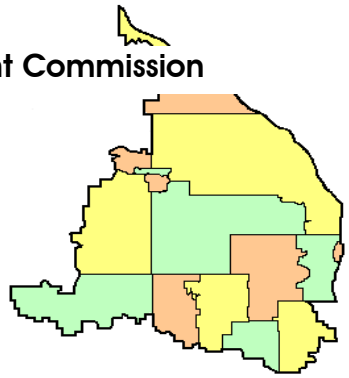
Shingle Creek Watershed Management Commission
West Mississippi Watershed Management Commission

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



Presiding Officer Statement Regarding Holding Meetings via Telephone or Other Electronic Means

As the Presiding Officers for the Shingle Creek Watershed Management Commission and the West Mississippi Watershed Management Commission, we find as follows:

a. The spread of COVID-19 within the United States has raised serious public health concerns and resulted in a great deal of uncertainty since much remains unknown about the virus and how it spreads.

b. On March 11, 2020, the World Health Organization determined the outbreak constitutes a pandemic. On March 13, 2020, President Trump declared a national state of emergency as a result of the pandemic.

c. On March 13, 2020, Governor Tim Walz declared a state of peacetime emergency to address the coronavirus pandemic in the State of Minnesota.

d. The Minnesota Department of Health has provided specific guidance encouraging the limiting of events that do not allow social distancing of six feet per person, which is not practical to achieve in the meeting room.

e. Minnesota Statutes, section 13D.021 authorizes governing bodies to meet by telephone or other electronic means in the case of a health pandemic or when an emergency has been declared if the presiding officer, chief legal counsel, or chief administrative officer determines meeting in person is not practical or prudent. The statute also allows these officers to determine it is not feasible to require any members or staff to be present in the meeting room during a meeting.

f. Given the uncertainties associated with COVID-19 and its spread, conducting in-person meetings is not practical or prudent, and it is not feasible to require any member or staff

to be present in the meeting room during the meetings. The Commission's goal is to slow the spread of COVID-19 and holding meetings via telephone and electronic means allows the Commission to accomplish this goal while still conducting the Commission's business.

Based on the above findings, we hereby determine and state as follows:

1. Until this statement is terminated due to the end of the pandemic or the Governor's emergency declaration, Commission meetings and, to the extent they are held, Technical Advisory Committee meetings, shall be conducted by telephone or other electronic means in a manner satisfying the requirements of Minnesota Statutes, section 13D.021.

2. The meeting rooms will not be open to the public to attend the meetings.

3. Members, the chief legal counsel, and the chief administrative officer are not required to be present in the meeting room during meetings.

4. Before each meeting, notice will be provided regarding how the public may listen to or view meetings as they are being conducted

5. All votes occurring at the meetings shall be conducted by roll call.

Dated this ___ day of March 2020.

R. A. Polzin, Chair
Shingle Creek Watershed Management Commission

Dated this ___ day of March 2020.

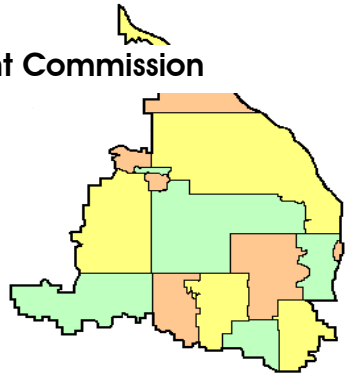
Gerald Butcher, Chair
West Mississippi Watershed Management Commission

Dated this ___ day of March 2020.

Chief Administrative Officer Concurrence:
Judie A. Anderson

Shingle Creek Watershed Management Commission

West Mississippi Watershed Management Commission



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April 2, 2020

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 web site. The direct path is 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, April 9, 2020.**

Until further notice, all meetings will be held online to reduce the spread of COVID-19. To join a meeting, click https://zoom.us/j/834887565 or go to www.zoom.us and click **Join A Meeting**. The meeting ID is **834-887-565**.

If your computer is not equipped with audio capability, you need to dial into one of these numbers:

+1 929 205 6099 US (New York)
+1 669 900 6833 US (San Jose)
+1 253 215 8782 US
+1 312 626 6799 US (Chicago)
+1 346 248 7799 US (Houston)
+1 301 715 8592 US

Meetings remain open to the public via the instructions above**.**

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

Regards,

Judie A. Anderson
Administrator

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

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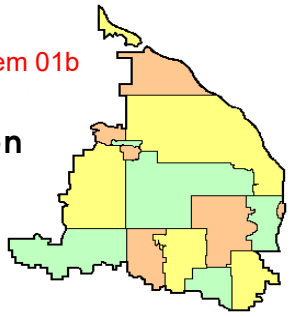
item 01b



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A combined regular meeting of the Shingle Creek and West Mississippi Watershed Management Commissions will be convened Thursday, April 9, 2020, at 12:45 p.m. Agenda items are available at **http://www.shinglecreek.org/minutes--meeting-packets.html.**

Until further notice, all meetings will be held online to reduce the spread of COVID-19. To join a meeting, click https://zoom.us/j/834887565 or go to www.zoom.us and click Join A Meeting. The meeting ID is 834-887-565.

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+1 669 900 6833 US (San Jose) +1 346 248 7799 US (Houston) +1 301 715 8592 US

		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.*
√	SC		b.	Approve Claims* - voice vote.
√	WM		c.	Treasurer's Report.*
√	WM		d.	Approve Claims* - voice vote.
	SCWM	3.	Open forum.	
		4.	Project Reviews.	
√	WM		a.	WM 2020-004 610 Junction Building 2A, Brooklyn Park.*
		5.	Watershed Management Plan.	
√	SCWM		a.	2020 CIP Discussion.
	SCWM	6.	Water Quality.	
√	SCWM		a.	2019 Annual Water Quality Report (SCWM)
	SCWM		b.	March 30, 2020 TAC Meeting Minutes – *not available at this time.*
	SCWM	7.	Education and Public Outreach.	
	SCWM		a.	Education and Outreach – update.**
			b.	Next WMWA meeting – 8:30 a.m., Tuesday, April 14, 2020. *Virtual meeting.*
		8.	Grant and Project Updates.	
√	WM		a.	Authorize Watershed-Based Funding for River Park Project.
√	SC		b.	Amendment #1 Flood Mapping Grant Project.*
	SCWM		c.	Grant Updates - verbal.
	SCWM		d.	Project Updates - verbal.
		9.	Communications.	
	SCWM		a.	Communications Log.*
	SCWM	10.	Other Business.	
√	SC		a.	2019 Annual Activity Report.**
√	WM		b.	2019 Annual Activity Report.**
	SCWM	11.	Adjournment.	

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

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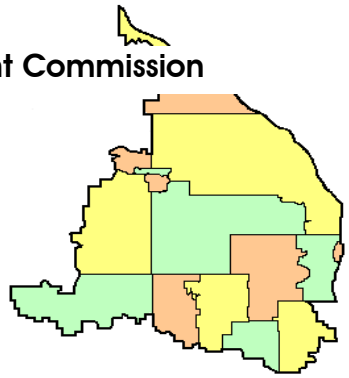


MINUTES
Regular Meeting
March 12, 2020

(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 12:46 p.m. on Thursday, March 12, 2020, at Edinburgh USA, 8700 Edinbrook Crossing, Brooklyn Park, MN.

Present for Shingle Creek were: David Vlasin, Brooklyn Center; Burton Orred, Jr., Crystal; Karen Jaeger, Maple Grove; Bob Grant, New Hope; Harold E. Johnson, Osseo; Andy Polzin, Plymouth; Wayne Sicora, Robbinsdale; Ed Matthiesen and Diane Spector, Wenck Associates, Inc.; Troy Gilchrist, Kennedy & Graven; and Judie Anderson, JASS.

Not represented: Brooklyn Park and Minneapolis.

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

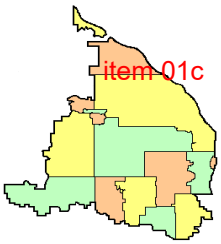
Also present were: Andrew Hogg, Brooklyn Center; Mitch Robinson, Brooklyn Park; Todd Tuominen, Champlin; Mark Ray, Crystal; Derek Asche, Maple Grove; Ray Schoch, Liz Stout and Shahram Missaghi, Minneapolis; Megan Hedstrom, New Hope; John Roach, Osseo; Ben Scharenbroich and Amy Riegel, Plymouth; Richard McCoy and Marta Roser, Robbinsdale; Richard Kiesling, USGS; Brian Vlach, Three Rivers Park District; and James Kelly, Osseo.

Prior to the conduct of business, the members heard from Dr. Richard Kiesling from the United States Geological Survey (USGS). He spoke about *Advanced BMPs for Emerging Contaminants.* Dr. Kiesling provided information on the effectiveness of iron/sand filters on the removal of PFA's, bacteria, caffeine and other surface water pollutants associated with urban runoff.

II. Agendas and Minutes.

Motion by Orred, second by Jaeger to approve the **Shingle Creek agenda.*** *Motion carried unanimously.*

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



Motion by Jaeger, second by Orred to approve the **minutes of the February regular meeting.*** *Motion carried unanimously*

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

III. Finances and Reports.

A. Motion by Orred, second by Jaeger to approve the Shingle Creek **March Treasurer's Report.*** *Motion carried unanimously*.

Motion by Orred, second by Jaeger to approve the **Shingle Creek March claims.*** Claims totaling $31,481.49 were *approved by roll call vote:* ayes – Vlasin, Orred, Jaeger, Grant, Johnson, Polzin, and Sicora; nays – none; absent – Brooklyn Park and Minneapolis.

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

Motion by Jaeger, second by Chesney to approve the **West Mississippi March claims.*** Claims totaling $20,884.26 were *approved by roll call vote:* ayes – Vlasin, Chesney, Butcher, Jaeger, and Johnson; nays – none.

IV. Open Forum.

Brian Vlach, Senior Water Resources Manager at Three Rivers Park District (TRPD), was present to learn more about the Commissions and to discuss possible ways in which the Commissions and TRPD can partner on projects that incorporate water monitoring, expanding the scope of monitoring in the two watersheds while avoiding duplication of efforts. He will work with Commission staff to identify these projects.

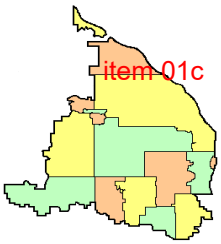
V. Project Reviews.

A. SC2020-001 Crystal Airport, Crystal.* Redevelopment of airport taxiways and runways and construction of a new airport road along the south perimeter of a 326-acre site located at 5800 Crystal Airport Road. Following development, the site will be 29 percent impervious with 94.1 acres of impervious surface, a decrease of 0.50 acres. A complete project review application was received on February 27, 2020.

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. 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.

The project proposes increasing runoff routed to an existing infiltration basin and reducing runoff to Wetland 639. Increasing the amount of runoff routed to the infiltration basin will result in a 3-pound reduction in TP exported to Wetland 639. Runoff from new impervious areas will be routed to downgradient adjacent vegetation. The applicant meets Commission water quality treatment requirements.

Commission rules require the site to infiltrate 1.0 inch of runoff from new impervious area within 48 hours. There is no net increase in impervious area on this site. The applicant meets Commission volume control requirements.



The erosion control plan includes filter log roll as slope checks. The erosion control plan meets Commission requirements. No National Wetlands Inventory wetlands will be impacted. All work will be located at least 50 feet outside the probable wetland boundaries. The applicant meets Commission wetland requirements. There are no Public Waters on this site. The applicant meets Commission Public Waters requirements. There is no FEMA-regulated floodplain on this site. The applicant meets Commission floodplain requirements. The site is not located in a Drinking Water Management Area (DWSMA). The applicant meets Commission drinking water protection requirements.

A public hearing on the project was conducted on May 29, 2019 as part of Planning Commission and City Council review of this project, meeting Commission public notice requirements.

A draft Operations & Maintenance (O&M) agreement between the applicant and the City of Crystal is not required.

Motion by Orred, second by Jaeger to advise the City of Crystal that approval of Project Review 2020-001 is granted with no conditions. *Motion carried unanimously.*

NOTE: While discussing this project a Commissioner inquired as to how the Metropolitan Airport Commission handles deicing and refueling practices at this airport. Matthiesen posed that question to MAC. Mike Harder, their Environmental Administrator, responded:

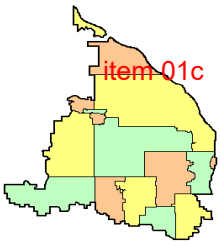
> *MAC does conduct pavement deicing during the winter season primarily on runways and taxiways. This industrial activity is followed under the Industrial Storm Water Permit. Extens[ive] inspections are conducted on the monthly basis to ensure BMP's are in place. Plus required stormwater sampling per permit requirements along with annual training to MAC staff. This would also apply in tenants conducting industrial activity that would require them to have a permit such as fueling. In addition, MAC has [an] Environmental Compliance Program along with leases to ensure tenants are meeting compliance standards. It is highly unlikely any operators out at [MAC] conduct aircraft deicing. I have ongoing communication with tenants about this subject matter to ensure compliance is being followed if this activity would become the norm. MAC has an SPCC plan in place to minimize spills and measures in place to address spill if that were to occur. I can also say the same for tenants if they meet this requirement.*

In summary, MAC deices the pavement according to procedures noted in their Industrial Stormwater Permit and it is unlikely that aircraft deice. They have spill response measures in place as stated in their Spill Prevention Control and Counter measure plan to address spills that may occur during refueling. It is Matthiesen's opinion that MAC has plans and procedures in place to minimize spills and clean them up if they occur at the Crystal Airport.

B. WM2020-002 CBPAMES Building Additions & Renovations, Champlin.* Construction of a building addition, playground, and additional parking lot at the Champlin/Brooklyn Park Academy for Math and Environmental Sciences on a 19.5-acre site located at 6100 109th Avenue. Following development, the site will be 25 percent impervious with 4.8 acres of impervious surface, an increase of 0.5 acres. A complete project review application was received on February 27, 2020.

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. 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 two new infiltration basins on the north side of the property. 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 site will be directed to two new infiltration basins. The applicant meets Commission rate control requirements.

Commission rules require the site to infiltrate 1.0 inch of runoff from new impervious area within 48 hours. The new and reconstructed impervious area on this site is 1.729 acres, requiring infiltration of 6,272 CF within 48 hours. The applicant proposes the two new infiltration basins that have the capacity to infiltrate the required volume within 48 hours. The applicant meets Commission volume control requirements.

The erosion control plan includes a rock construction entrance, sediment control log surrounding the newly constructed infiltration basins, silt fence surrounding, inlet protection, rip rap at infiltration basin inlets, erosion control blanket on exposed soils, and seed mix specified in the infiltration basins. The erosion control plan meets Commission requirements.

The National Wetlands Inventory does not identify any wetlands on site, but a wetland determination identified one small wetland (0.002 acres) that will be filled in by the building addition. The City of Champlin is LGU for WCA administration.

There are no Public Waters on this site. The applicant meets Commission Public Waters requirements. There is no FEMA-regulated floodplain on this site. The applicant meets Commission floodplain requirements. The site is not located in a Drinking Water Management Area (DWSMA). The applicant meets Commission drinking water protection requirements.

A public hearing on the project was conducted on October 10, 2019 as part of Planning Commission and City Council review of this project, meeting Commission public notice requirements.

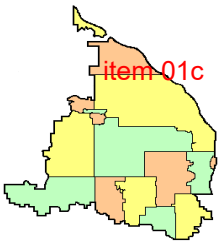
A draft Operations & Maintenance (O&M) agreement between the applicant and the City of Champlin was not provided. The newly constructed infiltration basins will be privately maintained.

Motion by Butcher, second by Chesney to advise the City of Champlin that Project Review 2020-002 is approved subject to assurance that the operations and maintenance plan for the new infiltration basins is agreeable to the City. *Motion carried unanimously.*

C. WM20020-003 Kurita, Brooklyn Park.* Construction of a building, parking lot, and loading dock on 54 acres of vacant farmland located at 6600 94th Avenue North. A 1.1-acre future expansion is anticipated. Following development, the site will be 15 percent impervious with 8 acres of impervious surface, an increase of 8 acres. A complete project review application was received on February 27, 2020.

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. 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 three infiltration ponds on the property that have outlets on the north and southwest side of the property. The applicant has demonstrated that two of the onsite ponds meet the alternative design requirement of infiltrating 1.3 inches of runoff from the site, meeting Commission requirements.



Commission rules require that site runoff is limited to predevelopment rates for the 2-, 10-, and 100-year storm events. Runoff from the site is routed to three ponds on the property. The applicant meets Commission rate control requirements

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 acres, requiring infiltration of 0.67 acre-feet within 48 hours. Two ponds on the property have the capacity to infiltrate the required volume within 48 hours. The applicant meets Commission volume control requirements.

The erosion control plan includes two rock construction entrances, perimeter silt fence, silt fence surrounding the newly constructed infiltration basins, inlet protection using flared end sections, erosion control blankets on basin slopes, and rock check dams. The erosion control plan meets Commission requirements.

The National Wetlands Inventory does not identify any wetlands on site. The applicant meets Commission wetland requirements. There are no Public Waters on this site. The applicant meets Commission Public Waters requirements. 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 infiltration basins according to Atlas 14 precipitation. The applicant meets Commission floodplain requirements. The site is located in a Drinking Water Management Area, but is outside the Emergency Response Area. The applicant meets Commission drinking water protection requirements.

Public hearings on the project will be conducted on March 11, 2020 and March 30, 2020 as part of Planning Commission and City Council review of this project, meeting Commission public notice requirements.

A draft Operations & Maintenance (O&M) agreement between the applicant and Brooklyn Park was not provided. The newly constructed infiltration basins will be privately maintained.

Motion by Chesney, second by Johnson to advise the City of Brooklyn Park that Project Review 2020-003 is approved subject to assurance that the operations and maintenance plan for the new infiltration basins is agreeable to the City. *Motion carried unanimously*.

VI. Watershed Management Plan.

The Commissioners expressed an interest in having a **standard presentation** they could give to their respective City Councils to highlight the Commissions' accomplishments. Attached to Staff's March 6, 2020 memo is a draft presentation that includes some general background information, some history, and some accomplishments as well as an overview of recent projects. The presentation is annotated to help the Commissioners make the presentation. Spector gave the presentation at the meeting and members provided input on revisions or additions for the final version.

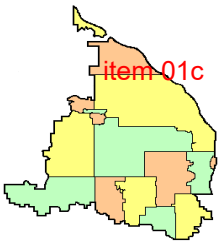
VII. Water Quality.

Minutes* of the February 13, 2020 TAC meeting were included in the meeting packet as information. The **next TAC meeting** [has been scheduled for 1:00 p.m., Monday, March 30, 2020, and will be a virtual meeting.]

VIII. Education and Public Outreach.

WMWA. The **West Metro Water Alliance** met Tuesday, March 10, 2020, at Plymouth City Hall. The next meeting will be held Tuesday, April 14, 2020 at 8:30 a.m. [and will be a virtual meeting as well.].

A. Watershed PREP and Education and Outreach Events. Educators are in the midst of school



visits for spring semester. Amy at JASS (amy@jass.biz) has the up-to date-schedule in the event anyone wishes to sit in on a classroom session. The educators are also available to table at city and school events. The educators, working with local cable provider CCX Media, filmed one of their classroom presentations and are preparing a short promotional video for Watershed PREP. The video should be available soon.

B. A sign maker has been identified to fabricate a lightweight tabletop **native plants roots display** and is in the process of developing a prototype. At least four entities including WMWA are interested in purchasing one for an estimated cost of $2,200. The Blue Thumb roots display is one of the most popular items at events, but the current models are very heavy and difficult to transport.

C. **Upcoming events** include:

1. Plymouth is hosting another Winter Parking Lot and Sidewalk Maintenance workshop for Level I certification on March 27. [CANCELLED]

2. WMWA will table at the Discover Plymouth event on April 18 from 9 am – 2pm. [CANCELLED]

3. The Victory Neighborhood (Minneapolis) is hosting a Lawns to Legumes workshop on March 21. [CANCELLED]

4. Brooklyn Center will host a Shingle Creek Cleanup event on April 25. https://www.cityofbrooklyncenter.org/index.aspx?NID=666

D. **Website/Social Media.** Catherine Cesnik, the WMWA Coordinator, is refreshing the WMWA website and updating content. Any input is appreciated. westmetrowateralliance.org/. Cesnik has also taken over social media posting duties.

E. **Other.** Cesnik will be reaching out to member cities over the next few months, starting with the TAC representatives, to better understand how WMWA can be a resource and to help fill education and outreach gaps. The WMWA steering committee particularly discussed options to collaborate on the new or enhanced education and outreach requirements in the draft MN NPDES General Permit.

IX. **Grant Opportunities and Updates.**

New Hope Cost-Share Reimbursement Request. This item was withdrawn from the agenda and will be considered at the April meeting.

X. **Communications.**

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

B. There is a link to Marta Roser's **carp removal presentation** on CCX News. https://ccxmedia.org/news/robbinsdale-kicks-off-carp-removal-project/

XI. **Other Business.**

XII. **Adjournment.** There being no further business before the Commissions, the joint meeting was adjourned at 2:32 p.m.

Respectfully submitted,

Judie A. Anderson, Recording Secretary
JAA:tim

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WEST MISSISSIPPI WATERSHED MANAGEMENT COMMISSION

PROJECT REVIEW WM2020-004: 610 Junction Building 2A

Owner: United Properties
Address: 651 Nicollet Mall
Minneapolis, MN 55431

Engineer: Chad Ayers
Company: Sambatek
Address: 12800 Whitewater Drive, Suite 300
Minnetonka, MN 55343
Phone: 763-476-6010
Fax: 763-476-8532
Email: cayers@sambatek.com

Purpose: Construction of 6.8 acres of impervious surface on 8.46 acres.

Location: NE corner of Decatur Dr. and 94th Ave N in Brooklyn Park, MN (Figure 1).

Exhibits:

1. Project review application, undated, received on 3/23/2020. Project review fee of $2,200, check no. 020791, dated March 20, 2020, received by Shingle Creek and West Mississippi Watershed Management Commissions on April 2, 2020.

2. Site plan, preliminary plat, grading (Figure 2), utility, erosion control, and landscaping plans by Sambatek dated 3/16/2020, received 3/23/2020. Revisions to grading plan received 3/31/2020.

3. HydroCAD calculations by Sambatek, dated 3/23/2020, received 3/23/2020.

Findings:

1. The proposed project is the construction of a new building, drive aisles, parking lot, and sidewalks on currently vacant agricultural and wooded land. The site is 8.46 acres. Following development, the site will be 80 percent impervious with 6.8 acres of impervious surface, an increase of 6.8 acres.

2. The complete project application was received on 3/23/2020. To comply with the 60-day review requirement, the Commission must approve or deny this project no later than the 5/14/2020 meeting. Sixty calendar-days expires on 5/22/2020.

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. 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 through an infiltration basin. The applicant states that the basin has the capacity to infiltrate 1.3 inches of runoff from new impervious surfaces in 48 hours. The basin has been sized for Building 2A and a future Building 1. An infiltration rate of 0.8 inches per hour must be verified, or silt in the

basin must be removed and replaced with clean sand in order for the applicant to meet Commission water quality requirements.

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 will be routed through a new infiltration basin in the NE corner of the property into the MnDOT ROW and to an existing infiltration basin in the SW corner of the property. 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-
Southwest to existing basin	1.22	1.41	4.31	4.94	13.22	13.29
Northeast to MnDOT ROW	5.64	4.26	19.43	4.26	60.31	13.29
Total	6.43	2.56	22.09	8.88	68.55	28.3

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 6.8 acres, requiring infiltration of 0.56 acre-feet within 48 hours. The applicant proposes that the new infiltration basin has the capacity to infiltrate 1.3 inches from new impervious surfaces within 48 hours. The applicant meets Commission volume control requirements.

5. The erosion control plan includes a rock construction entrance, rip rap at the basin inlet, silt fence surrounding the infiltration basin bottom and slopes, and native seed specified on the infiltration basin slopes. The erosion control plan meets Commission requirements.

6. The National Wetlands Inventory does not identify any wetlands on site. The applicant meets Commission wetland requirements.

7. There are no Public Waters on this site. The applicant meets Commission Public Waters requirements.

8. 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 detention ponds/infiltration basins according to Atlas 14 precipitation. The applicant meets Commission floodplain requirements.

9. The site is not located in a Drinking Water Management Area (DWSMA). The applicant meets Commission drinking water protection requirements.

10. A public hearing on the project has been conducted on 2/12/2020 as part of Planning Commission and City Council review of this project, meeting Commission public notice requirements.

11. A draft Operations & Maintenance (O&M) agreement between the applicant and the City of Brooklyn Park was provided.

WM 2020-004:

12. A Project Review Fee of $2200 has been received.

Recommendation: Recommend approval subject to the following condition(s): [with no conditions.]

1. Demonstrate by double ring infiltrometer that the site can meet the design infiltration rate of 0.80 inches/hour or amend the infiltration bottom soils by removing silt and replacing with clean sand.

Wenck Associates, Inc.
Engineers for the Commission

_____ _____

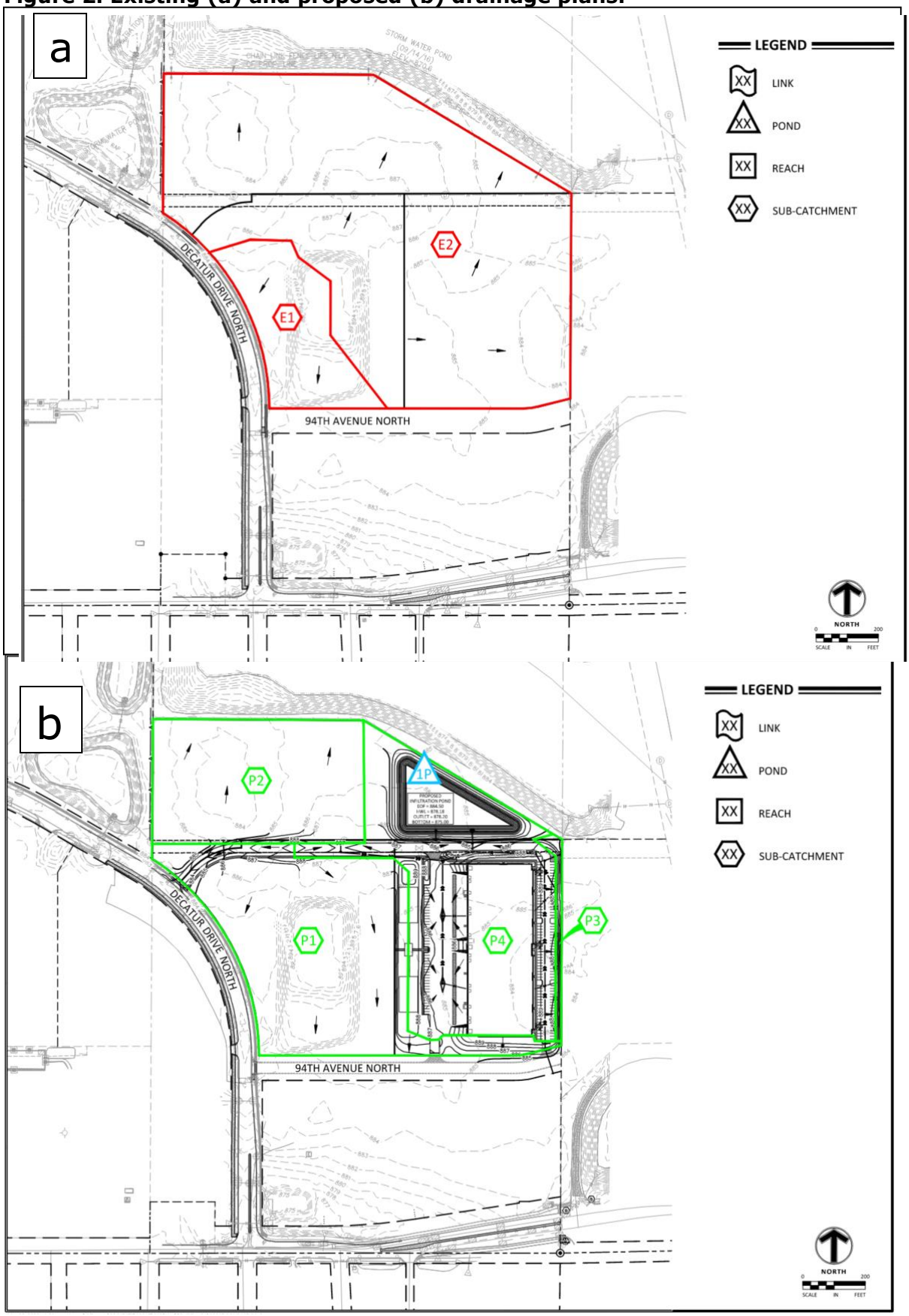
Ed Matthiesen, P.E. Date

WM 2020-004:

Figure 1. Site location.

WM 2020-004:

Figure 2. Existing (a) and proposed (b) drainage plans.



Technical Memo

WENCK ASSOCIATES

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To: Shingle Creek/West Mississippi WMC Commissioners

From: Ed Matthiesen, P.E.
Diane Spector

Date: April 2, 2020

Subject: 2020 CIP Discussion

Each year the Commissions work together with the member cities to consider capital projects proposed for watershed funding on the Capital Improvement Program (CIP). Typically, in April of each year the TAC hears feasibility studies for proposed projects and makes a recommendation to the Commissions as to which projects to consider for that year's CIP and whether any minor plan amendments are necessary. The TAC recommendations are forwarded to the Commissions which then in May set the maximum levies and acts on any necessary plan amendments. Proposed plan amendments and proposed maximum capital levies are then submitted to Hennepin County. The County then goes through its public hearing and maximum levy setting process that is usually done by the end of June. The process then goes back to the Commissions to hold public hearings on proposed projects and set final levies, typically in September. Projects ordered and levied in one year would then be collected with property taxes in the following year. This levy is included in the "Other Special Taxing Districts" line item of your property tax statement.

Attached are the current draft CIPs for each watershed which reflect the Minor Plan Amendments approved in 2019 and rescheduling some projects to future years. Tables 1 and 2 show the potential projects for consideration in 2020 and the associated estimated levies. In 2019 the Commissions amended their Management Plan to raise the annual voluntary maximum levy to $750,000. Shingle Creek as proposed would exceed that $750,000 voluntary cap. Both the Cost-Share program and the Partnership Cost Share program have balances, currently about $120,000 (plus an additional $100,000 to be received this year) and $150,000 (plus $50,000) respectively. West Mississippi has a balance of about $200,000 in its cost share program. The Commissions could get by without certifying levy for either of these programs in 2020 if need be. We would also expect to submit grant applications for the Meadow Lake and two stream projects, and there will be another round of Watershed-Based Funding from BWSR that could also provide funding for these projects.

Table 1. Shingle Creek 2020 CIP Projects (2021 levy).

Project	Total Estimated	City/ Private	Grant	Commission Share
Cost share (city projects)	$200,000	$100,000	0	$100,000
Connections II Stream Restoration	400,000	0	0	400,000
Plymouth Street Sweeper	350,000	275,000	0	75,000

Project	Total Estimated	City/ Private	Grant	Commission Share
Meadow Lake Management Plan	300,000	0	0	300,000
Bass Creek Restoration	400,000	0	0	400,000
Partnership cost share (private projects)	100,000	50,000	0	50,000
Subtotal	**$1,750,000**	**$425,000**	**$0**	**$1,325,000**
5% additional for legal/admin costs				**66,250**
Subtotal				**1,391,250**
TOTAL LEVY (101% for uncollectable)				**$1,405,165**

Table 1b. Levy by Project

Project	Total Levy
Cost share (city projects)	$106,050
Connections II Stream Restoration	424,200
Plymouth Street Sweeper	79,540
Meadow Lake Management Plan	318,150
Bass Creek Restoration	424,200
Partnership cost share (private projects)	$53,025
Total	**$1,405,165**

Table 1c. Levy Excluding Cost Share Projects

Project	Total Levy
Connections II Stream Restoration	$424,200
Plymouth Street Sweeper	79,540
Meadow Lake Management Plan	318,150
Bass Creek Restoration	424,200
Total	**$1,246,090**

Table 2. West Mississippi 2019 CIP Projects (2020 levy).

Project	Total Estimated	City/ Private	Grant	Commission Share
Cost share (city projects)	$100,000	$50,000	0	$50,000
Miss Crossings Phase B Infiltration Vault	400,000*	300,000		100,000
River Park Stormwater Improvements	485,000	363,750		121,250
Subtotal	**$985,000**	**$713,750**	**$ 0**	**$271,250**
5% additional for legal/admin costs				**13,560**
Subtotal				**284,810**
TOTAL LEVY (101% for uncollectable)				**$287,660**

*Champlin is still working to finalize this number.

Table 2b. Levy Excluding Cost Share Project.

Project	Total Estimated
Miss Crossings Phase B Infiltration Vault	$106,050
River Park Stormwater Improvements	128,585
Total	**$234,635**

Discussion

The TAC discussed options for proceeding with a proposed levy that exceeds the voluntary cap of $750,000. The cost share of Plymouth's enhanced street sweeper and the three capital projects are all TMDL implementation projects that will be of benefit to the lakes/streams and make required phosphorus and sediment load reductions. Grant applications for two of the three projects were pursued but were not funded. Additional grant funding can be pursued for all three of the projects in 2020. The cities also expect to continue to make use of both the public and private cost share funds. **It was the consensus of the TAC to recommend consideration of the 2020 maximum levies as proposed** (i.e., Tables 1 and 1b for Shingle Creek and Table 2 for West Mississippi).

To put the proposed levy in perspective of how it might impact property owners, Shingle Creek's 2018/2019 levy of $479,900 resulted in a one-time levy of $9.74 on Diane's house in Minneapolis. The $1.4 million levy under consideration if levied in 2019 would have resulted in that one-time levy of about $28.52, or an increase of $18.78. Note that the Tax Capacity Rate is variable year to year depending on the overall net tax capacity in the county, so these calculations are for illustration only.

Again, to put that in perspective, in 2019 the Shingle Creek "Tax Capacity Rate*" was 0.335%. If a $1.4 million levy had been certified that rate would have been about 0.980%. In 2019 Bassett Creek's Tax Capacity Rate was 0.872% and Elm Creek's was 0.315% while the Mississippi WMO was 1.523%. The watershed districts in the county ranged from 1.164% to 2.204% Also for comparison, in 2019 the tax capacity rate of the Metropolitan Mosquito Control District was 0.427%, the Mia was 0.705%, and Hennepin Parks was 2.961%.

Staff recommends that the Commissions discuss their options and provide direction so that the proposed 2020 CIP and maximum levies can be considered at the May 2020 regular Commission meeting.

_____

*Your home's tax capacity is computed using your Taxable Market Value (found on your property tax statement). Multiply the first $500,000 of value times 1.0% and any incremental value above $500,000 times 1.25%. A home with a $275,000 taxable value would have a tax capacity of $275,000(1%) = $2,750. A $650,000 taxable value home would have a tax capacity of $500,000(1%) + $150,000(1.25%) = $6,875. To compute your estimated tax multiply the homes tax capacity times the tax capacity rate.

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Table 3. Proposed 2020 Shingle Creek CIP.

CAPITAL IMPROVEMENT PROGRAM	2020	2021	2022
Cost Share Program	200,000	200,000	200,000
Commission Contribution	100,000	100,000	100,000
Local Contribution	100,000	100,000	100,000
Partnership Cost-Share BMP Projects	100,000	100,000	100,000
Commission Contribution	50,000	50,000	50,000
Local Contribution	50,000	50,000	50,000
Meadow Lake Management Plan	300,000		
Commission Contribution	300,000		
Local Contribution	0		
Shingle Creek Restoration, Regent to Brooklyn Blvd	400,000		
Commission Contribution	400,000		
Local Contribution	0		
Plymouth Enhanced Street Sweeper	350,000		
Commission Contribution	75,000		
Local Contribution	275,000		
Shingle or Bass Creek Restoration Project	400,000		500,000
Commission Contribution	400,000		500,000
Local Contribution	0		0
Maple Grove Pond P57		648,000	
Commission Contribution		162,000	
Local Contribution		486,000	
Maple Grove Pond P33		574,000	
Commission Contribution		143,500	
Local Contribution		430,500	
Shingle Creek Brookdale Park Habitat Enhancement		150,000	
Commission Contribution		150,000	
Local Contribution		0	
Minneapolis Webber Park Stream Restoration		500,000	
Commission Contribution		500,000	
Local Contribution		0	
Minneapolis Flood Area 5 Water Quality Projects		6,000,000	
Commission Contribution		250,000	
Local Contribution		5,750,000	
Maple Grove Pond P55		855,000	
Commission Contribution		213,800	
Local Contribution		641,200	
Palmer Creek Estates Bass Creek Restoration		450,000	
Commission Contribution		112,500	
Local Contribution		337,500	
Lake Internal Load Project			300,000
Commission Contribution			300,000
Local Contribution			0
TOTAL PROJECT COST	**$1,750,000**	**$9,477,000**	**$1,100,000**
TOTAL COMMISSION SHARE	**1,325,000**	**1,681,800**	**950,000**
TOTAL CITY SHARE	**425,000**	**7,795,200**	**150,000**

Table 4. Proposed 2020 West Mississippi CIP.

CAPITAL IMPROVEMENT PROGRAM	2020	2021	2022
Cost Share Program	$100,000	$100,000	$100,000
Commission Contribution	50,000	50,000	50,000
Local Contribution	50,000	50,000	50,000
River Park Stormwater Improvements	485,000		
Commission Contribution	121,250		
Local Contribution	363,750		
Miss Crossings Phase B Infiltration Vault		200,000 *	
Commission Contribution		50,000	
Local Contribution		150,000	
Champlin Woods Trail Rain Gardens		180,000	
Commission Contribution		45,000	
Local Contribution		135,000	
Wetland Restoration Project		250,000	
Commission Contribution		62,500	
Local Contribution		187,500	
TOTAL PROJECT COST	**$1,215,000**	**$100,000**	**$100,000**
TOTAL COMMISSION SHARE	**328,750**	**50,000**	**50,000**
TOTAL CITY SHARE	**886,250**	**50,000**	**50,000**

*Currently under review by Champlin.

Technical Memo

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To: Shingle Creek/West Mississippi WMO Commissioners

From: Ed Matthiesen, P.E.
Diane Spector
Katie Kemmitt
Aaron Claus
Nick Omodt
Ali Stone

Date: April 2, 2020

Subject: Annual Water Quality Report

Recommended Commission Action	Review and receive the report.

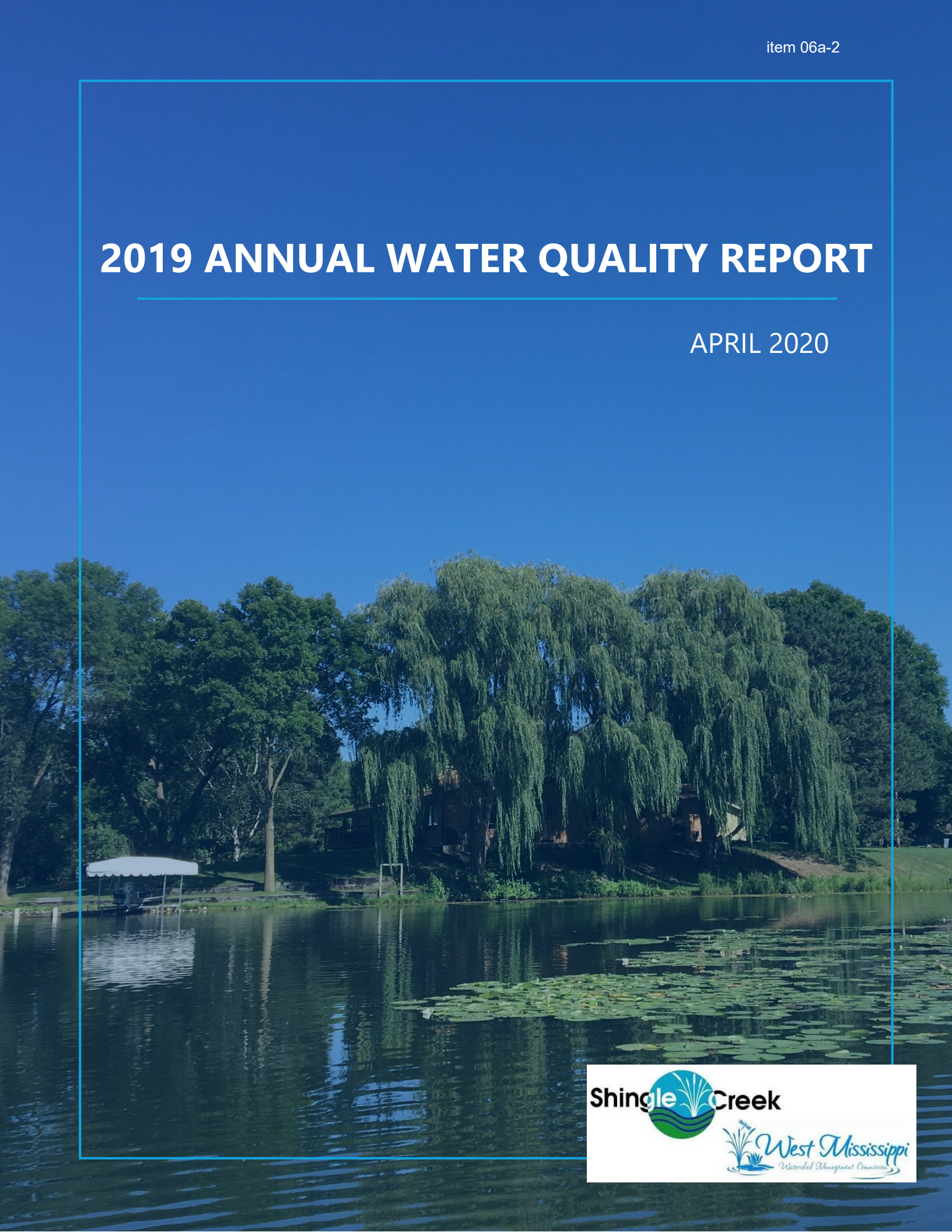
Attached is the Annual Water Quality report. Katie Kemmitt will present the findings at the April 9, 2020 meeting. The technical appendices can be found at shinglecreek.org/water-quality.html.

You will notice that we have significantly reformatted the report to be more user friendly. The data and graphs and more detailed narrative has all been moved to the technical appendices. The report itself is just 8 pages supplemented by infographics presenting conditions in the lakes and streams at a glance. The current conditions at each site for each parameter is shown on a scale of Excellent to Degraded. Up or down arrows show where there is a statistically significant improvement or degradation. Where there is no arrow, there is no significant change or there is not enough data to do a trend analysis. We hope that this is more user-friendly than wading through 50 pages of text and graphs.

In addition to your questions regarding the monitoring results, we are anxious to get your feedback on the new format and infographics, and your ideas for data presentation. We will be working on enhancing the website so that data is more accessible and understandable, and are open to your thoughts on that.

2019 ANNUAL WATER QUALITY REPORT

APRIL 2020



Shingle Creek

West Mississippi Watershed Management Commission

The Monitoring Program

The Shingle Creek and West Mississippi Watershed Management Commissions annually monitor water quality in the lakes, streams and outfalls of the watersheds. Data has been collected from Shingle Creek since 1996 and at West Mississippi river outfalls since 2010. In 2012 Shingle Creek expanded its volunteer-based lake monitoring program to start systematic detailed lake monitoring. The program has also expanded to incorporate fish, macroinvertebrate, and aquatic vegetation monitoring in the lakes and streams. Student and adult volunteers collect additional lake water quality and stream and wetland macroinvertebrate data. A Water Quality report summarizing current and historic conditions in the watersheds has been published annually since 1998.

Surface water quality in the watersheds is typical of urban lakes and streams in the Twin Cities metropolitan area. Agriculture followed by urban development have changed drainage patterns, increased pollutants to the waters, and reduced habitat for aquatic and terrestrial life. Both Shingle Creek and Bass Creek do not meet state water quality standards for chloride, bacteria, and dissolved oxygen, and have severely impacted fish and macroinvertebrate communities. Thirteen of the 16 lakes were listed as Impaired Waters of the State because of their high concentrations of phosphorus. Diagnostic and feasibility studies completed between 2007 and 2011 have identified actions that can be taken in the watersheds to help improve water quality.

In the more than ten years since the results have been heartening. Three of the impaired lakes **now meet state standards** and have been removed from the list of Impaired Waters. Long-term stream water quality monitoring shows a **clear improvement** in suspended sediment and nutrient concentrations in both Shingle Creek and Bass Creek, a result of ongoing efforts to stabilize streambanks, increase the frequency of street sweeping, enhance erosion control on construction sites, and install Best Management Practices to treat stormwater before it is discharged into the streams. However, chloride concentrations in the streams, mostly from road salt applied in the winter for snow and ice control, continue to be high.

Why Do We Monitor?

- To quantify the **current status** of streams and lakes throughout the watershed and compare to water quality standards.
- To quantify **changes over time**, or trends, in stream and lake water quality
- To **identify problem areas** for potential BMPs
- To quantify the **effectiveness** of implemented BMPs throughout the watershed

What's in the watershed?

West Mississippi

- 25 square miles
- High impervious urban development (25%) and low-moderate impervious urban development (38%)
- 4 stream sites and 18.3 miles of streams
- No lakes, few wetlands

Middle Shingle Creek

- 15 square miles
- High impervious urban development (45%) and low-moderate impervious urban development (28%)
- 1 stream and 10.34 miles of streams
- 2 lakes

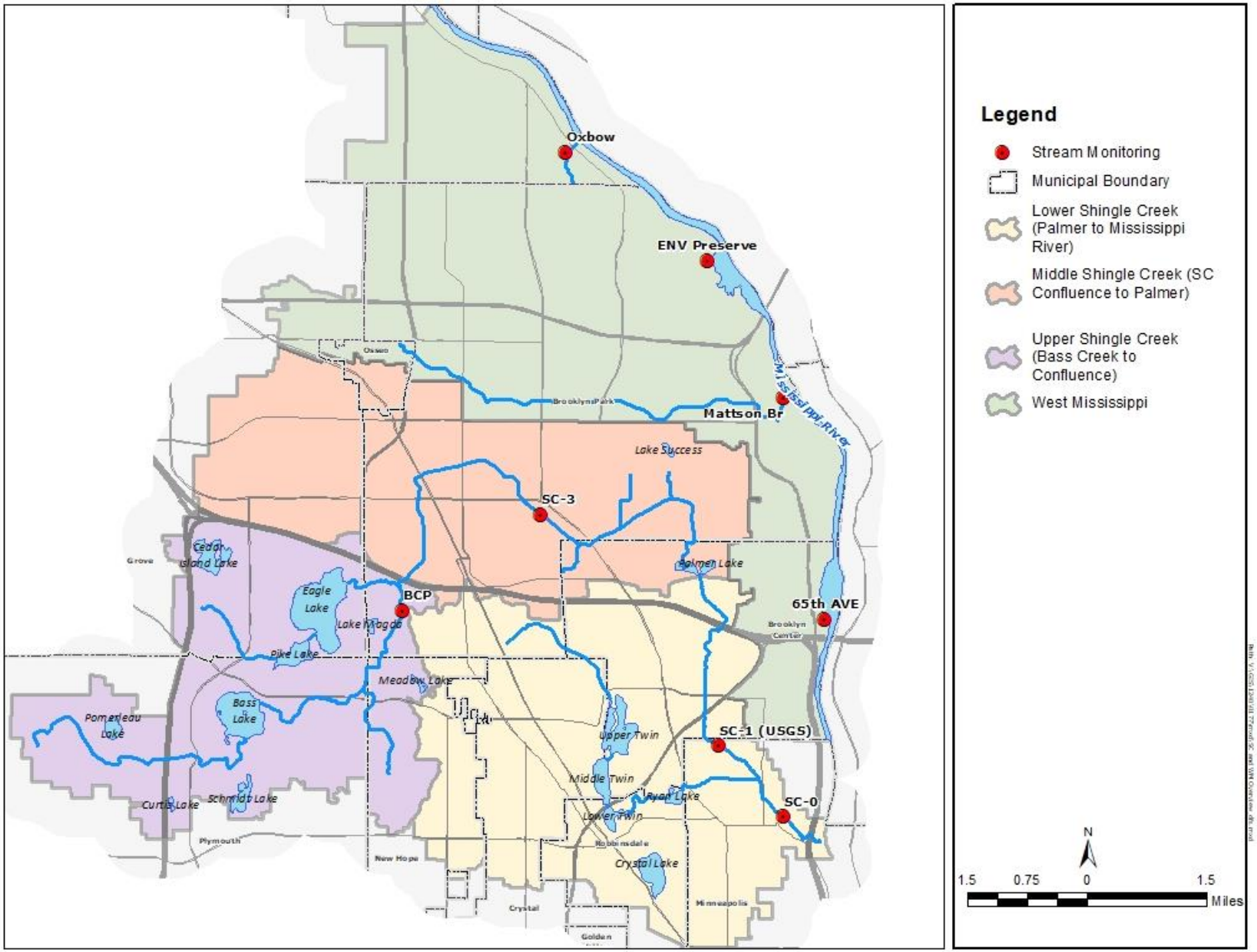
Upper Shingle Creek

- Headwaters of Shingle Creek
- 13 square miles
- High impervious urban development (28%) and low-moderate impervious urban development (26%)
- 3 streams and 16.2 miles of streams
- 9 lakes

Lower Shingle Creek

- Shingle Creek discharges to the Mississippi River
- 17 square miles
- High impervious urban development (71%) and low-moderate impervious urban development (8%)
- 2 streams and 18.9 miles of streams
- 5 lakes




Oxbow
ENV Preserve
Mattson Br
Mississippi River
SC-3
BCP
65th AVE
SC-1 (USGS)
SC-0
Lake Success
Palmen Lake
Cedar Island Lake
Eagle Lake
Lake Magda
Pike Lake
Meadow Lake
Bass Lake
Pomerleau Lake
Curtis Lake
Schmidt Lake
Upper Twin
Middle Twin
Lower Twin
Ryan Lake
Crystal Lake
Brooklyn Park
Brooklyn Center
Plymouth
New Hope
Crystal
Minneapolis
Golden
Legend
Stream Monitoring
Municipal Boundary
Lower Shingle Creek (Palmer to Mississippi River)
Middle Shingle Creek (SC Confluence to Palmer)
Upper Shingle Creek (Bass Creek to Confluence)
West Mississippi
N
1.5 0.75 0 1.5
Miles

Monitoring in 2019

Stream Monitoring:

Routine Flow and Water Quality: Three sites along Bass/Shingle Creek were monitored biweekly April-October: the outlet in Minneapolis (SC-0); mid-watershed in Brooklyn Park (SC-3); and in Bass Creek (BCP) in the upper watershed. Winter chloride was sampled monthly from November-March at the three locations mentioned and the USGS gage site (SC-1). In the West Mississippi Watershed, the Environmental Preserve (ENVP) and Mattson Brook (MB) were monitored monthly April-October.

RiverWatch: Stream macroinvertebrates were monitored by high school students at two sites on Shingle Creek through the Hennepin County RiverWatch program. Shingle Creek at Park Center High school has been monitored for 24 years by science students from the school. Shingle Creek at Webber Park was monitored by students from Patrick Henry High School between 2001 and 2012, and for the last two years by students from the Avail Academy.

Lake Monitoring:

Routine Water Quality: Water quality in Schmidt Lake in Plymouth was monitored biweekly Aquatic vegetation was surveyed once in late spring and once in late summer, and the fish population was surveyed in July 2019.

CAMP: Each year the Commission sponsors volunteer lake water quality monitoring through the Met Council's Citizen Assisted Monitoring Program (CAMP). Meadow Lake was monitored in 2019.

Grant Projects: Bass and Pomerleau Lakes were monitored biweekly for water quality. Bass and Pomerleau, which have both been listed as impaired for nutrients, are undergoing active management. Water quality in Lower, Middle, and Upper Twin was monitored monthly during the 2019 field season, following two years of carp removal. Water quality monitoring in the lakes has helped our understanding of changes in lake health following management activities.

Wetland Monitoring:

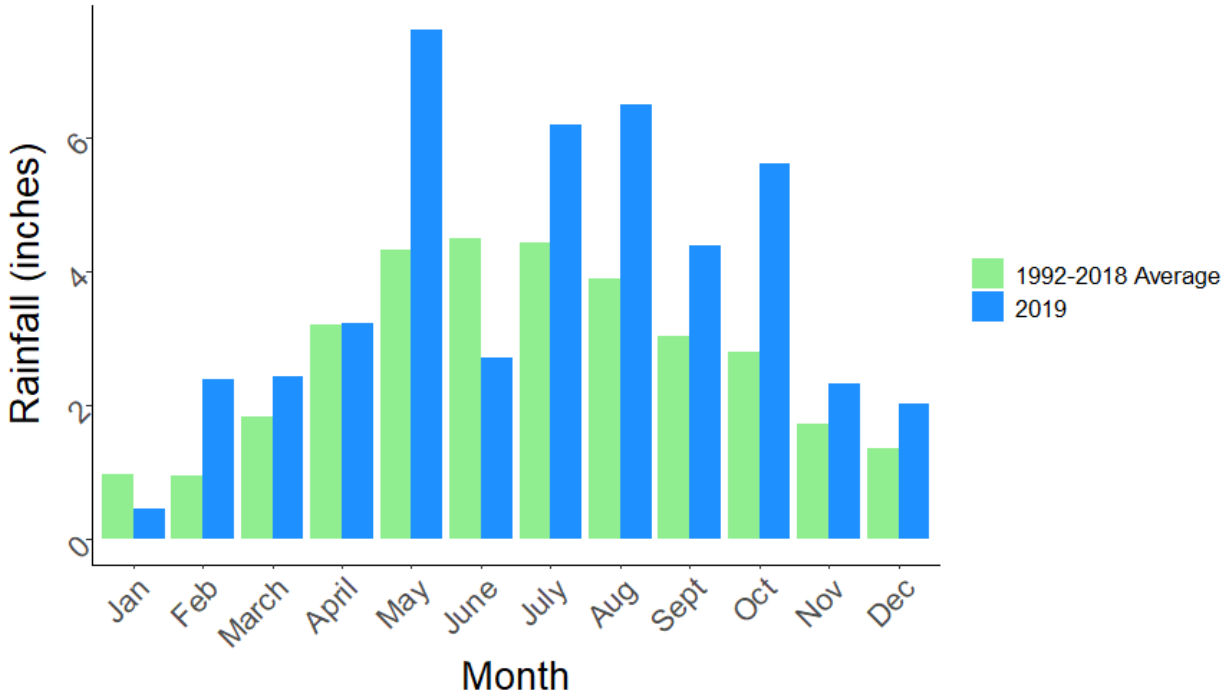
Macroinvertebrate communities and vegetation were monitored in four wetlands by volunteers through the Wetland Health Evaluation Program (WHEP) administered by Hennepin County. Two wetlands in each watershed were monitored. A wetland within the Environmental Preserve in Brooklyn Park and Wetland 639 were both chosen as monitoring sites because of their relevance to ongoing monitoring and projects.

2019 in Review

This summary provides an overview of findings and conditions in the two watersheds in 2019. A more detailed assessment and data are available in the technical appendices, which can be found at shinglecreek.org/water-quality.html.

Rainfall

Water quality in the lakes, streams and wetland is heavily influenced by precipitation and storm water runoff. 2019 was Minnesota's wettest year on record and within the Shingle Creek and West Mississippi watersheds rainfall exceeded the historic average (1992-2018) each month except January and June. Total rainfall in 2019 was 45.8 inches, 13.3 inches more than the historic average.



Streams

Shingle Creek and Bass Creek are in good or exceptional condition for nutrients (i.e., inorganic nitrate and nitrite (NO_3/NO_2) and total phosphorus (TP)) and total suspended solids (TSS). Outfalls in West Mississippi range in condition for nutrients and TSS, although dissolved oxygen is notably in good condition for all West Mississippi sites. Shingle and Bass Creeks do not meet state standards for dissolved oxygen, which continue to be consistently low. Invertebrate and fish indices of biological integrity (IBI) are poor or degraded in Shingle and Bass Creeks, in part due to lack of dissolved oxygen as well as lack of habitat and altered flow conditions. Both streams are also impaired by high concentrations of *E. coli* and chloride, which showed no improvement in 2019.

The greater than average precipitation in 2019 increased the amount of stormwater running off to the streams, and more intense rainfalls caused an increase in *E. coli* counts, higher phosphorus concentrations, and higher TSS than samples collected not during storms.

Trends: Water quality data has been collected in Shingle Creek since 1996, and trend analysis shows significant changes to stream water quality. TP concentrations are improving in both Shingle and Bass Creeks. Dissolved oxygen concentrations are declining at the upper watershed site on Shingle Creek, indicating a need to continue focusing on dissolved oxygen management. Trend analysis could not be completed for sites within West Mississippi because data are limited.

Moving forward: Shingle and Bass Creeks will continue to be monitored for the typical parameters in 2020. In West Mississippi, the 65th Avenue Outfall and the Environmental Preserve will be monitored. The 5-year review of Shingle Creek and Bass Creek Biota and Dissolved Oxygen TMDL will be undertaken in 2020 and 2021 to understand and document the Commission's progress toward improving conditions in Shingle and Bass Creek.

Lakes

Schmidt Lake was intensively monitored by the Commission in 2019. Water quality in the lake, measured as Secchi depth, TP concentration, and chlorophyll-*a* concentration, continues to meet state standards. Submersed aquatic vegetation, measured as Floristic Quality Index (FQI) and species richness, is in poor condition; however, the overall fish abundance is in the normal range for Minnesota lakes. The Northern Pike population in Schmidt Lake exceeds normal ranges and indicates a stable, healthy habitat with consistently good over-wintering conditions.

Many lakes within Shingle Creek are undergoing active management. In 2019, we saw significant improvements to lake phosphorus levels and water clarity in Bass and Pomerleau, both lakes that received aluminum sulfate treatments in May 2019. Submersed aquatic vegetation was found at deeper locations within both the lakes compared to previous surveys, indicating increased light availability as a result of improved water clarity. The condition of vegetation in both lakes is still in the degraded or poor range, perhaps influenced by the presence of the invasive species, curly-leaf pondweed. Active management and continued curly-leaf pondweed management may improve conditions in the future. Water quality in Upper, Middle, and Lower Twin Lakes was monitored in 2019 and showed continued nutrient impairment. Details from submersed aquatic vegetation (SAV) surveys, fish surveys, and water quality sampling that occurred in 2019 in Bass, Pomerleau, Schmidt, and Twin Lakes can be found in Appendix E.

Trends: Trend analysis shows significant changes to lake water quality in many of the watershed's lakes. TP concentrations have degraded (increased) over time in three lakes in the Upper Shingle Creek Watershed: Bass, Eagle, and Pike. TP is improving (decreasing) over time in Crystal, Lower Twin and Schmidt Lakes. Chlorophyll concentrations are improving (decreasing) over time in Pomerleau Lake. Secchi depth is improving (increasing) over time in Schmidt, Eagle, and Lower Twin Lakes. Secchi depth is degrading (decreasing) over time in Cedar Island and Success.

Volunteer Stream and Wetland Monitoring

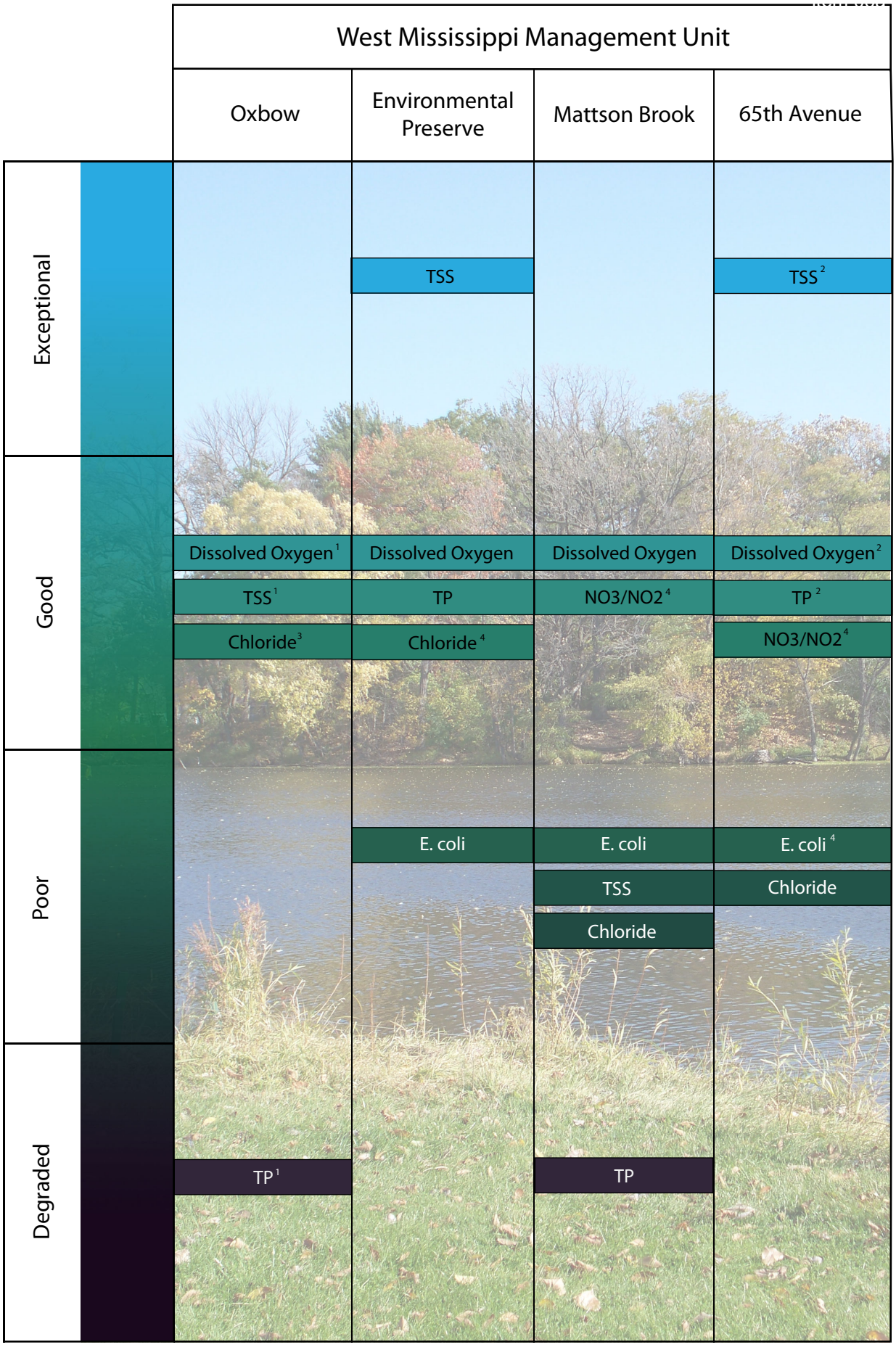
Through the RiverWatch program, high school students collect macroinvertebrates (small aquatic organisms such as insects, worms and snails) from streams, and identify and classify them. Because these organisms are directly impacted by conditions in the stream, the type and abundance of different organisms can be an indicator of general stream health. The site on Shingle Creek near Park Center High School, where the stream has recently been restored with stabilized streambanks and new habitat features, received a score of 5.1 (good) in 2019. This is a significant improvement over pre-restoration scores, which typically were poor to very poor. The site on Shingle Creek in Webber Park scored 4.3 (very good). This is an improvement over previous conditions, which typically scored average for urban streams in Hennepin County.

Through the WHEP program, adult volunteers monitored macroinvertebrates and vegetation in four wetlands in the watersheds. These sites typically scored as in moderate condition for vegetation diversity, and poor condition for invertebrate community diversity.

Moving Forward

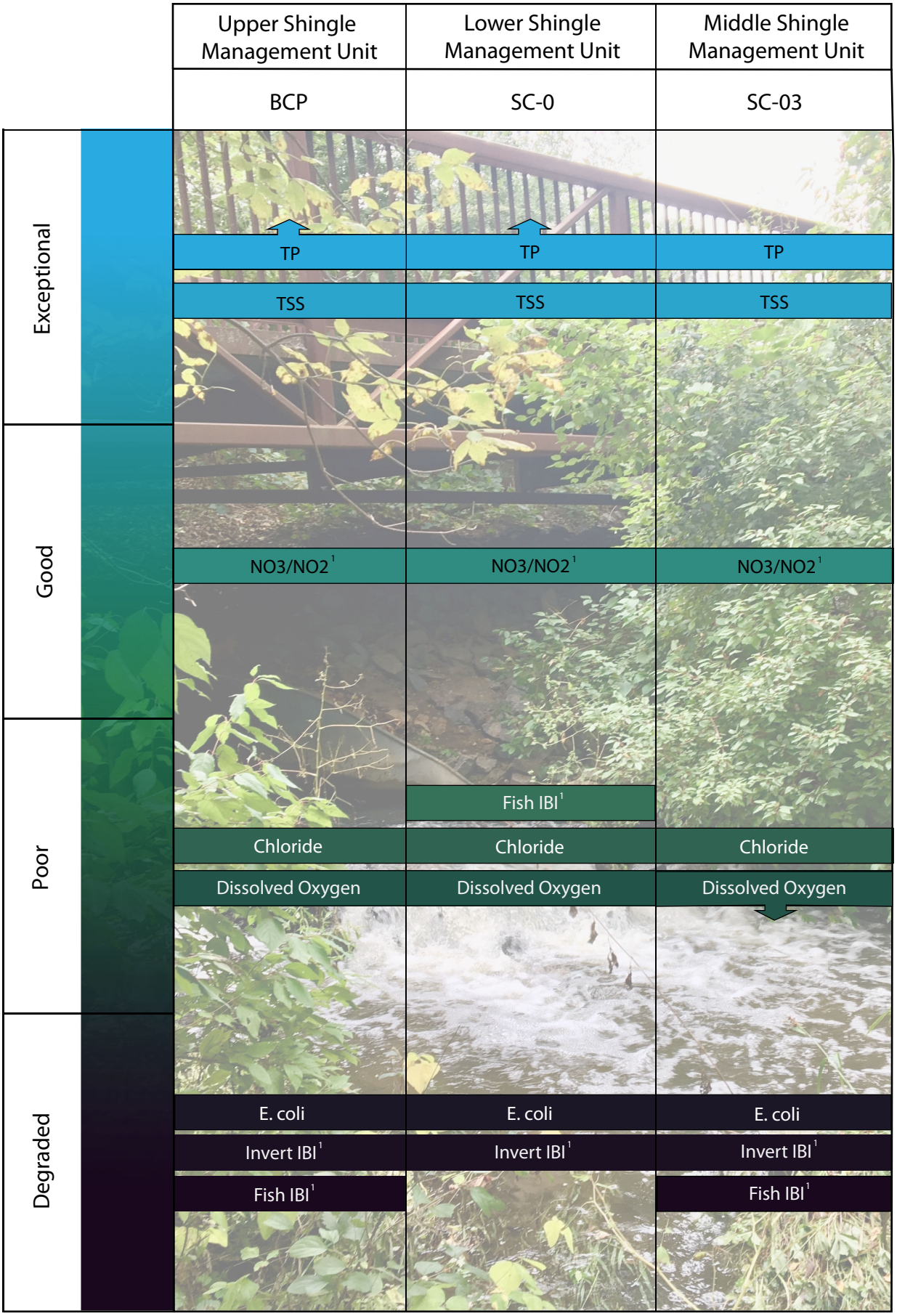
Eagle and Pike Lakes will undergo routine monitoring in 2020. As part of the ongoing active management projects, Bass, Pomerleau, and Crystal Lakes will also be monitored. Curly-leaf pondweed management is planned for Bass, Pomerleau, and Twin Lakes. Aluminum sulfate applications for phosphorus management are planned for Bass and Pomerleau Lakes in late August. Volunteers will monitor Upper, Middle, and Lower Twin Lakes, Ryan, Meadow, and Success Lakes. Active management is expected to begin in Fall 2020 on Meadow Lake with a planned water level drawdown to consolidate the sediments and significantly reduce or eliminate the invasive vegetation and fathead minnows that degrade water quality and clarity.

The following pages show the conditions of streams and lakes within the watershed using the most recent year of data for each site and parameter. We identified thresholds for each parameter to classify its condition as degraded, poor, good, or exceptional. The thresholds used for this report can be found in Appendix F. If there has been a significant trend in a parameter's value over time, it is shown with an upwards or downwards arrow that describes the direction of change (i.e., improving or degrading). Superscripts next to each parameter indicate the most recent year of data collection.



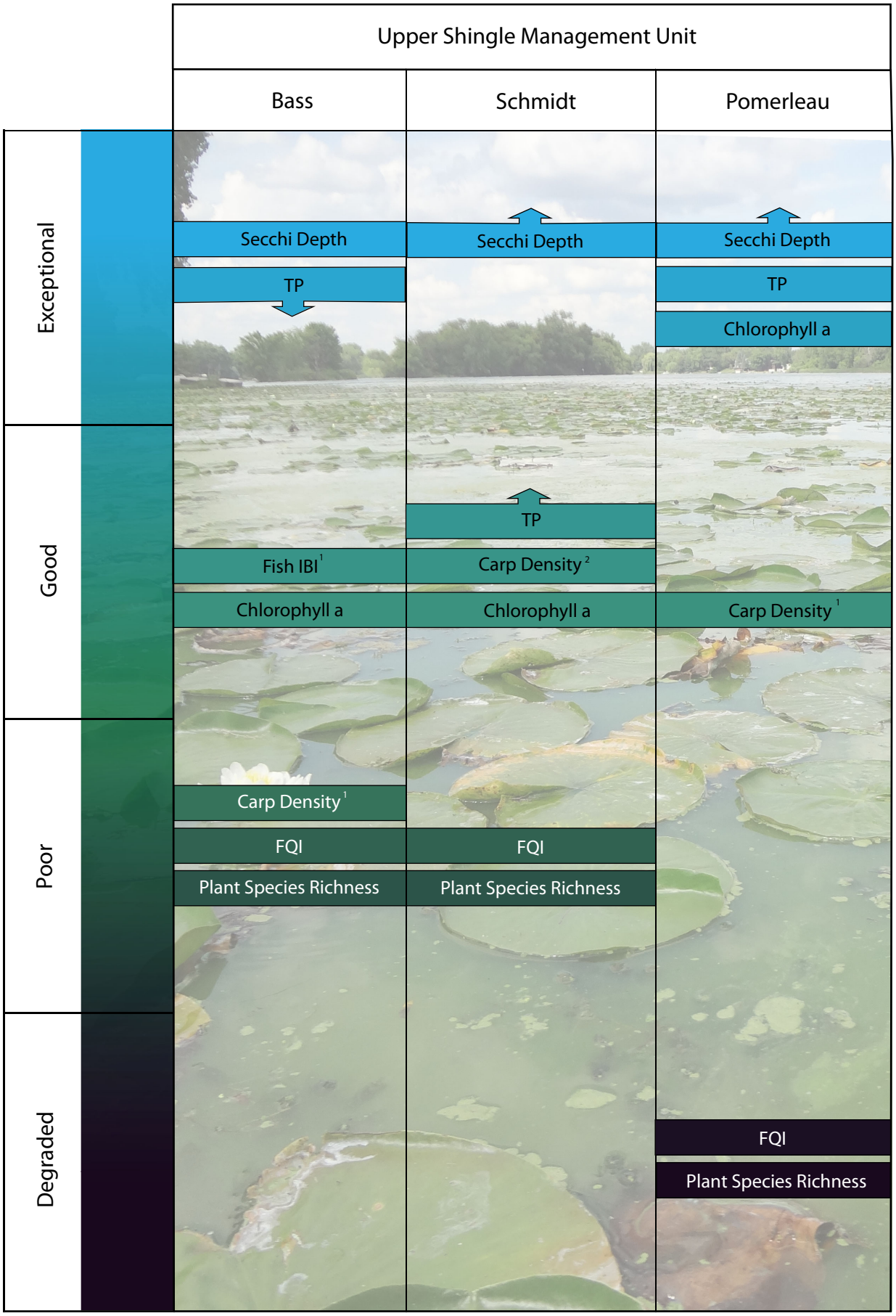
*Subscripts indicate last measurement was before 2019

1) Last measurement taken in 2018
2) Last measurement taken in 2017
3) Last measurement taken in 2015
4) Last measurement taken in 2011



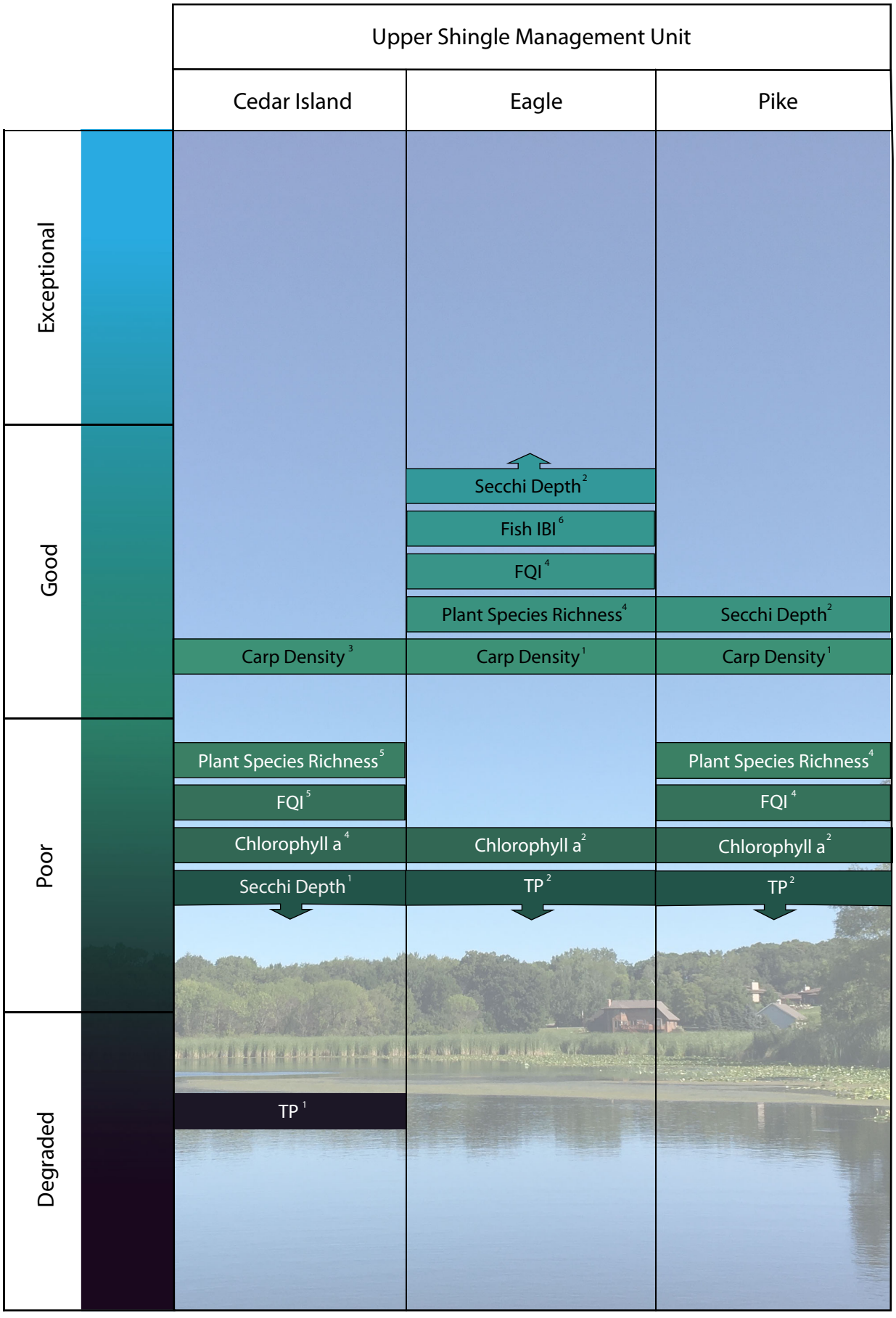
*Arrows depict parameter level change since previous measurement
**Subscripts indicate last measurement was before 2019

1) Last measurement taken in 2018



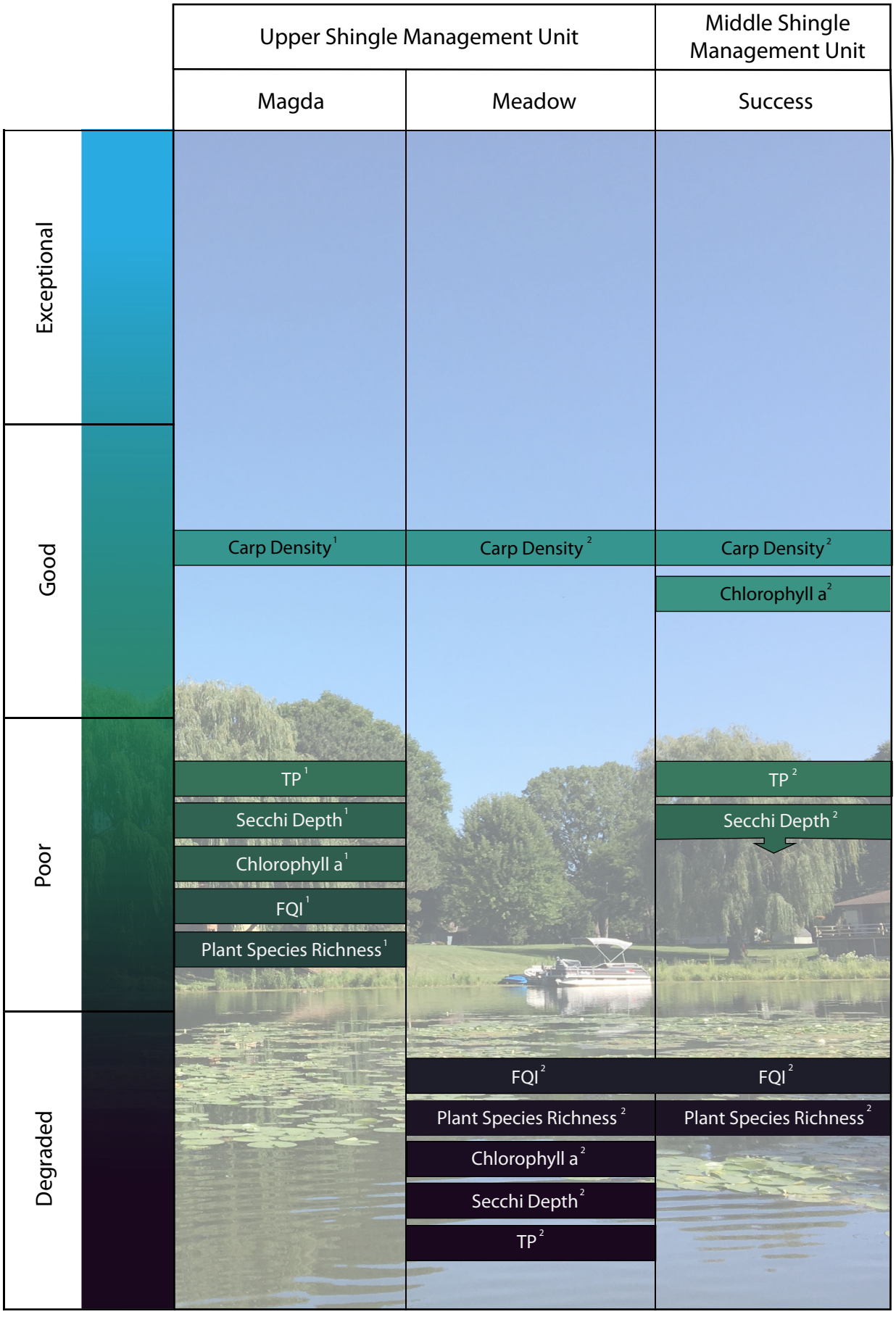
*Arrows depict parameter level change since previous measurement
**Subscripts indicate last measurement was before 2019

1) Last measurement taken in 2017
2) Last measurement taken in 2016



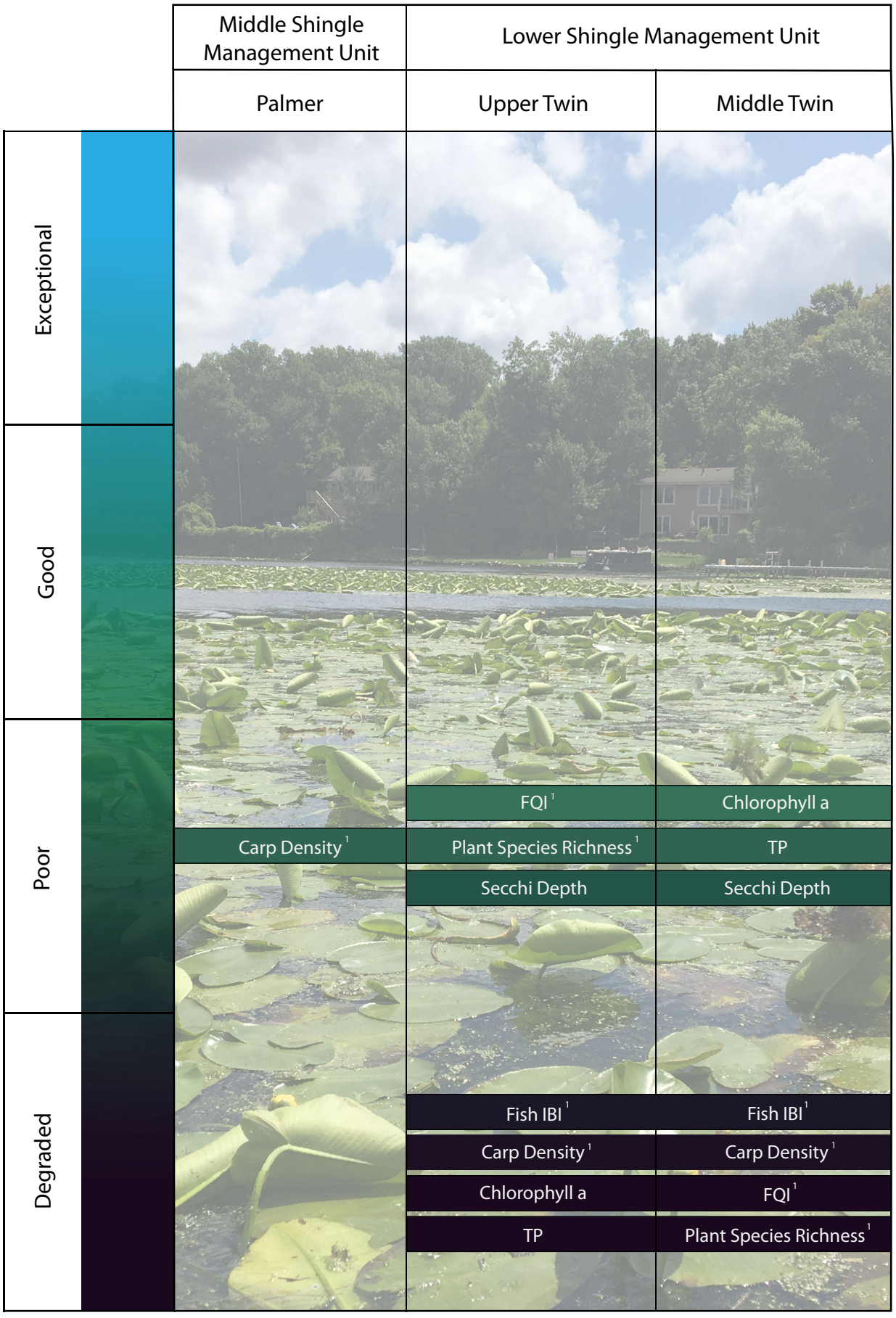
*Arrows depict parameter level change since previous measurement
**Subscripts indicate last measurement was before 2019

1) Last measurement taken in 2018
2) Last measurement taken in 2017
3) Last measurement taken in 2016
4) Last measurement taken in 2015
5) Last measurement taken in 2013
6) Last measurement taken in 2011



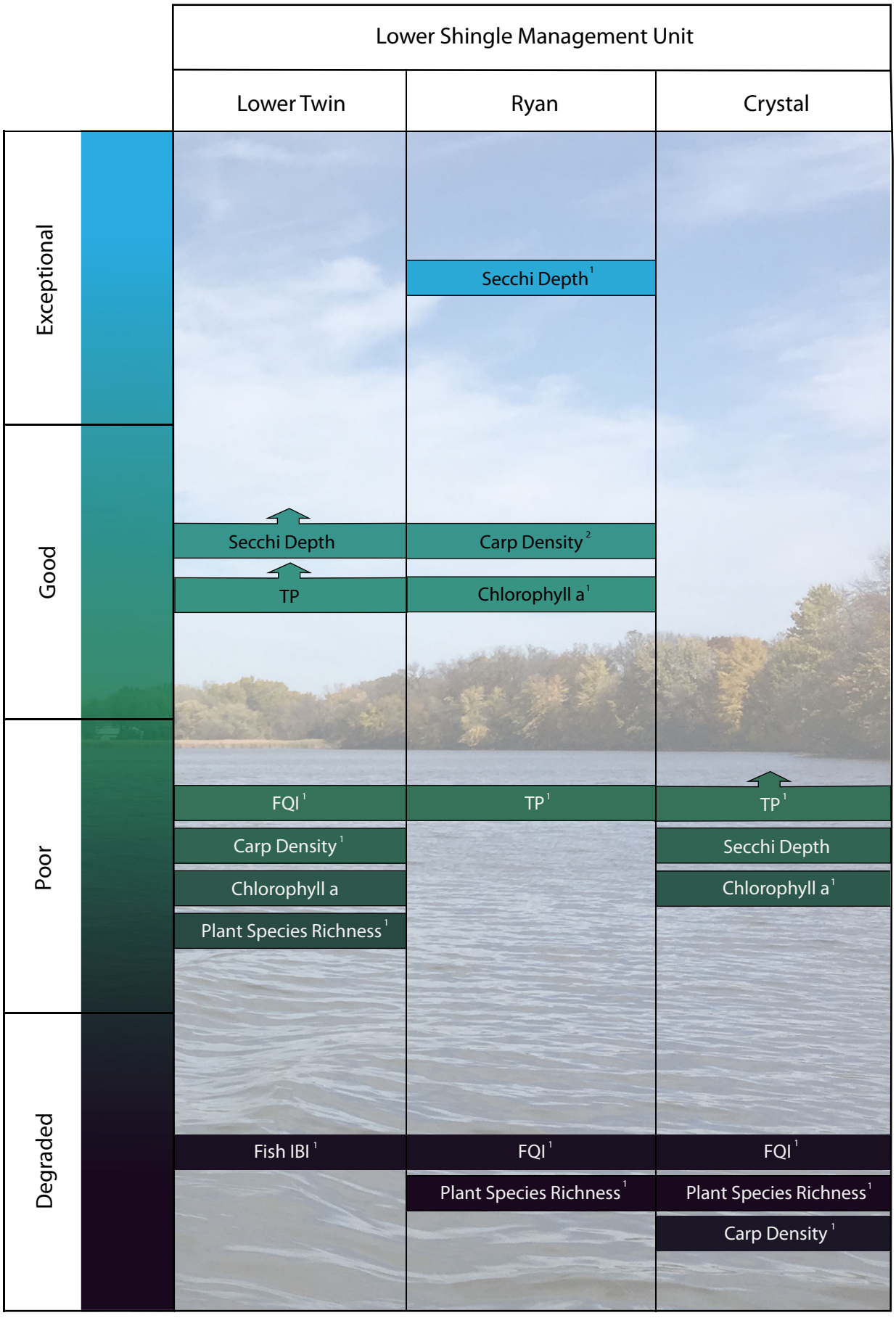
*Arrows depict parameter level change since previous measurement
**Subscripts indicate last measurement was before 2019

1) Last measurement taken in 2017
2) Last measurement taken in 2016



**Subscripts indicate last measurement was before 2019*

1) Last measurement taken in 2018



*Arrows depict parameter level change since previous measurement
**Subscripts indicate last measurement was before 2019

1) Last measurement taken in 2018
2) Last measurement taken in 2016

Technical Memo

WENCK ASSOCIATES

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To: West Mississippi WMO Commissioners

From: Ed Matthiesen, P.E.
Diane Spector

Date: April 3. 2020

Subject: Authorize Watershed-Based Funding for River Park Project

Recommended Commission Action	Authorize the allocation of $35,422 of BWSR Watershed Based Funding to Brooklyn Park's River Park project.

In 2018 the Board of Water and Soil Resources (BWSR) allocated $5.59 million of Clean Water Funds to the Metro area in support of Clean Water projects. For the initial round of funding, this Pilot Watershed-Based Funding (WBF) was distributed to each of the seven counties, and eligible entities (WMOs and counties) worked together to determine how best to distribute the funds. The 11 WMOs in Hennepin County and the county agreed to reserve 10 percent of the county's $1,018,000 allocation for joint chloride education and outreach activities, and to distribute the balance to the 11 WMOs based on area and tax base. West Mississippi received an allocation of $35,422 and Shingle Creek $68,129. In 2018 each Commission decided to allocate those funds through the City Cost Share Program. Funds must be expended by December 31, 2021.

The City of Brooklyn Park has submitted a Cost Share Program application in the amount of $50,000 to assist in the cost of designing the upcoming River Park Stormwater Improvements (attached). This project will provide treatment for 250 acres of land that currently discharge untreated into the Mississippi River. This project is on the 2020 CIP. The Cost Share Program Guidelines were amended last year to limit projects from receiving both Cost Share and CIP funding.

The TAC discussed the project at its March 30, 2020 meeting, It was noted that the WBF resources were allocated by the Commission to the Cost Share Program as a convenience for disbursal, and are really just pass-through grant funds similar to other grants the Commission receives that are then passed-through to cities.

Recommendation

The TAC felt comfortable that allocating the WBF funds currently residing in the Cost Share Program account to the River Park project would not violate the limitation on receiving both Cost Share and CIP funds from the county levy. It is the TAC and staff recommendation that the Commission authorize the allocation of the $35,422 Watershed Based Funding to Brooklyn Park's River Park Stormwater Improvements Project.

Amendment #1 for General Grant Contract #147076/3000140400 Between the State of Minnesota and the Shingle Creek Watershed Management Commission for Improved Floodplain Modeling and Mapping

Contract Start Date:	September 17, 2018	Total Contract Amount:	$ 50,000.00
Original Contract Expiration Date:	April 30, 2020	Original Contract:	$ 50,000.00
Current Contract Expiration Date:	April 30, 2020	Previous Amendment(s) Total:	$ 00.00
Amended Contract Expiration Date:	March 31, 2021	This Amendment:	$ 00.00

This amendment is by and between the State of Minnesota, through its Commissioner of Natural Resources ("State") and Shingle Creek Watershed Management Commission (DUNS#046121983), 3235 Fernbrook Lane North, Plymouth Minnesota 55447 ("Grantee").

Recitals

1. The State received a federal award for pass through grants to local units of government to improve floodplain mapping. Funds awarded under this agreement were provided by the Federal Emergency Management Agency (FEMA) Cooperating Technical Partners (CTP) Program, CFDA 97.045, under 2 CFR 200.

2. The State has a grant contract with the Grantee identified as #147076/3000140400, dated September 17, 2018 ("Original Grant Contract") to provide funding for improved floodplain modeling and mapping.

3. The State and grantee agree that additional time is necessary to complete the work for which funding was awarded.

4. The State and the Grantee are willing to amend the Original Grant Contract as stated below.

Grant Contract Amendment

REVISION 1. Clause 1. **"Term of Grant Contract"** is amended as follows:

1.1 ***Effective date*:** September 15, 2018, or the date the State obtains all required signatures under Minnesota Statutes §16C.05, subdivision 2, whichever is later. Per Minn.Stat.§16B.98 Subd. 7, no payments will be made to the Grantee until this grant contract is fully executed. **The Grantee must not begin work reimburseable under this grant contract until this contract is fully executed and the Grantee has been notified by the State's Authorized Representative to begin the work.**

1.2 ***Expiration date*:** ~~April 30, 2020~~ March 31, 2021, or until all obligations have been satisfactorily fulfilled, whichever occurs first.

1.3 ***Survival of Terms*.** The following clauses survive the expiration or cancellation of this grant contract: 8. Liability; 9. State Audits; 10. Government Data Practices and Intellectual Property; 13. Publicity and Endorsement; 14. Governing Law, Jurisdiction, and Venue; and 16. Data Disclosure.

REVISION 2. Clause 2. **"Grantee's Duties"** is amended as follows:

The Grantee, who is not a state employee, will be responsible for tasks generalized below, consistent with the details included in Revised Attachment A.1 – *Shingle Creek Model Update - revised,* dated ~~July 27, 2018~~ March 19, 2020, attached and incorporated hereto:

- Update hydrology in EPA- SWMM
- Update creek hydraulics using HEC-RAS
- Create floodway and floodplain shapefiles using HEC-RAS Mapper
- Create Depth Grids using Arc-GIS
- Create work maps showing new Special Flood Hazard Areas, cross-sections and other information
- Provide documentation
- Attend meetings

All work shall comply with required grants management policies and procedures set forth in Minn.Stat.§16B.97, Subd. 4 (a)(1).

REVISION 3. Clause 4.2. (a) **"Invoices/Deliverables"** is amended as follows:

(a) Invoices/Deliverables

The State will pay the Grantee after the Grantee submits itemized invoices for deliverables produced or the services actually performed and the State's Authorized Representative accepts the invoices. Invoices must include the billing period of work performed and be submitted timely and with project deliverables. Reimbursement will be made in accordance with the following schedule:

- upon receipt and acceptance of Grantee's updated hydrologic model, technical memo, and QA/QC documentation.
- upon receipt and acceptance of Grantee's hydraulic update including updated models, cross-sections (nondetailed study areas), and QA/QC documentation.
- upon receipt and acceptance of Grantee's GIS work and mapping.
- upon receipt and acceptance of invoice for data organization
- upon receipt and acceptance of completed project reporting.
- upon receipt of summary of project meetings and invoice for time.

It is required that invoices be submitted, at a minimum, by August 31 of each year for eligible expenses incurred in the **previous** fiscal year which is July 1 – June 30. If expenses are extensive, reimbursement requests may be submitted monthly or quarterly. Itemize the eligible expenses by the month of occurrence, not liquidation. If invoices are not received in this format, it could delay receipt of payment.

Requested reimbursement amounts for each work task shall not exceed 120% of the amount identified for each work task in the estimated budget contained in Attachment A of this agreement. Upon project completion, financial reconciliation will be done to ensure Grantee is reimbursed for all actual costs of services and deliverables, not to exceed $50,000.00.

Except as amended herein, the terms and conditions of the Original Grant remain in full force and effect.

1. STATE ENCUMBRANCE VERIFICATION

*Individual certifies that funds have been encumbered as required by Minn. Stat. §§*16A.15 and 16C.05.

Signed: FB

Date: 3/25/220

Contract Number: 147076/3000140400

2. GRANTEE

The Grantee certifies that the appropriate person(s) have executed the grant contract on behalf of the Grantee as required by applicable articles, bylaws, resolutions, or ordinances.

By: _____

Title: _____

Date: _____

By: _____

Title: _____

Date: _____

3. STATE AGENCY

Individual certifies the applicable provisions of Minn. Stat. §16C.08, subdivisions 2 and 3 are reaffirmed.

By: _____
(with delegated authority)

Title: Director, Ecological & Water Resources

Date: _____

Distribution:
Agency
Contractor
State's Authorized Representative - Photo Copy

REVISED ATTACHMENT A .1
SHINGLE CREEK WATERSHED MANAGEMENT COMMISSION

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~~July 27, 2018~~ March 19, 2020

~~Rita Weaver~~ Suzanne Jiwani
Floodplain ~~Action~~ Hydrologist
MnDNR
500 Lafayette Road N, Box 25
St. Paul, MN 55155-4025

RE: Shingle Creek Model Update – revised

Dear Ms. Jiwani:

As you requested, Wenck Associates, Inc. (Wenck) submits this revised proposal to update the hydrologic and hydraulic models for the Shingle Creek and West Mississippi watershed. This letter proposal includes our understanding of the project, the proposed scope of services, estimated schedule and costs to complete the project.

Project Understanding and Approach

The purpose of this project is to update special flood hazard areas within the Shingle Creek and West Mississippi watersheds. To do this, hydrologic and hydraulic models need to be created/revised in the areas identified in Attachment 1. There are both detailed and non-detailed areas shown in Attachment 1. This scope will provide an estimate for updating each of those areas. The generalized scope is as follows:

- Update hydrology in EPA-SWMM.
- Update creek hydraulics using HEC-RAS
- Create floodway and floodplain shapefiles using HEC-RAS Mapper
- Create Depth Grids using Arc-GIS
- Create Work maps showing new SFHA, cross sections and other information
- Documentation

Scope

Task 1 – Meetings

For this project we anticipate having meetings at critical design steps during the project starting with a kick off meeting, which will set the tasks, schedule and outcomes of the project from the start. A list of anticipated meetings is below.

- Kickoff meeting – at this meeting Wenck and City staff will discuss the project and project objectives including schedule, key deliverables and the responsible party. We will identify data gaps and next steps.

- Internal City Meeting – Wenck will meet with the cities to discuss changes observations and known data availability.

~~**Rita Weaver**~~ **Suzanne Jiwani**
Floodplain ~~Action~~ Hydrologist
MnDNR
~~July 27, 2018~~ March 19, 2020

- 60% progress meeting – At this meeting we will have a good idea of what the new flood inundation is, and its associated impacts. This meeting will be held when the 60% draft report has been completed.
- 90% progress meeting – At this meeting we will present the 90% model results, report and figures for comments.
- Twin Cities HUC8 Flood Risk Review Meeting. This meeting will be called by the DNR ~~in January 2020~~.

Deliverables:
- *Meeting Agendas*
- *Meeting Minutes*

Task 2 – Data Organization
Wenck will meet with the Cities and MWMO at the start of the project to introduce the project team, acquire the data to be provided by the Cities (listed below), and verify the overall scope of the project. Wenck will review GIS data, Drainage System maps, and road crossing as-builts provided by the Cities to determine locations where data may be missing or unclear.

Data provided by City:
- Drainage Network Geodatabase
- Drainage System Plats
- Land use mapping that coincides with City's Modeling Guidance Manual
- Road Crossing and Bridge As-built plan sets

Wenck will acquire the following data:
1. USGS Gauge data.
2. LiDAR data from MnDNR *and prepare raster data sets*.
3. Effective Hydraulic Models from FEMA or MnDNR
4. Acquire watershed district models and flood stage data for defining boundary conditions.
5. Review GIS data and Drainage System Plats to determine locations where data may be missing or unclear.

Task 3 – Surveying
As discussed on the phone, surveying is not included in this proposal. The DNR will provide the survey data needed.

Task 4 – Hydrology Update
For this task Wenck proposes to leverage the existing XP-SWMM model for Shingle Creek as a starting point. The subwatershed delineations will be reviewed for accuracy based on current land use, topography, and storm sewer network information. Wenck proposes to delineate

~~**Rita Weaver**~~ **Suzanne Jiwani**
Floodplain ~~Action~~ Hydrologist
MnDNR
~~July 27, 2018~~ March 19, 2020

subwatersheds based on the same information above for other detailed and non-detailed study areas that are not covered by the Shingle Creek model.

Infiltration will be accounted for by the Green-Ampt method. Wenck proposes to investigate several rainfall distributions including the MSE3, a nested distribution, and an SCS type II curve to determine the most appropriate curve. One curve will be selected during the validation analysis described below. The most current land use and soils information will be used to determine the infiltration parameters for each subwatershed.

Peak floods will be determined for the 10%, 4%, 2%, 1%, and 0.2% annual chance flood events for both detailed and non-detailed areas. Peak flows will be validated on Shingle Creek at the USGS Gauge 05288705, at Queen Ave.

Wenck will perform an internal QA/QC and write a technical memorandum narrative for the Hydrologic model update. The tech memo and the models will be sent to the Internal Hydrology Review Comity (IAHRC). Time will be budgeted to respond to comments from the IAHRC and make appropriate changes to the model.

Deliverables:

- *Hydrologic model*
- *Technical memorandum narrative*
- *Internal QA/QC documentation*

Task 5 – Hydraulics Update (Detailed Study Areas)

Wenck proposes to use HEC-RAS as the hydraulic model for Shingle Creek and all other creek models. Several areas shown in Attachment 1 include large wetlands, lakes, or storage areas. These areas will be modeled in the XP-SWMM model. Hydraulic models will be run for the 10%, 4%, 2%, 1%, and 0.2% flood events. Specific subtasks associated with the detailed area hydraulic update are, but not limited to:

- Importing effective models into RAS. This includes using LOMR updated models.
- Cut cross sections at every cross-section location within the existing detailed study areas using statewide Lidar.
- Unless survey data is gathered for the study area, the existing effective HEC2 channel data will be used in combination with the LiDAR data for the overbank area.
- Determination of Manning's roughness coefficient for the channel and overbank based on current conditions.
- Unless survey data is gathered, as-built bridge information will be used to verify the bridge information that is in the effective HEC2 models. Needed changes to the information from the HEC2 model will be entered according to the As-built plans will.
- Missing bridge information will need to be collected in the field, but is not included in this scope. According to this scope, field data collection is considered additional scope that will need to be negotiated separately.
- A floodway analysis will be performed in all detailed study areas shown in Attachment 1.
- Internal QA/QC will be performed and documented as part of this task.

Deliverables:

~~Rita Weaver~~ Suzanne Jiwani
Floodplain ~~Action~~ Hydrologist
MnDNR
~~July 27, 2018~~ March 19, 2020

- *HEC-RAS Model(s)*
- *Internal QA/QC documentation*

Task 6 – Hydraulic Update (Non-Detailed Study Areas)

Non-detailed study areas shown in the FEMA Analysis Areas Figure provided by the DNR for the Shingle Creek and West Mississippi Hydrologic Boundary will be modeled in HEC-RAS like the detailed study areas with a few distinct differences. Cross sections will be cut in appropriate locations using statewide LiDAR. No channel information below the LiDAR elevations will be surveyed. Bridge and road crossing information will be entered based on As-built information.

Deliverables:

- *HEC-RAS Model(s)*
- *Cross Sections*
- *Internal QA/QC Documentation*

Task 7 – GIS work and Mapping

GIS work

For detailed study areas, inundation shapefiles will be generated using the RAS-Mapper function in HEC-RAS for the 1%, 0.2% and floodway model runs and imported into an Arc-GIS environment. For non-detailed areas only the 1% annual chance flood event will be mapped using RAS-Mapper.

Once in an Arc-GIS environment, the inundation shapefiles will be QA/QCd for accuracy and consistency with the model results. Documentation of the QA/QC process will be provided.

Once the QA/QC process is finished, data from RAS-Mapper will be imported into the blank shapefiles provided by the MnDNR as a starting point to map the special flood hazard areas. These shapefiles will be submitted for comments.

Deliverables:

- *Final shapefiles for the 1% annual chance flood, 0.2% annual chance flood and the floodway*
- *Cross section shapefiles*
- *Internal QA/QC documentation*

Task 8 – Reporting

A summary report documenting the hydrology, hydraulics, and mapping methods and results will be written in three stages as follows:

- 60% Draft Report – A draft of the report will be completed and circulated to the DNR, Cities, and Watershed District for comments.

- 90% Draft Report – a 905 Draft Report will incorporate comments from the 60% report, be completed, and circulated to the DNR, Cities, and Watershed District for comments.

~~Rita Weaver~~ Suzanne Jiwani
Floodplain ~~Action~~ Hydrologist
MnDNR
~~July 27, 2018~~ March 19, 2020

- Final Report – A final report incorporating all comments from the 60% and 90% submittals will be completed.

Budget

The Wenck project team proposes a budget of $75,000 be allocated to complete the tasks listed above. Of that total $50,000 will be covered by the DNR grant. $25,000 will be covered through funding provided by the Watershed District. Wenck will invoice the Watershed District monthly based on time and materials. Wenck will not exceed the authorized budget without obtaining written approval.

Task	Task Description	Cost Covered by Grant	Cost Covered by District
1	Meetings	$4,595	$2,297
2	Data Organization	$2,495	$1,247
3	Surveying	Not Included	Not Included
4	Hydrologic analysis	$11,458	$5,729
5	Hydraulic Analysis – Detailed Areas	$14,539	$7,271
6	Hydraulic Analysis – Non-Detailed Areas	$6,555	$3,277
7	GIS work and Mapping	$4,750	$2,375
8	Reporting	$5,608	$2,804
Total		**$50,000**	**25,000**

Schedule

The list below is a proposed schedule for key project deliverables and meetings. Those labeled with (target) are approximates that will depend on when the survey work gets completed for Shingle Creek by MnDNR.

- Kickoff meeting (internal meeting) – **August 2018**
- Survey Received from DNR - **TBD**
- Submittal of Hydrology to IAHRC – ~~**December 2018**~~ **May 2020 (target)**
- Submittal of hydraulic models to MnDNR for review and comment –~~**December 2018**~~ **October 2020 (target)**
- Submittal of revised hydraulic model – ~~**January 2019**~~ **November 2020 (target)**
- Draft floodplain shapefiles and depth grids to MnDNR – ~~**March 2019**~~ **November 2020**
- 60% Draft Narrative to MnDNR for review and Comment – ~~**March 2019**~~ **November 2020**
- 90% Draft Narrative to MnDNR for review and Comment – ~~**April 2019**~~ **December 2020**
- All Preliminary files to MnDNR – ~~**June 2019**~~ **January 2021**
- Twin Cities HUC8 Flood Risk Review meeting – ~~**January 2020**~~ **February 2021**
- All final files to MnDNR staff – ~~**April 2020**~~ **March 2021**

~~**Rita Weaver**~~ **Suzanne Jiwani**
Floodplain ~~Action~~ Hydrologist
MnDNR
~~July 27, 2018~~ March 19, 2020

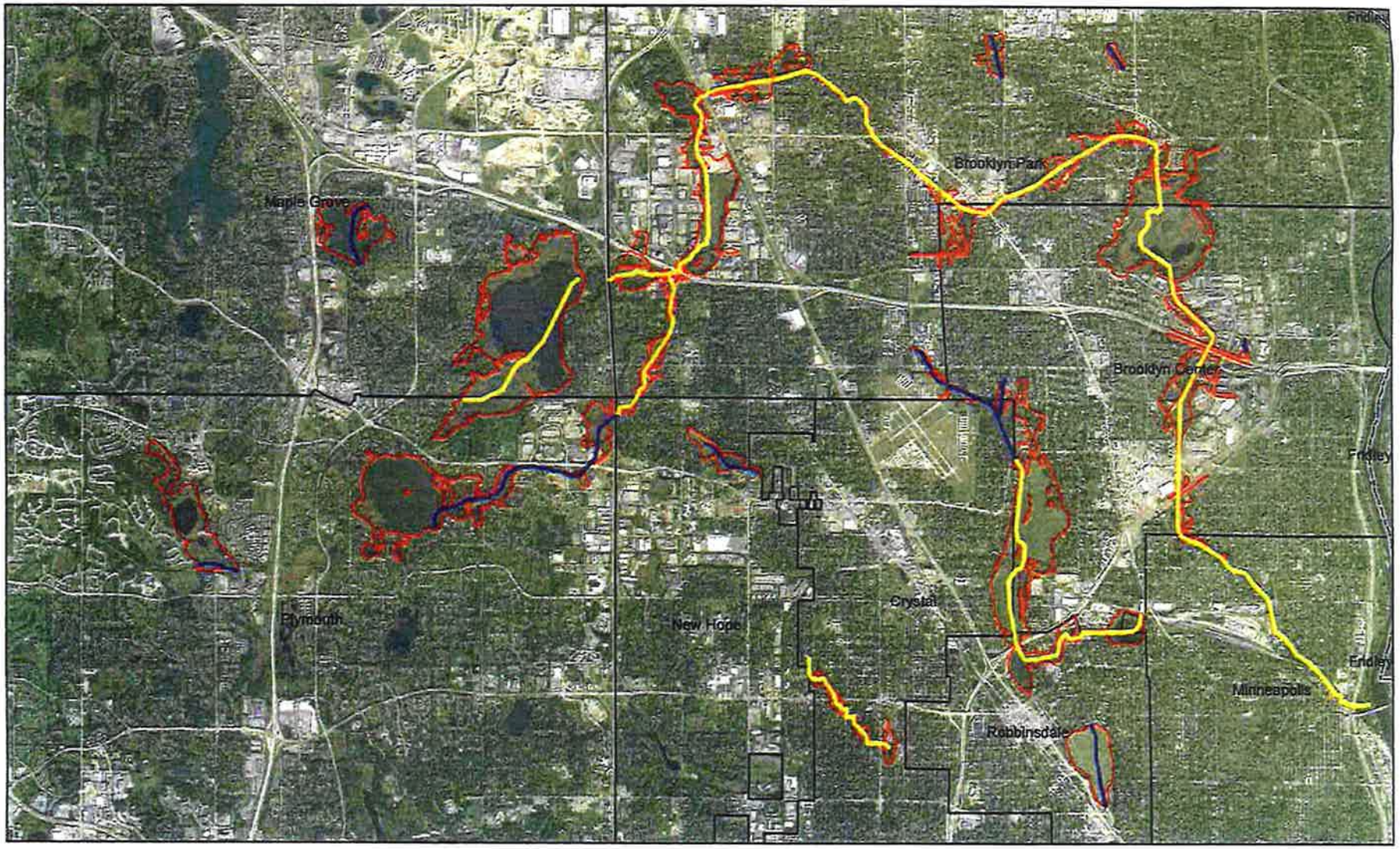
We look forward to assisting you with this project. If you have any questions regarding the scope of services and cost proposal enclosed, please contact me at 763-252-684153 or Ed Matthiesen at 763-252-6851.

Sincerely,

Wenck Associates, Inc.

~~Bryce Cruey~~ Eileen Weigel, PE~~, CFM~~
~~Project Manager, Associate~~ Engineer

Ed Matthiesen, PE
Principal



FEMA Study Areas in the Shingle Creek/West Mississippi Hydrologic Boundary

Twin Cities HUC 8 Flood Risk Project

Legend

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

N

0 0.5 1 2 Miles

DEPARTMENT OF NATURAL RESOURCES

item 09a

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SHINGLE CREEK / WEST MISSISSIPPI WATERSHED MANAGEMENT COMMISSION
MONTHLY COMMUNICATION LOG
March 2020

Date	From	To	SC	WM	Description
2-4-20	David Glyer @ MnDOT	Ed Matthiesen	X	X	Permeable pavement working group meeting {Note: rescheduled to May 16]
3-1-20	Resident, New Hope	SCWM website entry	X		Question regarding potential for native plantings near New Hope Golf Corse. Referred to Karen Galles /Ellen Sones (HC)
3-5-20	Meadow Lake Assn	Diane Spector	X		Invitation to speak at April 18 annual meeting
3-5-20	Stephanie Johnson, Mpls	Ed M, Diane S	X		Reminder of upcoming meeting March 10 regarding rewrite of Mpls stormwater ordinance
3-16-20	Stephanie Johnson @Mpls public works	Ed M.	X		Summary of Chapter 54 workshop ordinance meeting
3-17-20	Bridget Rief, Metropolitan Airports Commission	Ed M.	X		Deicing and refueling procedures at the Crystal Airport
3-19-20	Kevin Bohl @ BKBM	Ed M.	X		Crystal City Hall police building expansion and grant funded rain garden
3-23-20	USGS	Katie Kemmitt	X		Discussion with USGS. Confirmation that the USGS site at Queen Ave is still logging data, it's just not displaying real-time on the web page
3-24-20	Thomas Rehwaldt @ Ryan Companies	Ed M.		X	Kurita project review status WM 2020-003
3-24-20	Brian Vlach @ Three Rivers Park Reserve District	Ed M.	X		Pipe clean out near Eagle Lake Park near 63rd in Maple Grove project review need
3-26-20	Tim Olson @ Bolton-Menk	Ed M.	X		Opportunity Site in Brooklyn Center presentation
3-26-20	Mary Karius, HCEE	Diane S, Katie K	X	X	Notice that the Hennepin County WHEP volunteer monitoring program may be cut back this year, please ID which wetlands are a priority
3-27-20	Mitch Robinson @ Brooklyn Park	Ed M.		X	Excell Academy wetland review
3-30-20	Stephen Mastey @ Landscape Architecture Inc	Ed M.	X		Twin Lake North construction schedule
3-31-20	Steve Christopher, BWSR	Diane S	X	X	Confirmation that the proposed Bass Creek Restoration Project would not require a Minor Plan Amendment