally permits management if the infestation is localized and isolated to a small area. The MnDNR also looks at whether or not the zebra mussel population is reproducing. If reproduction has occurred, the MnDNR is less likely to permit treatment since zebra mussels may have spread throughout the lake.

To determine the extent of a zebra mussel infestation in a lake, a “meandering” zebra mussel survey is completed. Zebra mussels inhabit the littoral area of the lake (up to about 15 feet). Hence, the survey area is confined to the littoral area of the lake. The survey includes SCUBA diving searches in deeper waters and snorkeling searches in shallower waters. Potential zebra mussel substrates (e.g., sticks, rocks, plants, docks) are examined to determine whether or not zebra mussels are present. The survey is termed “meandering” because the surveyors meander through the littoral area to thoroughly search for zebra mussels rather than sample specific points or transects. The survey results are reviewed by the MnDNR committee who then determines whether or not management will be permitted.

When the MnDNR permits chemical treatment of zebra mussels, they also require quarantine of the infested area. A lethal treatment requires zebra mussels to be exposed to a lethal dose of the chemical for several days. Unless the treatment area is quarantined by vinyl curtains, mixing by untreated lake waters would reduce the dose to less than the lethal threshold and zebra mussels would not be killed.

Two chemical products are currently registered with the Environmental Protection Agency (EPA) and permitted for chemical treatment of zebra mussels. Earthtec QZ, a copper product, is effective and the most economical. A second product, Zequanox, is more expensive than Earthtec QZ and generally does not attain a complete kill. Although either product could be used for a zebra mussel treatment, Earthtec QZ is the preferred product due to its greater effectiveness and lower cost.

A third product, potash, effectively treats zebra mussels, but is not currently registered with the EPA. It could be used for zebra mussel treatment with permission from the EPA. The process for gaining permission is to apply for a Section 18 Special Emergency Exemption from EPA. Because this process is not expected to be rapid, this product would not be suitable for a rapid response zebra mussel treatment.

The rapid response to a new zebra mussel infestation is as follows:

- 1) Hire a contractor to perform a “meandering” zebra mussel survey of adults to determine locations where they are found.
- 2) If the zebra mussel infestation is localized in a few locations and a candidate for a rapid response treatment, apply for a MnDNR treatment permit.

- 3) If MnDNR issues the permit, apply for Hennepin County Rapid Response Grant monies.
- 4) Work with MAISRC to complete a detailed survey of the treatment areas to determine pre-treatment zebra mussel density.
- 5) Quarantine the zebra mussel treatment area(s), contract with applicator, and perform treatment in May. Earthtech QZ would probably be used for the treatment. Treatment dose is determined by MnDNR during the permitting process.
- 6) Work with MAISRC to complete a detailed survey of the treatment areas to determine post-treatment zebra mussel density. Treatment effectiveness is determined from a comparison of pre-treatment and post-treatment zebra mussel density.
- 7) If post-treatment zebra mussel survey indicates zebra mussels are present and, hence, additional treatment is needed, repeat steps 2 through 6.

4.2 Starry Stonewort

Starry stonewort (*Nitellopsis obtusa*) is an invasive green alga that is native to parts of Europe and Asia. It was first found in North America in 1978. It can grow tall and dense, forming mats on the surface that interfere with recreation and potentially displace native plant species (MAISRC, 2017c).

Starry stonewort is dioecious, meaning that individuals are either male or female – unlike many plants and algae that have both male and female reproductive parts. The best evidence to date indicates that the populations in the United States are all male, although there may be undiscovered females. This means that starry stonewort reproduction in the United States is vegetative and the spread of starry stonewort is probably through human movement of fragments from lake to lake. In particular, starry stonewort produces small, star-shaped structures called “bulbils” that allow it to reproduce vegetatively (clonally). It was first recorded in Minnesota in 2015 and by 2017 was found in 11 lakes (MAISRC, 2017c; Larkin et al., 2017).



Starry stonewort, pictured above, is an invasive green alga. Star-shaped structures called “bulbils” allow it to reproduce vegetatively. (Photo Credit: MAISRC)

MnDNR approves permits for rapid response management of starry stonewort on a case by case basis. A MnDNR committee considers a number of variables prior to making a decision as to whether or not management will be permitted. The MnDNR generally permits management if the infestation is localized and isolated to a small area.

Management measures include hand removal and chemical treatment. A copper related algaecide plus additives to enhance treatment effectiveness are used for the chemical treatment. Products used for chemical treatment of starry stonewort include Earthtech QZ, Komeen Crystal, Captain XTR, Stingray plus Diquat, and Stingray plus Clipper 50.

Bulbils buried in the sediment cannot be controlled with a chemical treatment. The sediment prevents chemical contact with the bulbils and contact is necessary for the chemical to kill them. To attain complete control of starry stonewort, hand removal of the bulbils using diver-assisted suction harvesting (DASH) is recommended, if permitted by the MnDNR.

The rapid response to a starry stonewort infestation is detailed as follows:

- 1) Hire a contractor to perform an aquatic plant survey to determine locations where starry stonewort is found.
- 2) If the infestation is localized in a few locations and a candidate for a rapid response treatment, collaborate with MAISRC and the MnDNR to design a chemical treatment or manual removal program as well as a monitoring program.
- 3) Apply for a MnDNR permit.
- 4) If the MnDNR issues the permit, apply for Hennepin County Rapid Response Grant monies.
- 5) Contract with SCUBA divers to complete hand removal of plants and/or bulbils or contract with applicator to perform treatment. Chemical treatment would be a copper algaecide plus additives to enhance treatment effectiveness. Treatment dose is determined by the MnDNR during the permitting process. Bulbils buried in sediment are removed using diver-assisted suction harvesting (DASH).
- 6) Perform post-treatment point-intercept aquatic plant survey to evaluate removal/treatment effectiveness.
- 7) If post-treatment point-intercept aquatic plant survey indicates additional removal/treatment is needed, repeat steps 2 through 6.

4.3 Eurasian Watermilfoil

Eurasian watermilfoil (*Myriophyllum spicatum*) is an invasive aquatic plant that is native to northern Europe and Asia. It was introduced to North America in the early 1940's (MAISRC, 2017d).

Eurasian watermilfoil (EWM) reproduces from fragments and seeds. Although reproduction from seeds was thought to be uncommon, the presence of hybrids and viable seeds suggests that sexual reproduction can be important. Plants



EWM, pictured above, autofragments in the summer; small branches that break off the plant and form roots establish new plants. (Photo Credit: Matthew Berg, Endangered Resource Services. LLC.)

flower once they grow to the surface in June through September. The plant will also produce autofragments in the summer; small branches that break off the plant and form roots which can establish new plants. Any fragment of the plant stem that includes a node (whorl of leaves) can produce a new viable plant. Eurasian watermilfoil stores carbohydrates in the lower stems and root crowns which enables the plant to survive over the winter, even with low or no light under the ice. In the spring when water temperatures approach 50 to 60 degrees Fahrenheit, the plant will begin growing out of the root crowns and sometimes overwintering stems and grow toward the surface. The plants often form a canopy throughout the summer that shades out native plants (MAISRC, 2017d).

EWM is spread most commonly by inadvertent transport by boaters, however some waterbodies appear to have been infested by natural means (downstream transport or waterfowl) (MAISRC, 2017d).

EWM's fast growth rate, up to 2 inches per day in spring and summer, its ability to spread rapidly by fragmentation, and its ability to effectively block out sunlight needed for native plant growth often result in monotypic stands. Monotypic stands of EWM provide only a single habitat, and threaten the integrity of aquatic communities in a number of ways. For example, dense stands disrupt predator-prey relationships by fencing out larger fish, and reducing the number of nutrient-rich native plants available for waterfowl. EWM spreads rapidly and can grow to dominance in as little as two years (Wisconsin Department of Natural Resources (WDNR), 2012).

Dense stands of EWM also inhibit recreational uses like swimming, boating, and fishing. Cycling of nutrients from sediments to the water column by EWM may lead to deteriorating water quality and algae blooms of infested lakes (WDNR, 2012).

EWM is known to hybridize with northern watermilfoil, a native species. This hybrid watermilfoil is also considered invasive (MAISRC, 2017d).

A EWM treatment/removal permit is easily obtained from MnDNR whenever the treatment area is less than 15 percent of the littoral area of the lake. The littoral area is the area of the lake that is up to 15 feet in depth.

A pre-treatment plant survey would be performed to delineate the treatment/removal area. Once the treatment/removal area is delineated, the best course of action for treatment/removal would be determined. An on-line permit application would be completed and the treatment/removal map would be attached to the treatment application. Once the permit is issued, treatment/removal could occur.

Treatment/removal would consist of either hand removal or chemical treatment. Hand removal would be used when determined to be the best course of action (e.g., feasible, less expensive). When chemical treatment is the best course of action, Procellacor, a new herbicide expected to be available in 2018, is the recommended herbicide for a rapid response treatment of EWM. Assuming its advertised performance proves true:

- EWM could be treated at any time during the growing season because Procellacor is not expected to harm native plants.

-
- Quarantine is not needed because it is very fast acting and, consequently, dilution from untreated waters would not be expected to reduce treatment effectiveness.

The rapid response to a Eurasian watermilfoil infestation is as follows:

- 1) Hire a contractor to perform an aquatic plant survey to determine locations where Eurasian watermilfoil is found.
- 2) Design a treatment/removal program and post-treatment/removal monitoring program.
- 3) Apply for a MnDNR permit.
- 4) Apply for Hennepin County Rapid Response Grant monies.
- 5) Hire SCUBA divers to complete hand removal or hire contractor to complete chemical treatment with Procellacor at the dose on the product label.
- 6) Perform post-treatment point-intercept aquatic plant survey to evaluate treatment/removal effectiveness.
- 7) If post-treatment point-intercept aquatic plant survey indicates additional treatment is needed, repeat steps 2 through 6.
- 8) When EWM is no longer observed, regular SCUBA inspections will occur to search for reemerging plants. Whenever EWM is observed, repeat steps 2 through 6.

5.0 References

Larkin, Dan and Ranjan Muthukrishnan. 2017. Aquatic Plant Invasions: Ions and Drivers and Carp (Oh My). September 13, 2017 MAISRC Showcase.

https://www.maisrc.umn.edu/sites/maisrc.umn.edu/files/maisrc_showcase_talk_to_print.pdf. Retrieved December 12, 2017.

Minnesota Department of Natural Resources. 2013. Minnesota Rapid Response Plan for Aquatic Invasive Species. http://files.dnr.state.mn.us/natural_resources/invasives/rapid-response-ais.pdf. Retrieved December 11, 2017.

Minnesota Aquatic Invasive Species Research Center (MAISRC). 2017a. AIS in Minnesota. <https://www.maisrc.umn.edu/ais-mn>. Retrieved December 11, 2017.

MAISRC. 2017b. Learn the Facts About Zebra Mussels. https://www.maisrc.umn.edu/sites/maisrc.umn.edu/files/zebra_musselss_factsheet.pdf Retrieved December 8, 2017.

MAISRC. 2017c. Learn the Facts About Starry Stonewort. https://www.maisrc.umn.edu/sites/maisrc.umn.edu/files/starry_stonewort_factsheet.pdf. Retrieved December 12, 2017.

MAISRC. 2017d. Learn the Facts About Eurasian Watermilfoil. https://www.maisrc.umn.edu/sites/maisrc.umn.edu/files/ewm_factsheet.pdf. Retrieved December 12, 2017.

McCartney, Michael. 2017. Musseling Out Mussels: The Status of MAISRC Research on Zebra Mussel Prevention and Control. September 13, 2017 MAISRC Showcase. https://www.maisrc.umn.edu/sites/maisrc.umn.edu/files/mccartney_showcase_2017_09_13_final.pdf. Retrieved December 12, 2017.

Vanderploeg, Henry A., James R. Liebig, Wayne W. Carmichael, Megan A. Agy, Thomas H. Johengen, Gary L. Gahnenstiel, and Thomas F. Nalepa. 2001. Zebra Mussel (*Dreissena polymorpha*) Selective Filtration Promoted Toxic Microcystis Blooms in Saginaw Bay (Lake Huron) and Lake Erie. *Can. J. Fish. Aquat. Sci.* 58: 1208-1221.

Wisconsin Department of Natural Resources. 2012. Aquatic Plant Eurasian Watermilfoil. <http://dnr.wi.gov/topic/Invasives/documents/classification/Myriophyllum%20spicatum.pdf>. Retrieved on December 12, 2017

AIS prevention application

Project goals and summary description of project (25%)

Organization name:	Bassett Creek Watershed Management Commission
Project title:	AIS Decontamination Unit for Medicine Lake
Project location:	French Regional Park Boat Launch
Applicant name/organization:	Laura Jester/Bassett Creek Watershed Management Commission
Amount request:	\$18,200

- Executive summary:** Provide a summary of the project that describes project goals, why the project is needed, where it will be implemented, project participants, proposed activities and expected outcomes (200 word limit).

Need to insert

Project activities and outcomes (40%)

- Project description:** For each proposed activity, describe the activity including who will do the proposed activity, how it will be implemented and the anticipated outcomes. List all the project activities.
 - Be specific about each activity.
 - Describe when the activity will begin and when it will conclude.
 - Identify the party responsible for each activity.
 - Is this a new activity? Or is it an expansion of an existing activity/program?
 - Describe anticipated outcomes and how outcomes will be measured.

This project involves the purchase, deployment, and operation of an AIS decontamination unit for the French Regional Park - Medicine Lake access by 1) purchasing a decontamination unit, 2) hiring and training Level II watercraft inspectors, and 3) scheduling inspectors to execute their duties at French Regional Park – Medicine Lake access.

Medicine Lake is a regionally significant lake in Hennepin County and was recently added to the list of zebra mussel-infested waters. In order to prevent the spread of zebra mussels from Medicine Lake and the arrival of new AIS into Medicine Lake, the Bassett Creek Watershed Management Commission (BCWMC) is requesting financial support from Hennepin County to purchase a decontamination unit to be operated at the Medicine Lake access located within Three Rivers Park District's (TRPD) French Regional Park. The decontamination unit will be used to expand and improve the existing watercraft inspection program currently implemented by TRPD. Medicine Lake is regionally significant as it's the second largest lake in the metropolitan area, is designated a Priority 1 lake by the BCWMC, and receives a considerable amount of recreational use. Based on a Three Rivers Park District Visitor Study in 2013, French Regional Park receives approximately 18,146 visitors a year for boating recreational opportunities (this does not represent the number of boats using the access). TRPD currently implements an extensive watercraft inspection program at the Park that has primarily targeted incoming boats. In 2017, TRPD performed 3,208 watercraft inspections within 1,567 inspection hours. This equates to approximately 2.1 boats/trailers inspected per hour, which is considered a "high use" access by the MnDNR standards of 0.9 boats/hour. The percent of watercraft reported as being contaminated was relatively low in 2017 at 2%. Despite low contamination percentage, zebra mussels were discovered in two different locations on the south end of Medicine Lake in the fall of 2017. The extent of the zebra

mussel infestation in Medicine Lake is currently unknown and will be studied by the BCWMC in 2018. The lake should be considered high risk for the potential to infest other lakes within the metropolitan area due to the high use access. A decontamination unit located at the French Regional Park will provide better service for watercraft recreationalists by providing on-site decontamination, will reduce the risk for potential new infestations of other aquatic invasive species, will increase the number of inspections for outgoing boats, and will reduce the spread of aquatic invasive species to other lakes. The decontamination unit will be located near the French Regional Park – Medicine Lake access and will be operated by Three Rivers Park District staff from Memorial Day to Labor Day. The additional inspection hours required for the staffing of the decontamination unit will expand and augment the existing watercraft inspection program at this launch. The Bassett Creek Watershed Management Commission will provide financial support for the additional staffing and operation of the decontamination unit and/or will seek other partners to contribute funds. The training of Level II inspectors to operate the decontamination unit will be carried out by MnDNR watercraft inspection training staff, and assisted by Three Rivers Park District water resources staff and operation supervisors. Once training and authorization as a Level II inspector is completed, inspectors will be scheduled and supervised by the Three Rivers Park District operations or facility supervisor at French Regional Park.

The inspection outcomes for the project will be tracked and measured through the use of tablets loaded with the application developed by MnDNR to guide watercraft inspectors through the process and record results. If there are temporary issues with the tablets, paper records based on the information provided by the MnDNR application may be used, then reviewed/summarized/uploaded to the tablet as soon as possible. All inspection records will be uploaded to MnDNR's statewide data base, and will be used to generate final project reports.

Purchase of the decontamination unit is an investment in both current and future AIS prevention activities as the unit will be maintained and will be utilized every year for the expected life of the unit.

Project staff, partners and volunteers (25%)

- **Project coordinator and organization information**
 - Organization: *Bassett Creek Watershed Management Commission*
 - Primary project coordinator (name, title, role): *Laura Jester, BCWMC Administrator*
 - Address, phone number, email address: *c/o 16145 Hillcrest Lane, Eden Prairie MN 55346; 952-270-1990; laura.jester@kestonewaters.com*
 - Organization website and social media (Facebook, Twitter, Pinterest, etc.):
Website: www.bassettcreekwmo.org Facebook: <https://www.facebook.com/BCWMC/>
 - Describe the organization's mission and how this project aligns with the organization's goals. *The mission of the Bassett Creek Watershed Management Commission is "Stewardship of water resources to protect and enhance our communities." The BCWMC 2015 Watershed Plan includes the goal to "support and collaborate with other entities to manage and prevent the spread of aquatic invasive species." In 2016 and 2017, the BCWMC convened and facilitated an Aquatic Invasive Species/Aquatic Plant Management Committee to identify gaps and determine the BCWMC's role in these issues. Approved committee recommendations include cooperating with partnering organizations (such as TRPD) and providing financial assistance for equipment purchase and inspections at boat launches.*

- **Contracting organization information** *(the organization that will sign the contract)*
 - Contracting organization *(if different than above): Same as above*
 - Designated contract signatory: *BCWMC Chairperson (currently Commissioner Jim de Lambert)*

- Address and phone number: *c/o City of Golden Valley, 7800 Golden Valley Rd., Golden Valley MN 55427; 952-346-3866*
- Has the organization received funding from the county in the last three years?
 - Yes; if yes, list the programs or briefly explain:
 - *Hennepin County Opportunity Grant for Plymouth Creek Restoration Project to restore streambanks and reduce erosion along Plymouth Creek. Awarded April 2017.*
 - *Hennepin County Environmental Response Fund Grant for Bassett Creek Main Stem Erosion Repair Project. Awarded 2017 (agreement documents gathering county signatures currently)*

Staff and volunteers: List the staff and volunteers who will implement the project and briefly describe their role in the project and their qualifications. Please include the person who will manage financial reporting for the project. Are these leaders part of an existing team, such as a green team or a student group?

Financial reporting and grant management:

- *Laura Jester, BCWMC Administrator, will perform overall grant management and financial reporting with assistance from Sue Virnig, BCWMC Deputy Treasurer and Financial Director for the City of Golden Valley. Ms. Jester has 25 years of experience in water resources management, watershed administration, grants management and grants reporting. Throughout her career she has successfully managed multiple State and Federal grants totaling millions of dollars in awarded funding.*

Other key staff that will be involved in implementing the project includes:

- *Jill Caffee, Three Rivers Park District Operations Supervisor for French Regional Park, will oversee operation of the decontamination unit and will directly supervise inspection staff. She has been in her current post for 4 years, and she was in a similar position at Lake Minnetonka Regional Park for 8 years, where she managed watercraft inspection efforts for incoming and outgoing watercraft at the Lake Minnetonka Regional Park access. In her current position, she manages inspection activities at TRPD accesses on Medicine Lake, Fish Lake, and Twin Lakes.*
- *Brian Vlach, Three Rivers Park District's Senior Manager of Water Resources, will provide overall management of boat launch operations. Brian has worked for Three Rivers Park District in the Water Resources Department for the past 20 years. Brian has coordinated monitoring/research efforts as well as rapid response initiatives for control of aquatic invasive species within the park district. Mr. Vlach manages and coordinates all water resources initiatives associated with aquatic invasive species risk reduction. He has over 24 years of professional experience in management of fisheries and water resources projects.*
- *Three Rivers Park District seasonal staff will be hired and will receive Level II inspection training to operate the decontamination unit and carry out and record inspections.*

Budget (10%)

- Complete the budget form, available at www.hennepin.us/aisprevention, and submit it with your application.
- Additionally, explain:
 - Why do you need this funding and what project work will not happen without AIS Prevention funding?

Medicine Lake is a regionally significant lake and a high priority lake for the BCWMC. The French Regional Park – Medicine Lake access receives a significant amount of recreational use. In 2017, 3,208 boat inspections were performed at a rate of 2.1 inspection per hour. Unfortunately, zebra mussels were discovered in the lake in the fall of 2017, significantly increasing the need for boaters to access effective decontamination. Although the extent of the zebra mussel infestation is currently unknown, there is a high risk for the lake to be a source of zebra mussel infestations in other metropolitan lakes. Further, additional effort is warranted to prevent the spread of new AIS into Medicine Lake. While the BCWMC has some funding set aside for AIS issues, it currently does not have the funds needed to purchase the decontamination unit. Currently, watercraft requiring decontamination are sent to the nearest MnDNR decontamination station. MnDNR stations may be many miles away and sometimes the listed schedules (times/locations) of the unit are incorrect, leading to boater frustration and distress. A decontamination unit located at the French Regional Park will provide better service for watercraft recreationalists by providing on-site decontamination, will reduce the risk for potential new infestations of other aquatic invasive species, will increase the number of inspections for outgoing boats, and will reduce the spread of aquatic invasive species to other lakes by ensuring that boats are actually being decontaminated before leaving the park district. The decontamination unit will also be able to provide service for other watercraft accesses located in the vicinity of Medicine Lake.

- Identify other funding sources and their respective contributions.

Three Rivers Park District's general fund operating budget is the primary source of funding to support the existing watercraft inspection/boater education program at French Regional Park – Medicine Lake access. The TRPD total watercraft inspection costs were \$15,646 in 2017, (\$5,010 of which was reimbursement through a Hennepin County AIS prevention grant). Three Rivers Park District expects to spend a similar amount from the general fund operating budget in 2018. The Bassett Creek Watershed Management Commission is expected to contribute an additional \$5,000 to assist with increased inspection hours and staffing of a decontamination unit and/or will work with other partners to secure the additional \$5,000.



Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 5Ciii – Review Existing Data on Common Carp in Medicine Lake
BCWMC January 18, 2018 Meeting Agenda
Date: January 10, 2018

5Ciii. Review Existing Data on Common Carp in Medicine Lake

Recommendations:

1. For information only.

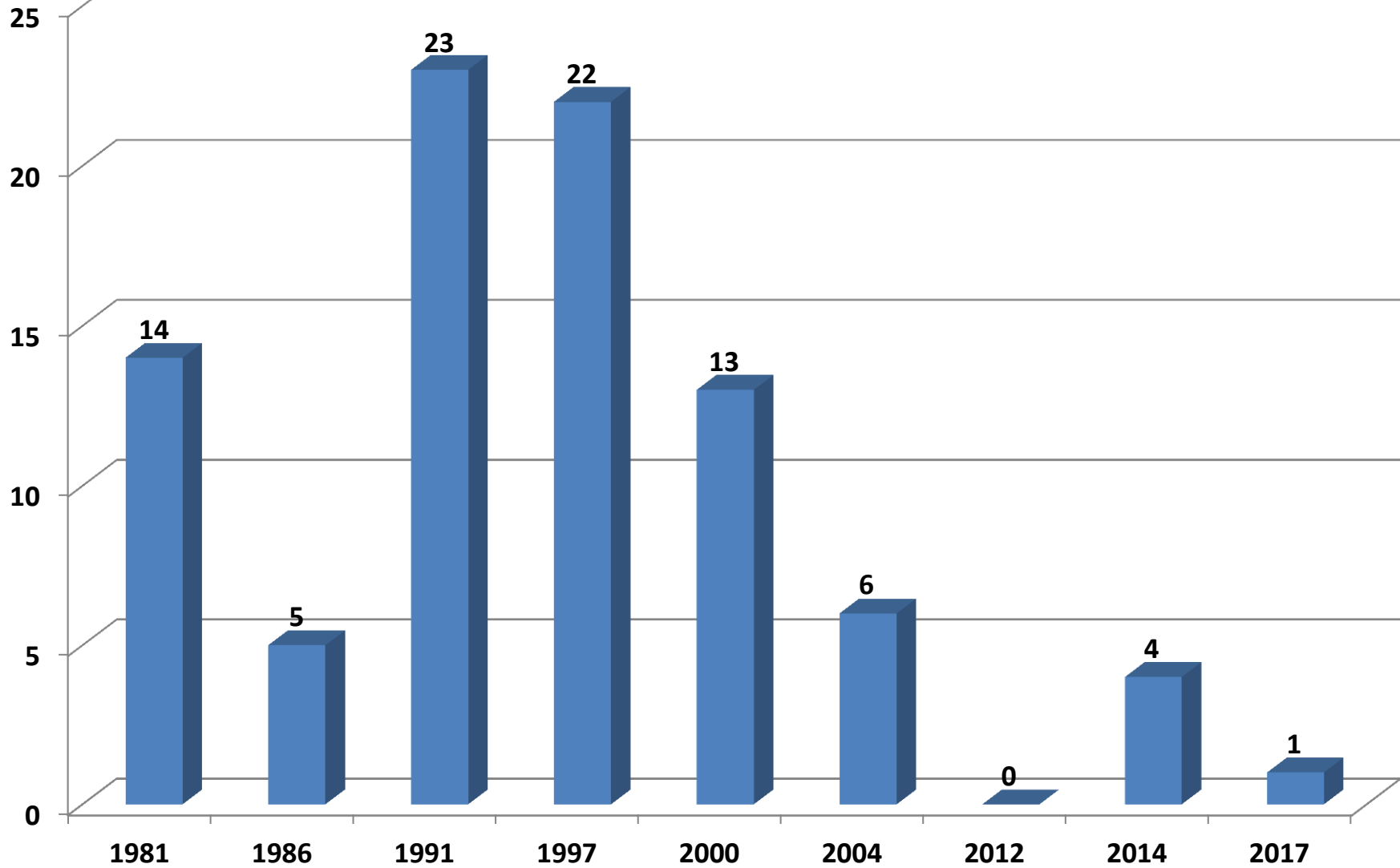
Background

At their October meeting, the Commission directed the Engineer to review Medicine Lake fish data to evaluate the carp population. Meg Rattei reviewed the MnDNR fisheries data from 1981 through 2017 (2017 is preliminary data) to evaluate changes in the lake's carp population. According to the City of Plymouth and Three Rivers Park District, aside from the MnDNR data, no additional fisheries data have been collected for Medicine Lake.

The data from 1981 to 2017 indicate that carp numbers have declined since 1991 and have been at low levels during the past 5 years (see attached graph). During the 2017 survey, only 1 carp was caught. That carp measured 30.5 inches in length and weighed 12.8 pounds. Daryl Ellison, the MnDNR West Metro Area Fisheries Manager, indicated the single large carp caught last summer indicates limited carp recruitment in Medicine Lake. (Recruitment is the number of fish surviving to enter the fishery.) Low recruitment occurs either when few fish are born or few fish survive to enter the fishery. The declining numbers of carp since 1991 indicate the fish barrier in Plymouth Creek (constructed in 1987) is effective and has reduced carp recruitment. Although MnDNR fish surveys are designed to understand a lake's entire fish community (not just carp), Mr. Ellison indicated the fish survey data provide enough of a picture of the carp numbers in the lake to be confident they are low.

However, some questions remain regarding the actual carp populations in the lake. Professionals with Carp Solutions (a private company specializing in developing management solutions for common carp) reported that to obtain robust knowledge of the carp population, surveys should be targeted toward carp. They note the MnDNR nets seem to deter adult carp and that survey timing can play a part in carp capture rates as well. Carp Solutions recommends performing electrofishing surveys and aging a sample of the carp to understand the population better. The Commission Engineers may suggest this work as part of the Medicine Lake monitoring in 2019.

Number of Carp Netted in MnDNR Fish Surveys of Medicine Lake During 1981-2017





January 10, 2018

Ms. Rita Weaver, PE, CFM
Floodplain Action Hydrologist
Minnesota Department of Natural Resources
Division of Ecological and Water Resources
500 Lafayette Road
St. Paul, MN 55155

Re: FEMA Modeling Updates for the Twin Cities HUC8 Watershed – Bassett Creek Watershed Management Commission Scope

Dear Ms. Weaver:

On behalf of the Bassett Creek Watershed Management Commission (BCWMC), we submit the following scope and cost estimate for updating the Federal Emergency Management Agency (FEMA) hydrologic and hydraulic modeling, and creating the supporting GIS files for the Bassett Creek watershed (see attached Figure for FEMA study areas).

Introduction

The previous FEMA-approved modeling for the Bassett Creek watershed was completed in 1997 using the United States Army Corps of Engineers (USACOE) HEC-1 hydrologic and HEC-2 hydraulic modeling software. In 2012, the BCWMC converted these HEC-1/HEC-2 models to an XP-SWMM hydrologic and hydraulic model (Phase 1 XP-SWMM model), preserving the same resolution and scale as in the approved FEMA models. In 2015-2017, the BCWMC funded a second effort to further refine the Phase 1 XP-SWMM model (Phase 2 XP-SWMM model). This effort included incorporating more detail in the upper watershed, including increasing the number of subwatersheds, accounting for the storage in ponds, wetlands, and lakes throughout the watershed, and incorporating storm sewer conveyance and outlet structures based on data provided by the BCWMC member cities. The Phase 2 XP-SWMM model was calibrated to available monitoring data at 4 locations within the watershed and was used to evaluate the Atlas-14 design storm events.

The FEMA model update will utilize the BCWMC Phase 2 XP-SWMM model.

The following section outlines the anticipated scope of work for the FEMA model update, based on the scoping document provided by Minnesota Department of Natural Resources (MnDNR) staff on October 24, 2017 and follow-up meetings and communications with staff.

Scope of Services

Work Task 1: Hydrologic Analysis

Barr will utilize the existing BCWMC Phase 2 XP-SWMM model to calculate peak flood discharges for the Atlas 14 10%, 4%, 2%, 1%, and 0.2% annual chance events, using the MSE3 rainfall distribution. Because

the 0.2% annual chance event was not evaluated as part of the BCWMC Phase 2 XP-SWMM modeling effort, we anticipate needing to “capture” water at various locations throughout the watershed.

Barr completed internal QAQC of the model during the development of the Phase 2 XP-SWMM model; as part of this task, Barr will develop the documentation of that QAQC process. Additionally, we will develop a project hydrology narrative that describes all inputs and their sources, modeling methodology, and results of the calibration/validation. The model report developed for the BCWMC Phase 2 XP-SWMM model will be included as an attachment to the project narrative.

We will submit the models and the hydrology narrative to the Interagency Hydrology Review Committee (IAHRC) for review and approval. We will address any IAHRC comments before final submittal; however, we assume that there will be no revisions required for the hydrology portion of the XP-SWMM model.

Assumptions

- Hydrologic methods used in the development of the BCWMC Phase 2 XP-SWMM model are acceptable
- No re-modeling or recalibration of the Phase 2 XP-SWMM model is required
- No statistical analysis of the Bassett Creek WOMP data will be required
- No modifications will be made to Phase 2 XP-SWMM hydraulics (unless needed to route overflows during the capture of the 0.2% event) at time of IAHRC submittal

Deliverables

- Project hydrology narrative
- Documentation of internal QAQC; FEMA review of QAQC will happen at a later date, outside the scope of this project
- Interagency Hydrology Review Committee-approved hydrologic models, submitted in electronic format.

Work Task 2: Hydraulic Analysis

The data used to develop the existing Phase 2 XP-SWMM model was based on the previously approved HEC-2 model and GIS storm sewer data and plans provided by member cities. Much of the data utilized does not have the level of documentation required to meet FEMA review standards.

We will provide the MnDNR with as-built drawings compiled during the Phase 2 model development within the study area. However, we understand that the MnDNR will coordinate as-built/record drawing requests with the member cities, review available plans/data provided, and coordinate survey of those crossings where record drawings are not available. Additionally, the MnDNR would like 10 percent of the existing cross sections surveyed to confirm there are not significant differences between the original cross-sections in the approved HEC-2 model and the existing field conditions. Per our 12/6/2017 and 1/4/2018 discussions with MnDNR staff, we assume that the MnDNR will coordinate all survey work (spot-check and crossings/structures) and the MnDNR will provide the as-built/record drawing and survey data (in FEMA format) to us for our use in the model updates.

We will update the Phase 2 XP-SWMM model with the latest as-built and/or surveyed cross sections and crossing information (bridges, culverts, and other structures) as provided by the MnDNR. We will also

update the Phase 2 XP-SWMM model to meet other FEMA requirements, such as incorporation of additional cross sections to account for expansion and contraction losses near crossings.

Once the models have been updated, we will perform internal QAQC on the models and will provide documentation of the QAQC to the MnDNR. Barr will rerun the models for the original Phase 2 calibration events and compare the model results with the monitoring data; however, we assume no recalibration will be needed. Barr will then run the updated BCWMC XP-SWMM model to evaluate the hydraulics for the Atlas 14 10%, 4%, 2%, 1%, and 0.2% annual chance events, based on flood discharge rates computed under Work Task 1.

Once the model has been updated, the QAQC performed, and we have confirmed the model calibration, we will modify the cross-sections in the XP-SWMM model to reflect the existing effective floodway (2016 FIRM) extents and will run the model for the Atlas 14 1-Percent-Annual-Chance event. We will provide the initial floodway model, based on the existing effective floodway, to the MnDNR staff, who will then complete any revisions to the floodway modeling to achieve the following standards: the MnDNR will allow greater than the Minnesota maximum surcharge of 0.5 ft, and up to the Federal maximum surcharge of 1.0 ft (if no new structures are impacted), due to the increased discharge associated with Atlas 14.

Assumptions

- MnDNR will request as-built/record drawings from member communities and will perform (or contract for) the survey of 10 percent of cross-sections in the existing model (~50 cross sections) and crossings/structures (~90 crossings/structures). MnDNR will complete the comparison of existing model cross-sections to survey data to determine if any further survey is required. MnDNR will provide as-built/record drawings and survey data to Barr, along with all required FEMA documentation.
- Locations along the detailed model reaches that are modeled as storage nodes will remain as storage nodes in the model update and no new cross-sections will be required in these areas.
- No additional calibration will be needed after the model is updated with acquired as-built and survey data.
- Barr will revise the updated XP-SWMM model to incorporate the width of the existing floodway to all cross sections as an initial run. We will provide the model to MnDNR staff who will perform the necessary iterations of floodway modeling as needed to meet the following standards: the MnDNR will allow greater than the Minnesota maximum surcharge of 0.5 ft, and up to the Federal maximum surcharge of 1.0 ft (if no new structures are impacted), due to the increased discharge associated with Atlas 14. MnDNR staff will also compare the proposed floodway surcharge with the existing FIS tables and summarize as needed in a brief memo.
- Development of floodway data tables, flood profiles, BFE lines, and other FIS tables are not included in this scope.
- Cross sections added upstream and downstream of bridges, culverts, and other structures to meet FEMA model requirements may be copies of adjacent cross sections. The mapped inundation top width at these cross sections may not match the modeled top width; however, the MnDNR will accept the discrepancy to avoid additional survey.

Deliverables

- Documentation of internal QAQC; FEMA review of QAQC will happen at a later date outside the scope of this project.
- Hydraulic models that meet FEMA's standards for approximate or detailed studies submitted in electronic format.
- Hydraulic model with existing floodway incorporated into all cross sections for use by MnDNR staff to complete floodway modeling analysis.
- GIS and electronic data compilation (model cross sections, as-builts, survey)

Work Task 3: Developing Floodplain, Floodway, and Cross-Section Shapefiles

Barr will delineate the 1-percent-chance and 0.2-percent-chance floodplains and the floodway for the detailed study areas. We will generate inundation areas by linearly interpolating flood elevations between cross sections.

Barr will provide shapefiles to the MnDNR in the format supplied by the MnDNR. We will perform internal QAQC on the shapefiles and will provide documentation of the QAQC to the MnDNR.

Assumptions

- MnDNR will provide a blank shapefile to Barr for the *Special Flood Hazard Areas* and the cross-sections that will show the format required for submittal, along with step-by-step guidance that the MnDNR uses for cleaning up the floodplain shapefile (removing holes, smoothing edges, etc.).

Deliverables

- The 1-percent-chance floodplain, 0.2-percent-chance floodplain, and floodway boundaries for detailed areas and the 1-percent-chance floodplain and 0.2-percent-chance floodplain for approximate areas submitted as shapefiles in the example format provided by the MnDNR.
- Cross-section shapefile submitted in the format provided by the MnDNR.

Work Task 4: Developing Depth Grids

Barr will develop depth grids for the 10%, 4%, 2%, 1%, and 0.2% annual chance events in detailed study areas and for the 1-percent-chance event in approximate study areas. We will perform internal QAQC on the grids and will provide documentation of the QAQC to the MnDNR.

Assumptions

- MnDNR will provide step-by-step guidance for formatting and cleaning up the depth grids.

Deliverables

- Final depth grids submitted as rasters for all return periods in detailed areas and the 1-percent-chance depth grid in approximate areas.

Work Task 5: Flood Risk Review Meetings and Development of Work Maps

The MnDNR will hold Flood Risk Review meetings throughout the Twin Cities HUC8 between October 2019 and February 2020. Barr will attend up to two (2) Flood Risk Review meetings. The MnDNR will

prepare Work Maps showing the new Special Flood Hazard Areas, the cross-section locations and other pertinent information and will print hard copies of the maps as needed for the meetings.

Assumptions

- MnDNR staff will develop and print work maps.
- MnDNR staff to coordinate flood risk review meetings
- Two Barr staff will attend up to two flood risk review meetings

Deliverables

- Participation in two (2) flood risk review meetings

Work Task 6: Developing Project Narrative

Barr will provide a project narrative that describes the methodology used to develop the hydrologic and hydraulic model inputs for XP-SWMM. The narrative will include results of calibration/validation and all QA/QC processes and results for the previous work tasks. The project narrative will also highlight areas where further evaluation or modeling may be required under future studies.

Assumptions

- MnDNR will provide a folder structure and naming conventions for electronic documents.
- Project will be considered complete upon MnDNR review and approval of models and deliverables; work tasks do not include response to FEMA comments at a future date.

Deliverables

- Project Narrative submitted as a Word document
- All project documentation, in electronic format

Work Task 7: Community Meetings

We anticipate holding two meetings with the BCWMC technical advisory committee (TAC) during the model update process. The TAC is comprised of staff from BCWMC member cities. We expect one meeting with the TAC to review the results of the updated modeling and discuss the floodway modeling approach. At the second meeting, we will present the results of the floodway modeling and the impacts to the effective floodway.

Additional meetings (up to three (3)) with the individual member cities or groups of member cities are anticipated.

Budget and Schedule

The following table outlines the estimated budget, hours, and schedule to complete the scope of work outlined above. The schedule assumes the MnDNR authorizes the work by March 2018. The schedule also assumes that MnDNR staff will coordinate and complete the spot-check survey and crossings/structure survey and that survey data will be provided to Barr by October 2018. If the start date is later or the survey data is received later than stated, the schedule will shift accordingly.

Work Task	Description	Estimated Hours	Amount	Anticipated Completion
Work Task 1	Hydrologic Analysis	76	\$7,500	June 2018
Work Task 2	Hydraulic Analysis	470	\$41,500	February 2019
Work Task 3	Developing Floodplain, Floodway, and Cross-Section Shapefiles	152	\$14,700	April 2019
Work Task 4	Developing Depth Grids	72	\$7,400	April 2019
Work Task 5	Flood Risk Review Meetings and Development of Work Maps	20	\$2,400	October 2019 – January 2020
Work Task 6	Developing a Project Narrative	74	\$8,000	May 2019
Work Task 7	Community Meetings	54	\$7,000	June 2019
Project Total		918	\$88,500	

It is our understanding that the MnDNR will enter into an agreement with the BCWMC if this proposal is acceptable to you. All work will be completed and invoiced on a time and expenses basis.

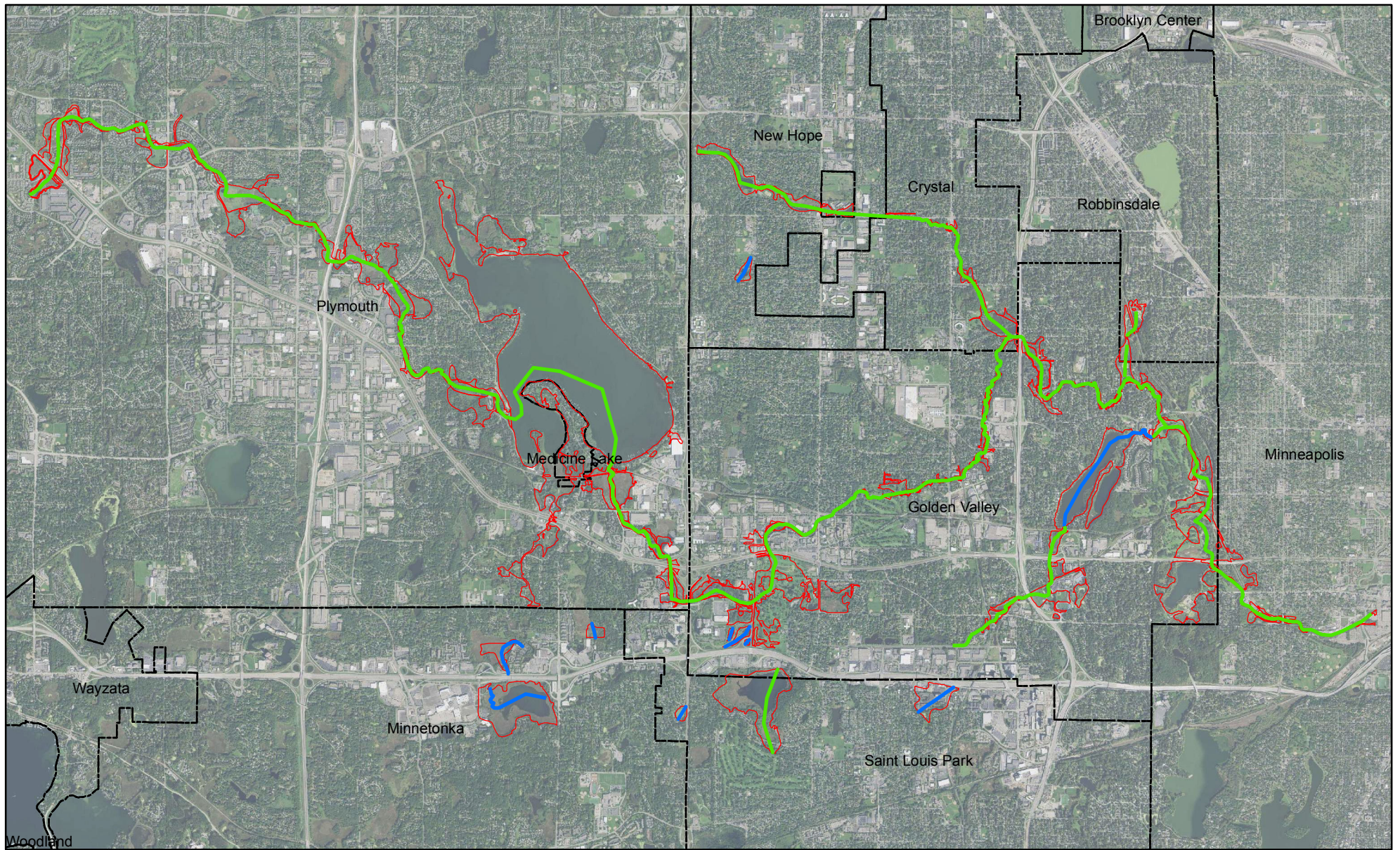
We look forward to working with you on this project. If you have scope questions, please contact Jennifer Koehler (952-832-2750 or jkoehler@barr.com) or me (952-832-2813 or kchandler@barr.com). If you have contracting questions, please contact Laura Jester, the BCWMC administrator (952-270-1990 or laura.jester@keystonewaters.com).

Sincerely yours,



Karen Chandler, PE
Barr Engineering Co.
Engineers for the Bassett Creek Watershed Management Commission (BCWMC)

Attachments: Figure FEMA Study Areas in the BCWMC Hydrologic Boundary

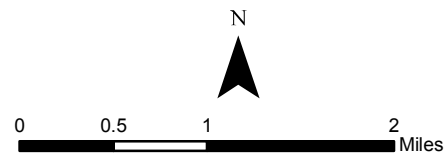


FEMA Study Areas in the BCWMC Hydrologic Boundary

Twin Cities HUC 8 Flood Risk Project

Legend

- Zone A - approximate study area
- Zone AE - detailed study area
- Effective Special Flood Hazard Area
- City Boundaries



A RESOLUTION authorizing consideration of accepting a grant from the Minnesota Department of Natural Resources for improved flood risk mapping.

BE IT RESOLVED that the Bassett Creek Watershed Management Organization, hereinafter referred to as the “Applicant” act as legal sponsor for entering in to an agreement with the Minnesota Department of Natural Resources for a collaborative effort to improve flood risk identification and mapping within its jurisdiction and that the Bassett Creek Watershed Management Commission Chairperson is hereby authorized to collaborate with the Minnesota Department of Natural Resources for securing funding of a project on behalf of the Applicant.

BE IT FURTHER RESOLVED that the Applicant has the legal authority to request financial assistance, and the institutional, administrative, technical and managerial capability to ensure satisfactory completion of the project described in *FEMA Modeling Updates for the Twin Cities HUC8 Watershed – Bassett Creek Watershed Management Commission Scope* (dated January 5, 2018) attached herein.

BE IT FURTHER RESOLVED Applicant understands that funding provided through the Minnesota Department of Natural Resources requires no monetary match.

BE IT FURTHER RESOLVED that the Applicant has not incurred any reimbursable project expenses prior to the full execution of a grant agreement.

BE IT FURTHER RESOLVED that the Applicant has not violated any Federal, State, or local laws pertaining to fraud, bribery, graft, kickbacks, collusion, conflict of interest or other unlawful or corrupt practice.

BE IT FURTHER RESOLVED that upon approval of its request to the state, the Applicant may enter into an agreement with the State of Minnesota, and that the Applicant certifies that it will comply with all applicable laws and regulations as stated in the contract agreement.

NOW, THEREFORE BE IT RESOLVED that Bassett Creek Watershed Management Commission Chairperson is hereby authorized to execute such agreements as are necessary to implement the project on behalf of the applicant.

I CERTIFY THAT the above resolution was adopted by the Board of Commissioners of the Bassett Creek Watershed Management Organization on January 18, 2018.

SIGNED:

(Signature)

(Title)

(Date)

WITNESSED:

(Signature)

(Title)

(Date)



Item 5F.
BCWMC 1-18-18

Bassett Creek Watershed Management Commission

MEMO

To: BCWMC Commissioners
From: Laura Jester, Administrator
Date: January 10, 2018

RE: Item 5F. BWSR's Watershed-Based Funding Pilot Program

RECOMMENDATION: Direct staff to attend initial meeting of the watershed organizations of Hennepin County and continue discussions to develop recommended approach to new funding policy.

At their meeting on December 20, 2017, the Board of Water and Soil Resources (BWSR) approved a [new policy](#) related to the distribution of Clean Water Funds. BWSR's vision for this new policy is to move towards more systematic Clean Water Funding for local water management (LWM) authorities on a watershed basis. It's believed this funding approach will result in greater efficiency and effectiveness for both LWM authorities and the state and is critical for Minnesota to reach its clean water goals.

The new policy provides expectations for implementation activities conducted through the Watershed-based Funding Pilot program as defined by the Clean Water Fund appropriation under Laws of Minnesota 2017, Chapter 91, Article 2, Section 7 (a). The [guiding principles](#) for watershed-based funding are similar to those for the competitive Clean Water Fund grant process.

Watershed-Based Pilot Program funding...

- will be used to implement management plans developed under the One Watershed, One Plan program or the Metropolitan Surface Water Management Act (such as the BCWMC Watershed Management Plan) and Groundwater Management Acts.
- must be based upon accountability and measureable progress being made on elements of the management plan.
- associated with Clean Water Funds will be consistent with the State's Nonpoint Priority Funding Plan (NPPF).
- envisions a holistic and flexible approach that includes both protection and restoration.
- envisions funding requests through a single work plan.
- will require a non-state contribution.

In the Metro Area, planning units based on county boundaries were established. In each county, eligible entities (those entities previously eligible to receive Clean Water Funds including 45 cities and 11 watershed organizations in Hennepin County) must collectively decide between two options for distribution of FY2018/2019 funds (see Table 1 on page two for funding allocation levels):

1. By June 30, 2018 create a Collaborative "Prioritized-Targeted-Measurable" (PTM) Implementation Plan and submit budget request workplan to BWSR; or
2. Opt into the Metro Competitive Grant Process

A Collaborative PTM Implementation Plan is a written, BWSR-approved document that includes 1) a description of the partnership of entities and the decision making process used to develop the plan; 2) the time frame of the plan; 3) implementation actions; 4) responsible party; and 5) budget.

The steps included in developing a collaborative plan include:

1. Convene initial meeting
2. Each local government within county area identifies a voting representative (and alternate) to attend meetings
3. Inform BWSR who is serving as the convening organization and the decision-making process that will be used
4. Describe the process used to select projects and programs for the "Collaborative PTM Implementation Plan" and how success will be evaluated
5. Identify projects and programs in an eLINK budget request and work plan

Table 1: FY18 Watershed-Based Funding Biennial Allocations

Seven-County Metro Area	% of area (based on of sq. miles of Metro)	Allocation (up to \$250K each plus distribution based on % area)
Anoka	15%	\$826,000
Carver	13%	\$749,200
Dakota	20%	\$1,018,000
Hennepin	20%	\$1,018,000
Ramsey	5%	\$442,000
Scott	13%	\$749,200
Washington	14%	\$787,600
Total Metro	100%	\$5,590,000

Note: These are biennial (two-year) allocation levels.

If the Hennepin County entities collectively decide not to prepare a collaborative plan and instead opt into a Metro Competitive Grant Process, at least \$1,018,000 will be available for competitive grant applications. (Actual available funds may be higher depending on how many counties opt into the grant process. Funding from ALL Metro counties that opt into the grant process will be pooled for the grant process.)

At this point, Hennepin County staff is convening a "pre-initial" meeting of administrators of the 11 Hennepin County watershed organizations to gauge interest in the collaborative approach, talk through how a collaborative approach might work, and discuss how to proceed with communications with eligible cities.

I recommend the Commission direct me to attend the initial meeting of watershed administrators, attend any additional meetings on the subject (if scheduled before the February Commission meeting) and bring additional information and/or recommendations to the February Commission meeting.

2424 Territorial Road Suite B | St. Paul, MN 55114 | 651.313.5800 | freshwater.org

Freshwater Society is a non-profit organization dedicated to educating and inspiring people to value, conserve and protect all freshwater resources.

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Laura Jester
Bassett Creek Watershed Management Commission
c/o 16145 Hillcrest Lane
Eden Prairie, MN 55346

January 10, 2018

Laura,

We're excited to submit this proposal to work with lake groups to discuss potential governance models. Based on several other programs we have run, we have a few different options for what could work for your setting.

We agree that an initial meeting with engaged lake associations and other interested parties is a crucial first step to:

- Identify the needs of these associations
- Discuss opportunities afforded by further organizing (whether as a lake improvement district or coalition of lake associations), and what that would entail
- Choose which route, if any, lake groups want to take

Freshwater Society would host the meeting using proven facilitation methods. The outcome of the meeting would be a draft action plan of what the group has agreed to regarding purpose of their collaboration and next steps. If desired, Freshwater could then provide one year of additional support, guiding the group of associations through the implementation of their plan. This additional support has proven to be effective, and would be our recommendation.

Estimates for the two different options (subject to change based on further conversation) are below:

- Meeting alone: \$2,000
- Meeting and guidance: \$7,500

Please let us know if you have any questions about this proposal. We look forward to hearing your response.



Jen Kader, Program Manager



Leslie Yetka, Director of Programs

Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 5H – Consider Authorization to Increase Schaper Pond Effectiveness Monitoring Budget
BCWMC January 18, 2018 Meeting Agenda
Date: January 10, 2018

5H. Consider Authorization to Increase Schaper Pond Effectiveness Monitoring Budget

Recommendations:

1. Consider authorizing a \$3,500 increase in the Schaper Pond Effectiveness Monitoring budget to reflect the performance of additional work. The additional budget would be funded through the Capital Improvements Program (CIP) Projects account.

Background

The Schaper Pond Effectiveness Monitoring project is nearly complete – the Commission Engineer completed the stormwater and pond monitoring in 2017, and compiled and summarized preliminary flow and water quality monitoring data. Over the next two weeks, we will complete detailed loading estimates, including flow-based comparisons with the pre-project monitoring period, and report on the results and management implications. The results of the project are expected to be presented to the Commission at its February 15, 2018 meeting.

As part of the project, we performed the following additional unanticipated work, which resulted in additional costs:

1. Additional costs associated with the new equipment purchases on behalf of BCWMC—In addition to the equipment purchase price, our costs included working with vendors on options/quotes/orders; unpacking, assembling, labeling, programming, and bench testing the new equipment; setting up telemetry and the cell modem connection; and changing the code and wiring to extend the battery life of the datalogger. Estimated additional cost = \$2,500.
2. Additional follow-up monitoring—After we identified that some of the sample results showed unexpectedly high phosphorus concentrations leaving Schaper Pond, we conducted longitudinal monitoring on November 17th throughout the pond and tested water quality samples to better understand the potential source(s) of the cause(s). Estimated additional cost = \$1,000.

The total estimated additional costs = \$3,500.

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 5H – Consider Authorization to Increase Schaper Pond Effectiveness Monitoring Budget
BCWMC January 18, 2018 Meeting Agenda
Date: January 10, 2018
Page: 2

Current total project budget:	\$44,000
Requested additional project budget	\$3,500
Requested total project budget	\$47,500

The current project budget is funded through the CIP Projects account; we recommend the additional budget also be funded through the CIP Projects account.

The Commission Engineer will use the BCWMC-purchased monitoring equipment for the BCWMC stream monitoring program, slated to begin later this year.



Bassett Creek Watershed Management Commission

MEMO

Date: January 10, 2018
From: Laura Jester, Administrator
To: BCWMC Commissioners
RE: **Administrator's Report**

Aside from this month's agenda items, the Commission Engineers, city staff, committee members, and I continue to work on the following Commission projects and issues.

CIP Projects (more resources at <http://www.bassettcreekwmo.org/projects.>)

2019 Medicine Lake Road and Winnetka Avenue Area Long Term Flood Mitigation Plan Implementation Phase I: DeCola Ponds B & C Improvement Project (BC-2, BC-3 & BC-8), Golden Valley: At their meetings in September and October, the Commission approved a proposal and additional proposed actions (respectively) from the Commission Engineer to complete a feasibility study for this project. Feasibility study field work began in late September. A project kick-off meeting was held October 6th, a public open house was held November 9th, and a meeting with permitting agencies was held December 8th and a meeting with Met Council regarding the existing sanitary sewer line was held in late December. The Commission Engineer submitted the workplan to the MPCA related to the environmental investigation, documentation, and reporting tasks, including the participation in the VIC program. MnDNR staff is following-up on establishing the ordinary high water level (OHWL) and confirm past correspondence regarding pond water levels. Tree survey data and resident sight lines are being reviewed to help develop appropriate alternatives. Project website: <http://www.bassettcreekwmo.org/index.php?CID=433>

2019 Bryn Mawr Meadows Water Quality Improvement Project (BC-5), Minneapolis: At their meeting in September, the Commission approved a proposal from the Commission Engineer to complete a feasibility study for this project. A project kick-off meeting was held on October 23rd. A wetland delineation is complete and submitted for approval. Preliminary concepts were developed and discussed with designers for Minneapolis Park and Rec Board. The development and implementation of the project will coincide nicely with the MPRB's planning and implementation of significant improvements and redevelopment Bryn Mawr Meadows Park where the project will be located. A meeting with permitting agencies is scheduled for January 19th. Project website: <http://www.bassettcreekwmo.org/projects/all-projects/bryn-mawr-meadows-water-quality-improvement-project>

2019 Westwood Lake Water Quality Improvement Project (WST-2), St. Louis Park: At their meeting in September, the Commission approved a proposal from the Commission Engineer to complete a feasibility study for this project. The project will be completed in conjunction with the Westwood Hills Nature Center reconstruction project. A kick-off meeting was held November 21st. A wetland delineation was completed and approved. The Commission Engineer has received the architect's survey and building location. Additional information is being sought from City consultants to better understand what types of BMPs could be incorporated into the Nature Center's reconstruction project. Project website: <http://www.bassettcreekwmo.org/projects/all-projects/westwood-lake-water-quality-improvement-project>

2018 Bassett Creek Park Pond Phase I Dredging Project: Winnetka Pond, Crystal (BCP-2): The final feasibility study for this project was approved at the May 2017 meeting and is now available on the project page online at <http://www.bassettcreekwmo.org/index.php?CID=403>. At the September 2017 meeting, the Commission held a public hearing on the project and adopted a resolution officially ordering the project, certifying costs to Hennepin County, and entering an agreement with the City of Crystal for design and construction. Hennepin County

approved the 2018 final levy request at their meeting in November 2017. Project design and permit application development is underway by Barr Engineering (hired by City of Crystal).

2017 Plymouth Creek Restoration Project, Annapolis Lane to 2,500 feet Upstream (2017CR-P) (See Item 4D): All project documents including the feasibility study and 90% design plans are available online at <http://www.bassettcreekwmo.org/index.php?cID=284>. The BCWMC executed agreements with the BWSR for a \$400,000 Clean Water Fund grant and with Hennepin County for a \$50,000 Opportunity Grant and a subgrant agreement with the City was executed. Project design was completed by the city's contractor, Wenck Associates, with 60% and 90% design plans being approved by the Commission at the April and August 2017 meetings, respectively. Plymouth City Council awarded a construction contract in early December and construction got underway on December 11th. The first request for reimbursement to the City of Plymouth is included in item 4D. I will develop and submit grant reports by February 1st.

2017 Main Stem Bassett Creek Streambank Erosion Repair Project (2017CR-M) (No change since October): The feasibility study for this project was approved at the April Commission meeting and the final document is available on the project page at: <http://www.bassettcreekwmo.org/index.php?cID=281>. A Response Action Plan to address contaminated soils in the project area was completed by Barr Engineering with funding from Hennepin County and was reviewed and approved by the MPCA. The Commission was awarded an Environmental Response Fund grant from Hennepin County for \$150,300 and a grant agreement is in the process of being signed by the county. A subgrant agreement with the City will be developed. The City hired Barr Engineering to design and construct the project. Fifty-percent and 90% designs were approved at the August and October Commission meetings, respectively. In September, design plans were presented by Commission and city staff to the Harrison Neighborhood Association's Glenwood Revitalization Team committee and through a public open house on the project. Bidding for construction is expected in February.

2016 Northwood Lake Improvement Project, New Hope (NL-1): (No change since August.) Northwood Lake Improvement Project is nearing completion with all major work complete. The storm water tank was fully operational in June and will be irrigating the fields for the summer. The educational sign is being designed and will be installed soon. The 2nd rain garden was planted with the fescue grass in June.

I recently submitted grant audit materials to MPCA which were approved. A grand opening of the park was held on May 15th. Friends of Northwood Lake disseminated water quality educational materials, including BCWMC materials. A semi-annual grant report was submitted to the MPCA in July.

2016 Honeywell Pond Expansion Project, Golden Valley (BC-4) (No change since October): In spring 2016, the Honeywell Pond Project was bid as part of the City of Golden Valley and Hennepin County's Douglas Drive (CSAH 102) Reconstruction Project. The reconstruction project began in June 2016. Excavation of the pond basin is complete and the disturbed soils around the pond were temporarily stabilized. The force main work was recently completed. The lift station and pumps have been installed and will be connected to the Sandburg Athletic complex this fall. Park Construction is working with Excel Energy to complete the final connection of power to the lift station. Final stabilization of the pond is set to be completed later this month. The area will be seeded with a mix of natives including wetland and upland species.

2015 Main Stem Restoration Project 10th Avenue to Duluth Street, Golden Valley (2015CR) (No change since October): The restoration project is being constructed in two phases, each under separate contract. Phase one included stream bank shaping, placement of field stone rock and 12-inch bio-logs, and repair of storm sewer outlets. The first phase of the project began in November 2015 and was finished in June 2016. Turf establishment and minor restoration repairs in Phase 1 were accepted in late October 2016. Repairs to some areas where flooding impacted rocks or biologs were completed and accepted in mid-December 2016. Phase 1 of the construction project has entered the warranty period.

Phase 2 of the project includes the establishment of native vegetation along the stream, including grasses, wildflowers, shrubs, live stakes and fascines, and cordgrass plugs. The project has been seeded and stabilized and maintenance mowing and spot treatments have been completed. Applied Ecological Services (AES) installed live stakes and fascines this spring and completed the tree and shrub planting along the restoration project. AES will continue to monitor and maintain the native vegetation through 2018. It is anticipated that the total contract amount for both Phase one and Phase two will be within the Watershed's overall project budget.

2014 Schaper Pond Diversion Project, Golden Valley (SL-3) (No change since October) (See Item 5H): Repairs to the baffle structure were made in 2017 after anchor weights pulled away from the bottom of the pond and some vandalism occurred in 2016. The city continues to monitor the baffle and check the anchors, as needed. Vegetation around the pond was planted in 2016 and a final inspection of the vegetation was completed last fall. Once final vegetation has been completed, erosion control will be pulled and the contract will be closed. The Commission Engineer began the Schaper Pond Effectiveness Monitoring Project last summer and is in the process of analyzing results. Additional monitoring project funding is being requested in item 5H to cover unforeseen circumstances and equipment set up costs.

2014 Twin Lake In-lake Alum Treatment, Golden Valley (TW-2): (No change since January 2017) At their March 2015 meeting, the Commission approved the project specifications and directed the city to finalize specifications and solicit bids for the project. The contract was awarded to HAB Aquatic Solutions. The alum treatment spanned two days: May 18- 19, 2015 with 15,070 gallons being applied. Water temperatures and water pH stayed within the desired ranges for the treatment. Early transparency data from before and after the treatment indicates a change in Secchi depth from 1.2 meters before the treatment to 4.8 meters on May 20th. There were no complaints or comments from residents during or since the treatment. Water monitoring continues to determine if and when a second alum treatment is necessary. Lake monitoring this summer will help determine if a second dose of alum is needed to retain water quality.

2013 Four Season Area Water Quality Project/Agora Development (NL-2) (No change since August): At their meeting in December 2016, the Commission took action to contribute up to \$830,000 of Four Seasons CIP funds for stormwater management at the Agora development on the old Four Seasons Mall location. At their February 2017 meeting the Commission approved an agreement with Rock Hill Management and an agreement with the City of Plymouth allowing the developer access to a city-owned parcel to construct a wetland restoration project and to ensure ongoing maintenance of the CIP project components. At the August 2017 meeting, the Commission approved the 90% design plans for the CIP portion of the project.

Other Work

CIP Project Work and Technical Assistance

- Attended MPRB's "Design Charette" to discuss options for Bryn Mawr Meadows Water Quality Improvement Project
- Set agency meeting for Bryn Mawr Meadows Water Quality Improvement Project
- Corresponded with TRPD and Commission staff and Commissioner Carlson about zebra mussels in Medicine Lake and possible next steps
- Corresponded with Golden Valley staff and Commission Engineer regarding Sweeney Lake Aeration Study schedule

Administration and Education

- Organized, reviewed, culled Commission's paper files, prepared some files for scanning and boxed all others for transfer from Plymouth City Hall; moved file cabinets and file boxes to Crystal Public Works Facility and reorganized file drawers
- Participated in BWSR's informational meeting on Watershed Based Funding
- Communicated with Dawn Pape and Wenck staff regarding 2018 contracts
- Communicated with Met Council re: 2018 WOMP contract and submitted 2017 WOMP expense report
- Communicated with Hennepin County on River Watch activities
- Reviewed 2017 education expenses
- Reviewed responses to staff evaluation/Commission direction questionnaire