Bassett Creek Watershed Management Commission

A g e n d a

11:30 a.m., Thursday, May 20, 2010

Golden Valley City Hall – 7800 Golden Valley Road, Golden Valley 55427

1. **CALL TO ORDER**
2. **APPROVAL OF AGENDA AND CONSENT AGENDA - Items marked with an asterisk (*) will be acted on by consent with one motion unless a commissioner requests the item be removed from the consent agenda.**
3. **CITIZEN INPUT ON NON-AGENDA ITEMS**
4. **ADMINISTRATION**
   - A. **Presentation of April 15, 2010, Meeting Minutes ***
   - B. **Presentation of Financial Statements ***
   - C. **Presentation of Invoices for Payment Approval**
     - i. **Kennedy & Graven – Legal Services through March 31, 2010**
     - ii. **Barr Engineering – Engineering Services through April 30, 2010**
     - iii. **Watershed Consulting – Geoff Nash April Administrator Services**
     - iv. **Amy Herbert – April Administrative Services**
     - v. **D'amico Catering - May 2010 meeting catering**
     - vi. **Hamline University – Metro WaterShed Partners 2010 Participation**
     - vii. **MMKR – Audit Services**
5. **NEW BUSINESS**
   - A. **2010 Plymouth Street Reconstruction Project: Plymouth** ***(see Barr memo)***
   - B. **South Shore Drive Emergency Utility Repair: Plymouth** ***(see Barr memo)***
   - C. **South Shore Drive Bridge: Plymouth (*information pending*)**
   - D. **Request from Medicine Lake to review its Local Water Management Plan (*verbal*)**
6. **OLD BUSINESS**
   - A. **Weir on Sweeney Lake** ***(see Barr memo)***
   - B. **Order Feasibility Reports for Main Stem and North Branch Projects listed in Major Plan Amendment** ***(see Barr memo)***
   - C. **TAC Recommendations (*see TAC memo*)**
   - D. **TMDL Updates:**
     - i. **Sweeney Lake TMDL** ***(see comments)***
     - ii. **Wirth (*verbal*)**
   - E. **Discuss and Approve BCWMC 2009 Annual Report** ***(full report online)***
   - F. **Request from Mississippi WMO to review draft revised Watershed Management Plan (*verbal*)**
   - G. **BCWMC's Draft 2011 Budget (*see draft budget and request from NEMO*)**
   - H. **Approval of BWSR Grant Agreement (*see information from BWSR*)**
   - I. **Update on 2010 Clean Water Fund Grant for Plymouth Creek and Bassett Main Stem Restoration Projects (*verbal*)**
   - J. **Education Committee (*see May 3, 2010, meeting minutes*)**
   - K. **Update on Cultural Resource Review Protocol (*verbal*)**
7. **COMMUNICATIONS**
   - A. **Chair**
   - B. **Administrator**
   - C. **Commissioners**
   - D. **Committees**
   - E. **Counsel ***
   - F. **Engineer**
8. **INFORMATION ONLY**
   - A. **Administrative Reviews and Erosion Inspections (*see memo*)**
9. **ADJOURNMENT**

Item 4A
Minutes

Bassett Creek Watershed Management Commission
Minutes of the Meeting of April 15, 2010

1. Call to Order

The Bassett Creek Watershed Management Commission (BCWMC) was called to order at 11:35 a.m., Thursday, April 15, 2010, at Golden Valley City Hall by Chair Loomis. Ms. Herbert conducted roll call.

Roll Call

Crystal	Commissioner Pauline Langsdorf, Secretary	*Administrator*	Geoff Nash
Golden Valley	Commissioner Linda Loomis, Chair	*Counsel*	Charlie LeFevere
Medicine Lake	Alternate Commissioner Ted Hoshal	*Engineer*	Karen Chandler
Minneapolis	Commissioner Michael Welch, Treasurer	*Recorder*	Amy Herbert
Minnetonka	Commissioner Bonnie Harper-Lore		
New Hope	Commissioner John Elder		
Plymouth	Commissioner Ginny Black, Vice Chair		
Robbinsdale	Commissioner Wayne Sicora		
St. Louis Park	*Not represented*		

Also present: Derek Asche, BCWMC Technical Advisory Committee, City of Plymouth
Jack Frost, Metropolitan Council Environmental Services
Dave Hanson, Alternate Commissioner, City of Golden Valley
Tom Mathisen, BCWMC Technical Advisory Committee, City of Crystal
Richard McCoy, BCWMC Technical Advisory Committee, City of Robbinsdale
Jeff Oliver, BCWMC Technical Advisory Committee, City of Golden Valley
Al Sarvi, Alternate Commissioner, City of New Hope/ Friends of Northwood Lake Assoc.
Stu Stockhaus, Alternate Commissioner, City of Crystal
Liz Stout, BCWMC Technical Advisory Committee, City of Minnetonka
Liz Thornton, Alternate Commissioner, City of Plymouth
Jim Vaughn, BCWMC Technical Advisory Committee, City of St. Louis Park

2. Approval of Agenda and Consent Agenda

Prior to addressing the Agenda and Consent Agenda, Chair Loomis introduced Al Sarvi, the newly appointed BCWMC Alternate Commissioner from the City of New Hope. Chair Loomis requested the addition to the Agenda of item Cvii – a second invoice from MMKR for audit services, item 6I – a Request from the Minnesota Pollution Control Agency (MPCA) for a contract extension with the BCWMC for the Sweeney Lake TMDL, and item 6J – an Update on the BCWMC's Minor Plan Amendment Request to BWSR. Commissioner Welch moved to approve the agenda as amended. Commissioner Black seconded the motion. The motion carried unanimously [City of St. Louis Park absent from vote]. Commissioner Welch requested the removal of the March 18, 2010, meeting minutes and the April financial report from the Consent Agenda. Commissioner Elder moved to approve the Consent Agenda as amended. Commissioner Black seconded the motion. The motion carried unanimously [City of St. Louis Park absent from the vote].

3. Citizen Input on Non-Agenda Items

No citizen input on non-agenda items.

4. Administration

A. Presentation of the March 18, 2010, BCWMC meeting minutes. Commissioner Welch requested a correction on page 6 of the March 18th minutes under item C – "Joint and Cooperative Agreement," where the minutes state that Commissioner Black both moved and seconded the motion. Ms. Herbert stated that Commissioner Welch seconded that motion and that she would correct the minutes.

Commissioner Welch commented that the last two paragraphs on page 7 of the minutes capture the Commission's discussion of Northwood Lake and its listing as impaired for nutrients. He wanted to make sure that the Commission understands that the Minnesota Pollution Control Agency (MPCA) has been talking for some time about listing wetlands on the TMDL 303d list, which would mean that wetland would be listed as impaired. Commissioner Welch wanted to make sure that the Commission knows that changing the classification of Northwood Lake from a lake to a wetland under public waters rules does not necessarily change its impaired status. Chair Loomis commented that the classification change may change the phosphorus standards by which Northwood would be measured. Commissioner Welch agreed that it would.

Commissioner Langsdorf asked for a correction to the minutes at the bottom of page 3 where the minutes state that the City of Robbinsdale seconded the motion but instead should state that the City of Robbinsdale was absent from the vote. Acting Commissioner Hoshal requested that the references in the minutes to Chair Welch be amended to state Commissioner Welch.

Commissioner Welch moved to approve the March 18, 2010, meeting minutes as amended. Commissioner Black seconded the motion. The motion carried [City of St. Louis Park absent from vote].

B. Presentation of the Financial Statement. Commissioner Welch reported that the Commission received an updated financial statement. He explained that the updated statement shows that the Education and Public Outreach line item includes the voided check that was intended for the payment of the reimbursement request from the Meadowbrook Elementary for the education grant. He reminded the Commission that it deferred action on the grant invoice until after the Commission receives the report that the school finished the grant-funded project. Commissioner Black moved to receive and file the financial report. Commissioner Harper-Lore seconded the motion. The motion carried unanimously [City of St. Louis Park absent from vote].

The general and construction account balances reported in the April 2010 Financial Report:

Checking Account Balance	**700,753.13**
TOTAL GENERAL FUND BALANCE	**700,753.13**
Construction Account Cash Balance	**2,059,596.76**
Investment due 10/18/2010	**533,957.50**
Investment due 1/21/2015	**500,000.00**
TOTAL CONSTRUCTION ACCOUNT BALANCE	**3,093,554.26**
-Less: Reserved for CIP projects	**2,776,849.07**
Construction cash/ investments available for projects	**316,705.19**

C. Presentation of Invoices for Payment Approval.

Invoices:

i. Kennedy & Graven – Legal Services through February 28, 2010 - invoice for the amount of $1,432.50.

ii. **Barr Engineering Company – March Engineering Services - invoice for the amount of $25,974.34.**

iii. **Amy Herbert – March Administrator Services - invoice for the amount of $2,759.85.**

iv. **D'amico Catering – April 2010 meeting catering – invoice for the amount of $342.69.**

v. **Prairie Moon Nursery – Seed Packets – invoice for the amount of $201.00.**

vi. **MMKR – Audit Services – First progress billing – invoice for the amount of $3,000.**

vii. **MMKR – Audit Services – Second progress billing – invoice for the amount of $1,500.**

Commissioner Black moved to approve all invoices including the added invoice vii – MMKR second progress billing. Acting Commissioner Hoshal seconded the motion. By call of roll, the motion carried unanimously [City of St. Louis Park absent from vote].

D. Discuss Creating Commission Work Group to Review CIP. Chair Loomis stated that the Commission had previously discussed creating a work group consisting of commissioners and TAC members to review the CIP and the prioritization of the projects as well as how the TMDL implementation plans could integrate into the prioritization of capital projects. Commissioner Welch added that the element of integrating TMDL implementation plans into the CIP moves the capital improvement planning discussion from a purely technical discussion into a policy discussion, which is why the issue warrants a joint Commission and TAC task force. Commissioner Welch stated that he thinks the goal of the task force would be to work with the TAC to have recommendations ready for January 2011. Commissioners Black, Elder and Welch volunteered to be part of the group and Chair Loomis said she would also sit in on the work group. Commissioner Welch suggested that the Commission inform the TAC of the Commission's action to create the work group and then direct the TAC to discuss how it wants to organize its participation, when it would like to meet, and to coordinate the meeting with Chair Loomis.

E. Discuss Creating BCWMC Policy Manual. Chair Loomis directed Mr. Nash to work with Ms. Herbert to pull together the policies and start reviewing them for a manual.

F. Discuss Creating Annual Printed Newsletter. Commissioner Black asked if it would need to be a printed piece because her city is moving to electronic newsletters and would prefer electronic communications. Commissioner Welch added that there is a statutory requirement that the Commission issue a broad public summary. He said that although the Commission's annual report could technically meet that requirement, the Executive Summary from the upcoming annual report could be adapted, even electronically, and could be posted on or linked to from member-cities Web sites to provide an entry point for people who want to know about the Commission.

Commissioner Elder said he could see a two-sided page that member-cities could duplicate at their own cost and could be inserted into the city water bills. He said it does increase the postage but it educates the citizens on what the Commission is doing. Commissioner Harper-Lore added that she agreed with Commissioner Elder's idea and that to see to it that every taxpayer receives a copy would increase support of the Commission's work. Commissioner Black supported the idea of having a pdf document available to member-cities to use. Commissioner Welch suggested that the

Commission direct Ms. Chandler and Ms. Herbert to finish the BCWMC's 2009 annual report and then submit the Executive Summary to the Education and Public Outreach Committee for review and suggestions on adapting it as a stand-alone piece. Mr. Nash volunteered to participate with the Education and Public Outreach Committee in its review of the piece.

G. Authorize Recording Secretary to Sign Documents in Secretary's Absence. Chair Loomis explained that this recommendation came up because there are times when documents need to be signed when the Commission's Secretary is absent. Mr. LeFevere explained that the Commission Bylaws allow the Commission to authorize the Secretary to delegate the duties of the secretary to the recording secretary. Commissioner Welch moved that the Commission authorize the Commission Secretary to be able to delegate the duties of the Secretary onto the Recording Secretary when the Secretary anticipates missing a Commission meeting. Commissioner Sicora seconded the motion. The motion carried unanimously [City of St. Louis Park absent from the vote].

H. Discuss Setting Policy Regarding Interim Authority for Delegation of Work to Consultants between BCWMC meetings. Commissioner Welch recommended that the Administrative Services Committee discuss the draft policy that was created by Mr. LeFevere and that was included in the meeting packet. Commissioner Welch said it doesn't seem that the issue comes up frequently and said that staff have been directed on these issues. He said that it seems the Commission can defer this issue for now until the Committee can review the draft and consider making the delegation specific to the various staff who do things on behalf of the Commission.

5. New Business

A. Statistically Relevant Representation of Sampling Data for Biota. Chair Loomis said that Acting Commissioner Hoshal had some questions for the Commission Engineer regarding sampling methods and data and that his questions were included in a memo in the meeting packet. Ms. Chandler said that if the Commission is interested in a follow up to Acting Commissioner Hoshal's questions, then Barr Engineering's aquatic biologist could develop a response memo. Chair Loomis said that the Commission may want to hold off until the MPCA clarifies how it is going to be addressing biota standards. She said the current standards for biota don't address intermittent streams.

Chair Loomis said it has been an ongoing problem to try to figure out who is doing monitoring and what is being monitored and it is hard to find out unless the information is going into STORET. Commissioner Black commented that most of her concern is with trying to understand what the cities, the watersheds, and the MPCA are doing because they are the primary entities the Commission relies on to base its decisions. Commissioner Black recommended that the BCWMC make available electronic copies of the annual water quality monitoring memos prepared for the Commission by the Commission Engineer.

Commissioner Welch remarked that Acting Commissioner Hoshal raises good questions but that Commissioner Welch would want more input from staff before deciding to do independent analysis of the issues. Commissioner Black recommended that looking at the parameters for the monitoring could be part of the *Commission's Watershed Management Plan* update as opposed to looking at those issues now.

B. Fireworks' Contribution of Phosphorus to Sweeney Lake. Chair Loomis brought the Commission's attention to a letter from a concerned Golden Valley resident regarding the possible phosphorus contribution by fireworks shot off over Sweeney Lake. Commissioner Black moved for the Commission to receive and file the letter, for staff to forward the letter to the MPCA with a request that the MPCA respond with any information or concerns it has on the issue, and for staff

to respond to the resident thanking the citizen and letting him know that the Commission has forwarded his letter to the MPCA. Commissioner Elder seconded the motion. The motion carried [City of St. Louis Park absent from the vote]. Mr. Nash volunteered to draft the response letter to the resident with assistance from Ms. Chandler as necessary.

C. Request to Evaluate the Sweeney Lake Outlet with Regard to Normal Water Levels. Ms. Chandler explained that the City of Golden Valley had raised a concern to the Commission that a rock weir structure located downstream of the outlet is backing up the water higher than the outlet elevation. Mr. Oliver added that a neighborhood lake association installed the structure. Chair Loomis added that the City of Golden Valley has noticed that the structure has contributed to higher water levels in Sweeney Lake and allows water to back up into Twin Lake. Mr. Oliver said the intent of the City's letter to the Commission was to request that the Commission Engineer inspect the structure and provide feedback as to whether the structure is appropriate or whether it needs correction and also what, if any, ramifications there would be to taking action or no action.

Ms. Chandler said there is a model in place to look at the impact on the flood level and that analysis would cost less than $1,000. She said if the Commission also would want to examine the impact on phosphorus concentrations then the analysis would be more extensive and the cost would be higher. Ms. Chandler pointed out that since the structure does affect the normal water level of the lake someone needs to get a permit for the structure that was put in and she recommends that the Commission first look into that issue.

Commissioner Welch moved that the Commission direct the Commission Engineer to look into the legal status of the weir in question and to draft a brief memo to the Commission recommending action. Commissioner Black seconded the motion. The motion carried unanimously [City of St. Louis Park absent from the vote].

6. Old Business

A. Contract with Geoffrey Nash for Administrative Coordinator. Commissioner Black moved to approve the contract. Commissioner Harper-Lore seconded the motion. The motion carried unanimously [City of St. Louis Park absent from the vote]. The Commission decided that the title for the contract position would be BCWMC Administrator. Mr. Nash provided an Administrator's Report, which included a report on the April 6th BCWMC TAC meeting that he attended, his recommendation of his charges to the BCWMC for his cell phone service at $50 per month and copy charges of $0.15 per page for black and white copies and $0.55 per page for color copies, his discussion with the Administrative Services Committee about the Commission's priorities for his work, and his recommendation that he attend on behalf of the BCWMC the monthly MAWD meetings and also meetings in Hennepin County regarding an effort to establish countywide groundwater protection. The Commission decided that his attendance at the MAWD meetings were not a priority at this time but that he could attend next week's meeting between Hennepin County, Minnehaha Creek, Nine Mile Creek, and the Lower Minnesota River Watershed regarding the groundwater protection and then he could provide a report back to the Commission.

B. CAMP 2010 – Golden Valley Residents volunteering to sample Twin Lake. Commissioner Black moved to add Twin Lake to the 2010 CAMP program with the participation cost for this lake coming out of either water quality monitoring or surveys and studies. Commissioner Elder seconded the motion. The motion carried unanimously [City of St. Louis Park absent from vote].

C. TAC Recommendations.

i. July meeting. Mr. Oliver reported that the TAC rescheduled its July 1st meeting to instead be held on Wednesday, June 30th.

[Commissioner Elder departs. Alternate Commissioner Sarvi steps in as Acting Commissioner for New Hope]

ii. **Sweeney Lake TMDL – Proposed Load Reduction. Mr. Oliver explained that the TAC recommended that the Commission revise the Sweeney Lake TMDL to include the following revisions:**

i. **Justification for keeping the Sweeney Lake external phosphorus load reduction at 99 pounds.**

ii. **Discussion of the need for a flexible adaptive management approach in the implementation of the TMDL, which recognizes the BMPs are being constructed and implemented and will take time to become effective and that others are being considered for implementation.**

iii. **Information regarding the past efforts of the cities and the Commission to implement BMPs and improve water quality in the watershed.**

iv. **Dividing the implementation part of the report into three sections, including: the recommended actions that are ongoing, those BMPs that are under consideration, and possible chemical treatments of Sweeney Branch for controlling internal loads.**

Commissioner Welch stated that the Commission hasn't looked at the Sweeney Lake TMDL and its revisions for a while. He recommended that the Commission approve the changes recommended by the TAC and then the revised version should come back to the Commission to finalize it. Commissioner Welch remarked that his comments on the TMDL have not been addressed and he will resend them to Ron Leaf. Alternate Commissioner Hanson added that he had not gotten a response to his comments.

Chair Loomis directed Administrator Nash to send the TAC's recommended changes to Ron Leaf and to request that Mr. Leaf incorporate the changes into the Sweeney Lake TMDL. She directed Commissioner Welch and any others that had comments on the TMDL to resubmit them to Ron Leaf so he could address those comments in a memo to the Commission and discuss how those changes could be incorporated into the TMDL. She directed staff to communicate to Ron Leaf to submit the revised TMDL and the memo to the Commission for its review in May or June – the sooner, the better. Chair Loomis directed Administrator Nash to communicate to Brooke Asleson of the MPCA the status of the Commission's work on the TMDL and the actions the Commission is taking.

Commissioner Welch stated that the implementation part of the report includes a table that breaks down reductions by MS4. He said it doesn't make sense to him to include such a table since the Commission decided to approach the TMDL categorically. Commissioner Black suggested that issue be raised by the Commission when it submits it comments to the MPCA.

iii. **Medicine Lake TMDL. Mr. Oliver reported that the TAC did not have time to discuss the TMDL in full and decided to continue the discussion at the next TAC meeting. Chair Loomis added that the TAC recommended that the Commission request an extension from the MPCA of the comment period on the Medicine Lake TMDL. Chair Loomis directed Administrator Nash to send a request to the MPCA for an extension of the comment period. Commissioner Welch remarked that the Commission's Engineer is charged with providing feedback and assistance to the Commission and its Technical Advisory**

Committee but that lines get blurred when the Commission Engineer provides comments to the MS4s or advises the MS4s. He noted that in the memo about the TMDL from Barr Engineering to the BCWMC TAC contained comments in blue that were comments to the Commission and comments in red that were comments to the MS4s. He said he thinks that each MS4 should have its own review of the TMDL. Commissioner Welch said he does not want the Commission to give the impression that it is advising the MS4s because they should be advised by their own technical people.

Commissioner Welch said that on page 5 of the memo from Barr Engineering, the last full paragraph states that the implementation plan should indicate who will be responsible for implementing each of the proposed alternatives. He said he does not think the Commission should make that comment because the Commission is approaching the implementation plan categorically and the Commission wants to be able to approach the implementation plan by working with its partners to find the most cost effective ways. He said he would like the TAC's thoughts on that issue the next time the TAC discusses the Medicine Lake TMDL. Commissioner Black suggested that the Commission ask Brooke Asleson of the MPCA whether the breakdown of implementation responsibilities has been included in order to address an MPCA or EPA recommendation. Commissioner Black said that Administrator Nash can clarify that point with Ms. Asleson.

Commissioner Welch said he doesn't think the Commission needs to ask the MPCA to clarify about the convener because the Commission wants to figure it out themselves instead of having the MPCA direct it.

D. Maintenance of BCWMC-funded Projects (Continued from March). The Commission decided that the BCWMC CIP Review Work Group could take up this discussion as part of its process.

E. TMDL Updates – Wirth Lake. Ms. Chandler reported that the revised TMDL would be sent in this week to Ms. Asleson and that a stakeholder meeting would be scheduled for late May. Chair Loomis commented that there is a Wirth Beach Citizens Advisory Committee Group and at its last meeting Tim Brown of the Minneapolis Parks and Recreation Board (MPRB) reported that the MPRB now has land available for the Wirth Pond that was supposed to be constructed to handle runoff from Highway 55.

F. Update on 2010 Clean Water Fund Grant. Ms. Chandler said she and Mr. Kremer had a meeting with BWSR staff to talk about the grants and the projects and to get some preliminary advice about the work plan, which is due May 14th. She said Barr Engineering will be preparing the work plan and will be coordinating with Hennepin County.

G. Education Committee.

- **i. Commissioner Langsdorf reported on the requests the Committee has for tasks it would like the Administrator to handle for the Committee.**
- **ii. Commissioner Langsdorf reported that the West Metro Watershed Alliance's plan is moving toward completion. She said the Committee anticipates presenting the plan to the Commission at its May meeting for the Commission's review and approval.**
- **iii. Commissioner Langsdorf announced that the next Education Committee meeting will be on May 3rd at 9:00 a.m. at Plymouth City Hall and that the next West Metro Watershed Alliance meeting will be on May 11th at 8:30 a.m. in Plymouth City Hall.**
- **iv. Alternate Commissioner Thornton reported on the Committee's experience at the Yard and Garden Expo.**
- **v. Alternate Commissioner Thornton announced that the Committee would represent the**

Commission at Westwood Hills Nature Center's Earth Day celebration on April 24th. She invited Commissioners and TAC members to schedule the BCWMC display for their events.

vi. **Alternate Commissioner Stockhaus announced that he was contacted regarding having a BCWMC display at the City of Crystal's celebration of its 50th anniversary of its charter on June 26th.**

H. **Update on Cultural Resource Review Protocol. Ms. Chandler reported that the Commission Engineer is waiting for official comments from the U.S. Army Corps of Engineers but that the Corps informally made some minor changes and has sent it out for review and comments. She said she has more information on where the Commission is with regard to the cultural resource review process but in order to keep this meeting moving along perhaps she could send the information to anyone interested. Commissioners Black and Welch and Chair Loomis were interested in receiving the information. Commissioner Welch requested that Ms. Chandler also e-mail him the latest version of the protocols.**

[Commissioner Langsdorf departs].

I. **Discuss Request by MPCA for Contract Extension with BCWMC for Sweeney Lake TMDL. Commissioner Welch moved to approve the contract extension to February 2011. Commissioner Black seconded the motion. The motion carried unanimously [Cities of Crystal and St. Louis Park absent from the vote].**

[Alternate Commissioner Stockhaus steps in as Acting Commissioner for Crystal].

J. **Update on Minor Plan Amendment Request to BWSR. Ms. Chandler reported that when she and Mr. Kremer met with BWSR staff to talk about the 2010 Clean Water Fund Grant they also talked about the BCWMC's minor plan amendment request. She said that BWSR stated that the amendment would need to be a major plan amendment instead of a minor plan amendment since the two proposed projects are not in the Commission's *Plan* and because of the projects' high costs. Ms. Chandler said the Commission will need to go through the major plan amendment process but there is a recent law change that will remove the second of what used to be three reviews, meaning the 45-day review will be removed, if the first review were to end after August 1, 2010.**

Ms. Chandler said the Commission would need to supply BWSR with a revised CIP table with its major plan amendment request. She said the request would need to go to a wider pool of reviewers than would a minor plan amendment, including to BWSR, the member cities, the County, the DNR, the MPCA, the MN Department of Health, the MN Department of Agriculture, and the Metropolitan Council. Ms. Chandler said the BCWMC would need to hold a public hearing, which could be held at the same time as it holds the public hearings to order the projects. She said the approval may not come until September, which runs up against the timetable the Commission is on regarding submitting its tax levy request to Hennepin County. Mr. LeFevere said all the Commission can do at this point is direct staff to get the process going and to try to get the process worked out with BWSR so the Commission can reserve the right to certify for the projects this year for collection next year. He said the worst that would happen is that the Commission wouldn't be able to certify the levy request for 2011 for collection in 2012.

Commissioner Black moved to approve that the Commission proceed with the major plan amendment. Acting Commissioner Hoshal seconded the motion. Commissioner Welch volunteered to call Brad Wozney of BWSR just to clarify BWSR's reasoning for this amendment being a major plan amendment instead of a minor plan amendment. Chair Loomis requested amending the motion to direct staff to proceed with the major plan amendment and to authorize

Commissioner Welch to call Brad Wozney. Commissioner Black and Acting Commissioner Hoshal approved the friendly amendment. The motion carried unanimously [City of St. Louis Park absent from vote].

7. Communications

A. Chair:

i. Chair Loomis reported that the Fresh Water Society is having a meeting on April 27th at 7:00 p.m. in the St. Paul Student Center and that RSVPs are required.

ii. Chair Loomis reported that she received a call from Janet Moore, who sits on the board of Shingle Creek, who said Crystal approved a dog park in the floodplain. Acting Commissioner Stockhaus commented that the park actually is not in the floodplain.

iii. Chair Loomis stated that she would direct Ms. Herbert to add the new item, "Communications from the Administrator," to the BCWMC agenda.

B. Commissioners:

i. Acting Commissioner Hoshal reported that the City of Medicine Lake is working on its Surface Water Management Plan.

ii. Acting Commissioner Hoshal reported that the City of Medicine Lake would like a copy of the watershed map that would be suitable for framing.

iii. Acting Commissioner Hoshal reported that the City of Medicine Lake has asked him to draft for the City's review a letter requesting a hydraulic and hydrologic evaluation of the dam at the headwaters of Bassett Creek [the Medicine Lake outlet]. Acting Commissioner Hoshal reported that the BCWMC will be receiving a formal request through a letter from the City of Medicine Lake.

iv. Acting Commissioner Hoshal reported that David and Josie Nelson are the CAMP volunteers for 2010 for a small bay of Medicine Lake.

C. Committees:

i. Acting Commissioner Thornton announced that one of the Committee members has been attending BWSR workshops and the Committee will do a summary of the workshops in the late summer or fall.

D. Counsel: No communications

E. Engineer:

i. Ms. Chandler reported that she spoke with the Met Council and it is planning to do catch up work on the data from the WOMP stations. She said that starting this year the BCWMC will receive a summary of the annual data.

9. Adjournment

Chair Loomis adjourned the meeting at 2:10 p.m.

Linda Loomis, Chair	**Date**	**Amy Herbert, Recorder**	**Date**
Pauline Langsdorf, Secretary	**Date**		

Item 4B

Bassett Creek Watershed Management Commission General Account
General Fund (Administration) Financial Report
Fiscal Year: February 1, 2010 through January 31, 2011
MEETING DATE: May 20, 2010

CHECKING ACCOUNT 0100339

BEGINNING BALANCE	**7-Apr-10**				**700,752.83**
ADD:					
General Fund Revenue:					
	Interest			30.94	
	Permits:				
	Qwest	2800 Wayzata Blvd-GV Fi		1,000.00	
	City of Plymouth	Hilde Perf Site Improv		1,000.00	
	Reimbursed Construction Costs			11,965.55	
		Total Revenue and Transfers In			**13,996.49**
DEDUCT:					
Checks:					
2242	Amy Herbert	April Secretarial		4,263.26	
2243	Barr Engineering	April Engineering		34,958.25	
2244	D'Amico Catering	May Meeting		393.91	
2245	Kennedy & Graven	March Legal		2,781.04	
2246	VOID			0.00	
2247	Watershed Consluting	Apr Administrator		1,831.69	
2248	Hamline University	Metro Watershed Partne		5,000.00	
		Total Checks			49,228.15
Outstanding from previous month:					
2233	Birchview Elementary	Education Grant		180.00	
		Total Expenses			**49,228.15**
ENDING BALANCE	**11-May-10**				**665,521.17**

	2010/2011 BUDGET	CURRENT MONTH	YTD 2010/2011	BALANCE
OTHER GENERAL FUND REVENUE				
ASSESSEMENTS	414,150	0.00	414,150.00	0.00
PERMIT REVENUE	55,000	2,000.00	3,000.00	52,000.00
REVENUE TOTAL	469,150	2,000.00	417,150.00	52,000.00
EXPENDITURES				
ENGINEERING				
ADMINISTRATION	110,000	9,633.63	28,042.66	81,957.34
PLAT REVIEW	60,000	3,075.00	12,021.00	47,979.00
COMMISSION MEETINGS	13,000	1,357.50	3,159.50	9,840.50
SURVEYS & STUDIES	20,000	399.00	5,258.75	14,741.25
WATER QUALITY/MONITORING	20,000	957.00	2,096.00	17,904.00
WATER QUANTITY	11,000	1,573.00	1,965.50	9,034.50
WATERSHED INSPECTIONS	8,000	810.00	1,232.00	6,768.00
ANNUAL FLOOD CONTROL INSPECTIONS	10,000	0.00	5,713.50	4,286.50
REVIEW MUNICIPAL PLANS	4,000	0.00	2,354.50	1,645.50
ENGINEERING TOTAL	256,000	17,805.13	61,843.41	194,156.59
ADMINISTRATOR	15,000	1,831.69	1,831.69	13,168.31
LEGAL COSTS	18,500	2,198.49	3,630.99	14,869.01
AUDIT, INSURANCE & BONDING	15,000	0.00	4,600.00	10,400.00
FINANCIAL MANAGEMENT	3,000	0.00	53.55	2,946.45
MEETING EXPENSES	5,000	393.91	1,437.00	3,563.00
SECRETARIAL SERVICES	45,000	4,802.88	11,221.14	33,778.86
PUBLICATIONS/ANNUAL REPORT	4,000	4,273.50	4,693.50	(693.50)
WEBSITE	4,500	85.50	171.00	4,329.00
PUBLIC COMMUNICATIONS	3,000	0.00	0.00	3,000.00
WOMP	10,000	871.50	3,277.50	6,722.50
DEMONSTRATION/EDUCATION GRANTS	5,000	0.00	180.00	4,820.00
EDUCATION AND PUBLIC OUTREACH	4,000	5,000.00	4,269.91	(269.91)
WATERSHED EDUCATION PARTNERSHIPS	15,000	0.00	0.00	15,000.00
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
TMDL STUDIES (moved to CF)	10,000	0.00	0.00	10,000.00
GRAND TOTAL	463,000	37,262.60	97,209.69	365,790.31

BCWMC Construction Account (802-1119576)
Fiscal Year: February 1, 2010 through January 31, 2011
May 2010 Financial Report

Beginning Balance		**7-Apr-10**		**$2,059,596.76**
ADD:	Interest:			
		Interest	90.94	
		Investment Interest	12,500.00	
	Henn County	Twins Stadium Reimb	6,564.20	
				19,155.14
DEDUCT:				
	Construction Costs		11,965.55	
				11,965.55
Ending Balance:		**7-Apr-10**		**$2,066,786.35**

Investments	
Federal Home Loan Mtg Corp - Purchased 7/22/09 - Due 10/18/2010 - 0.55% (Current mkt value $510,391.00)	$533,957.50
Federal National Mtg Assoc-Purchased 01/21/2010-Due 01/21/2015-2% (Curent mkt value -$501,720.00)	500,000.00
Total Investments	**1,033,957.50**
Construction Account - Cash Balance (detailed above)	2,066,786.35
Total: Construction Fund Cash/Investments	**3,100,743.85**
Less: Reserved for CIP Projects	2,764,883.52
Construction Cash/Investments Available for projects	**$335,860.33**

BCWMC Second Generation Projects	**Budget**	**Current**	**YTD**	**Project Total**	**Balance**
Approved CIP Projects:					
2006 Parkers Lake Water Quality Project	42,000	0.00	0.00	3,434.24	38,565.76
Twin Lake-expected completion 2006	140,000	0.00	0.00	5,724.35	134,275.65
Westwood Lake - will closed in 2010	312,000	0.00	0.00	225,864.90	86,135.10
Proposed CIP Projects:					
Lakeview Park Pond-expected completion 2007		0.00	0.00	637.50	(637.50)
West Medicine Lake Park Pond	1,100,000	0.00	501,685.74	524,389.80	575,610.20
Budget increase Resolution 08-07 (200,000)					
Northwood Lake East Pond	107,250	0.00	0.00	71,831.27	35,418.73
Twins Stadium	0	38.20	38.20	17,363.42	(17,363.42)
Ramada Pond (Crane Lake)	90,000	0.00	0.00	39.00	89,961.00
Plymouth Creek Restoration	550,000	795.00	1,019.00	68,180.55	481,819.45
Bassett Creek Feasibility Study	0	544.35	544.35	12,113.40	(12,113.40)
Plymouth Creek Feasibility	0	0.00	0.00	1,936.00	(1,936.00)
Crystal-Regent Avenue (2010 CR)	0	235.00	445.00	445.00	(445.00)
Wisc Ave/Duluth Street-Crystal	0	1,818.50	2,140.50	2,140.50	(2,140.50)
North Branch (2011 CR-NB)	0	1,448.00	1,448.00	1,448.00	(1,448.00)
Resource Management Plan	0	443.00	1,533.00	57,094.21	(57,094.21)
TMDL Projects					
TMDL Studies	125,000	4,026.00	7,708.00	95,290.90	29,709.10
Sweeney Lake TMDL	119,000	2,617.50	8,233.00	189,245.36	(70,245.36)
Annual Flood Control Projects:					
Flood Control Emergency Maintenance	500,000	0.00	0.00	0.00	500,000.00
Flood Control Long-Term Maintenance	773,373	0.00	0.00	13,566.33	759,806.67
Annual Water Quality					
Channel Maintenance Fund	200,000	0.00	0.00	2,994.75	197,005.25
	4,058,623	**11,965.55**	**524,794.79**	**1,293,739.48**	**2,764,883.52**
Project Reimbursements					
Twins Stadium		6,564.20	6,564.20	26,959.64	
Sweeney Lake TMDL		0.00	0.00	154,123.94	

Tax Levy Revenues

	County Levy	**Abatements / Adjustments**	**Adjusted Levy**	**Current Received**	**Year to Date Received**	**Inception to Date Received**	**Balance**	BCWMO Levy
2010 Tax Levy	935,000.00		935,000.00			0.00	935,000.00	935,000
2009 Tax Levy	800,000.00	(1,254.26)	798,745.74			788,720.28	10,025.46	800,000
2008 Tax Levy	908,128.08	(850.59)	907,277.49			901,483.61	5,793.88	907,250
2007 Tax Levy	190,601.74	(200.27)	190,401.47			189,794.47	607.00	190,000
2006 Tax Levy	531,095.47	(1,134.64)	529,960.83			528,646.69	1,314.14	519,000
2005 Tax Levy	450,401.40	(1,429.91)	448,971.49			448,704.78	266.71	438,000
2004 Tax Levy	1,000,790.48	(6,332.23)	994,458.25			995,220.43	(762.18)	
							952,245.01	

Financial report

	Parkers Lake Water Quality (Circle Pond)	Twin Lake	Westwood Lake	Flood Control Emergency Maintenance	Flood Control Long-Term Maintenance	Channel Maintenance	West Medicine Lake Park Pond	Lakeview Park Pond	Northwood Lake East Pond	Crane Lake - Ramada Inn Pond	Plymouth Creek Channel Restoration	Plymouth Creek Feasibility	Bassett Creek Feasibility	Twins Stadium	Crystal - Regent Ave	Wisc Ave (Duluth Str)-Crystal	North Branch	Resource Mgmt Plan	TMDL Studies	Sweeney Lake TMDL
Original Budget	**42,000.00**	**140,000.00**	**312,000.00**	**500,000.00**	**773,373.00**	**200,000.00**	**1,100,000.00**	**0.00**	**107,250.00**	**90,000.00**	**550,000.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**125,000.00**	**119,000.00**
Expenditures:																				
Feb 2004 - Jan 2005	0.00	1,983.50	0.00	0.00	0.00	0.00	0.00	637.50	0.00	0.00	0.00		0.00	0.00					0.00	0.00
Feb 2005 - Jan 2006	983.75	1,716.70	11,724.12	0.00	3,954.44	2,994.75	0.00	0.00	0.00	0.00	0.00		0.00	0.00					0.00	0.00
Feb 2006 - Jan 2007	150.00	375.70	162,645.36	0.00	9,611.89	0.00	1,789.25	0.00	0.00	0.00	0.00		0.00	156.75					637.20	0.00
Feb 2007 - Jan 2008	0.00	36.00	0.00	0.00	0.00	0.00	1,835.70	0.00	858.45	0.00	0.00		0.00	13,312.47					23,486.95	89,654.49
Feb 2008 - Jan 2009	0.00	0.00	0.00	0.00	0.00	0.00	18,392.11	0.00	60,218.68	39.00	59,777.60		0.00	0.00				6,809.50	31,590.12	47,041.86
Feb 2009 - Jan 2010	2,300.49	1,612.45	51,495.42	0.00	0.00	0.00	687.00	0.00	10,754.14	0.00	7,383.95	1,936.00	11,569.05	3,856.00				48,751.71	31,868.63	44,316.01
Feb 2010 - Jan 2011	0.00	0.00	0.00	0.00	0.00	0.00	501,685.74	0.00	0.00	0.00	1,019.00	0.00	544.35	38.20	445.00	2,140.50	1,448.00	1,533.00	7,708.00	8,233.00
Total Expenditures:	**3,434.24**	**5,724.35**	**225,864.90**	**0.00**	**13,566.33**	**2,994.75**	**524,389.80**	**637.50**	**71,831.27**	**39.00**	**68,180.55**	**1,936.00**	**12,113.40**	**17,363.42**	**445.00**	**2,140.50**	**1,448.00**	**57,094.21**	**95,290.90**	**189,245.36**
Project Balance	**38,565.76**	**134,275.65**	**86,135.10**	**500,000.00**	**759,806.67**	**197,005.25**	**575,610.20**	**(637.50)**	**35,418.73**	**89,961.00**	**481,819.45**	**(1,936.00)**	**(12,113.40)**	**(17,363.42)**	**(445.00)**	**(2,140.50)**	**(1,448.00)**	**(57,094.21)**	**29,709.10**	**(70,245.36)**

	Parkers Lake Water Quality (Circle Pond)	Twin Lake	Westwood Lake	Flood Control Emergency Maintenance	Flood Control Long-Term Maintenance	Channel Maintenance	West Medicine Lake Park Pond	Lakeview Park Pond	Northwood Lake East Pond	Crane Lake - Ramada Inn Pond	Plymouth Creek Channel Restoration	Plymouth Creek Feasibility	Bassett Creek Feasibility	Twins Stadium	Crystal - Regent Ave	Wisc Ave (Duluth Str)-Crystal	North Branch	Resource Mgmt Plan	TMDL Studies	Sweeney Lake TMDL
Project Totals By Vendor																				
Barr Engineering	2,819.94	3,758.10	11,320.87	0.00	9,549.32	0.00	6,486.91	592.50	0.00	39.00	28,707.80	1,936.00	10,604.50	12,064.49	445.00	2,140.50	1,448.00	57,094.21	92,433.55	73,193.17
Kennedy & Graven	614.30	1,966.25	503.25	0.00	24.75	354.75	1,427.15	45.00	858.45	0.00	649.40	0.00	1,508.90	5,298.93	0.00	0.00	0.00	0.00	1,145.20	2,902.59
City of Golden Valley	0.00	0.00	0.00	0.00	0.00	2,640.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City of New Hope	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70,972.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City of Plymouth	0.00	0.00	0.00	0.00	0.00	0.00	516,475.74	0.00	0.00	0.00	38,823.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City of St. Louis Park	0.00	0.00	214,040.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Com of Trans	0.00	0.00	0.00	0.00	3,992.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City of Minneapolis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S E H	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Misc	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,712.15	12,774.00
Total Expenditures	**3,434.24**	**5,724.35**	**225,864.90**	**0.00**	**13,566.33**	**2,994.75**	**524,389.80**	**637.50**	**71,831.27**	**39.00**	**68,180.55**	**1,936.00**	**12,113.40**	**17,363.42**	**445.00**	**2,140.50**	**1,448.00**	**57,094.21**	**95,290.90**	**189,245.36**

Item 4C
Invoices

MINNESOTA WATER
LET'S KEEP IT CLEAN

WATERSHED
PARTNERS

Request for Program Membership

Dear Friends of Minnesota's Waters,

As you may know, **Metro WaterShed Partners** is an innovative, dynamic coalition of more than 50 public, private, and non-profit organizations working to improve water quality. This award-winning partnership protects our water resources by teaching residents how to care for area waters, and by distributing educational materials that help municipalities and watersheds meet their own stormwater education goals.

The activities of the Metro WaterShed Partners are made possible by the generous support of our members. As we continue our 2010 programs and look toward 2011, we'd like to take this opportunity to update you on our work, and ask for your continued membership support.

CLEAN WATER MN MEDIA CAMPAIGN
Our media campaign is a member-supported stormwater education campaign. Based on the premise that more compelling pollution prevention messages can reach the public when our member organizations pool resources, we work to:

1. Place public stormwater pollution prevention messages in the mass media; and
2. Help municipalities and other MS4s meet the education requirements of their municipal stormwater pollution prevention plan (SWPPP); and
3. Maintain the cleanwatermn.org website with water quality education resources for stormwater educators, students, teachers and residents.

In 2009, the media campaign produced more than 12,000,000 media impressions through our innovative public education activities. Our 2010 campaign is expected to exceed those numbers through our programming on cable television, billboards, public and commercial radio, local sporting events, and the Minnesota State Fair. 2010 Also marks the return of our media partnership with the Minnesota Twins.

CLEANWATERMN.ORG
The cleanwatermn.org website is a great resource for citizens and stormwater educators alike. The website provides stormwater education resources to students, teachers, and the public on steps that individuals can take to reduce their 'stormwater footprint'.

For cities & watersheds, cleanwatermn.org is now home to the brand new **MS4 Toolkit.** The toolkit, developed in partnership with the MPCA, is designed specifically to help MS4 educators achieve permit compliance by providing users with ready-to-use public education materials for your community.

Members will also receive our brand new quarterly e-newsletter, with season-specific educational tools selected to help you maximize your public education outcomes.

EXHIBITS & KIOSKS

The WaterShed Partners offer several exhibits connecting users to everyday actions that improve water quality and protect watershed health. These exhibits can be checked out by communities for a wide range of public events, and include:

1. "What is Your Watershed Address?" - a map of the Minneapolis St. Paul metropolitan area with puzzle pieces lifted to reveal the name of the watershed in which you live.
2. "Your Street Flows to the River" – interactive examples of stormwater problems and solutions from everyday activities in our own yard.
3. "Your Street Connects to Lakes and Rivers" – a display that illustrates how storm drains are connected with local surface waters.

Also available are EnviroScapes™, interactive, portable models that dramatically demonstrate water pollution and prevention in an urban environment.

Our Watershed Kiosks feature six interactive modules that introduce a watershed landscape perspective and provide information about the impacts of impervious surfaces and pollution problems and solutions common to residential lots.

THE MINNESOTA STATE FAIR

Each year, the Metro WaterShed Partners participate in the Minnesota State Fair by placing our exhibits in the Department of Natural Resources building. Last year, more than 1.6 million people visited State Fair, and an estimated 50,000 people visited the WaterShed Partners booth.

RESOURCE SHARING

The Metro WaterShed Partners meet regularly to share resources, provide updates on member activities and hear from informative presenters on a wide range of water quality and public education topics. Meetings are held on the second Wednesday of every month (9:00am to 11:00am) at the Capitol Region Watershed District offices and are open to anyone. For further information, contact Jana Larson at 651-523-2812.

MEMBERSHIP

As the work of the Metro WaterShed Partners is 100% member-supported, we're counting on your support as a contributing member to make these programs possible. By contributing membership dollars, you can help ensure the continued success of these vital public education and outreach Please help protect Minnesota's waters today by reviewing the attached membership invoice(s) and making the membership contribution to the Metro Watershed Partners that is right for your organization.

Sincerely,

The WaterShed Partners Steering Committee

Lyndon Torstenson
Mississippi National River and Recreation Area District

Trevor Russell
Friends of the Mississippi River

Carrie Mack
Ramsey-Washington Metro Watershed District

Anne Weber
City of St. Paul

Tracy Fredin
Hamline University, CGEE

Angie Hong
Washington Conservation

Jana Larson
Hamline University, CGEE

Denise Leezer
MN Pollution Control Agency

Jen Dullum
City of Farmington

Cherie Wagner
Fresh Water Society

Metro WaterShed Partners
2010 Membership Invoice

From:
Staff Contact: _____
City Name: _____
Address: _____
City and Zip: _____
Telephone: _____

To: The Metro WaterShed Partners and its Clean Water MN Media Campaign

Membership Amount: $_____
Note: *Please Make checks payable to our fiscal agent (see below)*

Fiscal Agent
Hamline University
1536 Hewitt Ave. MS-A1760
St. Paul, MN 55104
Tel: 651-523-2812 Email: jlarson25@hamline.edu

Description of Services: 2010 membership support for the Metro WaterShed Partners and its Clean Water MN Media Campaign, a stormwater pollution prevention education campaign. Services include:

- *Production and placement of print, radio, television, billboard and other public stormwater pollution prevention media ads by the Clean Water MN Media Campaign.*
- *Continued development and maintenance of the www.cleanwatermn.org website, a stormwater education resource for local government, organizations, educators, and individual citizens.*
- *Quarterly distribution of the Clean Water MN e-Newsletter with distribution-ready stormwater education materials for use by local governments, agencies, educators and organizations.*
- *Revision and maintenance of the www.cleanwatermn.org website, a stormwater education resource for local government, organizations, educators, and individual citizens.*
- *Distribution and maintenance of the Metro WaterShed Partners exhibits & kiosks that connect users to everyday actions that improve water quality and protect watershed health.*
- *Free monthly resource sharing meetings with information on partner activities, presentations by informative speakers, and updates on all WaterShed Partners activities.*

Duration of Services: January 1, 2010 to December 31, 2010.
Program funds unspent in 2010 will carry over into the 2011 program year.

Pledge Dedication: Some members may choose to dedicate their membership contribution to some portion of our activities. If so, please indicate which activities you would like your membership to fund:

- Media Campaign (includes website & e-Newsletters): $_____
- MN State Fair Outreach: $_____
- WaterShed Partners Exhibits & Kiosks: $_____
- WaterShed Partners resource sharing and general support: $_____

The Metro WaterShed Partners welcome your membership support at whatever level is right for your organization.
Recommended levels of membership for cities & watersheds:

Population	Annual Membership Level
0 – 10,000	$300 - $500
10,000 – 20,000	$500 - $1000
20,000 – 40,000	$1000 - $3,000
40,000 – 60,000	$3,000 - $5,000
60,000+	$5,000 - $10,000

Amy Herbert · Virtual Administrator Services

733 Preakness Lane, Chanhassen, MN 55317
bcra@barr.com · 952-832-2652

May 6, 2010

Bassett Creek Watershed Management Commission (BCWMC)
Attn: Sue Virnig, Deputy Treasurer
7800 Golden Valley Road
Golden Valley, MN 55427

For contracted services April 1, 2010 through April 30, 2010

Administrative Services to BCWMC

-Created the April 15th BCWMC meeting agenda; organized packet materials for copying, copied, and assembled meeting packets, delivered meeting packets to Barr Engineering mail room for Barr to weigh, add postage, and mail; posted meeting packet on BCWMC's Web site and e-mailed link to Commission; e-mailed agenda to agenda list and e-mailed approved meeting minutes to distribution list.

- Maintained BCWMC files; Communicated with BCWMC attorney, engineers, Administrator, Deputy Treasurer, Chair, commissioners, and committee members; Coordinated with Commission Engineer distribution of tasks assigned at BCWMC meeting, BCWMC annual report, and May TAC meeting agenda

- Organized BCWMC monthly invoices; Distributed invoice payments;

- Transcribed minutes from March 18th and April 15th BCWMC meeting; Revised March meeting minutes per Commission direction; updated Commission mailing labels, e-mail list, and roster with Administrator and Commissioner Sarvi's contact information and sent roster to Brad Wozeny (BWSR); Contacted Parker's Lake CAMP volunteer; contacted Brian Johnson, CAMP coordinator; Mailed and e-mailed the BCWMC's major plan amendment to appropriate parties; Began historical file search for BCWMC policies; coordinated with Administrator Nash about BCWMC policy manual; met with Administrator Nash about policy manual.

- Prepared meeting notices for: April 6th and May 6th TAC meetings, May 3rd Education Committee meeting; May 5th Budget Committee meeting, and May 11th West Metro Watershed Alliance meeting

52.5 hours @ $57.00 per hour $2,992.50

BCWMC Annual Report
Prepared first draft of revised Executive Summary for Barr's review and additions, prepared first draft of annual report for Barr's review and additions
10 Hours @ $57.00 per hour $570.00

BCWMC Meetings
Coordinated and attended April 14th conference call with Chair Loomis, Karen Chandler, and Len Kremer; Set up and attended April 15th BCWMC meeting (coordinated room reservation; ordered and received catering; coordinated

agenda, prepared and provided handouts not provided in meeting packet; recorded meeting); coordinated and attended April 23rd Administrative Services Committee meeting (coordinated room reservation, prepared meeting document)
10.50 hours @ $57.00 per hour $598.50

Web Site Services to BCWMC
Updated meeting minute archive, March meeting minutes, meeting calendar, and Commission roster; requested log file report of 2009 Web site activity for inclusion in annual report and forwarded to Commissioner Langsdorf for Education Committee use
1.5 hours @ $57.00 per hour $85.50

Expenses
No April expenses..... $0.00

Mileage
Mileage from Chanhassen to Golden Valley City Hall for March 18th meeting (16.76 miles x 0.50 = $8.38); Mileage from Chanhassen to Golden Valley City Hall for April 23rd Admin Cmttee meeting (16.76 miles x 0.50 = $8.38); $16.76

Subtotal Administrative Services	$4,177.76
Subtotal Web Site Services	$85.50
Total Current Billing:	**$4,263.26**

I declare, under penalty of law, that this account, claim or demand is just and correct and that no part of it has been paid.

Signature of Claimant

Barr Engineering Company
4700 West 77th Street • Minneapolis, MN 55435-4803
Phone: 952-832-2600 • Fax: 952-832-2601 • www.barr.com
An EEO Employer

Minneapolis, MN • Hibbing, MN • Duluth, MN • Ann Arbor, MI • Jefferson City, MO • Bismarck, ND

Bassett Creek WMO
7800 Golden Valley Road
Golden Valley, MN 55427

Invoice # 23270051-2010-3
Project # 23/27-0051
Client # 59
May 7, 2010

Invoice of Account with
BARR ENGINEERING COMPANY

For professional services during the period of
March 27, 2010 through April 30, 2010

ENGINEERING

TECHNICAL SERVICES

Calls/emails to or from the Commissioners, watershed communities, developers in the watershed, Minneapolis Park and Recreation Board (MPRB), Three Rivers Park District (TRPD), Mississippi Watershed Management Organization, Minnesota Department of Transportation (Mn/DOT), Hennepin County, Minnesota Board of Water and Soil Resources (BWSR), Metropolitan Council Environmental Services (MCES), Minnesota Pollution Control Agency (MPCA), Corps of Engineers and interested citizens; reviewed historical photos of Sweeney Lake outlet and inspected modifications in the field for City of Golden Valley; revised BCWMC letterhead with new logo, prepared 2011 budget; communications with Ted Hoshal regarding watershed map and provided map for City of Medicine Lake; communications with BWSR regarding grants; telephone conversation with MDNR regarding Medicine Lake dam; meeting with Geoff Nash.

James P. Herbert, Principal Engineer/Scientist		
11.2 hours @ $140.00 per hour	$	1,568.00
Leonard J. Kremer, Principal Engineer/Scientist		
8.5 hours @ $160.00 per hour	$	1,360.00
Karen L. Chandler, Senior Consultant		
7.2 hours @ $140.00 per hour	$	1,008.00
Technicians/Administrative	$	327.00
Expenses (postage)	$	3.63
Subtotal, Technical Services	$	4,266.63

PRELIMINARY SITE REVIEW/CORRESPONDENCE

Telephone conversations regarding proposed developments; provided watershed hydraulic information, flood profiles and BCWMC development requirements to applicants; telephone conversation with L&R Suburban Landscape regarding shoreline restoration; preliminary review of bridge across Bassett Creek in Golden Valley; preliminary review of utility crossing at Sweeney Lake Branch of Bassett Creek in Golden Valley and prepared comments; telephone conversation with WSB regarding Hilde Center expansion in Plymouth and preliminary review of concept; email to Sunde Engineering regarding BCWMC requirements for proposed redevelopment; telephone conversation with Bachman's regarding shoreline restoration along Sweeney Lake; telephone conversation with MFRA regarding proposed redevelopment; preliminary review and email regarding the

Gateway site in Minneapolis; coordination with McGhie & Betts, Inc. regarding Minneapolis site; coordination regarding Wirth Park site; coordination with Steve Johnston regarding Golden Valley Walgreen site; telephone discussion with Westwood regarding Plymouth site expansion; telephone conversations regarding site expansion at 7415 Wayzata Blvd in St. Louis Park.

James P. Herbert, Principal Engineer/Scientist
11.0 hours @ $140.00 per hour ..... $ 1,540.00

Subtotal, Preliminary Site/Corr ..... $ 1,540.00

MONTHLY MEETING PREPARATION

Preparation of monthly memorandum for BCWMC meeting; reviewed draft BCWMC meeting minutes, agenda and packet materials and discussed comments with Bassett Creek Recording Administrator; conference call with BCWMC Chair regarding meeting agenda; communications with Bassett Creek Recording Administrator; internal meetings regarding agenda, to-do list and meeting packet and April 15, 2010 meeting; prepared permit figures.

James P. Herbert, Principal Engineer/Scientist
4.5 hours @ $140.00 per hour ..... $ 630.00
Leonard J. Kremer, Principal Engineer/Scientist
1.0 hours @ $160.00 per hour ..... $ 160.00
Karen L. Chandler, Senior Consultant
8.0 hours @ $140.00 per hour ..... $ 1,120.00

Subtotal, Monthly Memorandums ..... $ 1,910.00

TAC MEETING PREPARATION

Preparation for May, 2010 TAC meeting; coordinated and communicated with Chair Loomis, Bassett Creek Recording Administrator and Bassett Creek Administrator regarding TAC agenda; prepared draft memo of TAC recommendations and provided to TAC members for review.

Leonard J. Kremer, Principal Engineer/Scientist
8.0 hours @ $160.00 per hour ..... $ 1,280.00
Karen L. Chandler, Senior Consultant
2.3 hours @ $140.00 per hour ..... $ 322.00
Greg D. Fransen, Engineer/Scientist
3.2 hours @ $75.00 per hour ..... $ 240.00

Technicians/Administrative ..... $ 75.00

Subtotal, TAC Meeting Preparation ..... $ 1,917.00

Subtotal Technical Services ..... $ 9,633.63

PLAT REVIEW Note: Projects in **Bold** have provided review fees to offset review costs. Projects not in Bold are either in a preliminary stage or were submitted prior to implementation of the fee schedule.

Crest Ridge Corporate Center

Erosion control inspection.

Technicians/Administrative	$	64.00
Subtotal, Crest Ridge Corporate Center	$	64.00

Lowry Avenue Reconstruction

Erosion control inspection.

Technicians/Administrative	$	80.00
Subtotal, Lowry Avenue Reconstruction	$	80.00

Co. Rd. 9 & 61 Erosion Repair

Erosion control inspection.

Technicians/Administrative	$	64.00
Subtotal, Co. Rd. 9 & 61 Erosion Repair	$	64.00

Crown Packaging

Erosion control inspection.

Technicians/Administrative	$	40.00
Subtotal, Crown Packing	$	40.00

Hen Co Plymouth Library

Erosion control inspection.

Technicians/Administrative	$	112.00
Subtotal, Hen Co Plymouth Library	$	112.00

Cedar Lake Trail

Erosion control inspection.

Technicians/Administrative	$	72.00
Subtotal, Cedar Lake Trail	$	72.00

Zero-Max

Erosion control inspection.

Technicians/Administrative	$	80.00
Subtotal, Zero-Max	$	80.00

Hennepin Co. Regional Trail – Phase 2

Erosion control inspection.

Technicians/Administrative	$	80.00
Subtotal, Hen Co Regional Trail – Ph 2	$	80.00

Shops of Plymouth Town Center

Erosion control inspection.

Technicians/Administrative	$	64.00
Subtotal, Shops of Ply Town Center	$	64.00

Beacon Academy

Erosion control inspection.

Technicians/Administrative	$	64.00
Subtotal, Beacon Academy	$	64.00

W Medicine Lake Park Site Imp

Erosion control inspection.

Technicians/Administrative	$	96.00
Subtotal, W Medicine Lake Park Site Imp	$	96.00

4700 Nathan Lane

Erosion control inspection.

Technicians/Administrative	$	64.00
Subtotal, 4700 Nathan Lane	$	64.00

2009 Mtka St Rehab-Sherwood Forest Neighborhood

Erosion control inspection.

Technicians/Administrative ..... $ 72.00

Subtotal, 2009 Mtka St Rehab-Sherwood Forest Neighborhood ..... $ 72.00

26th Ave/Plymouth Creek Culvert Replacement

Several telephone conversations with city staff and contractor; reviewed contractor's diversion plan and prepared comments; reviewed revised diversion plan and prepared letter of approval to Plymouth.

James P. Herbert, Principal Engineer/Scientist
5.0 hours @ $140.00 per hour ..... $ 700.00

Subtotal, 26th Ave/Plymouth Creek Culvert Replacement ..... $ 700.00

Laurel Hills Condo

Erosion control inspection.

Technicians/Administrative ..... $ 40.00

Subtotal, Laurel Hills Condo ..... $ 40.00

36th Avenue Reconstruction

Erosion control inspection.

Technicians/Administrative ..... $ 48.00

Subtotal, 36th Avenue Reconstruction ..... $ 48.00

Hilde Performance Center

Reviewed grading, drainage and erosion control plans; detailed review of P8 water quality model; several telephone conversations and emails to applicant and Plymouth.

James P. Herbert, Principal Engineer/Scientist
5.1 hours @ $140.00 per hour ..... $ 714.00
Rita A Weaver, Senior Engineer/Scientist
5.8 hours @ $95.00 per hour ..... $ 551.00

Subtotal, Hilde Performance Center ..... $ 1,265.00

Glenwood Ponds Direction Bore

Reviewed utility plan for directional boring fiber optic cable beneath Bassett Creek.

James P. Herbert, Principal Engineer/Scientist
0.5 hours @ $140.00 per hour ..... $ 70.00

Subtotal, Glenwood Ponds Direction Board ..... $ 70.00

Subtotal Plat Review ..... $ 3,075.00

COMMISSION MEETINGS

Attended April 15, 2010 Commission meeting and April 6, 2010 TAC meeting and MPCA "monitoring" meeting prior to TAC meeting.

Leonard J. Kremer, Principal Engineer/Scientist	
5.1 hours @ $160.00 per hour	$ 816.00
Karen L. Chandler, Senior Consultant	
3.7 hours @ $140.00 per hour	$ 518.00
Expenses (Mileage/misc)	$ 23.50
Subtotal, Commission Meetings	$ 1,357.50

SURVEYS AND STUDIES

Coordination with Ballpark Authority, Mortenson Construction, Corps and Minneapolis staff regarding box culvert hole repair; coordination regarding location of proposed repair. Summarized data from February/March Twin Lake sampling and provided QA/QC review of monitoring.

James P. Herbert, Principal Engineer/Scientist	
1.5 hours @ $140.00 per hour	$ 210.00
Henry M. Runke, Principal Engineer/Scientist	
1.0 hours @ $165.00 per hour	$ 165.00
Technicians/Administrative	$ 24.00
Subtotal, Surveys and Studies	$ 399.00

WATER QUALITY MONITORING

Coordination regarding 2010 monitoring of Medicine Lake; prepared base map of Medicine Lake for aquatic plant surveys; preparation of sampling jars and provided sample jars to Three Rivers Park District for monitoring program.

Karen L. Chandler, Senior Consultant	
2.0 hours @ $140.00 per hour	$ 280.00
Margaret R. Rattei, Senior Consultant	
5.0 hours @ $115.00 per hour	$ 575.00
Michael B. Strong, Engineer/Scientist	
1.0 hours @ $70.00 per hour	$ 70.00
Technicians/Administrative	$ 32.00
Subtotal, Water Quality Monitoring	$ 957.00

WATER QUANTITY

Measured and reviewed lake level elevations as part of the lake-gauging program.

James P. Herbert, Principal Engineer/Scientist 1.0 hours @ $140.00 per hour	$ 140.00
Technicians/Administrative	$ 1,137.50
Expenses (Equipment/mileage/2WD field vehicle)	$ 295.50
Subtotal, Technical Services	$ 1,573.00

WATERSHED INSPECTION

Performed erosion control inspections of construction sites; prepared letter regarding inspections and improvements required for effective erosion control.

James P. Herbert, Principal Engineer/Scientist 1.5 hours @ $140.00 per hour	$ 210.00
Technicians/Administrative	$ 600.00
Subtotal, Watershed Inspection	$ 810.00
TOTAL ENGINEERING	**$ 17,805.13**

SECRETARIAL SERVICES

SECRETARIAL SERVICES EXPENSES

Administrative expenses requested by Amy Herbert including: copies, color copies for meeting packet; postage, CD duplication, video digital capture/conversion and BCWMC meeting catering; packet assembly; report assembly.

Technicians/Administrative	$ 412.50
Expenses (B&W/color copies/postage/UPS)	$ 212.62
Catering (BCWMC meeting date)	$ -0-
TOTAL SECRETARIAL SERVICES EXPENSES	**$ 625.12**

ANNUAL REPORT

ANNUAL REPORT

Preparation of 2009 Annual report and executive summary; preparation of Appendices.

James P. Herbert, Principal Engineer/Scientist	
9.0 hours @ $140.00 per hour	$ 1,260.00
Leonard J. Kremer, Principal Engineer/Scientist	
2.5 hours @ $160.00 per hour	$ 400.00
Karen L. Chandler, Senior Consultant	
18.4 hours @ $140.00 per hour	$ 2,576.00
Technicians/Administrative	$ 37.50
TOTAL ANNUAL REPORT	**$ 4,273.50**

WATERSHED OUTLET MONITORING PROGRAM (WOMP)

WATERSHED OUTLET MONITORING PROGRAM (WOMP)

Coordination with Met Council regarding rating curve at WOMP station; performed rating curve analysis and modified curve using newest stage-flow measurements; obtained water quality data/chemical analysis list from WOMP station; coordination with Met Council staff regarding WOMP station and assessment of WOMP data.

Karen L. Chandler, Senior Consultant	
1.5 hours @ $140.00 per hour	$ 210.00
Christopher Bonick, Senior Engineer/Scientist	
6.3 hours @ $105.00 per hour	$ 661.50
TOTAL WOMP	**$ 871.50**

CAPITAL IMPROVEMENT PROJECTS

PLYMOUTH CREEK RESTORATION PROJ (2010 CR)

Coordination regarding clean water grant application; summarized CIP status and work plan; attended meeting with BWSR regarding grants.

Leonard J. Kremer, Principal Engineer/Scientist	
3.5 hours @ $160.00 per hour	$ 560.00
Karen L. Chandler, Senior Consultant	
1.0 hours @ $140.00 per hour	$ 140.00
Jeffrey D. Weiss, Senior Engineer/Scientist	
1.0 hours @ $130.00 per hour	$ 95.00
Subtotal, Plymouth Creek Restoration Project	$ 795.00

RESOURCE MANAGEMENT PLAN (RMP)

Email correspondence with Corps of Engineers (COE) staff regarding pre-application protocols; revised protocols to COE; prepared an update on RMP status for BCWMC meeting; summarized RMP status and work plan; provided revised protocols and status information to Commissioner Welch.

Leonard J. Kremer, Principal Engineer/Scientist	
1.0 hours @ $160.00 per hour	$ 160.00
Karen L. Chandler, Senior Consultant	
1.0 hours @ $140.00 per hour	$ 140.00
Jeffrey T. Lee, Senior Consultant	
1.1 hours @ $130.00 per hour	$ 143.00
Subtotal, Resource Management Plan	$ 443.00

CRYSTAL-REGENT AVE (2010 CR)

Coordination regarding clean water grant application; summarized CIP status and work plan.

Karen L. Chandler, Senior Consultant	
1.0 hours @ $140.00 per hour	$ 140.00
Jeffrey D. Weiss, Senior Engineer/Scientist	
1.0 hours @ $130.00 per hour	$ 95.00
Subtotal, Crystal-Regent Ave (2010 CR)	$ 235.00

WISCONSIN AVENUE – CRYSTAL (2011 CR)

Prepared for and attended meeting with BWSR staff to discuss grant projects and minor plan amendment; reviewed major plan amendment requirements including process and schedule; prepared major plan amendment letter and sent to BWSR; coordination with Bassett Creek Recorder and Council regarding amendment process; revised CIP Spreadsheet.

Leonard J. Kremer, Principal Engineer/Scientist	
5.5 hours @ $160.00 per hour	$ 880.00
Karen L. Chandler, Senior Consultant	
5.9 hours @ $140.00 per hour	$ 826.00
Technicians/Administrative	$ 112.50
Subtotal, Wisconsin Ave– Crystal (2011 CR)	$ 1,818.50

NORTH BRANCH (2011CR-NB)

Prepared for and attended meeting with BWSR staff to discuss grant projects and minor plan amendment; reviewed major plan amendment requirements including process and schedule; prepared major plan amendment letter and sent to BWSR; coordination with Bassett Creek Recorder and Council regarding major plan amendment process; revised CIP Spreadsheet

Leonard J. Kremer, Principal Engineer/Scientist
4.5 hours @ $160.00 per hour ..... $ 720.00
Karen L. Chandler, Senior Consultant
5.2 hours @ $140.00 per hour ..... $ 728.00

Subtotal, North Branch (2011CR-NB) ..... $ 1,448.00

TOTAL CAPITAL IMPROVEMENT PROJECTS ..... $ 4,739.50

TMDL STUDIES

MEDICINE LAKE TMDL

Coordination regarding Medicine Lake TMDL; communications with MPCA staff; reviewed and provided comments on draft TMDL and implementation plan; prepared draft memo to TAC regarding Medicine Lake TMDL; summarized TMDL status and work plan.

Leonard J. Kremer, Principal Engineer/Scientist
10.7 hours @ $160.00 per hour ..... $ 1,712.00
Karen L. Chandler, Senior Consultant
3.9 hours @ $140.00 per hour ..... $ 546.00
Gregory J. Wilson, Senior Consultant
9.6 hours @ $140.00 per hour ..... $ 1,344.00

Technicians/Administrative ..... $ 75.00

Subtotal, Medicine Lake TMDL ..... $ 3,677.00

SWEENEY LAKE TMDL

Provided follow-up assistance with City of Golden Valley staff regarding BMP options in the TMDL; reviewed assessment of Hennepin County Highway 55 load contribution to Sweeney Lake TMDL; summarized TMDL status and work plan; revised TMDL management plan; attended meeting with City of Golden Valley regarding Sweeney Lake TMDL.

Leonard J. Kremer, Principal Engineer/Scientist
10.2 hours @ $160.00 per hour ..... $ 1,632.00
Karen L. Chandler, Senior Consultant
3.2 hours @ $140.00 per hour ..... $ 448.00
Keith M. Pilgrim, Senior Consultant
2.8 hours @ $125.00 per hour ..... $ 350.00

Technicians/Administrative ..... $ 187.50

Subtotal, Sweeney Lake TMDL ..... $ 2,617.50

WIRTH LAKE TMDL

Coordination regarding Wirth Lake TMDL; summarized TMDL status and work plan.

Karen L. Chandler, Senior Consultant
1.0 hours @ $140.00 per hour ..... $ 140.00

Subtotal, Wirth Lake TMDL ..... $ 140.00

E-COLI SAMPLING

Review status of report and summarized E. coli sampling and TMDL status and work plan; revised Figure 8 per BCWMC request and prepared pdf files. Preparation for 2010 June sampling.

Karen L. Chandler, Senior Consultant
1.0 hours @ $140.00 per hour ..... $ 140.00
Margaret R. Rattei, Senior Consultant
0.6 hours @ $115.00 per hour ..... $ 69.00

Subtotal, E-Coli Sampling ..... $ 209.00

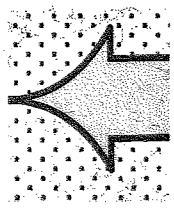
TOTAL TMDL STUDIES ..... $ 6,643.50

SUMMARY TOTALS

Total Engineering	**$ 17,805.13**
Total Secretarial Services Expenses	**$ 625.12**
Total Annual Report	**$ 4,273.50**
Total WOMP	**$ 871.50**
Total Capital Improvement Projects	**$ 4,739.50**
Total TMDL Studies	**$ 6,643.50**
TOTAL PAYABLE	**$ 34,958.25**

Barr declares under the penalties of law that this account, claim or demand is just and that no part of it has been paid.

Leonard J. Kremer



ACE Drop-Off Catering

Invoice

VB Box 132
PO Box 9202
Minneapolis, MN 55480-9202
612/238-4016 ahoffer@damico.com

INVOICE #
46027

BILL TO
Barr Engineering Amy Herbert 4700 W 77th Street Edina, MN 55435-4803

SHIP TO
Golden Valley City Hall-2nd Fl-Council Rm 7800 Golden Valley Road Site Contact: Judy N 763/593-3991 PO#23270512008300 952/832-2652 fax: 832-2601

P.O. NUMBER	TERMS		DELIVERY DATE	DAY	PPL	DELIVERY TIME
see above	Due on receipt		5/20/2010	Thursday	19	11 AM (10:45-11:15)

QUATY	DESCRIPTION	PRICE EA...	AMOUNT
19	ACE Buffet One	13.45	255.55T
1	Jumbo Stuffed Pasta Shells with Ricotta and Spinach in a Red Sauce (Vegetarian)	0.00	0.00T
18	Italian Chicken Lasagna with Artichokes and Wild Mushrooms	0.00	0.00T
19	Seasonal Fresh Fruit	1.50	28.50T
19	Chopped House Salad with Romaine, Cucumber, Tomatoes and Balsamic Vinaigrette and Ranch Dressing on the Side	0.00	0.00T
19	Artesian Breads, Rolls & Butter	0.00	0.00T
19	Assorted Bars & Cookies	0.00	0.00T
1	Dozen-Assorted Bars & Cookies	18.00	18.00T
1.5	Full Disposable Chafer - PU Old Ones	4.00	6.00T
5	Assorted Sodas - 1 Coke, 3 Diet & 1 Sprite	1.25	6.25T
2	Lemonade	1.45	2.90T
4	Mineral Water	1.25	5.00T
20	Spring Water	1.25	25.00T
	Subtotal		347.20
	Delivery Charge	20.00	20.00T
	Metro Sales Tax	7.275%	26.71

Holiday Menus Available!!

Total $393.91

Please note NEW PO BOX as of July 2009
Please make checks payable to "D'Amico Catering".
Reference the invoice # and delivery date on your check, unless paid by credit card.
Thank you for your business.

Agreed to by (customer)_____

Kennedy & Graven, Chartered

200 South Sixth Street
Suite 470
Minneapolis, MN 55402

(612) 337-9300
Tax ID No. 41-1225694

April 22, 2010

Statement No. 95408

Bassett Creek Water Management Commission
Sue Virnig

7800 Golden Valley Road
Golden Valley, MN 55427

Through March 31, 2010

BA295-00001	General	2,198.49
BA295-00019	Twins Stadium	38.20
BA295-00028	2010 Bassett Creek Main Stem Restoration	544.35
	Total Current Billing:	**2,781.04**

I declare, under penalty of law, that this account, claim or demand is just and correct and that no part of it has been paid.

Signature of Claimant

Kennedy & Graven, Chartered

200 South Sixth Street
Suite 470
Minneapolis, MN 55402

Bassett Creek Water
Sue Virnig

March 31, 2010

BA295-00001 General

Through March 31, 2010
For All Legal Services As Follows:

			Hours	Amount
3/2/2010	CLL	Prepare for and attend meeting with BWSR regarding means of streamlining CIP amendment process	1.15	219.65
3/10/2010	CLL	Review draft minutes; email A. Herbert regarding same; phone call to G. Black and message to L. Loomis on executive director contract	0.85	162.35
3/11/2010	CLL	Phone calls to A. Herbert and L. Loomis regarding administrators contract; email to L. Loomis	0.45	85.95
3/12/2010	CLL	Prepare audit letter; phone call to S. Virnig regarding same	0.30	57.30
3/16/2010	CLL	Review agenda materials	0.50	95.50
3/16/2010	CLL	Prepare draft contract for Nash	0.40	76.40
3/17/2010	CLL	Proof, revise and email draft contract for administrator; attend meeting of administration committee; prepare revised draft agreement	1.95	372.45
3/18/2010	CLL	Proof and raise draft administrator's contract; prepare for and attend commission meeting	4.10	783.10
3/22/2010	CLL	Exchange emails with A. Herbert regarding release on data about Geoff Nash	0.35	66.85
3/23/2010	CLL	Email to T. Mathisen regarding release of personnel data	0.25	47.75
3/25/2010	CLL	Exchange emails with Barr regarding claim against Ballpark Authority for damage to the tunnel	0.15	28.65
3/29/2010	CLL	Exchange emails on damages to box culvert	0.10	19.10
3/30/2010	CLL	Exchange emails on administrator's contract	0.10	19.10
3/31/2010	CLL	Phone call to G. Nash regarding contract; email to committee regarding same; phone call to L. Kremer regarding policies and county TMDL contract	0.70	133.70

Kennedy & Graven, Chartered
200 South Sixth Street
Suite 470
Minneapolis, MN 55402

Bassett Creek Water
Sue Virnig

March 31, 2010

		Total Services:	**$ 2,167.85**

For All Disbursements As Follows:

	Photocopies		25.20
	Postage		0.44
2/18/2010	Charles L. LeFevere; Mileage expense		5.00
	Total Disbursements:	**$**	**30.64**

Total Services and Disbursements: $ 2,198.49

Kennedy & Graven, Chartered

200 South Sixth Street
Suite 470
Minneapolis, MN 55402

Bassett Creek Water
Sue Virnig

March 31, 2010

BA295-00019 Twins Stadium

Through March 31, 2010
For All Legal Services As Follows:

			Hours	Amount
3/2/2010	CLL	Check final executed agreement for tunnel easement	0.20	38.20
		Total Services:	**$**	**38.20**

Total Services and Disbursements: $ 38.20

Kennedy & Graven, Chartered

200 South Sixth Street
Suite 470
Minneapolis, MN 55402

Bassett Creek Water
Sue Virnig

March 31, 2010

BA295-00028 2010 Bassett Creek Main Stem Restoration

Through March 31, 2010
For All Legal Services As Follows:

			Hours	Amount
2/15/2010	CLL	Work on revisions to agreement for Main Stem stream bank restoration	0.80	152.80
2/26/2010	CLL	Revise and email draft agreement for Main Stem to M. Welch and city representative	0.65	124.15
3/5/2010	CLL	Email to Golden Valley regarding Main Stem agreement	0.25	47.75
3/8/2010	CLL	Review emails on status of agreements	0.35	66.85
3/10/2010	CLL	Message to J. Oliver regarding Main Stem contract	0.10	19.10
3/11/2010	CLL	Phone call to J. Clancy regarding Main Stem contract; amend and email contract; email contract and attachments to A. Herbert	0.70	133.70
		Total Services:	**$**	**544.35**

Total Services and Disbursements:$ 544.35

MMKR
CERTIFIED PUBLIC ACCOUNTANTS
MALLOY MONTAGUE KARNOWSKI RADOSEVICH & CO., P.A.
5353 Wayzata Boulevard • Suite 410 • Minneapolis, MN 55416
Telephone: 952-545-0424 Fax: 952-545-0569

Ms Sue Virnig
Bassett Creek Water Management Commission
City of Golden Valley
7800 Golden Valley Road
Golden Valley, MN 55427

Invoice No. 26852

Date 04/30/2010
Client No. 6355

FOR PROFESSIONAL SERVICES

Progress billing for services completed through 04/30/2010 on audit of financial statements for the year ended 01/31/2010. $ 2,500.00

RECEIVED
MAY 18 2010
CITY OF GOLDEN VALLEY

A service charge will be added to any balance not paid within one month.

verizonwireless

777 BIG TIMBER ROAD
ELGIN, IL 60123

Manage Your Account	Account Number	Date Due
My Verizon at www.verizonwireless.com	880670335–00001	05/17/10
	Invoice Number	2391944766

10048067 02 AT 0.482 **AUTO T3 0 4022 55435-160620 1 3 E GTPL2209

CAMILLE NASH
6920 HILLCREST LN
EDINA, MN 55435-1606

Quick Bill Summary

Mar 23 – Apr 22

Previous Balance *(see back for details)*	$183.54
Payment – Thank You	–$183.54
Balance Forward	**$.00**
Monthly Access Charges	$159.96
Usage Charges	
Voice	$.49
Data	$.00
Verizon Wireless' Surcharges and Other Charges & Credits	$8.94
Taxes, Governmental Surcharges & Fees	$16.35
Total Current Charges	**$185.74**

Total Charges Due by May 17, 2010 **$185.74**

Previous Invoice Amt. → − 134.23

$ 51.51

Verizon Wireless News

Change to Your Service

Thank you for your wireless business. You recently made a change to your service. Your new bill will reflect usage from your last bill and service adjustments resulting from the plan/feature change.

Pay from Wireless	Pay on the Web	Questions:
#PMT (#768)	My Verizon at www.verizonwireless.com	1.800.922.0204 or *611 from your wireless

VN

verizonwireless

Bill Date April 22, 2010
Account Number 880670335–00001
Invoice Number 2391944766

CAMILLE NASH
6920 HILLCREST LN
EDINA, MN 55435–1606

Total Amount Due by May 17, 2010

Make check payable to Verizon Wireless
Please return this remit slip with payment

$185.74

$☐☐☐.☐☐

P.O. BOX 25505
LEHIGH VALLEY, PA 18002–5505

☐ Check here and fill out the back of this slip if your billing address has changed or you are adding or changing your email address.

23919447660108806703350000100001857400001857497

verizonwireless

777 BIG TIMBER ROAD
ELGIN, IL 60123

Manage Your Account	Account Number	Date Due
My Verizon at www.verizonwireless.com	880670335–00001	04/17/09
	Invoice Number	1990985177

10054546 01 AT 0.346 **AUTO T9 0 3922 55435-160620 1 E GTPL2209

CAMILLE NASH
6920 HILLCREST LN
EDINA, MN 55435-1606

Quick Bill Summary

Feb 23 – Mar 22

Previous Balance *(see back for details)*	$119.41
Payment – Thank You	–$119.41
Balance Forward	**$.00**
Monthly Access Charges	$116.11
Usage Charges	
Voice	$.00
Data	$1.40
Verizon Wireless' Surcharges and Other Charges & Credits	$5.41
Taxes, Governmental Surcharges & Fees	$11.31
Total Current Charges	**$134.23**

Total Charges Due by April 17, 2009 **$134.23**

Previous Invoice Amt.

Pay from Wireless	Pay on the Web	Questions:
#PMT (#768)	My Verizon at www.verizonwireless.com	1.800.922.0204 or *611 from your wireless

VN

verizonwireless

Bill Date March 22, 2009
Account Number 880670335–00001
Invoice Number 1990985177

CAMILLE NASH
6920 HILLCREST LN
EDINA, MN 55435–1606

Total Amount Due by April 17, 2009

Make check payable to Verizon Wireless
Please return this remit slip with payment

$134.23

$☐☐☐.☐☐

P.O. BOX 25505
LEHIGH VALLEY, PA 18002–5505

☐ Check here and fill out the back of this slip if your billing address has changed or you are adding or changing your email address.

1990985177010880670335000010000134230000134239

INVOICE

INVOICE DATE: 5/4/10

Geoff Nash, Watershed Consulting, LLC
6920 Hillcrest Lane
Edina, MN 5435
952-925-5119

Client: **Bassett Creek Watershed Management Commission**

Dates: **April 15-30, 2010**

Task/Project	4/15/10	4/16/10	4/19/10	4/20/10	4/21/10	4/22/10	4/23/10	4/26/10	4/27/10	4/28/10	4/29/10	4/30/10	Month
Commission Meeting	4												
Administrative Committee Meeting							2						
Medicine Lk. TMDL Extension		2							0.5				
Sweeney Lk. TMDL Comments										1			
Sweeney Lk. Phosphorus in fireworks			1							0.5	2	1	
Hennepin Co. Groundwater Planning Mtg.				2									
Communication with Commission/Consultants									0.5	0.5			
Policy Manual-gather examples/draft					4	4	2	3	3	1		3	
Major Amendment WMP										0.5			
Daily Total:	4	2	1	2	4	4	4	3	4	3	2	4	
Weekly Hours:		6					15					16	
Monthly Hours:													37
Hourly Charges (at $47/hr):													$1,739.00

Expenses:	4/15/10	4/16/10	4/19/10	4/20/10	4/21/10	4/22/10	4/23/10	4/26/10	4/27/10	4/28/10	4/29/10	4/30/10	Month
Telephone													$51.51
Printing-black&white ($0.15/sheet)				6				17			9		$4.80
Printing-color ($0.50/sheet)											3		$1.50
Postage ($0.44 ea.)				1							1		$0.88
Mileage ($0.50/mile)	22 mi.			24 mi.			22 mi.						$34.00
Expenses:													$92.69

Total invoice amount: **$1,831.69**

Watershed Consulting, LLC
6920 Hillcrest Lane
Edina, MN 55435
(952) 925-5119 office
(952) 240-3025 cell.

See attached Verizion invoices.
Note: April Verizion invoice - previous Verzion invoice = BCWMC monthly billed amount.

Barr Engineering Company
4700 West 77th Street • Minneapolis, MN 55435-4803
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Item 5A

Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Company
Subject: Item 5A – 2010 Street Reconstruction Project: Plymouth
BCWMC May 20, 2010 Meeting Agenda
Date: May 13, 2010
Project: 23/27 051 2010 188

5A. 2010 Street Reconstruction Project: Plymouth

Summary

Proposed Work: Street reconstruction project

Basis for Commission Review: Street reconstruction greater that 5 acre

Change in Impervious Surface: decrease 0.33 acres

Recommendation: Conditional approval

General Background & Comments

A request was received for review of a street reconstruction project in the City of Plymouth. The project includes 3.4 miles of residential street reconstruction. The project also includes installation of curb and gutter, storm sewer, and water main replacement. The project is located in the Parkers Lake and Medicine Lake watersheds and includes reconstruction of the following roads: Fernbrook Lane, Ithaca Lane, Glacier Lane, Harbor Lane, Juneau Lane, Kingsview Lane, Polaris Lane, 11th through 15th Avenues, 17th, 18th, 23rd, and 25th Avenues.

Approximately 18 acres in the Bassett Creek watershed will be disturbed as a result of the project. The project will result in a 0.33 acre decrease of impervious surface from 9.16 acres to 8.83 acres due to the narrowing of some streets and intersections. Construction is expected to begin May 2010 and extend through November 2010.

Floodplain

N.A.

Wetlands

The City of Plymouth is the Local Government Unit (LGU) responsible for review of the project for conformance to the MN Wetland Conservation Act.

Stormwater Management

Runoff from the East Parkers Lake area generally discharges to the east, eventually draining to Medicine Lake, however some of the western and northern portions of the East Parkers Lake area discharges to Parkers Lake.

Runoff from the southwest part of the East Parkers Lake area generally discharges through new storm sewers to an outlet pipe located north of the regional bike trail. Runoff will eventually discharges into Medicine Lake.

Runoff from the central part of the East Parkers Lake area discharges through new and existing storm sewer to two outlet pipes located under Fernbrook Lane and into an existing wetland. Runoff will eventually discharge into Medicine Lake.

Runoff from the north part of the East Parkers Lake area discharges through new storm sewer to the west and eventually discharges into Parkers Lake.

Runoff from the Parkers Lake Corporate Center discharges through existing storm sewer to the south end of Polaris Lane into an existing wetland. Runoff eventually discharges to Parkers Lane.

Water Quality Management

Permanent BMPs include construction of 4 sump manholes throughout the project area to trap sediment prior to discharging to local wetlands. Two rain gardens are proposed: one located at the corner of 15th Avenue and Glacier Lane, and one located along 13th Avenue. The rain gardens will treat runoff from approximately 0.5 acres of impervious surface from adjacent streets.

Erosion and Sediment Control

Silt fences will be constructed along streets where construction takes place, with a minimum post spacing of four feet. Daily street sweeping will be implemented as necessary during construction. Permanent erosion control includes riprap and filter material at each storm sewer outlet.

Recommendation

Approval based on following comments:

a. The following erosion and sediment control comments shall be included on the erosion control plan or Storm Water Pollution Prevention Plan (SWPPP):

- Silt fences must be used as outlined in the management plan, and be maintained for the duration of construction.

- Diversion channels or dikes and pipes must be used to intercept all drainage at the top of slopes greater than 10%, or grades that are less than 10% and 100-feet in length. These flows must be diverted to a sedimentation basin or an energy dissipater before discharging off site.

- Silt fences, silt socks, or other approved inlet protection must be installed around each existing catch basin and remain in place until construction is completed.

- Vehicle tracking of sediment from the site must be minimized by installing rock construction entrances, rumble strips, wood chips, wash racks, or equivalent systems at each site access.

- All exposed soil must be stabilized within 14 days after construction activity has ceased.

- A temporary vegetative cover consisting of suitable, fast-growing, dense grass-seed mix spread at 1.5 times the usual rate per acres must be applied. Two-thirds of the seed mix must be composed of perennial grasses if the temporary cover remains in place beyond the present growing season. Temporary or permanent mulch must be uniformly applied by mechanical or hydraulic means and stabilized by disc-anchoring or use of hydraulic soil stabilizers.

- A permanent vegetative cover consisting of sod, a suitable grass-seed mixture, or a combination thereof must be applied. Seeded areas should be mulched or covered by fibrous blankets to protect seeds and limit erosion.

b. A sump manhole is recommended at or upstream of CB 45 as a BMP before runoff discharges into Parkers Lake.

c. Sump manholes must be maintained and inspected at least twice a year.

d. The plans should note that outlets APR 1 and APR 25 will include riprap and filter as described in the standard details. Existing outlets downstream of EX MH 39 and CB 45 should be evaluated to determine if erosion has taken place and if measures are needed to update the structures in order to prevent further erosion.

e. If feasible, outlet pipes APR 1 and APR 25 must be extended so each invert discharges at or below the normal water level of the receiving wetland or water body. As an alternative, adequate erosion protection must be provided at each outlet to prevent erosion.

f. Plymouth is the LGU and is responsible for reviewing the project for conformance to the Minnesota Wetland Conservation Act.

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Imagery Source: Aerials Express, 2009

- Permit Location
- Bassett Creek
- WMC Boundary
- Major Subwatershed
- Municipality
- Parcel Line
- Stream

Feet

0 500 1,000 1,500 2,000

Bassett Creek Watershed Management Commission

LOCATION MAP
APPLICATION 2010-06
Street Reconstruction Project
Plymouth, MN

Item 5B

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Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Company
Subject: Item 5B – South Shore Emergency Utility Repair: Plymouth
BCWMC May 20, 2010 Meeting Agenda
Date: May 13, 2010
Project: 23/27 051 2009 003

5B. South Shore Drive Emergency Utility Repair: Plymouth

Summary

Proposed Work: Replacement of 12-inch sanitary sewer across Bassett Creek

Basis for Commission Review: Utility crossings

Change in Impervious Surface: N.A.

Recommendation: Conditional approval

General Background & Comments

The Metropolitan Council has declared an emergency to repair a gravity line (Plymouth Interceptor 1-PM-466) located south of South Shore Drive in the City of Plymouth that crosses the Main Stem of Bassett Creek. A televised inspection of the interceptor revealed a sagged 12-inch PVC pipe that crosses Bassett Creek and a fractured 12-inch RCP pipe downstream of a maintenance structure adjacent to Bassett Creek. Both the sagged PVC pipe and the fractured RCP pipe will be removed and replaced with ductile iron pipe. This pipe will be supported on helical piers to prevent settlement and eliminate the potential of sags in the new line. The Metropolitan Council expects to have plans ready for review within the next week and expects to start construction no later than mid-June. The BCWMC regulatory floodplain elevation along Bassett Creek is 890.3 ft. upstream of South Shore Drive and 889.4 ft. downstream of South Shore Drive. The Metropolitan Council has requested BCWMC assistance to expedite the review process.

Although, Paragraph 2.1.6 of the *Requirements for Improvements and Development Proposals* document provides a mechanism for the cities to perform emergency work without BCWMC review and approval, the Metropolitan Council is in the process of fast-tracking final design. Plans will most likely be available for review after the BCWMC May meeting and approval is requested prior to the BCWMC June meeting so emergency repairs can be completed.

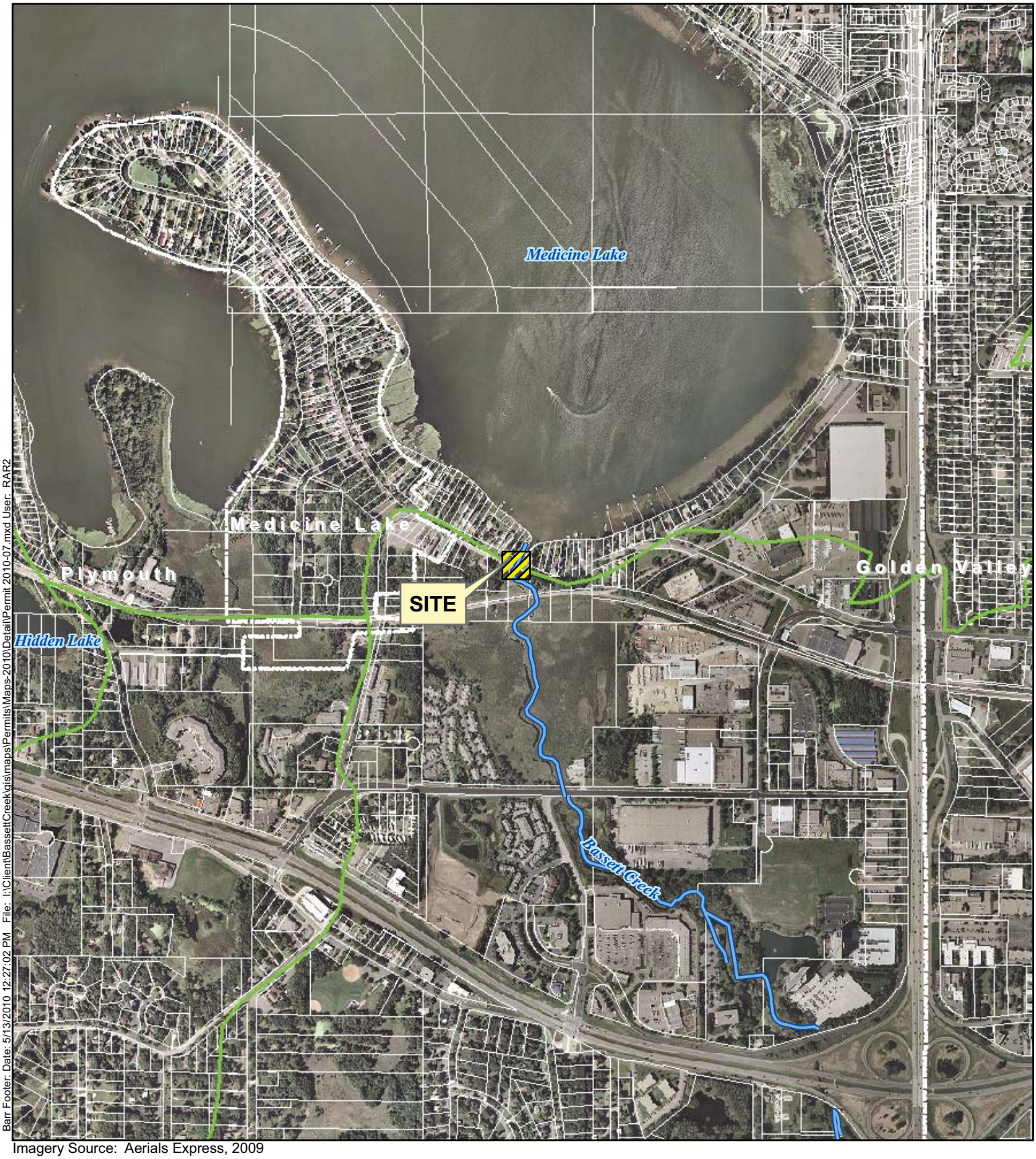
Recommendation

Conditional approval based on following comments:

a. Final plans and a diversion and dewatering plan must be reviewed and approved by the BCWMC Engineer prior to installation of the proposed bridge.

b. The channel cross section of Bassett Creek must not decrease due to the project.

c. The project must not result in floodplain fill, without being mitigated.



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Imagery Source: Aerials Express, 2009

- Permit Location
- Bassett Creek
- WMC Boundary
- Major Subwatershed
- Municipality
- Parcel Line
- Stream

Feet

0 500 1,000 1,500 2,000

Bassett Creek Watershed Management Commission

LOCATION MAP
APPLICATION 2010-07
South Shore Drive
Emergency Utility Repair
Plymouth, MN

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Item 5C

Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Company
Subject: Item 5C – South Shore Drive Bridge: Plymouth
BCWMC May 20, 2010 Meeting Agenda
Date: May 13, 2010
Project: 23270051 2010 183

5C. South Shore Drive Bridge: Plymouth

Summary

Proposed Work: New South Shore Drive Bridge over Bassett Creek
Basis for Commission Review: New Structure located in regulatory floodplain
Change in Impervious Surface: Not applicable
Recommendation: For discussion

General Background & Comments

At the BCWMC's February 18, 2010 meeting, the Commission reviewed a Minnesota Department of Natural Resources (DNR) permit application for replacing the bridge over Bassett Creek at South Shore Drive in the City of Plymouth. The bridge is located approximately twenty feet downstream of the existing Medicine Lake dam/outlet structure. The existing timber bridge over Bassett Creek has deteriorated and is in need of replacement. (See the map accompanying agenda item 5B, which also covers the location of this proposed project.)

The proposed bridge is a 29-foot concrete slab bridge with a 10 foot trail on the south side of the bridge for an overall total deck width of 39 feet. The BCWMC regulatory floodplain elevation along Bassett Creek is 890.3 ft. upstream of South Shore Drive and 889.4 ft. downstream of South Shore Drive. The Commission conditionally approved the project. The February 24, 2010 letter from the BCWMC included the following comments:

a. In accordance to the BCWMCs Flood Control Policy 5.2.2.2G, the low bridge member must be raised above the regulatory floodplain elevation of 890.3 ft. The BCWMC recommends raising the low bridge member to a minimum elevation of 891.3 ft. to provide 1 ft. freeboard above the BCWMC regulatory floodplain to minimize debris collection.

b. Channel cross section of Bassett Creek must not decrease due to the project. Existing and proposed channel cross sections beneath the bridge must be provided for review.

c. Fill in the floodplain, including riprap and filter, must be evaluated and mitigated.

d. The City must submit an application to the BCWMC after the overall South Shore Drive project has been developed. Application must include erosion control plans and entire set of bridge plans.

e. The existing South Shore Drive embankment provides support for the existing Medicine Lake dam. Potential stability issues must be addressed if excavation of the embankments is proposed.

f. Contractor shall minimize disturbance of the creek channel during construction.

g. A diversion and dewatering plan must be submitted after a contractor has been selected and must be reviewed and approved by the BCWMC Engineer prior to installation of the proposed bridge.

Recommendation

The City of Plymouth staff has reviewed the watershed comments regarding the South Shore Drive Bridge and has the following comment regarding item #1 (raising the low bridge member):

> The City has concerns regarding raising the bridge above the regulatory floodplain elevation of 890.3 and the effect this would have on the adjacent properties. Raising the bridge to 890.3 would result in a street elevation of approximately 892.62. The property about 75 feet to the east of the bridge has existing elevations of 890.22 for their driveway, 890.15 for their garage and 890.7 for their house. The property 75 feet to the west would have similar issues. The bridge was designed to try to keep it as low as possible so it is aesthetically pleasing to the neighborhood as well as reducing local drainage concerns.

The low bridge member of the current bridge is 890.56 (above the flood elevation of 890.3 ft). The City requests approval to place the low bridge member at an elevation of 889.64 ft.; this is 0.92 ft below the current low bridge member and 0.66 ft below the flood elevation. The City will provide technical data prior to the BCWMC meeting demonstrating that upstream flood elevations will not be impacted.

Item 6A

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Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Company
Subject: Item 6A – Sweeney Lake Outlet Structure
BCWMC May 20, 2010 Meeting Agenda
Date: May 13, 2010
Project: 23/27 051 2010

Recommended/requested Commission actions:

1. Discuss responsibility for funding/constructing a new outlet from Sweeney Lake.
2. Consider directing the removal of the modified masonry wall (downstream of original outlet/weir).
3. Consider directing the replacement of the existing control structure with a concrete broad crested weir and cutoff wall; the replacement structure must maintain the lake level at the same elevation as the original structure.

Background

At their April meeting, the Commission requested an engineering review of the reported modification of the Sweeney Lake outlet structure. The City of Golden Valley reported that the structure had been modified sometime in the last few years, most likely by citizens in the area. The historic outlet structure consisted of a precast concrete plank, approximately 15 feet long and 1½ feet wide that served as a broad crested weir to control the normal level of Sweeney Lake. This structure has been in place for at least 20 years. All of the flood level computations for the lake and upstream areas have been based on the configuration of this structure.

The modification consists of a masonry wall (rock and mortar wall) that was installed immediately downstream of the broad crested weir that is slightly higher (approximately 0.2 foot) than the broad crested weir. Pictures of the structure are attached. The masonry wall may have been installed because the embankment on the south side of the broad crested weir has eroded to an elevation about 0.5 feet lower than the broad crested weir and during low flows the normal level of the lake would be at this lower elevation. It is likely that sometime in the future the embankment on either side of the modification/ masonry wall will erode, and the level of the lake during low flows will again drop below the elevation of the broad crested weir.

The Commission was not involved with the installation of either structure. The MDNR was contacted and they indicated that they did not have information for either structure and that the structures were likely built without permits. The MDNR indicated that the masonry wall could be removed without a permit and

that the embankment on the south side of the broad crested weir could be repaired without a permit. They indicated that if the structure was replaced, a MDNR Public Waters Work Permit would be required.

Similar outlet control weirs for lakes have a cutoff wall under the weir to prevent seepage underneath or around the structure. The cutoff wall typically extends into both embankments to prevent erosion of the embankments and flow around the structure. The original and modified outlet structures do not have cutoff walls.

The masonry wall should be removed since it changed the long-standing lake level without any input from interested stakeholders, Commission approval, or a permit from the MDNR. The embankments of the broad crested weir could be repaired with grouted riprap to repair the existing erosion and minimize seepage, however, future repairs will be required. The structure could be replaced with a new broad crested weir with a cutoff wall that would minimize seepage and prevent erosion of the embankment. It is recommended that the existing control structure be replaced with a concrete weir and cutoff wall.

The Commission will need to discuss who should be responsible for removing the modification/masonry wall and funding/constructing the new outlet. A similar situation was the replacement of the Medicine Lake outlet structure. The project (constructed in 1996) was sponsored by the BCWMC, and was a joint project with the City of Plymouth, Hennepin County, MNDNR and the U.S. Army Corps of Engineers. The MDNR contributed $50,000 to the cost of the project (50% of the total cost).

Item 6B

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Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Company
Subject: Item 6B – Order Feasibility Studies for Main Stem and North Branch Projects
BCWMC May 20, 2010 Meeting Agenda
Date: May 13, 2010
Project: 23/27 051 2010 621/622

6B. Order Feasibility Studies for Main Stem and North Branch Projects

Recommended/requested Commission actions:

1. Order the completion of feasibility studies for two stream restoration projects to be constructed in 2011:
    a. Main Stem of Bassett Creek from Highway 169 in the City of Golden Valley to the City of Crystal boundary (listed as Wisconsin Avenue to Highway 100 in the RMP)
    b. North Branch of Bassett Creek from 36th Avenue North to Bassett Creek Park in the City of Crystal
2. Direct the preparation of stream feasibility studies that comply with the Commission requirements and the U.S. Army Corps of Engineers Pre-application Consultation Protocols.
3. Consider directing Barr Engineering Company to complete the two feasibility studies for an estimated cost of $29,970.

Need for Feasibility Studies for 2011 Stream Restoration Projects

Both stream projects were included in the major plan amendment submitted to, and under review by BWSR and other agencies. These two stream projects are in the 2011 CIP.

A feasibility study must be completed for each project that includes a preliminary analysis and design for each project and provides construction cost estimates. The feasibility studies must be completed for each of the projects prior to BCWMC holding a hearing and ordering the projects.

In 2009, the feasibility studies for the Plymouth Creek and Main Stem projects were presented to the Commission at their August meeting and the Commission held the public hearing and ordered the projects at their September meeting. In 2010, the Commission also needs to hold a public hearing on the major plan amendment in August. We recommend the following schedule:

- May Commission meeting – Commission orders preparation of the feasibility studies
- August Commission meeting – Commission hears the results of the feasibility studies and holds a public hearing on the major plan amendment
- September Commission meeting – Commission orders the project.

Content and Scope of Feasibility Studies for 2011 Stream Restoration Projects

Through the BCWMC's RMP process, the Corps of Engineers (COE) and the BCWMC agreed on a series of steps, work items, deliverables (called "protocols") that must be submitted/accomplished to complete the RMP process and COE review/approval process. Most of the protocols must be addressed as part of the feasibility study, in addition to the usual tasks that would be performed as part of a feasibility study.

Below is a summary of the required feasibility study content for each of the two projects:

Reach Evaluation and Concept Plans

- Field work and site visits of each reach – review previously identified and additional new erosion/sedimentation sites
- Review, develop and revise (as necessary) concept plans prepared for Resource Management Plan
- Prepare cost estimates for project construction

Wetland Impacts Evaluation

- Base data collection (GIS air photos, soil survey, NWI maps, etc) for field wetland delineation, and MNRAM assessments
- Prepare wetland delineation report
- Regulatory review of delineation and mitigation needs

Archeological Evaluation

- Detailed literature search
- Field work - Phase 1 Cultural Resource Survey

Feasibility Report

- Draft report for review for each project
- Final reports for project hearing

Cost of Feasibility Studies for 2011 Stream Restoration Projects

Barr Engineering prepared a cost estimate for preparation of the feasibility studies for the two stream restoration projects scheduled for implementation in 2011. The following table summarizes the total feasibility study costs for the two stream restoration projects:

Task Description	***Hours***	***Cost***
Reach Evaluation and Concept Plans		
Walk each reach to observe previously documented erosion and sedimentation sites	33	$ 2,790
Review, develop and revise (as necessary) concept plans prepared for RMP	18	$ 1,660
Subtotal	**51**	**$ 4,450**
Wetland Impacts Evaluation		
Base data collection, field wetland delineation, and MNRAM assessments	51	$ 5,000
Wetland delineation report	35	$ 3,500
Regulatory review	4.5	$ 500
Subtotal	**90.5**	**$ 9,000**
Acheological Evaluation		
Detailed literature search	16	$ 1,600
Phase 1 Cultural Resource Survey	40	$ 4,000
Subtotal	**56**	**$ 5,600**
Feasibilty Report		
Draft reports	64	$ 6,740
Final reports	32	$ 4,180
Subtotal	**96**	**$ 10,920**
Total		***$ 29,970***

Item 6C

Memorandum

To: Bassett Creek Watershed Management Commission
From: Technical Advisory Committee
Subject: May 6, 2010 Meeting
Date: May 11, 2010
Project: 23/27-051 2010

The Technical Advisory Committee (TAC) met on May 6, 2010. The following TAC members, city representatives, and staff attended the meeting:

City	TAC Members/Alternates	Other City Representatives
Crystal	Tom Mathisen	
Golden Valley	Jeff Oliver	Linda Loomis
Medicine Lake	Vacant position	
Minneapolis	Lois Eberhart	
Minnetonka	Liz Stout	Bonnie Harper-Lore
New Hope	Jason Quisberg	
Plymouth	Bob Moberg, Derek Asche	
Robbinsdale	Absent	
St. Louis Park	Absent	
BCWMC Staff	Geoffrey Nash, Len Kremer	
Also in attendance were Jack Frost, Metropolitan Council and Rachael Crabb, Minneapolis Park Board.		

The Technical Advisory Committee (TAC) directed staff to forward the following recommendations to the Commission for its consideration. This memorandum presents the recommendations relating to the CIP Work Group and the draft Medicine Lake TMDL Plan and draft Implementation Plan.

1. CIP Work Group

The TAC discussed the Commissions request to nominate TAC members for the CIP work group. TAC members expressed a need for technical representation that would be aware of issues in the geographic areas where BMPs that have been identified in the TMDLs would be constructed. The BMPs would be constructed in the Medicine Lake watershed, the Sweeney Lake watershed and the

Wirth Lake watershed. Since the majority of these watersheds are in Plymouth and Golden Valley, Derek Asche and Jeff Oliver were selected to be TAC representatives on the CIP Work Group.

2. Medicine Lake TMDL- Comments on Draft Management Plan

The Commission requested that the TAC review Barr comments on the February Draft *Medicine Lake TMDL* and to forward recommendations to the Commission regarding a response to the MPCA. The comments below are for consideration by the Commission.

Recommendation

Section 4.1 Loading Capacity

The statement: "*Should long-term monitoring demonstrate continued impairment even with reductions in the external loads, adaptive management will be required to assess and identify additional actions that will result in attainment of water quality standards*." with respect to internal loading, is not consistent with information previously provided that indicated that internal loads would not require reductions.

Recommended comment: In section 4.1 Loading Capacity, the TMDL should indicate that if continued future impairments can be shown to be the result of internal loads such as wind driven mixing events or increased curly leaf pond weed densities, that internal load reductions will not be required to meet water quality standards.

Section 4.2 Wasteload Allocations, P 21

The 27 pounds of phosphorus in the Honeywell discharge is likely the result of the addition of a chemical rust inhibitor and downstream ponding areas may reduce the phosphorus concentration in the discharge by dilution but they will not remove the dissolved phosphorus. The concentration in the discharge is about 180 ppb or almost 5 times the water quality goal for the lake. After discussion it was the consensus of the TAC that the discharge should be mitigated however the City of Plymouth felt that mitigation of the dischsrge should be up to the MS4 where the discharge occurs.

Recommended comment: In section 4.2 Wasteload Allocations, if the 27 pounds of phosphorus load due to the Honeywell discharge is dissolved, it should be mitigated if the discharge continues.

Section 4.3 Load Allocations, P 23

The statement "*To meet water quality goals in all years (particularly those with multiple mixing events and/or high densities of curlyleaf pondweed) internal loads may need to be reduced……*" should indicate that a reduction in internal loads is not required as part of the TMDL.

Recommended comment: In Section 4.3, Load Allocations, the TMDL should indicate that reductions in the internal loads caused by wind driven mixing events and/or high densities of curly leaf pondweed will not required to meet water quality standards.

Section 5. Monitoring

The TMDL states that "*BMP implementation monitoring will be conducted by the Bassett Creek Watershed Management Commission, as the lead entity in the categorical TMDL.*" Although it is clear that the member communities are to submit their BMP implementation information to the BCWMC, it is not clear who will be responsible for implementing each element of the monitoring program.

Recommended Comment: In Section 5, Monitoring, the TMDL should indicate who will be responsible for each of the proposed monitoring programs proposed in the TMDL.

Some of the BMPs that are proposed to be constructed to reduce watershed loads will not be completed until 2016-2017, so water quality goals cannot be expected to be achieved until sometime after 2017. Therefore the recommended comprehensive watershed monitoring program that is proposed in the TMDL to be conducted 5 years after approval of the TMDL would be completed a year or two before the planned BMPs are constructed. The timing of the proposed watershed monitoring is also not consistent with recommendations for comprehensive monitoring on other TMDLs, which have recommended comprehensive watershed monitoring 10 years after completion of the TMDL.

Recommended comment: In Section 5, Monitoring, any comprehensive watershed monitoring program that is proposed to measure the progress of the Implementation Plan to reduce watershed loads should be scheduled after 2017 since some of the BMPs that are part of the implementation strategy are not scheduled to be completed until 2017.

The TMDL proposes a monitoring program with five elements: in-lake summer monitoring, watershed monitoring, individual BMP monitoring, aquatic macrophyte monitoring and sediment phosphorus monitoring. The future in-lake summer monitoring and lake modeling will indicate if the external load reductions achieved by the implementation strategies are sufficient to meet water quality standards. Watershed load monitoring and monitoring of individual BMPs will provide interesting information but are not necessary to determine if water quality standards are being met. The macrophyte and sediment monitoring are focused on in-lake load reductions, which have previously been indicated are not required to meet the TMDL.

Recommended comment: The recommended monitoring program in Section 5, Monitoring, of the TMDL should be limited to annual in-lake monitoring which will provide adequate information to determine if the water quality standards for the lake are being met.

COMMENTS ON DRAFT MEDICINE LAKE IMPLEMENTATION PLAN

Section 1.5 Required Load Reductions

Page 8 of the Implementation Plan, Paragraph 3 indicates: "A background internal load from the sediment bed in Medicine Lake was accounted for in the TMDL. Reductions below this background level are not required by the TMDL."

Recommended comment: The TMDL Implementation Plan should clarify if this internal load includes internal loads due to wind induced mixing and, if wind induced internal loads are not included, the TMDL should indicate that reductions of internal loading caused by wind induced mixing will not be required by the TMDL in the future.

Sections 2.2 Watershed Phosphorus Reduction Alternatives, and 2.3 Internal Load Reductions

This section identifies alternatives for achieving the proposed 1,287 pound watershed load reduction. Seven alternatives are presented; two alternatives include recently completed BMPs, proposed BMPs and previously considered BMPs, and five alternatives consisting of proposed BMPs in combination with theoretical BMPs to meet the proposed 1287 pound watershed load reduction. None of the alternatives include any load reductions that may be required for the Minnesota Department of Transportation (Mn/DOT) or Hennepin County.

Recommended comment: The TMDL Implementation Plan should acknowledge that BMPs will need to be implemented by MDOT and Hennepin County to meet watershed load reductions.

Alternative 7 includes the recently completed West Medicine Lake Park Pond and the proposed Plymouth Creek restoration projects. Alternative 7 is estimated to provide a watershed load reduction of 999 pounds (page 14). It is unclear if the load reductions due to other recently completed BMPs such as the Medicine Lake shoreline restoration, the Timber Creek restoration, the Wood Creek restoration or the County Road 9 ditch restoration are included in alternative 7 or any of the other alternatives. The load reductions due to these BMPs are not reflected in the 2004-2007 monitoring data that was used for calibration of the watershed model. The August 2004, *Phase II Medicine lake Watershed implementation And Management Plan*, City of Plymouth, estimated that the load reductions that would result from the repair of 6 erosion sites including County Road 9 to be 273 pounds.

Recommended comment: The TMDL should clarify whether watershed load reductions associated with shoreline restoration and the repair of erosion sites by the City of Plymouth have been accounted for in the alternatives and if not they should be estimated and included in all of the identified alternatives.

Some of the load reductions due to BMPs completed by the City of Plymouth as part of their 2004 Implementation Plan that totaled 1,088 pounds of reduced load are not reflected in the 2004 through 2007 data used in the development of the TMDL because they were completed during or after 2007.

Recommended comment: The TMDL Implementation Plan should acknowledge that there is a lag time for BMPs that are implemented to achieve their full load reduction potential.

Paragraph 2 page 16 indicates "…continued monitoring will be used in an adaptive management framework to assess the need for additional actions to address internal loads."

Recommended comment: Since it has been indicated that there is no requirement that internal loads be addressed as part of the TMDL, this statement should be removed from the draft TMDL Implementation Plan.

Item 6Di

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Memorandum

To: Bassett Creek Watershed Management Commission (BCWMC)

From: Barr Engineering Company

Subject: Item 6Di - Sweeney Lake TMDL Comments

Date: May 13, 2010

Project 23/27 051 2010

6Di Approve Responses to Comments and Revisions to Sweeney Lake TMDL for Transmittal to the MPCA

Recommendation/requested Commission action:

Discuss Sweeney Lake Draft TMDL comments as necessary and approve revisions to the TMDL text. Authorize the preparation of transmittal letter and forwarding the revised TMDL text to the MPCA.

Review of comments

Attached for review by the Commission are the comments and responses to comments from Ron Leaf, SEH, regarding the draft Sweeney Lake TMDL. Comments were received from the MPCA, Michael Welch, the City of Golden Valley, the Bassett Creek Technical Advisory Committee and David Hanson. The tables list a summary of each comment and a proposed response which was drafted by Ron Leaf.

One of the most significant comments received was the comment by the MPCA that there is no justification for the proposed 99 pound external load reduction. The MPCA proposed that the external load reduction be increased to 150 pounds which is significant considering that BMPs are currently in-place that have reduced the external load by more than 345 pounds. The comment is addressed in number 10 of the non regulatory comments by the TAC.

Modifications are being made to the text of the TMDL to respond to the comments and with the approval of the Commission; the revised text should be available to be forwarded to the MPCA in early June.

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Item 6Di

Sweeney Lake draft TMDL - Non Regulatory Comments 12/31/09

No.	Comment From	Date	Comment	Response
1	Michael Welch	9/9/2009	The TMDL implementation plan appropriately identifies a variety of strategies to reduce phosphorus in the lake. The implementation plan should emphasize an adaptive management approach, under which the Municipal Separate Storm Sewer System operators, the BCWMC and any and all others with capacity to contribute to the improvement of Sweeney Lake water quality will continually explore, develop and implement the most cost-effective and ecologically sound means of reducing phosphorus available. The plan should emphasize a hierarchy of strategies, prioritizing first, source-reduction options (street sweeping; implementation, construction and maintenance of best management practices such as infiltration basins/areas, buffer areas, filtration basins and retention ponds; regulatory controls, such as runoff quality and volume-retention requirements; and shoreline management through, eg, buffering); second, in-lake vegetation management or, as may be warranted, carp management; third, lake-inflow treatment, such as in-flow dosing; fourth, other in-lake treatment methodologies, such as aeration and alum treatment. I realize that source reductions are difficult to achieve, but the implementation plan should emphasize such efforts in favor of other management controls to prioritize systemic solutions over temporary ones.	The report and the proposed implementation program will emphasize an adaptive management approach.
2	Michael Welch	9/9/2009	The option of regulatory changes to increase runoff-management should be added to the "maximize load reduction through redevelopment" bullet point in 8.2.3. (Regulatory changes already are included in the adjacent table.)	The report will be modified as suggested.
3	Michael Welch	9/9/2009	The implementation plan should recognize that the BCWMC intends to work with the City of Golden Valley and other partners to seek Clean Water Legacy and other grant funding for the implementation of water-quality improvement strategies in the Sweeney Lake watershed (and elsewhere in the Bassett Creek watershed).	The report will be modified as suggested.
4	Michael Welch	9/9/2009	The limited legal mechanisms available to achieve TMDL goals notwithstanding, the report should underscore that regulation of MS4s is not the only means of achieving the goals. Improving water quality in Sweeney Lake will require that the BCWMC, homeowners and other interested parties contribute to finding and implementing all reasonable strategies for reducing phosphorus loading.	The report will be modified as sugegsted.
5	Michael Welch	9/9/2009	Whether the BCWMC ultimately decides to recommend a categorical waste load allocation and offer to manage same, record of all contributions of phosphorus to the lake, load allocations and all efforts contributing to the improvement the water quality in the lake should be tracked in a format and system that can be readily accessed by city stake, stakeholders and the public.	Comment noted. The report will propose a categorical waste load allocation for the mS4s. How the actual improvements and load reductions are tracked has not been defined in the TMDL report.

6	City of Golden Valley	7/20/2009	Table 6.5 - TP Removal of Existing BMPs. The City would like to review the list of BMPs to confirm the number and location of BMPs.	These data are available and will be sent to you under separate cover.
No.	**Comment From**	**Date**	**Comment**	**Response**
7	City of Golden Valley	7/20/2009	Section 8.1 – Implementation Strategy. The City would like to have additional discussions with the Commission on the roles of the MS4s and Commission during implementation of this and other TMDLs. Specifically, a procedure for reporting needs to be defined.	We agree that defining these roles will improve the effectiveness of the implementation program. However, defining the roles is not a required element of the TMDL Report and was not identified in the project workplan. We suggest that these discussions take place concurrent with the MPCA review process. Based on our correspondence on August 11, 2009, we understand that the City agrees that the revised Draft Report should be submitted to MPCA and that these discussions can take place concurrent with the MPCA review.
8	City of Golden Valley	7/20/2009	Section 8.2.2 – Internal Loading Subheading "Chemical Treatment." The City requests additional information on an existing alum dosing plant including effectiveness and ongoing operation and maintenance costs.	These data are being compiled and will be sent to you under separate cover.
9	City of Golden Valley	7/20/2009	Section 8.2.2 – Internal Loading Subheading "Vegetation Management. Additional discussion should be included about the potential for this invasive plant species to have further impact on the internal loading as well as the cost for control.	A detailed assessment of curly leaf pond weed on the internal phosphorus loading was not part of the workplan for this study. However, the Commission's has been conducting macrophyte surveys on Sweeney Lake and these surveys indicate a relative small portion of Sweeney Lake has curly leaf pond weed. Further, the internal loading from the sediment, as determined from the sediment cores taken from the Lake, indicate a very high internal load from the bottom sediments. While there may be some small internal load related to curly leaf pond weed, it has been determined to be insignificant relative to the internal loading from Lake sediments.
10	BCWMC - Technical Advisory Committee	4/7/2010	The TAC recommends that the Commission provide the MPCA with a revised Sweeney Lake TMDL report that includes: justification for keeping the Sweeney Lake external phosphorus load reduction at 99 pounds, a flexible adaptive management approach as part of the implementation plan, and a discussion of the past efforts of the cities and the Commission to improve the quality of Sweeney Lake. The TAC also recommends that the draft *Sweeney Lake Management Plan* be revised to indicate the BMPs that are ongoing and concepts that are being considered.	In process as of May 5, 2010.
11	Dave Hanson (1-page letter with data)	3/19/2010	(Comment summarized) Data appears to show that aeration was mixing the water quite well and keeping TP at close to the desireable level. The effect of 2007-2008 (non-aeration years) is obvious that bottom TP reading was very high while surface readings are lower. During fall turnover, the bottom water mixes and provides fertilizer for the following year weeds and algea.	While the conclusions on concentrations of TP in the lake profile are valid, the effect on weed growth the following year is minimal and not a significant factor in the response of the lake.

12	Dave Hanson (1-page letter with data)	3/19/2010	(Comment Summarized) Our theory is that aeration keeps the TP precipitated in the bottom muck and not available to weeds. We believe the lake will improve with aeration in 2010.	As has been explained frequently throughout the study, the improved water quality in 2007-2008 (water clarity) has been the primary factor in increasing weed growth. As the water clarity continues to improve through implementation activities, additional weed growth should be expected.
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Item 6Di

Sweeney Lake draft TMDL - MPCA, BWSR & DNR comments 12/31/09

Highlighted responses are draft as of 05-05-10

Page #	Comment	Staff	Response to comment
s1	should say 2,340	MW	Corrected.
s2	third paragraph - The first two sentences are somewhat confusing. The first sentence says an external load reduction of 55% and the second sentence says an external load reduction of 70%.	MW	Comment referes to page S-1. The intent is to describe what the WLA would need to be if there were no LA (internal) reduction and compare that to what the TMDL suggests as the WLA-LA mix. The language will be clarified and the numbers will change based on a meeting with MPCA staff on January 9, 2010, to discuss the rwlative load allocation split between WLA and LA.
s3 & s4	TMDL Summary Table: shows the TMDL as 2.60 kg/day, whereas WLA + LA total is 2.63 kg/day.	JBE	These numbers have been modified based on the load split changes and are now identical.
s4	is a 5% reduction (or 38 ug/L limit) sufficient for margin of safety? How was this number determined?	MW	Yes. Based on best professional judgement.
s4	Reasonable Assurance – Categorical allocation. Please state that BCWMC has determined to choose this option with full enderstanding of their role.	MW	This statement has been added.
1	Section 1.1, ¶ 2, sentence 2: "Based on the The current State standard for nutrients, the TMDL establishes a numeric target of 40 µg/L total phosphorus concentration for deep lakes in the North Central Hardwood Forest (NCHF) ecoregion." The TMDL does not establish the standard; in this case, in fact, the TMDL establishes a goal of 38 µg/L, incorporating an MOS.	JBE	The language has been clarified.
1	Section 1.2, ¶ 1, sentence last: delete sentence; reference to Partial Support designation is irrelevant to TMDL and only adds confusion.	JBE	Comment noted.
2-6	Where are figures 1 – 5?	MW & NP	These were in the appendix for draft 1 as some were best viewed in 11 x 17 format. We will incorpated these into the body of the document where practical, but expect that some may still be better served as 11 x 17 format in the appendix
2	10. Section 2.1, ¶ 1, sentence 1, and throughout: when referring to figures in Appendix A, include parenthetical reference to Appendix A; for example, "Figure 1 (Appendix A)"	JBE	Comment noted.
2	states 1994 study identified 7 drainage districts. Have there been no changes in the drainage areas that have occurred over the last 15 years? Was this verified in the 2008 study?	MW	There have been no substantive changes in these 7 major drainage districts. This study has used a P8 model that has been regularly updated with new information.
4	Soils 2.1.3 Assuming that soil boring have been conducted to confirm this assumption?	MW	Soils investigations were not specifically conducted under the TMDL scope of work. Soils investigations are a routine part of any street reconstruction work or development project. The statements made in the report are based on MS4 staff and watershed organization staff experiences in the direct watershed over the past 20 or more years of construction and development related work.
4	2.2 Lake Characteristics: just a minor point, but it would be good to define what scale you are referring to when it comes to watershed… Did they use the DNR's lake catchment GIS layer with directional flow to determine the lakeshed or direct contributing area – or some other measure.	NP	The watershed area is based on a detailed P8 model built by the BCWMC over many years. Field verfication of much of the drainage system and contributing areas has been completed, but not specifically as part of this study.
5	Any indication of how fish community may have changed since 1991? It is likely that it is has.	MW	Nothing specific, althought walleye have been caught in recent years and were not found in the 1991 survey. Not part of the TMDL scope of work.
5	3rd paragraph – Do we know if the aeration system is providing complete mixing? It might be really important to know how well the aeration system is preventing anoxic conditions during the growing season - looking at figure 9C, it shows some anoxic conditions still present – how large of an area is this and can it be extrapolated with confidence to the res of the basin? If these anoxic areas exist and are large, carp and other processes will become more important in terms of internal load issues/implementation.	NP	Data suggests that aeration system is not providing complete mixing. It is mixing as stated in the comment but there are still pockets of anoxic conditions.
6	1st full paragraph – It might be nice to expand on the excess nutrients = invasive plants taking over statement. Excess nutrients can lead to an increase in algae growth, which decrease water clarity and decreases the ability of non-invasive aquatic plants to compete with invasive aquatic plants… or something similar. There are somewhat conflicting lines of thought when it comes to invasive species ecology and competition with native non-invasive aquatic plants.	NP	Text as suggested has been added.
6	states 2 new macrophytes were observed in the lake by lake residents but does not say what they are.	MW	Barr has this information. This will be clarified.
6	11. Section 2.3, ¶ 1, sentence 1, and Figure 6: the figure shows TP, chloro-a, and Secchi data all beginning in 1972, but the text implies only Secchi was monitored in 1972.	JBE	All three were monitored as shown in Figure 6. The language has been modified.

7	Figure 6. This should say annual average water quality in Sweeney Lake	MW	Text has been added to clarify this point. The title has not been changed.
7	Figure 6. add lines to indicate current water quality standards – easier to visualize when and for how long Sweeney lk has been in violation.	NP	Done
11	Natural Background section does not seem relevant since diatom cores where not taken on Sweeney lake and no real conclusion is stated. The results of this study are reflected in the nutrient standards set by MPCA.	MW	We think this section has value as a reference point. No conclusion was intended. Changes were made to address comments by JBE comment below.
11	Section 3.4, text suggested changes: "Another consideration when evaluating nutrient loads to lakes is the natural background load. Ultimately, the background load represents the load the lake would be expected to receive under natural, undisturbed conditions. This load can be determined using ecoregion pre-settlement nutrient concentrations as determined by diatom fossil reconstruction. Diatom inferred total phosphorus concentrations are presented in Table 3.3. A 2002 MPCA study reconstructed pre-settlement lake conditions based on diatom assemblages in soil cores from many different representative lakes across the state. Sweeney Lake was not included in the study. However, basedBased on the diatom fossils, pre-settlement concentrations were approximately 26 µg/L for deep lakes in the North Central Hardwood Forests ecoregion (Table 3.3).	JBE	Text changed.
12	Section 4.1.2, including Table 4.1: suggest giving only the MS4 total load of 667 kg here in text, adding reference to Section 5 for methodology and MS4 breakdown; and deleting Table 4.1 while retaining Table 5.1. (Marks on Table 4.1 by Mike Trojan or Brooke Asleson should be applied to Table 5.1.)	JBE	Comment noted. Still in process of editing the load allocation tables.
12	4.1.2 stormwater – do you have a reference for "the phosphorus export from urban watersheds rivals that of ag watersheds."	NP	Section edited and focuses on urban lakes.
13	14. Section 4.2.1: The atmospheric load of 3.8 kg for the summer season 2004 needs explanation. It equals 48% of the stated annual deposition, 7.9 kg/year (wet year). The 122-day summer season is 33% of one year. The season's precipitation, 16.7 inches, is ~55% of the normal-year total and <44% of the wet-year total (>38 inches).	JBE	Comment noted. Still in process of editing the load allocation tables.
13	Table 4.1. How was this table generated? Where load distributed by area contribution of each city in the watershed?	MW	Comment noted. Still in process of editing the load allocation tables.
14	Section 4.2.3, ¶ last, sentence 1: Stating the summer internal load estimate as 261 kg here leads to confusion when the load actually used in modeling is given as 145 kg in Section 6.1.2. I suggest noting in Section 4.2.3 the value actually used later, with a forward reference to Section 6.1.2 for explanation.	JBE	Comment noted. Still in process of editing the load allocation tables.
17	Was p8 run on an annual basis or an event bases? The calibration consisted of changing buildup and wash off functions. Calibration was conducted per storm event. How this is written leads the reader to believe it may be an event based model. Also, why are validation data not shown for 2007 and 2008?	MW	See P8 Modeling summary incorporated into Appendix __.
18	Unclear to the reader what model was actually used in TMDL. Was it the 2nd order decay model or the spreadsheet model from Barr or the definite. Also, Figures 8A. and 8b do not indicate where modeling results are from.	MW	Both were used during the analysis. However, due to limitations in the Bathtub 2nd Order decay model representing the internal laoding, the spreadsheet model from Barr was ultimately used in the TMDL. See modeling summary incorporated into Appendix __.
18	Section 5.1.2, ¶ 2, sentence last: add second "en" to "Bachmann" (I'm sensitive to this), noting the spelling is correct in the sentence preceding.	JBE	Done
20	Tables 5.1 and 6.2: Table 5.1 gives the total MS4 load as 667 kg (with no time period specified). Table 6.2 gives the total MS4 load as 299 kg, the text explaining this is a summer load. Table 5.1 needs a time unit (such as 667 kg/year, if that's correct). The smaller load in Table 6.2 equals 45% of the Table 5.1 value. The seasonal load estimation needs explaining.	JBE	Comment noted. Still in process of editing the load allocation tables.
20	Section 5.3 Unclear to where sampling occurred for this analysis.	MW	This is a general section on internal loading. The specific interanl data collection and analysis are discussed in Section 4.2.3. The 3rd paragraph in that section references Figure 1, which shows where the sediment core samples were taken from.
23	Section 5.3.2, Figures 10A, 10B, and 11: The TP concentration units change between mg/L and µg/L; make units consistent (µg/L preferred for lake concentrations).	JBE	Done. Figure 10A changed from µg/L to mg/L.
28	Section 6.0, sentence 1: Although popular, saying that a TMDL "is written to solve the TMDL equation" is, in my opinion, misleading and not descriptive. Something like, "The TMDL, or phosphorus loading capacity, must be allocated among several components."	JBE	Text changed.
28	Section 6.1.1, ¶ 1, sentence 1: "nutrient reductions" are not "wasteloads"; don't foster this confusion.	JBE	Text changed.

28	Section 6.1.1, beginning at ¶ 1, sentence 4, text suggested changes: "…As stated earlier in the TMDL, the Categorical approach is well suited to situations like Sweeney Lake where there exists a local commitment to implement the improvements in a cooperative manner through an entity like the Bassett Creek WMC. Each permitteepermitee has agreed to implement BMPs to the maximum extent practicable. This collective approach allows for greater reductions for some permit holders with greater opportunity and less for those with greater constraints. The collective approach is to be outlined in an implementation plan. **….continued…next box**		The Implementation plan will describe this approach and the language will be updated to consitently state the categorical WLA approach.
	"The pollutant load from construction stormwater is considered to be less than 1 percent of the TMDL and is difficult to quantify. Consequently, pollutant loading from construction stormwater sources is included in the WLA.Each permittee has agreed to implement BMPs to the maximum extent practicable. This collective approach allows for greater reductions for some permit holders with greater opportunity and less for those with greater constraints. The collective approach is to be outlined in an implementation plan.Construction stormwater activities are considered in compliance with provisions of the TMDL if they obtain a Construction General Permit under the NPDES program and properly select, install, and maintain all BMPs required under the permit, or meet local construction stormwater requirements if they are more restrictive than requirements of the State General Permit."	JBE	
29	waste allocation (cont) – Downside of using the categorical approach is the burden of nutrient reduction will fall on those LGU's most proactive, however I understand the rational for doing so in an urban environment where infrastructure BMP's are expensive and timing can be critical. Is there any documentation regarding the local commitment to implement improvements – reference city water plans?	NP	Discussed in Reasonable Assurance section.
30	Section 6.1.3, sentence 2, suggest: "More specifically, a five (5) percent In addition, an explicit 5% MOS was applied to the in-lake concentration needed to meet the state standard." [Main point here is that the explicit MOS is not a specific case of conservative assumptions. Also, it's okay to write out "percent", but it's permissible to use "%" – and easier to read, I think.]	JBE	Comment noted.
31	Section 6.3, Tables 6.1 – 6.4: Put metric loads first, English second. Loads have been in kg throughout the report, so make pounds secondary here.	JBE	Done
31-32	Table 6.1 – 6.4 seem somewhat confusing as laid with external load only, internal load only,etc. Is it necessary to have both English and metric units shown?	MW	The goal is to illustrate the trade off between the mix of internal and external load reductions that must be achieved to meet the TMDL. Several TMDL reports have shown only metric. BCWMC and member MS4s have generally looked at english.
31-32	tables 6.1, 6.2, 6.3, 6.4 – The tables [6.2 & 6.4] seem redundant. They are also confusing – why don't the external and internal reductions only = external + internal reductions? Why do you have internal reductions needed within the WLA External TP Load column and conversely external reductions in the Internal TP load column?	NP	See previous response.
33	Where is Figure 14?	MW	In the appendix for draft 1 as some were best viewed in 11 x 17 format. We will incorpated these into the body of the document where practical, but expect that some may still be better served as 11 x 17 format in the appendix
33	1st paragraph – Where does the 20 – 30 year estimate on the opportunity to install new treatment systems come from? Maybe given current technology and economic conditions, it may take as much as 20 to 30 years to implement improved water treatment systems?	NP	Two reasons why 20-30 year timeframe are stated. First, this is the estimated time over which redevelopment of the 300 acres of developed area would occur and result in enhanced treatment systems. Second, the economics of installing and implementing the stand-alone BMPs is oftern referred to as a long term plan, say 10 to 20 years.
33	2nd paragraph – delete "and" in last sentence located between require/external.	NP	Done
33	Shows 2004 lake model results but earlier 2007 and 2008 lake models are shown. No explanation of this. Is 2004 used because a more normal precipitation year?	MW	Yes.

33-34	It appears that the report begins to turn into more of an implementation plan at this point. Beyond the usual implementation strategies that tend to be vague and located at the end of TMDL reports, this one calls out management actions that would achieve specific load reductions. I also question the strategy or at least the perception (end of page 33) that basing your external load reductions on what you would likely achieve by an alum treatment, is backwards. The external loads should be based on what is actually coming into the lake. If that is not the intent, please rephrase. I am not an expert at in lake application of alum, however I do have questions regarding the likelihood of success. First, the area stratified – the deeper portions of the lake are pretty small (39% greater than 15'), and the morphology of this area is long and relatively narrow. It seems that keeping the alum layer undisturbed might be difficult possibly due to aeration or the extremely short residence time (1 to 2 months) due to high flows primarily from stormwater events. **...continued next box...**		We understood that MPCA requested a more detailed implementation program be included in the Report. As discussed in the report and directly with staff, the feasibility, and cost-effectiveness of achieving the standard without in-lake or inflow treatment (or similar BMP that addresses the internal load), is remote at best. The intent is to accept this reality and take what the internal load reduction offers. Then, look at what external load reductions are reasonable and feasible. The approach can be modified to look at external (WLA) efforts first, then move toward internal (LA) efforts after some time. The result will likely be the same in that there's only so much that can be squeezed out of the external load, and that is not enough to meet standards.
	That said I do appreciate the ground work performed by acquiring sediment core data to more precisely determine the actual internal load. I assume a portion of these cores were collected in the deeper area where alum would be applied? I would finally like to support the idea that working on external loads first as a priority before attempting to implement management activities for in-lake loads. This maybe intuitive, but the urge to do something in-lake can be great and given the inherent difficulty in successfully executing current internal load reduction management activities, it is wise to at least minimize the confounding issue of external nutrient loading.	NP	
37	Implementation Strategy – in general, I would not go into this amount of detail. It sounds like decisions have already been made in regards to how to proceed with load reductions. You do note that these strategies (at least the internal loading strategies) have been developed by stakeholders and the technical team, however wider distribution of these strategies might alter priorities or feasibility?	NP	This is the level of detail suggested by MPCA staff. Decisions for some of the startegies have been made and not for others. The startegies overall have been widely discussed by technical team members, MS4s, lake residents, etc. We expect that as the implementation program proceeds that some adjustments to specific strategies may occur.
38	Change "It is expected that it may take 10 or more years to implement BMPs and load-reduction activities" to "It is expected that it may take 10 or more years to fully implement BMPs and load-reduction activities needed to meet the WLA".	MT	Done
38	"If all of the appropriate BMPs and activities have been implemented and the lake still does not meet the current water quality standards, the TMDL will be reevaluated and the Bassett Creek Watershed Management Commission will begin a process with the MPCA to develop more appropriate site-specific standards for the lake." Comment - If the water quality standard is not met the TMDL should be re-evaluated as stated, but this would include an evaluation of the BMPs rather than immediately jumping to a site-specific standard.	MT	Changes made.
38	Through the public input process was there any discussion regarding prioritization of the BMPs listed in the BMPs strategies. Where some practices deemed more likely to succeed than others. Where some practices more accepted by community? How does cost factor in to all of these decisions?	MW	Yes.
39	Tables 8.1, 8.2 – I'm having trouble again understanding these tables. Why is the max internal load for 8.1 smaller than the amount of internal load to be reduced in table 8.2? Or is 8.1 a raw number and 8.2 a percentage? If both tables are raw numbers, then why is the stormwater load reduction so small? Is this due to the process in which the external load was derived, i.e. by estimating the remaining load after sealing the bottom sediments with alum? Please clarify.	NP	Under review.
41	The aeration system operation seems to be key to understanding some of the internal load issues and potential solutions. It might be good to hold off as long as possible with the implementation plan to further flesh this out.	NP	Several of the key strategies in the implementation plan are already underway and will continue. Better understanding the response of the internal loading to aeration is desireable as the implementation program proceeds.
47	Even though there are no industrial facilities, you may wish to state the following. "Currently there are no industrial facilities requiring an NPDES stormwater permit. If an industrial facility within the watershed comes under NPDES coverage, Industrial storm water activities are considered in compliance with provisions of theTMDL if they obtain an industrial stormwater general permit or General Sand and Gravel general permit (MNG49) under the NPDES program and properly select, install and maintain all BMPs required under the permit."	MT	Changes made.

Notes: MW = Marcey Westrick - BWSR
NP = Nick Proulx - DNR
MT = Mike Trojan - MPCA
JBE = John Erdman - MPCA

Item 6Dii

Wirth Lake Excess Nutrients Total Maximum Daily Load Report Draft

Prepared for
Minnesota Pollution Control Agency

April 2010

Wirth Lake
Total Maximum Daily Load Report
Draft

Prepared for
Minnesota Pollution Control Agency

April 2010

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Wirth Lake
Total Maximum Daily Load Report
Draft

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Appendix A Wirth Lake/Bassett Creek Floodplain Analysis Memorandum

EPA TMDL Summary Table		
EPA/MPCA Required Elements	**Summary**	**TMDL Page #**
Location	Golden Valley/Minneapolis, Hennepin County, MN	1
303(d) Listing Information	**Waterbodies: Wirth Lake DNR ID 27-0037** Impaired Beneficial Use: Aquatic Recreation Impairment/TMDL Pollutant of Concern: Excessive Nutrients (Phosphorus) Priority Ranking: Wirth Lake—2007 Target Start, 2012 Target Completion Original Listing Year: 2002	1
Applicable Water Quality Standards/Numeric Targets	**MPCA Shallow Lake Eutrophication Standards** Source: Minnesota Rule 7050.0222 Subp. 4. Class 2B Waters	4
	North Central Hardwood Forests (NCHF)	
	40 µg/L Total Phosphorus 14 µg/L Chlorophyll *a* 1.4 m Secchi disc transparency	
Loading Capacity (expressed as daily load)	Total Phosphorus Loading Capacity for critical condition Critical condition summary: MPCA eutrophication standard is compared to the growing season (mid-May through September) average. Daily loading capacity for critical condition is based on the total load during the water year.	21
	Wirth Lake (lbs/day)	
	0.271	
Margin of Safety	The margin of safety for this TMDL is provided explicitly as 5 percent of the total loading capacity and implicitly through use of calibrated and validated input parameters and conservative modeling assumptions in the development of allocations.	19
Seasonal Variation	TP concentrations in the lakes vary significantly during the growing season, generally peaking in August. The TMDL guideline for TP is defined as the growing season mean concentration (MPCA, 2004). Accordingly, water quality scenarios (under different management options) were evaluated in terms of the mean growing season TP.	21

EPA TMDL Summary Table			
EPA/MPCA Required Elements	**Summary**		**TMDL Page #**
Wasteload Allocation (WLA)	Source	Wirth Lake WLA (lbs/day)	21
	Permitted Categorical MS4 Activities	0.104	
	Permitted MnDOT MS4 Activities	0.077	
Load Allocation (LA)	Source	Wirth Lake LA (lbs/day)	21
	Internal	0.055	
	Atmospheric	0.016	
Monitoring	The monitoring plan to track TMDL effectiveness is described in Section 4.0 of this TMDL report.		22
Implementation	The implementation strategy to achieve the load reductions described in this TMDL is summarized in Section 5.0 of this TMDL report.		23
Reasonable Assurance	The overall implementation strategy (Section 5.0) is primarily focused on continuing nonstructural practices in the watershed, maintain existing structural BMPs and eliminating Bassett Creek backflow as a source of phosphorus to Wirth Lake. These practices have been and will be put into place over the course of several years, allowing for monitoring and reflection on project successes and the chance to change course if progress is exceeding expectations or is unsatisfactory.		26
Public Participation	On _____, 2010 a TMDL meeting was conducted between Watershed staff, representatives from the various entities that are responsible for loads within each watershed and the public.		27

Executive Summary

Wirth Lake is currently listed on the Minnesota Pollution Control Agency's (MPCA) 2008 303(d) Impaired Waters List due to excessive nutrients (phosphorus) and requires a Total Maximum Daily Load (TMDL) report. Wirth Lake (DNR ID 27-0037) has a surface area of 38 acres (15.4 hectares), a maximum depth of 26 feet (7.9 meters), and an estimated mean depth of 14 feet (4.3 meters). Wirth Lake is surrounded by significant wetland vegetation which provides excellent waterfowl habitat. The lake is bordered by parkland and open space areas, with Highway 55 to the north and Theodore Wirth Parkway to the west. The Wirth Lake watershed has a total area of 347 acres, largely consisting of low-density residential and park land uses. Stormwater from approximately 77 percent of the Wirth Lake watershed currently drains through some form of wet detention before it enters the lake.

Wirth Lake is an important recreational resource to residents of north Minneapolis and surrounding inner-ring suburbs and it is used extensively for swimming, fishing, non-motorized boating and aesthetic viewing. As noted in the Bassett Creek Watershed Management Commission (BCWMC) *Watershed Management Plan* (BCWMC WMP, 2004) the City of Golden Valley, the City of Minneapolis, the Minneapolis Park and Recreation Board (MPRB) and the BCWMC have been partners working to improve the water quality of Wirth Lake for several years. MPRB has worked on improving Wirth Lake for decades (MPRB, 2009). Wirth Lake is located within the North Central Hardwood Forest (NCHF) Ecoregion.

Table EX-1 summarizes the historical water quality information compared to the deep lake listing criteria. Because the causal water quality factor (TP) and one of the response factors (Chl *a*) exceed the Listing Criteria on average over the previous 10 years, Wirth Lake was listed as "Non-Supporting" on the 305(b) list and as "Impaired" on the 303(d) list (in 2002).

The TMDL report for the lake had a target start date of 2007 and a target completion date of 2012. The MPCA's projected schedule for TMDL completions, as indicated on Minnesota's 303(d) impaired waters list, implicitly reflects Minnesota's priority ranking of this TMDL. Ranking criteria for scheduling TMDL projects include, but are not limited to: impairment impacts on public health and aquatic life; public value of the impaired water resource; likelihood of completing the TMDL in an expedient manner, including a strong base of

existing data and restorability of the waterbody; technical capability and willingness locally to assist with the TMDL; and appropriate sequencing of TMDLs within a watershed or basin.

Table EX-1 Eutrophication Standards and Wirth Lake 10-Year Average Water Quality Parameters

Water Quality Parameter	MPCA Deep Lake Eutrophication Standards (NCHF Ecoregion)	Wirth Lake Historical (1992-2008) Growing Season Average	Wirth Lake 10-Year (1999-2008) Growing Season Average
Total Phosphorus (µg/L)	40	55	41
Chlorophyll *a* (µg/L)	14	22	18
Secchi disc (m)	1.4	1.8	2.0

A significant source of background information for this TMDL report is contained in the BCWMC completed the *Wirth Lake Watershed and Lake Management Plan* (Barr Engineering Company, 1996).

The TMDL equation is defined as follows:

TMDL = Wasteload Allocation (WLA) + Load Allocation (LA) + Margin of Safety (MOS) + Reserve Capacity.

For Wirth Lake, the Load Capacity using the NCHF standard as the endpoint is 99 pounds (lbs) of total phosphorus (TP) per year.

The TMDL equation used to derive this Load Capacity for Wirth Lake is:

Expressed as annual totals (based on 2005-06 water year):

TMDL = 66 lbs. TP (WLA) + 26 lbs. TP (LA) + 7 lbs. TP (MOS) + 0 lbs. (Reserve Capacity) = 99 lbs per growing season

Expressed in daily terms (based on 2005-06 water year):

TMDL = 0.181 lbs/day (WLA) + 0.071 (LA) +0.019 (MOS) + 0 (Reserve Capacity) = 0.271 lbs per day, on average, over the water year

The wasteload allocation represents a 45% reduction in phosphorus load to Wirth Lake (Table EX-2). This will be achieved by eliminating Bassett Creek backflow from the

upstream MS4s into Wirth Lake through the outlet under high creek flow events. The Load Allocation does not represent a change in the current total phosphorus load.

The reserve capacity for the lake is set at zero because the watershed is fully developed and no additional loading is expected from future redevelopment.

Table EX-2 Wirth Lake Total Phosphorus Budgets and Wasteload and Load Allocations

Watershed TP Sources	Existing TP Load (lbs)	TMDL Wasteload Allocation (WLA) (lbs)	Daily TMDL Wasteload Allocation (WLA) (lbs/day)	Percent Reduction of Existing TP Load (Percent)
Direct Tributary Watershed MnDOT MS4 (#MS400170)	28	28	0.077	0
Direct Tributary Watershed Categorical MS4s (shown in Figure 6)	38	38	0.104	0
Bassett Creek Backflow MS4s (shown in Figure 6)	55	0	0	100
Total Load Sources	**121**	**66**	**0.181**	**45**
Internal and Atmospheric Sources	**Existing TP Load (lbs)**	**TMDL Load Allocation (LA) (lbs)**	**Daily TMDL Load Allocation (LA) (lbs/day)**	**Percent Reduction of Existing TP Load (Percent)**
Internal Sources	20	20	0.055	0
Atmospheric Sources	6	6	0.016	0
Total Load Sources	**26**	**26**	**0.071**	**0**
Margin of Safety (MOS)	NA	7	0.019	NA
Overall Source Total	**147**	**99**	**0.271**	**33**

1.0 Introduction

Wirth Lake (DNR ID 27-0037) and most of its watershed is located in the City of Golden Valley (Figure 1), within the Upper Mississippi River Basin, Twin Cities Major Watershed HUC 07010206 and the North Central Hardwood Forest Ecoregion. The remaining portion of the watershed, south of the lake is in the City of Minneapolis and all of the shoreline around the lake is owned by the Minneapolis Park and Recreation Board (MPRB).

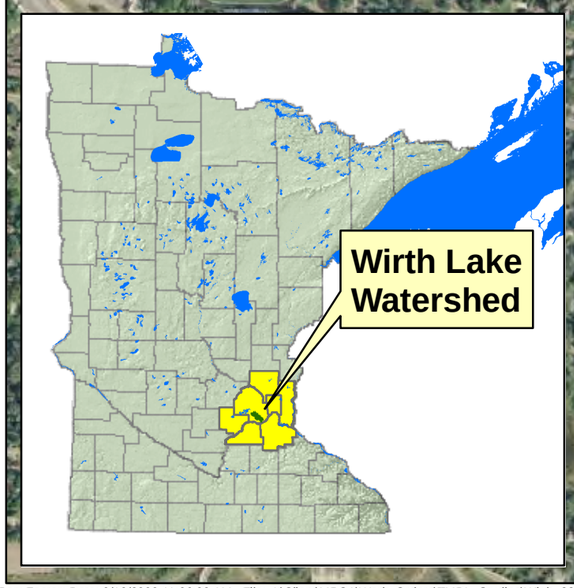
Wirth Lake is currently listed on the Minnesota Pollution Control Agency's (MPCA) 2008 303(d) Impaired Waters List due to excessive nutrients (phosphorus) and requires a Total Maximum Daily Load (TMDL) report. The lake was first listed on the MPCA's 303(d) list for aquatic recreation in 2002. The TMDL report for the lake had a target start date of 2007 and a target completion date of 2012. The MPCA's projected schedule for TMDL completions, as indicated on Minnesota's 303(d) impaired waters list, implicitly reflects Minnesota's priority ranking of this TMDL. Ranking criteria for scheduling TMDL projects include, but are not limited to: impairment impacts on public health and aquatic life; public value of the impaired water resource; likelihood of completing the TMDL in an expedient manner, including a strong base of existing data and restorability of the waterbody; technical capability and willingness locally to assist with the TMDL; and appropriate sequencing of TMDLs within a watershed or basin.

Wirth Lake is an important recreational resource to residents of north Minneapolis and surrounding inner-ring suburbs and it is used extensively for swimming, fishing, non-motorized boating and aesthetic viewing. As noted in the Bassett Creek Watershed Management Commission *Watershed Management Plan* (BCWMC WMP, 2004) the City of Golden Valley, the City of Minneapolis, the MPRB and the BCWMC have been partners working to improve the water quality of Wirth Lake for several years. MPRB has worked on improving Wirth Lake for decades (MPRB, 2009).

The BCWMC completed the *Wirth Lake Watershed and Lake Management Plan* (Barr Engineering Company, 1996) and the City of Minneapolis adopted a *Local Surface Water Management Plan* in 2006. The BCWMC and the City of Minneapolis entered into an agreement in 2005 to improve a stormwater quality treatment pond immediately west of the lake. That project was completed by the MPRB in the spring of 2006. In the mid 1990's the MPRB modified the outlet structure for the lake to minimize flood flows to the lake from

Bassett Creek, except for semi-rare backflow events. In 2002 the MPRB in cooperation with the Minnesota Department of Natural Resources installed an aeration system to prevent winter fish kills. As part of the 2006 renovation of the facilities at the swimming beach on the southeast corner of the lake, the MPRB constructed a stormwater treatment basin to treat stormwater runoff from the impervious surfaces at the beach. Current monitoring of Wirth Lake is being conducted by the MPRB.

Twin Lake
Sweeney Lake
Golden Valley
Plymouth Ave
Penn Ave
Minneapolis
Theodore Wirth Golf Course
Wirth Lake Outlet Structure
FR-1
FR-55
State Hwy 55
FR-4
FR-5
DIRECT
Wirth Lake
Bassett Creek
PK-1
PK-3
FR-2
PK-2
FR-3
BP-1
Glenwood Ave



Municipal Boundary
Flow Direction Arrows
Drainage Districts

Subwatersheds

Contributing
Landlocked

Landuse

Commerical/Industrial
Highway
High Density Residential
Low Denisity Residential
Park and Open Space
Water/Wetlands

N

0 250 500 1,000 1,500 2,000
Feet

Figure 1
Watershed Map
Wirth Lake Excess Nutrients TMDL

2.0 Background Information

2.1 Applicable Water Quality Standards

Impaired waters are listed and reported to the citizens of Minnesota and to the EPA in the 305(b) report and the 303(d) list, named after relevant sections of the Clean Water Act. Assessment of waters for the 305(b) report identifies candidates for listing on the 303(d) list of impaired waters. The purpose of the 303(d) list is to identify impaired water bodies for which a plan will be developed to remedy the pollution problem(s) (the TMDL—this document).

The basis for assessing Minnesota lakes for impairment due to eutrophication includes the narrative water quality standard and assessment factors in Minnesota Rules 7050.0150. The MPCA has completed extensive planning and research efforts to develop quantitative lake eutrophication standards for lakes in different ecoregions of Minnesota that would result in achievement of the goals described by the narrative water quality standards. To be listed as impaired by the MPCA, the monitoring data must show that the standards for both total phosphorus (the causal factor) and either chlorophyll *a* or Secchi disc depth (the response factors) are not met (MPCA, 2007a). Wirth Lake was listed based on the deep lake eutrophication criteria for the NCHF ecoregion (Table 1).

Table 1 MPCA Deep Lake Eutrophication Standards for Total Phosphorus, Chlorophyll *a* and Secchi Disc

303(d) Classification	MPCA Deep Lake Eutrophication Standard
	North Central Hardwood Forest Ecoregion
Total Phosphorus (µg/L)	40
Chlorophyll-a (µg/L)	14
Secchi disc (m)	1.4

Source: Minnesota Rule 7050.0222 Subp. 4. Class 2B Waters

2.2 General Lake Characteristics

Wirth Lake has a surface area of 38 acres (15.4 hectares), a maximum depth of 26 feet (7.9 meters), and an estimated mean depth of 14 feet (4.3 meters). Wirth Lake is surrounded by significant wetland vegetation which provides excellent waterfowl habitat. The lake is bordered by parkland and open space areas to the south and east, by Highway 55 to the north, and by Theodore Wirth Parkway to the west.

The Wirth Lake outlet is located in the northeast corner of the lake. A 8-foot wide by 4-foot high concrete box culvert, discharges water from Wirth Lake's main body directly into the main stem of Bassett Creek. The headwall of the culvert maintains the normal water elevation of Wirth Lake at approximately 818.4 feet. The water surface elevation of Bassett Creek under normal flow conditions is approximately one to two feet lower than the Wirth Lake outlet elevation.

2.3 General Watershed Characteristics

The Wirth Lake watershed has a total area of 347 acres (140 hectares) (excluding the landlocked areas). The watershed was separated into five "drainage districts" for this study. Stormwater and phosphorus contributed to the lake from each drainage district was estimated with the P8 Urban Catchment Model. Stormwater from approximately 77 percent of the Wirth Lake watershed currently drains through some form of wet detention before it enters Wirth Lake. Figure 1 shows the subwatershed areas. Subwatersheds BP-1 and FR-3 are considered landlocked areas. Each of the five major drainage districts draining to the lake are described below:

Highway 55 Drainage District—This 25-acre drainage district is located north of the lake and contains a significant portion of the developed land within the Wirth Lake watershed. The area is drained by four short storm sewers along the middle of the highway and a larger storm sewer which outlets to a drainage swale before discharging to Wirth Lake. Existing land use primarily consists of highway with some multi-family residential and parkland.

France Avenue Drainage District—This 159-acre drainage district is located west of the lake. Existing land use consists primarily of single-family residential with some

office space, undeveloped/parkland and multi-family residential. Runoff from the area drains to a large, shallow wetland that discharges through a culvert to Wirth Lake. The France Avenue Drainage District includes approximately 51 percent of the total land area tributary to the lake. This contributes a significant portion of the stormwater runoff to Wirth Lake.

Southeast Wirth Park Drainage District—This 10-acre drainage district is located southeast of the lake. Existing land use is entirely open space/parkland. Runoff from the area drains to a low area that, during larger storm events, would discharge to Wirth Lake through a culvert connected to an overflow catch basin structure.

Wirth Lake Direct Drainage District—This 83-acre drainage district consists of an area that drains directly to Wirth Lake without passing through a detention pond or conveyance system. Existing land use consists of open space/park development and water surface area. Presently, little opportunity for wet detention is available for stormwater runoff in this district.

South Wirth Park Drainage District—This 70-acre drainage district is located directly south of the lake. Existing land use is almost entirely open space/park development. Runoff from the area drains to a large, shallow wetland that discharges through a culvert to Wirth Lake.

The Wirth Lake watershed is fully developed. Figure 1 shows the land use conditions within the watershed.

3.0 Wirth Lake Excess Nutrients Impairment

3.1 Surface Water Quality Conditions for Excess Nutrients

Historical (1992 to 2008) concentrations of total phosphorus (TP), chlorophyll *a* (Chl *a*) and Secchi disc depth (SD) for Wirth Lake was compiled for this analysis. For the purposes of this TMDL report, growing season mean (May through September) concentrations of TP, Chl *a* and SD were used to evaluate water quality. This growing season was chosen because it corresponds to the eutrophication criteria, it spans the months in which the lakes are most used by the public, and the months during which water quality is the most likely to suffer due to excessive nutrients leading to nuisance levels of algal growth (the critical condition).

Figure 2 shows the growing season means for TP, chl *a*, and SD measurements for Wirth Lake. The mean surface water concentrations of TP in Wirth Lake have ranged from 113 µg/L (1992) to 29 µg/L (2008) over the past 17 years, with a significantly improving trend in water quality. Table 2 shows that the mean growing season TP concentration over the last 10 years (1999 to 2008) is 41 µg/L and it is noted that the improving trend in water quality coincides with dryer than normal precipitation conditions.

The growing season average Chl *a* concentrations have ranged from 36 µg/L (1995) to 8 µg/L (2005) over the past 17 years, with a significantly improving trend in water quality. Table 2 shows that the mean growing season Chl *a* concentration over the last 10 years (1999-2008) is 18 µg/L.

The growing season averages for SD have ranged from 0.8 meters (1994) to 2.7 meters (2008) over the past 17 years, with a significantly improving trend in water quality. Table 2 shows that the mean growing season SD transparency over the last 10 years (1999-2008) is 2.0 meters.

Figure 3 shows the average seasonal variability in water quality parameters throughout the 2008 growing season in Wirth Lake. Lower TP and Chl *a* concentrations are typically seen in the late spring and early summer, while higher concentrations typically occur later in the summer months (generally an indication of internal phosphorus loading). The SD data indicate that algal productivity increases significantly in mid- to late-summer.

Table 2 summarizes the historical water quality information compared to the deep lake listing criteria. Because the causal water quality factor (TP) and one of the response factors (Chl *a*) exceed the Listing Criteria on average over the previous 10 years, Wirth Lake was listed as "Non-Supporting" on the 305(b) list and as "Impaired" on the 303(d) list (in 2002).

Table 2 Eutrophication Standards and Wirth Lake 10-Year Average Water Quality Parameters

Water Quality Parameter	MPCA Deep Lake Eutrophication Standards (NCHF Ecoregion)	Wirth Lake Historical (1992-2008) Growing Season Average	Wirth Lake 10-Year (1999-2008) Growing Season Average
Total Phosphorus (µg/L)	40	55	41
Chlorophyll *a* (µg/L)	14	22	18
Secchi disc (m)	1.4	1.8	2.0

3.2 TMDL Modeling Methodology

Water balance and water quality modeling provided the means to estimate TP sources to Wirth Lake and the resultant water quality. Water balance and water quality modeling included:

- A P8 stormwater runoff model (P8 Urban Catchment Model; IEP, Inc., 1990) used to simulate the estimated water and TP loads on a daily basis from the watershed
- Incorporation of lake level data and monitoring data (flow and nutrients) for backflow from Bassett Creek to evaluate the Wirth Lake water and phosphorus balances during the calibration and validation time periods
- BATHTUB in-lake mass balance modeling that incorporated the water and TP loads from all potential sources and generated the resultant in-lake TP concentration.

The P8 Urban Catchment Model, Bassett Creek monitoring data, and the in-lake water and phosphorus mass balance modeling are described in more detail below.

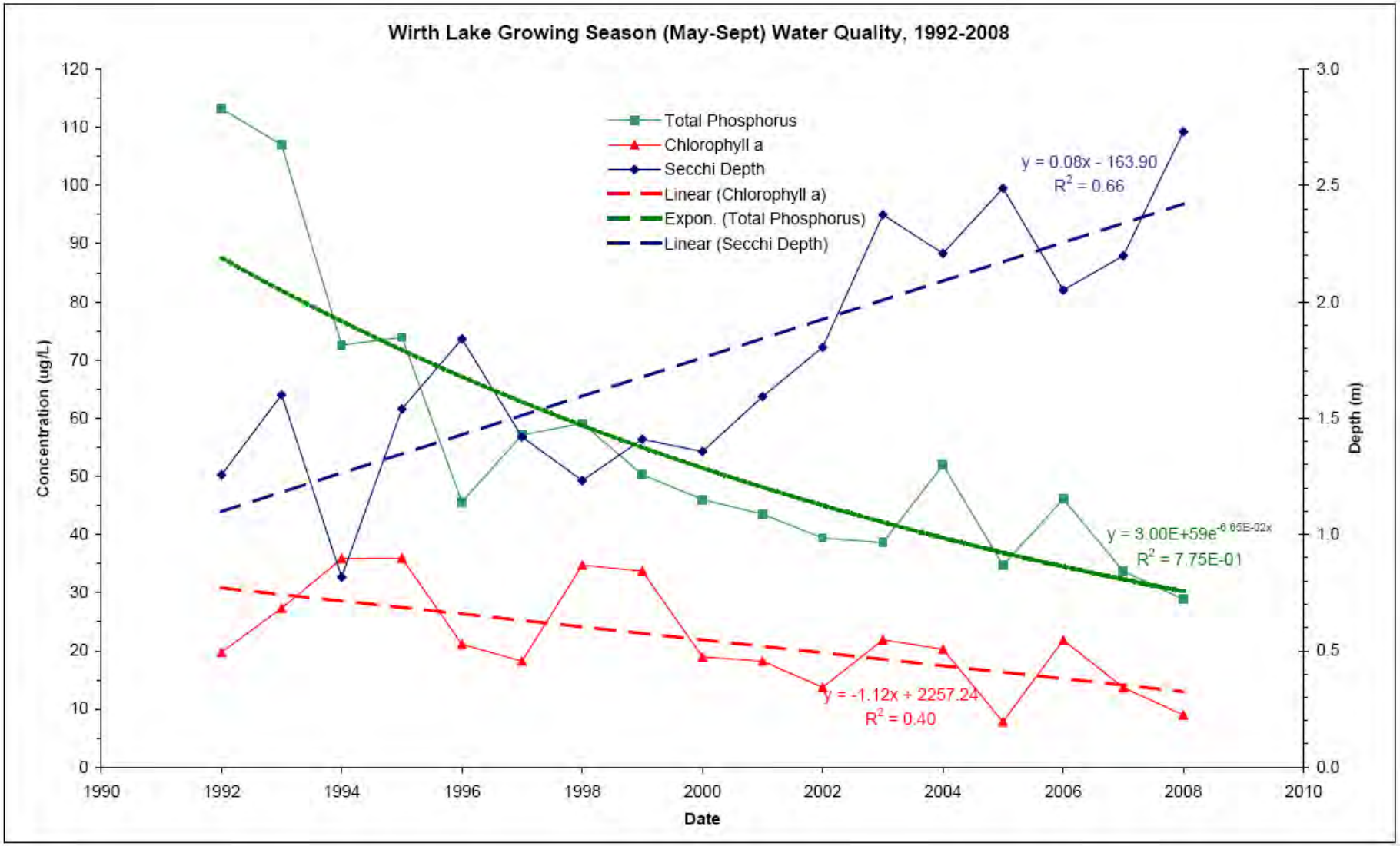


Figure 2 Wirth Lake Growing Season (May through September) Mean Secchi Depth, Total Phosphorus and Chlorophyll *a* Concentrations 1992-2008

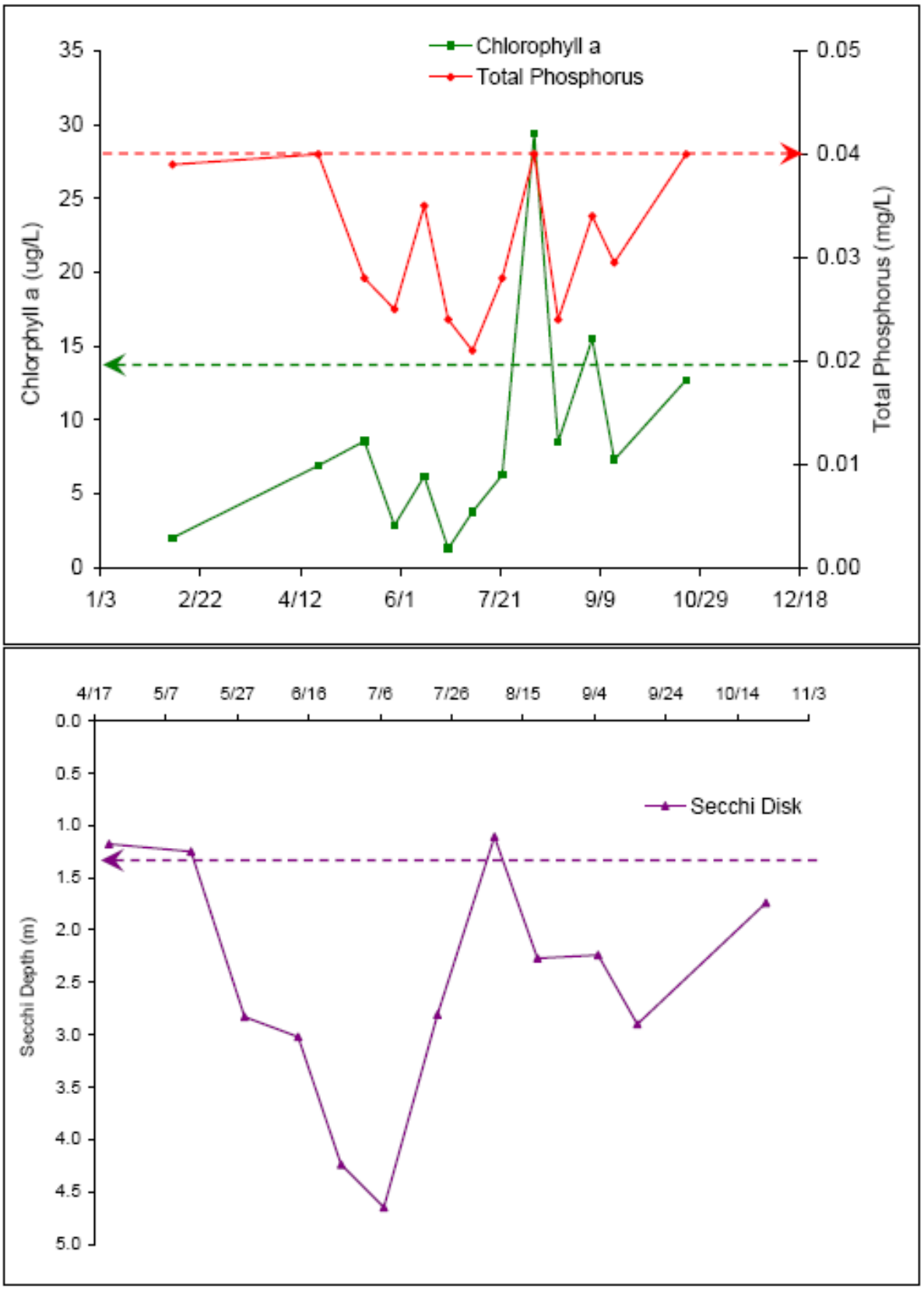


Figure 3 Wirth Lake Seasonal Water Quality (2008)

3.2.1 P8 Urban Catchment Model

P8 is a useful diagnostic tool for evaluating and designing watershed improvements and BMPs because it can estimate the treatment effect of several different kinds of potential BMPs. P8 tracks stormwater runoff as it carries phosphorus across watersheds and incorporates the treatment effect of detention ponds, infiltration basins, flow splitters, etc. on the TP loads that ultimately reach downstream water bodies. P8 accounts for phosphorus attached to a range of particulate sizes, each with their own settling velocity, tracking their removal accordingly.

P8 also uses long-term climatic data so that watershed runoff and BMPs can be evaluated for varying hydrologic conditions. In this study, the P8 model (Version 3.4) was updated from the previous study (Barr Engineering Company, 1996) and used to generate runoff patterns resulting from storm events in the watershed for the 2005-06 (calibration) and 2006-07 (validation) water years (October 1st—September 30). Daily runoff volumes and phosphorus loads were estimated, based on the default watershed and BMP input parameters with assumptions about the directly and indirectly connected impervious percentages for each type of watershed land use. No watershed monitoring data was available to calibrate the P8 Model for this study, but the runoff volumes were checked by developing a water balance for Wirth Lake and comparing predicted and observed lake levels. Key input parameters used in the P8 model for the watershed included:

- Drainage area information: size, impervious area percentages by land use (both directly and indirectly connected)
- Daily temperature and hourly precipitation, obtained from the Minneapolis-St. Paul airport, replaced with the rainfall depths observed at the local gauge (Metropolitan Council's Bassett Creek Watershed Outlet Monitoring Program [WOMP] station), where available during 2005 through 2007
- Existing BMP characteristics (normal and flood pool pond surface areas and volumes, outlet and flow splitter characteristics)

3.2.2 Water and Phosphorus Mass Balance Modeling

3.2.2.1 Water Balance

Water enters Wirth Lake from watershed runoff, direct precipitation, groundwater and backflow from Bassett Creek during high discharge events. Evaporation, groundwater and outlet outflow represent potential components of lake discharge. Watershed inflow estimates from P8 and direct precipitation were combined in a spreadsheet with lake outflow and volume estimates to develop daily water balance calculations for Wirth Lake and a comparison of predicted lake levels with the observations compiled by the MPRB for the calibration and validation time period.

3.2.2.2 BATHTUB In-Lake Modeling

Phosphorus enters the lakes from watershed runoff, atmospheric deposition, and sediment release. The latter is referred to as "internal loading" and it may be a significant source of phosphorus in lakes that have a history of high phosphorus loads from their watershed. Phosphorus released from the sediment during the summer months builds up in the bottom water and can be entrained in the epilimnion whenever the thermocline drops and/or the lake mixes. This process can occur in both shallow and deep lakes.

Simple empirical eutrophication models, such as those available for use in BATHTUB (Walker, 2004), can be used to reconcile phosphorus loadings from a watershed with the phosphorus concentrations observed in the lake. Most of the empirical phosphorus models assume that the lake to be modeled is well-mixed, spatially, meaning that the phosphorus concentrations in the lake are uniform across the surface of the lake regardless of the locations of the major river and stream inlet locations.

As previously described, watershed phosphorus loads were estimated with the P8 model, and were then used with the observed in-lake data in BATHTUB (Version 6.1) to determine which phosphorus sedimentation model provided the best fit to the average observed phosphorus concentration during the 2005-06 water year. The 2005-06 water year was chosen for this because it represented a current growing season that was likely impacted by a backflow event from Bassett Creek, and was intended to be the climate year used to evaluate the proposed lake improvement options for the lakes. The Wirth Lake BATHTUB model was calibrated using 2005-06 water year climatic and water quantity and quality data and

validated with data from the 2006-07 water year. The 2006-07 water year was chosen for validation because it represented a year where backflow from Bassett Creek did not occur. Internal loading of phosphorus was adjusted such that the predicted total phosphorus concentrations matched the observed total phosphorus concentrations after accounting for the flow volume (determined from the water balance computations) and associated nutrient load for backflow from Bassett Creek. The Metropolitan Council's Bassett Creek WOMP station (located less than one mile downstream of the Wirth Lake outlet) monitoring data was used to determine the phosphorus concentration in the creek during backflow events. The phosphorus load from atmospheric deposition was calculated by multiplying the lake surface area by a loading rate of 0.15 lbs/acre/year, which is equivalent to the average year deposition rate for the Upper Mississippi River Basin reported by Barr (2004).

The 2006 observed average summer total phosphorus concentration was 46 µg/L. After calibration, the model was utilized to estimate the reduction in phosphorus loading necessary to achieve a mean growing season total phosphorus concentration of 38 µg/L and ensure compliance with the total phosphorus criteria for the NCHF Ecoregion.

3.3 Modeling Results

Figure 4 shows the historical lake levels for Wirth Lake compiled by the MPRB along with the estimated Bassett Creek flood levels at the Wirth Lake outlet for various return periods. Comparing the Wirth Lake phosphorus concentrations shown in Figure 2 with the lake levels shown in Figure 4 indicates that the higher growing season mean phosphorus concentrations observed during the early to mid-1990s coincide with higher lake levels and high lake level fluctuations. Figure 4 shows that since 1997, the frequency and magnitude of the lake level fluctuations have diminished significantly, which coincides with the improving water quality trends shown in Figure 2. The recent lake level record indicates that one two-foot increase in lake level occurred at the end of 2005, while the lake level has since been maintained near the outlet level. As a result, data from 2005 through 2007 were used to calibrate and validate the modeling and determine phosphorus loads to each lake. The water year was used for each analysis running from October 1 through September 30, but only the growing season is used for comparing lake water quality to the standard.

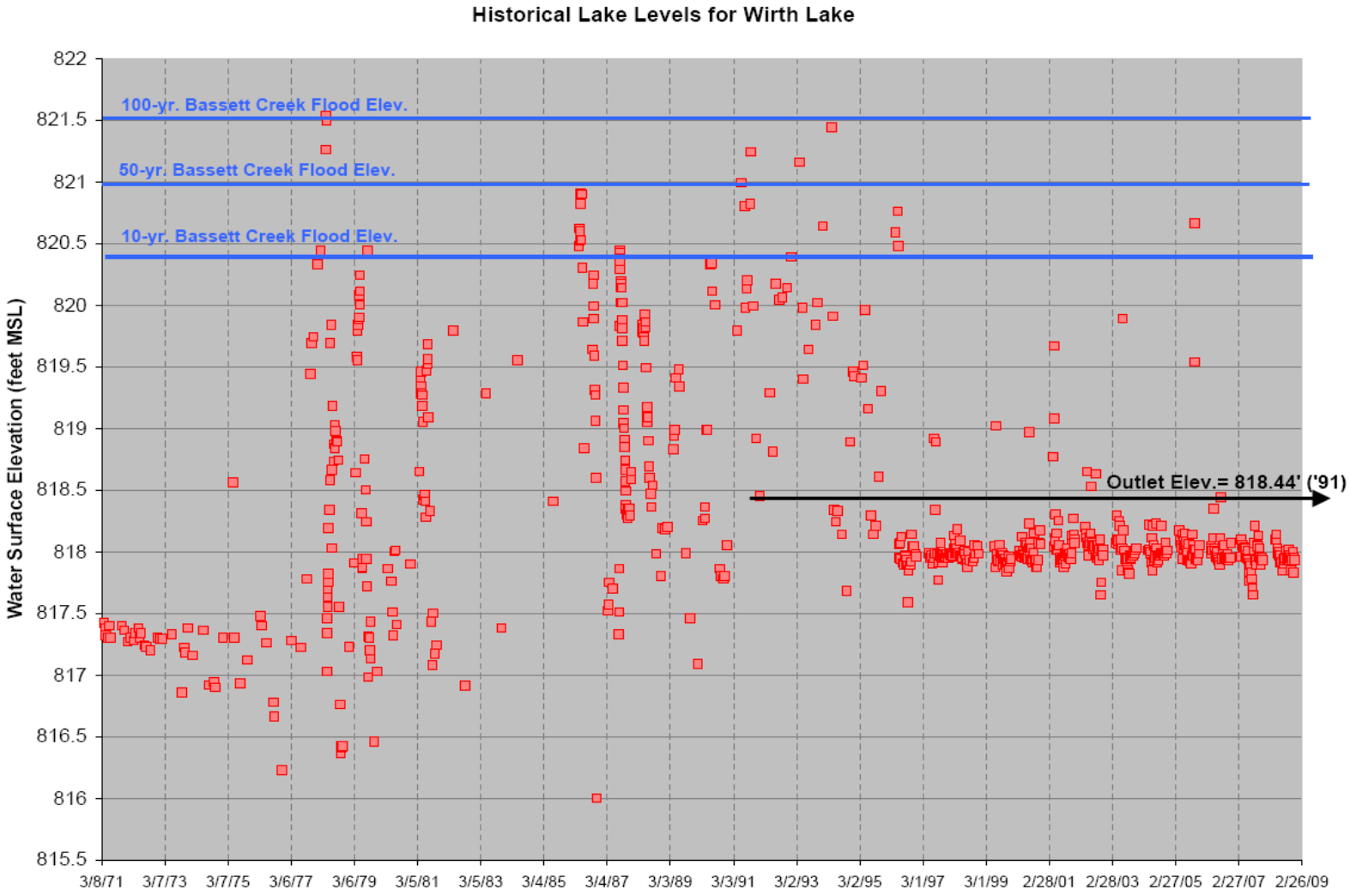


Figure 4 Historical Lake Levels for Wirth Lake

3.3.1 Lake Water Quantity/Quality Modeling

As previously discussed, watershed inflow estimates from P8 and direct precipitation were combined in a spreadsheet with lake outflow and volume estimates to develop daily water balance calculations for Wirth Lake. With the exception of a significant runoff event on October 5-6, 2005, Figure 5 shows good agreement between the predicted lake levels and the observations compiled by the MPRB for most of the calibration and validation time periods. The observed lake levels on October 5-6, 2005 were at least one to two feet higher than the predicted water balance lake levels, indicating that it was not possible to generate enough runoff from the direct tributary watershed to Wirth Lake to account for the difference. The available monitoring data from the Bassett Creek WOMP station indicated that the flow rate in the creek on October 5-6 ranged from approximately 400-450 cfs, which according to Figure 4, would coincide with the 10-year recurrence interval for flow in Bassett Creek and the creek stage would correspond well with the observed lake levels shown in Figure 5. Normally, Bassett Creek baseflow rates are approximately 10-20 cfs.

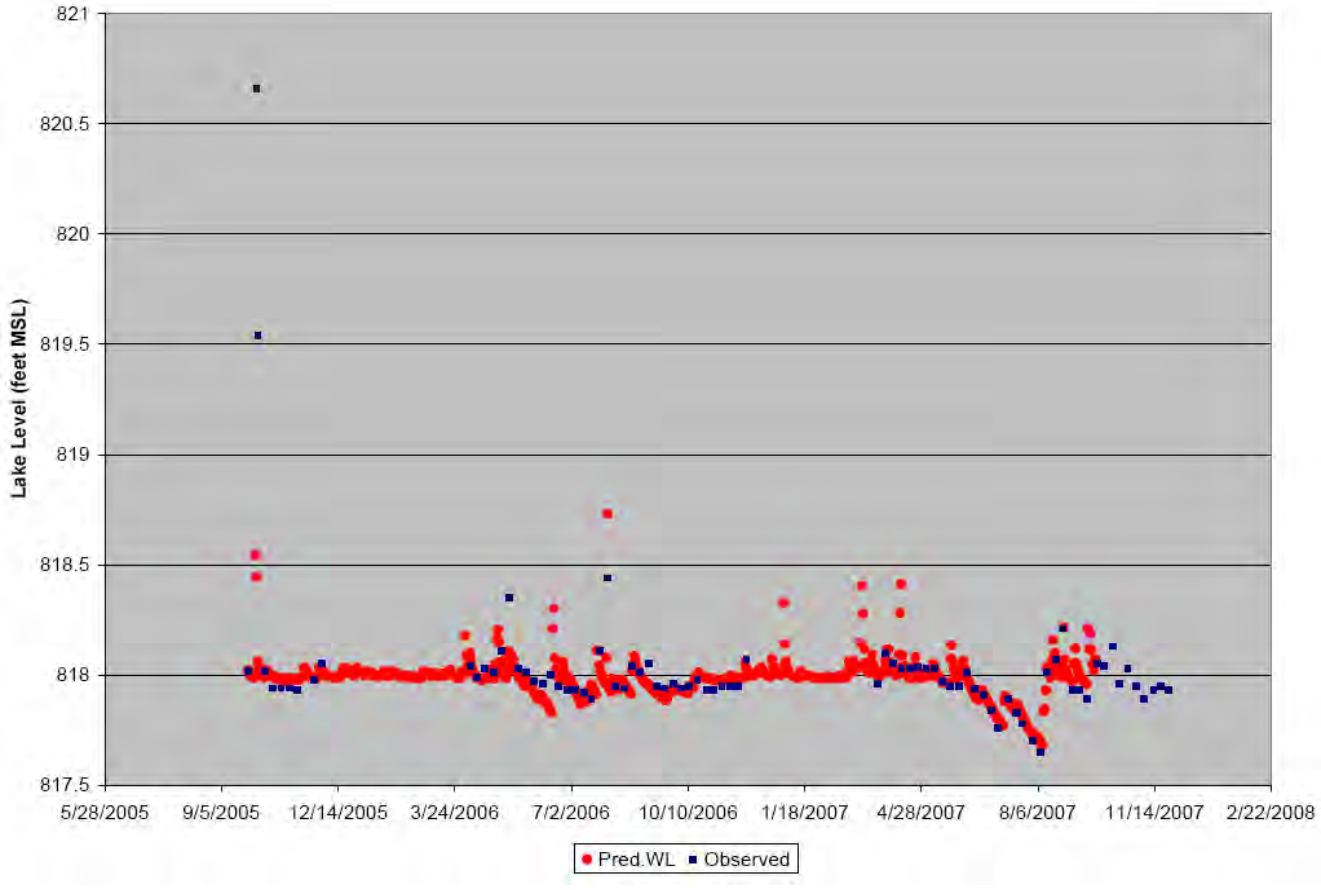


Figure 5 Wirth Lake Water Balance Calibration

As a result, the water balance modeling was used to determine that a volume of 95.3 acre-feet of backflow from Bassett Creek had occurred on October 5-6, 2005, based on the difference between the predicted and observed Wirth Lake levels. The water balance modeling was then used to estimate that the subsequent outflow volume from Wirth Lake during Bassett Creek flow recession was 99.4 acre-feet. The Bassett Creek WOMP station monitoring data included a flow-weighted sample collected during October 5-6, 2005 that had a TP analysis result of 324 µg/L. Prior to this runoff event, the Wirth Lake surface water TP concentration was 35 µg/L on September 27, 2005. The net mass of phosphorus added to Wirth Lake from this Bassett Creek backflow event was estimated by initially estimating the fully mixed TP concentration in the lake immediately before the creek flow recession and then subtracting the direct watershed inflow and lake outflow mass associated with creek flow recession. This was done by combining the P8 model event loading with the respective starting lake and stream inflow volumes and their associated TP concentrations, and then subtracting the volume-weighted outflow phosphorus mass after the lake would have become fully mixed. The fully mixed Wirth Lake TP concentration resulting from the creek backflow was estimated to be 108 µg/L and the net mass of phosphorus added to Wirth Lake from the creek backflow, alone, was 55 lbs.

As previously described, the P8 model watershed and creek backflow phosphorus loads were used with the observed in-lake data in BATHTUB to determine which phosphorus sedimentation model provided the best fit to the average observed phosphorus concentration during the 2005-06 water year. The BATHTUB model calibrated for phosphorus was used to determine the best models for predicting the observed chlorophyll-a concentration and Secchi disc transparency. The calibrated BATHTUB model was then validated by using it for the 2006-07 water year and comparing the result with the in-lake water quality observations.

Table 3 compares the in-lake water quality observations with the BATHTUB model results for the calibration and validation time periods. The calibrated version of the BATHTUB model was then used to predict how the lake water quality would change if the Wirth Lake outlet were configured in a way that would completely prevent backflow from Bassett Creek. Table 3 shows that the resulting in-lake TP concentration for this improvement option would drop from 46 to 38 µg/L and both TP and SD would meet the NCHF ecoregion eutrophication criteria for Wirth Lake.

Table 3 Results of Wirth Lake Water Quality Modeling

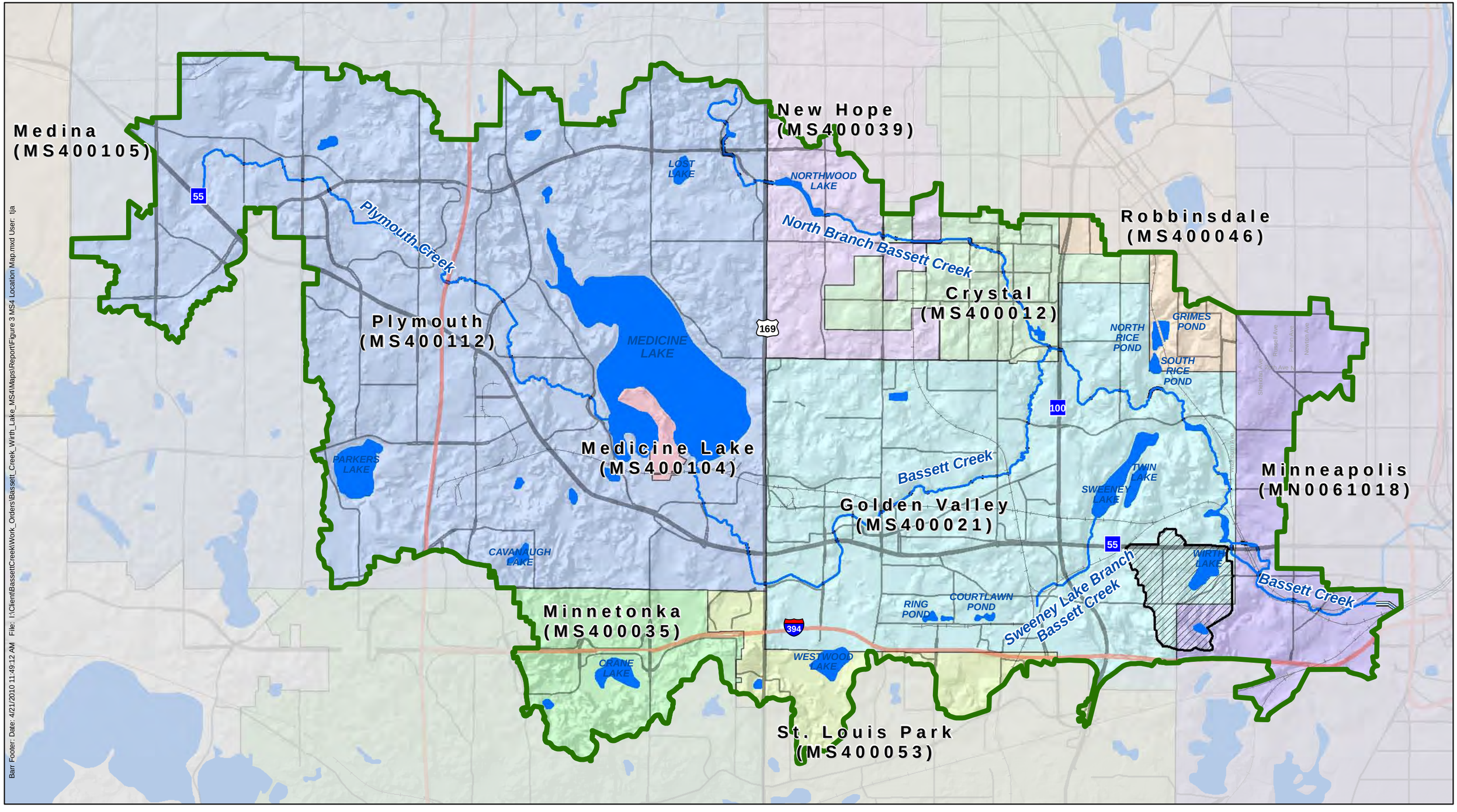
Water Quality Parameter	2005-06 Water Year			2006-07 Water Year	
	Observed	Calibrated	Calibrated w/o Creek Backflow	Observed	Validated
Total Phosphorus (µg/L)	46	46	38	34	36
Chlorophyll *a* (µg/L)	22	21	17	14	15
Secchi disc (m)	2.1	1.6	2.0	2.2	2.2

3.3.2 Phosphorus Sources and Contributions

Table 4 shows the relative contributions of phosphorus to Wirth Lake, during 2005-06, from different sources based on the modeling detailed in Section 3.3.1. During the 2006 growing season, internal sources of phosphorus contributed 14% of the total phosphorus load to Wirth Lake. Bassett Creek backflow from the upstream MS4s (see Figure 6) represented 37% of the annual total phosphorus load. Watershed runoff loading from the direct tributary watershed contributed 45% of the total phosphorus load to the lake. Atmospheric deposition contributed 4% of the phosphorus load to the lake.

Table 4 Existing Wirth Lake Phosphorus Budget

Source	Total Phosphorus Load, 2005-06 Water Year (lbs)
Direct Tributary Watershed (MS4s include MNDOT, Hennepin County, and the Cities of Golden Valley and Minneapolis [see Figure 6])	66
Bassett Creek Backflow (upstream MS4s include MNDOT, Hennepin County, and the Cities of Plymouth, Medina, Minnetonka, Medicine Lake, New Hope, Crystal, Robbinsdale, St. Louis Park, Golden Valley and Minneapolis [shown in Figure 6])	55
Atmospheric Deposition	6
Internal Load	20
Total Load	147



Barr Footer: Date: 4/21/2010 11:49:12 AM File: I:\Client\BassettCreek\Work_Orders\Bassett_Creek_Wirth_Lake_MS4\Maps\Report\Figure 3 MS4 Location Map.mxd User: tja

Bassett Creek Watershed Boundary

Wirth Lake Watershed

4,000 2,000 0 4,000 Feet

N W E S

Figure 6
MS4 Location Map
Bassett Creek/Wirth Lake Watershed

3.4 Methodology for Load Allocations, Wasteload Allocations and Margin of Safety

A TMDL is defined as follows (EPA 1999):

$$TMDL = WLA + LA + MOS + Reserve\ Capacity$$

Where:

WLA	=	Wasteload Allocation to Point Sources
LA	=	Load Allocation to NonPoint Sources
MOS	=	Margin of Safety
Reserve Capacity	=	Load set aside for future allocations from growth or changes

This section will define each of the terms in this equation for Wirth Lake and will discuss seasonal variation and reasonable assurances for the TMDL.

Of the two years modeled in this study, the one resulting in the critical condition for water quality in the lake was the 2005-06 water year (the growing season of 2006). During the 2005-06 water year, the watershed phosphorus load, internal load and Bassett Creek backflow phosphorus combined to produce higher growing season, in-lake phosphorus concentrations in the lake compared with 2007 (when creek backflow would not have occurred). The allocations presented in this TMDL are based on the management scenarios required to bring the growing season average TP concentration to 40 µg/L (NCHF ecoregion criteria) during the climactic conditions observed during the 2005-06 water year. Also, because it is a year of average precipitation, it serves as a fair baseline to set allocations. It is reasonable to expect that, on average, phosphorus sources in the watershed will have existing watershed TP loads consistent with those modeled during the growing season of 2006.

3.4.1 Wasteload Allocations

Wirth Lake and its direct tributary watershed are entirely located within MS4 regulated communities or regulated conveyance systems. Permitted industrial and construction stormwater sources do not appear to represent a phosphorus loading concern in this watershed because of the relatively small drainage areas that they represent, and are expected to represent in the future, in the fully developed watershed.

For the purpose of the TMDL allocations, industrial and construction stormwater have been combined with a categorical WLA for the cities of Golden Valley and Minneapolis and Hennepin County in the direct tributary watershed. A categorical WLA for these sources of runoff is justified because the drainage includes a similar mix of land use and/or municipal operations. The remainder of the TMDL WLA was assigned to MNDOT in the direct tributary watershed. As shown in Table 4, existing backflow from Bassett Creek includes upstream MS4 areas that includes drainage from MNDOT, Hennepin County, and the Cities of Plymouth, Medina, Minnetonka, Medicine Lake, New Hope, Crystal, Robbinsdale, St. Louis Park, Golden Valley and Minneapolis. No allocation has been included in the TMDL for this Bassett Creek drainage, as allowable backflow into Wirth Lake under any circumstance. Appendix A provides documentation that modifying the Wirth Lake outlet to prevent backflow from Bassett Creek would not adversely impact the upstream or downstream flood levels in the creek in the vicinity of the lake during various flood events.

3.4.2 Load Allocations to Nonpoint Sources

The load allocation for Wirth Lake is attributable to the internal and atmospheric loads of phosphorus to each lake. Atmospheric phosphorus loads were estimated assuming a 0.15 lbs/acre/year loading rate. The amount of internal phosphorus loading was a calibration parameter used in the BATHTUB modeling described in Section 3.3.

As shown in Table 4, the atmospheric and internal loading combined for 26 lbs. of the total phosphorus loading during the 2005-06 water year. No reduction in atmospheric or internal loading was assumed in setting the load allocations to ensure that the NCHF criteria will be met for the TMDL.

3.4.3 Margin of Safety

Under Section 303(d) of the Clean Water Act, a margin of safety is required as part of a TMDL. The MOS accounts for the uncertainty that the allocations set in the TMDL will result in the water body meeting the water quality standard. As shown in Table 3, eliminating the Bassett Creek backflow is expected to reduce the in-lake phosphorus concentration to 38 µg/L, which is 5 percent lower than the 40 µg/L TP criteria applicable to Wirth Lake. Thus, an explicit MOS of 5 percent of the total loading capacity was used to account for uncertainty

in the TMDL allocation process. There is a low level of uncertainty expected in setting the TMDL allocations for this watershed due to the extensive long-term monitoring that has been completed. In addition, the calibration/validation process used in this study also minimized the errors associated with erroneous assumptions or model error, and a recent year with high overall loading and in-lake phosphorus levels was used for setting the allocations (2005-06 water year).

3.4.4 Reserve Capacity

Because significant development is not expected in the watershed areas in this study into the future, existing conditions represents ultimate land use conditions for setting the allocations for Wirth Lake and no reserve capacity has been applied to the TMDL.

3.5 Phosphorus TMDL Allocations for Wirth Lake

The phosphorus TMDL allocations for Wirth Lake were developed to the meet the applicable deep lake eutrophication criteria. Allocations were set so that the lake met the total phosphorus criterion of 38 µg/L for the NCHF ecoregion. In addition, the Secchi disc transparency criterion of 1.4 meters will be met with the TMDL allocations. For Wirth Lake, the 2005-06 water year represented the critical condition with respect to phosphorus loading and resulting growing season mean total phosphorus concentration in the water column. The annual duration of 365 days was used to determine the daily load and wasteload allocations of phosphorus for the lake (Table 5).

Table 5 Wirth Lake Total Phosphorus Budgets and Wasteload and Load Allocations

Watershed TP Sources	Existing TP Load (lbs)	TMDL Wasteload Allocation (WLA) (lbs)	Daily TMDL Wasteload Allocation (WLA) (lbs/day)	Percent Reduction of Existing TP Load (Percent)
Direct Tributary Watershed MnDOT MS4 (#MS400170)	28	28	0.077	0
Direct Tributary Watershed Categorical MS4s (shown in Figure 6)	38	38	0.104	0
Bassett Creek Backflow MS4s (shown in Figure 6)	55	0	0	100
Total Load Sources	**121**	**66**	**0.181**	**45**
Internal and Atmospheric Sources	**Existing TP Load (lbs)**	**TMDL Load Allocation (LA) (lbs)**	**Daily TMDL Load Allocation (LA) (lbs/day)**	**Percent Reduction of Existing TP Load (Percent)**
Internal Sources	20	20	0.055	0
Atmospheric Sources	6	6	0.016	0
Total Load Sources	**26**	**26**	**0.071**	**0**
Margin of Safety (MOS)	NA	7	0.019	NA
Overall Source Total	**147**	**99**	**0.271**	**33**

3.6 Seasonal Variation

Phosphorus concentrations in the lake vary significantly during the growing season, generally peaking in August. The TMDL guideline for total phosphorus is defined as the growing season (May or June through September) mean concentration (MPCA, 2007b). Accordingly, water quality scenarios (under different management options) were evaluated in terms of the mean growing season total phosphorus (mid-May through September), when the critical condition for the lake occurs.

4.0 Monitoring Plan to Track TMDL Effectiveness

The water quality in Wirth Lake has been monitored for over 30 years, and will continue to be monitored for the foreseeable future. The MPRB will continue to monitor the water quality on an annual basis. The typical lake sampling protocol is to visit the lakes 8 to 10 times between April and September. The following water quality parameters are measured at each visit. All parameters except Secchi disc and chlorophyll *a* are measured at various depths in the water column (every 1 to 2 meters.)

- Secchi disc
- Dissolved Oxygen
- Temperature
- Total Phosphorus
- Chlorophyll *a*

Though not a requirement of what is called for in the TMDL monitoring plan, it is recommended that stakeholders monitor the long-term effectiveness of the water quality improvement project(s) proposed for Wirth Lake and its watershed. The primary TMDL monitoring activity will be evaluating the backflow prevention structure to ensure that it is functioning properly and minimizing phosphorus loading. Documentation of installed BMPs and testing of removal efficiencies of representative phosphorus reduction BMPs should be conducted, where possible.

Comprehensive phytoplankton, zooplankton, macrophyte and fisheries surveys should be considered for the lake during at least one of the years that surface water quality monitoring is being accomplished. As part of this survey, carp populations would be enumerated by size class using a catch-tag-release-recapture method or similar approach for producing reliable estimates of fish populations.

The comparison between future monitoring data and the modeling results in this study can be conducted as follows:

1. Using monitoring results (flow and water quality sampling data), calculate the annual load (or the load over some other time period) of phosphorus leaving the basins.
2. Run the in-lake models for same time period and calculate the load that the model predicts for pre-project conditions.

3. Compare the two loads, and calculate the percent reduction that was achieved over the time period of interest.

5.0 TMDL Implementation Strategies

5.1 Annual Load Reductions

To begin with, TMDL implementation will focus on continuing nonstructural practices in the watershed, maintain existing structural BMPs and eliminating Bassett Creek backflow as a source of phosphorus to Wirth Lake. To meet the standards under the NCHF ecoregion, reductions of 17 pounds per year (45%) from external loading are required. The overall phosphorus load to Wirth Lake will need to be reduced by 48 pounds per year (33%) in order to achieve the TMDL load allocation of 99 pounds per year.

Load reductions for construction stormwater activities are not specifically targeted in this TMDL. It should be noted that construction stormwater activities are considered in compliance with provisions of this TMDL if they obtain a Construction General Permit under the NPDES program and properly select, install and maintain all BMPs required under the permit, including any applicable additional BMPs required in of the Construction General Permit for discharges to impaired waters, or meet local construction stormwater requirements if they are more restrictive than requirements of the State General Permit.

5.2 Specific Projects/Practices

Phosphorus load reduction project(s) will be implemented in a stepwise manner, with implementation of structural backflow prevention as the main objective to go along with nonstructural practices that are either ongoing or have already occurred prior to this report. It is anticipated that it will take up to 5 years to implement the project involving structural modifications to the Wirth Lake outlet, which will be required to achieve the annual load reductions prescribed in the allocations. The estimated capital construction cost to complete the Wirth Lake outlet modifications is $200,000.

Maintenance of existing structural practices in the watershed has been ongoing and will continue to be documented in the MS4 SWPPPs. Implementation and maintenance of structural and nonstructural practices in the watershed will be performed to maintain existing loads.

Completed and future implementation practices designed to further reduce phosphorus loading in Wirth Lake are detailed in Table 6.

Table 6 Wirth Lake TMDL Implementation Plan Elements

Management Practice	Timeline/ Frequency
The top priority practice required to ensure compliance with the TMDL is construction of a lake outlet structure to prevent backflow from Bassett Creek and minimize additional phosphorus loading to Wirth Lake.	**Implement within 5 years of TMDL approval**
Best Management Practices (BMPs) that achieve a level of removal of phosphorus and suspended solids that would be equal or greater than the level of removal that would be achieved by a permanent pool that provides for storage of 2.5 inches of runoff volume from the entire development site is required for all new development and redevelopment. This requirement, and the requirement that the quality of stormwater runoff cannot be degraded, has been in effect for all new development and redevelopment in the watershed since 1994.	Apply to new development and redevelopment projects
Consider a policy that would require that all new development and redevelopment infiltrate the first one inch of rainfall from all impervious, surfaces where feasible.	Apply to new development and redevelopment projects
Opportunities to implement extended detention basins, infiltration basins, biofilitration basins, grit chambers, and other BMPs will continue to be identified as part of new development, redevelopment, and maintenance projects where they will provide a water quality benefit to the Lake.	Apply to new development and redevelopment projects
As new BMPs and water quality improvement technologies are developed they will be evaluated to determine if they can provide a water quality benefit to the Lake and they will be implemented if determined to be reasonable and practicable.	As needed/ identified
The existing program to promote the development of shoreline buffers will be continued.	Ongoing
Existing BMPs will be monitored and maintained to insure that they continue to provide the water quality benefits that they were intended to provide.	Ongoing
The city street sweeping program will continue and as new technology and new techniques are developed they will be evaluated to determine if they would provide a water quality benefit to the Lake and implemented if found to be reasonable and practicable.	Ongoing
The Bassett Creek Watershed Management Commission will work with County and State agencies to initiate a highway load reduction program which will consist of the construction of permanent BMPs and highway sweeping.	Implement within 5 years of TMDL approval
The water quality education program will continue to work with watershed residents to increase their understanding of practices that would reduce the amount of pollutants entering the Lake.	Ongoing

5.3 Responsible Parties

The BCWMC will initially take the lead role in implementing the Wirth Lake Outlet project to achieve the WLA defined in this TMDL. However, other entities are expected to continue to fulfill their existing responsibilities in stormwater management to help meet the goals of this TMDL. Particularly, because these are "waters of the state", the project partners and other local units of government will pursue state and federal assistance, wherever possible.

Specifically, work in the Wirth Lake watershed will:

- Continue to implement volume and runoff rate reduction BMPs on all development and redevelopment projects to comply with BCWMC standards.
- Look for opportunities to implement projects through the Capital Improvements Programs to reduce runoff and nutrient export wherever possible, taking advantage of (cost-share or land acquisition) programs for water quality improvements.
- Continue to implement Storm Water Pollution Prevention Plans (SWPPPs) and to improve public works maintenance practices wherever possible.

6.0 Reasonable Assurances

The following should be considered as reasonable assurance that implementation will occur and result in the necessary nutrient load reductions in Wirth Lake toward meeting its designated uses.

- The key implementation activity to achieve the load reduction is the installation of the backflow prevention outlet structure. This installation will be accomplished because the BCWMC has identified a funding source and the project will be considered for inclusion in the 2012 Capital Improvement Plan.
- The implementation plan section identifies specific BMP opportunities sufficient to maintain current load levels and help achieve the necessary load reduction and associated adoption schedule. Individual SWPPPs will be modified accordingly following the recommendations of the implementation plan.
- The BMPs and other actions outlined in Section 5.0 have all been demonstrated to be effective in reducing transport of pollutants to surface water. Also, local resource managers are currently implementing many of these BMPs and actions.
- The stakeholder group convened to provide feedback, and input into the project had broad representation from government, citizens, and technical experts.
- Monitoring will be conducted to track progress and guide adjustments in the implementation approach.
- The MS4, Construction and Industrial Activities NPDES Permits requires permittees to provide reasonable assurances that if an EPA-approved TMDL has been developed, they must review the adequacy of their stormwater pollution prevention plans (SWPPP) to meet the TMDL's WLA set for stormwater sources. If the SWPPP is not meeting the applicable requirements, schedules and objectives of the TMDL, they must modify their SWPPP, as appropriate, within 18 months after the TMDL is approved.
- All significant development, redevelopment, industrial, and construction projects need to be designed to maintain or improve existing developed hydrology and pollutant loadings to fully comply with the local watershed and government authorities, NPDES, and anti-degradation requirements.

7.0 Public Participation

Public participation for the Wirth Lake TMDL has occurred through meetings and updates on the TMDL project, including:

- A public information meeting regarding the lake TMDLs was held on _____.

- On February 17 and June 22, 2009 TMDL meetings were conducted between watershed representatives, the MPCA and staff from the following stakeholders that have responsibility for the watershed phosphorus loadings:

Name	Stakeholder Organization
Ginny Black	Bassett Creek Watershed Management Commission
Tim Brown	Minneapolis Park and Recreation Board
Pat Byrne	City of Minneapolis
Lois Eberhart	City of Minneapolis
Barb Lioda	MnDOT
Linda Loomis	City of Golden Valley
Jeff Oliver	City of Golden Valley
Dan Stauner	Bassett Creek Watershed Management Commission
Marcey Westrick	Board of Water and Soil Resources
Nick Proulx	MN DNR

- The BCWMC has been periodically briefed on the study through the duration.

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Minnesota Pollution Control Agency (MPCA). 2007a. *Guidance Manual for Assessing the Quality of Minnesota Surface Waters For The Determination of Impairment 305(b) Report and 303(d) List.* http://www.pca.state.mn.us/publications/wq-iw1-04.pdf

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Appendices

Appendix A

Wirth Lake/Bassett Creek Floodplain Analysis Memorandum

External Memorandum

To: Chris Zadak

From: Sarah Stratton and Katie Wenigmann, Barr Engineering

Subject: Wirth Lake BMP

Date: May 11, 2009

Project: 23271004 Wirth Lake TMDL

c: Len Kremer and Greg Wilson

This memo describes the results of the floodplain analysis completed for Wirth Lake and adjacent portions of Bassett Creek from Plymouth Avenue in Golden Valley to Penn Avenue in Minneapolis (Figure 1). The purpose of this floodplain analysis was to determine how Wirth Lake's flood storage affects the floodplain elevations along Bassett Creek. This memo is intended to outline the modeling methodology and assumptions made for completing the floodplain modeling, as well as summarizing the results of the analysis.

XPSWMM Model

The US E.P.A.'s Storm Water Management Model (SWMM), with a computerized graphical interface provided by XP Software (XP-SWMM), was chosen as the computer modeling package for this study. The XP-SWMM model is able to use rainfall and watershed information to generate runoff hydrographs or utilize user input hydrographs that are routed simultaneously through complicated pipe and natural channel flow networks. The model can account for detention in ponding areas, backwater conditions, weirs, orifices, and backflow through culverts, all of which do occur in this study area. Version 10.6 of the XP-SWMM model was used to model Wirth Lake and Bassett Creek from the flood storage area between Plymouth Ave and Highway 55 (Golf Course Pond) to Penn Avenue.

Bassett Creek was previously modeled using the U.S. Army Corps of Engineers HEC-1 (hydrologic model) and HEC-2 (hydraulic model) models for the effective FEMA Flood Insurance Rate Maps dated September 2004. For this study, Barr chose the XP-SWMM model due to its more robust modeling capabilities, especially with regards unsteady flow, flood storage areas and complicated outlet structures.

XPSWMM Modeling Assumptions and Methodologies

The contributing watershed area to Wirth Lake, not including the surface area of Wirth Lake, is 307.7 acres. Watershed input parameters for the Wirth Lake watershed were calculated using geographic information systems (GIS) along with typical published values for infiltration parameters. As mentioned previously, the Bassett Creek watershed area was previously modeled using the HEC-1 hydrologic model. Therefore, the inflow hydrographs for Bassett Creek at Plymouth Avenue for the 100-year (6 inches), 50-year (5.3-inches), and 10-year (4.2-inches) 24-hour design storms were taken from the HEC-1 model and entered into XP-SWMM.

In the XP-SWMM model, water can be stored in manmade basins or natural ponding areas until it reaches a certain elevation corresponding to an outlet, such as overflow via a weir, orifice and/or overland flow. Elevation-storage curves were obtained for Wirth Lake and for the Theodore Wirth Golf Course flood storage area north of Highway 55 on Bassett Creek using a digital elevation model (DEM) developed from 2007 Light Detection and Ranging (LIDAR) data acquired by Science Applications International Corporation (SAIC) for the US Army Corps of Engineers St. Paul District.

The normal water surface elevation of the Theodore Wirth Golf Course flood storage area was assumed to be the same as the control structure (modified weir) elevation of 815.5. The normal water surface elevation of Wirth Lake was surveyed by Barr Engineering as 818, the same invert elevation as the Wirth Lake outlet structure. The Wirth Lake outlet structure was modeled as an orifice that flows into an 8-ft wide by 3.5-ft high box culvert which discharges water to Bassett Creek.

According to the Hennepin County FEMA Flood Insurance Rate Map (September 2004), the 100-year, 50-year, and 10-year flood elevations at Penn Avenue are approximately 815 feet, 814 feet, and 813 feet, respectively. These elevations were used as the starting water surface elevations (i.e. backwater elevations) at the downstream end of the model (Penn Avenue). Backwater can be defined as a rise in water surface elevation caused by some obstruction such as a narrow bridge or culvert opening that limits the area through which water can flow.

Floodplain cross sections for Bassett Creek were obtained from the HEC-2 model, a survey completed by Barr Engineering on May 5, 2009 and/or the DEM from the LiDAR data. More specifically, cross sections for the two railroad bridges located upstream of Penn Avenue, the box culvert connecting Wirth Lake and Bassett Creek, the dual box culverts under Highway 55, and the culvert under the Old Penn Avenue bridge crossing were also surveyed on May 5, 2009. All other cross sections were obtained from the HEC-2 model, with some supplemental data obtained from the DEM.

Modeling Results

Two floodplain scenarios for each design storm (10-yr, 50-yr, and 100-yr) were modeled in the XP-SWMM model:

- Existing Conditions: allows Wirth Lake to overflow into Bassett Creek *and* allows Bassett Creek to overflow into Wirth Lake.
- Proposed Condition: only allows Wirth Lake to overflow into Bassett Creek once it reaches an elevation of 824.2 (the low point of the saddle between Wirth Lake and Bassett Creek). This option is being investigated as it would reduce nutrient loading into Wirth Lake.

Table 1 presents the comparison of the peak flood elevations for the three design storms at different locations along the study area between Highway 55 and Penn Avenue for the two floodplain scenarios.

Table 1: Comparison of peak flood elevations for the three design storms at different locations for the existing and proposed condition scenarios.

Location	Peak Flood Elevation (ft)					
	100-Year 24-Hour Existing Conditions	100-Year 24-Hour Proposed Conditions	50-Year 24-Hour Existing Conditions	50-Year 24-Hour Proposed Conditions	10-Year 24-Hour Existing Conditions	10-Year 24-Hour Proposed Conditions
Theodore Wirth Golf Course Flood Storage Area[1]	824.8	824.8	824.2	824.2	822.9	822.9
Wirth Lake	820.9	821.0	820.4	820.6	819.7	820.1
Bassett Creek where Wirth Lake inflows	820.9	821.0	820.4	820.4	819.4	819.4
Bassett Creek at Glenwood Avenue	819.9	820.0	819.4	819.5	818.6	818.5
Bassett Creek at U/S face Fruen Mill Dam	817.5	817.6	817.0	817.1	816.5	816.5
Bassett Creek at M.N. & S. Railroad Bridge	816.6	816.6	815.7	815.7	814.4	814.4
Bassett Creek at B.N. Railroad Bridge	815.5	815.5	814.4	814.4	813.3	813.3
Bassett Creek at Penn Avenue	815.0	815.0	814.0	814.0	813.0	813.0

[1] Directly upstream of the Highway 55 control structure

It should be noted that for the proposed conditions scenario, it was assumed that the normal water surface elevation of Wirth Lake would remain at 818 feet, even though the outlet structure would be blocked. It is possible that the natural hydrology of the lake would change to maintain a different normal water surface elevation. However, a flap gate could be installed that would allow Wirth Lake to overflow at an elevation of 818 but would prevent Bassett Creek from flowing into Wirth Lake.

Conclusion

If the Wirth Lake outlet was modified to prohibit Bassett Creek from flowing into Wirth Lake there would be no significant changes to the peak flood elevations of Bassett Creek and no increases in flood damage.

Figure 1
Study Area

Wirth Lake and Bassett Creek
Floodplain Modeling Study

0 250 500 1,000 1,500 2,000
Feet

Municipal Boundary

Wirth Lake Watershed

Sweeney Lake

Twin Lake

Theodore Wirth
Golf Course Pond

Plymouth Ave

Highway 55
Control Structure

Wirth Lake Outlet Structure

State Hwy 55

Golden Valley

Wirth Lake

Bassett Creek

Glenwood Ave

Minneapolis

Penn Ave

Fruen Mill Dam

M.N. & S. Railroad Bridge

B.N. Railroad Bridge

Proposed 2011 Operating Budget
Bassett Creek Watershed Management Commission - May 5, 2010

DRAFT

Item	Unaudited Preliminary 2009 Actual	2010 Budget	2010 Estimated	Proposed 2011 Budget
ENGINEERING				
Technical Services	113,841	110,000	110,000	120,000
Plat Reviews (funded by permit fees) 2009-$15,000	36,582	60,000	60,000	50,000
Commission and TAC Meetings	12,706	13,000	13,000	18,000
Surveys and Studies	15,178	20,000	20,000	20,000
Water Quality / Monitoring	54,613	20,000	20,000	30,000 (9)
Water Quantity	7,271	11,000	11,000	11,000
Inspections				
Watershed Inspections	6,161	8,000	8,000	8,000
Project Inspections	11,871	10,000	10,000	10,000 (7)
Municipal Plan Review	6,161	4,000	4,000	2,000 (6)
Subtotal Engineering	**$264,385**	**$256,000**	**$256,000**	**$269,000**
Administrator	1,500	15,000	15,000	35,000
Legal	16,464	18,500	18,500	18,500
Financial Management	3,205	3,000	3,000	3,000
Audit, Insurance & Bond	13,610	15,000	15,000	15,000
Meeting Catering Expenses	4,430	5,000	5,000	5,000
Administrative Services	34,145	45,000	45,000	45,000
Public Outreach				
Publications / Annual Report	1,697	4,000	4,000	2,000
Website	1,031	4,500	4,500	4,500
WOMP	4,791	10,000	10,000	10,000
Demonstration/Education Grants	8,279	5,000	5,000 (4)	5,000 (4)
Watershed Education Partnerships	8,279	15,000	15,000	15,000 (8)
Education and Public Outreach		4,000	4,000 (5)	5,000 (5)
Public Communications	1,706	3,000	3,000	3,000
Erosion/Sediment (Channel Maintenance)	25,000 (1)	25,000 (1)	25,000 (1)	25,000 (1)
Long-Term Maint. (Flood Control Project)	25,000 (2)	25,000 (2)	25,000 (2)	25,000 (2)
Subtotal	**$149,137**	**$197,000**	**$197,000**	**$216,000**
TMDL Studies	$10,000 (3)	$10,000 (3)	10,000 (3)	$10,000 (3)
Subtotal TMDL Studies	**$10,000**	**$10,000**	**10,000**	**$10,000**
GRAND TOTAL	**$423,522**	**$463,000**	**$463,000**	**$495,000**

For Information (Administrative Account)

Financial Information	
Audited fiscal year 2009 fund balance at January 31, 2010	343,991
Expected income from assessments in 2010	414,150
Expected interest income in 2010	1,000
Expected income from project review fees	48,850
Estimated funds available for fiscal year 2010	807,991
Estimated expenditures for fiscal year 2010	463,000
Estimated fund balance as of January 31, 2011	**344,991**
-	
2011 Budget	
Proposed 2011 Capital Projects	1,000,000
Proposed 2011 Operating Budget	464,500
Proposed total 2011 Budget	1,464,500
2011 Assessments and Fees	
2011 Operating Budget	495,000
Estimated 2011 permit fees (81% of permit expenditures)	40,000
Assessment proposed for 2011 Operating Budget	455,000
Proposed Budget Reserve on January 31, 2011	

(1) Will be transferred to Channel Maintenance Fund
(2) Will be transferred to Long-Term Maintenance Fund
(3) Will be transferred to a TMDL Studies Fund
(4) Grant program for demonstrations and education
(5) Includes brochures, fact sheets, miscellaneous education products, etc.
(6) Review three cities municipal comp plan.
(7) Includes $10,000 for tunnel inspections.
(8) CAMP ($4500) ; RiverWatch ($2000); Watershed Partners ($5,000) Blue Thumb ($1500)
(9) Includes two biota monitoring on two stations.

Bassett Creek Watershed Management Commission
Proposed 2011 Assessments
May 2010

	Community	For Taxes Payable in 2010 Net Tax Capacity *	2010 Percent of Valuation	Current Area Watershed in Acres	Percent of Area	Average Percent	2009 Assessment $449,874	2010 Assessment $414,150	Proposed 2011 Assessment $455,000	
54	Crystal	$7,930,685	5.71	1,264	5.09	5.40	$24,067	$22,131	$24,559	10.97%
28	Golden Valley	$32,922,331	23.69	6,615	26.63	25.16	$112,052	$103,256	$114,476	10.87%
79	Medicine Lake	$999,739	0.72	199	0.80	0.76	$3,298	$3,090	$3,459	11.94%
1	Minneapolis	$10,631,597	7.65	1,690	6.80	7.23	$33,246	$30,216	$32,882	8.82%
34	Minnetonka	$8,242,785	5.93	1,108	4.46	5.20	$23,031	$21,510	$23,641	9.91%
86	New Hope	$8,258,353	5.94	1,252	5.04	5.49	$24,445	$22,605	$24,985	10.53%
40	Plymouth	$60,612,394	43.62	11,618	46.77	45.19	$205,093	$188,453	$205,623	9.11%
44	Robbinsdale	$2,981,224	2.15	345	1.39	1.77	$8,077	$7,417	$8,040	8.40%
46	St. Louis Park	$6,382,445	4.59	752	3.03	3.81	$16,565	$15,472	$17,335	12.04%
	TOTAL	**$138,961,553**	**100.00**	**24,843**	**100.00**	**100.00**	$449,875	$414,150	$455,000	9.86%

Minnesota Board of Water & Soil Resources

Dear Administrator or Chair of the Watershed District or Management Organization;

This is a request for your organization to continue with or begin to partner and implement NEMO programming in 2011 to meet the needs of your local water resources guided by the recommendations, actions, and strategies implemented by municipal and watershed officials and leaders. Together we have accomplished much in 2009-10 and have built momentum for 2011.

NEMO - *Nonpoint Education for Municipal Officials* increases the knowledge of elected & appointed officials about the connection of land use and management decisions to water quality. It is the hope that this increased knowledge will lead to better, more informed decisions that fulfill the objectives of your organization and ultimately lead to the protection and improvement of a community's water and natural resources.

Northland NEMO is a collaborative of organizations in Minnesota and Wisconsin and is part of the National NEMO program now operating in 32+ states. NEMO Programs within the Twin Cities Metro Region, as well as across the State, have been made possible through the financial support of University of Minnesota Extension, Minnesota Sea Grant, Minnesota Board of Water and Soil Resources and the following local partners:

- Capitol Region Watershed District
- Minnehaha Creek Watershed District
- Mississippi Water Management Organization
- Rice Creek Watershed District
- South Washington Watershed District
- Vermillion River Joint Powers Organization
- Nine Mile Creek Watershed District

Request for Financial Support

As you plan your 2011 budget we hope you will include NEMO as a critical component of your outreach program. Financial support for the Northland NEMO program is required to ensure your organization and the communities within your watershed(s) have the opportunities to participate in workshops and use the many effective tools that are available or will be created during the next year. Financial partners will have access to the list of deliverables below, receive most of the services at no additional charge, and have higher priority for delivery from the Program. At this time, we request your organization makes a commitment to delivering NEMO programming by budgeting at least $5000 to support Northland NEMO programming for calendar year 2011.

Bemidji	*Brainerd*	*Duluth*	*Fergus Falls*	*Marshall*	*Mankato*	*New Ulm*	*Rochester*
701 Minnesota Ave., Suite 234	1601 Minnesota Drive	394 South Lake Ave., Room 403	1004 Frontier Drive	1400 East Lyon St., Box 267	1160 Victory Drive S., Suite 5	261 Highway 15 South	2300 Silver Creek Rd N.E.
Bemidji, MN 56601	Brainerd, MN 56401	Duluth, MN 55802	Fergus Falls, MN 56537-2505	Marshall, MN 56258	Mankato, MN 56001-5358	New Ulm, MN 56073	Rochester, MN 55906
(218) 333-8024	(218) 828-2383	(218) 723-4752	(218) 736-5445	(507) 537-6060	(507) 389-1967	(507) 359-6074	(507) 206-2889

Central Office / Metro Office 520 Lafayette Road North Saint Paul, MN 55155 Phone: (651) 296-3767 Fax: (651) 297-5615

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We acknowledge that budgets during this economic climate require your closer scrutiny which is why we have concentrated on the deliverables and objectives. Watershed organizations and districts across the region have a varying range of budgets and that is especially true for efforts relating to education and outreach. In some cases, watersheds may approve a higher amount in an effort to provide additional NEMO programming while other watersheds may choose to allocate lower amounts based off of need and available resources. Specific details can be discussed as needed.

We request your organization makes a commitment to delivering NEMO programming by allocating a specific allotment to support Northland NEMO programming for calendar year 2011 in your budgets. Later this year, NEMO in cooperation with BWSR and the University will invoice, contract, and request the funds from your organization.

As you make this request to your boards and receive a commitment, please forward that confirmation to me. If you have any questions or wish to discuss this in more detail, please do not hesitate to contact me.

Sincerely,

Steve Woods
Assistant Director
Minnesota BWSR
Phone: (651) 297-7748
Email: steve.woods@state.mn.us

John Bilotta
NEMO Program Director
U of MN Extension Service
Phone: 651- 480-7709
Email: jbilotta@umn.edu

Attachments: (1) Prospectus of Work, Objectives & Deliverables

Prospectus of Work, Objectives & Deliverables

The objective of the NEMO Program is to protect and improve the quality of Minnesota's water and related natural resources by providing local government officials with the information and skills required to make sound land development and re-development decisions. To fulfill that objective, Northland NEMO will concentrate on the following efforts and continue to provide these products to your organization:

1: Develop NEMO educational materials that are innovative in approach, effective in building knowledge, skills, and understanding for local officials, and specific to needs of Minnesota communities. Those materials include workshops, presentations, model plans, ordinances, and implementation strategies and other content and issue specific curriculum. *For example, Northland NEMO will develop new workshops and materials for local officials on what they specifically need to know about rain gardens, winter road (chloride) management, pervious pavement options, and stormwater pond & infrastructure maintenance.*

2: Train local partners in cities, watershed districts, water management organizations, , agencies, and other organizations to develop and deliver NEMO programming. We will provide training to local watershed, city, and other organization staff on both methods for effective NEMO based education and content that best fulfills local needs. Training will be offered one-on-one as well as through NEMO educator cohort training opportunities. *For example, training on how to develop a workshop using the Watershed Game component or training on the delivery of the Northland NEMO modules or presentations to city councils, planning commissions, or watershed boards.*

3: Provide direct NEMO education programs to cities and other organizations that are financial contributors to the program. NEMO program staff through the University of Minnesota Extension and Sea Grant Program will continue to provide direct education workshops, presentations, and other programs within local cities and local governmental organizations. We will develop, and provide programs through a cooperative approach with organizations that are financial partners. Programs include providing education presentations with the most recent research and leading hands-on, interactive land-based trainings and workshops on-the-water.

4. Measure & Document NEMO Program Efforts. NEMO through the guidance of the U of MN Extension and Sea Grant, will continue to measure and document knowledge and skills acquired by program participants and measure actions taken by program participants and communities.

5. Continue to lead the Northland NEMO Organization and build NEMO programs in communities not previously served. The U of MN Extension and Sea Grant will continue to lead and manage the NEMO program, coordinating efforts, expanding membership and work teams, and seeking additional support as needed. NEMO will provide a variety of mechanisms for local NEMO partners and educators to interact including face-to-face meetings, websites, list serves, newsletters, and other forums to share strategies and promote a work team environment.

Item 6H

TO: FY 2010 Competitive Grants Program Grantee

FROM: Wayne Zellmer, Grants Coordinator

SUBJECT: Grant Agreement

At their January 28, 2010 Meeting, the Board of Water and Soil Resources approved your request for FY 2010 Competitive Grants funding as listed on the enclosed Grant Agreement. Please review this Agreement and:

1. **Insert the Grantee's Authorized Representative information on page 1**
2. **Print this Agreement**
3. **Obtain an authorized signature on page 3**
4. **US Mail this Agreement to Kari Keating at the BWSR Central Office**

After this Agreement has been executed, a copy will be provided to you.

Payment will be issued after BWSR approval of your Workplan in eLINK. Payment will be made in two installments; 90% immediately, and the remaining 10% after BWSR approval of your final report. (See item 4.1 Terms of Payment.) This payment procedure complies with State Statute 16c.08, §5(b).

H:10CGPGA

Bemidji 701 Minnesota Ave., Suite 234 Bemidji, MN 56601 (218) 333-8024
Brainerd 1601 Minnesota Drive Brainerd, MN 56401 (218) 828-2383
Duluth 394 South Lake Ave., Room 403 Duluth, MN 55802 (218) 723-4752
Fergus Falls 1004 Frontier Drive Fergus Falls, MN 56537-2505 (218) 736-5445
Marshall 1400 East Lyon St., Box 267 Marshall, MN 56258 (507) 537-6060
Mankato 1160 Victory Drive S., Suite 5 Mankato, MN 56001-5358 (507) 389-1967
New Ulm 261 Highway 15 South New Ulm, MN 56073 (507) 359-6074
Rochester 2300 Silver Creek Rd N.E. Rochester, MN 55906 (507) 206-2889

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Item 6H

FY 2010 STATE OF MINNESOTA
BOARD OF WATER AND SOIL RESOURCES
COMPETITIVE GRANTS PROGRAM GRANT AGREEMENT

Vendor: 053346001-00				PO #: 16992		P1 #:	P2 #:	Date Pd #1: Date Pd #2:
Line	**FY**	**Fund**	**Agency**	**Org**	**Appr Unit**	**Object Code**	**Description**	
01	10	100	R9P	2CSV	CSV	5B20	GF Native Buffer	
02	10	352	R9P	2WMO	C03	5B20	CWF Runoff Reduction	
03	10	352	R9P	2NPR	C04	5B20	CWF Clean Water Assistance	
04	10	352	R9P	2FDL	C06	5B20	CWF Feedlot Water Quality	
05	10	352	R9P	2SLD	C07	5B20	CWF Shoreland Improvement	**$360,000**
06	10	352	R9P	2CDR	C07	5B20	CWF Conservation Drainage	
07	10	352	R9P	2NPT	C09	5B20	CWF Tech Assistance & Eng/319 Match	
08	10	352	R9P	2SST	C10	5B20	CWF SSTS Enhancement	
09	10	352	R9P	2IHT	C11	5B20	CWF Immin. Health Threat Abatement	
10	10	200	R9P	2SST	NRS	5B20	SSTS Inventory	
11	10	100	R9P	2FDC	FDL	5B20	GF Feedlot Water Quality	
12	10	100	R9P	2CSM	CSM	5B20	GF Cooperative Weed Mgmt.	

This grant agreement is between the State of Minnesota, acting through its Board of Water and Soil Resources (Board) and Bassett Creek WMO, Barr Engineering Company, 4700 W 77th St, Minneapolis, MN 55435.

Fiscal Agent: City of Golden Valley

Project Number: C10-36

Grant Amount: $360,000

Recitals

1. The Laws of Minnesota 2009, Chapter 172, Art. 2, Sec. 6; Chapter 37, Sec. 5; and the MPCA, have appropriated funds to BWSR for the FY 2010 Competitive Grants Program.
2. Minnesota Statutes 103B.101, subd. 9 (1), and 103B.3369, authorize the Board to award this grant.
3. The Grantee has submitted a BWSR approved work plan for this Program.
4. The Grantee represents that it is duly qualified and agrees to perform all services described in this grant contract to the satisfaction of the State.
5. As a condition of the grant, Grantee agrees to minimize administration costs.

Grant Agreement

Authorized Representatives

The State's Authorized Representative is David Weirens, BWSR Land & Water Section Administrator, 520 Lafayette Road North, Saint Paul, MN 55155, 651-297-3432, or his/her successor, and has the responsibility to monitor the Grantee's performance and the authority to accept the services and performance provided under this grant agreement.

The Grantee's Authorized Representative is **NAME, TITLE**
ADDRESS
CITY
TELEPHONE NUMBER

If the Grantee's Authorized Representative changes at any time during this grant contract, the Grantee must immediately notify the State.

1 Term of Grant Agreement

1.1 ***Effective date*:** January 1, 2010, or the date the State obtains all required signatures under Minn. Stat. § 16B.98, Subd.5.
1.2 ***Expiration date*:** December 31, 2011, or until all obligations have been satisfactorily fulfilled whichever comes first.
1.3 ***Survival of Terms*.** The following clauses survive the expiration or cancellation of this grant contract: 7. Liability; 8. State Audits; 9. Government Data Practices; 11. Governing Law, Jurisdiction, and Venue.

2 Grantee's Duties

The Grantee is responsible for the specific duties for the Program as follows:

2.1 ***Implementation***. The Grantee will implement the work plan, which is incorporated into this Agreement by reference, and located in the Board's Office in St. Paul.

2.2 ***Reporting***. All data and information provided in a Grantee's report shall be considered public.

2.2.1 The Grantee will submit a semi-annual progress report to the Board by February 1 and August 1 of each year on the status of program implementation by the Grantee. Information provided must conform to the requirements and formats set by the Board.

2.2.2 Display on its website the previous calendar year's detailed information on the expenditure of grant funds and measurable outcomes as a result of the expenditure of funds according to the format specified by the BWSR, by March 15 of each year.

2.2.3 The Grantee will submit a final progress report to the Board by February 1 of 2012. Information provided must conform to the requirements and formats set by the Board.

3 Time

The Grantee must comply with all the time requirements described in this grant agreement. In the performance of this grant agreement, time is of the essence.

4 Terms of Payment

4.1 Payment will be made in two installments by the Board. The first payment of ninety percent (90%) of the Grant Amount stated on page one will be paid promptly after the effective date of this grant agreement. The second payment of ten percent (10%) will be paid promptly after Board approval of Grantee's final report.

4.2 Any grant funds remaining unspent after the end of the expiration date stated above will be returned to the Board within one month of that date.

4.3 The obligation of the State under this grant agreement will not exceed the amount stated above.

5 Conditions of Payment

All services provided by the Grantee under this grant agreement must be performed to the States satisfaction, as determined at the sole discretion of the State's Authorized Representative and in accordance with all applicable federal, state, and local laws, ordinances, rules, and regulations. The Grantee will not receive payment for work found by the State to be unsatisfactory or performed in violation of federal, state, or local law.

6 Assignment, Amendments, and Waiver

6.1 ***Assignment.*** The Grantee may neither assign nor transfer any rights or obligations under this grant agreement without the prior consent of the State and a fully executed Assignment Agreement, executed and approved by the same parties who executed and approved this grant agreement, or their successors in office.

6.2 ***Amendments.*** Any amendment to this grant agreement must be in writing and will not be effective until it has been executed and approved by the same parties who executed and approved the original grant agreement, or their successors in office.

6.3 ***Waiver.*** If the State fails to enforce any provision of this grant agreement, that failure does not waive the provision or its right to enforce it.

7 Liability

The Grantee must indemnify, save, and hold the State, its agents, and employees harmless from any claims or causes of action, including attorney's fees incurred by the State, arising from the performance of this grant agreement by the Grantee or the Grantee's agents or employees. This clause will not be construed to bar any legal remedies the Grantee may have for the State's failure to fulfill its obligations under this grant agreement.

8 State Audits

Under Minn. Stat. § 16B.98, subd. 8, the Grantee's books, records, documents, and accounting procedures and practices of the Grantee or other party relevant to this grant agreement or transaction are subject to examination by the State and/or the State Auditor or Legislative Auditor, as appropriate, for a minimum of six years from the end of this grant agreement, receipt and approval of all final reports, or the required period of time to satisfy all state and program retention requirements whichever is later.

8.1 The books, records, documents, accounting procedures and practices of the Grantee and its designated local units of government and contractors relevant to this GRANT, may be examined at any time by the Board or Board's designee and are subject to verification. The Grantee or delegated local unit of government will maintain records relating to the receipt and expenditure of grant funds.

8.2 The Grantee or designated local unit of government implementing this Agreement will provide for an audit that meets the standards of the Office of State Auditor. The audit must cover the duration of the Agreement Period and be performed within one year after the end of the Agreement Period or when routinely audited, whichever occurs first. Copies of the audit report must be provided to the Board if requested.

9 Government Data Practices

The Grantee and State must comply with the Minnesota Government Data Practices Act, Minn. Stat. Ch. 13, as it applies to all data provided by the State under this grant contract, and as it applies to all data created, collected, received, stored, used, maintained, or disseminated by the Grantee under this grant agreement. The civil remedies of Minn. Stat. § 13.08 apply to the release of the data referred to in this clause by either the Grantee or the State.

If the Grantee receives a request to release the data referred to in this Clause, the Grantee must immediately notify the State. The State will give the Grantee instructions concerning the release of the data to the requesting party before the data is released.

10 Workers' Compensation

The Grantee certifies that it is in compliance with Minn. Stat. § 176.181, subd. 2, pertaining to workers' compensation insurance coverage. The Grantee's employees and agents will not be considered State employees. Any claims that may arise under the Minnesota Workers Compensation Act on behalf of these employees and any claims made by any third party as a consequence of any act or omission on the part of these employees are in no way the State's obligation or responsibility.

11 Governing Law, Jurisdiction, and Venue

Minnesota law, without regard to its choice-of-law provisions, governs this grant agreement. Venue for all legal proceedings out of this grant contract, or its breach, must be in the appropriate state or federal court with competent jurisdiction in Ramsey County, Minnesota.

12 Termination

The State may cancel this grant agreement at any time, with or without cause, upon 30 days' written notice to the Grantee. Upon termination, the Grantee will be entitled to payment, determined on a pro rata basis, for services satisfactorily performed.

13 Data Disclosure

Under Minn. Stat. § 270C.65, Subd. 3, and other applicable law, the Grantee consents to disclosure of its social security number, federal employer tax identification number, and/or Minnesota tax identification number, already provided to the State, to federal and state tax agencies and state personnel involved in the payment of state obligations. These identification numbers may be used in the enforcement of federal and state tax laws which could result in action requiring the Grantee to file state tax returns and pay delinquent state tax liabilities, if any.

14 Prevailing Wage

It is the responsibility of the Grantee or contractor to pay prevailing wages on construction projects to which state prevailing wage laws apply (Minn. Stat. 177.42 – 177.44). All laborers and mechanics employed by grant recipients and subcontractors funded in whole or in part with these state funds shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality.

15 Signage

It is the responsibility of the Grantee to comply with requirements for project signage, as provided in Laws of Minnesota 2009, Chapter 172, Article 5, Section 10, for Clean Water Fund projects.

16 Constitutional Compliance

It is the responsibility of the Grantee to comply with requirements of the Minnesota Constitution regarding use of Clean Water Funds to supplement traditional sources of funding.

IN WITNESS WHEREOF, the parties have caused this Grant Agreement to be duly executed intending to be bound thereby.

APPROVED:

City of Golden Valley	**Board of Water and Soil Resources**
BY: _____	BY: _____
TITLE: _____	TITLE: Land & Water Section Administrator
DATE: _____	DATE: _____

H:10CGPGA

Item 6J

BCWMC Education & Public Outreach Committee Meeting

May 3, 2010 – 9:00 a.m. – Plymouth City Hall Medicine Lake Room

Members Present: Liz Thornton, Stu Stockhauss, Mary Gwin-Lenth, Margie Vigoren and Pauline Langdorf - Geoffrey Nash also attended. Margie had to leave the meeting at 9:30 a.m.

WMWA Education/Public Outreach Plan

We reviewed the West Metro Watershed Alliance (WMWA) Plan. We like the Plan and made the following comments:

1) Activity 2 – Measure and Monitor Public Awareness and Opinion – we think the timeframe for conducting suggested surveys is too short.

2) Activity 4 – Develop and Coordinate County-Wide and Regional Activities – we think that some NEMO activities will need to be offered to groups smaller than multi-jurisdictional.

3) Activity 5 – Pursue and Obtain Funding for Joint Education and Outreach Activities – we suggest adding under Proposed Activities a point 6. Document impact of previous programs.

We also suggest that the sheet of examples titled Local Education and Outreach Activities not be attached to the Plan.

Recommended 2011Budget for Education and Public Outreach, Watershed Partnerships

Education & Public Outreach line item - We discussed several types of handouts for public events and decided that we again use seed packets for 2011 along with the "10 Things You Can Do To Improve Water Quality" brochure. Additional seed packets will needed ($500). We have the brochures on hand. We're pleased with the articles written for the local newspapers and how well they have been received. We recommend that this activity continue to be funded ($1,200). Exhibit fees for participation in various outreach events ($200). As of our meeting date we didn't know what the costs would be for 2011 for WMWA activities. Therefore, we recommend budgeting the same amount as in 2010 ($2,000) with the understanding that we may need to increase this prior to BCWC's budget being approved. *Recommended total for this line item = $4,000*

Watershed Partnerships line item – CAMP (Citizen Assisted Monitoring Project) is resident monitoring of their lake and having the samples they collect analyzed by Metropolitan Council Environmental Services (MCES). Our charges from MCES depend on the number of lakes sampled and the amount of training needed for new volunteers. We have not used the amount budgeted in the past and recommend reducing the amount for this activity to ($3,500). River Watch is a program run by Hennepin County Conservation where they train teachers and assist students in doing stream monitoring. We recommend that we continue to support this effort at the same level ($2,000). WaterShed Partners (WSP) is a coalition of more than 60 public, private and non-profit organizations in the Twin Cities metro area who work collaboratively on educational projects, networking, and resource-sharing. Members of WSP serve on a Media Campaign committee and produce and arrange for various public media outreach on watershed education. We recommend that we continue to support this group at the same amount ($5,000) which is divided between the parent organization WSP and the Media Campaign. Metro Blooms is an organization that provides raingarden workshops. We have provided supplemental funding for raingarden workshops held in our area. Participating cities also provide part of the funding.

We recommend that we continue to support this activity ($2,000). Blue Thumb is an outreach program designed to meet water quality goals to help cities meet their federal Clean Water Act mandates. Their program materials help residents who are interested in doing their part to protect water quality - to plan, purchase and plant native gardens, raingardens and shorelines with native plants. We recommend that we continue supporting this organization ($1,500). *Recommended total for the Watershed Partnerships line item is $14,000.*

Grants line item – Grants are available for various activities within our watershed that provide information about and activities that promote water quality improvement. The maximum grant amount is $1,000 and requires a monetary or in-kind match. We have not had many applications for these funds but hope with increased public awareness that we will have greater participation in this program. *We recommend that we continue to fund this program ($5,000).*

WaterShed Partners (WSP) Invoice for 2010

> We received the final report for from WSP for work done in 2009. *We recommend that the WaterShed Partners invoice for 2010 be paid. We recommend that the funds be designated as $2,000 for Watershed Partners, and $3,000 for the media campaign. This is to be charged to the Watershed Partnerships line item in the 2010 budget.*

Watershed Game

Several BCWMC Education/Public Outreach committee members played the Watershed Game at the April WMWA meeting. We found this to be well designed and feel that it would be a useful education tool. It could be used by the BCWMC , our city councils, planning commissions, environmental advisory commissions, and lake associations. A Hennepin County staff member has offered to facilitate the game at no cost. NEMO (Nonpoint Education for Municipal Officials), who helped develop the game, will also facilitate the game at a cost for non-NEMO partners and at no cost for NEMO partners.

April Outreach Activities

Plymouth Yard and Garden Expo – Liz Thornton set up and staffed our exhibits for this event. She reported that the event was well attended and that the positioning of exhibitors was very beneficial. This made for easy referral if the visitors lived in a different area or needed information from an exhibitor with a specific area of expertise.

Westwood Earth Day Event – Jim Vaughn picked up the exhibits from Liz for use in St. Louis Park at their Earth Day Event. We assume this event was successful as it has been well attended in previous years.

St. Bartholomew's Church – Liz Thornton picked up the exhibit from Westwood and set it up at the church for their environmental event. She reported good interaction with event participants.

Crystal 50th Anniversary Event June 26th - We received an invitation to staff a table for BCWMC at the Crystal 50th Anniversary Event in June. Stu Stockhauss and Pauline Langsdorf are available to do this.

Also – We'd like to develop a booklet about the history of Bassett Creek and will begin collecting information. Our Teacher Focus Group requested this to enhance their water studies materials.

Next Meeting – Ed./Public Outreach Comm. Fri., June 4 – 9:00 a.m. – Plymouth City Hall

Notes by Pauline Langsdorf

Item 6J

WEST METRO WATER ALLIANCE
3235 FERNBROOK LANE | PLYMOUTH, MN 55447
763.553.1144 | judie@jass.biz
www.shinglecreek.org

MINUTES
April 13, 2010

A meeting of the West Metro Water Alliance (WMWA) was called to order by Diane Spector at 8:35 a.m., Tuesday, April 13, 2010, at Plymouth Creek Center, 14800 34th Ave. N, Plymouth, MN.

Present were: Shelley Schwaninger Shingle Creek/West Mississippi WMC; Janet Moore, Shingle Creek WMC; Pauline Langsdorf and Liz Thornton, Bassett Creek WMC; Doug Baines, Elm Creek WMC; Margie Vigoren and Sally Strand, Plymouth; Claire Bleser, Nine Mile Creek WD; Lisa Whalen, Pioneer-Sarah Creek WMC; Mary Karius, Hennepin County Environmental Services (HCES); Stacy Lijewski, Hennepin Conservation District (HCD); John Bilotta, NEMO; Diane Spector, Wenck Associates; and Amy LeMieux and Judie Anderson, JASS.

1. Motion by Baines, second by Thornton to approve the **Minutes** of the March 9, 2010 meeting. *Motion carried.*

2. WMWA Organizational Structure.

a. Members were requested to review and comment on the final draft of the **West Metro Education and Outreach Plan** by April 20, 2010.

b. By recommendation of LeFevre, the SCWMC attorney, each WMO will execute **a cooperative agreement** to create the organizational structure with one WMO taking the lead position and the responsibility of acting as fiscal agent, collecting contributions and recording expenditures. The agreement would cover three items: 1) that the organization agrees to participate in WMWA, 2) the organization understands WMWA will establish operational policies and agrees to abide by those policies, and 3) the organization will cover administrative costs by equal division between all participating organizations. WMWA will continue collecting contributions for special projects rather than dues. In this form WMWA will remain as an ad hoc committee and will operate by the Education and Outreach Plan (EOP).

3. Watershed Game. Members played the lake version of the Watershed Game. This tool and the NEMO program are purposed to provide education, knowledge and skills to local decision-makers like City Councilors, Planning Commissioners, Park Board members and Lake Association leaders.

Bilotta suggested a watershed-wide meeting of city councils, planning commissions, etc. to see and play the game. It was noted that bringing the game directly to the city level, rather than at a regional level, would gain more participation in certain areas. Many Planning Commissions are cancelling meetings due to a lack of development in their communities and may be a good place to start the game.

Bilotta requested WMWA to consider becoming a NEMO partner. The cost is $5,000-$10,000 and will include all workshops provided by NEMO, including some workshops currently in development. A la carte workshops usually cost $700-$1300 per workshop.

4. Great Watershed Cleanup – Update. The Shingle Creek and West Mississippi WMOs are promoting The Great Watershed Cleanup. Every member city in the two watersheds with the exception of Osseo is participating.

The idea of an area-wide cleanup was discussed. Bleser, Vigoren and Lijewski will research the cost of large enviro-friendly biodegradable bags.

5. Other 2010 Activities and Events.

a. Attendance numbers from the **Plymouth Yard & Garden Expo** are not yet available, but it seemed very well attended. The average level of knowledge, including people knowing which watershed they lived in, the purpose of rain gardens and the number of people who had rain gardens was noticeably increased over last year. The question most regularly asked was how to deal with shade and native plants. Questions regarding the types of plants can be directed to the Blue Thumb website which has a listing of several hundred native plants and their preferred light/soil conditions.

b. Nine Mile Creek Watershed District has scheduled its **Salt Workshops** for November 1 and 2, 2010. No information regarding salt workshops through Stormwater U has been received. The Carver and Minnehaha Creek Watershed Districts may also be planning salt workshops in the fall. Nine Mile Creek WD will also be holding Turf Management Workshops in the spring, one for public works and one for private applicators.

6. Evaluate Partnerships. WMWA will join as a non-financial contributor, supplementing current individual City and WMO partnerships.

a. WaterShed Partners. 2009 contributions of $3,000 to WaterShed Partners and $2,000 to their media campaign were made by BCWMC. While we have seen billboards and heard radio spots and we know that knowledge of water resource issues is increasing, the source of the information cannot be quantified.

b. Blue Thumb. Required contributions are $1,500 or 40 volunteer hours per year. Blue Thumb is a valuable resource for citizens with questions about plants.

c. Metro Blooms. Metro Blooms has partnered with the Bassett Creek, Shingle Creek and West Mississippi WMCs to provide Rain Garden workshops throughout the metro area with varying degrees of attendance. Cost in 2010 will be $11,700. WMC contributions are $2,000, city contributions are $750 per workshop.

d. NEMO. WMWA will investigate NEMO resources and any budget for joining NEMO will come from WMOs under their education line items with a specific amount.

e. Stormwater U. Stormwater U promotes innovative stormwater best management practices among stormwater practitioners through locally tailored workshops that focus on important stormwater issues facing Municipal Separate Storm Sewer System (MS4) operators such as cities and watersheds. Workshops are designed to help MS4's meet their stormwater permit minimum control measure requirements.

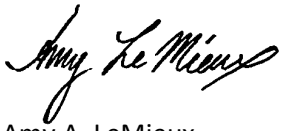
Stormwater U is funded by the East Metro Water Resources Education Program, Metropolitan Council, Minnehaha Creek Watershed District, Minnesota Pollution Control Agency,

Ramsey-Washington Metro Watershed District, St. Anthony Falls Laboratory, U of M Erosion and Sediment Control, U of M Extension and the Washington Conservation District.

7. The **next meeting** of the West Metro Water Alliance will be at 8:30 a.m., Tuesday, May 11, 2010, at Plymouth Creek Center, 14800 34th Ave. N, Plymouth, MN 55447.

There being no further business, the meeting was adjourned at 11:05 a.m.

Respectfully submitted,



Amy A. LeMieux
Recording Secretary

AAL:tim Z:\Education\West Metro Water Alliance\WMWA meetings\04__Joint Minutes.doc

7B.

Geoff Nash, P.G.

Administrator's Report

Bassett Creek Watershed Management Commission

May 13, 2010

1. I attended the BCWMC Education & Outreach Committee meeting on Monday, May 3.
2. Attended the Budget Committee meeting on Wednesday, May 5.
3. Attended the TAC meeting on Thursday, May 6.
4. Attended the West Metro Water Alliance (WMWA) meeting on May 11.
5. This month I have performed the following:
    a. Edited the Executive Summary of the 2009 Annual Report.
    b. Worked with Amy Herbert and Len Kremer on the outline for the Police Manual, as well as on examples of policy formats. A draft of the outline for the Policy Manual is available with the meeting packet for your review.
    c. Worked with Amy Herbert and members of the Administrative Committee on prioritizing tasks to be performed by the Administrator.
    d. Requested that Ron Leaf, SEH, update the Comments Table for the Sweeney Lake TMDL.
    e. Attended a meeting with Joel Settles (Hennepin Co. Environmental Department), Len Kremer (Lower Minnesota. R. WD), Eric Enenson (Minnehaha Creek WD), and Doug Snyder (Mississippi WMO) regarding groundwater protection at the county level. The County is preparing an outline of a countywide groundwater protection plan and is interested in a partnership with watershed districts and WMOs.
6. The Administrative Committee, Amy Herbert, and I have discussed the priorities on how I spend my time. There appear to be plenty of high priority tasks on which to focus. A draft of the Administrator's Work Plan is included in you packet for discussion.

[continued...]

BCWMC Policy Summary

1. **BCWMC Mission**
2. **BCWMC Goals**
   2.1. Water Quality Goals
3. **Definitions**
4. **Board Governance Policies**
   4.1. Management Structure, Powers, and Duties (provide highlights of 34 pg. JPA)
   4.2. Meetings
   4.3. Committee Structure
   4.4. By-laws (10 pgs, full text)
   4.5. Board Member Interaction with District Consultants
   4.6. Noticing Requirements for District Projects
   4.7. Advisory Committee Operating Procedure
5. **Watershed Planning and Rules**
   5.1. Flood Control Project Maintenance (see WMP 5-2)
   5.2. Erosion Control (see WMP 6-2)
   5.3. Wetland Management (see WMP 8-1)
   5.4. Groundwater Management (see WMP 9-1)
   5.5. Public Ditches (see WMP 10-1 and Commission Letter to Hennepin County sent during 2009 Legislative session)
   5.6. Public Involvement (see WMP 9-1)
   5.7. Plan Amendments (see WMP 12-21)
   5.8. Lake and Stream Management (see WMP, pg. 12-)
   5.9. Stormwater Runoff Management (see WMP, pg. 12-)
   5.10. Fish and Wildlife Habitat and Shoreland Management (see WMP, pg. 12-)
   5.11. Administration of BCWMC Water Quality Management Standards (see WMP, pg. 12-)
   5.12. Review of Improvements, Development Proposals, and Other Agency Permits (see WMP, pg. 12-2 and Requirements for Improvement and Development Proposals on BCWMC website)
6. **Administrative Policies**
   6.1. Consultants
      6.1.1. Administrator (see draft authored by BCWMC and contract)
      6.1.2. Administrative Secretary (see contract)
      6.1.3. Engineering (see contract)
      6.1.4. Legal (see contract)
   6.2. Permit Review Fees (eff. 1/1/06, GNash HD/BCWMC Current Policies)
   6.3. General Administrative Levy and Capital Projects ("CIP Precursor", 7/30/02, GNash HD/BCWMC Current Policies)
   6.4. Capitol Improvement Program Closed Project Account Policy (10/20/05, GNash HD/BCWMC Current Policies)
   6.5. Creek and Streambank Maintenance Repair and Channel Sediment Removal Fund (11/13/03, GNash HD/BCWMC Current Policies)
   6.6. Commission Participation in Cost of Wetland Mitigation as Part of Capital Improvement Projects (4/29/08, GNash HD/BCWMC Current Policies)

6.7. Administrative Expense Charges to Capital Improvement Projects (Resolution, x/x/05, GNash HD/BCWMC Current Policies)
6.8. Capital Improvement Project approval and implementation (see JPA)
6.9. Flood Control Project Inspection (see annual budget background)
6.10. Intercommunity Planning and Design (see WMP, pg. 12-3)
6.11. Dispute Resolution Process (see WMP, pg. 12-3)
6.12. City Responsibilities (see WMP, pg. 12-4)
6.13. Other Agencies' Responsibilities (see WMP, pg. 12-7)
6.14. Past and Proposed Funding Mechanisms (see WMP, pg. 12-14)

7. Records and Data Retention

8. Financial Policies

8.1. Management of investment funds

APPENDICES

A. BCWMC Joint Powers Agreement
B. Local Cooperation Agreement Between the Department of the Army and City of Minneapolis
C. Mississippi WMO Joint and Cooperative Agreement for Boundary Change
D.

BCWMC Policy Manual

Policy: Creek and Streambank Maintenance Repair and Sediment Removal Fund

Description: The BCWMC will establish and maintain a Creek and Streambank Trunk System Maintenance, Repair, and Sediment Removal Fund through an annual assessment. This fund will be used to finance stream maintenance, repair, and restoration projects. This is part of the BCWMC's annual water quality and flood control program.

Specifics:

1. Fund will be used to finance the BCWMC's share of maintenance projects applied for by the cities that have regional benefit, or to partially fund smaller, localized projects that cities wish to undertake.
2. Finance maintenance and repairs needed to restore a creek or streambank area to the designed flow rate.
3. Finance work needed to restore a creek or streambank area that has resulted in damage to a structure, or where structural damage is imminent, based on an assessment of benefits.
4. Finance a portion of a project that provides BCWMC benefits, including reduced potential for flooding, mitigation of water quality impairment or minimizing the potential for water quality impairment.
5. Finance the BCWMC's share of maintenance projects to be applied for by the cities that have a regional benefit, or to partially fund smaller, localized projects that cities wish to undertake.
6. Member cities will complete and update their inventories of significant erosion and sedimentation areas along the Bassett Creek trunk system and will share this information with the BCWMC. The BCWMC will allocate funds from this fund only for those areas identified in a completed inventory.
7. Member cities are responsible for funding maintenance and repairs that are primarily aesthetic improvements.
8. The BCWMC Technical Advisory Committee will develop guidelines for the allocation for allocation of funds.

Benefits: Benefits include reduced potential for flooding, mitigation of water quality impairment, or minimizing the potential for water quality impairment.

Applicable funding: Typically $25,000 per year, depending on budget priorities

Date Originated: November 13, 2003

Citation: See Appendix X.X, TAC memos (17 pages)

Focus Area 1: Addressing tasks from Request for Proposals for contractor				**% of contract time/ budget goal: _____%**		
Line # for discussion reference	Priority Level (low, medium, high)	Order to address (1st tier= immediate/ now; 2nd tier = address after 1st tier, etc.)	Task	Deadline	Estimated hours per month	Item is x% of monthly contracted services to BCWMC
1.1	Medium		Develop & implement BCWMC strategic plan	11/17/2010 or 12/16/ 2010 for first draft		
1.2	High	2nd	Identify opportunities to secure grant funding for proposed CIP projects	Monthly report at mtg as necessary		
1.3	High	2nd	Coordinate preparation of grant applications; track grant timetables			
1.4	High	2nd	Track implementation of watershed-funded water quality projects./ activities & coordinate with Commission Engineer, member-cities, & BCWMC re: providing project updates to Commission, adding agenda item for discussion / action by BCWMC; and tracking: project reimbursements to cities, project budgets, and CIP reserve			
1.5	High	1st	First point of contact to the BCWMC for general public, also for certain issues/ audiences identified by BCWMC. Clarify communication flow as means to improve BCWMC organizational efficiency and to strengthen relationships with member cities. Develop communication flow chart for use, distribution, BCWMC's Web site.			
1.6	High	3rd	Coordinate the annual CIP review and manage resulting amendments			

1.7	High	2nd	Manage the TMDLs through their completion			
1.8	High	3rd	Coordinate TMDL implementation and tracking			

Focus Area 2: Addressing tasks from Springsted's watershed organizational analysis				**% of contract time/ budget goal: _____%**		
Line # for discussion reference	Priority Level (low, medium, high)	Priority ranking (1= most important)	Task	Deadline	Estimated hours per month	Item is x% of monthly contracted services to BCWMC
2.1	High		Develop procedure for BCWMC to follow to set annual work plan			
2.2			Facilitate BCWMC's development of 2011 work plan for adoption at 2/17/11 organizational meeting	Final draft 2/17/11		
2.3			Conduct year-end review/ summary of annual work plan accomplishments and of BCWMC's mission & strategic goals			
2.4			Develop five-year plan			
2.5	High		Develop job descriptions (roles, responsibilities, authorization & reporting structures) of Commissioners/ alternates, Committees/ members, legal and engineering consultants, administrator and recording administrator contractors			
2.6			Develop policy & procedures manual and develop/ capture in manual the following PRAP reqs: • personnel policies for adoption by BCWMC • data practices policy for adoption by			

			BCWC • devise method to document/ maintain records on each commissioner/ alternate commissioner's orientation/ training and continuing education • devise method to document/ maintain records on each staff member's orientation/ training and continuing education (check with BWSR to see if this standard applies to contracted professionals) • personnel policies for adoption by BCWMC			
2.7			Develop orientation materials and conduct training workshop			

Focus Area 3: Meetings					**% of contract time/ budget goal: _____%**	
Line # for discussion reference	Priority Level (low, medium, high)	Priority ranking (1= most important)	Task	Deadline	Estimated hours per month	Item is x% of monthly contracted services to BCWMC
3.1	High	1st	Participate in monthly BCWMC chair pre-meeting conference call		0.5 – 1.0	
3.2	High	1st	Participate in BCWMC meeting		2.5 – 4.0	
3.3	High	1st	Participate in monthly TAC meeting		2.0 – 3.0	
3.4	High	1st	Participate in annual Budget Committee meetings		0.08 – 0.33 (=	

					1.0 – 4.0/ year)	
3.5	High		Participate in Executive Committee meetings if scheduled		0	
3.6	High		Participate in Special BCWMC meetings as scheduled		0 – 2.0	
3.7	High		Participate in TMDL Public Stakeholder meetings			
3.8	High	1st	Participate in BCWMC CIP Work Group/ Committee			
3.9	High		Participate in Participate in Administrative Services Committee meetings			
3.10			Help develop reporting structure for Administrator to BCWMC and participate in "check-in" meetings with that overseeing body of Administrator			
3.11			Participate in Education & Public Outreach Committee meetings			
3.12			Participate in West Metro Watershed Alliance mtgs			
3.13			Participate in Education & Public Outreach Committee public events			
3.14			Attend member-city council meetings as requested by member-city, Commissioner, alternate, TAC member			
3.15			Attend TMDL project coordination/ implementation/ technical meetings			
3.16			Attend water quality monitoring coordination mtgs			

Focus Area 4: Administrative tasks			**% of contract time/ budget goal: _____%**			
Line # for discussion reference	Priority Level (low, medium,	Priority ranking (1= most	Task	Deadline	Estimated hours per month	Item is x% of monthly contracted

	high)	important)				services to BCWMC
4.1	High	1st	Prepare outgoing communications to Member-cities, County, federal & state agencies, taxpayers & inquiring others as directed			
4.2	High	1st	Coordinate with Chair, staff, committees, and Member-cities to develop monthly meeting agenda			
4.3			Participate in evaluation of Administrator's performance of contracted services	prior to 4/15/2011		
4.4			Evaluate consultants and determine if consultant tasks are appropriately assigned	Prior to 1/31/11		

Focus Area 5: Committee Tasks				**% of contract time/ budget goal: _____%**		
Line # for discussion reference	Priority Level (low, medium, high)	Priority ranking (1= most important)	Task	Deadline	Estimated hours per month	Item is x% of monthly contracted services to BCWMC
5.1			Develop TAC meeting agendas			
5.2			Coordinate TAC meeting packet			
5.3			Coordinate budget process			
5.4			Write Budget and Levy document that communicates the proposals to the member cities,			

			secure Commission approval, send to member-cities for reivew			
5.5			Record & present the progress & recommendations of CIP Review Committee			
5.6			Participate in Education Committee's review of Commission Web site and advise Committee on how to proceed with updating site			
5.7			Manage education grant applications by receiving, distributing to Education Committee for its review, and managing and tracking grant contracts and reimbursements (distributing funds to grantees)			
5.8			Coordinate the watershed education partnerships (securing agreements for Commission review, presenting reports and invoices for Commission review)			
5.9			Coordinate WMO citizen education programs with member-cities & adjacent watersheds			

Focus Area 6: Revision of BCWMC's *Watershed Management Plan* (due 2014)				**% of contract time/ budget goal: _____%**		
Line # for discussion reference	Priority Level (low, medium, high)	Priority ranking (1= most important)	Task	Deadline	Estimated hours per month	Item is x% of monthly contracted services to BCWMC
6.1			Create process to capture and catalog ideas for Plan revisions for Plan due in 2014			

6.2			Actively research ideas to include in Plan revision (e.g., reviewing other watershed' recent Plan revisions)			

Focus Area 7: BCWMC Improvements				**% of contract time/ budget goal: _____%**		
Line # for discussion reference	Priority Level (low, medium, high)	Priority ranking (1= most important)	Task	Deadline	Estimated hours per month	Item is x% of monthly contracted services to BCWMC
7.1			Maintain file of idea of how the BCWMC could improve its efficiency and efficacy to benefit of the BCWMC & its member-cities (within the purposes and goals set in the *Watershed Management Plan*)			
7.2			Prepare & present improvement recommendations to BCWMC			

Barr Engineering Company
4700 West 77th Street • Minneapolis, MN 55435-4803
Phone: 952-832-2600 • Fax: 952-832-2601 • www.barr.com *An EEO Employer*

Minneapolis, MN • Hibbing, MN • Duluth, MN • Ann Arbor, MI • Jefferson City, MO

Item 8A

Memorandum

To: Bassett Creek Watershed Management Commission

From: Barr Engineering Company

Subject: Item 8 – Information Only
BCWMC May 20, 2010 Meeting Agenda

Date: May 12, 2010

Project: 23/27 051 2010 003

A. Administrative Reviews

a. Qwest Fiber Optic Direction Boring: Golden Valley

A plan was reviewed for directional boring a 2-inch casing and fiber optic line along the north side of Glenwood Avenue adjacent to, and at least 5-ft beneath the bottom of Glen Pond. A letter of approval was provided to the City of Golden Valley.

B. Erosion Control Inspection Report

Attached is a copy of the May 2010 erosion control inspection report.

May 7, 2010

Mr. Tom Mathisen, City Engineer
City of Crystal
4141 North Douglas Drive
Crystal, MN 55422

Ms. Jeannine Clancy
Director of Public Works
City of Golden Valley
7800 Golden Valley Road
Golden Valley, MN 55427-4588

Ms. Lois Eberhart, Water Resource Administer
City of Minneapolis
Engineering Design
309 Second Avenue South, Rm. 300
Minneapolis, MN 55401-2268

Ms. Liz Stout, Water Resources Engineer
City of Minnetonka
14600 Minnetonka Boulevard
Minnetonka, MN 55345

Mr. Guy Johnson, Director of Public Works
City of New Hope
4401 Xylon Avenue North
New Hope, MN 55428

Mr. Kevin Springob
Water Resource Technician
City of Plymouth
3400 Plymouth Boulevard
Plymouth, MN 55447

Mr. Richard McCoy, City Engineer
City of Robbinsdale
4100 Lakeview Avenue North
Robbinsdale, MN 55422

Ms. Laura Adler, Engineering Program Coordinator
City of St. Louis Park
5005 Minnetonka Boulevard
St. Louis Park, MN 55416

Ms. Cheri Templeman
PO Box 47091
Plymouth MN 55447

Re: Bassett Creek Watershed Erosion Control Inspections
May 4-6, 2010

We have inspected construction sites in the Bassett Creek Watershed for conformance to erosion and sediment control policies. Listed below are construction projects and the improvements needed for effective erosion control. The sites were inspected May 4-6, 2010. Please review the following for your respective city.

City of Crystal

None to report

City of Golden Valley

Laurel Hills East Condominiums: Rock outlet structure at the pond was constructed at too high an elevation and is not operating correctly, forcing pond water to divert and overtop the earth berm; rock outlet and filter must be lowered or extended to prevent erosion along the berm.

City of Medicine Lake

None to report

City of Minneapolis

None to report

City of Minnetonka

None to report

City of New Hope

None to report

City of Plymouth

Bassett Creek Office Center: Silt fence adjacent to the pond is nearly overtopped with soil and must be maintained or replaced.

Four Points: Silt fence or other erosion protection must be installed along the cul-de-sac, adjacent to the disturbed area and soil stockpiles.

City of Robbinsdale

None to report

City of St. Louis Park

None to report

The following developments were found to be in compliance with erosion and sediment control policies:

City of Crystal

None to report

City of Golden Valley

Crown Packaging (inactive)
Golden Meadows (inactive)
Golden Ridge (inactive)
Miner Site (construction not started)
North Hennepin Regional Trail / Golden Valley Trail Phase 2
North Wirth Business Center (inactive)
Theodore Wirth Pedestrian Bridge

City of Medicine Lake

None to report

City of Minneapolis

Van White Memorial Boulevard (inactive)

City of Minnetonka

Austrian Pines (inactive)
Cantera Woods (inactive)
Crest Ridge Corporate Center (inactive)
Sherwood Forest Neighborhood Street Reconstruction (inactive)

City of New Hope

Hillside Terrace (inactive)
Rome Co. (construction not started)

City of Plymouth

ATK (4700 Nathan Lane)
Banner Engineering (construction not started)
Beacon Academy (inactive)
Circle Park Pond
County Rd 9 & 61 Erosion Repair
Executive Woodlands (inactive)
Hidden Acres (construction not started)
Larkin Pond (inactive)
1900 E Medicine Lake Dr (inactive)
Plymouth Creek Ponds
Plymouth Crossing Station (construction not started)
Remax
South Shore Drive Town Home
36th Ave Culvert Replacement
Timber Creek Improvements
26th Ave Culvert Replacement
Waterford Office Plaza (inactive)
Wood Creek
Woods at Medicine Lake (inactive)

City of Robbinsdale

None to report

City of St. Louis Park

Parkside Lofts (inactive)

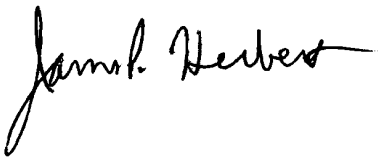
The following development has been completed and removed from the inspection list:

City of Plymouth

Hennepin County Library

Contact me at 952-832-2784 (jherbert@barr.com) or Kim Johannessen at 952-832-2686 (kjohannessen@barr.com) if you have questions regarding these comments.

Sincerely,



James P. Herbert, P.E.
Barr Engineering Co.
Engineer's for the Commission

4700 West 77th Street
Minneapolis MN 55435-4803

JPH/ymh
c: Mr. Jeff Oliver, City of Golden Valley
Mr. Dennis Daly, City of Minneapolis
Mr. Robert Moberg, City of Plymouth