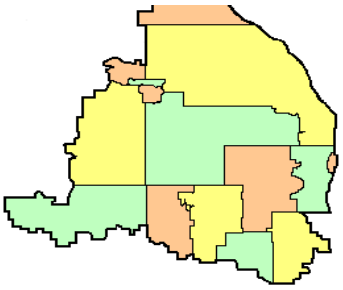
item 01

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

November 20, 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 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, December 12, 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 me at judie@jass.biz to confirm whether you or your Alternate will be attending the regular meeting.

Your meal choices are:

_____ Deli Chopped Salad with romaine hearts, salami, ham, provolone, spiced vegetables and red wine vinaigrette. Freshly Baked Breads. (All Dressing will be served on the side)

_____ Traditional Meat Loaf Sandwich with spicy tomato jam and vegetable slaw. Kettle Chips

_____ Grilled Chicken Breast with Dried Cherry Sauce served with potato polenta puree and seasonal vegetables

_____ 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, December 4, 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, Wenck Associates

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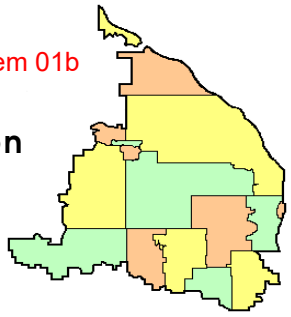
item 01b



Shingle Creek Watershed Management Commission

West Mississippi Watershed Management Commission

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A combined regular meeting of the Shingle Creek and West Mississippi Watershed Management Commissions will be convened on Thursday, December 12, 2019, at 12:45 p.m. at Edinburgh 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.*
√	SC		b.	Approve Claims* - voice vote.
√	WM		c.	Treasurer's Report.*
√	WM		d.	Approve Claims* - voice vote.
	SCWM	3.	Open forum.	
√	SC		a.	Autumn Ridge Cost Share Project Presentation.
		4.	Project Reviews.	
		5.	Watershed Management Plan.	
√	SCWM		a.	Annual Progress Report.*
	SCWM	6.	Water Quality.	
	SCWM		a.	Next TAC meeting – on a date in January to be determined.
			1)	October 10, 2019 TAC Meeting Minutes* - information only.*
	SCWM	7.	Education and Public Outreach.	
	SCWM		a.	Education and Outreach – update.**
	SCWM		b.	Next WMWA meeting – 8:30 a.m., Tuesday, January 14, 2020, Plymouth City Hall.
		8.	Grant Opportunities and Updates.	
√	SC		a.	Becker Park MCES Stormwater Grant Final Report.*
√	SC		b.	Autumn Ridge Cost Share Project Final Report – *(see item 3.)*
	SCWM		c.	BWSR Lawns to Legumes.
√	SC		1)	Victory Neighborhood Application.*
	SCWM		2)	Lawns to Legumes Program.*
	SCWM	9.	Communications.	
	SCWM		a.	Communications Log.*
	SCWM	10.	Other Business.	
	SCWM	11.	Adjournment.	

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

Shingle Creek Watershed Management Commission
West Mississippi Watershed Management Commission

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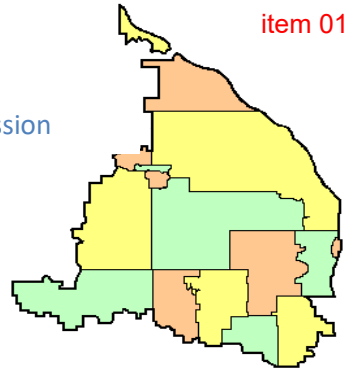


MINUTES
Regular Meeting and Public Meeting
November 14, 2019

(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 12:47 p.m. on Thursday, November 14, 2019, at Edinburgh USA, 8700 Edinbrook Crossing, Brooklyn Park, MN.

Present for Shingle Creek were: Adam Quinn, Brooklyn Park; Burton Orred, Jr., Crystal; Karen Jaeger, Maple Grove; Bill Wills, New Hope; Harold E. Johnson, Osseo; Andy Polzin, Plymouth; Ed Matthiesen and Brian Kallio, Wenck Associates, Inc.; Troy Gilchrist, Kennedy & Graven; and Judie Anderson, JASS.

Not represented: Brooklyn Center, Minneapolis, and Robbinsdale.

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

Not represented: Brooklyn Center.

Also present were: Mitch Robinson, Brooklyn Park; Todd Tuominen, Champlin; Mark Ray, Crystal; Derek Asche, Maple Grove; Elizabeth Stout and Shahram Missaghi, Minneapolis; Bob Grant and Megan Hedstrom, New Hope; Ben Scharenbroich and Amy Riegel, Plymouth; Richard McCoy and Marta Roser, Robbinsdale; and Eric Alms, Minnesota Pollution Control Agency (MPCA).

II. Agendas and Minutes.

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

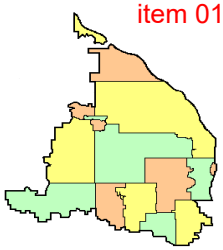
Motion by Chesney, second by Butcher to approve the **West Mississippi agenda.*** *Motion carried unanimously.*

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

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

III. Finances and Reports.

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



Motion by Jaeger, second by Wills to approve the **Shingle Creek November claims.*** Claims totaling $464,616.68 were *approved by roll call vote:* ayes – Quinn, Orred, Jaeger, Wills, Johnson, and Polzin; nays – none; absent – Brooklyn Center, Minneapolis, and Robbinsdale.

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

Motion by Chesney, second by Johnson to approve the **West Mississippi November claims.*** Claims totaling $15,703.52 were *approved by roll call vote:* ayes – Chesney, Butcher, Jaeger, and Johnson; nays – none; absent – Brooklyn Center.

IV. Open Forum.

Jaeger passed around an article from the *StarTribune* entitled, "56% of state's lakes and waterways impaired." According to the article, 581 new water bodies were added to MPCA's impaired waters list this year while 14 lakes and two streams were delisted. The leading contaminant of Minnesota waters is mercury. MPCA has also adopted new standards for measuring large rivers.

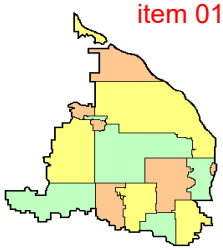
V. Project Review.

WM2019-010 Mississippi Crossing, Champlin.* Construction of an apartment complex with an associated driveway, sidewalk and plaza on a 4.72-acre site located at East River Entry and East River Parkway. Following development, the site will be 64% impervious with 2.73 acres of impervious surface, an increase of 2.60 acres. A complete project review application was received on September 30, 2019.

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, i.e., 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.

Runoff from the majority of the site (3.6 acres or 86% of the site, of which 69% is impervious) is proposed to be routed to an underground, 84-inch corrugated metal pipe infiltration system on the northeastern portion of the site adjacent to East River Parkway. This underground infiltration system has the capacity to infiltrate 1.3 inches of runoff, and a MIDS model indicates the annual TSS and TP loads off the entire site are reduced by 86%, which exceeds Commission requirements. In addition, at each inlet to the underground infiltration system, a sump with SAFL Baffle provides pretreatment to stormwater before it enters the system. (One sump is 5 feet and one is 6 feet. Both provide about 80% removal of suspended solids according to a SHSAM calculation.) A small portion of the site (0.7 acres or 14% of the site, of which 46% is impervious) is proposed to be routed directly to storm sewer associated with East River Entry. However, a 4 ft. sump with SAFL Baffle is proposed for storm sewer draining this area to treat this stormwater before it leaves the site. 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 is routed to an underground infiltration system, which limits runoff rates to predevelopment conditions in the 2- and 10-year storm events. In the 100-year storm events, runoff rate is proposed to exceed predevelopment conditions. However, the Commission's engineer is willing to make an exception to this rule due to the site's proximity to an outfall structure at the Mississippi River. (Further, about 92% of all storms are treated by the underground infiltration system, i.e., are 1.3 inches or less, so it is rare that post-development runoff will exceed predevelopment conditions.) The applicant meets Commission rate control requirements.



Commission volume control rules require the site to infiltrate 1.0 inch of runoff from new impervious area within 48 hours. However, this site must infiltrate 1.3 inches of runoff to additionally meet water quality requirements. The new impervious area on this site is 2.73 acres, requiring infiltration of 0.30 acre-feet (12,874 CF) within 48 hours. The applicant proposes to construct an underground, 84-inch corrugated metal pipe infiltration system, which has the capacity to infiltrate more than the volume of runoff from a 1.3-inch rainfall within 48 hours. The applicant meets Commission volume control requirements.

The erosion control plan includes a rock construction entrance, perimeter silt fence and inlet protection. The erosion control plan meets Commission requirements. The National Wetlands Inventory does not identify any wetlands on site. The applicant also 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 also 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 will be conducted on November 18, 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 has not been provided. However, the applicant wrote in an email to Sarah Nalven on October 22, 2019: "The City and Owner have discussed this agreement, but nothing has been developed yet. They will keep you in the loop when this is developed to make sure the watershed has a copy of the draft."

Motion by Butcher, second by Chesney to advise the City of Champlin that project review WM2019-010 is approved with two conditions.

1. Provide a complete O&M agreement between the applicant and the City of Champlin for all stormwater facilities on the project site.

2. Demonstrate by double ring infiltrometer or witness test that the underground infiltration system can meet the design infiltration rate of 0.80 inches/hour.

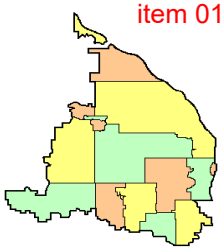
Motion carried unanimously.

VI. Watershed Management Plan.

VII. Water Quality.

A. HUC 8 Modeling.* The Commission's Technical Advisory Committee (TAC) had previously discussed amending the scope of the ongoing HUC 8 hydrologic and hydraulic modeling to include the Twin and Ryan Lake/Creek system. This would include additional detailed analysis of Twin Lakes and Ryan Lake to establish the regulatory High Water Level (HWL). It would also include additional analysis to determine how the proposed HWL will impact nearby structures and how to mitigate risk with additional drainage options.

The TAC reviewed the proposed **Scope of Work*** and recommends that the current HUC 8 project scope be revised to incorporate these additional tasks. The estimated additional cost would be $13,000. The HUC 8 study is funded by a $50,000 grant from the DNR and $25,000 from the Commission's 2019 budget. Staff recommend that the Commission fund this additional work from the Closed Projects Account. The Closed Projects Account balance at the end of 2018 was approximately $87,670. The Commission had previously in 2019 authorized using $5,000 of that balance for the Meadow Lake Feasibility Study, leaving a balance of $82,670. Funding this project would leave a balance of $69,670.



Excess levy funds left over when the final cost of a capital project is less than estimated are segregated into the Closed Projects Account where they can only be used for other projects.

Motion by Orred, second by Jaeger to authorize the revised Scope of Services for the HUC 8 Study, and allocate $13,000 from the Closed Projects Account to the HUC8 Study budget.

B. Minutes* of the October 10, 2019 TAC meeting were included in the meeting packet for information. The **next TAC meeting** is tentatively scheduled for a date in January 2020.

VIII. Education and Public Outreach.* The West Metro Water Alliance (**WMWA)** met on Tuesday, November 12, 2019.

A. Special Projects. The member Commissions have approved allocating the 2019 and 2020 Special Projects funding to a new contract coordinator position. Attorney Gilchrist has drafted a professional services agreement* between the Shingle Creek WMC acting as fiscal agent for WMWA and the coordinator, Catherine Cesnik. Motion by Jaeger, second by Orred to approve the agreement. *Motion carried unanimously.*

Cesnik's initial focus be on contacting all the cities in the four watersheds to understand their education and outreach needs and gaps and how WMWA could be of assistance. These results will be used to update the WMWA Education and Outreach Plan (last updated in 2013) and establish a work plan for 2020.

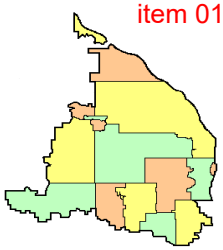
B. Watershed PREP and Education and Outreach Events. Educators are out in the schools providing their lessons. The educators are available to table at city and school events - contact Amy Juntunen at amy@jass.biz to "reserve an educator." The educators are also researching options to make a short, 3-5 minute promotional video for Watershed PREP for use both in marketing to schools in the four watersheds as well as informing other watersheds about the program.

C. Cities are reminded that the Minnesota Pollution Control Agency (MPCA) is in the process of reissuing the municipal separate storm sewer system **(MS4) general permit.** The agency has created a proposed new permit and is asking for public comments on the draft by 4:30 p.m., Saturday, January 11, 2020. New activities and progress on TMDLs have been added to the permit. Visit https://www.pca.state.mn.us/water/reissuing-municipal-stormwater-general-permit to learn more. Education and public outreach are an integral part of the MS4 permit.

D. Website. Members are reviewing the WMWA website to refresh and update content. Any input is appreciated. westmetrowateralliance.org/

E. WMWA also discussed the **Lawns to Legumes Program** bwsr.state.mn.us/lawns-legumes-program-your-yard-can-bee-change. BWSR received a $900,000+ grant from the Environment and Natural Resources Trust Fund and plans to offer several subprograms, including grants to watersheds/cities/nonprofits for "demonstration neighborhoods;" how-to workshops across the state; and small grants to individual property owners. Amy Juntunen, JASS, and Diane Spector, Wenck Associates, attended a train-the-trainer workshop on November 8, 2019 to learn more about this developing program.

With lower attendance at the **rain garden/resilient yards workshops,** co-sponsored by WMWA and some of the cities in the watersheds, the steering committee has been discussing whether there is an opportunity to combine potential Lawns to Legumes workshops/grants with an additional focus on the concept of planting for clean water and resiliency.



F. The **next WMWA meeting** is scheduled for Tuesday, December 10, 2019 at Plymouth City Hall.

IX. Grant Opportunities and Updates.

Brian Kallio presented the results of the first year of the **SRP Reduction Project.*** The SRP project is a Section 319-funded research project. Sarah Nalven made a presentation at the July meeting about the project purpose and details about the project design. Brian is the design engineer and devised the instrumentation installed to determine the effectiveness of the project. Sarah is heading up the monitoring portion of the project.

The SRP Reduction Project is testing the effectiveness of three different filter media at reducing soluble reactive phosphorus (SRP) in outflow from Wetland 639W. SRP is the form of dissolved phosphorus that is most readily available to plants such as algae.

Phase 1 of the project consisted of installing a three-compartment filter box at the overflow weir of Wetland 639W. Each compartment was filled with a different medium. Even given the extremely wet year, some interesting and very encouraging results have occurred. One of the media is performing significantly less well than the other two, and one that generally accepted literature says does poorly in saturated, low oxygen conditions is performing comparatively well. When taking volume of flow treated into account, the load reduction can be estimated, and one of the media provides a very reasonable cost per pound removed, while the worst-performing appears to be significantly more expensive per pound.

Monitoring conditions in 2019 have been very challenging, and this is not an average water year. Most of the high flow at the overflow weir bypassed the filter box and thus was not treated. At this point it is unclear if these results are representative of how the media perform, or whether different results in a more average or even low-precipitation year may occur. The grant project calls for two more years of monitoring.

Kallio presented a more technical and design detail-oriented presentation at the TAC meeting, held prior to this meeting. The Commission presentation focused on the results. Learn more at http://www.shinglecreek.org/srp-reduction-project.html

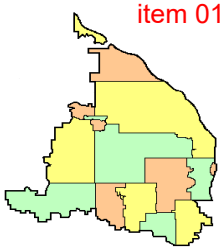
X. Communications.

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

B. Included in the meeting packet was a copy of a July 26, 2019 letter* to Mike Trojan at the MPCA regarding verification and certification of **Stormwater Manufactured Treatment Devices (MTDs).** Also included was a copy of an email from Laura Jester, Bassett Creek WMC Administrator, responding to questions from Trojan. A meeting of interested parties may be scheduled in the future to discuss this topic in more detail.

C. Metropolitan Council has named award winners of their **Stormwater Grants**. Autumn Ridge Participatory Landscape Design and Installation ($73,787) and the Brooklyn Center Workforce and Senior Affordable Apartments $25,000) were among the recipients.

D. The **Conservation Corps** is accepting applications for 2020 field projects. They have published their Request for Proposals for Clean Water Funds for Crew Labor, with applications due December 15, 2019.



XI. Other Business.

The terms of representatives from Champlin and Minneapolis expired January 31, 2019. Staff have not received updated appointments as of this date. The Commissioner position from the City of Minneapolis has become vacant and a new representative must be appointed by that city.

XII. Adjournment. There being no further business before the Commissions, the joint meeting was adjourned at 1:45 p.m.

Respectfully submitted,

Judie A. Anderson
Recording Secretary
JAA:tim

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Technical Memo

WENCK ASSOCIATES

Responsive partner.
Exceptional outcomes.

To: Shingle Creek/West Mississippi WMO Commissioners

From: Ed Matthiesen, P.E.
Diane Spector

Date: December 6, 2019

Subject: Third Generation Watershed Management Plan Assessment of Progress

Recommended Commission Action	Review, discuss, and adopt.

The Third Generation Watershed Management Plan states that the Commissions will annually review progress toward Third Generation goals, and that this evaluation will become part of the Annual Report. There is no specific format for such an annual review. Since the Third Generation Plan was adopted, the Board of Water and Soil Resources (BWSR) adopted revised Minnesota Rules 8410 that requires WMOs to review progress every two years.

The purpose of the annual review is first to determine progress towards the goals, and second to be sure the Commissions stay on track to reach them. The annual review is also an opportunity to discuss whether the goals and actions in the Plan still make sense or if they should be considered for modification or enhancement, perhaps to add in new priorities. Ideally, this annual review is also an opportunity to start thinking about your next year's work plan. Some highlights of the past year include:

ROUTINE BUSINESS

- Shingle Creek completed ten reviews of development/redevelopment projects. The Commission acted as the WCA LGU for four wetland delineation/wetland type reviews; three no or incidental loss determinations; and one wetland mitigation plan (for upcoming CSAH 81 reconstruction).
- West Mississippi completed ten reviews of development/redevelopment projects. The Commission acted as the WCA LGU for four wetland delineation/wetland type reviews; four no or incidental loss determinations; one exemption; and one mitigation plan (for the TH 169 and 101st Avenue N interchange).
- Completed routine flow and water quality monitoring on Shingle and Bass Creeks at three locations, Mattson Brook and the Environmental Preserve (West Miss), and partnered with the USGS to maintain the USGS real-time site.
- Undertook water quality monitoring on Lower, Middle, and Upper Twin Lakes; Bass and Pomerleau Lakes; and Schmidt Lake.
- Performed aquatic vegetation surveys on Bass , Pomerleau, and Schmidt Lakes.
- Completed a fish survey on Schmidt Lake.
- About 587 fourth grade students in 23 classrooms participated in a Watershed PREP classroom lesson one (What is a watershed?) though November 2019, and 477 of those students in 19 classrooms learned lesson two (The incredible journey).

STUDIES

- The Shingle Creek Commission continued to work with the DNR to update the Special Flood Hazard Areas in the watershed ("the HUC8 Study"). The TAC recommended and Commission approved adding a detailed study of the Twin and Ryan chain and Ryan Creek to the Study.
- The City of Robbinsdale worked with the Commission to evaluate the ability of Ryan Creek to adequately control water levels in Lower Twin and Ryan Lakes, and to assess the potential impact of routing overflow pumping from Crystal Lake to Ryan.
- Completed the Magda and Meadow Lakes nutrient TMDL 5 year reviews.
- Worked with the City of New Hope and Meadow Lake Watershed Association to undertake a Meadow Lake Management Plan feasibility analysis and to prepare and submit a Clean Water Fund grant application.
- Completed work on a subwatershed assessment for that part of Minneapolis that is within the Shingle Creek watershed.

PROJECTS

- Completed the biochar- and iron-enhanced sand filters project. The catch basin filters and the filter box have been removed, and monitoring is complete.
- Removed 3,800 pounds of carp from Ryan Creek and from spawning areas on Lower and Upper Twin Lake.
- Designed and installed the SRP Reduction Project treatment system, and monitored effectiveness.
- Worked with the City of Plymouth to undertake alum treatments on Bass and Pomerleau Lakes.
- Worked with the City of Brooklyn Park and Brooklyn Center to develop concepts and 30% design and to prepare and submit a Clean Water Find grant application for the Shingle Creek Connections II stream restoration project.
- Worked with the City of Crystal to help fund the Becker Park Infiltration Project.
- The Shingle Creek Commission received a $216,066 Section 319 grant for the Crystal Lake Management Plan. Work on carp and SAV management will begin in 2020, with a first alum treatment in spring 2021 and the second in spring 2022.

The attached tables show each Third Generation Plan goal, noting progress to date and expected completion. Each of the strategic actions identified for the goal areas are also shown, noting work completed in 2019 and to date, as well as expected completion as general status. For the most part the Commissions are on track to meet goals, with the following exceptions:

- Work has not yet begun on the "sustainable water budget" project. We have had some discussions with USGS staff about this, but have not yet identified a funding source for this project.
- While Lower Twin, Ryan, and Schmidt Lakes have been delisted from the draft Impaired Waters list, you have a stretch goal of achieving delisting for Bass, Eagle, Crystal, and Middle Twin Lakes. As Upper Twin improves, Middle Twin is likely to reach the state standard, although not in the short term. The alum treatments on Bass and Pomerleau Lakes and Crystal Lake we hope will restore them to the water quality standard, but not in time to be delisted prior to the expiration of the Third Generation Plan.
- You have a goal to have completed subwatershed assessments for at least 25% of that part of the watersheds that developed prior to Commission rules in 1984. You are on track to complete this for West Mississippi, but will have completed only 14% of pre-1984 development Shingle Creek when the Minneapolis Subwatershed Assessment is completed. A more achievable goal would be 15%.
- You have a goal of maintaining the functions and values of priority wetlands, but have not established a process by which that would be evaluated.

Water Quantity

Third Generation Goals	Progress Toward Goals	Expected Completion	Status
A.1 Maintain the existing 100-year flood profile throughout the watersheds.	Ongoing.	Ongoing.	On track
A.2 Determine ecological low flows for Shingle and Bass Creeks	Not yet completed.	Will be completed in the 2020-2022 time period	Needs work

Water Quantity Actions:

Third Generation Actions	Completed in 2019	Completed to Date	Expected Completion	Status
a. Maintain and update as necessary a calibrated hydraulic model of Shingle Creek and its tributaries	Continued work on the HUC8* study. Approved adding the Twin Lake chain and Ryan Creek to the detailed study area.	Update as necessary.	Will complete in 2020 and submit to DNR for approval.	On track
b. Maintain rules and standards requiring new development and redevelopment to control the rate and volume of runoff discharged from their sites, and update those standards as necessary.	None.	Keep abreast of requirements of other WMOs and agencies.	Will continue to monitor industry developments and regulations and revise rules and standards as necessary.	On track
c. Develop a sustainable water budget for each watershed and an action plan for management activities necessary for its achievement	None.	None.	Will be completed in the 2020-2022 time period.	Needs work

*HUC = Hydrologic Unit Code

Water Quality

Third Generation Goals	Progress Toward Goals	Expected Completion	Status
B.1 As lake water quality improves and lakes are removed from the State's Impaired Waters list, implement management strategies to protect lake water quality. It is anticipated that Schmidt, Lower Twin, and Ryan Lakes will be removed in 2014.	Schmidt, Lower Twin, and Ryan are removed from the 303(d) list. The TMDL 5 Year review for Twin and Ryan includes protection strategies. Upper Twin Lake management actions will benefit Lower Twin and Ryan.	Will continue to implement protection strategies as funding and opportunities are available.	On track
B.2 Implement phosphorus and sediment load reduction actions sufficient to achieve de-listing from the Impaired Waters list for Bass, Eagle, Crystal, and Middle Twin Lakes.	An alum treatment for Bass Lake was completed in 2019 and will be repeated in 2020. Alum treatments for Crystal lake will be completed in 2021 and 2022.	Improving Upper Twin is expected to improve Middle Twin to state standards. Projects have been completed or are scheduled for Crystal and Bass, not clear at this time whether additional actions will be necessary to meet the state standards goal.	On track Work needed
B.3 Improve water clarity in the balance of the lakes by 10% over the average of the previous ten years.	Need more data to evaluate progress. Alum treatment for Pomerleau completed in 2019 and will be repeated in 2020. Completed Meadow Lake Management Plan feasibility study in 2019 and applied for a Clean Water Fund grant.	Will continue to implement load-reduction projects as funding and opportunities are available.	On track
B.4 Improve at least 30% of the length of Shingle Creek to meet Corridor Study and TMDL design standards.	As of 2019, 3.09 miles, or 27% of the 11.15 miles have been restored. Applied for a Clean Water fund grant to complete an additional 1,750 feet to achieve 3.42 miles or 30.6%.	On track to meet this goal prior to 2022. Will continue to pursue grant funds and implement projects as funding is available.	On track
B.5 Maintain nondegradation of all waterbodies compared to 1985 conditions.	Review of water quality data at the Shingle Creek outlet site shows TSS concentrations have decreased 25% since 2000 and TP by 35%. Need more data to evaluate lake progress.	Will continue to implement load-reduction projects as funding and opportunities are available.	On track

Water Quality Actions:

Third Generation Actions	Completed in 2019	Completed to Date	Expected Completion	Status
a. Maintain and update as necessary calibrated P8 models for each lakeshed in Shingle Creek and the major drainage areas of West Mississippi.	Completed for Meadow and Magda Lakes	P8 models for each lakeshed, calibrated to XPSWMM. Models updated as necessary for TMDL reviews.	Will make updates to lakeshed models as necessary as next round of the TMDL 5 Year Reviews.	On track Work needed
b. Maintain rules and standards requiring new development and redevelopment to control the total phosphorus and total suspended solids discharged from their sites, and update those standards as necessary.	Ongoing monitoring.	New requirements incorporated into Third Gen Plan and enforced for ongoing development.	Will continue to monitor regulatory needs and trends and consider rules and standards revisions as necessary.	On track
c. Conduct an intensive BMP assessment for at least 25% of that part of the watershed that developed prior to Commission rules in 1984, and achieve 25% of the recommended load reduction within 10 years of the analysis.	*Shingle:* Completing an assessment of that part of Minneapolis in Shingle Creek (2,046 acres). *West Miss:* None.	*Shingle:* Completed assessments on 1,341 acres of 23,497 acres developed prior to 1984, or 5.7%. With Mpls area will be 3,387 acres or 14% *West Miss:* Completed assessments on 1,495 acres of 7,023 acres developed prior to 1984, or 21%.	*Shingle:* Goal of evaluating 5,874 acres by 2022 difficult; most interest is in doing compact 100-200 acre areas. More achievable goal is 15%, or 3,525 acres. *West Miss:* It is likely that the 25% goal will be exceeded by 2022.	*Shingle:* On track *West Miss:* On track
d. Contribute 25% of the cost of TMDL capital implementation projects (up to $250,000).	*Shingle:* Contributing $304,440 to three 2019 projects. *West Miss:* Contributing $50,000 to one 2019 project.	*Shingle:* Contributed $1,902,935 to 19 projects since 2013. *West Miss:* Contributed $434,800 to eight projects since 2013.	Will continue to contribute to projects submitted to the Commissions' CIP.	On track
e. Pursue grant and other funding to implement improvement projects and feasibility studies.	Received $216,066 for Crystal Lake Management Plan	Since 2013 received twelve grants totaling $2,311,401.	Will continue to seek grant funding for projects and special studies.	On track

Third Generation Actions	Completed in 2019	Completed to Date	Expected Completion	Status
f. Prepare and implement an Annual Monitoring Plan and conduct monitoring necessary to evaluate water quality conditions and trends in the lakes and streams in the two watersheds.	Completed and approved by the Commissions in February 2019.	Completed annually.	Will continue to complete annually.	On track
g. Evaluate progress toward achieving TMDL goals every five years following adoption of the respective Implementation Plans.	Completed Meadow and Magda Lakes Nutrient TMDL 5 Year Review.	Have completed review of Chloride, all the lakes.	Shingle Creek DO and Biotic Review will be completed in 2020. All 5 Year Reviews of all TMDLs are expected to be completed by 2022.	On track Work needed

Groundwater

Third Generation Goals	Progress Toward Goals	Expected Completion	Status
C.1 Infiltrate stormwater runoff from new impervious surface.	New requirements incorporated into Third Gen Plan and enforced for ongoing development.	Will continue to enforce and to urge voluntary compliance where infiltration is not required.	On track
C.2 Identify opportunities for and implement projects to infiltrate runoff from existing impervious surface.	Have completed five subwatershed assessments that have identified infiltration BMPs. Working with Crystal on Becker Park Infiltration Project.	Will continue to implement volume reduction projects as funding and opportunities are available.	On track
C.3 Work with the appropriate state agencies to incorporate groundwater assessment into the sustainable water budget analysis for each watershed	Not yet completed.	Will be completed in the 2020-2022 time period.	Work needed

Groundwater Actions:

Third Generation Actions	Completed in 2019	Completed to Date	Expected Completion	Status
a. Maintain rules and standards requiring new development and redevelopment to abstract or infiltrate stormwater runoff from new impervious surface, and update those standards as necessary.	None.	New requirements incorporated into Third Gen Plan and enforced for ongoing development.	Will continue to monitor regulatory needs and trends and consider rules and standards revisions as necessary.	On track
b. Conduct an intensive BMP assessment for at least 25% of that part of the watershed that developed prior to Commission rules in 1984, and achieve 25% of the recommended volume reduction within 10 years of the analysis.	*Shingle:* Completing an assessment of that part of Minneapolis in Shingle Creek (2,046 acres). *West Miss:* None.	*Shingle:* Completed assessments on 1,341 acres of 23,497 acres developed prior to 1984, or 5.7%. With Mpls area will be 3,387 acres or 14% *West Miss:* Completed assessments on 1,495 acres of 7,023 acres developed prior to 1984, or 21%.	*Shingle:* Goal of evaluating 5,874 acres by 2022 difficult; most interest is in doing compact 100-200 acre areas. More achievable goal is 15%, or 3,525 acres. *West Miss:* It is likely that the 25% goal will be exceeded by 2022.	*Shingle:* On track *West Miss:* On track
c. Coordinate with the Minnesota DNR and other agencies to develop an action plan addressing surficial groundwater elevation issues in northern Brooklyn Park and the associated impacts on wetlands and Lake Success	None.	Preliminary conversations.	Will be completed in the 2020-2022 time period.	Work needed

Wetlands

Third Generation Goals	Progress Toward Goals	Expected Completion	Status
D.1 Maintain the existing functions and values of wetlands identified in the Commissions' Water Quality Plan as high-priority.	For WCA projects where the Commissions are the LGU, are noting where the wetland is a priority wetland. Have not yet set up a process for evaluating this.	Not clear.	Work needed
D.2 Informed by the sustainable water budget study, improve functions and values of wetlands.	Not yet completed.	Will be completed in the 2020-2022 time period.	Work needed

Wetland Actions:

Third Generation Actions	Completed in 2019	Completed to Date	Expected Completion	Status
a. Adopt a wetland replacement sequencing policy.	None.	Rules and Standards include a sequencing policy.	Will continue to monitor regulatory needs and trends and consider rules and standards revisions as necessary.	On track
b. Identify wetland restoration opportunities and implement projects to restore wetland functions and values or to create new wetland acreage.	None.	Minor vegetation enhancement on Wetland 639W project.	Will continue to pursue grant funds and implement projects as funding is available.	On track

Drainage Systems

Third Generation Goals	Progress Toward Goals	Expected Completion	Status
E.1 Continue current Hennepin County jurisdiction over County Ditch #13	Continue current jurisdiction.	Will continue current jurisdiction unless otherwise agreed to.	On track

Drainage System Actions:

Third Generation Actions	Completed in 2019	Completed to Date	Expected Completion	Status
a. Periodically reconsider the appropriate jurisdiction over County Ditch #13.	None.	Considered during development of the Third Gen Plan, no change.	Will reconsider as requested.	On track

Commission Operations and Programming

Third Generation Goals	Progress Toward Goals	Expected Completion	Status
F.1 Identify and operate within a sustainable funding level that is affordable to member cities.	Commissions continue to operate within the Assessment Cap specified in the JPA.	Ongoing.	On track
F.2 Foster implementation of TMDL and other implementation projects by sharing in their cost and proactively seeking grant funds.	Contributed $1,902,935 to 19 Shingle projects and $434,800 to eight West Miss projects since 2013. Established a City BMP Cost Share program and contributed to nine BMP retrofits in SC. Received 12 grants totaling $2,311,401.	Will continue to cost-share through the county levy and to pursue grant funds and implement projects as funding is available.	On track
F.3 Operate a public education and outreach program that meets the NPDES Phase II education requirements for the member cities.	Shingle Creek and West Mississippi partner with Bassett Creek and Elm Creek and other agencies and nonprofits to provide education and outreach through the West Metro Water Alliance (WMWA). An annual report is provided to the member cities for the NPDES annual report.	Ongoing, in partnership with WMWA and other organizations.	On track
F.4 Operate a monitoring program sufficient to characterize water quantity, water quality, and biotic integrity in the watersheds and to evaluate progress toward meeting TMDL goals.	The commissions operate ongoing lake, stream, and wetland monitoring programs using both commission technical staff and volunteers.	Ongoing annually.	On track
F.5 Maintain rules and standards for development and redevelopment that are consistent with local and regional TMDLs, federal guidelines, source water and well head protection requirements, sustainable water yields, nondegradation, and ecosystem management goals.	Requirements consistent with the NPDES General Stormwater Permit and MIDS were incorporated into Third Gen Plan and enforced for ongoing development. The pending MN NPDES General Permit is under review to assess potential for rules modification.	Will complete review as necessary.	On track
F.6 Serve as a technical resource for member cities.	The Commissions maintain an ongoing Technical Advisory Committee.	Ongoing.	On track

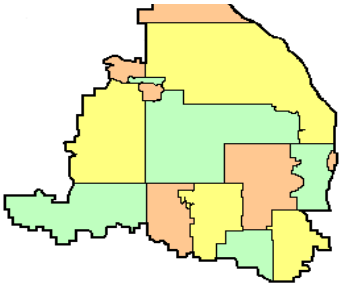
Commission Operations and Programming Actions:

Third Generation Actions	Completed in 2019	Completed to Date	Expected Completion	Status
a. Annually review the budget and Capital Improvement Program.	Reviewed the budget and CIP, prepared a plan amendment to revise the CIP.	Established a process and schedule for annual review and modification of the CIP.	Ongoing annually.	On track
b. Maintain an Education and Public Outreach Committee (EPOC) that is charged with developing and implementing an annual education and outreach plan.	Most of the EPOC business is done in conjunction with WMWA. Continually updated website and registered nearly 9,000 unique page views January-November. Posted to social media and achieved 156 Facebook followers	Most of the EPOC business is done in conjunction with WMWA.	Ongoing.	On track
c. Prepare and implement an annual monitoring plan and summarize the results in an annual water quality report.	Monitoring plan approved by the Commissions in February 2019 and Annual Water Quality Report approved in April 2019.	Completed annually.	Ongoing annually.	On track
d. According to the schedules set forth in TMDL Implementation Plans, every five years evaluate progress toward meeting TMDL water quality goals, and adjust the Implementation Plans as necessary to achieve progress.	Completed Meadow and Magda Lakes nutrient TMDL 5 Year Review.	Have completed review of Chloride and all lake TMDLs.	Shingle Creek DO and Biotic Review will be completed in 2020. All 5 Year Reviews of all TMDLs are expected to be completed by 2022.	On track Work needed
e. Every five years or as necessary review the development rules and standards for adequacy and make revisions as necessary.	No action taken. The pending MN NPDES General Permit is under review to assess potential for rules modification.	Minor amendment to incorporate Atlas 14.	Will complete review in 2018 or as necessary.	On track

Third Generation Actions	Completed in 2019	Completed to Date	Expected Completion	Status
f. Continue research projects on innovative and cost-effective stormwater management practices and technologies.	Implementing a Section 319 grant to undertake the SRP Reduction Project.	Received Section 319 grant funding for and completed the Modular Green roof study, the Paired Intersection Study, and the Biochar- and Iron-Enhanced Sand Filters Project.	Will continue to seek grant resources and partnerships to conduct BMP research.	On track
g. Coordinate water resources management between the Commissions and the member cities.	Maintained an ongoing Technical Advisory Committee.	Maintained an ongoing Technical Advisory Committee.	Ongoing.	On track

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



MINUTES
November 14, 2019

A meeting of the Technical Advisory Committee (TAC) of the Shingle Creek and West Mississippi Watershed Management Commissions was called to order by Chairman Richard McCoy at 11:33 a.m., Thursday, November 14, 2019, at Edinburgh USA, 8700 Edinbrook Crossing, Brooklyn Park, MN.

Present were: Mitch Robinson, Brooklyn Park; Todd Tuominen, Champlin; Mark Ray, Crystal; Derek Asche, Maple Grove; Elizabeth Stout, Minneapolis; Megan Hedstrom, New Hope; Amy Riegel, Plymouth; Richard McCoy, Robbinsdale; Ed Matthiesen and Brian Kallio, Wenck Associates, Inc.; and Judie Anderson, JASS.

Not represented: Brooklyn Center and Osseo.

Also present: Burt Orred, Jr., Crystal; Shahram Missaghi, Minneapolis; Harold E. Johnson, Osseo; and Marta Roser, Robbinsdale.

I. Motion by Ray, second by Asche to **approve the agenda.*** *Motion carried unanimously.*

II. Motion by Ray, second by Asche to **approve the minutes***of the October 10, 2019 meeting. *Motion carried unanimously.*

[Robinson arrived 11:37 a.m., Tuominen at 11:39 a.m.]

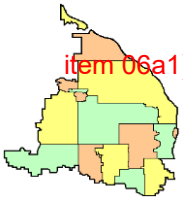
III. **SRP Reduction Application – 2019 Results.*** Kallio presented the results of the first year of the SRP Reduction Project. The SRP project is a Section 319-funded research project. Sarah Nalven made a presentation at the Commissions' regular July meeting about the project purpose and details about the project design. Kallio is the design engineer and devised the instrumentation installed to determine the effectiveness of the project. Nalven is heading up the monitoring portion of the project.

The SRP Reduction Project is testing the effectiveness of three different filter media at reducing soluble reactive phosphorus (SRP) in outflow from Wetland 639W. SRP is the form of dissolved phosphorus that is most readily available to plants such as algae.

Phase 1 of the project consisted of installing a three-compartment filter box at the overflow weir of Wetland 639W. Each compartment was filled with a different medium that is made to adsorb phosphorous.

The one year monitoring results have shown some positive results overall - some interesting and very encouraging results have occurred. One of the media is performing significantly less well than the other two. The wet summer posed some challenges for the monitoring but it is not known what effect the high flows had on the overall performance.

One interesting thing of note is that Iron Enhanced Sand, which some generally accepted literature says does poorly in saturated, low oxygen conditions is performing comparatively well even



though it has been completely saturated and the dissolved oxygen content has been very low for most of the summer.

When taking the volume of flow treated and phosphorous reduction into account, the load reduction can be estimated and one of the media provides a very reasonable cost per pound removed, while the worst-performing appears to be significantly more expensive per pound.

Monitoring conditions in 2019 have been very challenging and this is not an average water year. Most of the high flow at the overflow weir bypassed the filter box and thus was not treated. At this point it is unclear if these results are representative of how the media perform, or whether different results in a more average or even low-precipitation year may occur. Going through a winter season and freeze cycle may also affect the performance. The grant project calls for two more years of monitoring.

Kallio presented a more technical and design detail-oriented presentation at this meeting. He will make a presentation more focused on the results of the first year's monitoring to the Commissioners at their meeting following this one. Learn more at http://www.shinglecreek.org/srp-reduction-project.html

IV. Other Business.

A. The next Technical Advisory Committee meeting is tentatively scheduled for a date in January 2020.

B. The meeting was adjourned at 12:09 p.m.

Respectfully submitted,

Judie A. Anderson
Recording Secretary

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Technical Memo

WENCK ASSOCIATES

Responsive partner.
Exceptional outcomes.

To: Shingle Creek WMO Commissioners

From: Ed Matthiesen, P.E.
Diane Spector

Date: December 6, 2019

Subject: Becker Park MCES Stormwater Grant Final Report

Recommended Commission Action	Authorize payment to Crystal and execution and submittal of final report.

Work is substantially complete on the stormwater portion of the City of Crystal's Becker Park Infiltration Project. The Commission was awarded a $150,000 Stormwater Grant from the Metropolitan Council. Now that the work is complete, the City of Crystal has invoiced the Commission for that amount (attached). Attached is the final report that will be submitted to the Met council requesting reimbursement from that grant.

Staff recommends you authorize payment to the City of Crystal, execution of the grant report, and submittal to the Met Council.

Z:\Shingle Creek\GrantOpportunities\2018 Becker Park SW Infiltra Project SG10335 $150,000\M-MCES grant final report.docx

CITY of CRYSTAL

4141 Douglas Drive North • Crystal, Minnesota 55422-1696

Tel: (763) 531-1000 • Fax: (763) 531-1188 • www.crystalmn.gov

Remit To:
CITY OF CRYSTAL
4141 DOUGLAS DRIVE N
CRYSTAL MN 55422-1696

Billing Address: 117686
SHINGLE CREEK WATERSHED MGMT COMM
ATTN: JUDIE ANDERSON
3235 FERNBROOK LANE N
PLYMOUTH MN 55447

INVOICE

7517

Invoice Date 12/3/2019

Due Date 1/2/2020

Page: 1

Item	Remark	Amount
001	2017 METROPOLITAN COUNCIL	150,000.00
002	STORM WATER GRANT PROGRAM	
	Total Amount Invoiced	150,000.00
	Balance Due	150,000.00

Shingle Creek Watershed Management Commission

3235 Fernbrook Lane N • Plymouth, MN 55447
Phone (763) 553-1144 • Fax (763) 553-9326

www.shinglecreek.org

Metropolitan Council
2017 Stormwater Grant
Crystal Becker Park Infiltration Project
Shingle Creek Watershed Management Commission
Grant No. SG-10335 Final Report
December 12, 2019

The Crystal Becker Park Infiltration Project is complete. This final report is submitted in fulfilment of the Shingle Creek Watershed Management Commission's grant agreement with the Metropolitan Council.

Total Watershed Management

The grant agreement requires this final report to specify how this project furthers Total Watershed Management as set forth in Minnesota Statute Section 473.505. That section defines Total Watershed Management as 'identifying and quantifying at a watershed level the 1) sources of pollution, 2) causes of conditions that may or may not be a result of that pollution, and 3) the means of reducing pollution or mitigating adverse conditions.'

The Becker Park Infiltration Project resulted from many years of monitoring and study relating to water quality conditions in the Twin Lake chain of lakes in the cities of Crystal/Brooklyn Center/Robbinsdale. When those three lakes were designated by the Minnesota Pollution Control Agency (MPCA) as Impaired Waters due to excess nutrients, the Commission worked with the MPCA and the cities to prepare a Total Maximum Daily Load (TMDL) study. The TMDL identified the sources of excess nutrients, quantified the amount of reduction necessary to return the lakes to state water quality standards, and broadly identified actions to achieve those reductions. Among those actions were recommendations to reduce the amount of stormwater runoff being delivered from the watershed to the lakes.

Following completion of the TMDL, the Commission and the City of Crystal partnered to undertake a subwatershed assessment of potential projects in the Crystal Shopping Center commercial area centered around Bass Lake Road (County Road 10), West Broadway (County Road 8), and Bottineau Boulevard (CSAH 81). This area is tributary to Upper Twin Lake, and stormwater is mostly untreated. The subwatershed assessment identified 34 potential projects and ranked them by cost-effectiveness. One, an underground infiltration gallery proposed to be installed in Becker Park to treat runoff from 28 acres of commercial area, was the highest-ranking project, achieving the largest load reduction at the lowest life cycle cost per pound. Becker Park is on the downstream edge of the commercial district and was ideally located as a regional project site. Further study showed that an expanded project footprint could also accommodate runoff from another 119 acres of residential drainage area with little to no stormwater treatment (Figure 1).

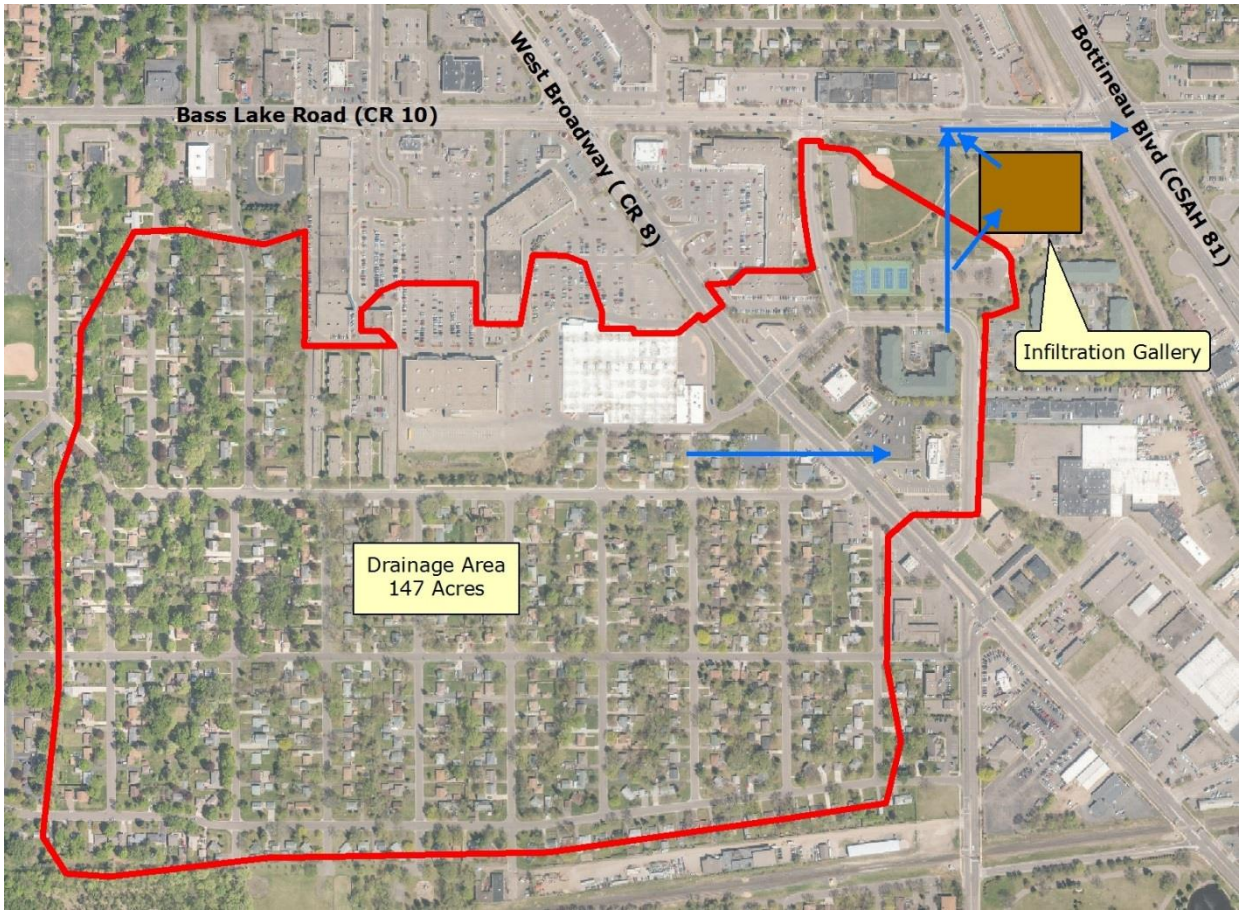

Figure 1. Area draining to the Becker Park infiltration gallery.

Most of the pollution in stormwater runoff is conveyed by the "first flush," or the first ½ to 1 inch of rainfall. The infiltration gallery as constructed is 1.42 miles of interlinked 72" diameter pipe designed to infiltrate the first 0.6 inches of stormwater runoff from 28 acres of commercial area plus 119 acres of residential area. The gallery is concealed underneath Becker Park's performance space and has the capacity to hold over 2.2 million gallons of runoff, allowing this water to soak into the sandy soils below. The estimated annual reduction of pollutants to Upper Twin Lake is 118 pounds of total phosphorus (TP), about 16% of the required Upper Twin Lake TP reduction.

Completed Activities by Task

Task 1: Permitting and Final Plans and Specifications. Final plans and specifications were prepared and the project was publicly bid. The bid opening was January 23, 2019, and four bids were received. The prime contractor Custom Builders, Inc. of Cold Spring, Minnesota submitted the lowest responsible bid. The Crystal City Council awarded a contract to Custom Builders on February 5, 2019.

The grant agreement included the following statement:

> "In employing professional services and contractors, the council strongly encourages Grantee to solicit and include businesses that participate in the Metropolitan Council Underutilized Business Program ("MCUB"). A list of these firms is available on the Council's website."

The project bid package included the following provision:

> **Metropolitan Council Underutilized Business Program (MCUB)**
> Funding for this project is provided in part by grants from the Metropolitan Council. As a condition of these grant funds bidders are encouraged to solicit and include businesses that participate in the Metropolitan Council Underutilized Business Program ("MCUB"). Small businesses located in Minnesota holding any of these certifications may be eligible to be an MCUB:
>
> - A Disadvantaged Business Enterprise (DBE) certification from the Minnesota Unified Certification Program (MNUCO);
> - Certification as a Targeted Group (TG) Business from the Minnesota Department of Administration (with the exception of Economically Disadvantaged (ED) Businesses); or
> - A Veteran Owned Business from the United States Department of Veteran Affairs.
>
> For this project there are no numerical goals established or expected for MCUB participation. Successful bidders will be asked to voluntarily report their participation efforts. More information and an online directory of MCUB firms may be found on the Metropolitan Council's website at: https://metrocouncil.org/About-Us/Organization/Office-of-Equal-Opportunity/Small-Business-Programs/Metropolitan-Council-Underutilized-Business-Progra.aspx#Participation%20Goals.

Custom Builders self-reported that it received three quotes from DBE subcontractors. Two of these were rejected because the overall price was higher than the selected subcontractor, and one was rejected because the company elected to complete that part of the work itself.

Task 2: Construction Observation. Construction observation activities included the following activities:

- Weekly construction meetings and regular communication with the City of Crystal staff and the contractors and subcontractors.
- On-site visits to observe work in progress.
- Construction walk-throughs and development of a punch list.
- Working with the contractor(s) to assure completion of items on the punch list
- Review and recommendations regarding shop drawings, materials test results, and any materials testing beyond that required of the contractor.
- Three drone flights to document the project site during project initiation, construction and the completed project for the entire site.
- Preparation of as-builts and a maintenance handbook.
- Review and certification of pay and any recommended change orders.
- Construction surveying and staking for the stormwater component of the project.
- Initial monitoring to characterize water quality at the system inflow.

Task 3: Construction Contract. Construction on the infiltration component of the overall park project began in April 2019. Excavation encountered some site debris and contamination - an old building foundation, miscellaneous construction debris, and petroleum-impacted soils – that were documented and removed according to regulatory requirements. Some old, previously unknown uncapped wells were also properly abandoned.

The pipe gallery construction was substantially completed in about five weeks. Additional construction on site was required to modify the trunk storm sewer that conveys stormwater through the park to the trunk under Bass Lake Road. Two diversion structures were constructed to redirect low flows into the infiltration gallery. During more intense rain events, the initial flush is directed into the gallery, and the higher flows bypass the gallery and flow to the Bass Lake Road storm sewer. The diversion structures were complete by the end of June 2019. Additional minor modifications and installation of piezometers were completed by October 2019. A preliminary walk through was completed in November 2019, and a punch list of final items was developed. Punch list items not completed in November will be completed in spring 2020.

This project was completed concurrent with the City's reconstruction of amenities in Becker Park, one of its destination parks in the heart of the city. An extensive public engagement process helped shape and re-imagine the park as it transitioned from a ballfield-dominated park to a more flexible community gathering space. Interest in the project was high and local media highlighted the project:

- https://www.hometownsource.com/sun_post/community/crystal_robbinsdale/becker-park-updated-designs-presented-for-crystal-s-new-destination/article_fffaf0a4-9fd1-11e8-b2c9-93304412c9fe.html
- https://nextdoor.com/agency-post/mn/crystal/city-of-crystal/redesign-of-becker-park-is-starting-to-take-shape-114211676/
- https://www.hometownsource.com/sun_post/community/crystal_robbinsdale/the-earth-moves-becker-park-revamp-now-underway/article_b59ad85e-5b0f-11e9-8713-b70303ae8435.html

Construction at the project site was documented several times using an aerial drone. The first flight documented preconstruction conditions in August 2018. The second flight occurred during site preparation in January 2019. A May 2019 flight showed the second phase of infiltration gallery installation. The final drone flight was made in October 2019, following completion of most of the site work. These flights were condensed into a video highlighting all those phases of park work: https://www.youtube.com/watch?v=g75HFZ1nmnI&feature=youtu.be

Future Activities

Performance Monitoring. Water level loggers are located in the isolator and header rows to track water levels in the system. These will be periodically downloaded and used to estimate the volume of stormwater runoff being retained by the system. In addition, grab samples of inflow water were taken in fall 2019 to characterize total phosphorus (TP) and total suspended solids (TSS) concentrations in the influent, which will be repeated in 2020. Together with the flow and volume, these data will be used to estimate TP and TSS load removals. In addition, samples of sediment deposited in the isolator row will be taken in 2020 to estimate the attached-P and sediment load removed.

System Maintenance. The City and its consulting engineers are compiling maintenance requirements from the vendors of the various system components. These are being compiled into a maintenance handbook, which will provide a schedule of both routine and as-necessary activities. This information will be reviewed with City engineering and maintenance staff.

Budget and Funding

Tables 1 and 2 set forth the final projects costs and revenues. The Metropolitan Council 2017 Stormwater Grant requires a 25% match, or $37,500. The source of that match is the $250,000 Shingle Creek Watershed Management Commission funds already levied for this project. Grant funds were used to help fund the construction subtask.

Table 1. Final project costs.

Final Project Cost	
Construction	$1,845,218.60
Professional Services	296,425.68
Other*	$125.00
TOTAL	$2,141,769.28

*Permit

Table 2. Final project revenues.

Final Project Revenue Source	
BWSR Clean Water Fund	$725,000
Shingle Creek WMC Cost Share	50,000
Shingle Creek WMC Capital Levy	250,000
Met Council Green Infrastructure*	200,000
Met Council Stormwater*	150,000
Hennepin County*	100,000
City Funds	666,769.28
TOTAL	$2,141,769.28

*Final reimbursement pending

I hereby certify that all grant funds were expended in accordance with Agreement SG-10335.

_____ _____

Harold Johnson, Osseo Commissioner Treasurer — Date

Figure 1. Prior to re-visioning and reconstruction, Becker Park was dominated by ballfields and a shelter/pavilion fronting a small lawn.

Figure 2. The park was re-imagined with large areas of flexible open space and a central accessible play structure, with a larger multi-use performance lawn. The black box indicates the general footprint of the below-ground infiltration gallery.

Figure 3. The gallery is comprised of 1.42 miles of interlinked 72" perforated metal pipe.

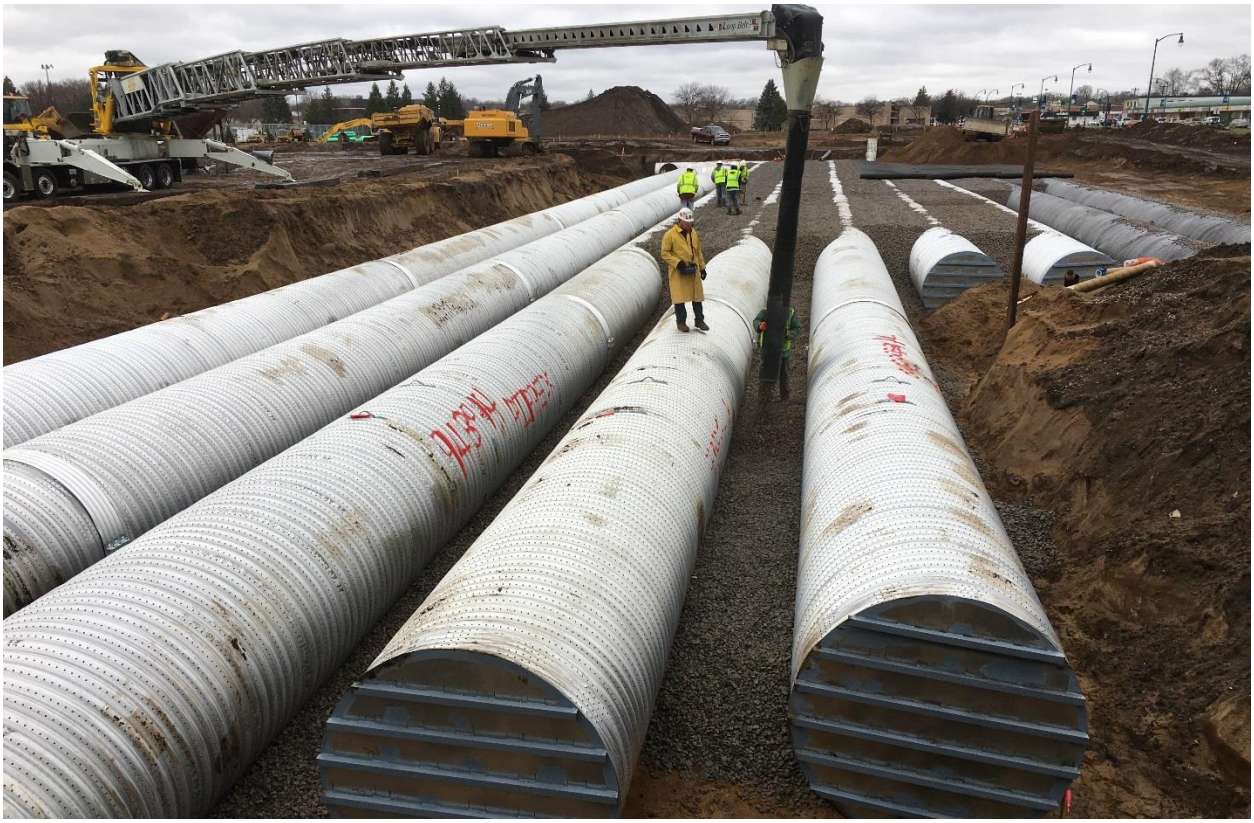

Figure 4. Bedding rock provides additional storage volume.

Figure 5. The gallery was installed in three phases. This is the second phase. The first phase, between the current work and the road, has already been installed and backfilled. After this one was complete, it was backfilled and the third phase was constructed just to the south.

Technical Memo

WENCK ASSOCIATES

Responsive partner.
Exceptional outcomes.

To: Shingle Creek/West Mississippi WMO Commissioners

From: Ed Matthiesen, P.E.
Diane Spector

Date: December 6, 2019

Subject: BWSR Lawns to Legumes Program

Recommended Commission Action	Review. Agree to act as the grant application and administrator on behalf of the Victory Neighborhood Association. Commit to contributing $5,000 toward the Ryan Lake Corridor project.

Earlier this year the Board of Water and Soil Resources (BWSR) was awarded $900,000 from the Environment and Natural Resources Trust Fund (ENRTF) to fund the "Lawns to Legumes" program. Lawns to Legumes is part of the state of Minnesota's pollinator initiative, and is aimed particularly at enhancing rusty patched bumble bee and other at risk pollinator habitat. This program has three legs: grants to individuals to assist them with planting new or enhanced plantings; Demonstration Neighborhood Grants to groups to undertake larger projects; and public education and outreach, including creation and dissemination of educational materials. More information can be found at https://bwsr.state.mn.us/lawns-legumes-your-yard-can-bee-change.

This memo provides an overview of the programs as well as a request from a neighborhood group to partner in submitting a Demonstration Grant proposal.

Individual Grants

BWSR has developed guidance to help individuals who would like to be (or bee) part of the change. Individual grants of up to $350 are available for technical assistance and plant materials. Approximately 300 individual grants will be awarded statewide to help in the installation of four specific types of habitat: pocket plantings (small areas, such as a native garden): flowering trees and shrubs; pollinator lawns; and pollinator meadows. Applications will be taken during three application periods. The first period is already open and will take applications until February 28.The second period will start March 1, 2020. Metro Blooms is administering this part of the program. More information and the application can be found at: https://bluethumb.org/lawns-to-legumes/.

Demonstration Grants

Up to $450,000 of the funding will be awarded to larger projects called "Neighborhood Demonstration Projects." Grants between $20,000 and $40,000 will be made to cities/ counties/ watersheds/ SWCDs/ and nonprofits to achieve pollinator pathways. The RFP for proposals for this program was released on

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December 3, with applications due January 10, 2020, a very short timeframe. These grants require a 25% match, or 10% if the site is within an areas the US Fish and Wildlife Service has identified as being a high potential area for the presence of rusty patched bumble bees.

The Victory Neighborhood Association through its Environment Committee has requested that the Shingle Creek Commission submit a grant application on its behalf for their proposal to convert the eastern shoreline of Ryan Lake into a pollinator meadow and woodland area that includes foraging, nesting, and overwintering habitat. This site is just to the south of a USFWS high potential area (see the inset to Figure 1). The intent of the project is to create additional high-quality habitat that would expand the high-potential area and start to link the high potential area around the Shingle Creek corridor in Brooklyn Center and Minneapolis with the zone identified in Wirth Park to its south.

The project would clear invasive species on the shoreline and in the wooded area on the north side of the shoreline. Turf would be replaced with native grasses and forbs that not only would provide pollinator habitat, but would also filter runoff draining into the lake. Added to the meadow/buffer area and the wooded area would be nesting and overwintering habitat that includes brush piles, unraked fallen leaves, and patches of loose earth. The project would create a corridor between the high-potential zone and the lakeshore by planting flowering shrubs and trees and patches of herbaceous plants along the Ryan Creek Corridor, Victory Prairie/Dog Park, and Victory Triangle areas (Figure 2). Rusty-Patched bumble bees typically prefer no more than 200 meters between features, so attractive and nutritious plantings would be planted like breadcrumbs leading to the lakeshore.

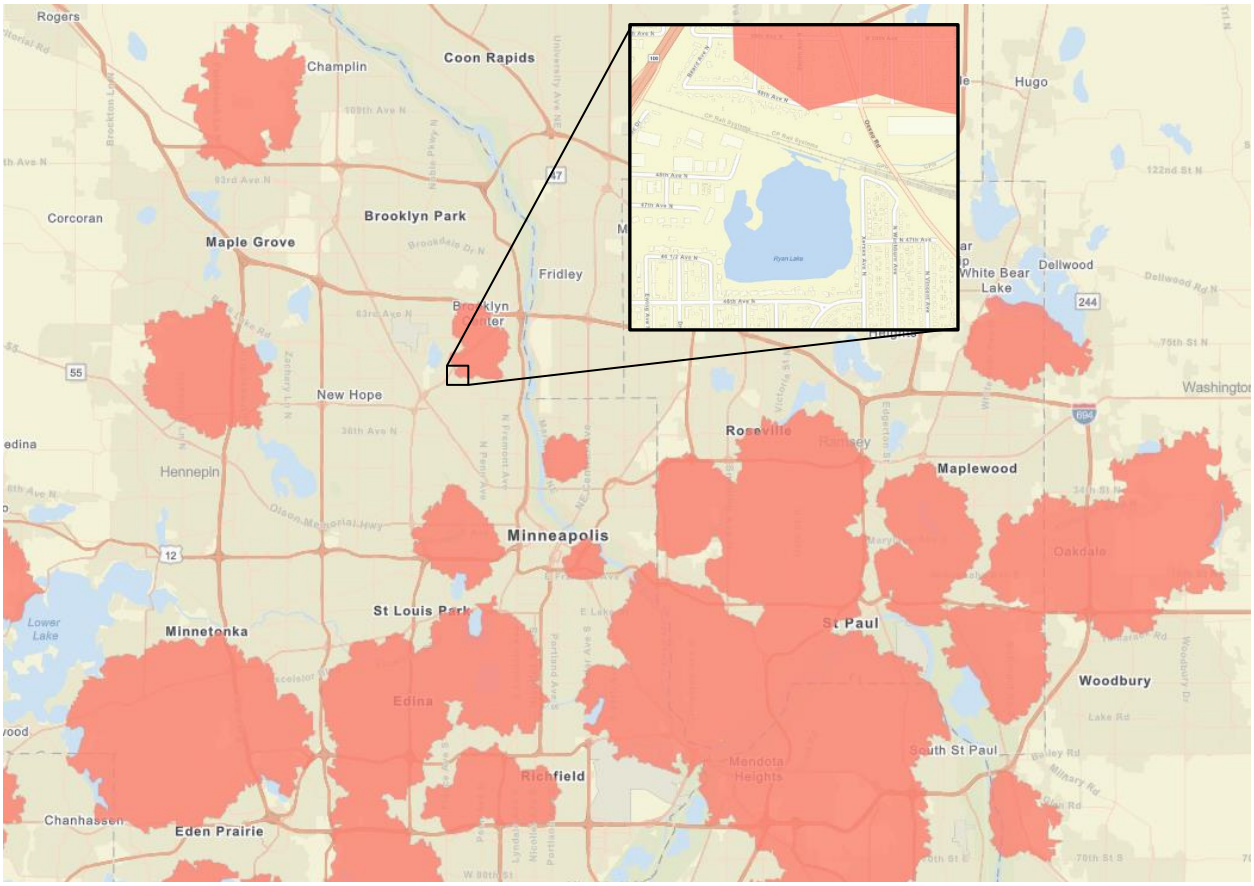

Figure 1. USFWS-identified High Potential Zones in the Metro area.

Figure 2. Planting areas of focus to create a rusty patched bumble bee corridor to the Ryan Lake shoreline.

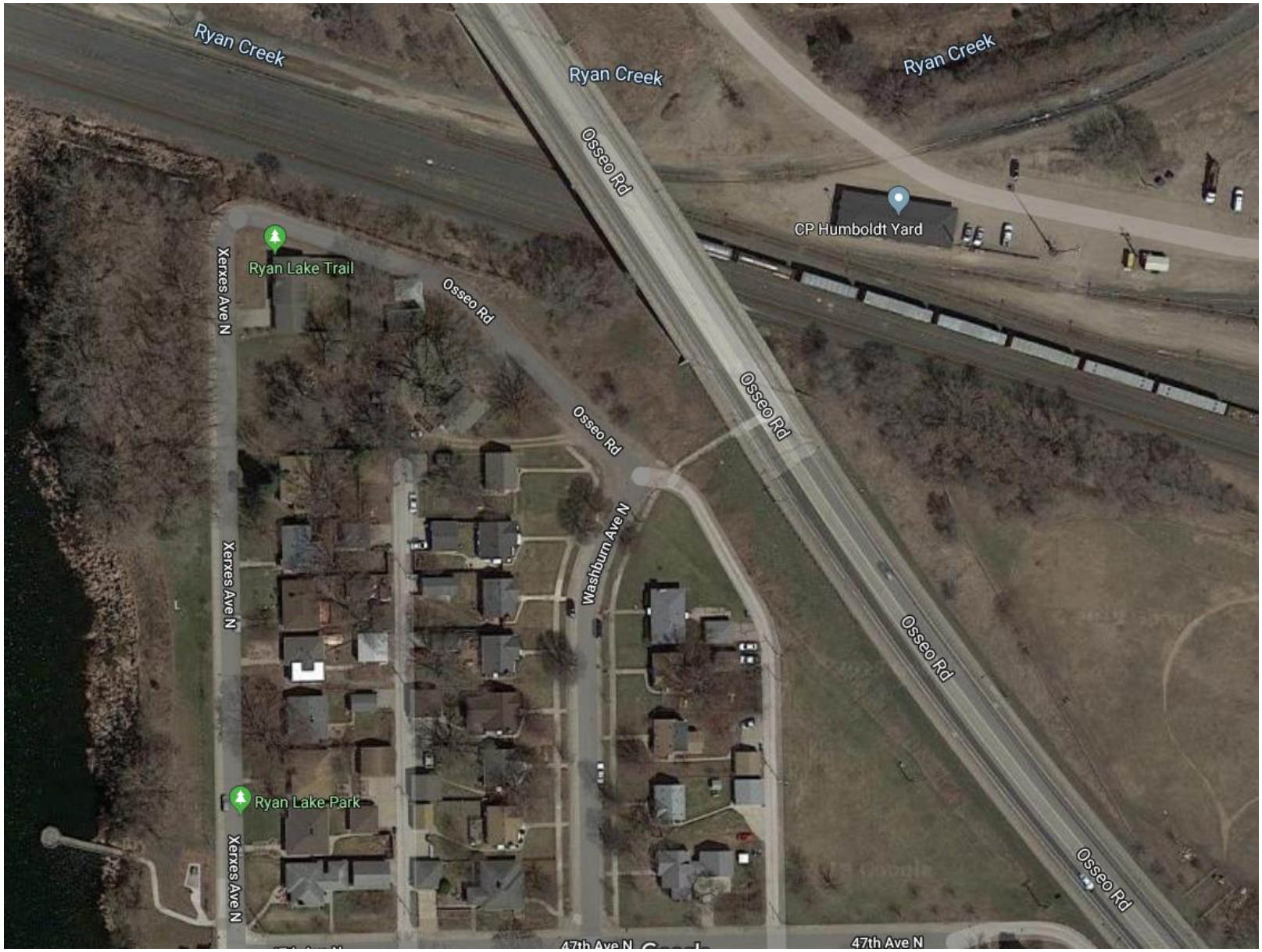

Figure 3. Ryan Lake Park a narrow band of turf on the south and a wooded remnant to the north. Bands of turf and invasive vegetation could be supplemented with attractive and nutritious vegetation to attract pollinators from the north across the Camden Yard at its most narrow point.

The RFP has only been out for a few days, and the Victory Neighborhood Association Environment Committee has only started working on going from concept to detail. A very rough estimate of the cost of removing invasive species, establishing a pollinator meadow on the lakeshore, and planting trees, shrubs, and herbaceous plants to create a corridor is about $30,000. The local match would be $7,500. More design and analysis must be completed to provide a better cost estimate.

Because this project would have water quality enhancements to Ryan Lake by converting turf to a native buffer, staff recommends that the Commission both 1) serve as the grant applicant and administrator and 2) contribute $5,000 towards the local match requirement. The Committee will also be submitting a Hennepin County Good Steward grant to help fund the local match.

The grant applications are due on January 10, 2020. If the Commission is amenable to serving as the applicant and administrator and making a local match contribution, the application will be back to you for final review and approval at your January 9, 2020 meeting.

item 08c2)

Judie Anderson

From: Minnesota Board of Water and Soil Resources <mnbwsr@public.govdelivery.com>
Sent: Tuesday, December 03, 2019 1:49 PM
To: Judie Anderson
Subject: Lawns to Legumes Program now Accepting Applications for Demonstration Neighborhoods

Lawns to Legumes Program now Accepting Applications for Demonstration Neighborhoods

Photo Credit: Heather Holm

Conservation Partners,

Local governments and non-profits can now apply for Lawns to Legumes Demonstration Neighborhood grants through a Minnesota Board of Water and Soil Resources (BWSR) Request for Proposals (RFP) released today.

Demonstration neighborhoods are community projects that will enhance pollinator habitat in key corridors or areas, raise awareness for residential pollinator protection, and showcase best practices. Eligible applicants include soil and water conservation districts, watershed districts, watershed management organizations, cities, counties, non-profits and tribal governments. Applicants can request to be reimbursed for between $20,000 and $40,000 per demonstration neighborhood. Applications will be accepted through January 10.

Demonstration Neighborhoods FAQ

Who can apply?

Conservation districts, watershed districts, watershed management organizations, cities, counties, non-profits and tribal governments can apply for the demonstration neighborhoods RFP.

How much funding can be requested?

Between $20,000 and $40,000 can be requested for each demonstration neighborhood. The RFP includes additional information about the role of matching funding sources.

Can multiple partners be involved?

Yes, public/private partnerships are encouraged to assist with resident outreach, project design and project maintenance.

How do applicants apply?

Applicants can apply electronically through BWSR's e-link application. Instructions on how to use e-link are located at this link. More information can be found in the RFP.

Can applicants apply for more than one grant?

Yes, applicants can apply to work in more than one demonstration neighborhood, but they will need to be submitted as separate grants and it should be noted that around 15-20 projects can be funded statewide.

Should projects include different types of plantings?

There are four primary project types promoted through the Lawns to Legumes program (see the program's Habitat Guide) including native pocket plantings, pollinator beneficial trees and shrubs, pollinator lawns and pollinator meadows. We encourage participants to incorporate these and potentially other project types into demonstration neighborhoods to help ensure they showcase best practices for supporting pollinators.

Can parks or schools be funded through the program?

Funding for the Lawns to Legumes program is only for residential landscapes, so schools and parks cannot be funded with the current grants.

What are the reporting requirements for a demonstration neighborhood grant?

Like the grant application process, reporting for the grant will be done in BWSR's e-link system.

Other recent updates:

Partner Webpage and Toolkit

A new Partner Webpage is now available on BWSR's website that includes information specific to conservation partners. An updated Partner Toolkit is also located on this page that summarizes how partners can get involved with the program through funding, coaching and outreach.

Individual Support

Minnesota residents can now apply to be reimbursed for up to $350 in costs associated with establishing pollinator habitats in their yards. Applications will be accepted until Feb. 28, and funding decisions and all notifications will be emailed in March for Spring 2020 installations.

The application is located on the Blue Thumb Partners website.

We've completed a first round of resident workshops with more planned for late winter and early spring. We are looking for additional workshop sponsors, so please contact John Bly (john@metroblooms.org) at Metro Blooms if you are interested.

Questions? Contact Us

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MONTHLY COMMUNICATION LOG
November 2019

Date	From	To	SC	WM	Description
11-1-19	Carrier Christenson, MPRB	Diane S	X		Invitation to participate in water resources stakeholder workgroup for upcoming MPRB Comprehensive Plan
11-7-19	Laura Scholl @ Metro Blooms	Ed M. Diane S. Judie A.	X		Autumn Ridge presentation
11-7-19	Udai Singh @ Mississippi WMO	Sarah N.		X	65th Ave Outfall monitoring
11-7-19	Nancy Flandrick, MPCA	Sarah N	X	X	Email conveying upcoming changes to EQuiS reporting (EQuIS is the state's water quality monitoring database)
11-8-19	Sarah Pickett, Maple Grove Resident	Ed M and Diane S	X	X	Email with questions regarding how the Maple Grove Arbor Committee can promote more tree planting for stormwater mgmt
11-8-19	Hennepin County	SC WMC	X		Notice of upcoming stakeholder event regarding reconstruction of CR 152 (Osseo Road) in Minneapolis
11-12-19	MPCA	SC WM WMC	X	X	Notice of draft MS4 General Permit available for public comment
11-13-19	Mary Karius, HCEE	Diane S		X	Email conveying she had met with Izaac Walton League Breckenridge Chapter (on West River Road in B Park) and they were interested in getting some drainage maps and monitoring data info. Will send to Mary.
11-19-19	Steve Simonson @ Brooklyn Center	Ed M.	X		Large numbers of geese at Brooklyn Center city park at Middle Twin Lake
11-20-19	David Knaeble @ Civil Site Group	Sarah N.		X	David asked if watershed review was necessary for a 1 acre outlot of Target. Sarah said no and that he just needs to meet 1 inch abstraction rule.