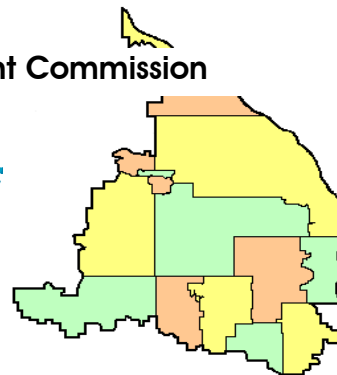




Shingle Creek Watershed Management Commission



3235 Fernbrook Lane N • Plymouth, MN 55447
 Tel: 763.553.1144 • Fax: 763.553.9326
 Email: judie@jass.biz • Website: www.shinglecreek.org

February 1, 2019

Commissioners
 Shingle Creek and West Mississippi
 Watershed Management Commissions
 Hennepin County, Minnesota

The agenda and meeting packet are available to all interested parties on the Commission's website at <http://www.shinglecreek.org/minutes--meeting-packets.html>

Dear Commissioners:

Regular meetings of the Shingle Creek and West Mississippi Watershed Management Commissions will be held **Thursday, February 14, 2019**, at Edinburgh USA, 8700 Edinbrook Crossing, Brooklyn Park, MN. Lunch will be served at 12:00 noon and the meetings will convene concurrently at 12:45.

Please email Judie Anderson at judie@jass.biz to confirm whether you or your Alternate will be attending the meeting.

Your meal choices are:

- Cobb Salad, Grilled Chicken, Romaine Lettuce, Tomato, Avocado, Egg, Bacon, Scallions, Blue Cheese, Creamy Parmesan Dressing, Freshly Baked Breads Dressing on the side
- Grilled Chicken Sandwich, Sweet Onion Marmalade, Arugula, Lemon Aioli, Onion Roll
- Balsamic-Glazed Short Ribs, Roasted Garlic Potato Puree, Broccolini
- I will be attending but DO NOT want a meal.
- I will not be attending the regular meeting.

We must make final reservations by **noon, Wednesday, February 6, 2019**. Please make a reservation, even if you are not requesting a meal, so we can arrange for sufficient seating and meeting materials. Thank you.

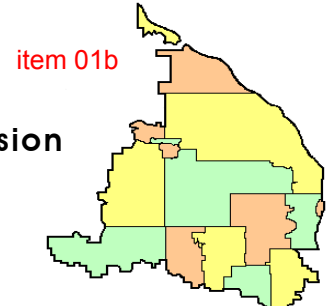
Regards,



Judie A. Anderson
 Administrator

cc: Alternate Commissioners Member Cites Troy Gilchrist TAC Members
 Metropolitan Council MPCA DNR Wenck Associates

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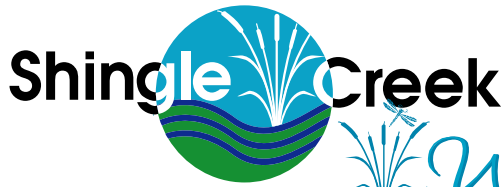
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A combined regular meeting of the Shingle Creek and West Mississippi Watershed Management Commissions will be convened on Thursday, February 14, 2019, at 12:45 p.m. at Edinbrough USA, 8700 Edinbrook Crossing, Brooklyn Park, MN. Agenda items are available at <http://www.shinglecreek.org/minutes--meeting-packets.html>.

1. Call to Order.
 - SCWM a. Roll Call.
 - ✓ SCWM b. Approve Agenda.*
 - ✓ SCWM c. Approve Minutes of Last Meeting.*
2. Reports.
 - ✓ SC a. Treasurer's Report.* ✓ WM c. Treasurer's Report.*
 - ✓ SC b. Approve Claims* - voice vote. ✓ WM d. Approve Claims* - voice vote.
3. Open forum.
4. Project Reviews.
 - ✓ SC a. SC2019-001 New Hope City Hall North Drainage Area, New Hope.*
 - ✓ SC b. SC2019-002 CSAH 9 / I-494 Interchange, Plymouth.*
 - ✓ WM c. WM2019-001 Oak Village, Brooklyn Park.*
5. Watershed Management Plan.
- ✓ SCWM a. CIP and Annual Levy Limits.*
6. Water Quality.
 - ✓ SC a. 2019 SC Monitoring Program.*
 - ✓ WM b. 2019 WM Monitoring Program.*
 - c. Next TAC meeting – 8:30 a.m., Thursday, February 28, 2019, Crystal City Hall.
 - d. January TAC Minutes** (informational only)
7. Education and Public Outreach.
 - a. Next WMWA meeting – 8:30 a.m., Tuesday, February 12, 2019, Plymouth City Hall.
 - b. Education and Outreach – update.**
 - ✓ SC c. Renew Professional Services Contract – WMWA.**
 - ✓ SCWM d. 2018 NPDES Report.**
8. Grant Opportunities and Updates.
 - ✓ SC a. Section 319 Crystal Lake Grant Application.**
9. Communications.
 - SCWM a. Communications Log.*
10. Other Business.
- ✓ SCWM a. Solicitation of Interest Proposals.* (*Responses will be emailed to Commissioners.*)
- ✓ SCWM b. Election of Officers.*
- SCWM 11. Adjournment.

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* In meeting packet or emailed ** Available at meeting ***Previously transmitted **** Available on website ✓ Item requires action

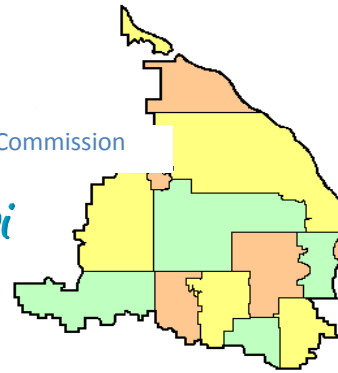


Watershed Management Commission



item 01c

3235 Fernbrook Lane N • Plymouth, MN 55447
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Website: www.shinglecreek.org • Email: judie@jass.biz



MINUTES Regular Meeting January 10, 2019

(Action by the SCWMC appears in blue, by the WMWMC in green and shared information in black.
*indicates items included in the meeting packet.)

I. A joint meeting of the Shingle Creek Watershed Management Commission and the West Mississippi Watershed Management Commission was called to order by Shingle Creek Chairman Andy Polzin at 12:45 p.m. on Thursday, January 10, 2019, at the Clubhouse at Edinborough, USA, 8700 Edinbrook Crossing, Brooklyn Park, MN.

Present for Shingle Creek were: David Vlasin, Brooklyn Center; John Roach, Brooklyn Park; Burton Orred, Jr., Crystal; Gary Anderson, Minneapolis; Bill Wills, New Hope; Harold E. Johnson, Osseo; Andy Polzin, Plymouth; Wayne Sicora, Robbinsdale; Ed Matthiesen, Wenck Associates, Inc.; Troy Gilchrist, Kennedy & Graven; and Judie Anderson, JASS.

Not represented: Maple Grove.

Present for West Mississippi were: David Vlasin, Brooklyn Center; Steve Chesney, Brooklyn Park; Gerry Butcher, Champlin; Harold E. Johnson, Osseo; Ed Matthiesen, Wenck Associates, Inc.; Troy Gilchrist, Kennedy & Graven; and Judie Anderson, JASS.

Not represented: Maple Grove.

Also present were: Andrew Hogg, Brooklyn Center; Alex Prasch and Mitchell Robinson, Brooklyn Park; Mark Ray, Crystal; Derek Asche, Maple Grove; Liz Stout, Minneapolis; Bob Grant, Megan Hedstrom and Berne Weber, New Hope; Leah Gifford, Vanessa Strong, and Ben Scharenbroich, Plymouth; Richard McCoy and Marta Roser, Robbinsdale; and Chris Long, Stantec, for item V.

II. Agendas and Minutes.

Motion by G. Anderson, second by Roach to approve the **Shingle Creek revised agenda**. * Motion carried unanimously.

Motion by Butcher, second by Chesney to approve the **West Mississippi agenda**. * Motion carried unanimously.

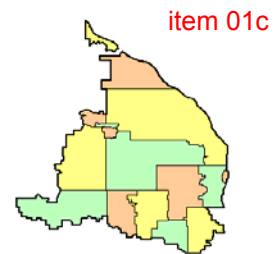
Motion by G. Anderson, second by Johnson to approve the **minutes of the December regular meeting**. * Motion carried unanimously.

Motion by Johnson, second by Chesney to approve the **minutes of the December regular meeting**. * Motion carried unanimously.

III. Finances and Reports.

A. Motion by Orred, second by G. Anderson to approve the **Shingle Creek January Treasurer's Report**. * Motion carried unanimously.

Motion by Orred, second by Johnson to approve the **Shingle Creek January claims**. * Claims totaling \$32,147.23 were approved by roll call vote: ayes – Vlasin, Roach, Orred, G. Anderson, Wills, Johnson, Polzin, and Sicora; nays – none; absent – Maple Grove.



B. Motion by Johnson, second by Chesney to approve the **West Mississippi January Treasurer's Report.***
Motion carried unanimously.

Motion by Butcher, second by Chesney to approve the **West Mississippi January claims.*** Claims totaling \$16,200.47 were *approved by roll call vote: ayes – Vlasin, Chesney, Butcher, and Johnson; nays – none; absent – Maple Grove.*

IV. Open Forum.

V. Project Reviews.

In November 2017 the Commissions reviewed and approved a portion of the site plan for the demolition and construction of **New Hope's City Hall, Police Station, City Pool, and associated parking lot** (project SC2017-008). That project review approved stormwater management for the portion of the overall project that drained to the south. The second phase of the project includes areas that drain to the north side of the project, which will be considered in a project review at the February 2019 meeting.

The City of New Hope requested to present Phase 2 and the proposed stormwater management provisions at this meeting to inform the Commission and to gain a sense of whether the project review will be approved so that it can be comfortable moving forward and stay on schedule for project bidding. Commission Staff have conducted a preliminary review of materials submitted and returned comments to the city's engineering consultant.

Included in Long's presentation were the overall site plan and figures showing proposed stormwater treatment features.

VI. Watershed Management Plan.

A. Staff provided a listing* of local stormwater plans that have been reviewed and approved by the Commission. Plans from all ten member cities in the joint SCWM watershed were approved in 2018 and are in compliance with MN Statute 103B.235 and Rule 8410.

B. Draft 2019 Work Plans.* Staff's January 4, 2019 memos outline a number of suggested activities for the **Shingle Creek** and **West Mississippi** 2019 work plans. Most are ongoing activities, while others rotate around the watershed. Proposed 2019 Monitoring Plans, providing additional details, will be presented to the Commissions in February.

1. Continue to implement TMDLs.

a. Complete 5-year performance review for Magda and Meadow Lakes; begin 5-year review for the Bass and Shingle Creek Biotic and DO TMDL.

b. Partner with City of Plymouth to undertake alum treatments on Bass and Pomerleau Lakes.

c. In partnership with cities of Crystal, Brooklyn Center, and Robbinsdale, continue to implement the Twin Lakes Management Project, including carp removal, aquatic vegetation management, and installation of fish barriers and a lake aeration system

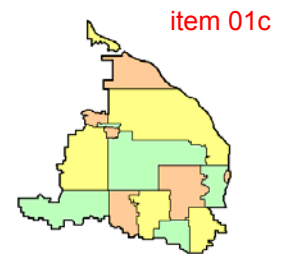
d. Partner with the City of Minneapolis to complete a subwatershed BMP assessment.

e. Partner with the City of Robbinsdale to pursue grant funding for the Crystal Lake Management Plan.

f. Work with the cities of Minneapolis, Brooklyn Center, Robbinsdale, and Crystal to perform an H & H study for Ryan Creek.

g. Work with the cities of Brooklyn Park and Brooklyn Center to identify streambank improvements for Shingle Creek from Regent Avenue to Brooklyn Boulevard.

h. Continue to pursue grant funding for TMDL implementation projects.



i. Expand the Directly Connected Untreated Areas geodatabase to include boundaries of the untreated areas directly connected to the lakes in the watershed. (Streams were completed in 2017.)

j. Continue to identify, pursue grant funding for, and implement projects and programs addressing the bacterial impairment in Shingle Creek and the Mississippi River.

k. Stay abreast of other regional and state TMDLs.

2. Partner with other organizations to increase reach and cost effectiveness.

a. Participate in West Metro Water Alliance joint education and outreach group.

b. Continue to partner with USGS to operate the Queen Avenue monitoring site.

c. Partner with USGS, DNR, and other interested parties to stay abreast of ground-water issues.

3. Continue ongoing administration and programming.

a. Conduct routine Commission lake water quality monitoring and aquatic vegetation and fish surveys on Schmidt and Cedar Island Lakes and grant-funded monitoring on Bass and Pomerleau Lakes. Conduct aquatic vegetation surveys on Upper, Middle, and Lower Twin Lakes through the Twin Lake Management Project grant.

b. Conduct Commission routine flow and water quality monitoring at SC_0 and SC_3 on Shingle Creek and Bass Creek Park (BCP) on Bass Creek as well as two DO longitudinal studies. Conduct fish and macroinvertebrate monitoring on all three sites in advance of the Shingle and Bass Creeks Dissolved Oxygen (DO) and Biotic Integrity TMDL 5 Year Review.

c. Sponsor volunteer stream monitoring through RiverWatch and wetland monitoring through WHEP (Hennepin County).

d. Sponsor volunteer lake monitoring through CAMP (Met Council) on Eagle, Pike, Meadow, and Success Lakes.

e. Complete reviews of development and redevelopment projects as necessary.

f. Prepare an annual water quality report.

g. Solicit cost-share projects from member cities funded from the Cost Share Fund and the annual \$100,000 levy and the Partnership Cost Share Fund and the annual \$50,000 levy.

h. Review feasibility studies for 2019 proposed capital projects, undertake Plan Amendments, hold public hearings, order projects and certify levies.

i. Prepare a 2020 annual budget.

j. Invite three guest speakers to make lunchtime water resources presentations.

k. Tour project sites in the watershed.

4. Continue to stay abreast of regional TMDLs.

a. Continue to identify, pursue grant funding for, and implement projects and programs addressing the bacterial impairment in the Mississippi River.

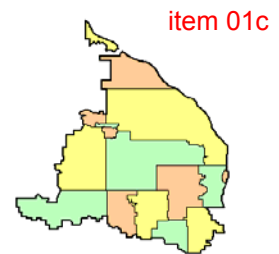
b. Stay abreast of other regional and state TMDLs.

c. Identify boundaries of the untreated areas directly connected to the Mississippi River or other conveyances.

5. Partner with other organizations to increase reach and cost effectiveness.

a. Participate in the West Metro Water Alliance joint education and outreach group.

b. Partner with the USGS, DNR, and other interested parties to stay abreast of groundwater issues.



- c. Partner with a member city to complete a subwatershed BMP analysis.

6. Continue ongoing administration and programming.

- a. Undertake routine flow and water quality monitoring at two outfalls into the Mississippi River.
- b. Sponsor volunteer stream monitoring through RiverWatch and wetland monitoring through WHEP (Hennepin County).
- c. Complete reviews of development and redevelopment projects as necessary.
- d. Prepare an annual water quality report.
- e. Solicit cost-share projects from member cities funded from the Cost Share Fund and the annual \$50,000 levy.
- f. Review feasibility studies for 2019 proposed capital projects, undertake Plan Amendments, hold public hearings, order projects and certify levies.
- g. Prepare a 2020 annual budget.
- h. Invite three guest speakers to make lunchtime water resources presentations.
- i. Tour project sites in the watershed.

Motion by Wills, second by G. Anderson to accept the draft 2019 Shingle Creek Work Plan. *Motion carried unanimously.*

Motion by Chesney, second by Vlasin to accept the draft 2019 West Mississippi Work Plan. *Motion carried unanimously.*

C. CIP and Annual Levy Limits. In May 2007 the Commissions adopted a Major Plan Amendment to their Second Generation Watershed Management Plan. That amendment established the Cost Share Policy for Commission participation in capital improvement projects up to a maximum of 25% of the actual project cost up to \$250,000. The policy also voluntarily limited the maximum annual levy request to \$500,000 for each Commission. In 2011, as the Commissions were developing their Third Generation Plan, this policy was reviewed by City Managers, who were satisfied with the policy as is and recommended no changes.

At the last Technical Advisory Committee (TAC) meeting, city staff had a brief discussion about reconsidering the self-imposed limits on Commission cost participation in CIP projects, and in the maximum amount of the annual levy. Staff's January 4, 2019 memo* provided some background for Commission discussion. Staff also recommended, if this is something the Commissions would like to have more information on and consider for possible amendment, that they request the TAC to review and discuss each of these issues and provide a recommendation for further discussion with the cities. Any changes to this policy must be completed by Minor Plan Amendment.

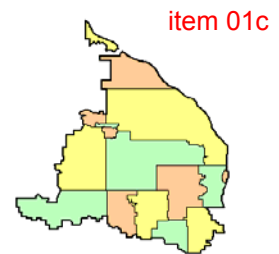
Motion by Orred, second by G. Anderson to refer this matter to the TAC. *Motion carried unanimously.*

The next TAC meeting is scheduled for 8:30 a.m., Thursday, January 24, 2019, at Crystal City Hall.

VII. Water Quality.

VIII. Education and Public Outreach - West Metro Water Alliance (WMWA).

A. Watershed PREP and Education and Outreach Events. Educators are currently scheduling spring classroom visits. The final results for 2018 have been tallied. Overall, 143 fourth grade classes with 3,593 students participated in Lesson 1: *What is a watershed and why do we care?* Of those participants, 1,755 students in 69 classrooms also received Lesson 2: *Water, the incredible journey.* The Educators also participated in four community events. The educators are also available to table at city and school events; contact Amy Juntunen at amy@jass.biz. In 2019 the educators will be putting together some potential presentations for lake associations.



B. *Ten Things You Can Do Brochure.* Final edits to the text have been made to the popular brochure that WMWA first developed in 2009 and is used extensively locally and metro wide. In general, the text is being refreshed and condensed, and additional emphasis is being placed on water conservation, proper deicer use, and lawn turf alternatives. The group is working with Hennepin County to update the design and layout and it is expected that the County will print the brochure at no cost to the watershed organizations.

C. **Website/Social Media.** The website Google Analytics for 2018 along with the Facebook insights for the last 28 days for both the Shingle Creek Commission and WMWA are included in Staff's memo.* There were almost 2,500 unique visitors to the website last year. Winter is a slow time for social media about water quality. At the January 8, 2019 meeting, WMWA agreed to again hire Dawn Pape to prepare 1-2 Facebook and Twitter postings per week for 2019 about water quality, AIS, salt use, natural resources issues, and the Pledge to Plant campaign. The contract also provides for one boosted post per month. Pape has been managing social media for the Bassett Creek Commission and has found that boosting one or two posts per month dramatically increases reach and engagement.

D. **2019 Budget.** Each of the four watersheds budgeted funds for 2019 WMWA administrative/technical services, Watershed PREP, and Special Projects based on estimated 2019 needs . Based on actual expenses for 2018 and taking into account unspent funds available to carry over to 2019, WMWA approved a 2019 budget of \$36,00. The Shingle Creek Commission acts as the fiscal agent for WMWA and invoices the other three watersheds at the beginning of the year and in the third quarter of the year if necessary. An initial invoice for 2019 of \$12,000 for administrative/technical services and \$8,000 for Watershed PREP will be mailed this month. Each WMO pays one-fourth of the cost of WMWA programming.

E. The **next WMWA meeting** is scheduled for 8:30 a.m., Tuesday, February 12, 2019, at Plymouth City Hall.

IX. Grant Opportunities and Updates.

A. **Twin Lake Carp Management Project.** Matthiesen reported that Wenck staff have been radio-tracking carp movement in Twin Lake and, as of today's meeting, the carp haven't schooled up into one location. Staff will track again in two weeks. If at that time they have schooled the carp removal contractor will be notified with the intent for a sein haul.

B. **Minneapolis subwatershed Assessment.** The Commission received a Clean Water Fund Accelerated implementation grant to complete a subwatershed assessment for that part of Minneapolis that is in the Shingle Creek watershed, about 2,046 acres. Modeling of the three sub basins (tributary to Crystal Lake, tributary to Ryan Lake, tributary to Shingle Creek) has been completed and Staff have met with the city to strategize potential BMP locations.

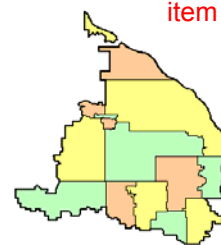
Matthiesen provided a brief overview of findings to date. Figures in Staff's January 4, 2019 memo* show the results of pollutant export modeling in terms of pounds of TP and TSS/year. Most of their focus has been on the areas contributing at higher rates. They have identified some potential BMP locations and removals and these were presented at the meeting.

C. **Watershed Based Funding.** Strong reported that a final stakeholder meeting is scheduled for January 18, 2019.

X. Communications.

A. **December Communications Log.*** No items required action.

B. Beginning in 2020, the Minnesota Pollution Control Agency (MPCA) will officially begin its work for the **Second Cycle (Cycle II) for the Mississippi River – Twin Cities HUC8 Level watershed.*** As with Cycle I, the Cycle II process will contain the following watershed scale elements: 1) Intensive Watershed Monitoring, 2) Waterbody Assessment and Impairment Listing, 3) Stressor Identification, and 4) TMDL and WRAPS Development. During the first two monitoring seasons (2020 and 2021) the MPCA's Surface Water Monitoring group will conduct biological and chemical sampling at sites throughout the watershed's streams and lakes. While the basic watershed framework



between Cycle I and II will largely remain the same, the Cycle II monitoring plan may differ from Cycle I depending on the data needs of the Agency and local partners.

Cycle II will begin with a kickoff meeting sometime in late January/early February to present MPCA's initial site selections as well as outline the process for local partners to submit a proposal for their monitoring needs. MPCA is inviting representatives from watershed organizations, agencies, etc. involved in or interested in surface water monitoring efforts to respond to a Doodle poll to choose one of two dates to attend a kickoff meeting at the MPCA Central Office in St. Paul. Individuals are asked to respond to the Doodle poll by Friday, January 11. Questions should be directed to Eric Alms, eric.alm@state.mn.us.

XI. Other Business.

A. Staff reported that the Commissions will continue to **meet at Edinburgh**. Contracts for the remaining months in 2019 are being prepared and D'Amico Catering has agreed to post-event payment.

B. Election of officers will occur at the February meeting.

C. The terms of representatives from **Champlin, Maple Grove, Minneapolis, and New Hope** expire January 31, 2019.

D. Motion by Orred, second by G. Anderson to make the following annual appointments:

1. Official newspaper, Osseo-Maple Grove Press
2. Deputy Treasurer, Judie Anderson
3. Official depositories, US Bank and the 4M Fund
4. Auditor, Johnson & Company, Ltd.

Motion carried unanimously.

Motion by Butcher, second by Chesney to make the aforementioned annual appointments. Motion carried unanimously.

XII. Adjournment. There being no further business before the Commissions, the meetings were adjourned at 2:16 p.m.

Respectfully submitted,

A handwritten signature in black ink that reads "Judie A. Anderson".

Judie A. Anderson
Recording Secretary
JAA:tim

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February 7, 2019

SHINGLE CREEK WATERSHED MANAGEMENT COMMISSION**PROJECT REVIEW SC 2019-001: New Hope City Hall- North Drainage Area**

Owner: City of New Hope
 (Jeff Sargent—Community Development Director)
 4401 Xylon Avenue North
 New Hope, MN 55428
 763-531-5196
 jsargent@ci.new-hope.mn.us

Engineer: Chris Long
Company: Stantec
Address: 733 Marquette Ave, Suite 100
 Minneapolis, MN 55402

Phone: 651-604-4808
Email: chris.long@stantec.com

Purpose: Demolition and construction of New Hope's City Hall, Police Station, City Pool, and associated parking lot, as well as the reconfiguration of the park amenities in the project area. The total project area is about 19.8 acres.

Location: 4401 Xylon Avenue North, New Hope, MN 55428 (Figure 1).

Work will take place on the following five parcels (all of which are owned by the City of New Hope):

- 1811821120005
- 0711821430004
- 1811821120002
- 1811821120001
- 1800821110011

Exhibits:

1. Project review application, received 1/30/19.
2. Site, grading, utility, erosion control, and landscaping plans dated 1/18/19, received 1/30/19. Hydrologic calculations dated 1/18/19, received 1/30/19.

Findings:

1. The proposed project is the demolition and construction of New Hope's City Hall, Police Station, City Pool, and associated parking lot, as well as the reconfiguration of the park amenities in the project area. The site is 19.8 acres. Following development, the site will be 40.4 percent impervious with 8.0 acres of impervious surface, an increase of 1.4 acres.
2. The complete project application was received on 1/30/19. To comply with the 60-day review requirement, the Commission must approve or deny this project no later than the 3/14/19 meeting. Sixty calendar-days expires on 3/31/19.
2. To comply with the Commission's water quality treatment requirement, the site must provide ponding designed to NURP standards with dead storage volume equal to or greater than the volume of runoff from a 2.5" storm event, or BMPs providing a similar level of treatment - 80-85% TSS

SC2019-001: New Hope City Hall- North Drainage Area

removal and 50-60% TP removal. Infiltrating 1.3-inches of runoff, for example, is considered sufficient to provide a similar level of treatment. If a sump is used the MnDOT Road Sand particle size distribution is acceptable for 80% capture.

Runoff from the site is proposed to be routed to an underground rock filtration system (Figures 2 & 3). The system includes a two ft. layer of medium-sized angular rock and a centralized tree trench. Runoff will percolate a minimum of 65 linear feet through the rock before existing on the other side. Pretreatment will be provided by a sump (4 ft. depth, 6 ft. diameter) with SAFL Baffle prior to entering the underground system, which SHSAM predicts will remove greater than 80% of sediment from stormwater. The applicant meets Commission water quality treatment requirements.

3. Commission rules require that site runoff is limited to predevelopment rates for the 2-, 10-, and 100-year storm events. Runoff from 4.8 acres of impervious surface (including impervious surface associated with the new City Hall and Police Station buildings, the new pool parking lot, and portions of the pool deck) will be routed to an underground rock filtration system (Figures 2 & 3), which is intended to reduce runoff rates. The proposed underground system will consist of two feet of medium-sized angular rock and will lie beneath the entirety of the new pool parking lot. Subcatchments that are not routed to the underground system have disconnected impervious surface that makes up 25% of the subcatchment on average. The applicant meets Commission rate control requirements (Table 1).

Table 1. Runoff from site (cfs).

Drainage Area	2-year event		10-year event		100-year event	
	Pre-	Post-	Pre-	Post-	Pre-	Post-
Drainage to North	15.8	14.4	22.5	18.2	72.9	71.4

4. Commission rules require the site to infiltrate 1.0 inch of runoff from new impervious area within 48 hours. The new impervious area on this site is 8.0 acres, requiring infiltration of 0.927 acre-feet within 48 hours. However, soils on site are not conducive to infiltration, so *filtration* of 0.927 acre-feet is instead required. The applicant proposes to route runoff to an underground rock filtration system (Figure 2 & 3) that has the capacity to filtrate the required volume within 48 hours. The applicant meets Commission volume control requirements.
5. The National Wetlands Inventory identifies one 0.34 acre probable wetland in the northern portion of the site. The City of New Hope is the LGU for WCA administration for this project, and New Hope Public Works Director Bernie Weber is the LGU contact. Sarah Nalven of Wenck had a conversation with Mr. Weber on 2/5/19 in which Mr. Weber stated that this probable wetland is actually just a low-lying wet spot in a field of turf-grass and that the project is in line with all WCA requirements. The applicant meets Commission wetland requirements.
6. There are no Public Waters on this site. The applicant meets Commission Public Waters requirements.

SC2019-001: New Hope City Hall- North Drainage Area

7. There is no FEMA-regulated floodplain on this site. The low floor elevations of the buildings are at least two feet higher than the high water elevation of the underground storage system according to Atlas 14 precipitation. The applicant meets Commission floodplain requirements.
8. An erosion control plan was submitted with the project review, and includes inlet protection, silt fence, and a rock construction entrance. The erosion control plan meets Commission requirements.
9. A project update was recently presented to City Council on 1/14/19, and several other public events have been conducted around the project. The project meets Commission public notice requirements.
10. A draft Operations & Maintenance (O&M) plan was provided.
11. A Project Review Fee of \$2,200 has not yet been received.

Recommendation: Recommend approval subject to the following conditions:

1. The Commission receives the \$2,200 application fee.
2. The O&M plan is finalized.
3. The stormwater utility plans are revised to show a 4 ft. (not 3 ft.) sump prior to the underground rock filtration system.

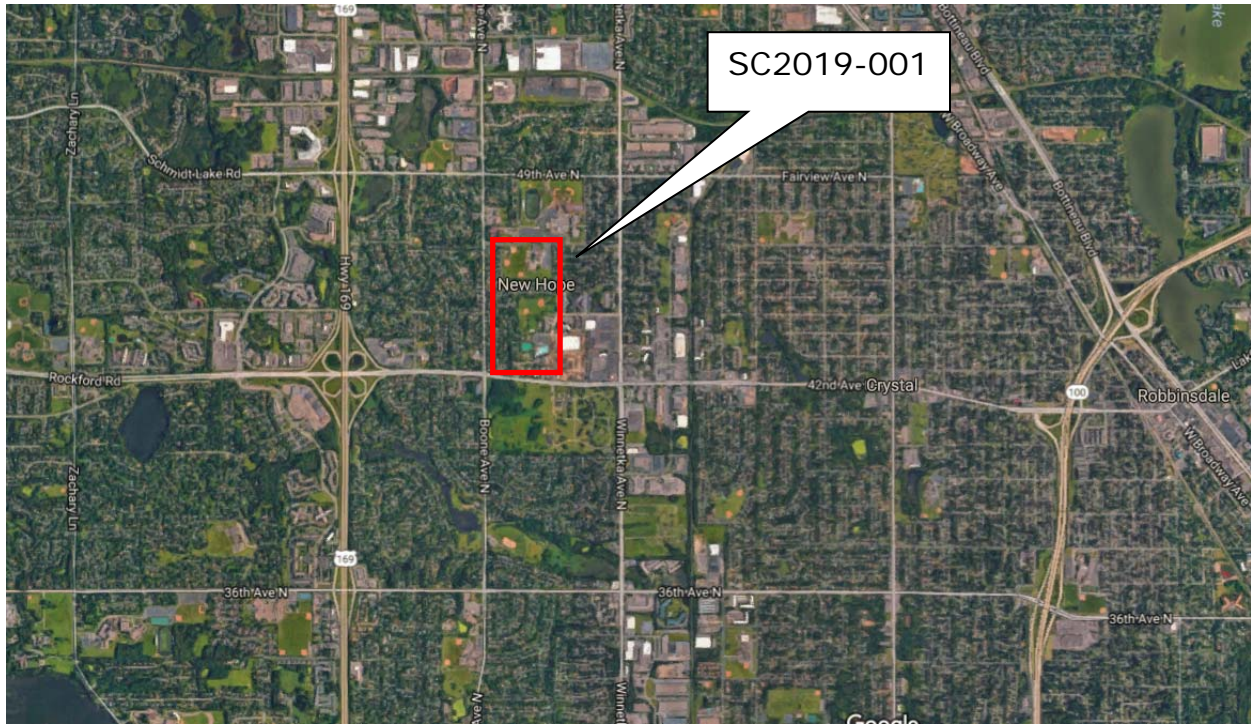
Wenck Associates, Inc.
Engineers for the Commission

Ed Matthiesen, P.E.

Date

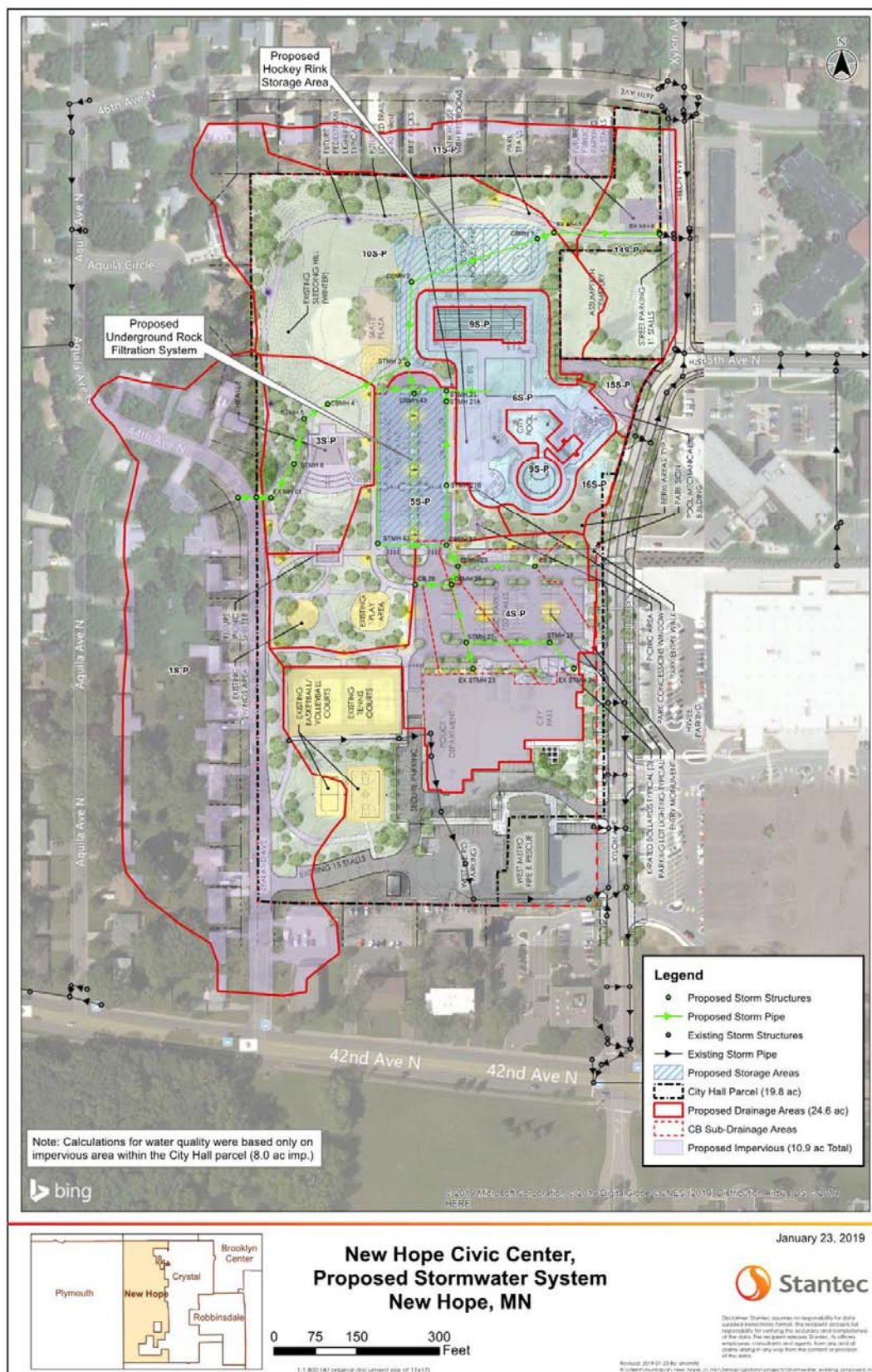
SC2019-001: New Hope City Hall- North Drainage Area

Figure 1. Site location.



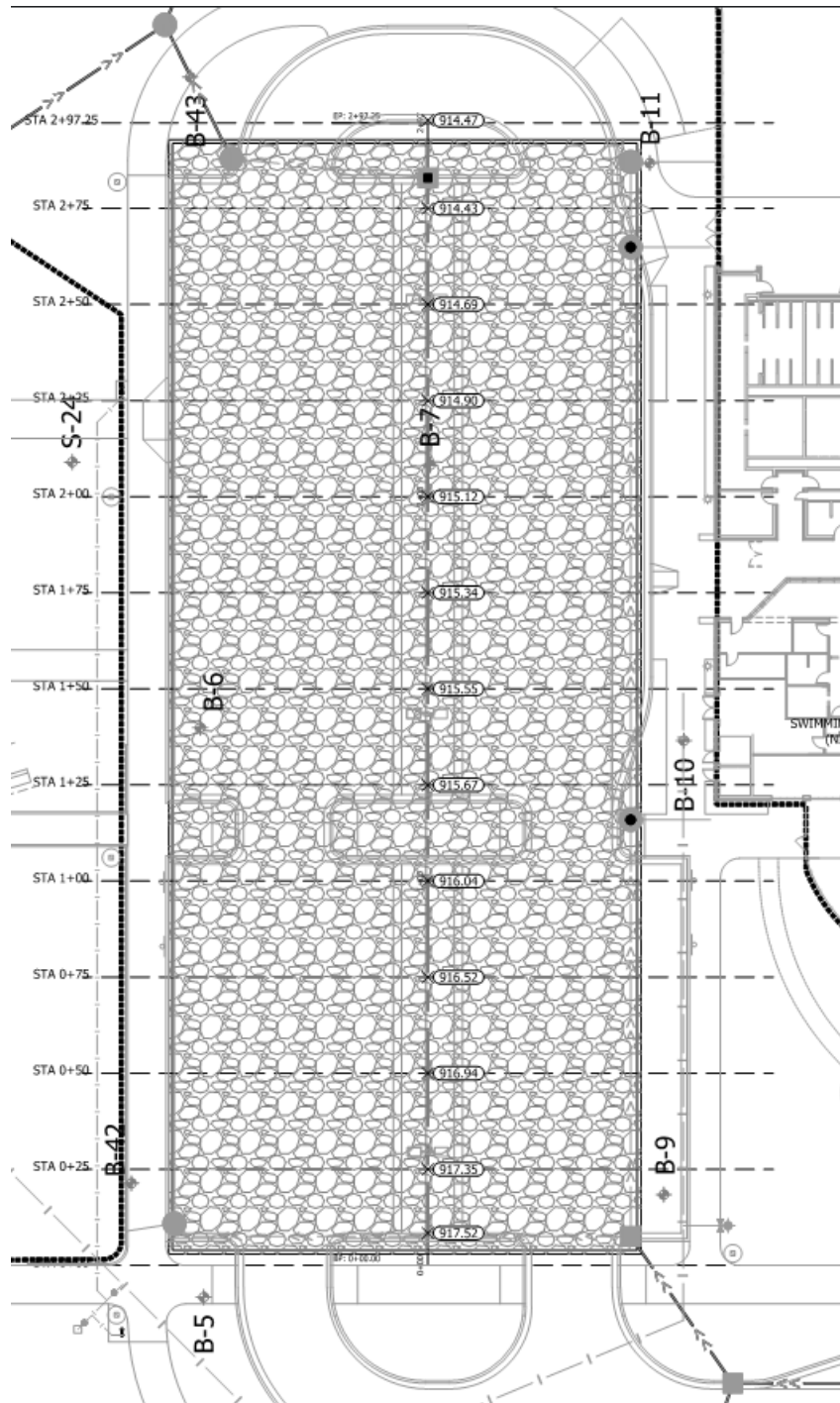
SC2019-001: New Hope City Hall- North Drainage Area

Figure 2. Proposed drainage map.



SC2019-001: New Hope City Hall- North Drainage Area

Figure 3. Underground rock filtration system detail.



January 30, 2019

SHINGLE CREEK WATERSHED MANAGEMENT COMMISSION**PROJECT REVIEW SC2019-002: CSAH-9 (Rockford Road) and I-494 Interchange**

Owner: City of Plymouth
3400 Plymouth Boulevard
Plymouth, MN 55447

Engineer: Earth Evans
Company: WSB
Address: 701 Xenia Avenue South
Minneapolis, MN 55416
Phone: 763-231-4877
Email: eevans@wsbeng.com

Purpose: Reconstruction of the Rockford Road Bridge over Interstate 494 (I-494) and associated improvements.

Location: CSAH 9 and I-494 Interchange, Plymouth, MN (Figure 1). Note that the project is located within the Bassett Creek WMC's legal boundary, but the northwest portion of the project area will drain to the Shingle Creek watershed, so the Shingle Creek WMC is reviewing the northwest portion of the project (Figure 2).

Exhibits:

1. Project review application and project review fee of \$1,100, dated 1/7/19, received 1/11/19.
2. Site plan, preliminary plat, grading, utility, erosion control, and landscaping plans dated 1/9/19, received 1/9/19. Hydrologic calculations dated 1/7/19, received 1/9/19.

Findings:

1. The proposed project is the replacement of the Rockford Road Bridge over Interstate 494 and associated activities (including reconstruction of the approaching roadway segments and ramps, replacement of traffic signals at nearby intersections, construction of ADA-compliant pedestrian ramps, reconstruction of an existing multi-use trail at the south side of the bridge, and construction of a new multi-use trail along the northern side of the new bridge). The project area is located within the Bassett Creek WMC's legal boundary, but approximately 34 acres of the project's drainage area will drain north to the Shingle Creek watershed. This area is located in the northwest quadrant of the interchange and will be referred to in this document as 'the Shingle Creek portion.' Within this Shingle Creek portion, impervious surface will increase by 0.06 acres (2,725 ft²) or 1.8% (Figure 3).
2. The complete project application was received on 1/11/19. To comply with the 60-day review requirement, the Commission must approve or deny this project no later than the 2/14/19 meeting. Sixty calendar-days expires on 3/11/19.
2. To comply with the Commission's water quality treatment requirement, the site must provide ponding designed to NURP standards with dead storage volume equal to or greater than the volume of runoff from a 2.5" storm event, or BMPs providing a similar level of treatment - 85% TSS removal and 60% TP removal. The applicant proposes to raise the outlet elevation of the existing wetland that drains the project area (called Pond 18-EX P or Wetland 7), increasing dead storage and thereby providing

SC2019-002: Rockford Road & I-494

sufficient water quality treatment. The applicant meets Commission water quality treatment requirements.

- Commission rules require that site runoff is limited to predevelopment rates for the 2-, 10-, and 100-year storm events. Runoff from the portion of the project draining to the Shingle Creek watershed is routed north out of existing Pond 18-EX P (also called wetland 7 in the application) and into a large wetland complex within Nature Canyon Park (which lies within Shingle Creek WMC's legal boundary; Figure 2). Runoff rate from Pond 18-EX P will be reduced because the applicant proposes to raise the outlet from 968 to 970 feet. The applicant meets Commission rate control requirements (Table 1).

Table 1. Runoff rate from site (cfs).

Drainage Area	2-year event		10-year event		100-year event	
	Pre-	Post -	Pre-	Post-	Pre-	Post-
To Shingle Creek Watershed	9.0	2.4	12.6	3.2	23.8	9.0

- Commission rules require the site to infiltrate 1.0 inch of runoff from new impervious area within 48 hours. The new impervious area on this site is 0.06 acres, requiring infiltration of 0.005 acre-feet (218 cubic feet) within 48 hours. The applicant proposes to route runoff to two existing wetlands within the project area and then to a large wetland complex in Nature Canyon Park that together have the capacity to infiltrate the required volume within 48 hours.

Volume was also examined because water that was previously routed south to the Bassett Creek watershed is proposed to be routed north to the Shingle Creek watershed. Increases in volume to Shingle Creek watershed from existing to proposed conditions are shown below in Table 2. However, the large wetland complex in Nature Canyon Park (located just downstream/north of the project area) can handle the additional volume proposed to be routed there (Table 2). Even if the Nature Canyon Park wetland's outlet was blocked, its 23-acre area would only see about 1 foot of bounce during a 100-year storm and no structures would be affected. The applicant meets Commission volume control requirements.

Table 2. Runoff volume from site (acre-feet).

Drainage Area	2-year event		10-year event		100-year event	
	Pre-	Post -	Pre-	Post-	Pre-	Post-
To Shingle Creek Watershed	5.3	9.3	8.5	13.2	15.8	22.0

- There are two wetlands in the Shingle Creek portion of the project, both just west of I-494 (wetland delineation approved by the City of Plymouth 12/10/18). The Minnesota Department of Transportation (MnDOT) is LGU for WCA administration for this project. Sarah Nalven of Wenck Associates spoke with Beth Brown, Environmental Program Specialist at MnDOT, on 1/25/19. Ms. Brown stated that a notice of

SC2019-002: Rockford Road & I-494

application has been issued for the proposed project, which includes temporary impacts, permanent impacts and utility exemptions. Ms. Brown stated that a decision on the proposed project will be made following the review of the application and completion of the comment period on 2/13/19. The applicant meets Commission wetland requirements.

6. There are no Public Waters on this site. The applicant meets Commission Public Waters requirements.
7. There is no regulatory floodplain on this site. The applicant meets Commission floodplain requirements.
8. An erosion control plan was submitted with the project review, and includes silt fence, bio roll, rock construction entrances/exits, inlet protection, and rip rap at outlets. The erosion control plan meets Commission requirements.
9. An open house for the project was conducted on 1/16/19, meeting Commission public notice requirements.
10. A Project Review Fee of \$1,100 has been received.

Recommendation: Recommend approval with no conditions.

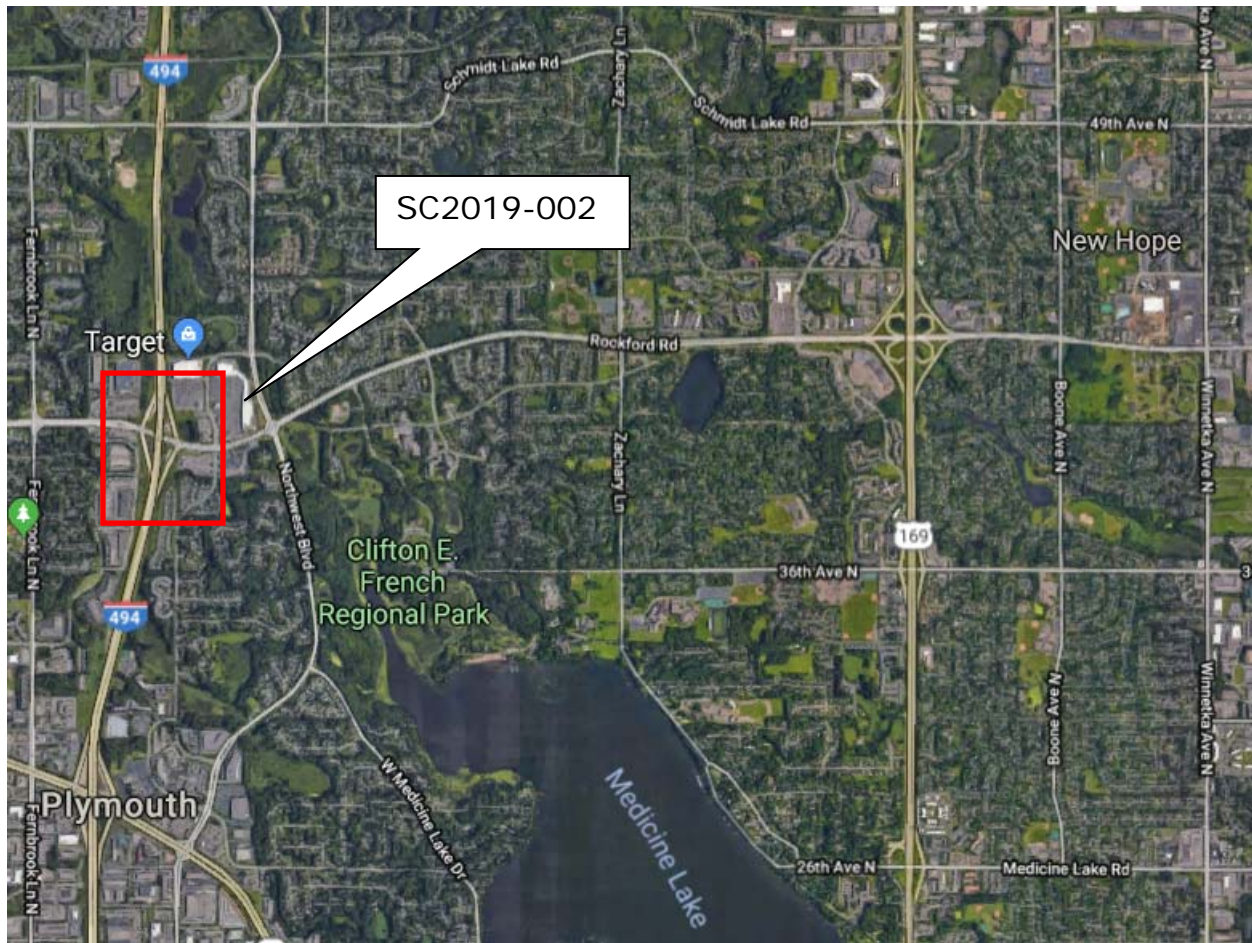
Wenck Associates, Inc.
Engineers for the Commission

Ed Matthiesen, P.E.

Date

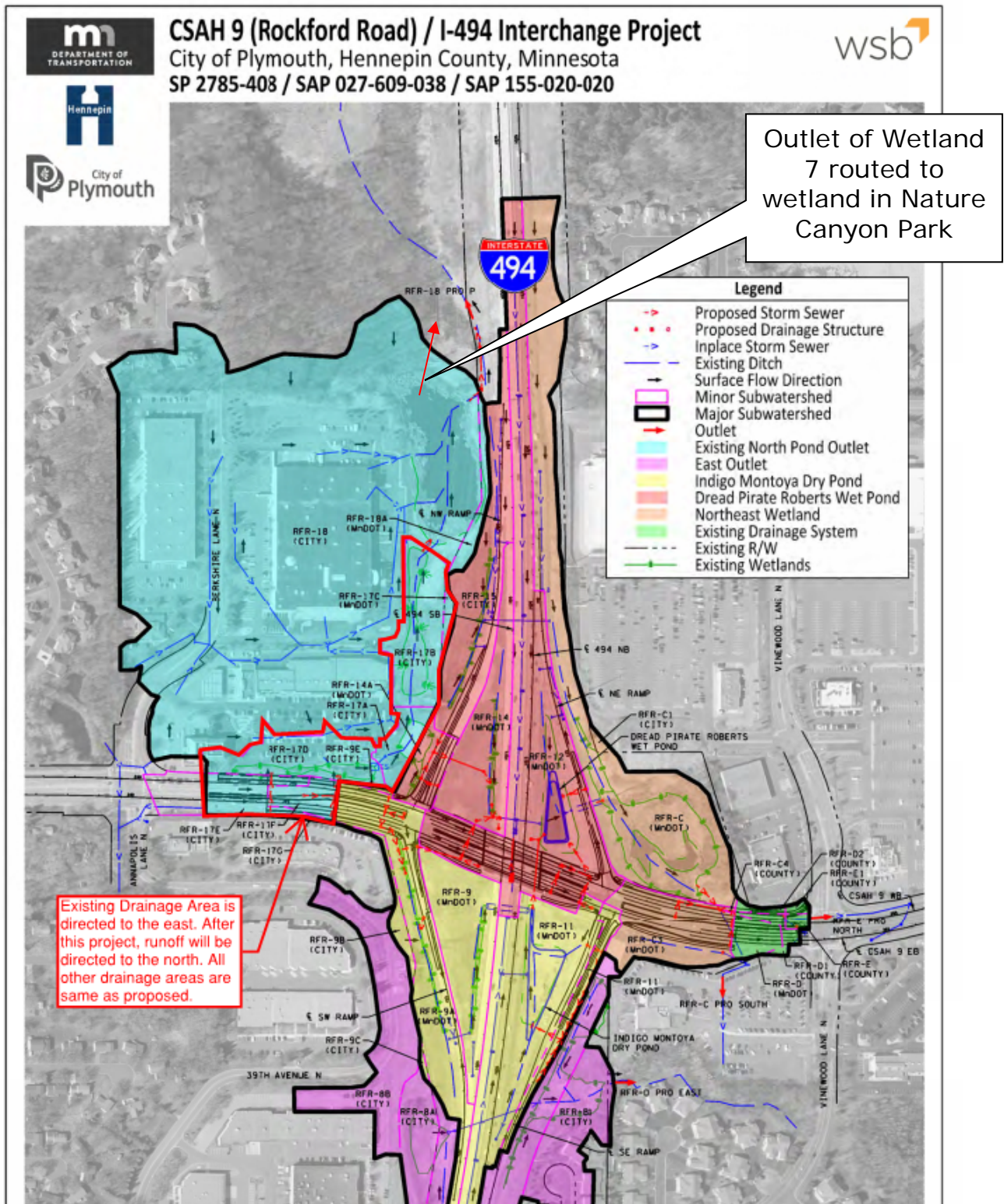
SC2019-002: Rockford Road & I-494

Figure 1. Site location.



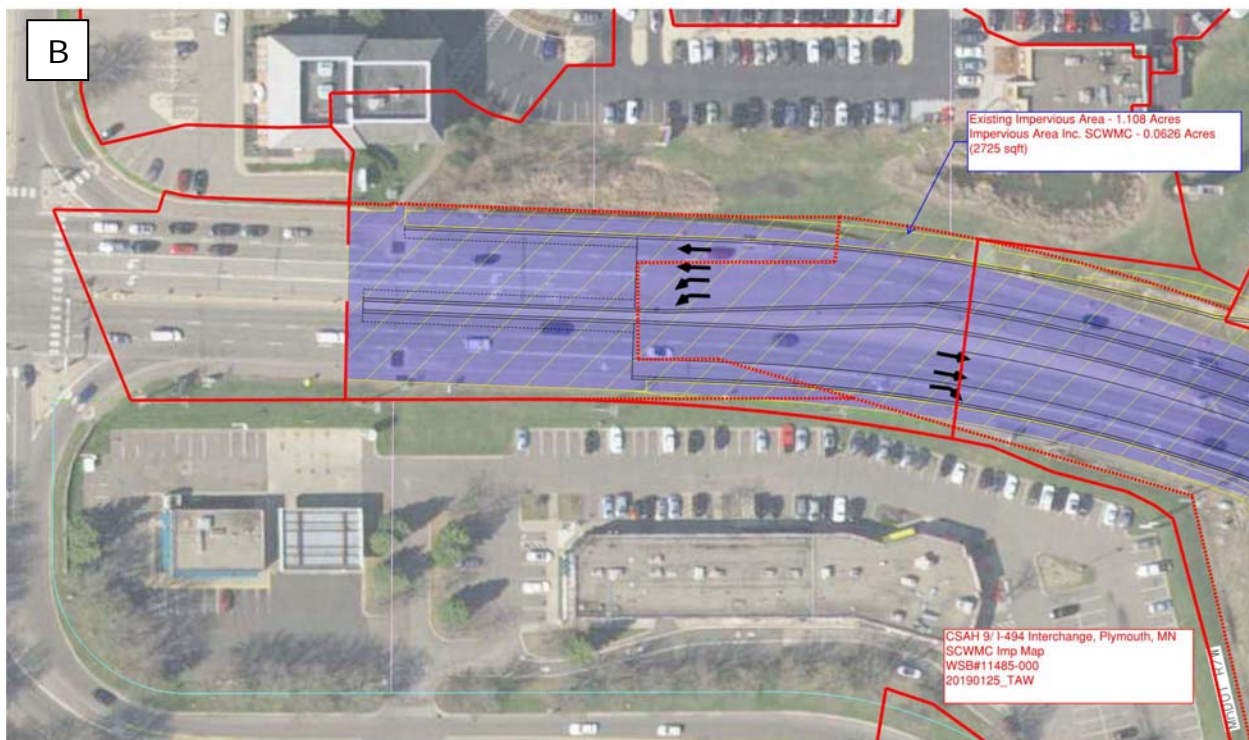
SC2019-002: Rockford Road & I-494

Figure 2. Site drainage map. All drainage areas are proposed to stay the same, except the area outlined in red, which currently drains south to the Bassett Creek Watershed and is proposed to drain north to the Shingle Creek Watershed.



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Figure 3. Increase in impervious in whole project area (A) and in Shingle Creek portion (B).



January 22, 2019

WEST MISSISSIPPI WATERSHED MANAGEMENT COMMISSION**PROJECT REVIEW WM2019-001: Oak Village**

Owner: DR Horton
20860 Kenbridge Court #100
Lakeville, MN 55044

Engineer: John Bender
Company: Westwood Professional Services
Address: 12701 Whitewater Drive #300
Minnetonka, MN 55343

Phone: 952-937-5150
612-708-8962

Email: john.bender@westwoodps.com

Purpose: Construction of 56 townhomes on 5.36 acres of previously undeveloped land.

Location: Southwest quadrant of Oak Grove Parkway & Regent Avenue, Brooklyn Park, MN (approximately 9712 Regent Ave; Figure 1).

Exhibits:

1. Project review application and project review fee of \$2,200, dated 1/14/19, received 1/15/19.
2. Site plan, preliminary plat, grading, utility, and landscaping plans dated 12/26/18, received 1/2/19. Hydrologic calculations dated 11/26/18, received 1/2/19.

Findings:

1. The proposed project is the construction of 56 townhomes and 2 filtration ponds on 5.36 acres. Following development, the site will be 53 percent impervious with 2.85 acres of impervious surface, an increase of 2.85 acres.
2. The complete project application was received on 1/2/19. To comply with the 60-day review requirement, the Commission must approve or deny this project no later than the 2/14/19 meeting. Sixty calendar-days expires on 3/2/19.
2. To comply with the Commission's water quality treatment requirement, the site must provide ponding designed to NURP standards with dead storage volume equal to or greater than the volume of runoff from a 2.5" storm event, or BMPs providing a similar level of treatment - 80-85% TSS removal and 50-60% TP removal. Infiltrating 1.3-inches of runoff, for example, is considered sufficient to provide a similar level of treatment.
If a sump is used the MnDOT Road Sand particle size distribution is acceptable for 80% capture.

Runoff from the site is proposed to be routed to a regional pond northwest of the site, just north of Oak Grove Parkway (Figure 1). This pond was designed as a part of the Oxbow Commons master plan to provide the required water quality treatment. In addition, the applicant has designed two filtration basins that provide water quality treatment to about one third of the site. According to P8, these filtration basins remove about 97% TSS and 63% TP from water routed to them, and overall, the site removes 32% TSS and 20% TP. Sumps (4 ft. deep, 4 ft. diameter) provide adequate pretreatment to water before it enters the filtration basins. The applicant meets Commission water quality treatment requirements.

WM2019-001: Oak Village

3. Commission rules require that site runoff is limited to predevelopment rates for the 2-, 10-, and 100-year storm events. Runoff from the site drains to a regional pond northwest of the site, just north of Oak Grove Parkway (Figure 1). Although runoff leaving the site does is not limited to predevelopment rates (Table 1), this regional pond was designed as a part of the Oxbow Commons master plan to limit rates from the site. The applicant meets Commission rate control requirements.

Table 1. Runoff from site (cfs).

Drainage Area	2-year event		10-year event		100-year event	
	Pre-	Post-	Pre-	Post-	Pre-	Post-
Entire site	6.43	9.55	14.61	15.39	34.66	28.39

4. Commission rules require the site to infiltrate 1.0 inch of runoff from new impervious area within 48 hours. The new impervious area on this site is 2.85 acres, requiring infiltration of 10,340 cubic feet within 48 hours. However, existing fill on the site makes infiltration unrealistic, so the applicant proposes to filtrate the required volume. The filtration basins have the capacity to filtrate the required volume within 48 hours. The applicant meets Commission volume control requirements.
5. The National Wetlands Inventory does not identify any wetlands on site. The applicant meets Commission wetland requirements.
6. There are no Public Waters on this site. The applicant meets Commission Public Waters requirements.
7. There is no floodplain on this site. The low floor elevations of the buildings are at least two feet higher than the high water elevation of the filtration basins according to Atlas 14 precipitation. The applicant meets Commission floodplain requirements.
8. An erosion control plan was submitted with the project review, and includes a rock construction entrance, inlet protection, silt fence around the site perimeter, silt fence and erosion control blanket around filtration basins, rip rap at filtration basin inlets, and native seed specified on the pond slopes. The erosion control plan meets Commission requirements.
9. A public hearing on the project was conducted on 1/9/19 as part of Planning Commission and City Council review of this project, meeting Commission public notice requirements.
10. A draft Operations & Maintenance (O&M) agreement between the applicant and the City of Brooklyn Park was provided.
11. A Project Review Fee of \$2,200 has been received.

Recommendation: Recommend approval with no conditions.

Wenck Associates, Inc.
Engineers for the Commission

Ed Matthiesen, P.E.

Date

WM2019-001: Oak Village

Figure 1. Site location.





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Technical Memo

To: Shingle Creek/West Mississippi Commissioners

From: Ed Matthiesen, P.E.
Diane Spector

Date: February 8, 2019

Subject: CIP and Annual Levy Limits TAC Recommendation

Recommended Commission Action

Discuss and provide direction to staff.

In May 2007 the Commissions adopted a Major Plan Amendment to the Second Generation Watershed Management Plan. That amendment established the Cost Share Policy for Commission participation in capital improvement projects up to a maximum of 25% of the actual project cost up to \$250,000. The policy also voluntarily limited the maximum annual levy request to \$500,000 for each Commission. In 2011, as the Commissions were developing the Third Generation Plan, this policy was reviewed by City Managers, who were satisfied with the policy as is and recommended no changes.

You requested that the Technical Advisory Committee (TAC) discuss reconsidering the self-imposed limits on Commission cost share in CIP projects, and in the maximum amount of the annual levy and make recommendations for any changes to those policies. The TAC discussed these issues at its January 24, 2019 meeting and makes the recommendations below.

Background

\$250,000 Maximum Contribution. The \$250,000 maximum cost participation cap has not been increased since 2007 to keep up with inflation, which has increased 22.4%. In addition, projects are now typically more complex and expensive. Since 2007, the Commission has cost shared in four projects that were subject to the cap, with total costs ranging from just over \$1,000,000 to \$3,000,000. Some options for discussion were:

1. Increase the cap to \$300,000 to account for inflation ($\$250,000 \times 122.4\% = \$306,110$);
2. Lift the dollar cap altogether and simply proceed with a policy of 25% maximum share;
3. Keep the 25% maximum but raise the dollar cap to \$1,000,000;
4. Keep the policy as it is; or
5. Something else.

25% Commission Match. When the City Cost Share Program was adopted, an inadvertent disincentive was created. The policy states that projects costing less than \$100,000 should be funded through the Cost Share Program, while projects over \$100,000 should go through the CIP. The disincentive is that Cost Share provides a 50% match, while CIP provides a 25% match. A \$99,999 project could receive \$49,999 from the Commission, but a \$101,000 project would be eligible for only \$25,250 through the CIP. Some options for discussion were:

1. Increase the match to 50% for CIP projects between \$100,000 and \$200,000;
2. Increase the match for all CIP projects to 50%;
3. Keep the policy as it is; or
4. Something else.

\$500,000 Maximum Capital Levy. For the most part, the annual levy has averaged \$200,000-300,000, but in some years it has been near or greater than \$500,000. In 2018, the Shingle Creek levy was \$479,000 and in 2010 the levy was \$610,000; in 2010 the levy exceeded the maximum because some 2009 projects were pushed back to 2010. Some options for discussion were:

1. Increase the maximum levy to \$1,000,000 or some other figure;
2. More clearly set forth criteria for when the maximum may be exceeded;
3. Keep the policy as it is; or
4. Something else.

Recommendations

The TAC discussion was in the context of a potential cost share application from the City of New Hope for BMPs it was considering adding into its City Hall and park improvements. These BMPs would cost about \$150,000, but the project is not currently on the CIP. The City could undertake only part of the work to keep the project cost under \$100,000 for City Cost Share funds, but that wouldn't maximize this opportunity. The TAC thought the project sounded worthy of consideration as a cost-share project and that New Hope (and all member cities) should be able to apply for cost-share regardless of the overall project cost. This allows the Commissions and the cities to be flexible and responsive to opportunities. However, the TAC agreed that the \$50,000 maximum per project should not be changed.

The TAC agreed that the \$500,000 total levy cap is now too low, as is the \$250,000 maximum per CIP project. There was agreement that the 25% maximum share should be retained. It was the consensus of the group to recommend that the annual levy maximum be raised to \$750,000, and increase to \$1,000,000 within a few years, or perhaps as part of the 4th Generation Plan due in 2022. The project cap would effectively be the annual levy cap less the levy for any other project or program certified that year. Table 1 shows that under the new policy the Becker Park project would have been eligible for just over \$500,000 instead of \$250,000.

Table 1. Actual 2019 Levy compared to the levy under the new policy.

Project	Total Estimated Cost	City/Grant/Private	Total 2019 Levy	Total 2019 Levy Under New Policy
Cost share (city projects)	\$200,000	\$100,000	\$100,000	\$100,000
Partnership cost share (private projects)	\$100,000	\$50,000	\$50,000	\$50,000
Becker Park Infiltration Project	\$2,500,000	\$1,175,000	\$250,000	\$504,705
Bass/Pomerleau Alum Treatment	\$390,000	390,000	\$0	\$0
SRP Reduction Project	\$124,680	72,170	\$52,510	\$52,510
Subtotal	\$3,314,680	\$1,787,170	\$452,510	\$452,510
5% additional for legal/admin costs				35,360
Subtotal				\$742,575
TOTAL LEVY (101% for uncollectable)				\$750,000

In summary, the TAC recommends that the Commissions consider revising the CIP Cost Share Policy and the City Cost Share guidelines to achieve the following:

1. Eliminate the \$250,000 maximum Commission contribution on any one CIP project.
2. Keep the 25% maximum contribution limit for CIP projects, but with the \$250,000 maximum cap lifted, it would be effectively capped at the available levy.
3. Allow projects costing more than \$100,000 to be eligible for the City Cost Share program, but keep the \$50,000 maximum Commission contribution.
4. Continue Commission 100% funding of lake and stream internal load projects.
5. Increase the maximum annual levy request to \$750,000, and increase that to \$1,000,000 within a few years, no later than the Fourth Generation Plan in 2022.

Next Steps

Because the \$250,000 cap and \$500,000 voluntary cap are set forth in the Third Generation Plan, to enact any policy changes the Commissions must undertake a Minor Plan Amendment. These revisions may be “rolled into” the annual Minor Plan Amendment making changes to the Capital Improvement Program (CIP) that takes place in the spring. The process includes notification to the cities and review agencies, discussion at a public meeting, and review and approval by the County Board. If the Commissions would like to proceed, direct staff to draft revised language and present it at the March meeting for a potential Minor Plan Amendment.

Technical Memo



To: Shingle Creek WMO Commissioners

From: Ed Matthiesen, PE Jeff Strom
Diane Spector Tom Langer

Date: February 8, 2019

Subject: 2019 Shingle Creek Monitoring Program

**Recommended
Commission Action**

Review and approve the 2019 monitoring program.

The Commission each year budgets and undertakes monitoring activities, including routine stream and lake monitoring and volunteer lake, stream, and wetland monitoring. Water quality and quantity monitoring on Shingle Creek and select lakes is performed by Wenck staff and the USGS and macroinvertebrate monitoring in Shingle Creek is performed by volunteers through the Hennepin County Environmental Services' (HCES) RiverWatch program. Additional lake monitoring is performed by volunteers through the Met Council's Citizen Assisted Lake Monitoring Program (CAMP). Wetland monitoring is conducted through HCES's Wetland Health Program (WHEP).

The purpose of this memo is to present the proposed 2019 monitoring program. This proposal is consistent with the program set forth in the Third Generation Watershed Management Plan, which includes routine monitoring tasks, specific monitoring efforts to support Commission administered grants, and monitoring to evaluate progress toward the TMDLs every five years. Table 1 below shows the TMDL review schedule for Shingle Creek. This year the Commission will complete the 5-year TMDL review report for the Meadow and Magda Lakes, completing the first cycle of lake reviews.

Table 1. Shingle Creek watershed TMDL approvals and review dates.

TMDL	TMDL EPA Approval	Implementation Plan Approval	5-Year Progress Review
Shingle Creek Chloride	February 14, 2007	March 5, 2007	2014
Twin and Ryan Nutrients	November 9, 2007	November 13, 2007	2014
Crystal Nutrients	March 25, 2009	July 7, 2009	2017
Pomerleau, Bass, and Schmidt Nutrients	September 25, 2009	December 3, 2009	2017
Meadow Nutrients	March 23, 2010	June 14, 2010	2019
Cedar Island, Pike, and Eagle Nutrients	April 14, 2010	May 18, 2010	2018
Magda Nutrients	September 30, 2010	October 1, 2010	2019
Shingle and Bass Creeks Biotic and DO	November 4, 2011	January 30, 2012	2019-2020

2019 Proposed Monitoring Program

The information set forth below explains the various monitoring programs, their purpose, and the proposed costs and funding.

Table 2. 2019 proposed monitoring program budget and cost.

Activity	2019 Budget	2019 Proposed
Routine Stream Monitoring		
Routine Streamflow and Water Quality	\$36,000	\$32,285
Monitoring Equipment		\$3,000
Unallocated		\$715
Lake Monitoring		
Intensive Lake WQ Monitoring (Schmidt)	\$22,500	\$7,334
Aquatic Vegetation Surveys (Schmidt)		\$5,878
Fish Surveys (Schmidt)		\$3,670
Twin Lake Water Quality Monitoring		\$6,325
Unallocated	\$750 (from carp grant)	\$0
Twin Lake Aquatic Vegetation Surveys		\$2,280
Monitoring to Support Grant Projects (funded by grants, not budget)		
Bass and Pomerleau Lake Monitoring	\$12,000	\$12,000

ROUTINE STREAM MONITORING

Routine Stream Flow and Water Quality Monitoring. The Commission has routinely monitored stream flow and water quality in Shingle Creek since 1996. Two locations, one downstream of Humboldt Avenue in Minneapolis (“SC-0,” see attached Figure 1 for all monitoring locations) and one upstream of Zane Avenue in Brooklyn Park (“SC-2”) have been monitored for water quantity and various water quality chemical parameters. In 2007, the monitoring location upstream of Zane Avenue was moved upstream to just downstream of Brooklyn Boulevard in order to obtain a better stage-discharge relationship. This site is identified as SC-3 and SC-2 is no longer monitored. In 2015 Bass Creek (“BC-1” on Figure 1) was added as a third site to be routinely monitored for water quality and conductivity. The Bass Creek monitoring station has helped provide better information about water quality in Bass Creek, which is impaired for chloride and biota.

A fourth site at Queen Avenue in Minneapolis (“SC-1”) is monitored for flow by the US Geological Survey (USGS) as a part of its ongoing National Assessment of Water Quality (NAWQA). Chemical parameters are no longer routinely measured at the USGS site, except for continuous conductivity and temperature. That data are available on-line real-time at waterdata.usgs.gov/mn/nwis/uv?05288705. The Commission also partners financially with the USGS in the operation of the Queen Avenue monitoring station.

With upcoming DO biotic impairment updating, we are proposing to conduct two dissolved oxygen longitudinal surveys across Bass and Shingle Creeks at designated road crossings. Surveys will target a single high flow and a single low flow period in which recordings will occur before 9:00am and after 4:00pm on the same day.

A more detailed discussion and breakdown of the routine stream flow and water quality monitoring activities and costs is shown in Table 1 of Attachment 1.

Monitoring Equipment. Last year (2018), a new pressure transducer was purchased to replace a dated sensor with a bad battery. All the major monitoring equipment owned by the Commission is in working order. With the possibility that additional sensors will go out this year, additional budget was added for these smaller miscellaneous equipment needs. This year's budget does include funds to purchase new deep cycle batteries to replace aging batteries previously purchased by the Commission. The marine-cycle batteries are used to power the monitoring equipment (transducers and pumps) at the routine stream monitoring stations.

Unallocated Budget. There is currently about \$951 difference between this year's estimated monitoring program cost (right column in Table 2) and the budget for 2019 (left column in Table 2). At this time we recommend that the Commission hold this in reserve for any monitoring needs that may come up this season. One possible use of these funds would be to request and process high school student volunteer stream macroinvertebrate monitoring raw data from the Hennepin County's RiverWatch at various locations on Shingle Creek shown on Figure 1. The site at the Connections project location has been monitored by students from Park Center High School for over 20 years. It would be of value to assess this macroinvertebrate data to see if there have been changes in the community over the past 20 years. This data would also assist with the DO/biotic TMDL review in 2019-2020.

LAKE MONITORING

Intensive Lake TMDL Monitoring. To track the effectiveness of BMP implementation in improving lake water quality, the Commission periodically performs intensive lake monitoring to supplement the volunteer surface monitoring. Because the Commission's goals include achieving delisting of lakes that meet their TMDLs and water quality, the Third Generation monitoring plan includes more rigorous lake monitoring sufficient to demonstrate to the MPCA and EPA that conditions have improved. Attachment 2 shows the lake monitoring schedule from the Third Generation Plan, updated to reflect the actual monitoring completed.

For 2019, Schmidt Lake will be monitored twice monthly. The water quality data collected for Schmidt will include surface water samples, water column temperature/DO profiles and surface water samples. A more detailed discussion and breakdown of these routine monitoring activities and costs is shown in Table 1 of Attachment 2. Note that 2017 marked the point where we completed a full round of sampling for all lakes and the Commission is now on to round two of Intensive Lake monitoring to support the 5-Year TMDL Reviews.

Aquatic Vegetation Surveys. A component of the intensive monitoring is to obtain or update surveys of lake aquatic vegetation. As we have discussed with the Commission in the past, aquatic vegetation plays an important role in water quality and biotic integrity, and the vegetation community can change as water quality changes. For 2019 it is proposed that surveys for Schmidt Lake be updated in tandem with the intensive monitoring. A breakdown of this monitoring activity and costs is shown in Table 2 of Attachment 2.

Fish Surveys. DNR records show the most recent fish surveys for Schmidt Lake were conducted in 1990. As we have discussed with the Commission in the past, fish communities play a key role in lake water quality and promoting a healthy and balanced ecosystem. In 2018 Wenck contacted the local DNR

fisheries office to inquire about their next planned fish surveys within Shingle Creek and Schmidt Lake was not on the list for DNR sampling. DNR staff indicated that they plan to perform fish surveys on Crystal Lake in 2019 or 2020. Based on this information, it is recommended that the Commission perform fish surveys on Schmidt Lake in 2019 as part of the intensive monitoring schedule.

MONITORING TO SUPPORT TWIN LAKE GRANT PROJECT

The Twin Lake Carp Management 319 grant project is set to end in 2019. This project includes active management of SAV within the lakes for the first three years post initial internal management activity. The first carp removal occurred in the winter of 2018 and therefore, SAV management began in the spring of 2018 to treat curlyleaf pondweed (CLP). As part of the management, the Commission is required by the MnDNR to conduct annual AIS delineation of CLP for treatment purposes and conduct annual water quality sampling. Water quality sampling requirements are not specified and do not need to follow the intensive monitoring schedule, however, with the level of current management occurring, we recommend conducting monthly water quality sampling (as budget allows) similar to intensive lake monitoring. A more comprehensive data collection effort will produce valuable data to track rapid changes in water quality due to fisheries management.

Twin Lake Intensive Lake Water Quality Monitoring. To track the effectiveness of the Twin Lake Carp project and to fulfill SAV treatment requirements, intensive lake water quality monitoring will be conducted on Upper, Middle, and Lower Twin Lakes in 2019. All three basins of Twin Lake will be monitored once a month (May – Oct; as budget allows). The water quality data collected for each basin will include surface water samples for various parameters, water column temperature and DO profiles, and deep water phosphorus samples (Middle Twin only). A more detailed discussion and breakdown of these routine monitoring activities and costs is shown in Table 1 of Attachment 3. This activity was not built into the original monitoring budget, and the estimated cost exceeds the 2019 budget. We will be as efficient as possible in all the lake monitoring to try to get the recommended work done within the budget, but may not be able to collect all the data outlined, for example, we may have to forego October sampling. There is also a small amount of grant funding left that can also help fund this work.

Twin Lake Aquatic Vegetation Surveys. As part of the Twin Lake Carp project, CLP delineations will be conducted on Upper Twin Lake in 2019. The delineation will be conducted in April/May and be presented to the DNR for permit approval for herbicide treatment and the contracted herbicide applicator to know the designated treatment area. A year end report is also required to be submitted to the MnDNR for permit renewal purposes in 2020. Approximately \$750 has been carried over from the Twin Lake Carp project budget to assist funding this activity.

MONITORING TO SUPPORT BASS AND POMERLEAU GRANT PROJECTS

The following monitoring tasks are built into ongoing grant projects. While not funded from the Commission's general fund budget, they are presented here for completeness.

Bass and Pomerleau Lake Monitoring. Routine water quality monitoring will be conducted on Bass and Pomerleau Lakes as part of monitoring the response to the Bass and Pomerleau Lake Alum Treatment Project. The Commission last performed fisheries and vegetation surveys on Bass Lake in 2017 and 2018, respectively, therefore these types of assessments are not recommended for 2019 as biotic community responses may take a few years to achieve new stable community conditions. A breakdown of this monitoring activity and costs is shown in Table 3 of Attachment 3.

VOLUNTEER MONITORING

Volunteer Lake Monitoring. The Shingle Creek Commission has participated in the Met Council's "Citizen Assisted Lake Monitoring Program" (CAMP) since 1993. This program trains volunteers to take surface water samples and make water quality observations from late spring to early fall, using standardized reporting techniques and forms. The CAMP program has been the Commission's primary means of obtaining ongoing lake water quality data. This program is also an NPDES Education and Outreach BMP.

CAMP was initiated by the Met Council to supplement the water quality monitoring performed by Met Council staff and to increase our knowledge of water quality of area lakes. Volunteers in the program monitor the lakes every other week from mid April to mid October. They measure surface water temperature and Secchi depth, and collect surface water samples that are analyzed by the Met Council for total phosphorous, total Kjeldahl nitrogen, and chlorophyll-a. The volunteers also judge the appearance of the lake, its odor, and its suitability for recreation.

The Met Council charges \$760 per lake to cover the cost of supplies for volunteers, analysis of samples, and the Regional Reports. The Commission owns seven equipment kits purchased in past years and will not have to purchase any more kits unless key equipment needs to be replaced.

Lakes are monitored on a rotating schedule. The larger lakes are monitored every other year while the smaller lakes are monitored every three years. It is assumed that when a lake undergoes the intensive sampling program, no CAMP monitoring will be performed that year. Lakes scheduled for 2019 volunteer lake monitoring are Cedar island, Meadow, and Success. A breakdown of this monitoring activity and costs is shown in Table 2-6 of Attachment 2.

Volunteer Stream Monitoring. In previous years high school student volunteers conduct macroinvertebrate monitoring through Hennepin County Environmental Services' RiverWatch Program at two locations on Shingle Creek (see Figure 1 for location). The Commission contracts with Hennepin County for this service at a cost of \$1,000 per site. Hennepin County maintains an interactive online map showing locations throughout the county and stream grades going back to 1996: hennepin.us/riverwatch.

Volunteer Wetland Monitoring. In 2007 the Commission began participating in Hennepin County Environmental Services' Wetland Health Evaluation Program (WHEP), a volunteer monitoring program. Through this program, adult volunteers monitor vegetative diversity and macroinvertebrate communities. In 2018, there were no wetlands monitored in Shingle Creek. Hennepin County has an interactive online map showing WHEP locations throughout the County: hennepin.us/your-government/get-involved/wetland-health-evaluation-program. The 2019 budget includes \$2,000 to monitor two wetlands. Staff recommends that staff work with the cities to identify sites for 2019

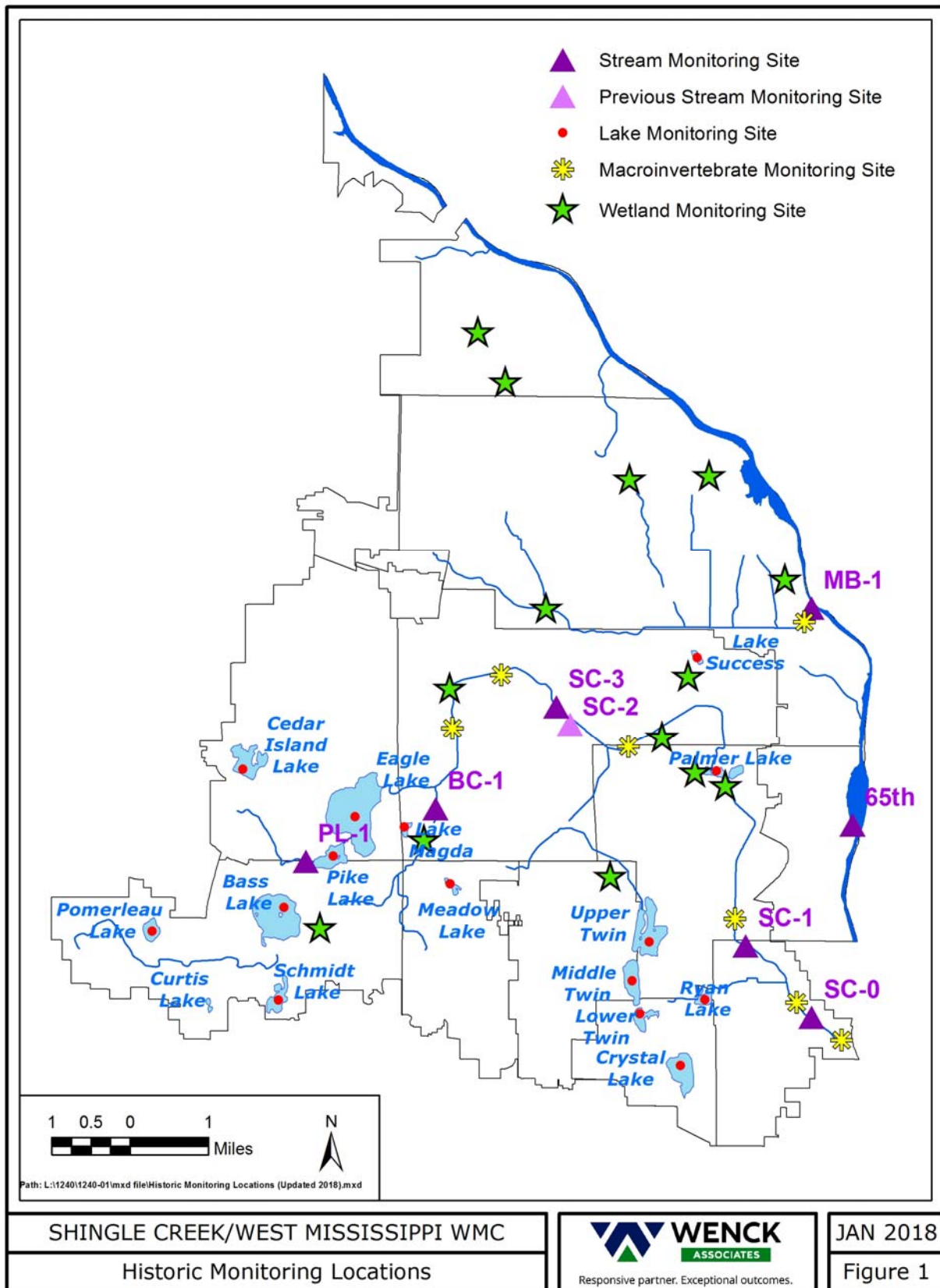


Figure 1. Shingle Creek watershed monitoring locations.

**Attachment 1
Stream Monitoring Detail
January 2019**

Sites:

Routine (bi-monthly) and storm event monitoring of flow and water quality at the outlet (SC-0), Brooklyn Boulevard (SC-3), Bass Creek (BC-1) sites.

Constituents:

Lab analyses for the stream monitoring sites include total phosphorus, total dissolved phosphorus, soluble reactive phosphorus, total suspended solids, E. coli and chloride. Field measurements at all sites will include pH, dissolved oxygen, temperature, transparency tube, and conductivity.

Conduct two dissolved oxygen longitudinal assessment. Survey a high flow and low flow event. One survey will constitute assessment pre 9:00 AM and a post 4:00 PM readings at designated crossings.

Frequency:

Stream Routine: SC-0, SC-3 and the Bass Creek Outlet will be monitored once every two weeks from April 1 to October 31, 2019.

Storms: Target 6 storm composite samples throughout the monitoring season (April through October) at SC-0, SC-3, and BCP-1.

Winter: Target monthly chloride sampling November through March at USGS, SC-0, SC-3, and BCP-1.

Table 1-1. Activity and cost breakdown for Shingle Creek 2019 routine stream monitoring.

ACTIVITY	HOURS	COST
<i>Routine Stream Monitoring</i>		
Install/remove equipment	40	\$4,760
DO longitudinal surveys	12	\$1,296
Collect samples and maintain equipment	135	\$14,580
Develop database and rating curves	30	\$3,365
Analytical services (RMB Laboratories)		\$4,114
Misc. supplies, mileage and equipment		\$1,500
Project Management	22	\$2,670
Unallocated Budget		\$715
<i>Equipment</i>		\$3,000
TOTAL	222	\$36,000

**Attachment 2
Lake Monitoring Detail
January 2019**

Sites:

Schmidt Lake (intensive water quality monitoring, vegetation surveys, fish survey) and Upper, Middle and Lower Twin Lakes (SAV delineations and water quality monitoring)

Intensive Monitoring Constituents:

Lab analyses include total phosphorus, soluble reactive phosphorus, total suspended solids, and chlorophyll-a. Deep lake samples for Middle Twin lake will include total phosphorus and soluble reactive phosphorus. Field measurements include dissolved oxygen, temperature, pH and conductivity water column profiles

Intensive Monitoring Frequency:

Schmidt Lake will be sampled for water quality twice monthly from late May to September 30, 2019 or until fall turnover. Vegetation surveys will be conducted on Schmidt Lake in May/June and August. The Schmidt Lake fish survey will be performed in mid-late summer and will use a combination of gill net(s) and mini-fyke nets. Upper, Middle and Lower Twin Lakes will be sampled for water quality once monthly from late May to September 30, 2019.

Table 2-1. Activity and cost breakdown for Schmidt Lake intensive water quality monitoring.

ACTIVITY	HOURS	COST
Collect bi-monthly samples	36	\$4,218
Data analysis and reporting	12	\$1,296
Supplies, boat, equipment and mileage		\$1,350
Analytical (RMB Laboratories)		\$470
TOTAL	48	\$7,334

Table 2-2. Activity and cost breakdown for aquatic vegetation surveys on Schmidt Lake.

ACTIVITY	HOURS	COST
May/June and August surveys	28	\$3,024
Data entry and analysis	16	\$1,904
Equipment, mileage, mapping service		\$950
TOTAL	44	\$5,878

Table 2-3. Activity and cost breakdown for fish survey on Schmidt Lake.

ACTIVITY	HOURS	COST
DNR permit application	2	\$260
Perform fish surveys	20	\$2,380
Data entry and analysis	6	\$780
Boats, nets, misc. equipment and mileage		\$250
TOTAL	28	\$3,670

Table 2-4. Activity and cost breakdown for Upper, Middle and Lower Twin Lakes water quality monitoring.

ACTIVITY	HOURS	COST
Collect monthly samples	24	\$3,120
Data analysis and reporting	10	\$1,300
Supplies, boat, equipment and mileage		\$1,100
Analytical (RMB Laboratories)		\$805
TOTAL	34	\$6,325

Table 2-5. Activity and cost breakdown for Upper, Middle and Lower Twin Lakes delineations.

ACTIVITY	HOURS	COST
Permitting requirements	8	\$1,040
Delineations	8	\$1,040
Supplies, boat, equipment and mileage		\$200
TOTAL	16	\$2,280

Table 2-6. Activity and cost breakdown for volunteer lake monitoring.

ACTIVITY	HOURS	COST
Volunteer training, sample pickup, reporting	12	\$1,520
Analytical and supplies (Met Council)		\$2,280
TOTAL	12	\$3,800

Attachment 3
Monitoring to Support Grant Projects
January 2019

Sites:

Bass and Pomerleau Lakes (intensive water quality monitoring)

Intensive Monitoring Constituents:

Lab analyses for Bass and Pomerleau Lakes monitoring will include surface samples of total phosphorus, soluble reactive phosphorus, total suspended solids, volatile suspended solids and chlorophyll-a. Deep lake samples for Bass and Pomerleau Lakes will include total phosphorus and soluble reactive phosphorus. Field measurements for each basin will include dissolved oxygen, temperature, pH and conductivity water column profiles

Intensive Monitoring Frequency:

Bass and Pomerleau Lakes will be sampled for water quality twice monthly from late May to September 30, 2018.

Table 3-1. Activity and cost breakdown for Bass and Pomerleau Lakes water quality monitoring.

ACTIVITY	HOURS	COST
Collect bi-monthly samples	75	\$7,242
Data analysis and reporting	18	\$1,812
Supplies, boat, equipment and mileage		\$1,426
Analytical (RMB Laboratories)		\$1,520
TOTAL	93	\$12,000

Table 5. Third Generation Plan lake monitoring schedule.

Lake	Water Quality Monitoring											Aquatic Vegetation Survey											Sediment Core Assessment*									
	12	13	14	15	16	17	18	19	20	21	22	12	13	14	15	16	17	18	19	20	21	22	08	09	10	11	12	13	14	15	16	
Bass			c	x		x		g		x				c				c							c							
Eagle				c					c	x					c					c											c	
Pike				c					c	x					c					c				c								
Twin Middle	c		x		x		g		x		x	c							g													
Ryan	x	c					c		x		x		c						c								c					
Schmidt			c					c		x				c						c					c							
Twin Lower	c		x				g		x		x	c							g			c				c						
Cedar Island				c				x		x											c					c						
Crystal		c	x		x		c		c		x		c										c									
Pomerleau			x			c		g											c										c			
Twin Upper	c		x				g		x		c	c				c			g			c		c								
Magda	x			x		c				x	c							c				c							c			
Meadow			x		c			x		c						c						c			c							
Success			x		c			x		c						c						c										

*No additional sediment coring is anticipated after 2016.

- g Grant monitored
- x Volunteer monitored (CAMP)
- c Commission monitored

Technical Memo



To: West Mississippi WMO Commissioners

From: Ed Matthiesen, P.E.
Diane Spector
Jeff Strom
Sarah Nalven

Date: February 7, 2019

Subject: 2019 West Mississippi Monitoring Plan

**Recommended
Commission Action**

Review and approve the 2019 monitoring plan.

The West Mississippi Watershed Management Commission for many years did not routinely monitor water quality in the few streams that are present in the watershed. The Commission undertook stream and outfall monitoring in 1990-1992 and found that the water quality of runoff from the watershed was generally within ecoregion norms. Since much of the watershed was poised to develop under Commission rules regulating the quality and rate of runoff, the Commission elected to discontinue further monitoring. In 2010 and 2011 the Commission authorized a repeat of the 1990-1992 monitoring, to determine current conditions and evaluate whether the development rules were protective of downstream water quality.

The Third Generation Plan and subsequent budgets incorporated ongoing, routine monitoring for West Mississippi that includes monitoring flow and water quality at two sites per year on a rotating basis. In 2018 the Commission monitored the Environmental Preserve and Oxbow Creek outlets (Figure 1). Results of 2018 monitoring will be presented in the Annual Water Quality Report in April 2019.

Routine Monitoring. Figure 1 shows the West Mississippi outfall sites sampled in 2010-2011, and 2013-2018 (no monitoring was conducted in 2012). The 65th Avenue outfall and the Mattson Brook outlet will be monitored in 2019 for flow and water quality using automatic samplers. Continuous flow will be monitored using pressure transducers, and water quality will be analyzed through field parameter measurements, periodic grab samples and storm composite sampling using ISCO automated samplers purchased by the Commission in 2010.

The 2019 budget for this activity is \$17,000. A more detailed discussion and breakdown of these routine monitoring activities and costs is shown in Table 1 of Attachment 1.

Volunteer Stream Monitoring. In previous years high school student volunteers conduct macroinvertebrate monitoring through Hennepin County Environmental Services' RiverWatch Program at one location in West Mississippi – Mattson Brook (see Figure 1 for location). The Commission contracts with Hennepin County for this service at a cost of \$1,000 per site. Hennepin County maintains an interactive online map showing locations throughout the county and stream grades going back to 1996: hennepin.us/riverwatch.

In the past few years Hennepin County has been finding it difficult to recruit a high school to monitor this site. Staff recommends that this budget be held in reserve in the event a team is found for 2019. We will consult with Hennepin County to see if the Commission should drop this site in future budgets.

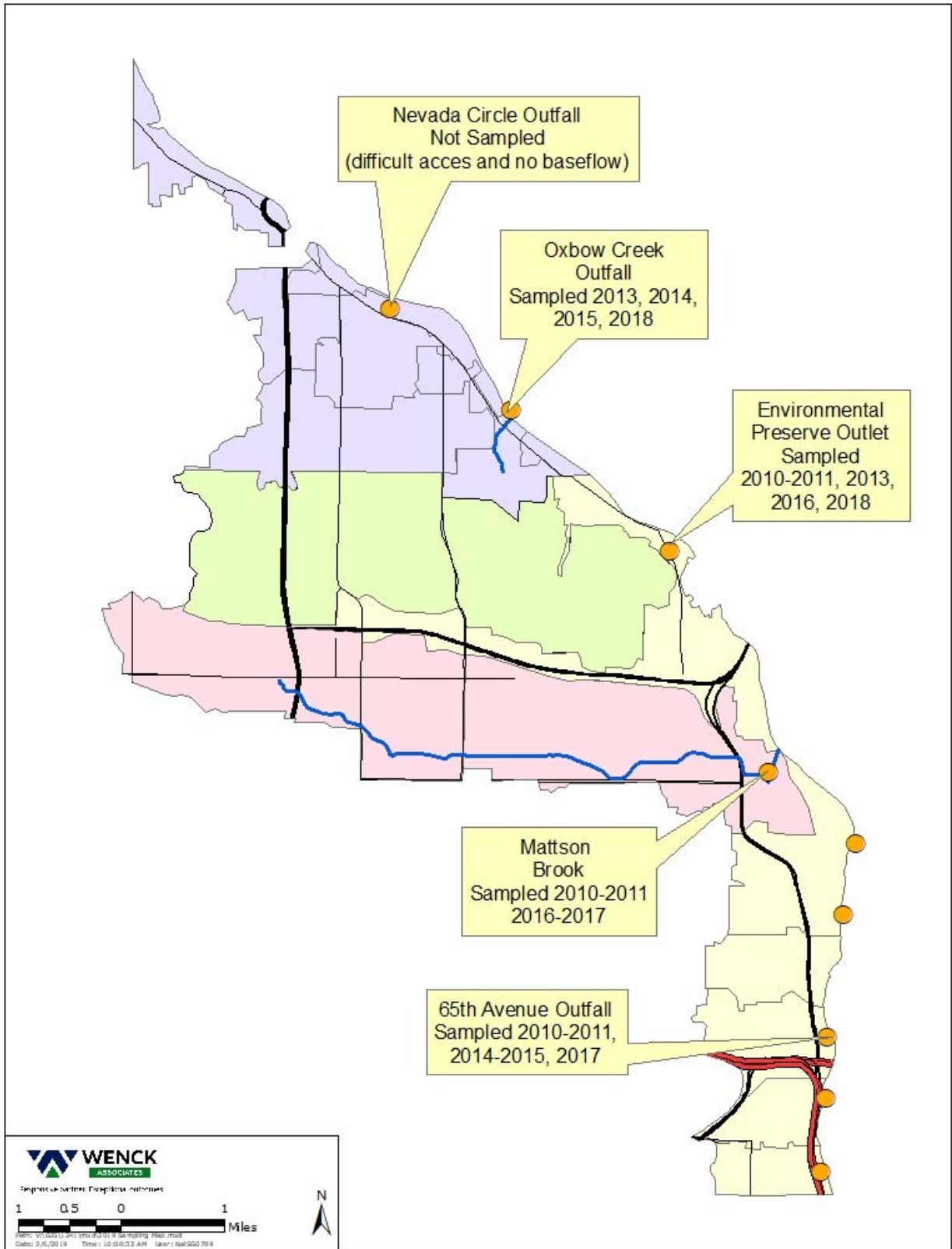


Figure 1. West Mississippi watershed monitoring locations.

Volunteer Wetland Monitoring. In 2007 the Commission began participating in Hennepin County Environmental Services' Wetland Health Evaluation Program (WHEP), a volunteer monitoring program. Through this program, adult volunteers monitor vegetative diversity and macroinvertebrate communities. In 2018, the wetlands monitored were in the environmental Preserve in Brooklyn Park (Figure 2) and near the intersection of 101st Avenue and Regent Avenue in Brooklyn Park (Figure 3). Hennepin County also has an interactive online map showing WHEP locations throughout the County: hennepin.us/your-government/get-involved/wetland-health-evaluation-program. The 2019 budget includes \$2,000 to monitor two wetlands. Staff recommends that staff work with the cities to identify sites for 2019.



Figure 2. Monitored wetland in the Environmental Preserve in Brooklyn Park, across West River Road from the Coon Rapids Dam Regional Park.



Figure 3. Monitored wetlands known as the Oxbow Ponds, located south of 101st Avenue North and west of Regent Avenue in Brooklyn Park.

**Attachment 1
Routine Monitoring Program
February 2019**

Sites:

65th Avenue Outfall and Mattson Brook Outlet sampling locations

Constituents:

Lab analyses include total phosphorus, ortho-phosphorus, total suspended solids, and chloride. Field measurements include flow, pH, dissolved oxygen, temperature, and conductivity.

Frequency:

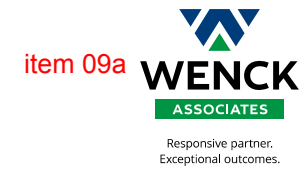
Routine: Target one field grab sample per month from April through October.

Storms: Target approximately one storm composite sample per month from April through October using ISCO automated samplers.

Table 1. Activity and cost breakdown for West Mississippi 2019 monitoring.

ACTIVITY	COST
Field season preparation	\$1,200
Install equipment (beginning of season)	\$3,200
Collect samples and maintain equipment	\$6,200
Remove equipment (end of season)	\$1,200
Develop database and rating curves	\$2,700
Analytical lab cost (RMB Laboratories)	\$1,000
Mileage and equipment	\$1,500
TOTAL	\$17,000

SHINGLE CREEK / WEST MISSISSIPPI WATERSHED MANAGEMENT COMMISSION
MONTHLY COMMUNICATION LOG
January 2019



Date	From	To	SC	WM	Description
1-2-19	Sadie Wolfe, Met Council	Ed Matthiesen.		X	Champlin Brooklyn Park Interceptor Preconstruction Meeting
1-2-19	Oren Thomas, City of Prescott, AZ	Ed Matthiesen.	X	X	Biochar questions for a proposed city bacteria removal project
1-2-19	Jesse Struve, Brooklyn Park	Ed Matthiesen.	X		BMP requirement for Luther Auto at 7401 Brooklyn Blvd.
1-3-19	Eric Alms, MPCA	Jeff Strom, Wenck	X	X	Notice of Mississippi River - Twin Cities (West) Cycle II Kickoff Meeting
1-7-19	Bob Leba, SRF	Ed M, Diane Spector		X	Request for any modeling information the Commission has as preliminary work begins on preliminary design of TH 252 from roughly TH 610 to I-94
1-7-19	MPCA	Diane Spector	X		Notice that the federal government shutdown will not impact processing and contracting of 319 grants
1-9-19	Eric Alms, MPCA	Diane S. Judie Anderson	X		Reminder to submit grant semiannual reports by January 31
1-10-19	Mark Zabel, Vermillion WMO	Diane Spector	X	X	Conveying report of the third meeting of the WBF forum
1-11-19	Karen Galles, HCEE	Diane Spector	X	X	Agenda for 1/12/19 countywide chloride steering committee meeting
1-11-19	Katrina Kessler, Minneapolis	Ed Matthiesen.	X		Agenda for the 1/16/19 meeting on updating Minneapolis' stormwater ordinances
1-11-19	Heather Nelson, WSB	Ed Matthiesen.		X	Proposed project in Osseo
1-14-19	Karen Evens, MPCA	Diane S. Judie Anderson	X		Reminder to submit grant semiannual reports by January 31
1-14-19	MPCA	Diane Spector	X	X	Notice that the FY 19 Section 319 grants application period is open
1-15-19	Eric Alms, MPCA	Jeff Strom	X	X	Notice of upcoming meeting on February 4 re: Mississippi River - Twin Cities (West) Cycle II Kickoff Meeting
1-17-19	Mitch Robinson, Brooklyn Park	Ed Matthiesen.	X		Bass Creek Parking Lot Expansion
1-21-19	Leong Russell, City and County of Honolulu	Ed Matthiesen.	X	X	Iron sand filter design questions
1-21-19	Laura Scholl, Metro Blooms	Ed Matthiesen.	X		Autumn Ridge grant funding
1-24-19	Mary Karius, HCEE	Diane S. Judie Anderson	X	X	Invitation to meet to discuss potential revisions to RiverWatch
1-29-19	Eric Roerish, SRF	Ed Matthiesen.		X	BMP information on proposed interchange at Hwy 169 and 101 st Champlin
1-29-19	Anna Disser, DMG Development	Ed Matthiesen.		X	Buildout on the south side of the 610 Crossings project in Brooklyn Park
1-31-19	SC WMC	MPCA	X	X	Submitted semiannual reports and quarterly invoices for the Twin lake Carp and biochar-Enhanced Sand Filters projects
1-31-19	SC WMC	BWSR	X		Submitted semiannual reports for the Clean Water Fund grant projects.

Responses to Solicitations
of Interest Proposals

Shingle Creek - 2019-2020			Technical	Wetland	Legal	Admin
Technical Consultants						
		Graef	x			
		ProSource Technologies		x		
		Wenck Associates, Inc.	x	x		
Legal Consultants						
		Kennedy & Graven, Chartered			x	
Administrative Consultants						
		Judie Anderson's Secretarial Service, Inc.				x
Shingle Creek - 2017-2018						
Technical Consultants						
		Cardno		x		
		NTI - Northern Technologies	x			
		Rani	x			
		ProSource		x		
	√	Wenck Associates, Inc.	x	x		
Legal Consultants						
	√	Kennedy & Graven, Chartered			x	
Administrative Consultants						
	√	Judie Anderson's Secretarial Service, Inc.				x
	√	Current consultant				

Responses to Solicitations
of Interest Proposals

West Mississippi - 2019-2020						
			Technical	Wetland	Legal	Admin
Technical Consultants						
		Graef	x			
		ProSource Technologies		x		
		Wenck Associates, Inc.	x	x		
Legal Consultants						
		Kennedy & Graven, Chartered			x	
Administrative Consultants						
		Judie Anderson's Secretarial Service, Inc.				x
West Mississippi - 2017-2018						
			Technical	Wetland	Legal	Admin
Technical Consultants						
		Cardno		x		
		Rani	x			
	√	Wenck Associates, Inc.	x	x		
Legal Consultants						
	√	Kennedy & Graven, Chartered			x	
Administrative Consultants						
	√	Judie Anderson's Secretarial Service, Inc.				x
		√ Current consultant				

Election of Officers - 2019						
	Office	Currently serving		Expressing willingness to serve		
Shingle Creek						
	Chair	Andy Polzin		Andy Polzin		
	Vice Chair	John Roach		Wayne Sicora		
	Secretary	Karen Jaeger		Karen Jaeger		
	Treasurer	Harold Johnson		Harold Johnson		
West Mississippi						
	Chair	Gerry Butcher		Gerry Butcher		
	Vice Chair	David Vlasin		David Vlasin		
	Secretary	Karen Jaeger		Karen Jaeger		
	Treasurer	Karen Jaeger		Karen Jaeger		
	SC Communications 2019	Candidates for office				