Bassett Creek Watershed Management Commission

Regular Meeting
Thursday June 17, 2021
8:30 – 11:00 a.m.
Via Zoom – Click HERE to join the meeting.
Or join by phone +1-312-626-6799; Meeting number 875 2409 5107
AGENDA

1. **CALL TO ORDER and ROLL CALL**

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

3. **APPROVAL OF AGENDA**

4. **CONSENT AGENDA (10 minutes)**
   - A. Approval of Minutes – May 20, 2021 Commission Meeting
   - B. Acceptance of June 2021 Financial Report
   - C. Approval of Payment of Invoices
     - i. Keystone Waters, LLC – May 2021 Administrative Services
     - ii. Keystone Waters, LLC – May 2021 Printing Expenses
     - iii. Barr Engineering – May 2021 Engineering Services
     - iv. We All Need Food and Water – May 2021 Administrative and Education Services
     - v. Kennedy & Graven – April 2021 Legal Services
     - vi. Stantec – May WOMP Services
     - vii. Redpath – April Accounting Services
     - viii. MMKR – 2020 Financial Audit
     - ix. League of MN Cities Insurance Trust P&C – 2021 Commission Insurance
   - D. Approval of Feasibility Study for SEA School-Wildwood Park Flood Reduction Project
   - E. Approval of Proposal for Bryn Mawr Meadows Water Quality Improvement Project Design by Commission Engineer Conditioned on Fully Executed Bryn Mawr Design Agreement
   - F. Approval to Set Technical Advisory Committee Meeting to Discuss Bassett Creek Hydrologic & Hydraulic Model and Four Seasons CIP Project Options
   - G. Approval of Reimbursement to Chair Cesnik for Salt Symposium Registration
   - H. Approval for Administrator Jester to Attend Salt Symposium

5. **BUSINESS**
   - A. Consider Approval of 60% Design Plans for Parkers Lake Drainage Project and Mt. Olivet Stream Restoration Project (30 min)
   - B. Consider Approval of Feasibility Study and Choose Concept to Implement for Medley Park Stormwater Treatment Facility Project (25 min)

   BREAK

C. Set Maximum Levy for 2022 Capital Improvement Projects (15 min)
D. Consider Approval of Hollydale Development Project, Plymouth (15 min)
E. Consider Approval of Bryn Mawr Design Agreement with Minneapolis Park and Rec Board and City of Minneapolis (15 min)
F. Review Status of 2021 Operating Budget (10 min)
G. Consider Approval of Budget Committee Recommendations for Proposed 2022 Operating Budget (20 min)

6. COMMUNICATIONS (10 minutes)

A. Administrator's Report
   i. Future Meetings Format and Options
B. Chair
C. Commissioners
D. TAC Members
   i. Update on Four Seasons Mall Site
   ii. Update on Beacon Heights 2nd Addition Stormwater Improvement Project
E. Committees
F. Education Consultant
   i. New Video and Making Connections Series
G. Legal Counsel
H. Engineer
   i. Update on 2021 Monitoring Activities

7. INFORMATION ONLY (Information online only)

A. BCWMC Administrative Calendar
B. CIP Project Updates http://www.bassettcreekwmo.org/projects
C. Grant Tracking Summary and Spreadsheet
D. Freshwater Virtual Gala "Water Connects Us Celebration"
E. WCA Notices of Application, Plymouth
F. WCA Notice of Decision, Plymouth

8. ADJOURNMENT

Upcoming Meetings & Events

- Mt. Olivet & Parkers Lake Stream Restoration Project Public Open House: Wed June 16th, 5:00 p.m. via Zoom (Registration required: https://us02web.zoom.us/meeting/register/tZUtceCorDMoG93GNs7YCCnQCLYofS7onD1H)
- Freshwater Virtual Gala "Water Connects Us Celebration": Thursday, June 24th, 6:30 p.m., free event, more information and registration: https://freshwater.org/water-connects-us/.
- Bassett Creek Watershed Mgmt Commission Meeting: Thursday July 15th, 8:30
- Metro MAWD Meeting (online): Thursday July 20th, 7:00 p.m.
- MAWD Summer Meeting (online): Thursday July 22nd, 1:00 p.m.
- Annual Salt Symposium (online): August 3rd and 4th

Bassett Creek Watershed Management Commission

AGENDA MEMO
Date: June 10, 2021
To: BCWMC Commissioners
From: Laura Jester, Administrator
RE: Background Information for 6/17/21 BCWMC Meeting

1. **CALL TO ORDER and ROLL CALL**
2. **PUBLIC FORUM ON NON-AGENDA ITEMS**
3. **APPROVAL OF AGENDA – ACTION ITEM with attachment**

4. **CONSENT AGENDA (10 minutes)**

   A. Approval of Minutes – May 20, 2021 Commission Meeting- **ACTION ITEM with attachment**

   B. Acceptance of June Financial Report - **ACTION ITEM with attachment**

   C. Approval of Payment of Invoices **- ACTION ITEM with attachments (online) –** *I reviewed the following invoices and recommend approval of payment.*
      i. Keystone Waters, LLC – May 2021 Administrative Services
      ii. Keystone Waters, LLC – May 2021 Printing Expenses
      iii. Barr Engineering – May 2021 Engineering Services
      iv. We All Need Food and Water – May 2021 Administrative and Education Services
      v. Kennedy & Graven – April 2021 Legal Services
      vi. Stantec – May WOMP Services
      vii. Redpath – April Accounting Services
      viii. MMKR – 2020 Financial Audit
      ix. League of MN Cities Insurance Trust P&C – 2021 Commission Insurance

   D. Approval of Feasibility Study for SEA School-Wildwood Park Flood Reduction Project – **ACTION ITEM with attachment (full document online)** – *At the May meeting, the Commission received a presentation on the draft feasibility study for this project. The Commission approved the draft study with suggested minor edits. The Commission also approved implementation of Concept #3. Staff recommends approval of the final feasibility report.*

   E. Approval of Proposal for Bryn Mawr Meadows Water Quality Improvement Project Design by Commission Engineer Conditioned on Fully Executed Bryn Mawr Design Agreement – **ACTION ITEM with attachment** – *At the May meeting, the Commission reviewed a proposal for design of this project by the Commission Engineer. Staff was directed to coordinate with the MRPB to address multiple assumptions in the proposal and bring a revised proposal to this meeting on the consent agenda. After discussions with MPRB staff, most assumptions were removed from the proposal and the proposal was revised to align with provisions of the agreement in Item 5E. Staff recommends approval of this proposal contingent on the full execution of the agreement with MPRB and city of Minneapolis (Item 5E).*

   F. Approval to Set Technical Advisory Committee Meeting to Discuss Bassett Creek Hydrologic & Hydraulic Model and Four Seasons CIP Project Options – **ACTION ITEM no attachment** – *Through the FEMA floodplain and mapping project, the Commission Engineers updated the XP-SWMM model. The TAC should discuss the benefits and appropriate timing for recommending that the Commission formally adopt the new*

model and start using it as the BCWMC jurisdictional floodplain. Further, the City of Plymouth is now pursuing purchase of the Four Seasons Mall property from Walmart. The TAC should discuss options and timing for implementing the Four Seasons CIP Project under possible city ownership. This may include discussion on the implications of demolishing the existing building and stormwater management requirements for future, phased redevelopment.

G. Approval of Reimbursement to Chair Cesnik for Salt Symposium Registration – **ACTION ITEM no attachment** – *The Annual Salt Symposium is scheduled for August 3rd and 4th online. Chair Cesnik would like to attend the event and requests reimbursement for registration costs up to $200 for two days. The 2021 BCWMC Education Budget includes $500 for Commissioner Training and Events. Staff recommends approval.*

H. Approval for Administrator Jester to Attend Salt Symposium – **ACTION ITEM no attachment** – *I am also requesting the ability to attend the Salt Symposium in early August for registrations costs up to $200 and the time to attend up to 12 hours of presentations and discussions.*

5. BUSINESS

A. Consider Approval of 60% Design Plans for Parkers Lake Drainage Project and Mt. Olivet Stream Restoration Project (30 min) – **ACTION ITEM with attachments (WSB memo and plan set online)** – *At its meeting in September 2020, the Commission entered an agreement with the City of Plymouth to design and construct these projects. The city's consultant, WSB, will give a presentation of the 60% design plans and the Commission Engineer will provide an overview of their review. Staff recommends conditional approval of the plans with comments addressed prior to submittal of the 90% plans.*

B. Consider Approval of Feasibility Study and Choose Concept to Implement for Medley Park Stormwater Treatment Facility Project (25 min) – **ACTION ITEM with attachments (full documents online)** – *At the May meeting, the Commission received a presentation of the draft feasibility study for this project. After considerable discussion about the various concepts and pollutant removal capabilities, the Commission requested that additional evaluation and information be included in the final report for consideration at this meeting. The attached cover memo from the Commission Engineer includes details on changes made to the report. Staff recommends approval of the report and implementation of Concept #3.*

BREAK

C. Set Maximum Levy for 2022 Capital Improvement Projects (15 min) – **ACTION ITEM with attachment** – *A maximum 2022 levy amount for collection by Hennepin County on behalf of the Commission must be set at this meeting. Staff recommends a levy of $1.7M for the projects listed in the attached table and assumes the approval of Concept 3# for the Medley Park Stormwater Treatment Facility. The Commission can lower the levy request when it submits its final levy amount in September of this year, but it cannot request a higher levy.*

D. Consider Approval of Hollydale Development Project, Plymouth (15 min) – **ACTION ITEM with attachment** - *The proposed project is located in the Plymouth Creek subwatershed at the former Hollydale Golf Course and includes site demolition and construction of a 229 single-family home development including streets, house pads, utilities, and stormwater management resulting in 112 acres of land disturbance. The proposed project creates 34.7 acres of new and fully reconstructed impervious surfaces. The project increases floodplain storage, goes beyond BCWMC requirements for rate control, and meets BCWMC requirements for water quality primarily using stormwater reuse. Due to its size and complexity, staff will briefly review the project and answer questions. Staff recommends conditional approval with comments included in the attached review memo.*

E. Consider Approval of Bryn Mawr Design Agreement with Minneapolis Park and Rec Board and City of Minneapolis (15 min) – **ACTION ITEM with attachment** – *This project will be constructed in conjunction with the redevelopment of the Bryn Mawr Meadows Park by MRPB. The feasibility study for this project was approved January 2019 and includes components on parkland and with city of Minneapolis rights-of-way. The Commission Engineer is slated to design the CIP project, in close coordination with MRPB park design consultants. (The proposal for the design work was discussed at the May meeting and is included on the consent agenda above.) The attached agreement lays out roles and responsibilities regarding design phase of this project among the Commission, MPRB, and the city of Minneapolis. It was discussed and negotiated over several months among all parties' staff and legal counsel. Input was also gathered from Commissioner Welch. This agreement is also being considered by the MPRB Board of Commissioners and the Minneapolis City Council this month. Staff recommends approval.*

F. Review Status of 2021 Operating Budget (10 min) – **INFORMATION ITEM (see Item 4B)** – *The end of May marks one third of the way through the Commission's fiscal year as shown in the June financial report (Item 4B). For the most part, expenses are in line with expectations for this time of year. Expenses for my time ("Administrator" line item) were higher than expected. However, the beginning of the year was unusually busy due to items such as grant reporting, Bryn Mawr agreement discussions, Hennepin County Chloride Initiative coordination, work on outreach and reviews of multiple CIPs, Twin Lake riparian issues, MAWD meetings and committee work, and participation on environmental justice committees. I expect that time commitments will be reduced over the remainder of the year. No budget amendments are recommended at this time.*

G. Consider Approval of Budget Committee Recommendations for Proposed 2022 Operating Budget (20 min) – **ACTION ITEM with attachment** – *The proposed 2022 Operating Budget was briefly discussed at the May meeting. The Budget Committee met on June 7th to further refine its recommendations. The attached memo outlines the committee's recommendations which are reflected in the attached budget documents. Staff recommends approval of the proposed budget to be submitted to member cities for review and comment.*

6. COMMUNICATIONS (10 minutes)

A. Administrator's Report
   i. Future Meetings Format and Options
B. Chair
C. Commissioners
D. TAC Members
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   ii. Update on Beacon Heights 2nd Addition Stormwater Improvement Project
E. Committees
F. Education Consultant
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G. Legal Counsel
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- Annual Salt Symposium (online): August 3rd and 4th

A.

Item 4A.
BCWMC 6-17-21

Bassett Creek Watershed Management Commission

DRAFT Minutes of Regular Meeting & Public Hearing
Thursday, May 20, 2021
8:30 a.m.
Via video conference due to the COVID-19 global pandemic

1. CALL TO ORDER and ROLL CALL

On Thursday, May 20, 2021 at 8:33 a.m. via video conference. Chair Cesnik brought the Bassett Creek Watershed Management Commission (BCWMC) to order.

Commissioners and city staff present: 30

City	Commissioner	Alternate Commissioner	Technical Advisory Committee Members (City Staff)
Crystal	Dave Anderson	*Vacant Position*	Mark Ray
Golden Valley	Stacy Harwell	Jane McDonald Black	Jeff Oliver, Eric Eckman
Medicine Lake	Clint Carlson	Gary Holter	*Absent*
Minneapolis	Michael Welch	*Vacant Position*	Liz Stout, Katie Kowalczyk
Minnetonka	Mike Fruen	*Vacant Position*	Leslie Yetka
New Hope	*Absent*	Patrick Crough (partial attendance)	Megan Hedstrom, Aaron Latterell
Plymouth	Catherine Cesnik	*Absent*	Ben Scharenbroich
Robbinsdale	Wayne Sicora	*Vacant Position*	Marta Roser, Richard McCoy
St. Louis Park	Jim de Lambert	Angela Lawrence (partial attendance)	Erick Francis
Administrator	Laura Jester, Keystone Waters		
Engineer	Josh Phillips, Jen Koehler, Katie Turpin-Nagel, and Karen Chandler, Barr Engineering		
Recorder	Dawn Pape, Lawn Chair Gardener		
Legal Counsel	Dave Anderson, Kennedy & Graven		
Presenters/ Guests/Public	Paul Stewart (Plymouth resident), Joan E. Hauer (Crystal resident), Duane Peterson, Bruce Bahneman		

2. PUBLIC FORUM ON NON-AGENDA ITEMS

None.

3. APPROVAL OF AGENDA

MOTION: Commissioner Welch moved to approve the agenda. Commissioner de Lambert seconded the motion. Upon a roll call vote, the motion carried 8-0, with the city of New Hope absent from the vote.

4. CONSENT AGENDA

The following items were approved as part of the consent agenda:
Approval of Minutes –April 15, 2021 Commission Meeting; Acceptance of May Financial Report; Approval of Payment of Invoices; Approval of 2020 BCWMC Annual Report; Approval of Agreement with Three Rivers Park District for Medicine Lake Cooperation; Approval of Amendment to Agreement with Dawn Pape; Approval of Resolution 21-05 Not to Waive Monetary Limits on Municipal Tort Liability; Approval of Boone Animal Hospital Development Project, Golden Valley

The general and construction account balances reported in the May 2021 Financial Report are as follows:

Current Assets	**CIP Projects**	**General Fund**	**TOTAL**
Checking	$ 384,989.51	$ 183,190.93	$ 568,180.44
4MP Fund Investment	$ 3,501,239.06	$0	$3,501,239.06
4M Fund Investment	$1,483,511.82	$0	$1,483,511.82
Total Checking/Savings 4/30/2021	$ 5,369,740.39	$ 183,190.93	$ 5,552,931.32

Commissioner Carlson remarked that he saw good effort on AIS control in Medicine Lake and that he would like to see even more work and tighter control of the boat launch for the next year and beyond.

MOTION: Commissioner Welch moved to approve the consent agenda. Commissioner de Lambert seconded the motion. Upon a roll call vote, the motion carried 8-0, with the city of New Hope absent from the vote.

5. Public Hearing

A. Receive Comments from Cities and Public on Proposed Minor Plan Amendment

Chair Cesnik opened the public hearing at 8:39 a.m. Administrator Jester noted that at the March meeting, the Commission approved a 5-year CIP that requires a minor amendment to the watershed management plan to incorporate new projects into the CIP.

Paul Stewart from the City of Plymouth asked questions about the levy process and CIP. He was looking for clarity and understanding of the cost benefits of the projects and more transparency in the cost to taxpayers. Administrator Jester explained the Commission's CIP process, including development of feasibility studies to evaluate cost benefits, and opportunities for public involvement including public hearings. Mr. Stewart thanked the Commission for the clarification.

After Commissioner Harwell suggested he might find the information he's seeking on the website, Mr. Stewart replied that he did review the website, but he wanted more transparency on the tax burden. Chair Cesnik commented that she is interested in a format that would better show the details. Mr. Stewart reiterated that he's concerned about rising taxes and wanted to better understand what he's paying for. Commissioner Welch suggested keeping a list of residents interested in certain projects so they can receive emailed updates.

The hearing was closed at 8:55 a.m.

MOTION: Commissioner Welch moved to approve extending the comment period on the minor plan amendment to August 3, 2021 per Hennepin County Request. Commissioner de Lambert seconded the motion. Upon a roll call vote, the motion carried 8-0, with the city of New Hope absent from the vote.

6. Business

A. Review Draft Feasibility Study for Medley Park Stormwater Treatment Facility Project

At the August 2020 meeting, the Commission approved a proposal from the Commission Engineer to prepare a feasibility study for this project. The feasibility study report was prepared with considerable input from Golden Valley staff, review and input from Administrator Jester, and input from the public.

Commission Engineer Katie Turpin-Nagel started by explaining the site conditions and the three main goals for the project: reducing flooding, improving drainage, and improving water quality in Medicine Lake. Secondary goals are habitat restoration and education. Sediment cores indicate that the sediment is contaminated and will require disposal at a landfill.

Engineer Turpin-Nagel proceeded to present three concepts that were evaluated for implementation and explained the details of each. Key considerations for project alternatives included:

Maximizing the amount of permanent pool storage for water quality benefit and maximizing flood storage up to the 100-year event; maximizing the amount of sediment and particulate and dissolved phosphorus removed during frequent storm events; minimizing the permitting required to construct the project; maintaining or improving the functionality of Medley Pond, including water quality, flood control, and habitat functions; minimizing wetland impacts; balancing tree loss and flood storage development and/or replacing removed trees to the extent feasible; and maintaining or improving the functionality of the walking trails and enhancing the park experience.

Concept 1 increases flood storage and water quality treatment with a bio-infiltration basin, new open water wetland, and an expanded pond.

Concept 2 realigns the stream channel, expands the pond, has larger new open water pond, and a bio-infiltration basin.

Concept 3 provides the most flood protection and is recommended by staff because it best balances water quality improvements and flood mitigation, and has a lower cost. In addition, it provides lower annualized cost per pound phosphorus removal, 1.1 acres of native wetland and prairie restoration, and requires less maintenance.

Engineer Turpin-Nagel reviewed the estimated costs of the concepts including construction + contingency, engineering and design. Concept #1 = $1.848M; Concept #2 = $2.137M; Concept #3 = $1.845M.

Commissioner Carlson asked if any other BCWMC CIP projects drain to this area. Administrator Jester answered that they do not.

[Alternate Commissioner Crough joined meeting.]

Commissioner Harwell suggested that several items be added to the report, including flow arrows to show interactivity of ponds, existing stream channel, wetland delineation footprint, which structures are impacted by flooding, show flood levels on graphics, and more information in general about the flood benefits. She also asked if the longer stormwater flow path is good for pretreatment. She also noted her preference Concept #3. Engineer Turpin-Nagel indicated the items can be included next draft. Harwell agreed that Concept 3 was the best concept and wondered if uptake of phosphorus by plants could reduce the dissolved phosphorus levels and whether some type of biofiltration could be incorporated into the concept.

Alternate Commissioner Crough asked if the park is losing a ball field with Concept 3. Staff responded yes, and explained that the ball field hasn't been used for a long time due to persistent wet conditions.

Alternate Commissioner Crough also asked if the debris in the creek will be cleaned up. Commissioner Welch commented that that is a city maintenance issue. City representative Eckman said debris upstream of the pedestrian bridge will be reported to park maintenance staff. Downstream of the bridge debris would be taken care of by the project.

[New Alternate Commissioner Angela Lawrence joined meeting.]

Commissioners Welch and Sicora voiced their support of concepts that reduce dissolved phosphorus since it is so difficult to capture. They wondered if different or innovative methods to capture dissolved phosphorus were explored.

Engineer Turpin-Nagel explained that although dissolved phosphorus would be removed by some plants and in the ponds, it is often re-released when those plants die off in the fall. She noted the project design would look at specific vegetation management.

Golden Valley TAC member, Eric Eckman, stated that he thought all 3 concepts were good and that the city should be able to provide some funding. He noted his preference for Concept 3 due to greater flood reduction impacts and less maintenance.

Commissioner Welch noted that Golden Valley's financial contribution is important because part of the project would be considered maintenance of the existing pond including removal of contaminated sediment. He also stressed that BCWMC needs to remove phosphorus pollution in Medicine Lake and sub-watershed whenever possible. Commissioner Welch also expressed the need for a watershed-wide map of high-priority flooding areas showing where projects should concentrate on flooding. He wondered if there was a way to get the results of Concept 2 for the Concept 3 price. He expressed hesitancy about passing up the opportunity to remove dissolved phosphorus and expressed his support for Concept 2 and noted it was an interesting policy question to compare removal of one or two homes from flood risk to water quality improvements in a public waterbody.

Alternate Commissioner McDonald Black noted that the cost difference is pretty high between concepts 2 and 3 for minimal additional phosphorus reduction. Commissioner Sicora noted that a different medium for filtration or benching could be evaluated and indicated the Commission should be more aggressive on the CIP levy. He also noted he is sympathetic about the difficulty of maintaining certain structures and noted Shingle Creek WMO is exploring innovative techniques.

It was noted that some of these details could be teased out in the design phase. Commissioner Welch suggested that staff refine the proposal and bring it back in June, incorporating Commissioner Sicora's ideas, Commissioner Harwell's suggestions, and Golden Valley funding commitment.

5-minute break

B. Review Draft Feasibility Study for SEA School-Wildwood Park Flood Reduction Project

The Commission approved a proposal from the Commission Engineer to prepare a feasibility study for this project at the August 2020 meeting. The report was prepared with considerable input from Golden Valley staff, input from Robbinsdale Schools, review and input from Administrator Jester, and input from the public.

As Engineer Chandler introduced Commission Engineer Jen Koehler, she mentioned that although this flood mitigation project has a high price tag, the BCWMC levy is not fully funding the project. She noted that DNR funding will also pay for part of the project costs. Engineer Koehler presented three concepts evaluated for implementation and reiterated that this is part of a much larger flood mitigation project. In 2016, the cities of New Hope, Crystal, and Golden Valley prepared a long-term flood mitigation plan and progress has been made in prior projects. She pointed out this project helps address flooding in ponds D, E, and F. In addition to flooding mitigation, this project provides some water quality and habitat improvements as well as opportunity for education.

According to the field investigations and desktop studies so far, there are no indications of contamination on the project site. Concept 1 includes underground storage, a stream, turf and prairie areas, and a wet meadow. Concept 2 has more open water and a prairie. Concept 3 has a vegetated iron-enhanced filtration basin, a wet meadow, and a prairie. All of them have similar flood reduction benefits but Concept 3 would be better for removing total phosphorus and providing habitat. After reviewing the costs and funding sources, Engineer Koehler recommended Concept 3.

Commissioner Harwell asked whether stormwater reuse was considered and asked about the frequency and duration of how long those areas will be wet. She also pointed out that the area is in the middle of a neighborhood so it could be an opportunity for education. She also wondered about the impact on trees.

Engineer Koehler responded that there is currently no irrigation in the park, so there isn't a need for stormwater reuse. As for duration of inundation, she noted that issue is on the radar as important part of design and more detail could be added to this report. She noted public input was extensive and the City of Golden Valley has the public input report on city's website. She noted concepts were developed based on local input, e.g. keeping the popular pickleball courts.

City of Golden Valley TAC member Eric Eckman reiterated that stormwater reuse did come up, but there isn't currently any need, there is currently no irrigation at the school, and the school isn't interested in irrigation. He will continue to engage with the school on various matters.

Commissioner Sicora recognized the effort and pointed out that he likes the plan for its flexibility and from an operations and maintenance standpoint. Commissioner Welch also favors concept 3 and pointed out that the school is in the Robbinsdale School District and the park is City of Golden Valley property. He mentioned it's important to leverage the $1.3 million of state funding that adds to the work already being done in the area.

Alternate Commissioner McDonald Black expressed support for the project despite the high cost.

MOTION: Commissioner Harwell moved to approve the draft feasibility study with comments from the meeting incorporated into a final report for the consent agenda in June and to move forward with implementation of Concept #3. Commissioner Welch seconded the motion.

Discussion: Commissioner Sicora noted that the full life cycle and maintenance costs are extremely important considerations for this and other projects moving forward.

Upon a roll call vote, the motion carried 8-0, with the city of Minnetonka unavailable.

C. Review Budget Committee Recommendations for Proposed 2022 Operating Budget

The Budget Committee met on March 22nd and April 12th to develop recommendations for the 2022 operating budget and city assessments. Alternate Commissioner McDonald Black went over highlights of why there is a $37,998 total budget increase: increase in accounting services, technical services, and MAWD membership dues. She explained that the Commission can take action to approve a proposed budget that would then be sent to cities for review and comment. Or, the Commission can request a revised budget for consideration at the June meeting.

Chair Cesnik explained her ideas about how to further reduce the budget using the $27,500 from the long-term TMDL budget and removing the $5,000 slated for XP-SWMM updates.

Commission Engineer Chandler provided information on the XP-SWMM model status. The new model is complete and it could be adopted by the BCWMC soon but should incorporate the absolute latest information from the cities. She noted it's been a few years since information was gathered from cities to update the model. The XP-SWMM update budget includes outreach and coordination with cities.

Commissioner Harwell mentioned that the FEMA/DNR project is focused on upland storage issues. Eric Eckman said the XP-SWMM model is a benefit to all cities and there are changes that need to be included. In 2022, there will be new Lidar data with better resolution and contours.

Commissioner Welch complimented the presentation and stated that the next generation plan development needs to be to be in concert with that planning effort. He noted he was okay with using some TMDL funding but not draining it.

Commissioner Anderson asked why there were separate columns for committee-proposed budget and staff-proposed budget. Administrator Jester explained that the $10,000 in savings for the water quality monitoring line item was realized after the committee met and just before meeting materials were distributed. She noted that she is proposing allocating some of the $10,000 in savings to various line items to better reflect possible costs, and then reduced the city assessments with the remaining savings. Commissioner Anderson asked about the reason for increasing various line items and noted committee members should be have consulted on the $10,000 savings.

Administrator Jester clarified that the water quality monitoring savings is actually due to a partnership with the city of Plymouth, who contracts with TRPD on Plymouth Creek monitoring.

[Commissioner Harwell leaves meeting; Alternate Commissioner McDonald Black becomes Golden Valley representative for remainder of the meeting.]

The Commission asked the Budget Committee to reconvene and bring a revised budget to the June meeting.

D. Consider Approval of Waiver of Conflict for Commission Attorney

Commission Legal Counsel Anderson recently learned that colleagues at his firm occasionally represent the City of Minneapolis on highly specialized public finance and real estate projects. Although those projects are completely unrelated to the Bryn Mawr Meadows Water Quality Improvement Project, he requests a waiver of conflict in order to continue working on the Commission's behalf on the Bryn Mawr Meadows Water Quality Improvement Project agreement between the Commission, MPRB, and the City of Minneapolis.

MOTION: Commissioner Welch moved approval to waive the conflict of interest. Commissioner Sicora seconded the motion. Upon a roll call vote, the motion carried 9-0.

E. Consider Conditional Approval of Proposal for Bryn Mawr Meadows Water Quality Improvement Project Design by Commission Engineer

At the November 2020 meeting, the Commission requested a scope of work from the Commission Engineer to provide design and project engineering for this CIP project for an amount not to exceed $183,000. The project is slated to be implemented within Bryn Mawr Meadows Park and adjacent city streets and designed and constructed in conjunction with the MPRB's design and reconstruction of Bryn Mawr Meadows Park. It was noted that an agreement with the MPRB and the City of Minneapolis is slated for consideration at the June Commission meeting.

Commission Engineer Chandler reviewed the proposal to design the project and explained that the CIP project will provide "above and beyond" water quality treatment. The BCWMC will build upon the feasibility study concepts to design the CIP project features, assuming MPRB staff or their consultant will prepare the plans and specifications for the larger park reconstruction project, will coordinate all public engagement and obtain permits. BCWMC will work closely with the MPRB, their design consultants, and City of Minneapolis staff throughout the design process to ensure all components will work seamlessly into the park reconstruction project and existing city infrastructure. BCWMC engineers will prepare supplemental documents for the BCWMC's above-and-beyond water quality improvement work to be used for bidding and construction.

Engineer Chandler further explained that they will prepare an engineer's opinion of probable construction costs for the CIP project and will submit the 50% and 90% plans to the Commission. She noted that we already know the soil is contaminated, so no further testing needs to be done. However, there is a budget for testing as needed if further problems arise. Engineer Chandler reviewed the deliverables, estimated costs, and schedule.

Commissioner Welch noted the various assumptions included in the proposal. He suggested that the Commission Engineer coordinate with MPRB to remove as many assumptions as possible so there is more confidence in the proposal and include the revised proposal on the June consent agenda.

7. COMMUNICATIONS

A. Administrator's Report

i. Update on PRAP – All documentation was submitted to BWSR over the last few weeks. BWSR will draft a report to be presented to the Commission at a future meeting.

ii. Update on Hybrid Meeting Options-Continuing to explore; number of microphones is the limiting factor.

iii. Update on Twin Lake

Golden Valley will now hold a conservation easement along the lake north of the MPRB property, on Regency Hospital land. The fence between the park and hospital land is being fixed to deter trespassers from entering or leaving the park via hospital land. The MPRB did not approve the MOU with the City of Golden Valley. The lack of a formal partnership limits the city's and BCWMC's ability to address issues on park land but staff will continue to work on the issue.

iv. Salt Symposium Early Bird Registration Open

v. WCCO Interview

Administrator Jester and Golden Valley Mayor Shep Harris were interviewed for a "Discovering Minnesota" segment that aired on WCCO TV.

B. Chair

Nothing to report

C. Commissioners

Welch complimented leadership on WCCO interview. He wondered if the Commission and Golden Valley can talk to Brookview about excessive goose feces and the potential water quality impacts. He also mentioned that there is a tree planting event on Saturday in Bassett's Creek Park.

D. TAC Members

Nothing to report

E. Committees

Nothing to report

F. Education Consultant

Education consultant Dawn Pape reported on the new video available and the "Making Connections" Series

G. Legal Counsel

Nothing to report

H. Engineer

i. CAMP monitoring volunteer reported significant blue-green algae concern on Lost Lake. Engineers will continue to monitor the problem.

8. INFORMATION ONLY (Information online only)

A. BCWMC Administrative Calendar

B. CIP Project Updates http://www.bassettcreekwmo.org/projects

C. Grant Tracking Summary and Spreadsheet

D. Hennepin County Climate Action Plan – Adopted

E. BWSR Snapshots Featuring Northside Lawns to Legumes Project

8. ADJOURNMENT

MOTION: Commissioner Fruen moved to adjourn. Commissioner Welch seconded the motion.

The meeting was adjourned at 11:55 a.m.

Item 4B.
BCWMC 6-17-21

Bassett Creek WMC June 2021 Financial Report

	Capital Improvement Projects	General Fund	Unclassified	TOTAL
ASSETS				
Current Assets				
Checking/Savings				
101 · Wells Fargo Checking	377,390.51	132,778.06	0.00	542,440.57
102 · 4MP Fund Investment	3,501,239.06	86.40	0.00	3,501,325.46
103 · 4M Fund Investment	1,483,511.82	25.08	0.00	1,483,536.90
Total Checking/Savings	5,362,141.39	132,889.54	0.00	5,527,302.93
Accounts Receivable				
112 · Due from Other Governments	353,800.00	6,777.00	0.00	360,577.00
113 · Delinquent Taxes Receivable	20,717.00	0.00	0.00	20,717.00
Total Accounts Receivable	374,517.00	6,777.00	0.00	381,294.00
Other Current Assets				
114 · Prepaids	0.00	3,223.00	0.00	3,223.00
Total Other Current Assets	0.00	3,223.00	0.00	3,223.00
Total Current Assets	5,736,658.39	142,889.54	0.00	5,911,819.93
TOTAL ASSETS	**5,736,658.39**	**142,889.54**	**0.00**	**5,911,819.93**
LIABILITIES & EQUITY				
Liabilities				
Current Liabilities				
Accounts Payable				
211 · Accounts Payable	7,803.00	57,389.75	0.00	65,192.75
Total Accounts Payable	7,803.00	57,389.75	0.00	65,192.75
Other Current Liabilities				
212 · Unearned Revenue	200,000.00	1.00	0.00	200,001.00
251 · Unavailable Rev - property tax	20,717.00	0.00	0.00	20,717.00
Total Other Current Liabilities	220,717.00	1.00	0.00	220,718.00
Total Current Liabilities	228,520.00	57,390.75	0.00	285,910.75
Total Liabilities	228,520.00	57,390.75	0.00	285,910.75
Equity				
311 · Nonspendable prepaids	0.00	3,223.00	0.00	3,223.00
312 · Restricted for improvements	4,562,582.00	0.00	0.00	4,562,582.00
314 · Res for following year budget	0.00	5,000.00	0.00	5,000.00
315 · Unassigned Funds	0.00	493,025.05	0.00	493,025.05
32000 · Retained Earnings	0.00	-95,159.98	0.00	-95,159.98
Net Income	337,768.41	254,926.70	0.00	624,967.11
Total Equity	4,900,350.41	661,014.77	0.00	5,593,637.18
TOTAL LIABILITIES & EQUITY	**5,128,870.41**	**718,405.52**	**0.00**	**5,879,547.93**
UNBALANCED CLASSES	575,515.98	-575,515.98	0.00	0.00

Bassett Creek WMC June 2021 Financial Report – Operating Budget

	Annual Budget	May 14 - Jun 17, 21	Year to Date	Budget Balance
Income				
411 · Assessments to Cities	554,900.00	0.00	409,672.00	145,228.00
412 · Project Review Fees	62,000.00	0.00	18,000.00	44,000.00
413 · WOMP Reimbursement	5,000.00	0.00	0.00	5,000.00
414 · State of MN Grants	0.00	5,000.00	11,777.26	-11,777.26
415 · Investment earnings	0.00	111.48	111.48	-111.48
416 · Use of Fund Balance	5,000.00	0.00	0.25	4,999.75
417 · Transfers from LT & CIP	42,000.00	0.00	0.00	42,000.00
Total Income	668,900.00	5,111.48	439,560.99	-229,339.01
Expense				
1000 · General Expenses				
1010 · Technical Services	134,000.00	9,177.50	43,651.50	90,348.50
1020 · Development/Project Reviews	68,000.00	3,473.50	17,719.00	50,281.00
1030 · Non-fee and Preliminary Reviews	24,000.00	3,616.50	9,496.50	14,503.50
1040 · Commission and TAC Meetings	12,000.00	712.00	3,475.50	8,524.50
1050 · Surveys and Studies	9,000.00	0.00	2,761.41	6,238.59
1060 · Water Quality / Monitoring	129,000.00	13,563.42	27,479.69	101,520.31
1070 · Water Quantity	7,000.00	493.00	2,129.50	4,870.50
1080 · Annual Flood Control Inspection	12,000.00	0.00	539.00	11,461.00
1090 · Municipal Plan Review	2,000.00	0.00	0.00	2,000.00
1100 · Watershed Monitoring Program	23,000.00	2,153.64	6,733.30	16,266.70
1110 · Annual XP-SWMM Model Updates	0.00	0.00	375.50	-375.50
1120 · TMDL Implementation Reporting	7,000.00	0.00	0.00	7,000.00
1130 · APM/AIS Work	14,000.00	0.00	8,533.35	5,466.65
1140 · Erosion Control Inspections	0.00	0.00	0.00	0.00
1000 · General Expenses - Other		0.00	0.00	0.00
Total 1000 · General Expenses	441,000.00	33,189.56	122,894.25	318,105.75
2000 · Plan Development				
2010 · Next Gen Plan Development	18,000.00	0.00	0.00	18,000.00
2000 · Plan Development - Other		0.00	0.00	0.00
Total 2000 · Plan Development	18,000.00	0.00	0.00	18,000.00
3000 · Administration				
3010 · Administrator	67,400.00	7,272.00	29,682.00	37,718.00
3020 · MAWD Dues	3,750.00	0.00	3,750.00	0.00
3030 · Legal	15,000.00	1,791.00	4,161.10	10,838.90
3040 · Financial Management	4,000.00	1,000.00	2,600.00	1,400.00
3050 · Audit, Insurance & Bond	18,000.00	13,049.00	14,849.00	3,151.00
3060 · Meeeting Catering	1,300.00	0.00	0.00	1,300.00
3070 · Administrative Services	8,000.00	773.19	3,124.45	4,875.55
3000 · Administration - Other		0.00	0.00	0.00
Total 3000 · Administration	117,450.00	23,885.19	58,166.55	59,283.45
4000 · Implementation				
4010 · Publications / Annual Report	1,300.00	0.00	0.00	1,300.00
4020 · Website	1,800.00	0.00	406.60	1,393.40
4030 · Watershed Education Partnership	17,350.00	0.00	0.00	17,350.00
4040 · Education and Public Outreach	26,000.00	315.00	2,652.18	23,347.82
4050 · Public Communications	1,000.00	0.00	514.71	485.29
4000 · Implementation - Other		0.00	0.00	0.00
Total 4000 · Implementation	47,450.00	315.00	3,573.49	43,876.51
5000 · Maintenance				
5010 · Channel Maintenance Fund	20,000.00	0.00	0.00	20,000.00
5020 · Long Term-FEMA Floodplain Model	25,000.00	0.00	0.00	25,000.00
5000 · Maintenance - Other		0.00	0.00	0.00
Total 5000 · Maintenance	45,000.00	0.00	0.00	45,000.00
Total Expense	668,900.00	57,389.75	184,634.29	484,265.71
Net Income	**0.00**	**-52,278.27**	**254,926.70**	**-713,604.72**

Bassett Creek WMC June 2021 Financial Report – CIP Budget

	Project Budget	May 14 - Jun 17, 21	Year to Date	Inception to Date Exp	Remaining Budget
Income					
BC2,3,8 · DeCola Ponds B&C Improve		0.00	34,286.00		
BC23810 · Decola Ponds/Wildwood Park	0.00	0.00	0.00		
BC5 · Bryn Mawr Meadows	0.00	0.00	0.00		
BC7 · Main Stem Dredging Project		0.00	125,000.00		
BCP2 · Bassett Creek Park & Winnetka	0.00	0.00	0.00		
CL3 · Crane Lake Improvement Project	0.00	0.00	0.00		
CRM · Main Stem Cedar Lk Rd-Dupont	0.00	0.00	0.00		
Fld1 · Flood Control Long Term Maint		0.00	0.00		
Flood1 · Annual Flood Control Income		0.00	0.00		
Gen · Next Gen Plan Devenlop Revenue		0.00	0.00		
LT1 · Metro Blooms Harrison Nghbr CWF		0.00	0.00		
ML21 · Jevne Park Stormwater Mgmt	0.00	0.00	0.00		
NL2 · Four Seasons Mall Area	0.00	0.00	0.00		
Qual · Annual Water Quality Revenue		0.00	0.00		
SL1,3 · Schaper Pond Enhancement	0.00	0.00	0.00		
SL8 · Sweeny Lake Water Quality	0.00	0.00	236,850.01		
TW2 · Twin Lake Alum Treatment	0.00	0.00	0.00		
WST2 · Westwood Lake Water Quality	0.00	0.00	0.00		
Total Income	0.00	0.00	396,588.91		
Expense					
2017CRM · CIP-Main Stem Cedar Lk Rd-Dupon	1,064,472.00	0.00	511.50	132,029.25	932,442.75
BC-238 · CIP-DeCola Ponds B&C	1,600,000.00	0.00	0.00	0.00	1,600,000.00
BC-2381 · CIP-DeCola Ponds/Wildwood Pk	0.00	2,538.50	19,068.00	1,510,433.81	-1,510,433.81
BC-5 · CIP-Bryn Mawr Meadows	912,000.00	0.00	605.50	49,888.89	862,111.11
BC-7 · CIP-Main Stem Lagoon Dredging	2,759,000.00	0.00	329.50	102,736.53	2,656,263.47
BCP-2 · CIP- Basset Cr Pk & Winnetka	1,123,351.00	0.00	0.00	81,396.72	1,041,954.28
ML-12 · CIP-Medley Park Stormwater	0.00	3,999.50	25,512.50	78,165.11	-78,165.11
ML-20 · CIP-Mount Olive Stream Restore	178,100.00	579.50	679.50	36,673.42	141,426.58
ML-21 · CIP-Jevne Park Stormwater Mgmt	500,000.00	0.00	0.00	56,390.75	443,609.25
ML-23 · CIP-Purch High Eff St Sweeper	81,600.00	0.00	0.00	0.00	81,600.00
NL-2 · CIP-Four Seasons Mall	990,000.00	0.00	0.00	185,236.56	804,763.44
PL-7 · CIP-Parkers Lake Stream Restore	485,000.00	598.00	690.50	58,237.62	426,762.38
SL-1,3 · CIP-Schaper Pond	612,000.00	0.00	4,820.50	433,423.45	178,576.55
SL-8 · CIP-Sweeney Lake WQ Improvement	568,080.00	87.50	6,603.00	335,338.59	232,741.41
TW-2 · CIP-Twin Lake Alum Treatment	163,000.00	0.00	0.00	91,037.82	71,962.18
WST-2 · CIP-Westwood Lake Water Quality	404,500.00	0.00	0.00	223,640.96	180,859.04
Total Expense	12,680,226.00	7,803.00	58,820.50	3,762,229.48	
Net Income	**-12,680,226.00**	**-7,803.00**	**337,768.41**		

Bassett Creek WMC June 2021 Financial Report – Long Term Funds

		Total Budget	May 14 - Jun 17, 21	Year-to-Date	Inception to Date	Remaining Budget
Income						
	Fld1 · Flood Control Long Term Maint		0.00	14,064.50	169,420.90	
	Fld2 · Flood Control Long Term Exp	699,980.00	0.00	5,529.50	484,266.41	
Total		699,980.00	0.00	8,535.00	-314,845.51	385,134.49
	Flood1 · Annual Flood Control Income				0.00	
	Flood2 · Annual Flood Control Expense	500,000.00	0.00		0.00	
Total		500,000.00	0.00	0.00	0.00	500,000.00
	Gen · Next gen Plan Development Income				0.00	
	Gen1 · Next gen Plan Development Exp	30,000.00	0.00		0.00	
Total		30,000.00	0.00	0.00	0.00	30,000.00
	Qual · Channel Maintenance Fund					
	Qual1 · Channel Maintenance Expense	440,950.00	0.00		267,073.30	
Total		440,950.00	0.00	0.00	-267,073.30	173,876.70
	TMDL1 · TMDL Studies Income					
	TMDL2 · TMDL Studies Expense	135,000.00	0.00		107,850.15	
Total		135,000.00	0.00	0.00	-107,850.15	27,149.85

Item 4D.
BCWMC 6-17-21
Full document &
appendices online

SEA School-Wildwood Park Flood Storage Project Feasibility Study

Golden Valley, Minnesota

June 2021

Prepared for
Bassett Creek Watershed Management Commission

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Minneapolis, MN 55435
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SEA School-Wildwood Park Flood Storage Project Feasibility Study

June 2021

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1.0 Executive summary

1.1 Background

The Bassett Creek Watershed Management Commission's (BCWMC) current Capital Improvement Program (CIP) (Table 5-3 in the 2015-2025 Bassett Creek Watershed Management Plan, as revised) includes BC-2, 3, 8, 10: Medicine Lake Road and Winnetka Avenue Area Long-Term Flood Mitigation Plan (MLRWA Plan) Project. The second phase of this CIP project is the SEA School-Wildwood Park Flood Storage Project (BC-10), the subject of this feasibility study. At the August 2020 meeting the Commission approved the BCWMC Engineer's proposal to conduct a feasibility study for this project.

The SEA School-Wildwood Park Flood Storage Project builds on the City of Golden Valley's Liberty Crossing flood mitigation and conveyance project that was completed in 2017 and the DeCola Ponds B & C flood mitigation project that was completed in spring 2020 in collaboration with the BCWMC. Both of these previous projects were implemented as recommended in the Medicine Lake Road and Winnetka Avenue Area Long-Term Flood Mitigation Plan Report (Barr, 2016). The City of Golden Valley city council is also supportive of the SEA School-Wildwood Park flood mitigation study (and the larger long-term flood mitigation plan) with the flood mitigation projects identified in the plan being included in the City of Golden Valley's CIP and in the City's 2021 Legislative Priorities. In 2020, the City of Golden Valley conducted a planning-level study for the SEA School-Wildwood Park flood mitigation study to begin stakeholder and public engagement efforts early to inform the direction of the concepts.

As is required for BCWMC CIP Projects, a feasibility study must be completed prior to BCWMC holding a hearing and ordering the project. This study examines the feasibility of developing flood storage volumes within Wildwood Park and on the adjacent School of Engineering & Arts (SEA school) property, developing additional water quality treatment volume, modifying existing storm sewer on Duluth Street, and modifying the existing storm sewer between DeCola Ponds D and E. The goal of the project is to reduce flooding on DeCola Ponds D, E, and F and to improve water quality by trapping additional sediment and pollutants in open water or filtration basins and expanded storage areas, thus minimizing sediment and nutrients passing downstream to Bassett Creek. The proposed project will also improve ecology and wildlife habitat, enhance active and passive recreation opportunities, and provide educational opportunities.

Three conceptual flood mitigation designs were investigated during this feasibility study. The first conceptual design examined a scenario utilizing subsurface storage with a permanent pool for water quality treatment and a meandering stream, wet meadows, and prairie habitat for flood storage. The second conceptual design incorporates a wet retention pond for water quality treatment and wet meadows, prairie habitat, and depressed turf areas for flood storage. The third conceptual design examined the benefits of iron enhanced biofiltration for water quality treatment and a combination of wet meadows, prairie habitat, and depressed turf areas for flood storage. Permitting requirements for each conceptual design were reviewed and cost estimates are provided.

The proposed SEA School-Wildwood Park Flood Storage Project was identified as a priority in the MLRWA Plan and is proposed as "Phase 2" of this CIP project to mitigate flooding and improve water quality in the

Medicine Lake Road and DeCola Ponds area. If ordered, the CIP calls for implementing the project in 2022 and 2023. The BCWMC CIP funding (ad valorem tax levied by Hennepin County on behalf of the BCWMC), is not the sole source of funding for this project. The remainder of the funding will come from a variety of sources, including the City of Golden Valley, Hennepin County, Minnesota Department of Natural Resources (MnDNR) Flood Damage Reduction Grant program, and other sources (e.g. other grants, as appropriate).

1.2 Site conditions

The SEA School and Wildwood Park are located in the City of Golden Valley south of Duluth Street and west of Kelly Drive. This area consists of deciduous forest, a wooded knoll, turfed green space, paved walking trails, and various sporting facilities (e.g., pickleball courts, playground) (Figure 2-1). The park is used heavily by the single family and multi-family residential communities surrounding the area. The SEA School students and teachers also utilize the park for the outdoor playground and for outdoor learning activities. As part of the City of Golden Valley's SEA School-Wildwood Park Planning Study completed in 2020, city staff engaged with facilities and teaching staff at the SEA school. The SEA School administrators support the flood storage project.

Modifications of the storm sewer between DeCola Ponds D and E are also included as part of this study. The existing storm sewer between DeCola Ponds D and E is located under Winnetka Heights Drive and between existing residential parcels. DeCola Ponds D and E are not listed as MnDNR public waters. Modifications to the storm sewer are not anticipated to have an impact on the normal water levels (NWLs) of DeCola Pond D or E. Adequate drainage easements already exist on the residential parcels on the south end of DeCola Pond D and the north end of DeCola Pond E for the storm sewer modifications. A temporary easement is anticipated for this outlet modification.

DeCola Ponds D and E discharge downstream to DeCola Pond F, which continues to Honeywell Pond and ultimately discharges to Bassett Creek. Currently, stormwater runoff from the SEA School-Wildwood Park parcels discharge either to DeCola Pond E or through storm sewer to Honeywell Pond. Any improvements to runoff water quality within the SEA School-Wildwood Park areas will result in improvements to the Main Stem of Bassett Creek which is currently listed as impaired. The affected use is aquatic life based on fish bioassessments, and although a stressor identification study has not been completed to determine the exact cause of this impairment, reductions in sediment and pollutant loads to the creek can likely help address this impairment.

As part of this study, wetland delineations on the SEA School/Wildwood Park properties and around DeCola Ponds D and E were completed. Topographic and tree surveys were also completed. Furthermore, desktop reviews of cultural resources, threatened and endangered species databases, and environmental databases were finalized. The results of these studies were utilized as much as applicable to define the conceptual designs and quantify impacts for this feasibility study. This information can be found in Section 3.1.

1.3 Project alternatives

The BCWMC Engineer evaluated three conceptual designs for developing flood storage volume within the SEA School and Wildwood Park properties. All three concepts incorporated various configurations of wet meadows, depressed turf, and prairie habitats to provide flood storage. The method used for water quality treatment varied between each concept. Concept 1 investigates the use of subsurface storage with a permanent pool to capture sediment and particulate contaminants. Concept 2 incorporates an open water retention pond to improve water quality and Concept 3 utilizes a biofiltration basin with iron enhance sand filtration (IESF) trenches to help remove particulate and dissolved contaminants.

In addition to expanding flood storage within varying footprints within the project area and providing various best management practices (BMPs) for water quality improvement, measures considered for potential implementation in all scenarios included the following:

- Re-aligning the SEA School Driveway so that the intersection aligns with Maryland Avenue North. This allows for additional flood storage volume to extend from Wildwood Park onto the SEA School property.
- Diverting the majority of stormwater runoff that currently discharges to the south end of DeCola Pond E to discharge into the proposed storage in Wildwood Park (modifying storm sewer on Duluth Street).
- Increasing the existing storm sewer between DeCola Ponds D and E to a 48"-diameter pipe to reduce flood levels.
- Restoring areas that are frequently inundated (≤ 2-year Atlas-14 event) as wetland habitats. All areas outside of this will be restored as prairie habitat or turfed habitat.
- Preserving trees on the large knoll in Wildwood Park. Some tree removal is expected within project area. However, upland areas will be restored with native vegetation and replanted with trees at a density potentially ranging from savanna (~35 trees/acre) to forest (~110 trees/acre) – to be determined during final design.
- Relocating the SEA School orchard trees.
- Replacing disturbed trails that may be impacted during construction with ADA-compliant trails to preserve park use, improve walking trail opportunities, and provide maintenance access.
- Protecting existing, highly used park infrastructure within the project area, such as the pickleball courts, the playground, and the sledding hill.

The alternatives are discussed in more detail in Sections 5.0 and 6.0.

1.4 Relationship to Watershed Management Plan

The BCWMC included the SEA School-Wildwood Park Flood Storage Project in its CIP, based on the following "gatekeeper" policy from the BCWMC Plan. Those items in bold italics represent those that directly apply to this project.

110. The BCWMC will consider including projects in the CIP that meet one or more of the following "gatekeeper" criteria.

- Project is part of the BCWMC trunk system (see Section 2.8.1, Figure 2-14 and Figure 2-15 of the report)
- ***Project improves or protects water quality in a priority waterbody***
- Project addresses an approved TMDL or watershed restoration and protection strategy (WRAPS)
- ***Project addresses flooding concern***

The BCWMC will use the following criteria, in addition to those listed above, to aid in the prioritization of projects:

- Project protects or restores previous Commission investments in infrastructure
- ***Project addresses intercommunity drainage issues***
- Project addresses erosion and sedimentation issues
- ***Project will address multiple Commission goals (e.g., water quality, runoff volume, aesthetics, wildlife habitat, recreation, etc.)***
- ***Subwatershed draining to project includes more than one community***
- ***Addresses significant infrastructure or property damage concerns***

The BCWMC will place a higher priority on projects that incorporate multiple benefits, and will seek opportunities to incorporate multiple benefits into BCWMC projects, as opportunities allow.

The SEA School-Wildwood Park Flood Storage Project meets multiple gatekeeper criteria— the project addresses flooding concerns (main objective) and the project will improve water quality by reducing the amount of sediment and pollutants that reach Bassett Creek. Additionally, this project will address intercommunity drainage concerns as multiple communities (the Cities of Golden Valley, Crystal, and New Hope) are within the project's subwatershed. In addition to meeting "gatekeeper" criteria, the project will address multiple Commission goals by capturing increased runoff volume, enhancing water quality, providing recreation opportunities, and improving wildlife habitat.

1.5 Project impacts and estimated costs

Potential impacts of the proposed project (increasing the flood storage and water quality treatment volumes within SEA School/Wildwood Park and increasing the storm sewer size between DeCola Ponds D and E) are summarized in Table 1-1.

Of the project impacts, the most significant consideration is the creation of additional flood storage volume, the impact on flood elevations. and reductions in the number of structures at risk of flooding. One of the main purposes of the proposed SEA School-Wildwood Park Flood Storage Project is to lower the flood depths on DeCola Ponds D, E, and F to protect structures around this area. The SEA School-

Wildwood Park Flood Storage Project would build on the Liberty Crossing and DeCola Ponds B &C Flood Mitigation Projects implemented by the City of Golden Valley and the BCWMC. These projects helped to lower the 100-year flood elevations on the Medicine Lake Road to allow the safe passage of emergency vehicles and reduced the number of structures at-risk of flooding around DeCola Ponds A, B, and C, along Medicine Lake Road, and within Rosalyn Court.

The proposed feasibility concept designs for the SEA School-Wildwood Park Flood Storage Project aim to improve upon the flood reductions resulting from the Liberty Crossing and DeCola Ponds B & C Flood Mitigation Projects. This project will focus on reducing flood elevations specifically on the downstream DeCola Ponds D, E, and F. The XP-SWMM hydrologic modeling results for this project indicate that for all three concepts, all ten structures are expected to no longer be at-risk of flooding during the 100-year event on DeCola Pond D. For DeCola Ponds E and F, three structures are removed from being at-risk for the 10-year and 25-year storm events. While reductions in the 50-year and 100-year flood elevations (-0.1 to -0.3 feet, respectively) on DeCola Ponds E and F are anticipated, the reductions in flood elevations do not result in a reduction the number of at-risk structures for these larger storm events. A future project identified in the Medicine Lake Road and Winnetka Avenue Long Term Flood mitigation plan (and included in the BCWMC CIP) is intended to have a more significant impact on flood reductions on DeCola Ponds E & F. That project is included under CIP #BC-10 and is slated to have a feasibility study completed in 2023 and if approved, constructed in 2025-2026.

For Concepts 1 and 2, the proposed projects will result in increased permanent pool volume and sediment storage volume on the Wildwood Park property, therefore, reducing sediment and particulate phosphorus loading to the main stem of Bassett Creek and all downstream water bodies, including the Mississippi River. For Concept 3, the proposed project will result in the inclusion of a biofiltration basin with iron-enhanced sand filtration (IESF) trenches on the Wildwood Park property, therefore, reducing sediment and particulate and dissolved phosphorus loading to downstream features. Section 6.0 presents estimates of existing pollutant loadings. It's estimated this project would remove an additional 1.6 to 4.1 pounds per year, depending on the concept.

To develop the flood storage volume, some tree removals within the project area will be required. Because a portion of the project area is within a public park and is a popular walking area, community resistance to tree removal is a concern. Wetland and upland restoration, including planting of new trees and shrubs, will occur in all areas disturbed by construction, and many existing trees will be preserved in key areas, such as the wooded knoll within Wildwood Park. The City of Golden Valley Forester has also stated that some of the trees recently planted may be candidates for transplanting. The existing orchard on the SEA School property that is currently in the anticipated disturbance limits will be relocated under all concept scenarios.

Table 1-1 presents the feasibility-level opinion of costs for implementing the various concepts for the 2022-2023 SEA School-Wildwood Park Flood Storage Project. This table also lists the 30-year annualized total phosphorus reduction costs (based on the estimated cost of the water quality improvement work only) and the project costs per acre foot of flood mitigation volume created.

The cost per pound of phosphorus removed for this project using the current P8 model analysis is high when compared to other BCWMC CIP projects—for example, previous high costs per pound of phosphorus removed for a BCWMC CIP project were $5,900 for the Northwood Lake Improvement Project and $9,600 for the DeCola Ponds B&C project. The high cost per pound of phosphorus removed for this project is due to do the fact that the SEA School-Wildwood Park Flood Storage Project's primary goal is to mitigate flooding and to mitigate the water quality treatment lost from diverting stormwater away from DeCola Ponds E and F. A major portion of the construction costs are for the creation of flood storage volume, for the restoration of the graded areas, and for the mitigation of lost water quality from re-routing stormwater runoff rather than for water quality improvement. Concept 1 is particularly high because water quality improvement includes the installation of subsurface storage to achieve the water quality treatment.

The BCWMC CIP includes $1.3 million for this project. Additional funding for this project will come from a DNR Flood Damage Reduction Grant, the city of Golden Valley, and other possible grants.

For a complete summary of the estimated impacts, permitting requirements, disposal of contaminated sediment, closure of pedestrian trails, and costs of the concepts, including the methodology and assumptions used for the cost estimate, refer to Section 6.0, Section 7.0, and Table 6-1.

Table 1-1 SEA School-Wildwood Park Flood Storage Impacts Summary

Category	Item	Existing Conditions	Concept 1: Underground Storage with Stream	Concept 2: Open Water	Concept 3: Wet Meadow
Flood Mitigation	Increase in Flood Mitigation Volume (ac-ft) (SEA School/Wildwood)	-	9.1	8.6	8.5
	# of Potentially At-Risk Structures (10-year)	9	6	6	6
	# of Potentially At-Risk Structures (100-year)	29	19	19	19
Water Quality	Increase in Water Quality Treatment Volume (ac-ft)	-	0.8	0.8	0.2
	Increase in Total Phosphorus Removal (lbs/yr)	-	1.6	1.8	4.1
Trees	Tree Removal Estimate SEA School/Wildwood Park	-	72	81	81
	Tree Removal Estimate between DeCola Ponds D and E	-	3	3	3
	# of Significant Trees Removed	110	48	57	57
	# of Orchard Trees Removed/Relocated	11	11	11	11
	Tree Planting Estimate	-	35 - 70	35 - 80	35 - 80
Restoration	Restored Wetland Area (ac)	-	0.6	0.3	0.8
	Restored Prairie Area (ac)	-	1.1	0.9	1.4
	Restored Turf Open Green Space (ac)	-	1.2	1.3	0.7
Project Costs	Feasibility Level Opinion of Cost	-	$ 4.1 million	$2.9 million	$3.1 million
	Cost per Acre-Ft of Flood Mitigation Volume	-	$451,900	$329,800	$360,000
	Annualized Cost per Pound of Total Phosphorus Removed (Water Quality Treatment)	-	$53,200	$5,700	$5,900

1.6 Recommendations

Although there is some variation in the flood mitigation volume between the three concepts (ranging from 8.5 to 9.1 acre-ft), the modeling demonstrated that the difference in the flood reduction in DeCola Ponds D, E, and F is minimal and does not change the number of structures at risk of flooding among the three concepts. Therefore, in terms of flood reduction benefits, Concepts 1, 2, and 3 perform equally.

Each of the concepts include opportunities to improve water quality and provide additional pollutant removal beyond the existing conditions. Concepts 1 and 2, which relied on wet retention for the removal of particulates, are estimated to remove 1.6 and 1.8 additional pounds of phosphorus per year, respectively. Concept 3, which relies on iron-enhanced sand filtration, is able to remove both particulate and dissolved total phosphorus and is estimated to remove an additional 4.1 pounds of total phosphorus per year.

Based on review of the project impacts and benefits for each of the three concepts, the overall project costs, and comments received from BCWMC staff, City of Golden Valley staff (e.g., Open Space and Recreation Commission, Environmental Commission), SEA School representatives, the neighborhood, park users, and the general public during the feasibility study process, the BCWMC Engineer recommends constructing Concept 3, with the following features with noted additional considerations during final design:

- Upsizing the outlet from DeCola Pond D with design and restoration in coordination with impacted property owners and City maintenance staff.
- Diverting runoff from Pennsylvania Ave and Duluth Street toward the water quality treatment and flood storage in the Wildwood Park/SEA School properties, including pretreatment of flows
- Providing an iron-enhanced sand filtration basin, considering a design that integrates vegetation/screening between the filtration trenches
- Developing approximately 8.5 acre-feet of flood storage, with an overflow berm and extended detention outlet in the northeast corner of the project area, discharging to the storm sewer system at the corner of Duluth Street and Kelly Drive
- Incorporating a low wet meadow habitat area, exploring opportunities to promotes better drainage toward the proposed outlet
- Replacing disturbed trails with an accessible looped walking trail around the site that is above the ~10 year event elevation or higher to make the trail more accessible, reduce maintenance, and provide maintenance access to the stormwater features. Additionally, the trail alignments and design should consider an east-west trail connection from Kelly Drive to the park interior (i.e. the playground), should consider future access and space needs around the pickleball courts, and consider future safe routes to school alignments along Kelly Drive.
- Restoring a variety of habitat types and replanting trees, to mitigate tree loss and provide shade in specific locations

- Realigning of the northern SEA School Driveway with Maryland Avenue, continuing to coordinate design with SEA School staff and evaluating specific items requested during final design. Also, phasing construction in this area to minimize impacts to SEA School access and operations.
- Preserving key park features in including the pickleball courts, the playground area, the wooded knoll, the sledding hill, and open turf areas for various recreation activities and gathering (e.g. the northeast corner of the park).

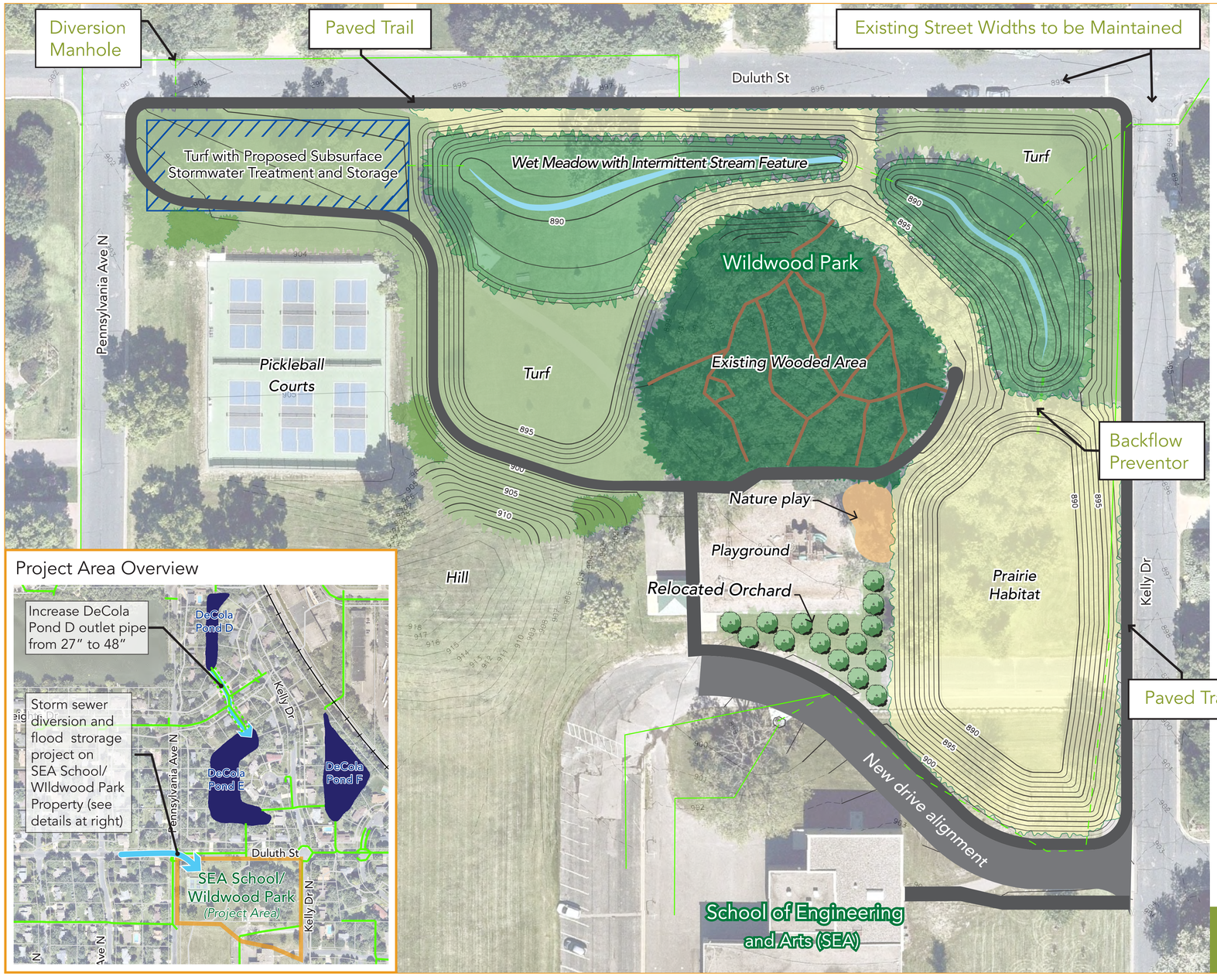
The planning level cost for Concept 3 is $3.1 million (-20%/+30%). The planning level budget that the BCWMC and the City of Golden Valley have been using for budgeting is $2.7 – 3.0 million (-20%/+40%). The project will be funded by a variety of funding sources. The BCWMC proposes to use $1.3 million of its CIP funds to help pay for the SEA School-Wildwood Park Flood Storage Project. The CIP funds are raised through an ad valorem tax levied by Hennepin County on behalf of the BCWMC. For this project, $300,000 is proposed to be levied in 2022 and $1 million levied in 2023.

To make up the difference, other sources of funding for this project are required and include:

- City of Golden Valley,
- MnDNR Flood Damage Reduction Grants ($1.3 million through the state legislature/project bonding bill for this project),
- Other sources, including potential grants that could be applied for through the design process (e.g. Hennepin County Natural Resource Opportunity grants)

Concept 1: Underground Storage with Stream

Estimated Cost (-20%/+30%) = $4.1 Million



LEGEND

- Turf
- Wood Area
- Wet Meadow
- Prairie
- Orchard Trees
- Planting Areas
- Subsurface Treatment
- Existing 1' Contour
- Proposed 1' Contour
- Proposed 5' Contour
- Existing Storm Sewer
- Proposed Storm Sewer
- Existing Footpath
- Proposed Paved Trail

N

0 30 60

FEET

Figure 5-1

Concept Summary

Additional Flood Storage Created: 9.1 acre-feet

Improved Water Quality:
Additional 1.6 lbs/yr phosphorus removed

Restored Wetland and Prairie habitat:
1.7 acres total

Restored Turf Area:
1.2 acres total

Tree Removal:
45 trees total

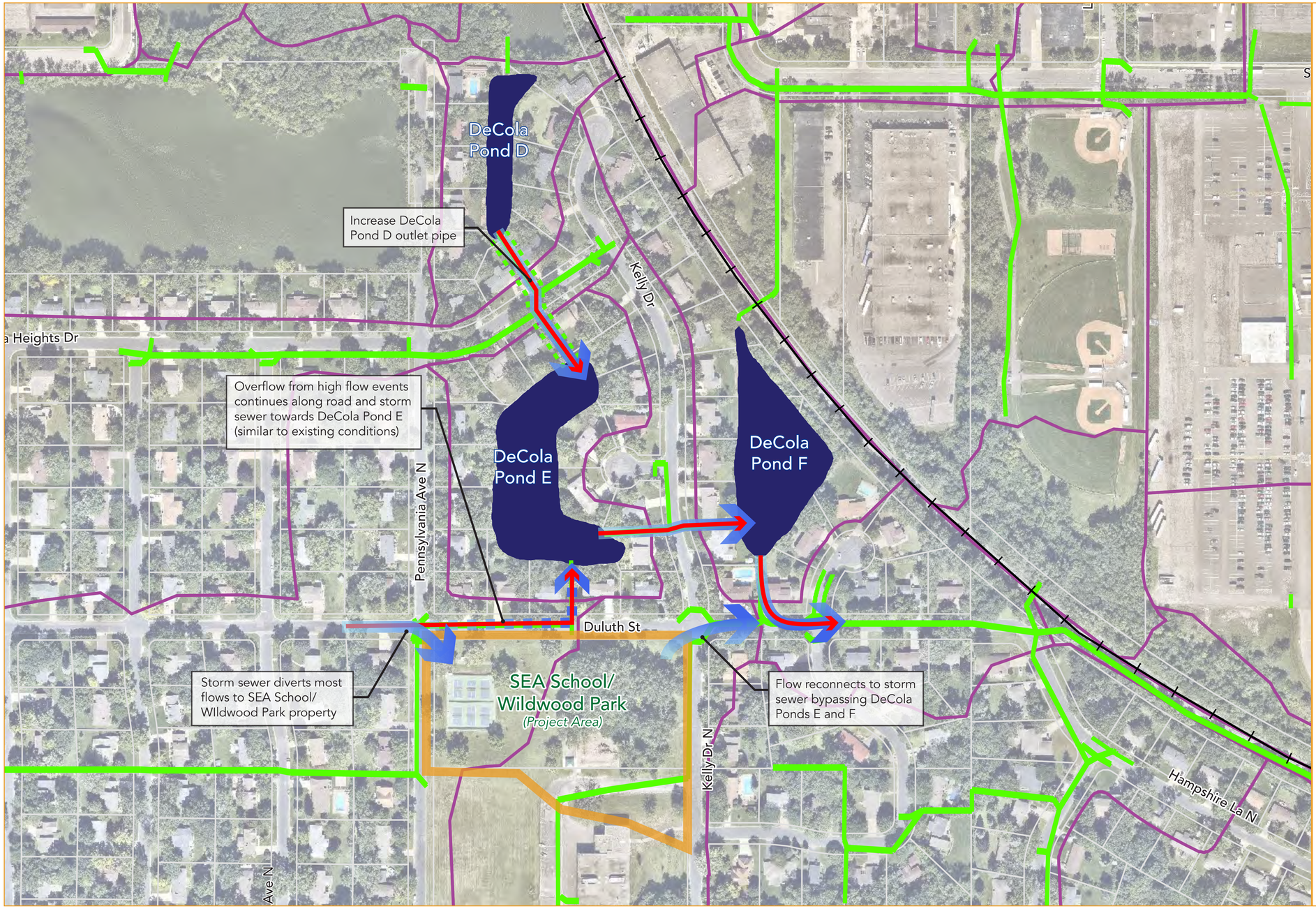
Reduction of Flood Level on Ponds:

DeCola Pond	10-yr	100-yr
D	- 0.6'	- 2.8'
E,F	- 0.8'	- 0.1'

At-Risk Flooded Structures (existing/proposed):

DeCola Pond	10-yr	100-yr
D	0/0	10/0
E,F	9/6	19/19

Proposed Flow Patterns



LEGEND

- Project Area
- Railroad
- Subwatersheds
- Parcels
- Storm Sewer
- Existing Flow Path
- Proposed Flow Pattern
- Overflow Path (during high flow events)

N

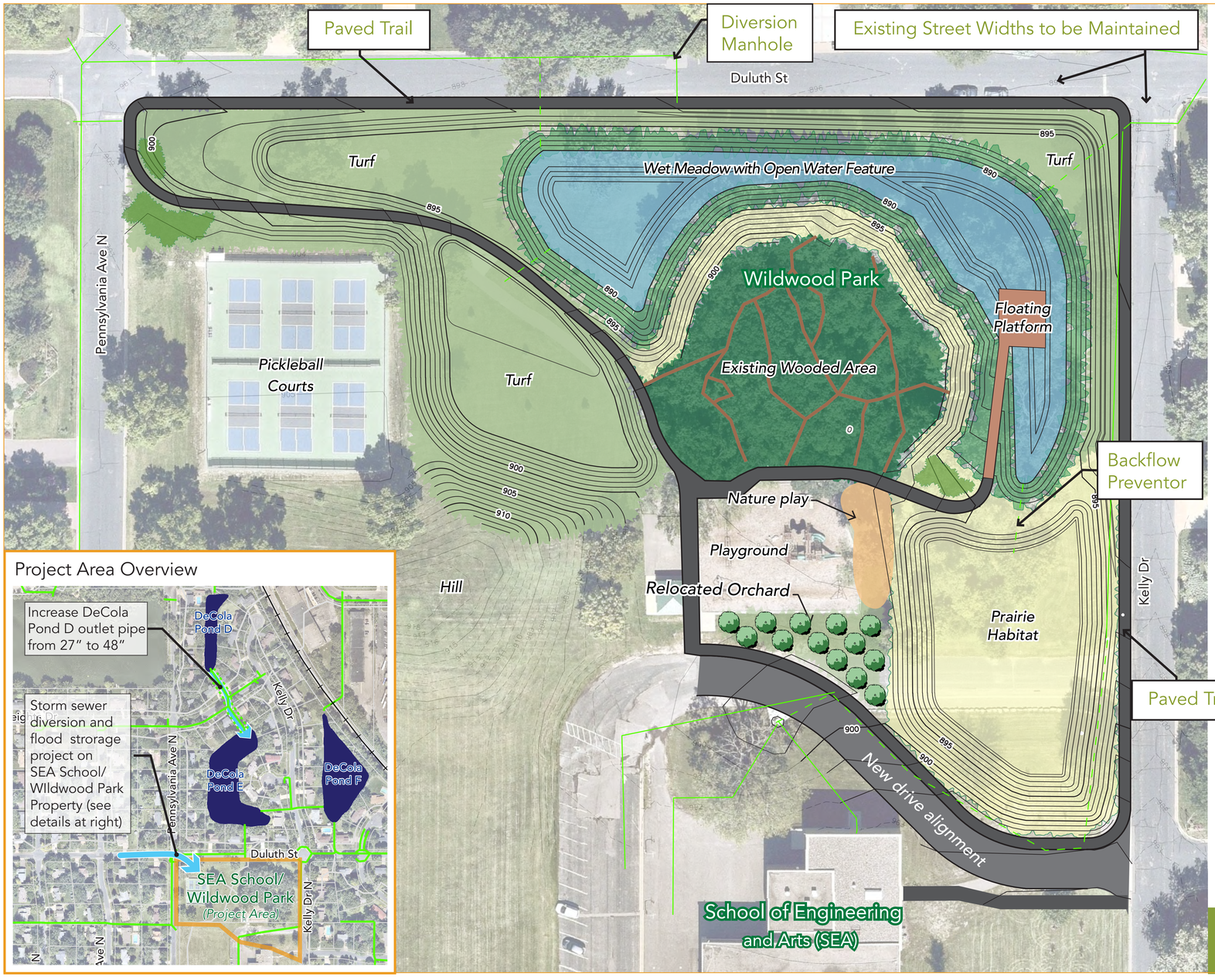
0 250 500

Feet

Figure 5-2

Concept 2: Open Water

Estimated Cost (-20%/+30%) = $2.9 Million



LEGEND

- Turf
- Wood Area
- Wet Meadow
- Prairie
- Open Water
- Orchard Trees
- Planting Areas
- Existing 1' Contour
- Proposed 1' Contour
- Proposed 5' Contour
- Existing Storm Sewer
- Proposed Storm Sewer
- Existing Footpath
- Proposed Paved Trail

N

0 30 60

FEET

Figure 5-3

Concept Summary

Additional Flood Storage Created: 8.6 acre-feet

Improved Water Quality: Additional 1.8 lbs/yr phosphorus removed

Restored Wetland and Prairie habitat: 1.6 acres total

Restored Turf Area: 1.3 acres total

Tree Removal: 54 trees total

Reduction of Flood Level on Ponds:

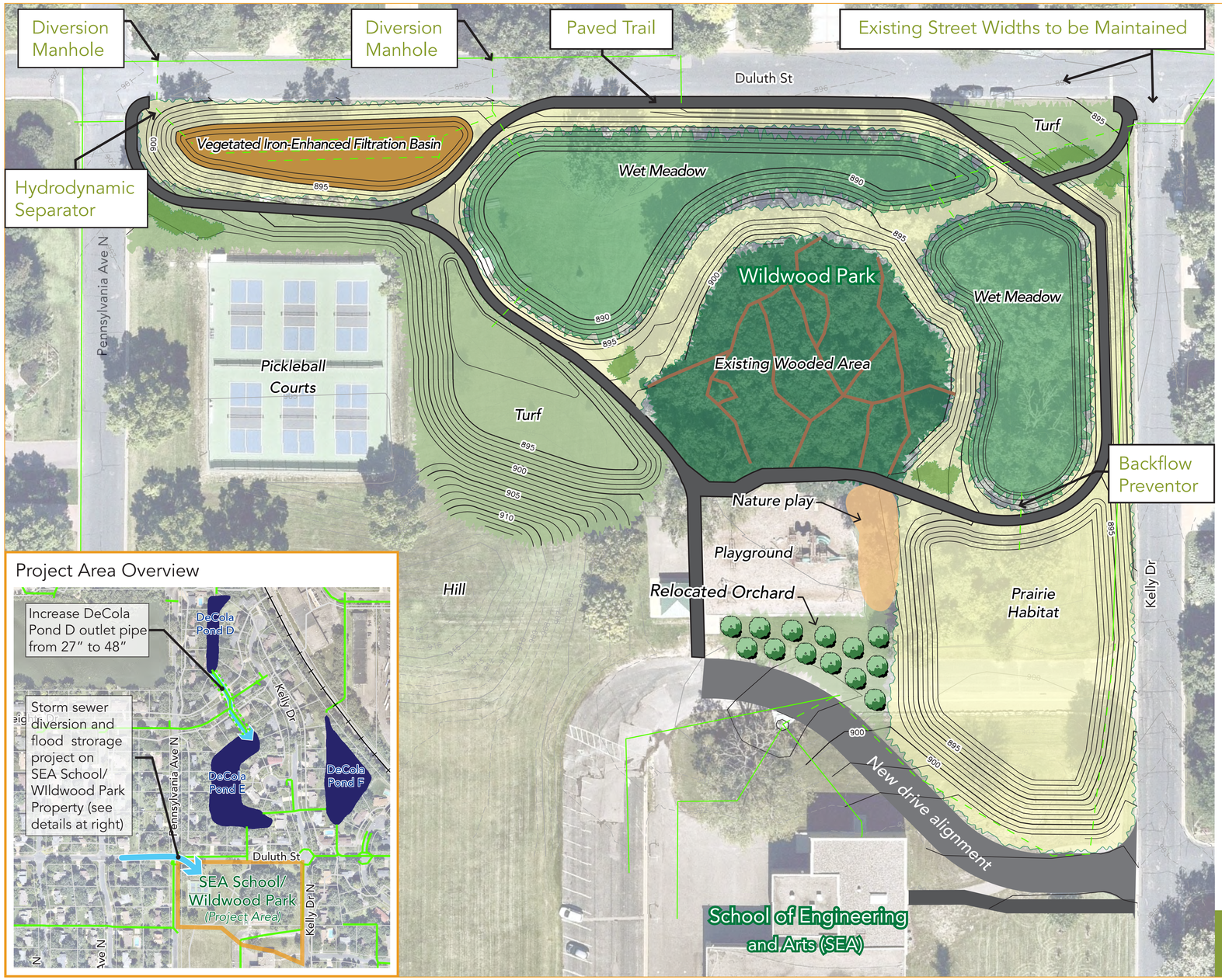
DeCola Pond	10-yr	100-yr
D	- 0.6'	- 2.8'
E,F	- 0.8'	- 0.1'

At-Risk Flooded Structures (existing/proposed):

DeCola Pond	10-yr	100-yr
D	0/0	10/0
E,F	9/6	19/19

Concept 3: Wet Meadow

Estimated Cost (-20%/+30%) = $3.1 Million



LEGEND

- Turf
- Wood Area
- Wet Meadow
- Prairie
- Vegetated Iron-Enhanced Filtration Basin
- Orchard Trees
- Planting Areas
- Existing 1' Contour
- Proposed 1' Contour
- Proposed 5' Contour
- Existing Storm Sewer
- Proposed Storm Sewer
- Existing Footpath
- Proposed Paved Trail

N

0 30 60

FEET

Figure 5-4

Concept Summary

Additional Flood Storage Created: 8.5 acre-feet

Improved Water Quality:
Additional 4.1 lbs/yr phosphorus removed

Restored Wetland and Prairie habitat:
2.3 acres total

Restored Turf Area:
0.7 acres total

Tree Removal:
54 trees total

Reduction of Flood Level on Ponds:

DeCola Pond	10-yr	100-yr
D	- 0.6'	- 2.8'
E,F	- 0.8'	- 0.1'

At-Risk Flooded Structures (existing/proposed):

DeCola Pond	10-yr	100-yr
D	0/0	10/0
E,F	9/6	19/19

Item 4E.
BCWMC 6-17-21

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engineering and environmental consultants

BARR

Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 4E – Consider Approval of Proposal for Engineering Services for the Bryn Mawr Meadows Water Quality Improvement Project (2020 CIP Project BC-5) Conditioned on Fully Executed Bryn Mawr Design Agreement
BCWMC June 17, 2021 Meeting Agenda
Date: June 9, 2021

4E. Consider Approval of Proposal for Engineering Services for the Bryn Mawr Meadows Water Quality Improvement Project (2020 CIP Project BC-5) Conditioned on Fully Executed Bryn Mawr Design Agreement

Recommendations:

1. Consider approving the scope of work and $183,000 budget presented in this memorandum and direct the Commission Engineer to prepare final design, develop plans and specifications, and provide permitting assistance, bidding assistance and construction services for the Bryn Mawr Meadows Water Quality Improvement Project (2020 CIP Project BC-5), scheduled for construction in 2022. This approval is conditioned on the full execution of the cooperative agreement between the Bassett Creek Watershed Management Commission, Minneapolis Park and Recreation Board and the City of Minneapolis regarding design of this project.

Background

At the September 19, 2019 meeting, the Commission passed resolution 19-09 officially ordering the Bryn Mawr Meadows Water Quality Improvement Project (2020 CIP Project BC-5), at an estimated cost of $912,000, to be funded through CIP levies in 2019 for collection in 2020 ($100,000) and in 2020, for collection in 2021 ($412,000), and a BWSR Clean Water Fund Grant ($400,000). Unlike most CIP projects where the Commission has an agreement with a member city to design and construct the project, the Commission will design this project on its own, in close coordination with the Minneapolis Park and Recreation Board (MPRB) and the City of Minneapolis. At their November 18, 2020 meeting, the Commission requested a scope of work from the Commission Engineer to provide project engineering for an amount not to exceed $183,000.

The project will be implemented within Bryn Mawr Meadows Park and adjacent city streets and will be designed and constructed in conjunction with the MPRB's design and reconstruction of Bryn Mawr Meadows Park. This CIP project will treat stormwater runoff from a 45.1-acre residential area that currently flows untreated into Bassett Creek in Minneapolis and low flows from MnDOT's Penn Pond (see Figure 1).

The BCWMC will enter into two agreements with MPRB and the City of Minneapolis: one assigning design responsibilities to the BWCMC (to be considered at the June BCWMC meeting) and another designating construction and maintenance responsibilities. The MPRB and the City of Minneapolis will be responsible for constructing the portions of the CIP project on their respective properties. The CIP project will provide an estimated total phosphorus reduction of 30 pounds per year above and beyond the stormwater treatment required by MPRB's park reconstruction project. The project is slated for design in 2021 and construction in 2022.

The feasibility report for the project (Feasibility Report for Bryn Mawr Meadows Water Quality Improvement Project, January 2019, Barr) will form the basis for the CIP project design. The feasibility report and further project information can be found online at https://www.bassettcreekwmo.org/projects/all-projects/bryn-mawr-meadows-water-quality-improvement-project.

Proposed Scope of Work

Below is a summary of the work scope components for this project:

1) Project Coordination and Project Meetings

a) Pre-design coordination meeting with BCWMC staff, MRPB staff, MPRB design consultants, City of Minneapolis staff, and MnDOT staff and preparation of meeting notes. This meeting would take place before design work gets underway to get all parties on the same page about overall features, scheduling, etc.

b) Project coordination meeting with BCWMC staff, commissioners, MPRB staff, City of Minneapolis staff, and MnDOT staff, and preparation of meeting notes. This meeting would take place after 50% draft plans are developed.

c) BCWMC Meeting #1: Commission meeting to present 50% design plans, including memo and presentation

d) BCWMC Meeting #2: Commission meeting to present 90% design plans, including memo and presentation

e) BCWMC Meeting #3: Commission meeting to present revised 90% design plans, including memo and presentation (if needed)

f) Other coordination meetings

Meetings related to bidding and construction are incorporated under other tasks.

2) Public Engagement

a) Coordinate with BCWMC Administrator, MPRB staff, and City of Minneapolis staff to gather public input on project plans. Primary group for public engagement will be the park users, nearby

residents, and property owners. MPRB staff or their consultant will take the lead and facilitate the public engagement efforts, but some coordination will be required. The budget for this task includes time to prepare for and attend one public meeting, including preparing handouts, boards, and/or presentation related to the BCWMC's above-and-beyond water quality improvement work. This task also includes assisting with updates to the project partners through the MPRB and BCWMC website project pages and responding to public questions and comments. MPRB staff or their consultant will take the lead in meeting set-up, coordination, and expenses, with assistance from the BCWMC Administrator.

2) Permitting

Because the CIP project features will be constructed as part of a larger park reconstruction project, MPRB or their consultant will lead permitting efforts and the BCWMC will not obtain individual permits for the above-and-beyond water quality improvement work. Below is a list of anticipated permitting and approvals required for the larger park reconstruction project that include the BCWMC's above-and-beyond water quality improvement work.

a) *Minnesota Pollution Control Agency (MPCA) permitting* – Because the CIP project features will be constructed as part of a larger park reconstruction project, which is anticipated to result in more than one (1) acre of land disturbance, a stormwater pollution prevention plan (SWPPP) will be required. MPRB staff or their consultant will develop and prepare a SWPPP that will incorporate the BCWMC's above-and-beyond water quality improvement work. However, we are including some budget for coordination with MPRB staff or their consultant and incorporation of the BCWMC's above-and-beyond water quality improvement work into the SWPPP.

b) *Minneapolis Park and Recreation Board (MPRB) construction permit* –Minneapolis and MPRB staff or their consultant will prepare the MPRB permit application as part of the larger park reconstruction project and it will incorporate the BCWMC's above-and-beyond water quality improvement work. However, we are including some budget for coordination with MPRB staff or their consultant and incorporation of the BCWMC's above-and-beyond water quality improvement work into the permit application.

c) *City of Minneapolis soil erosion permits* –MPRB staff or their consultant will prepare a City of Minneapolis permit application as part of the larger park reconstruction project and it will incorporate the BCWMC's above-and-beyond water quality improvement work. However, we are including some budget for coordination with MPRB staff or their consultant and City of Minneapolis staff.

4) Design

We will build upon the feasibility study concepts to design the CIP project features. MPRB staff or their consultant will prepare the plans and specifications for the larger park reconstruction project. We will

work closely with the MPRB, their design consultants, and City of Minneapolis staff throughout the design process to ensure all components will work seamlessly into the Park reconstruction project and existing city infrastructure. We will prepare supplemental documents for the BCWMC's above-and-beyond water quality improvement work to be used for bidding and construction.

a) *Construction Drawings*: We will develop the following in collaboration with MPRB and the City of Minneapolis and will seek review and approvals in accordance with the tri-party agreement:

   i. 30% plans
      a. MPRB Board review and approval: We will use the concept developed for the feasibility study to develop 30% drawings showing general layout, features, landscape types, conceptual system functionality, and overall integration within the larger park project, including drawings and cost estimates. We will submit the 30% drawings to MPRB staff who will submit the plans to the MPRB Board for its review and approval in conjunction with the larger park project's conceptual design approval

   ii. 50% plans
      a. BCWMC review and approval: upon MPRB approval of 30% plans and further design to reach 50%, we will submit the 50% plans and a cover memo to the Commission for review at a Commission meeting.

   iii. 90% plans
      a. MPRB and City of Minneapolis review and approval: Per the agreement between the BCWMC, MPRB and City of Minneapolis, we will submit 90% Plans, including all specifications and engineering cost estimates, to the MPRB and City staff for review and written approval. The MPRB and City of Minneapolis staff will complete their review within 30 days and either approve the plans or request adjustments to any project components they will own or have responsibility to maintain. Following a determination by the Commission Engineer regarding requested adjustments, we will submit revised 90% plans to MPRB and Minneapolis staff for review and written approval.

      b. BCWMC review and approval: Following MPRB and Minneapolis staff approval of the revised 90% plans, we will submit the plans and a cover memo to the Commission for finalization and approval at a Commission meeting.

      c. Additional MPRB, City of Minneapolis and BCWMC review and approval: If Commission comments/suggested revisions or MPRB/Minneapolis revisions result in material changes to the 90% plans, we will resubmit the revised 90% plans to MPRB and Minneapolis staff for subsequent 30-day review and written approval or requested adjustments. We will submit the revised 90% plans to the Commission for finalization and approval at a Commission meeting.

   iv. 100% plans for bidding and construction

Anticipated drawings include:

- Existing conditions
- Removals and erosion control plan
- Site access & traffic control plan, if necessary
- Grading plan and sections
- Stormwater utility plan
- Stormwater utility profiles
- Stormwater structure details
- Paving plan and details
- Project details
- Restoration plan(s)

b) *Specifications*: MPRB staff or their consultant (as part of the park reconstruction project) will prepare the front-end documents using CSI format; these documents include instructions to bidders, bid form, contract (form of agreement), performance and payment bonds, general and supplementary conditions, prevailing wages, etc., and technical specifications. We will develop supplemental technical specifications for the BCWMC's above-and-beyond water quality improvement work as part of the 90% and 100% submittals. We will also coordinate with MPRB staff or their consultant and the Commission attorney regarding the technical specifications.

If required, we will provide supplemental technical specifications for the portion of the BCWMC's above-and-beyond water quality improvement work located in City of Minneapolis right-of-way, as part of the 90% and 100% submittals.

c) *Engineer's opinion of cost*: We will prepare an engineer's opinion of probable construction costs for the BCWMC's above-and-beyond water quality improvement work for the 50%, 90% & 100% submittals. We will report the opinion of costs to the Commission in a unit price format.

d) *Water quality modeling updates:* The scope includes additional refinements to the water quality modeling for the BCWMC's above-and-beyond water quality improvement work as the design components are finalized and incorporation of the constructed improvements into the model after completion of the project. We will incorporate the modeling results into the 50% & 90% design submittal memos to the Commission.

5) Bidding Services

The proposed water quality improvement project will be bid as part of the larger park reconstruction project to obtain the most competitive construction price. Therefore, the scope includes the following bidding services:

a) Prepare supplemental bidding documents for the BCWMC's above-and-beyond water quality improvement work for incorporation into the MPRB bid set.

b) Attend a pre-bid meeting, as necessary

c) Coordinate with MPRB staff or their consultant to respond to questions from bidders and prepare any required addenda. MPRB staff or their consultant will post the bid via QuestCDN online bidding and administer the bidding process.

d) MPRB staff or their consultant will prepare the bid tabulation, review bids, and select, or recommend selection of, a Contractor. We will coordinate with MPRB staff or their consultant to assist with these tasks as needed.

6) Construction Services

The scope includes the following construction services:

a) *Pre-construction meeting*: MPRB staff or their consultant and the City of Minneapolis or their consultant will hold pre-construction meetings. We will attend the pre-construction meetings on behalf of the BCWMC for the BCWMC's above-and-beyond water quality improvement work.

b) *Construction Progress Meetings and Observation*: The scope includes budget for up to 120 hours for attending weekly construction progress meetings and observation of CIP project features during the construction phase of the project (15 hours per week for up to 8 weeks). We can re-evaluate these assumptions when the agreement for construction and maintenance responsibilities is developed.

c) *Survey and Construction Staking:* The Contractor will provide all survey and construction staking for both the park reconstruction project and the BCWMC CIP project. Therefore, no survey or construction staking is included in this scope.

d) *Construction Administration*: We will provide the following services:

i. Submittals: We will coordinate with the MPRB, the City of Minneapolis, and their consultant(s) to manage submittals related to the BCWMC's above and beyond water quality improvement project (any products or documentation requiring the engineer's review and/or approval) including tracking, review, resubmittals and approvals.

ii. Pay applications: We will coordinate with the MPRB, the City of Minneapolis, and their consultant(s) to manage and review pay applications that include work related to the BCWMC's above-and-beyond water quality improvement work, including verification of pay quantities.

iii. Change orders: We will coordinate with the MPRB, the City of Minneapolis, and their consultant(s) to review contractor's change order requests and prepare all change orders related to the BCWMC's above-and-beyond water quality improvement work.

iv. Updates and modifications: We will coordinate with the MPRB, the City of Minneapolis, and their consultant(s) to prepare and distribute updated construction documents for any changes made during construction related to the BCWMC's above-and-beyond water quality improvement work. This assumes the changes are small adjustments to the design and not substantial changes in construction scope or duration.

v. Contractor communication: We will coordinate with the MPRB, the City of Minneapolis, and their consultant(s) to communicate with the contractor to clarify plans and specifications and answer questions that arise during construction related to the BCWMC's above-and-beyond water quality improvement work.

e) *Record drawings*: We will receive record survey information from the Contractor. We will then prepare record drawings for the BCWMC's above-and-beyond water quality improvement features, following completion of the work. We will provide the record drawings to both the BCWMC and MPRB.

7) Project Management

We will manage project scheduling and budgeting, in close coordination with MPRB staff and the Commission Administrator, provide grant administration assistance and reporting, and prepare and send project email updates (bi-weekly during design, weekly during construction) that briefly summarize:

a) Work completed since the previous updates

b) Upcoming work

c) Information, data or actions we need from others

8) Environmental Assistance (as needed)

We will prepare a Response Action Plan (RAP) to address soil and groundwater contamination during construction of the CIP project based on Barr Engineering Company's (Barr) previous investigation results (from Irving Avenue Sewer Replacement project). The RAP may be an addendum/addition to the MPRB's RAP, or a standalone document, depending on the MPRB's schedule and environmental scope. Because of the previous investigation work, we do not anticipate additional soil or groundwater testing will be required before construction, but data gaps will be evaluated based on the designed location of the stormwater features. Therefore, the budget includes $5,000 for equipment expenses and possible environmental lab testing prior to construction or in the event the contractor encounters additional contamination during construction. If the Commission enrolls the site in the MPCA Voluntary Remediation Program, the budget includes up to 5 hours of time for the Commission Engineer's assistance with MPCA program enrollment and agency communications. Similar to our work on the Irving Avenue Sewer Replacement project on behalf of the City of Minneapolis, we will prepare a brief Phase I update letter in lieu of a Phase I Environmental Site Assessment for submittal to the MPCA as part of the program enrollment. We will evaluate whether grant funds may be available from Hennepin County for RAP preparation or environmental cleanup, in which case RAP preparation costs could be covered by the County. This task also includes up to 50 hours of field oversight and coordination with the contractor during construction.

Deliverables

We will provide the Commission with the following deliverables during the proposed work:

a) 50%, 90% and 100% supplemental construction drawings for incorporation into MPRB plans

b) 90% and 100% supplemental specifications for incorporation into MPRB specifications

c) 50%, 90% and 100% opinions of cost for the BCWMC's above-and-beyond water quality improvement work

d) Memos accompanying the 50% & 90% construction plans. The memos will describe the CIP project features, comments from MPRB and city of Minneapolis on the plans, how the CIP project features follow or depart from the feasibility study, and the water quality impacts

e) Presentations for the Commission meetings to present the 50% and 90% construction plans

f) Record drawings

g) Project meetings (including Commission meetings), pre-bid meeting, and pre-construction meeting

h) Project email updates

Cost Estimate

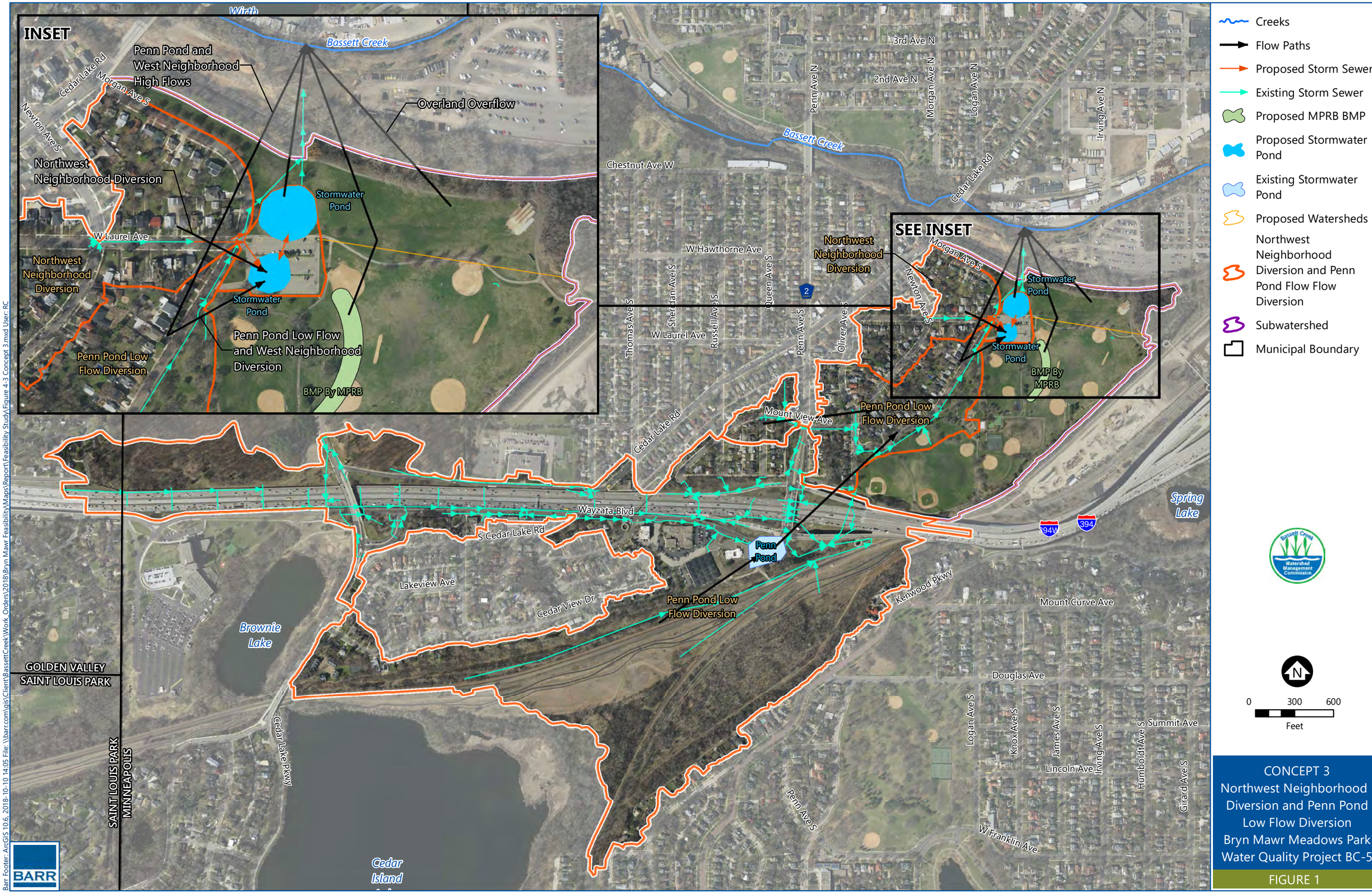
The table below summarizes our cost estimate for the scope of work outlined above.

Tasks	Estimated Total
1) Project Coordination and Project Meetings	$19,400
2) Public Engagement	$8,200
3) Permitting	$10,000
4) Design	$87,100
5) Bidding Services	$6,000
6) Construction Services	$22,100
7) Project Management	$8,700
8) Environmental Assistance (as needed)	$21,500
Total	**$183,000**

Schedule

We will complete the tasks and milestones outlined in the scope of work as shown in schedule, which is based on the schedule provided by MPRB (and reflects the final design date noted in the agreement between the BCWMC, MPRB and City of Minneapolis). If the MPRB modifies the schedule, this schedule will be modified to match the MPRB revised schedule.

Tasks and milestones	Estimated Schedule
Design – submit 30% drawings to MPRB staff for MPRB Board approval	August 2021
Design – submit 50% plans for Commission review	October 2021 Commission Meeting
Design – complete 90% plans and submit to MPRB and Minneapolis staff for 30-day review and approval	December 2021
Design – revise 90% plans per MPRB and Minneapolis staff comments, and submit 90% plans to Commission for review	January 2022 Commission Meeting
Design – revise 90% plans per Commission comments, and submit to MPRB and Minneapolis staff for 30-day review and approval	February 2022
Design – revise 90% plans per MPRB and Minneapolis staff comments, and submit 90% to Commission for finalization and approval	March 2022 Commission Meeting
Design – complete 100% plans	April 2022
Bidding	May 2022
Construction	Summer 2022
Record drawings, final restoration, project closeout	Fall 2022



CONCEPT 3
Northwest Neighborhood Diversion and Penn Pond Low Flow Diversion
Bryn Mawr Meadows Park Water Quality Project BC-5

FIGURE 1

Item 5A.
BCWMC 6-17-21
Plan set and designer's memo online

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Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 5A – Consider Approval of 60% Design Plans for 2021 Mt. Olivet Streambank Restoration & Parkers Lake Drainage Improvements Project, Plymouth (CIP 2021 ML-20 and PL-7) -- BCWMC June 17, 2021 Meeting Agenda
Date: June 10, 2021
Project: 23270051.52-2021-644&645

5A Consider Approval of 60% Design Plans for 2021 Mt. Olivet Streambank Restoration & Parkers Lake Drainage Improvements Project, Plymouth (CIP 2021 ML-20 and PL-7)

Summary:

Proposed Work: 2021 Mt. Olivet Streambank Restoration & Parkers Lake Drainage Improvements Project, Plymouth (CIP 2021 ML-20 and PL-7)

Basis for Commission Review: 60% Design Plans Review

Change in Impervious Surface: N.A.

Recommendations:

1) Conditional approval of 60% drawings
2) Authorize the City of Plymouth to continue design and bring 90% design plans to a future Commission meeting

At their meeting in September 2020, the BCWMC entered into an agreement with the City of Plymouth to design and construct these BCWMC CIP projects. The 2021 Mount Olivet Streambank Restoration & Parkers Lake Drainage Improvements Project (CIP 2021 ML-20 and PL-7) are being funded by the BCWMC's ad valorem levy (via Hennepin County). The City of Plymouth provided the combined 60% design plans for both projects to the BCWMC for review and comment, per the agreement with the City.

Feasibility Study Summary

The BCWMC completed the Feasibility Report for Mount Olivet Stream Stabilization and Parkers Lake Drainage Improvements Projects (Barr, June 2020) to examine the feasibility of restoring sites within these two separate project areas in the City of Plymouth. The Mount Olivet Stream Stabilization project area is located along an unnamed stream adjacent to Mount Olivet Lutheran Church and Clifton E. French Regional Park of the Three Rivers Park District (Figure 1). The Parkers Lake Stream Stabilization project area is located on an unnamed stream within Parkers Lake Community Playfields, upstream of Parkers Lake (Figure 2). At both sites, the feasibility report identified multiple locations where bank erosion, bank failure, and infrastructure repairs were needed, in addition to removal of debris and fallen trees.

The feasibility report also included evaluation of potential projects that would improve the water quality of stormwater leaving the Parkers Lake Community Playfield site by reducing total phosphorus and total suspended solids (Alternatives 5a/5b) and chloride loading into Parkers Lake (Alternative 6).

The feasibility report identified 2 to 3 design options and a final recommendation for each project site. For most of the individual restoration sites, the feasibility report included two alternative designs: 1) a bioengineering (or soft armoring) approach using techniques that rely primarily on vegetation; 2) a more structural (or hard armoring) approach using rock and other non-vegetative materials. Some of the individual restoration sites included additional alternatives that did not focus on preserving the existing alignment or channel configuration, such as re-meandering the channel or conveying flow through a pipe rather than the stream channel. At their May 21, 2020 meeting, the Commission approved the following:

- Mount Olivet Stream Stabilization project: implementing Alternative 1—stream stabilization using bio-engineering techniques, wetland restoration, and installation of a manhole drop structure at the Mount Olivet Church parking lot
- Parkers Lake Drainage Improvements project:
    - For stream stabilization portion of the project, implementing Alternative 3—stream stabilization using bio-engineering techniques (this is the project included in the 60% design plans under current review)
    - For water quality improvement portion of the project, implementing Alternative 6—chloride reduction demonstration project for the northern tributary watershed (this is a separate project not included in the 60% design plans under current review)

The feasibility report estimated that this restoration project would require the removal of approximately 59 trees for the two sites combined—39 trees for the Mount Olivet site and 20 trees for the Parkers Lake site. The feasibility study also estimated that project implementation would reduce the total phosphorus load from the two sites combined by 25.4 pounds per year (5.3 pounds TP per year from the Mount Olivet site and 20.1 pounds TP per year at the Parkers Lake site) and the total suspended sediment load by 50,700 pounds per year (10,560 pounds per year TSS from the Mount Olivet site and 40,140 pounds TSS per year at the Parkers Lake site).

60% Design Plans

The 60% design plans follow many of the recommendations from the feasibility study and include the use of slope grading with bioengineering, stabilization of stormwater outlets, debris clearing, and vegetation management. Notable differences between the 60% design plans and the feasibility study recommendations for the selected alternatives are listed below, which are addressed in a May 19, 2021 submittal memorandum from the design engineers (WSB). Provided that the comments presented later in this memo that apply to the following design features are addressed in future project submittals, the Commission Engineer does not consider any of the following changes to represent a significant departure from the intent of the project as evaluated in the feasibility study.

- Addition of fieldstone riprap bank stabilization at targeted locations – The feasibility study recommended bank stabilization primarily with bioengineering methods, including slope grading, coir blanket with live stakes, and root wads. The 60% design plans include some targeted areas of hard armoring including fieldstone riprap for channel bank stabilization. Based on information provided by the design engineer, the areas selected for hard armoring represent areas with higher predicted velocities in the project hydraulic model (5-6 feet per second and higher) and observed erosion. There are areas with similar predicted velocities that do not have notable observed erosion due to existing vegetation, root structure, and soils that are not proposed for hard armoring. The areas proposed for riprap stabilization are limited in length to no more than 75 feet in any one segment, with most segments measuring between 20 and 50 feet in length. Several of the areas proposed for riprap stabilization are in lieu of the root wads recommended in the feasibility study, as discussed below.

- Proposed rock/log ditch checks in place of rock cross vanes – These structures differ in appearance but are similar in function to prevent headcutting and reduce flow velocity within the channel; one notable difference is that ditch checks do not tend to concentrate flow to the center of the channel as significantly as cross vanes.

- Removal of root wads – The feasibility study recommended the use of root wads in some locations at the Parkers Lake site. The 60% design plans do not include root wads but instead use riprap toe stabilization in areas of higher velocity and erosion as described above. The design engineer's rationale for removing root wads is that the structures are less effective and deteriorate more quickly when used in intermittent streams where they are not continually wetted by the stream flow.

- Removal of riprap revetments at roof drains – The feasibility study recommended riprap revetments to stabilize the outfalls from several apartment complex roof drains at the Parkers Lake site. The 60% design plans do not include these riprap revetments; the rationale for removing the revetments is that erosion at these locations has not been observed and the existing vegetation will continue to serve to prevent erosion.

- Proposed plunge pools in place of rock riffles – The feasibility study recommended a rock riffle at the downstream end of the Parkers Lake site. The 60% design plans include rock-armored plunge pools rather than riffles to provide energy dissipation.

The 60% design plans show the removal of approximately 57 trees for the two sites combined (23 trees for the Mt. Olivet site and 34 trees for the Parkers Lake site), which is similar to the total estimated tree removal numbers in the feasibility study. No tree plantings have been proposed based on the City of Plymouth's desire to open up the tree canopy in these areas and remove undesirable species and falling/diseased trees. The pollutant reductions estimated by the design engineer are slightly higher than those evaluated in the feasibility study due to refinements in the estimated existing length of eroding banks, with a total phosphorus reduction from the two sites combined of 27.5 pounds per year (5.4

pounds TP per year from the Mount Olivet site and 22.1 pounds TP per year at the Parkers Lake site) and a total suspended sediment load reduction of 54,840 pounds per year (10,720 pounds per year TSS from the Mount Olivet site and 44,120 pounds TSS per year at the Parkers Lake site) (Table 1).

Table 1 Estimated Pollutant Load Reduction Comparison

	Mt. Olivet		Parkers Lake		Combined	
	Feas. Study	60% Design	Feas. Study	60% Design	Feas. Study	60% Design
TP (lbs)	5.3	5.4	20.1	22.1	25.4	27.5
TSS (lbs)	10,560	10,720	40,140	44,120	50,700	54,840

The 60% design plans also include the installation of a manhole drop structure and storm sewer outlet to convey flow from the Mt. Olivet parking lot into the creek.

The submitted drawings were at a 60% design stage, which means there are a number of details yet to be worked out before the design is final. The Commission Engineer expects the majority of the comments below to be addressed in the 90% design stage drawings.

Recommendations

A) Conditional approval of 60% design plans, recognizing that the current plans reflect the 60% level of design. The following comments must be addressed prior to submittal of 90% design plans:

1) Comments that apply to both the Mt. Olivet Streambank Restoration and Parkers Lake Drainage Improvements projects:

a) The two-dimensional modeling results submitted with the 60% drawings show areas of high velocity during the 100-year flood event, with velocities reaching 6.1 ft/s at the Mt. Olivet site and 9.0 ft/s at the Parkers Lake site. Many of the highest-velocity areas are proposed for stabilization with fieldstone riprap armoring on the channel banks and as a component of rock ditch checks. We understand from communication with the design engineer that MNDOT Class III fieldstone riprap is proposed for these applications. Please confirm the proposed riprap gradation and provide additional detail to document that the proposed materials are adequately sized to meet the design stability criteria based on the hydraulic modeling results.

b) The plans do not provide a design typical cross section or detail for riprap bank stabilization applications. Please include a design riprap section on the design drawings, including proposed riprap sizes, thickness, filter, and side slopes.

c) The plans call for the use of geotextile fabric beneath ditch checks and in plunge pools; however, for in-stream applications, geotextile fabric can allow for the development of preferential flow paths beneath the fabric. Please revise the design to use a granular filter in

place of the proposed geotextile fabric. This comment does not apply at flared end sections, where the use of the City-standard detail and geotextile fabric is appropriate.

d) The plans include trees anchored to the side slope to provide protection against toe erosion, with the trees anchored by duckbill cable anchors. Please provide additional detail on the proposed cable anchors, including the number of anchors required per log to counteract buoyancy forces.

e) The plans call for rock and rock-log ditch checks at multiple locations, with a typical height of 30 inches above the existing channel bed. Please consider whether the ditch checks have the potential for downstream scour hole development and whether scour protection through material embedment in the channel bottom, flattening of the downstream slope of the ditch check, or a decrease in ditch check height is required.

f) The plans do not provide a design cross section or allowable slope limits for areas with grading only ("blend side slope into the ditch bottom"). Please include a design typical section on the design drawings, including proposed maximum slope and stabilization extents (erosion control blanket or other stabilization).

g) The plans include the use of bioroll (sediment control log) at the toe of graded areas and downstream floating silt curtain for erosion and sedimentation control. We understand from communication with the design engineer that bioroll is also proposed at the downstream locations to provide sedimentation control during very low-flow conditions. Please include the proposed bioroll/silt curtain combination on the drawings.

h) The plans do not show any construction staging areas within the construction limits or on adjacent areas. Please identify construction staging areas that will be required and provide appropriate erosion and sedimentation control measures on the plans.

i) Please include on the plans instructions for the contractor to limit tree clearing as much as possible and only at the direction of the Engineer. We understand from communication with the City that additional tree plantings are not proposed at this time, as discussed above.

j) Please include on the plans the elevations and upstream/downstream stationing for all proposed toe stabilization measures.

k) The proposed seed mixes in the wetland restoration area are BWSR mix 34-271 (wet meadow south and west) and BWSR mix 34-181 (emergent wetland). Stream bank bioengineering areas call for "seeding special" with a seed mix referenced in the specifications (not provided with the 60% drawings). Please provide the custom seed mix proposed for use on the stream bank areas for Commission review.

2) Comments that apply only to the Mount Olivet Streambank Restoration site:

a) The plans do not specify any outlet protection or stilling basin at the proposed storm sewer outlet from the Mount Olivet parking lot at station 4+10. We understand from communication with the City that a City-standard outlet protection detail is proposed; please include the standard detail on the plans.

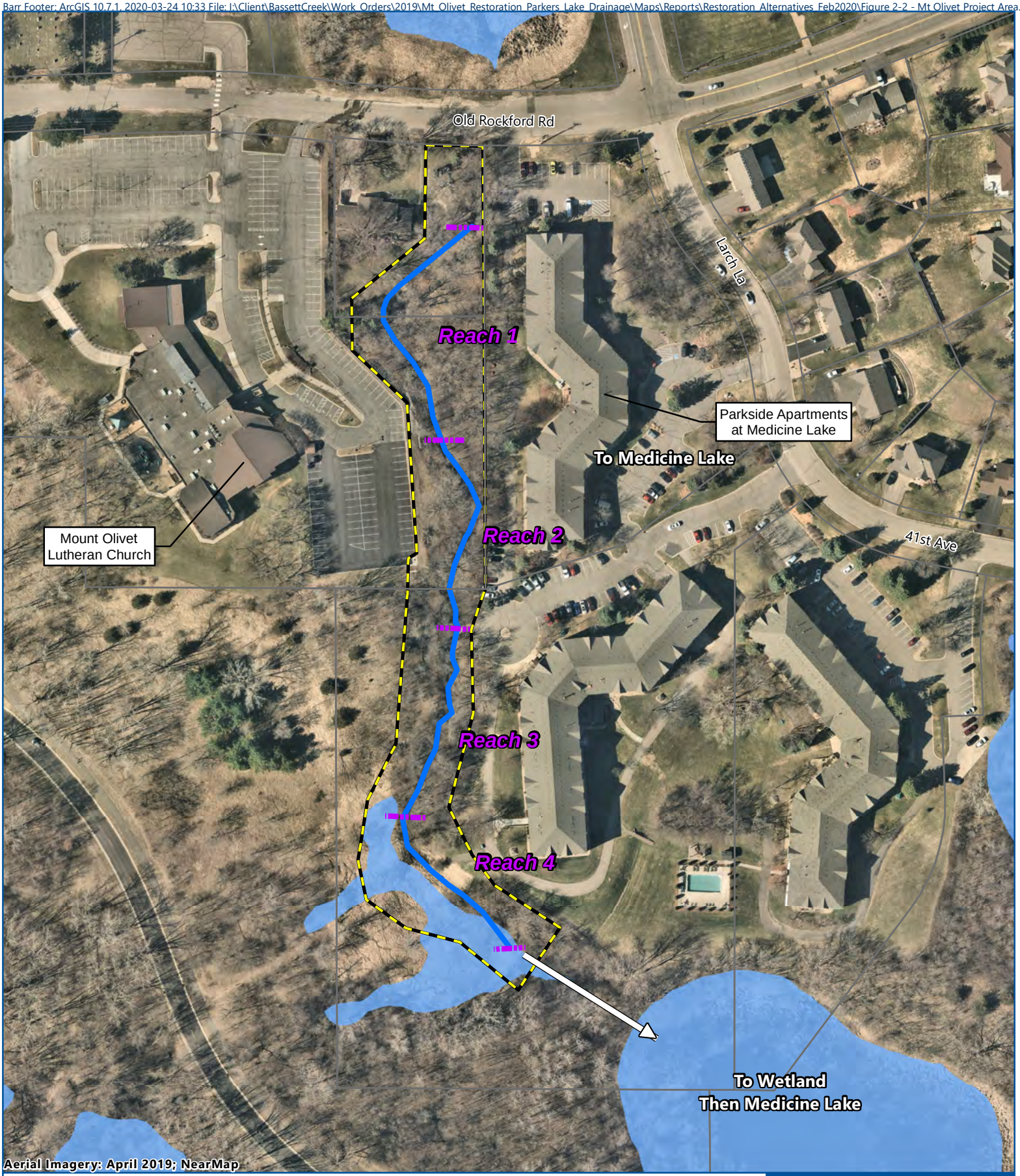
b) The plans call for widening of the stream channel to eight feet wide from station 7+00 to 9+00; however, a design cross section or proposed channel side slopes are not provided. Please specify a design cross section or side slopes and indicate the extent of the disturbance on the plans.

c) The plans do not show any downstream erosion control measures at the proposed wetland restoration and access route at the Mount Olivet site (downstream and to the south of the proposed construction areas). Please provide downstream erosion control, such as silt fence or bioroll along the access and at the wetland restoration location.

3) Comments that apply only to the Parkers Lake Drainage Improvements site:

a) The plans call for grading of the stream channel bottom from station 13+00 to 14+80; however, only a portion of this length has accompanying bank stabilization measures shown. We understand from communication with the design engineer that the remaining length is proposed for sediment removal and reshaping of the bottom of the channel only and will not require additional bank grading. Please provide clarification regarding the proposed grading in the drawings, including a design slope and direction to the contractor to limit bank disturbance in this area.

B) Authorize the City of Plymouth to continue design and bring 90% design plans to a future Commission meeting.



Stream Path
Reach Boundary
Project Area
Ponds and Wetlands
Parcels

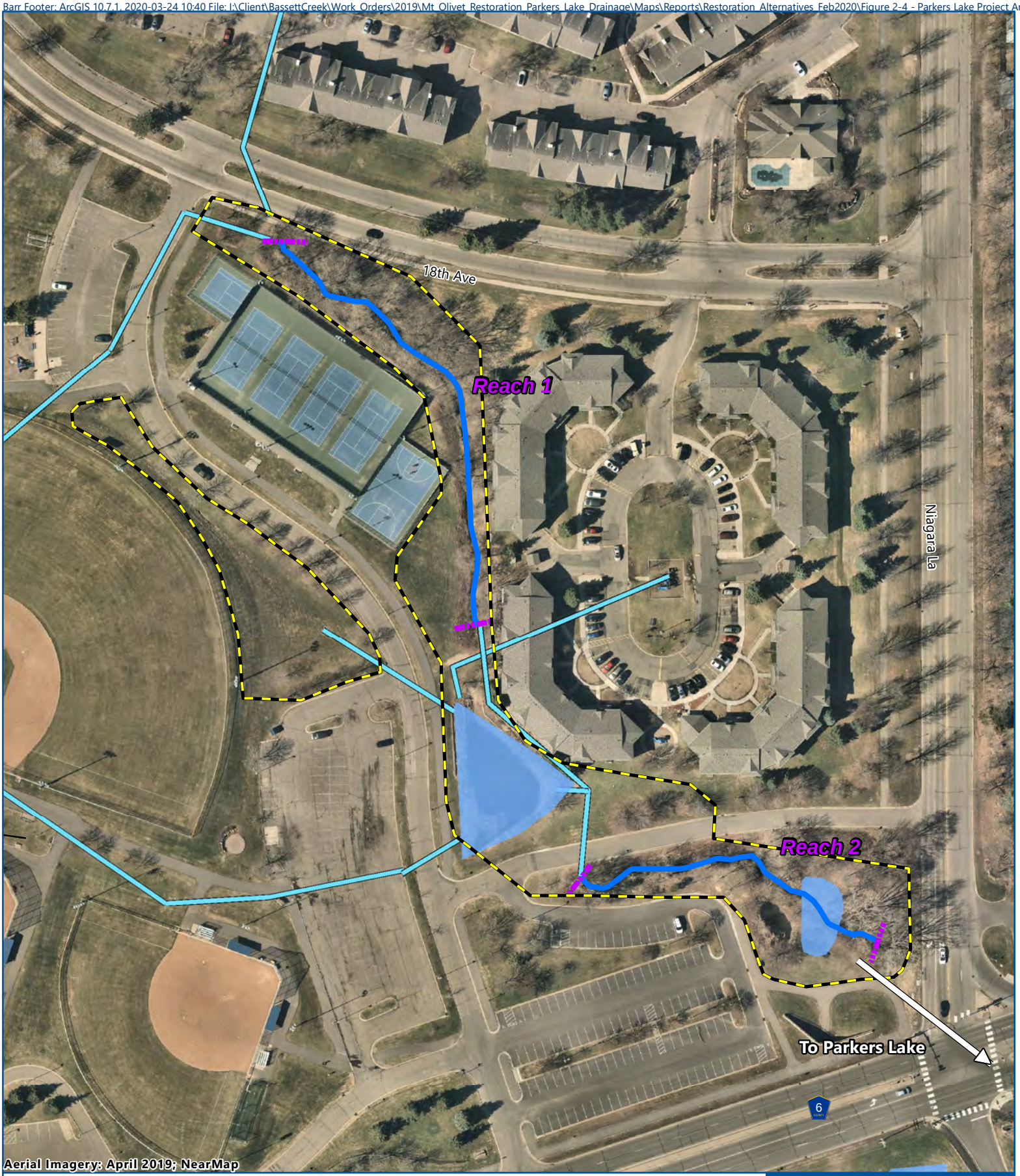
N

0 150 300
Feet

Bassett Creek Watershed Management Commission

MT. OLIVET
PROJECT AREA
Mt. Olivet/Parkers Lake
Design Project Review

FIGURE 1



Stream Path
Reach Boundary
Project Area (Stream/BMPs)
Ponds and Wetlands
Storm Sewer

N

0 125 250
Feet

Bassett Creek Watershed Management Commission

PARKERS LAKE PROJECT AREA
Mt. Olivet/Parkers Lake Design Project Review

FIGURE 2

Item 5B.
BCWMC 6-17-21

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Memorandum

To: Bassett Creek Watershed Management Commission (BCWMC)
From: Barr Engineering Co.
Subject: Item 5B. Consider Approval of Feasibility Study and Choose Concept to Implement for Medley Park Stormwater Treatment Facility Project, Golden Valley (CIP 2022 ML-12) - BCWMC June 17, 2021 Meeting Agenda
Date: June 10, 2021
Project: 23270051.51

5B Consider Approval of Feasibility Study and Choose Concept to Implement for Medley Park Stormwater Treatment Facility Project, Golden Valley (CIP 2022 ML-12)

The BCWMC Commissioners reviewed and discussed the Draft Feasibility Report for the Medley Park Stormwater Treatment Facility Project at the May 2021 BCWMC meeting, and the draft report was approved with suggested revisions. This memorandum summarizes the changes made to the report based on the discussion and comments provided. Where appropriate, full paragraphs are included for context and the added language is underlined.

1. The Table of Contents was updated to reflect new page numbering caused by additional text and one figure.
2. Section 1.5 – Project impacts and estimated costs; new paragraph added as outlined below
    a. Of the project impacts, a second significant consideration is the improvement of water quality to downstream Medicine Lake. The proposed project will result in increased permanent pool volume and sediment storage volume in the new stormwater ponds and the expanded Medley Pond footprint and, therefore, reduce sediment and particulate phosphorus loading to all downstream water bodies, including Medicine Lake. Concepts 1 and 2 also include the construction of biofiltration basins, which will help to remove particulate and dissolved pollutants, such as dissolved phosphorus, through sorption to the soil and intake by plants. Dissolved inorganic phosphorus is the form directly used for photosynthesis. Other forms of phosphorus must be transformed before becoming useful for photosynthesis. Therefore, by removing dissolved inorganic phosphorus from stormwater runoff through biofiltration, less is available for algae and plants to grow in downstream waterbodies.
    Dissolved phosphorus can also be removed in stormwater ponds through uptake by submerged plants and phytoplankton. However, uptake of dissolved phosphorus by phytoplankton and plants is usually offset by death and decay of these organisms at the end of the growing season. The dead organic matter will settle as particulate phosphorus, and has the potential to re-release phosphorus due to decomposition by bacteria.

Through decomposition, phosphorus in the organic matter is converted from particulate phosphorus to dissolved phosphorus. Therefore, because the uptake and release of dissolved phosphorus can be net neutral in stormwater ponds over the course of a year, the removal of dissolved phosphorus by submerged plants and algae is not quantified for the stormwater pond expansions and additions in the three concepts presented.

3. Figure 2-1 – Project Area
    a. Flow arrows were added to the stormwater channels, Medley Pond outlet, and Kings Valley Pond outlet to clarify stormwater flow directions.
4. Figure 3-2 – Existing Conditions 100-year Inundation
    a. This is a new figure which shows the existing conditions Atlas-14 100-year 24-hour design storm event inundation extents to provide context for flooding concerns. Structure locations or aerial imagery was not used for homeowner confidentiality concerns.
    b. A figure showing the proposed conditions Atlas-14 100-year 24-hour inundation extents was not developed. The drop in the 100-year maximum water surface elevations were not great enough to show a significant change in the LiDAR-produce inundation area. It was determined that Table 6-3 provided a better representation of the impacts to at-risk flood structures.
5. Figure 3-4 – Site Conditions
    a. The wetland survey boundary was added to Figure 3-4.
6. Section 5.0 – Potential Improvements
    a. For discussions related to proposed increases to flood mitigation volumes, in-text clarification was added throughout the section confirming that increases in flood mitigation volumes are "up to the 100-year flood elevation."
7. Section 5.1 – Concept 1; added text is underlined
    a. Constructing a biofiltration basin downstream of the new stormwater pond. Two submerged and back-sloped storm sewer pipes would allow volume from the upstream new stormwater pond to enter the biofiltration basin while limiting the amount of floatable debris that can enter the basin. The storm sewer outlet to the biofiltration basin would be set one foot above the basin bottom to allow a minimum of one-foot treatment depth. A berm, with an emergency overflow, would be constructed to separate the pond and basin. The biofiltration basin would provide approximately 0.6 ac-ft of water quality treatment volume below the outlet rim elevation (2 feet above the basin bottom) and remove approximately 1.2 pounds of dissolved phosphorus per year through sorption to soils and sand. No filtration enhancements are proposed for the biofiltration basin substrate (i.e. iron-enhanced sand) to remove additional dissolved phosphorus. Limitations for the configuration of the basin and stormwater ponds, including existing stormwater infrastructure, existing topography, and the volume of stormwater runoff tributary to the park, results in a longer than recommended inundation period for iron-enhanced sand. Under longer periods of inundation, iron-enhanced sand removal efficiency decreases and can even release phosphorus under certain conditions.

8. Section 5.2 – Concept 2; added text is underlined
    a. Constructing a biofiltration basin in the eastern half of the construction area. The biofiltration basin would provide 0.7 ac-ft of water quality treatment volume below the outlet structures' rim elevations (1.5 feet above the basin bottom). Flows from the basin would discharge west to the new stormwater pond. The biofiltration basin would remove approximately 6.3 pounds of dissolved phosphorus per year through sorption to soils and sand. No filtration enhancements are proposed for the biofiltration basin substrate (i.e. iron-enhanced sand) to remove additional dissolved phosphorus. Limitations for the configuration of the basin and stormwater ponds, including existing stormwater infrastructure, existing topography, and the volume of stormwater runoff tributary to the park, results in a longer than recommended inundation period for iron-enhanced sand. Under longer periods of inundation, iron-enhanced sand removal efficiency decreases and can even release phosphorus under certain conditions.
9. Section 5.3 – Concept 3; added text is underlined
    a. Increasing the total water quality volume by 4.3 acre-feet to 4.6 acre-feet from existing conditions through the expansion of Medley Pond and the excavation and regrading of the western portion of Medley Park. Filtration BMPs that would remove dissolved phosphorus were not included in this concept due to considerable bounce of water levels and long inundation periods for smaller storm events (See Section 8.0 for further discussion on the limitations of dissolved phosphorus removal for Concept 3).
10. Table 6-1 – Medley Park Improvement Project Concept Matrix Summary
    a. Units added to the flood elevation items in Table 6-1 (ft, NAVD88)
    b. Footnote added: "Total flood mitigation volume summarized up to the 100-year flood elevation"
11. Section 6.3 Open water area creation; added text is underlined
    a. In all concepts, the total open water area within Medley Park would increase through the expansion of the existing Medley Pond footprint and through the installation of new stormwater ponds. Open water area provides permanent pool volume for water quality treatment and also allows for the expansion of aquatic habitat. Under existing conditions, Medley Park has approximately 0.5 acres of open water area (footprint of existing Medley Pond). Under Concepts 1, 2, and 3, the total area of open water in the park would be approximately 0.9, 1.0, and 1.5 acres, respectively. Options for submerged macrophyte restoration can also be considered to provide aquatic habitat and promote clearer water conditions.
12. Section 7.1.6 – 30-year cost; added text is underlined
    a. The 30-year cost for each alternative is calculated as the future worth of the initial capital cost (including contingency and engineering costs) plus the future worth of annual maintenance (see Table 7 1) and significant maintenance at the end of the alternative's life span. The life span for each proposed concept was assumed to be 30-years. A 4% rate

of inflation is assumed. The annualized cost for each alternative is calculated as the value of 30 equal, annual payments of the same future worth as the 30-year cost.

13. Section 7.2 – Funding sources; added text is underlined
    a. The City of Golden Valley may have up to $500,000 in funds available for use on this project. The exact amount will be determined during final design at the City of Golden Valley's December 2021 city council meeting.
14. Section 8.0 – Alternatives assessment and recommendations; added text is underlined
    a. Concept 3 resulted in the second highest removal of total phosphorus of the three concepts analyzed. The installation of the Concept 3 stormwater features within Medley Park would increase the phosphorus load reduction by 17.0 pounds per year to downstream water bodies, which includes Medicine Lake. Because Concept 3 currently does not include filtration features, dissolved phosphorus would not be removed with this design.

       Adding filtration features to Concept 3 would be accompanied by a number of trade-offs, which would include:

       - The loss of flood mitigation volume to develop water quality treatment areas in separate basins or benched features.
       - The loss of flood mitigation volume to develop enough elevation difference to adequately filtrate stormwater runoff.
       - Increased maintenance of the filtration media and draintiles due to substantial bounce of maximum water surface elevations in the stormwater ponds and prolonged periods of inundation for small storm events.
       - Limited options for filtration media due to prolonged periods of inundation for smaller storm events. Iron-enhanced sand is not recommended due to the risk of anoxic conditions and release of previously bound phosphate. Spent lime is not recommended due to the risk of media instability from prolonged periods of inundation. Biochar is not recommended because phosphorus removal efficiency is limited and the media is more appropriate for the removal of E. coli. Cleaned washed sand could be utilized within a filtration bench; however, the cost of including this filtration bench may outweigh the benefits due to the limited dissolved phosphorus removal efficiency.

       Rather than include filtration in Concept 3, the BCWMC may want to consider infiltration or filtration features at other locations in the Medicine Lake watershed, if dissolved phosphorus removal is desired in future projects.
    b. Members from the Barr Engineering Team attended the May 2021 Engineered Media Webinar hosted by the Minnesota Pollution Control Agency (MPCA) to see if current research provided alternative filtration options for the Medley Park Stormwater Treatment Facility. Unfortunately, information presented during the webinar did not provide additional viable options not already explored.

Item 5B.
BCWMC 6-17-21
Full Document and Appendices
Online

Medley Park Stormwater Treatment Facility Feasibility Study

Golden Valley, Minnesota

June 2021

Prepared for
Bassett Creek Watershed Management Commission

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Medley Park Stormwater Treatment Facility Feasibility Study

June 2021

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1.0 Executive summary

1.1 Background

The Bassett Creek Watershed Management Commission's (BCWMC) current Capital Improvement Program (CIP) (Table 5-3 in the 2015-2025 Bassett Creek Watershed Management Plan, as revised) includes the Medley Park Stormwater Treatment Facility project (Project). At their August 2020 meeting, the Commission approved the BCWMC Engineer's proposal to conduct a feasibility study for the Project (2022 CIP Project ML-12).

As is required for BCWMC CIP Projects, a feasibility study must be completed prior to BCWMC holding a hearing and ordering the project. This study examines the feasibility of developing flood storage volumes and water quality treatment best management practices (BMPs) in the western portion of Medley Park adjacent to (and within) existing Medley Pond. The feasibility study includes examining the development of additional water quality treatment volume, the installation of biofiltration BMPs, re-aligning the existing channel north of Medley Pond, diverting small storm event flows from existing stormwater infrastructure, and removing accumulated sediment from Medley Pond. The goal of the project is to alleviate local flooding in the subdivision south of Medley Park and to improve water quality downstream of Medley Park by trapping additional sediment and pollutants in the pond, in biofiltration BMPs and within expanded storage areas, thus minimizing pollutants passing downstream to Medicine Lake. The proposed project will also improve ecology and wildlife habitat, enhance active and passive recreation opportunities, and provide educational opportunities.

Three conceptual designs were investigated during this feasibility study. The concept design layouts investigated various combinations of biofiltration basins, constructed stormwater ponds, the expansion and dredging of the existing Medley Pond, and the diversion of runoff from existing storm infrastructure upstream of the project area. All concept designs were developed to balance flood mitigation storage and water quality treatment. Flood benefits were assessed with the hydrologic and hydraulic model XPSWMM and water quality benefits were quantified by using the P8 model. Permitting requirements for each conceptual design were reviewed and cost estimates are provided.

If ordered, the CIP calls for implementing the project in 2022 and 2023. The BCWMC CIP funding (ad valorem tax levied by Hennepin County on behalf of the BCWMC), is not the sole source of funding for this project. The remainder of the funding will come from the City of Golden Valley and other sources (e.g. other grants, as appropriate).

1.2 Site conditions

Medley Park is located in the City of Golden Valley east of Highway 169 and south of Medicine Lake Road (Figure 2-1). Medley Park is a public, urban, walking park consisting of open green spaces, deciduous forest, open water, various wetland communities, playground equipment, and sporting facilities (e.g., basketball court, tennis court, ice skating rinks). The walking trails are used heavily by the single family and multi-family residential communities surrounding the park.

In the western portion of Medley Park is an existing open waterbody named Medley Pond, which has a surface area of approximately 0.5 acres. Medley Pond is not listed as a Minnesota Depart of Natural Resources (MnDNR) public water.

Medley Pond receives stormwater runoff from a drainage area of approximately 95 acres in Golden Valley and New Hope and discharges downstream to a small stormwater pond, Pond ML-2 (as named by the City of Golden Valley). Local residents also refer to this pond as Kings Valley Pond, which is named after the surrounding townhome community. Runoff from Pond ML-2 discharges to another small stormwater pond, Pond ML-3, which ultimately discharges to Medicine Lake. Any improvements to runoff water quality within Medley Park will result in improvements to Medicine Lake, which is currently listed as impaired for excess nutrients. Reductions in sediment and pollutant loads to the lake can likely help address this impairment.

1.3 Project alternatives

The BCWMC Engineer evaluated three conceptual designs for developing flood storage volume and water quality BMPs within Medley Park. All three concepts analyzed several stormwater runoff diversion alternatives from existing stormwater infrastructure and investigated various layouts of stormwater ponds, biofiltration basins, and Medley Pond expansion and dredging to balance flood storage management and water quality treatment. The three concepts are fully described in Section 5.0.

In addition, measures considered for potential implementation in all scenarios include the following:

- Increasing the Medley Pond open water area, and increasing associated water quality treatment volume through expanding contours below the normal water level (NWL) and dredging accumulated sediment. The proposed expansion and dredging of accumulated sediment would provide additional water quality treatment volume and provide additional habitat for aquatic life, such as turtles, frogs, macroinvertebrates, and aquatic plants.
- Creating additional stormwater pond(s) to provide additional water quality treatment volume, improve ease of maintenance, enhance water quality in downstream locations, and increase flood storage capacity.
- Diverting stormwater runoff from upstream stormwater infrastructure. Two diversions were assessed and include diverting low flows from storm sewer northeast of the project area and/or re-aligning the existing channel that currently discharges directly into Medley Pond. Diverting stormwater runoff from the existing stormwater infrastructure allows for biofiltration treatment of the runoff before discharging downstream, which would help to remove particulate and dissolved pollutants. Re-aligning the stormwater channel into new stormwater ponds allows for a longer detention time, which would promote enhanced sediment and particulate contaminant settling.
- Preserving trees on the west side of Medley Pond. Tree removal is expected within project disturbance limits. However, upland areas would be restored with native vegetation and replanted with trees to replace those removed during construction.

- Replacing disturbed trails with ADA-compliant trails to preserve park use, improve walking trail opportunities, and allow for maintenance access. For all concepts a looped trail around the stormwater features is provided.
- Restoring all disturbed areas with native plantings and pollinator friendly habitats.

The alternatives are discussed in more detail in Sections 5.0 and 6.0.

1.4 Relationship to Watershed Management Plan

The BCWMC included the Medley Park Stormwater Treatment Facility Project in its CIP, based on the following "gatekeeper" policy from the BCWMC Plan. Those items in bold italics represent those that directly apply to this project.

110. The BCWMC will consider including projects in the CIP that meet one or more of the following "gatekeeper" criteria.

- Project is part of the BCWMC trunk system (see Section 2.8.1, Figure 2-14 and Figure 2-15 of the report)
- ***Project improves or protects water quality in a priority waterbody***
- ***Project addresses an approved TMDL or watershed restoration and protection strategy (WRAPS)***
- ***Project addresses flooding concern***

The BCWMC will use the following criteria, in addition to those listed above, to aid in the prioritization of projects:

- Project protects or restores previous Commission investments in infrastructure
- ***Project addresses intercommunity drainage issues***
- Project addresses erosion and sedimentation issues
- ***Project will address multiple Commission goals (e.g., water quality, runoff volume, aesthetics, wildlife habitat, recreation, etc.)***
- ***Subwatershed draining to project includes more than one community***
- ***Addresses significant infrastructure or property damage concerns***

The BCWMC will place a higher priority on projects that incorporate multiple benefits, and will seek opportunities to incorporate multiple benefits into BCWMC projects, as opportunities allow.

The Medley Park Stormwater Treatment Facility meets multiple gatekeeper criteria— the project addresses flooding concerns and the project will improve water quality by reducing the amount of sediment and pollutants that reach Medicine Lake. Additionally, this project will address intercommunity drainage concerns, multiple communities (the Cities of Golden Valley and New Hope) are within the project's subwatershed, and the project will address multiple Commission goals by capturing increased

runoff volume, enhancing water quality, providing recreation opportunities, and improving wildlife habitat.

1.5 Project impacts and estimated costs

Potential impacts of the proposed project (increasing the flood storage and water quality treatment volumes of Medley Pond and developing a water quality BMP in the existing Medley Park area) are summarized in Table 1-1.

Of the project impacts, one of the most significant considerations is the development of the flood storage volume, the impact on flood elevations in surrounding areas, and the reduction in the number of structures at-risk of flooding. One of the main purposes of the project is to lower the flood depths on the roads in the subdivision south of the park and to protect structures around this area. The XP-SWMM results for this project indicate that for the 50-year, 24-hour recurrence interval the flood depth on the low point on Kings Valley Road is reduced from 3.3 feet to 2.7 – 3.0 feet, depending on the concept. For the 100-year, 24-hour flood event, the flood depth on Kings Valley Road is reduced from 4.0 feet to 3.5 – 3.7 feet, depending on the concept. Reductions in flood elevations can translate to structures no longer being at-risk of flooding. For the three concepts, 5 – 6 structures are expected to be removed from the at-risk properties list for the 25-year, 24-hour event, 4 – 5 structures for the 50-year, 24-hour event, and 3 structures for the 100-year, 24-hour event.

Of the project impacts, a second significant consideration is the improvement of water quality to downstream Medicine Lake. The proposed project will result in increased permanent pool volume and sediment storage volume in the new stormwater ponds and the expanded Medley Pond footprint and, therefore, reduce sediment and particulate phosphorus loading to all downstream water bodies, including Medicine Lake. Concepts 1 and 2 also include the construction of biofiltration basins, which will help to remove particulate and dissolved pollutants, such as dissolved phosphorus, through sorption to the soil and intake by plants. Dissolved inorganic phosphorus is the form directly used for photosynthesis. Other forms of phosphorus must be transformed before becoming useful for photosynthesis. Therefore, by removing dissolved inorganic phosphorus from stormwater runoff through biofiltration, less is available for algae and plants to grow in downstream waterbodies.

Dissolved phosphorus can also be removed in stormwater ponds through uptake by submerged plants and phytoplankton. However, uptake of dissolved phosphorus by phytoplankton and plants is usually offset by death and decay of these organisms at the end of the growing season. The dead organic matter will settle as particulate phosphorus, and has the potential to re-release phosphorus due to decomposition by bacteria. Through decomposition, phosphorus in the organic matter is converted from particulate phosphorus to dissolved phosphorus. Therefore, because the uptake and release of dissolved phosphorus can be net neutral in stormwater ponds over the course of a year, the removal of dissolved phosphorus by submerged plants and algae is not quantified for the stormwater pond expansions and additions in the three concepts presented.

Section 6.0 presents estimates of existing pollutant loadings. The estimated increase in total phosphorus removal ranges from approximately 14.0 pounds per year (Concept 1) to 18.6 pounds per year (Concept

2). The estimated increase in dissolved phosphorus removal ranges from 1.2 pounds per year (Concept 1) to 6.3 pounds per year (Concept 2). Dissolved phosphorus is not removed in Concept 3 because the proposed design only includes the construction of stormwater ponds and no biofiltration basins.

To develop the flood storage and water quality volumes, tree removals within the project disturbance/grading limits will be required. Because the project area is in a park and is a popular walking area, community resistance to tree removal is a concern. Wetland and upland restoration, including planting of new trees and shrubs, will occur in all areas disturbed by construction, and many existing trees will be preserved in key areas, such as on the west side of Medley Pond.

The feasibility-level opinion of costs for implementing the various concepts for the 2022-2023 Medley Park Stormwater Treatment Facility Project are present in Table 1-1. This table also lists the 30-year annualized total phosphorus reduction costs and the project costs per acre foot of flood mitigation volume developed.

For a complete summary of the estimated impacts, permitting requirements, disposal of contaminated sediment, closure of pedestrian trails, and costs of the concepts, including the methodology and assumptions used for the cost estimate, refer to Section 6.0, Section 7.0, and Table 6-1.

Table 1-1 Medley Park Stormwater Treatment Facility Impacts Summary

Category	Item	Existing Conditions	Concept 1	Concept 2	Concept 3
Flood Mitigation	Increase in Flood Mitigation Volume (ac-ft)	--	5.3	6	8.3
	# of Potentially At-Risk Structures (25-year)	6	1	1	0
	# of Potentially At-Risk Structures (50-year)	15	11	11	10
	# of Potentially At-Risk Structures (100-year)	20	17	17	17
Water Quality	Additional Water Quality Treatment Volume (ac-ft)	--	2.8	2.7	4.3
	Increase in Total Phosphorus Removal (lbs/yr)	--	14	18.6	17
	Dissolved Phosphorus Removal (lbs/yr)	0	1.2	6.3	0
Restoration	Number of Trees Removed	-	7	7	7
	Restored Wetland Area (ac)	--	0.56	0.69	0.56
	Restored Prairie Area (ac)	--	0.85	0.49	0.56
Project Costs	Feasibility Level Opinion of Cost	--	$1,848,000	$2,137,000	$1,845,000
	Cost per Acre-Ft of Flood Mitigation Volume	--	$349,000	$356,000	$222,000
	Annualized Cost per Pound of Total Phosphorus Removed (Water Quality Treatment)	--	$5,900	$4,500	$3,500

1.6 Recommendations

Based on review of the project impacts for each of the three concepts, the overall project costs, feedback from BCMWC staff, the City of Golden Valley, and residents during the public engagement efforts, the BCWMC Engineer recommends implementation of Concept 3, which best balances the development of flood mitigation volume with water quality treatment.

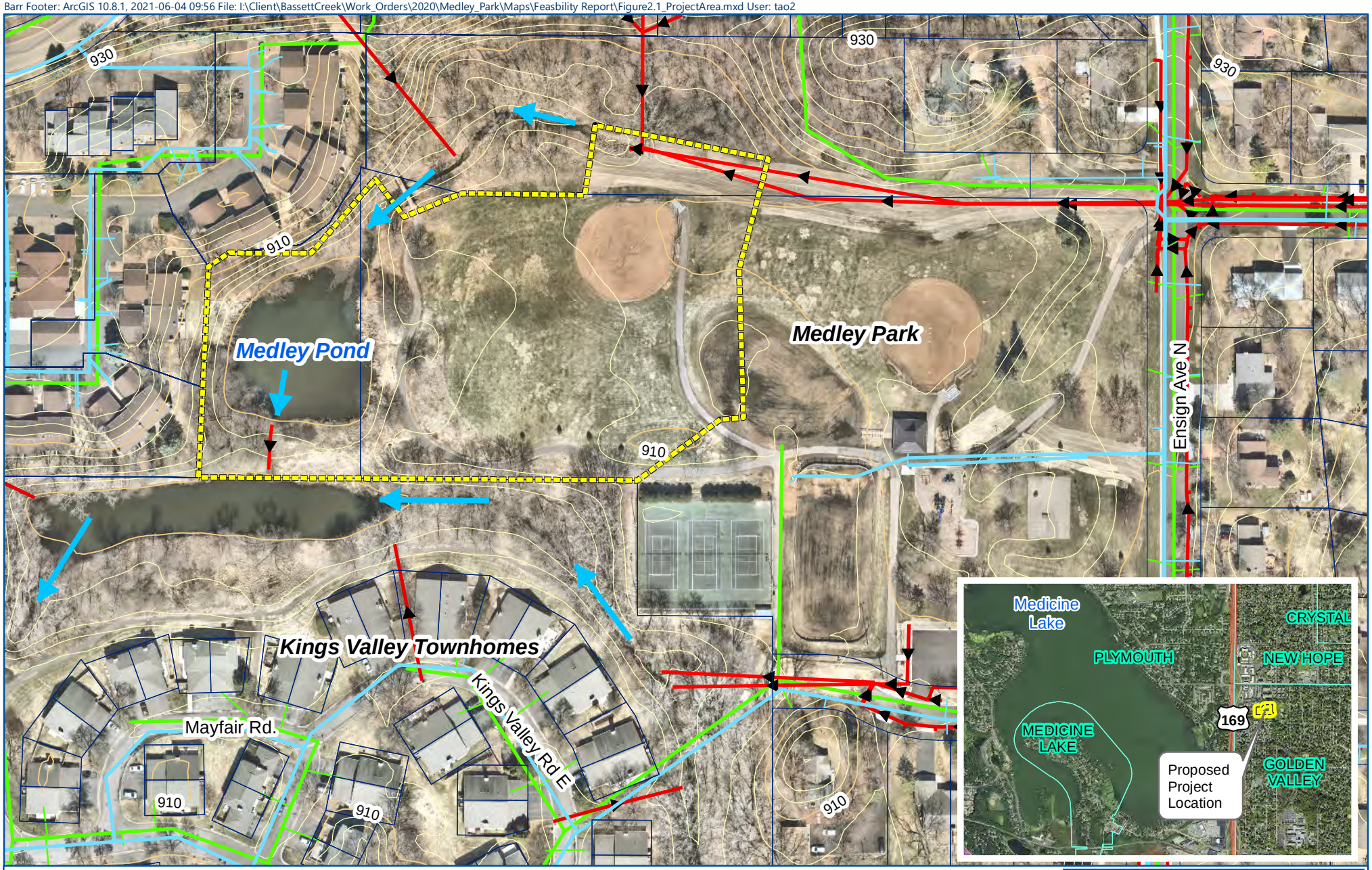
Concept 3 creates approximately 8.3 acre-feet of additional flood storage for the 100-year, 24-hour flood frequency event, which reduces the 100-year, 24-hour maximum water surface elevations by 0.5 feet within Medley Park and the downstream Kings Valley Pond (ML-2). This reduction in flood elevation removes three structures from being at-risk of flooding for the 100-year, 24-hour storm event. For the 25-year, 24-hour storm event, the maximum water surface elevations within Medley Park and on Kings Valley Pond are reduced by 0.6 feet, which removes six structures from being at-risk of flooding for the 25-year, 24-hour event.

Reducing the maximum water surface elevations of Medley Pond and the Kings Valley Pond during larger storm events also results in reduced road flooding depths near the Kings Valley Townhomes. For the 100-year, 24-hour storm event, the maximum flood depth at the low point on Kings Valley Road is reduced from approximately 4.0 feet to 3.5 feet. For the 50-year, 24-hour storm event, the maximum flood depth at the low point is reduced from approximately 3.3 feet to 2.7 feet. For the 25-year, 24-hour storm event, the maximum flood depth is reduced from approximately 2.5 feet to 1.9 feet.

Concept 3 also increases the phosphorus load reduction by 17.0 pounds per year and restores 0.6 acres of wetland and 0.6 acres of upland, prairie habitat. Disturbed trails would be replaced with a looped ADA paved trail to provide active recreation and habitat viewing opportunities for park users and to provide maintenance access.

The planning level estimated cost for Concept 3 is $1.8 million (-20%/+30%). The revised BCWMC CIP budget for this project is $1.5 million (originally $500,000, but updated March 2021). The BCWMC CIP funding (ad valorem tax levied by Hennepin County on behalf of the BCWMC), is not the sole source of funding for this project. The remainder of the funding may come from a variety of sources, including the City of Golden Valley and other sources (e.g. other grants, as appropriate). The City of Golden Valley may have up to $500,000 in funds available for use on this project. The exact amount will be determined during final design.

Barr Footer: ArcGIS 10.8.1, 2021-06-04 09:56 File: I:\Client\BassettCreek\Work_Orders\2020\Medley_Park\Maps\Feasbility Report\Figure2.1_ProjectArea.mxd User: tao2



Proposed Project Boundary
Hennepin County Parcels
Storm Sewer Pipe
Watermain
Sanitary Sewer Main
Flow Direction

Existing Contours

10-foot contour
2-foot contour

N

120 0 120

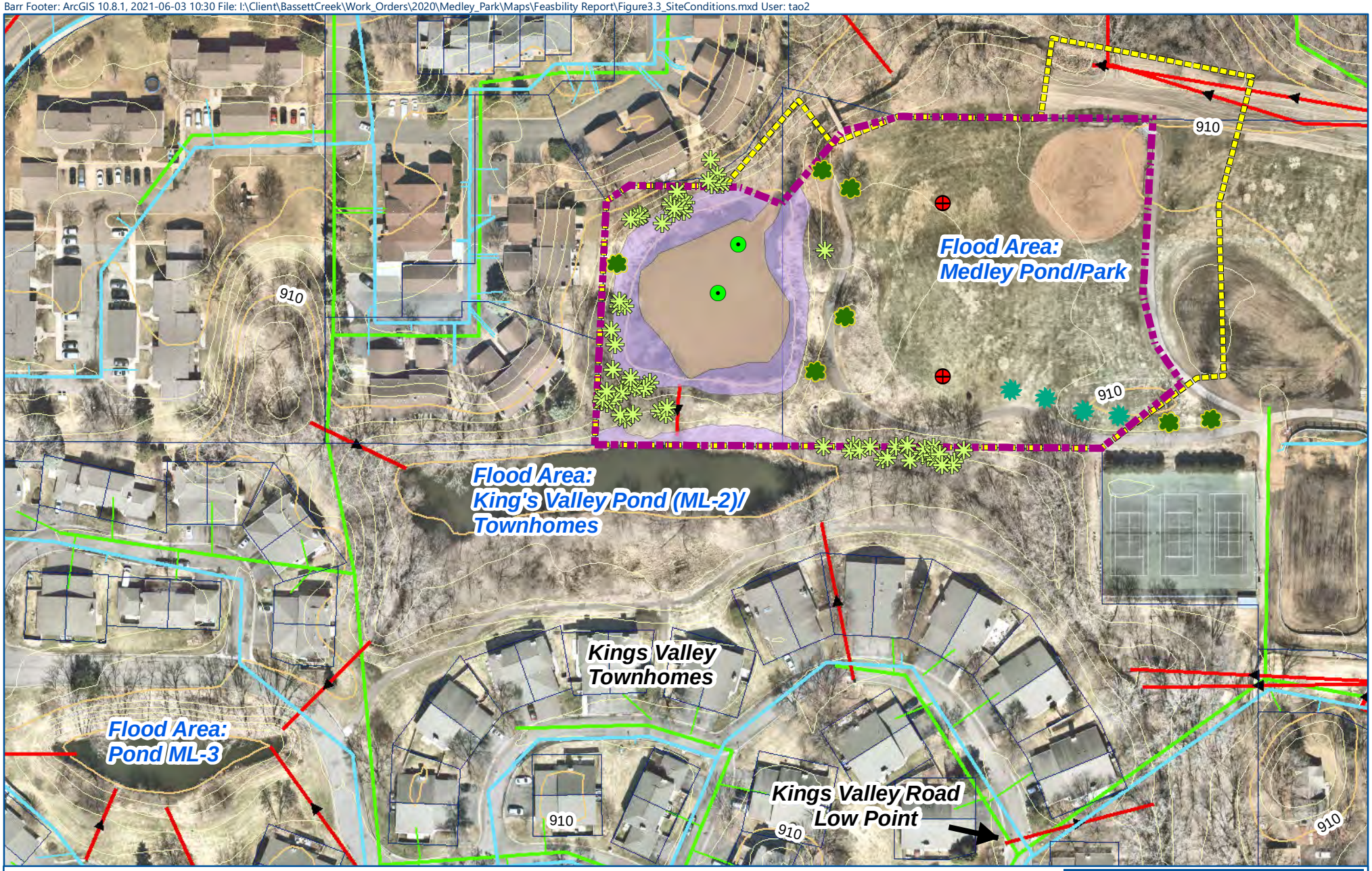
Feet

BARR

MEDLEY PARK
PROJECT AREA

FIGURE 2-1

Barr Footer: ArcGIS 10.8.1, 2021-06-03 10:30 File: I:\Client\BassettCreek\Work_Orders\2020\Medley_Park\Maps\Feasbility Report\Figure3.3_SiteConditions.mxd User: tao2



Proposed Project Boundary
Wetland Survey Boundary
Hennepin County Parcels
Soil Boring Locations
Sediment Sampling Locations

Storm Sewer Pipe
Watermain
Sanitary Sewer Main

Surveyed Trees
Significant Coniferous
Significant Hardwood
Significant Softwood

Delineated Wetlands
PEMC
PUBGx

Existing Contours
10-foot contour
2-foot contour

N

120 0 120
Feet

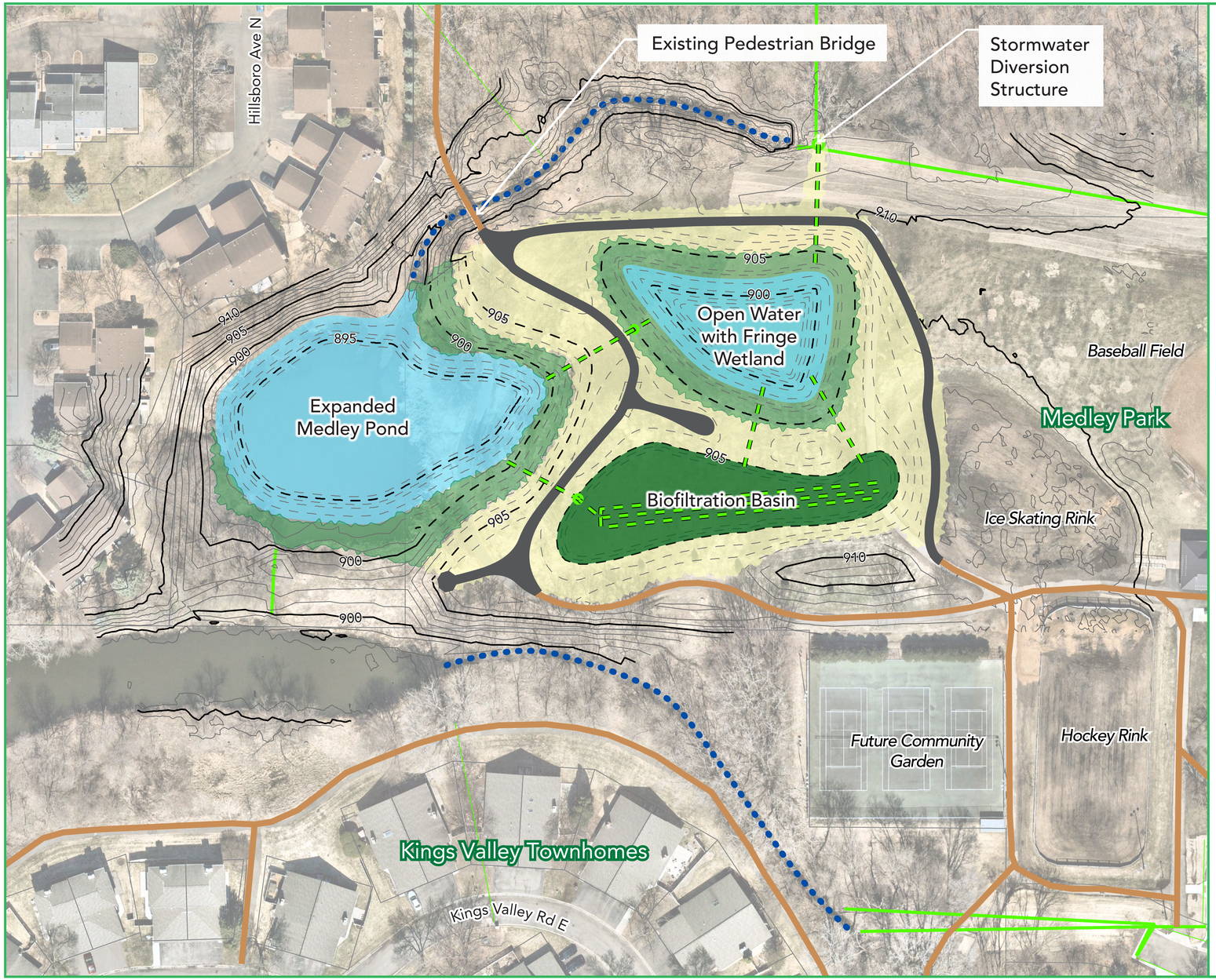
BARR

MEDLEY PARK
SITE CONDITIONS

FIGURE 3-4

Concept 1

Estimated Cost = $1.8 million



LEGEND

- Open Water
- Biofiltration Basin
- Wet Meadow
- Prairie
- Existing 1′ Contour
- Existing 5′ Contour
- Proposed 1′ Contour
- Proposed 5′ Contour
- Existing Storm Sewer Pipe
- Proposed Storm Sewer Pipe
- Existing Stream
- Existing Paved Trail
- Proposed Paved Trail
- Parcel Boundary Lines

N

0 50 100 200

Feet

Concept Summary

Additional Flood Storage Created:
5.3 acre-feet

Improved Water Quality:
Additional 14.0 lbs/yr phosphorus removed (1.2/lbs/yr dissolved phosphorus)

Restored Wetland and Prairie habitat:
1.4 acres total

Open Water Area:
0.9 acres total

Tree Removal Estimate
7 trees total

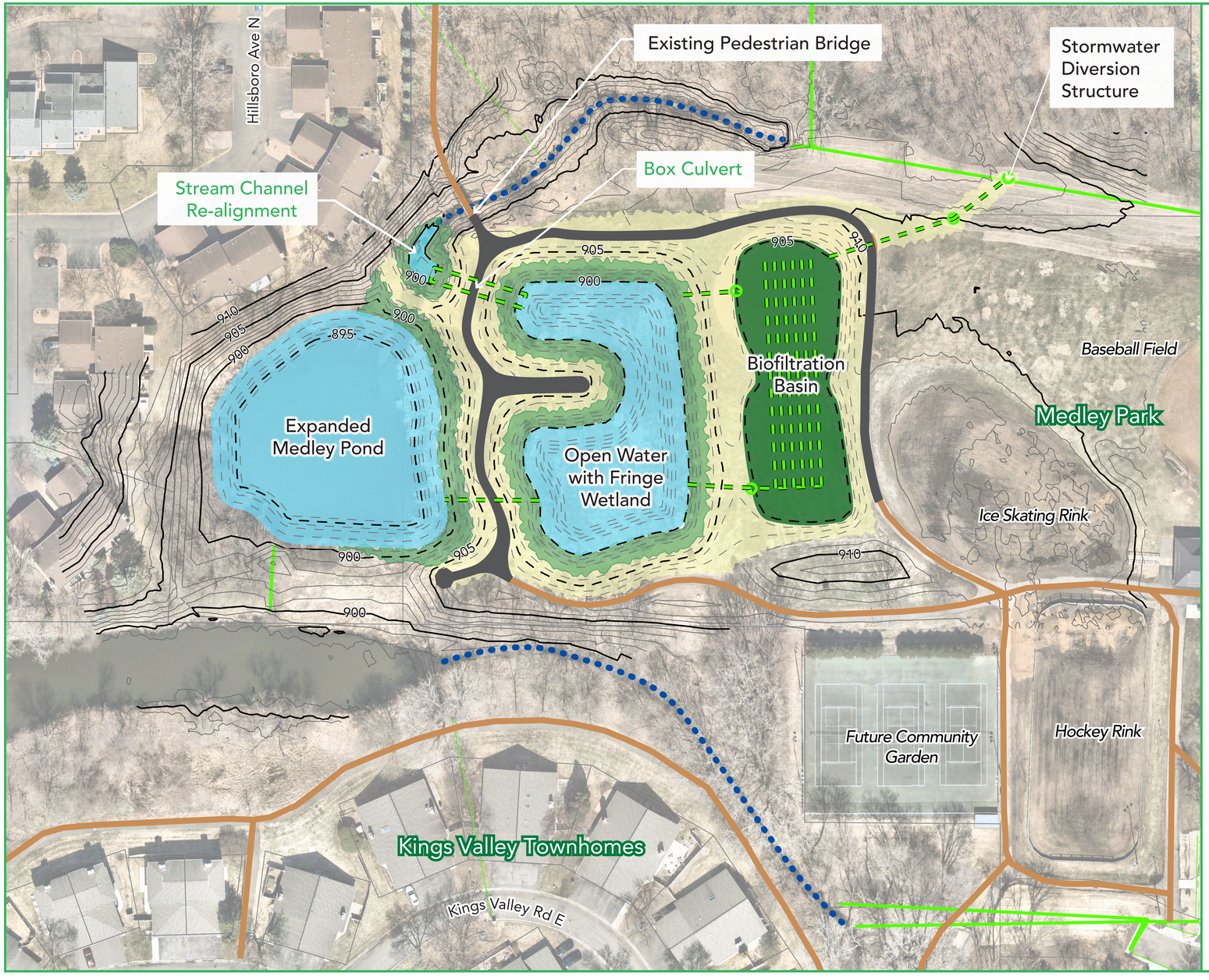
At-Risk Flooded Structures (existing/proposed):

25-yr	50-yr	100-yr
6/1	15/11	20/17

Figure 5.1

Concept 2

Estimated Cost = $2.1 Million



LEGEND

- Open Water
- Biofiltration Basin
- Wet Meadow
- Prairie
- Existing 1′ Contour
- Existing 5′ Contour
- Proposed 1′ Contour
- Proposed 5′ Contour
- Existing Storm Sewer Pipe
- Proposed Storm Sewer Pipe
- Existing Stream
- Existing Paved Trail
- Proposed Paved Trail
- Parcel Boundary Lines

N

0 50 100 200

Feet

Concept Summary

Additional Flood Storage Created:
6.0 acre-feet

Improved Water Quality:
Additional 18.6 lbs/yr phosphorus removed (6.3/lbs/yr dissolved phosphorus)

Restored Wetland and Prairie habitat:
1.2 acres total

Open Water Area:
1.0 acres total

Tree Removal Estimate
7 trees total

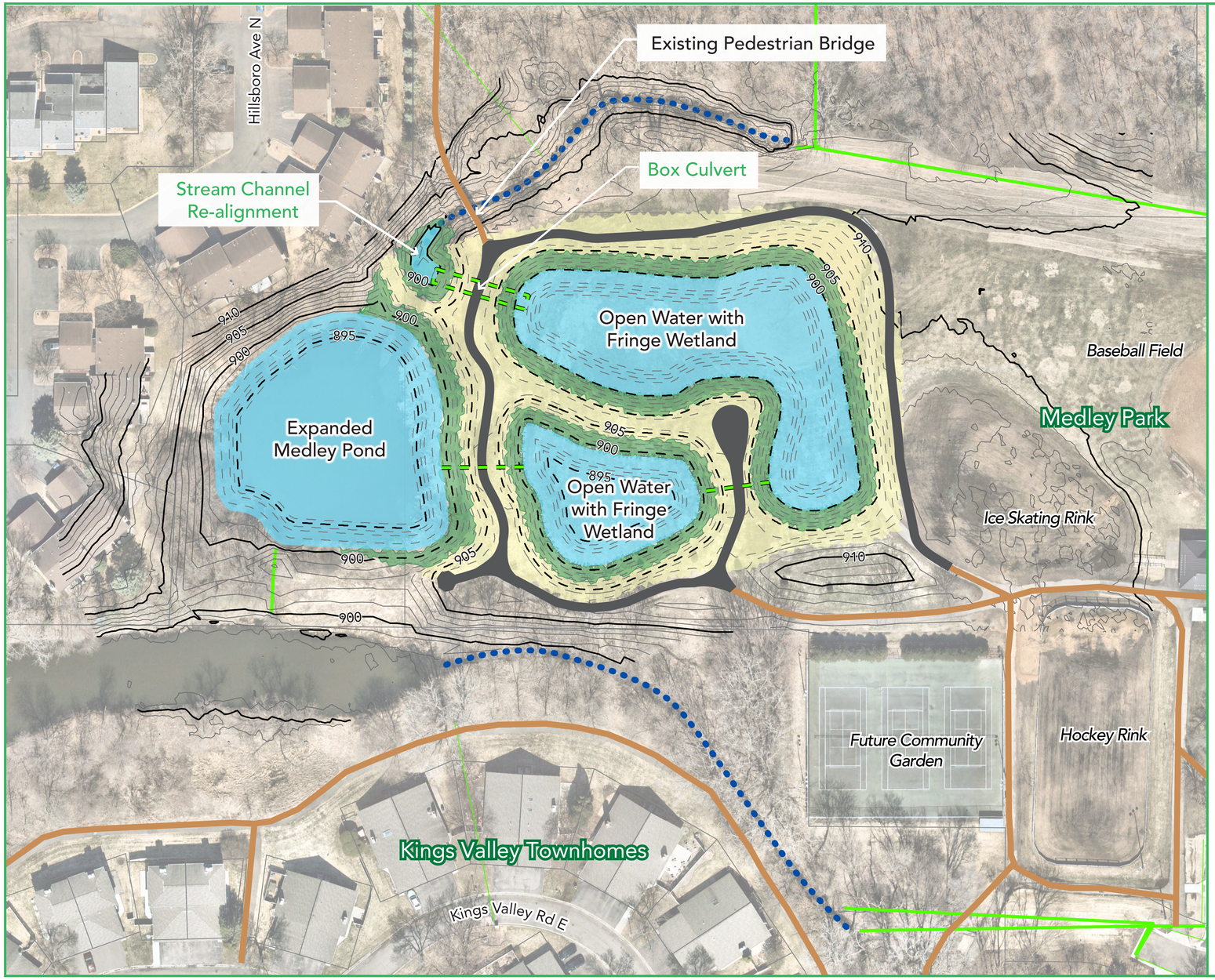
At-Risk Flooded Structures (existing/proposed):

25-yr	50-yr	100-yr
6/1	15/11	20/17

Figure 5.2

Concept 3

Estimated Cost = $1.8 Million



LEGEND

- Open Water
- Wet Meadow
- Prairie
- Existing 1′ Contour
- Existing 5′ Contour
- Proposed 1′ Contour
- Proposed 5′ Contour
- Existing Storm Sewer Pipe
- Proposed Storm Sewer Pipe
- Existing Stream
- Existing Paved Trail
- Proposed Paved Trail
- Parcel Boundary Lines

N

0 50 100 200

Feet

Concept Summary

Additional Flood Storage Created:
8.3 acre-feet

Improved Water Quality:
Additional 17.0 lbs/yr phosphorus removed (0.0/lbs/yr dissolved phosphorus)

Restored Wetland and Prairie habitat:
1.1 acres total

Open Water Area:
1.5 acres total

Tree Removal Estimate
7 trees total

At-Risk Flooded Structures (existing/proposed):

25-yr	50-yr	100-yr
6/0	15/10	20/17

Figure 5.3

Table 6-1 Medley Park Improvement Project Concept Matrix Summary

Category	Item	Existing Conditions	Concept 1	Concept 2	Concept 3
Outlet Modifications	Normal Water Level (NWL) (ft, NAVD88)	898.57	898.57	898.57	898.57
	Overflow Elevation (Medley Pond) (ft, NAVD88)	902.5	902.5	902.5	902.5
Flood Mitigation	Total Flood Mitigation Volume (ac-ft) in Medley Park[1]	13	18.3	19	21.3
	Increase in Flood Mitigation Volume (ac-ft)[1]	--	5.3	6	8.3
	25-year Flood Elevation in Medley Park (ft, NAVD88)	907.0	906.7	906.7	906.4
	25-year Flood Elevation in King's Valley Pond (ft, NAVD88)	907.0	906.7	906.7	906.4
	# of Potentially At-Risk Structures (25-year)	6	1	1	0
	50-year Flood Elevation in Medley Park (ft, NAVD88)	907.8	907.5	907.5	907.2
	50-year Flood Elevation in King's Valley Pond (ft, NAVD88)	907.8	907.5	907.5	907.2
	# of Potentially At-Risk Structures (50-year)	15	11	11	10
	100-year Flood Elevation in Medley Park (ft, NAVD88)	908.5	908.2	908.2	908.0
	100-year Flood Elevation in King's Valley Pond (ft, NAVD88)	908.5	908.2	908.2	908.0
	Depth of Flooding at King's Valley Road Low-Point (100-year) (ft)	4.0	3.7	3.7	3.5
	# of Potentially At-Risk Structures (100-year)	20	17	17	17
Water Quality	Open Water Surface Area (ac) in Medley Park	0.46	0.94	1.04	1.47
	Increase in Open Water Surface Area (ac) in Medley Park	--	0.48	0.58	1.01
	Total Water Quality Treatment Volume (Permanent Pool + Filtration) (ac-ft)	0.3	3.2	3.0	4.6
	Additional Water Quality Treatment Volume (ac-ft)	--	2.8	2.7	4.3
	Total Phosphorus Removal (lbs/yr)	12.4	26.4	31	29.4
	Increase in Total Phosphorus Removal (lbs/yr)	--	14	18.6	17
	Dissolved Phosphorus Removal (lbs/yr)	0	1.2	6.3	0
	Accumulated Sediment Removal Volume in Medley Pond (Cu. Yd.)	--	1500	1500	1500
Trails	Length of Trail to be Removed (ft)	--	530	270	530
	Length of Constructed Paved Trail (ft)	--	915	650	967
Restoration	Number of Trees Removed	-	7	7	7
	Restored Wetland Area (ac)	--	0.56	0.69	0.56
	Restored Prairie Area (ac)	--	0.85	0.49	0.56
Project Costs	Feasibility Level Opinion of Cost	--	$1,848,000	$2,137,000	$1,845,000
	Feasibility Level Opinion of Cost Range (-20% to +30%)	--	$1,479,000 to $2,403,000	$1,710,000 to $2,779,000	$1,476,000 to $2,399,000
	30-Year Annualized Cost Estimate	--	$121,000	$138,000	$122,000
	Cost per Acre-Ft of Flood Mitigation Volume	--	$349,000	$356,000	$222,000
	Annualized Cost per Pound of Total Phosphorus Removed (Total Project)	--	$8,600	$7,400	$7,200
	Annualized Cost per Pound of Total Phosphorus Removed (Water Quality Treatment)	--	$5,900	$4,500	$3,500

1. Total flood mitigation volume summarized up to the 100-year flood elevation

Item 5C.
BCWMC 6-17-21

2022 Maximum Levy Request

Project Name	City	Number	2021	2022	2023	2024	Other Funding	Total Project Cost
SEA School - Wildwood Park Flood Reduction Project (Medicine Lake Rd & Winnetka Ave Long Term Flood Mitigation Plan Project)	Golden Valley	BC-2,3,8, 10		$300,000	$1,000,000		$1,300,000 (MnDNR)	$2,600,000
Medley Park Stormwater Treatment Facility	Golden Valley	ML-12		$400,000	$300,000	$800,000	$500,000 (Golden Valley)	$2,000,000
Dredging accumulated sediment in Main Stem Bassett Creek Lagoons, Wirth Park	Golden Valley & MPLS	BC-7	$600,000	$1,100,000	$534,000	$200,000	$325,000 (Grants)	$2,759,000
Beacon Heights 2nd Addition Stormwater Improvement Project*				$0	$0			$0
TOTAL Estimated BWCMC Costs				$1,800,000	$1,834,000	Incomplete list	$2,125,000**	$7,359,000
Use of BCWMC Closed Project Funds				-$100,000	-$100,000			
TOTAL Max Levy (Proposed 2022; Projected 2023)				**$1,700,000**	$1,734,000	NA		

For reference: 2021 Levy = $1,474,780

*Originally slated for $150,000. City of Plymouth requests the removal of this project from CIP list. Plymouth staff can update the Commission on the site challenges that render this project inviable and their alternate plans for improving stormwater runoff during the street reconstruction project.

**Approximately 30% of total project costs are leveraged from other sources

resourceful. naturally.
engineering and environmental consultants

BARR

Memorandum

To: Bassett Creek Watershed Management Commission (BCWMC)
From: Barr Engineering Co. (Barr)
Subject: Item 5D: Hollydale Development – Plymouth, MN
BCWMC June 17, 2021 Meeting Agenda
Date: June 10, 2021
Project: 23270051.52 2021 2249

5D Hollydale Development – Plymouth
BCWMC 2021-10

Summary:

Proposed Work: Site demolition, new 229 single-family home development with streets, house pads, utilities, and stormwater management

Basis for Review at Commission Meeting: Work in the floodplain

Impervious Surface Area: Increase 29.5 acres

Recommendation: Conditional Approval

General Project Information

The proposed project is located in the Plymouth Creek subwatershed at the former Hollydale Golf Course, generally bounded by Holly Lane North to the west, 45th Avenue North to the south, Yuma Lane North to the east, and 49th Place North to the north. The proposed project includes site demolition and construction of a 229 single-family home development including streets, house pads, utilities, and stormwater management (including stormwater reuse) resulting in 112 acres of land disturbance. The proposed project creates 34.7 acres of new and fully reconstructed impervious surfaces, including 5.2 acres of fully reconstructed impervious surfaces and an increase of 29.5 acres of impervious surfaces from 5.2 acres (existing) to 34.7 acres (proposed). Although the entire development is located in the Bassett Creek jurisdictional boundary, runoff from approximately eight percent of the site discharges north to the Elm Creek watershed.

Floodplain

The proposed project includes work in the BCWMC (Bassett Creek) 1% annual-chance (base flood elevation, 100-year) floodplain. The February 2021 BCWMC Requirements for Improvements and Development Proposals (Requirements) document states that projects within the floodplain must maintain no net loss in floodplain storage and no increase in flood level at any point along the trunk system (managed to at least a precision of 0.00 feet). The proposed project is adjacent to the Rockford Road storage area, which is part of the BCWMC trunk system and drains to Plymouth Creek. The 1% annual-chance (base flood elevation, 100-year) floodplain elevation of the Rockford Road storage area is

968.5 feet NAVD88. The proposed project will result in a net increase in floodplain storage of approximately 3.43 acre-feet from 81.13 acre-feet (existing) to 84.56 acre-feet (proposed).

The Requirements document also states that minimum building elevations (lowest) floor of new and redeveloped structures, must be at least 2.0 feet above the 100-year flood level. The lowest floor of all proposed homes are at least 2.0 feet above the 100-year floodplain elevation of the Rockford Road storage area as well as the 100-year high water level of all proposed stormwater ponds.

Wetlands

The existing site includes several wetlands throughout the existing golf course. The plans show some temporary or permanent impacts to multiple wetlands. The City of Plymouth is the local government unit (LGU) responsible for administering the Wetland Conservation Act; therefore, BCWMC wetland review is not required.

Rate Control

The BCWMC Requirements document states that projects that create more than one (1) acre of new or fully reconstructed impervious area *must manage stormwater such that peak flow rates leaving the site are equal to or less than the existing rate leaving the site for the 2-, 10-, and 100-year events, based on Atlas 14 precipitation amounts and using a nested 24-hour rainfall distribution*.

In existing conditions, stormwater runoff generally leaves the site in two directions: to the north to Elm Creek and to the south to Plymouth Creek (or the Medicine Lake Branch of Bassett Creek). In proposed conditions, stormwater will continue to generally leave the site in the same directions. Six stormwater ponds are proposed to provide detention and rate control for the site. Table 1 summarizes the existing and proposed peak discharge rates for the proposed project and shows that the proposed development meets the BCWMC requirements for rate control.

Table 1: Existing and Proposed Peak Discharge Rates

Runoff Direction	Area (acres)		2-Year Peak (cfs)		10-Year Peak (cfs)		100-Year Peak (cfs)	
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
To South (Plymouth Creek) (Wetland 6) [1]	125.4	126.5	77.0	21.1	174.5	47.3	427.7	105.4
To North (Elm Creek) (Wetland 9) [1]	11.3	10.2	5.4	0.9	19.6	5.6	49.7	18.8
Total (Sum)	136.7	136.7	82.4	22.0	194.1	52.9	477.4	124.2

[1] See enclosed Stormwater Reuse Map Figure provided by applicant

Volume Reduction and Water Quality

The BCWMC Requirements document states that projects on sites without restrictions that create one or more acres of new and/or fully reconstructed impervious surfaces shall capture and retain on-site 1.1

inches of runoff from the new and/or fully reconstructed impervious surfaces. If the applicant is unable to achieve the performance goals due to site restrictions, the MIDS flexible treatment options approach shall be used following the MIDS design sequence flow chart.

The proposed project creates 34.7 acres of new and/or fully reconstructed impervious area. To meet the volume reduction requirements, the applicant incorporated stormwater reuse into the design, in part due to silty and clayey soils present throughout the site that limit infiltration potential. The proposed reuse plan includes taking stormwater from the largest stormwater pond (Pond 5S), located in the northwest quadrant of the site, and distributing it over multiple irrigation areas throughout the site (see enclosed Stormwater Reuse Map Figure provided by applicant).

The applicant used a stormwater reuse calculator developed by the Ramsey-Washington Metro Watershed District (RWMWD) to quantify the volume reduction provided by the reuse system. Barr is also a technical advisor to RWMWD and assisted with development of the reuse calculator. In the RWMWD stormwater reuse calculator, the applicant inputs 1) the watershed area tributary to the reuse system, 2) the directly connected imperviousness of the tributary watershed, 3) the prominent hydrologic soil group of the tributary watershed, 4) the estimated reuse storage volume, the irrigation area, and 5) whether the system goes offline and is drawn down at the end of the irrigation season. The reuse calculator uses the specified inputs to calculate the average annual volume of stormwater reused by the system over a 50-year period. This calculation assumes: an irrigation application rate of one inch per week, that the irrigation system is online from May through September, that irrigation is not used on days when it rains, and that any volume above the storage capacity of the reuse system leaves the system (pond). For each day within the 50-year period, the reuse calculator determines the runoff volume that enters the reuse system, the volume of water that leaves the reuse system based on irrigation demand, the volume that leaves via overflow of the system, and any augmentation of potable water needed to meet the irrigation demand. The total volume of each category is then averaged to calculate an average annual volume.

Because volume reduction rules are written for instantaneous volume (capture and retain 1.1 inches of runoff from new and reconstructed impervious), the RWMWD reuse calculator also provides a comparison between stormwater reuse volume and volume reduction via infiltration to calculate a stormwater reuse credit factor. The credit factor is used to provide an appropriate comparison of stormwater volume reduction and stormwater reuse. As shown in Table 2, the volume reduction goal for the development is 3.18 acre-feet. As shown in Table 3, the credit factor for this stormwater reuse system is 0.55, therefore the stormwater reuse volume required is 5.78 acre-feet. The applicant designed a reuse system with a volume of 6.7 acre-feet, which is greater than the required reuse volume. Therefore, the stormwater reuse system meets the BCWMC volume reduction and water quality requirements.

Table 2: Stormwater Volume Reduction Goal

New and Reconstructed Impervious (acres)	Volume Reduction Goal (formula)	Volume Reduction Goal (acre-feet)
34.7	Volume = Area * 1.1 inches runoff	3.18

Table 3: Stormwater Reuse Volume Required and Provided

Hydrologic Soil Group (HSG)	RWMWD Credit Factor for Stormwater Reuse	Stormwater Reuse Volume Required (formula)	Stormwater Reuse Volume Required (acre-feet)	Stormwater Reuse Volume Provided (acre-feet)
C	0.55	Stormwater Reuse = Volume Reduction / Credit Factor	5.78	6.70

Stormwater reuse has sparingly been used in the Bassett Creek watershed to meet volume reduction and water quality goals for development or redevelopment, and we have not reviewed an application that has used the RWMWD calculator in the past. However, we are familiar and comfortable with the calculator and appreciate the developer's approach to incorporating stormwater reuse into a design to meet the volume reduction and water quality goals of the BCWMC. The RWMWD recently updated their reuse calculator, therefore the values listed in Table 3 were modified slightly by transferring the applicant's input parameters into the latest version of the reuse calculator and revising one of the input values based on Comment 3b in the Recommendation Section.

Erosion and Sediment Control

The proposed project results in more than 10,000 square feet of land disturbance; therefore, the proposed project must meet the BCWMC erosion and sediment control requirements. Proposed temporary erosion and sediment control features include rock construction entrances, silt fence, inlet protection, and concrete washouts. Permanent erosion and sediment control features include riprap armoring at pipe outlets, stabilization with seed and mulch, and erosion control blanket.

Recommendation

Conditional approval based on the following comments:

1. The applicant must demonstrate that the change in land use does not result in any increase in flood level at any point along the trunk system.
2. The HydroCAD models must be revised as follows to demonstrate that the proposed project meets BCWMC rate control requirements:
    a. The tributary watershed to CB A24 and CBMH A23 must be removed from catchment 5S and be added to catchment B8 and/or B5.
    b. The tributary watershed to CB A22 and CBMH A21 must be removed from catchment 5S and added to catchment A10.

c. The tributary watershed to CBMH F3 and CBMH F4 must be removed from catchment 1S and added to catchment 4S.

d. The routing of catchments D6, D7, D7_100, D8, and D9 and catch basins CB_D6, CB_D7, CB_D8, and CB_D9 does not match the plans and must be modified accordingly.

e. The routing of catch basins CB_A10, CB_A11, CB_A12, CB_C10, CB_19, and CB_C8 does not match the plans and must be modified accordingly.

f. The slope of the outlet pipe(s) from the following ponds does not match the plans and must be modified accordingly for Pond 1N, Pond 1S, Pond 2S, Pond 3S, Secondary outlet of Pond 4S, and Pond 5S.

g. The applicant should confirm whether the outlet structure grate and emergency overflow are intentionally set at the same elevation at Pond 1S, Pond 2S, and Pond 5S. Typically an emergency overflow is set higher than the outlet control structure.

3. The RWMWD stormwater reuse calculator must be revised as follows to demonstrate that the proposed project meets BCWMC volume reduction and water quality goals:

   a. The RWMWD recently updated their reuse calculator, therefore the updated calculator should be used to quantify the equivalent volume reduction provided. Due to limitations with the calculator, the stormwater reuse volume required must be manually calculated (rather than determined by the reuse calculator) by dividing the standard volume reduction requirement by the RWMWD Credit Factor for Stormwater Reuse.

   b. It appears that the reuse system will draw water from the dead storage volume, therefore it appears that the system will not go offline and drain down (below the normal water level) at the end of the irrigation season. Thus, Cell C15 of the Reuse Inputs Summary Tab should be revised from 1 to 0. Alternatively, clarification must be provided for how the system draws down at the end of each irrigation season.

   c. Any future modifications to the size of Pond 5S, the irrigation area, or the reuse system must be reviewed by the BCWMC to confirm compliance with BCWMC requirements.

   d. The applicant must provide a general schedule (or phasing plan) for implementation of the stormwater reuse system to demonstrate that stormwater BMPs will be in place and provide stormwater treatment in accordance with the BCWMC requirements during all phases of development.

4. Inlet protection must be provided and shown at the following locations for erosion control:

   a. Sheet EC1: the catch basin on lot 202 and the flared-end section between lots 7 and 8

   b. Sheet EC2: the existing catch basin at the intersection of Hollydale Lane North and the new 47th Ave North and the catch basins north of lots 204 and 231

   c. Sheet EC3: the catch basin on lot 97 and the catch basin north of lot 173

   d. Sheet EC4: the catch basin east of lot 174 and the two catch basins on Lot 75

e. Sheet EC5: the catch basins on and west of lot 136, the catch basins on and north of lot 135, and the high flow flared-end section between lots 184 and 185

5. The applicant should confirm whether inlet protection is needed at the following locations for erosion control:

    a. Sheet EC1: the draintile catch basin on the southeast corner of Lot 2 and the draintile catch basin between lots 123 and 191

    b. Sheet EC2: the draintile catch basins on lots 104, 231, and 210

    c. Sheet EC3: the draintile catch basin between lots 99 and 100, the draintile catch basin between lots 81 and 82, and the catch basin (or manhole) between lots 152 and 153

    d. Sheet EC4: the draintile catch basins between lots 79 and 80, between lots 76 and 75, between lots 75 and 74, between lots 74 and 73, between lots 53 and 54, between lots 54 and 55, between lots 56 and 57, between lots 58 and 59, and between lots 58 and 60

    e. Sheet EC5: the catch basin between lots 35 and 36 and the draintile catch basin between lots 40 and 41

6. The outlet velocity appears to exceed 8 feet-per-second when the pipe is flowing full at the following locations:

    a. Sheet UP6: FES O1

    b. Sheet UP7: FES A20, FES J1, and FES P1

    c. Sheet UP8: FES A1 and FES E1

    d. Sheet UP9: FES N1

    e. Sheet UP10: FES Q1 and FES O3

    Flatter slopes, drop structures, or other energy dissipation methods must be used to provide an average outlet velocity of no more than 8 feet-per-second (if riprap is used), to limit potential erosion. Note: The invert elevation of the flared end sections should be at or below the normal water level (NWL) of the receiving water body to provide energy dissipation and minimize potential erosion, therefore we recommend lowering the pipe at the upstream structure to flatten the pipe and reduce outlet velocities.

7. Sheet UP7: The applicant should consider moving FES L1 to between lots 132 and 133 to minimize potential erosion due to the current angle of entry of the pipe into the pond. Alternatively, riprap or other armoring must be extended to the opposite bank of the pond at this location.

8. Notes to address the following BCWMC erosion and sediment control requirements must be included on the plans. Alternatively, if a separate stormwater pollution prevention plan (SWPPP) has been prepared that addresses the following requirements, it must be submitted for review.

    a. Require that soils tracked from the site be removed from all paved surfaces within 24 hours of discovery throughout the duration of construction.

b. Require that all exposed soil areas be stabilized as soon as possible, but in no case later than 14 days after the construction activity has temporarily or permanently ceased or within 7 days if the project is within 1 mile of a special or impaired water.

c. Require a temporary vegetative cover consisting of a suitable, fast-growing, dense grass seed mix spread at a minimum at the MnDOT-specified rate per acre. If temporary cover is to remain in place beyond the present growing season, two-thirds of the seed mix shall be composed of perennial grasses.

d. Require a permanent vegetation cover consisting of sod, a suitable grass-seed mixture, or a combination thereof. On slopes greater than or equal to 3 feet horizontal: 1 foot vertical, seeded areas shall be either mulched or covered by fibrous blankets to protect seeds and limit erosion.

e. Require that temporary or permanent mulch be uniformly applied by mechanical or hydraulic means and stabilized by disc-anchoring or use of hydraulic soil stabilizers.

9. Riprap that is used for stormwater energy dissipation must be placed over a suitably graded filter material or filter fabric to ensure that soil particles do not migrate through the riprap and reduce its stability. A detail or note must be included on the plans to address this requirement.

10. An agreement must be established between the owner and the City of Plymouth for the reuse system and the stormwater management features to ensure maintenance and continued operation of the reuse system. The City of Plymouth should also consider requiring a drainage easement over areas irrigated with stormwater reuse as these areas are being used to meet the stormwater management requirements.

11. The BCWMC encourages the owners and/or managers of this property to develop and implement a winter deicer and chloride management plan to reduce environmental, structural, and landscaping degradation caused by the overuse of salt. More information is available at https://www.bassettcreekwmo.org/developer/winter-maintenance.

12. Revised drawings (paper copy and final electronic files) and supplemental submittal information must be provided to the BCWMC Engineer for final review and approval.

Project Location
Municipality
BCWMC Legal Boundary
Major Subwatershed
BCWMC Hydrologic Boundary
Bassett Creek

BARR

N

0 300 600 Feet

Bassett Creek Watershed Management Commission

BCWMC #2021-10
HOLLYDALE DEVELOPMENT
Plymouth, MN

LOCATION MAP

Barr Footer: ArcGIS 10.8.1, 2021-06-08 16:47 File: I:\Client\BassettCreek\gis\maps\Permits\Maps-2021\2021-10 Hollydale Development.mxd User: EMA

Information depicted may include data unverified by AE2S. Any reliance upon such data is at the user's own risk. AE2S does not warrant this map or its features are either spatially or temporally accurate.

Coordinate System: NAD 1983 HARN Adj MN Hennepin Feet | Edited by: llamoore | C:\Users\LLaMoore\AE2S\Sathre - Hollydale Golf Course\GIS\Fig4_Stormwater Reuse Map.mxd

Locator Map Not to Scale

Figure 4

STORMWATER REUSE MAP

HOLLYDALE DEVELOPMENT

SATHRE-BERGQUIST,INC

Plymouth | Hennepin County, MN

Date: 4/19/2021

PRELIMINARY COOPERATIVE AGREEMENT REGARDING BCWMC BRYN MAWR MEADOWS WATER QUALITY IMPROVEMENT PROJECT IMPLEMENTATION

This Preliminary Cooperative Agreement (this "Agreement") is made this ___ day of _____, 2021, by and between the Bassett Creek Watershed Management Commission, a joint powers watershed management organization (the "Commission"), the Minneapolis Park and Recreation Board, a body corporate and politic under the laws of Minnesota (the "Park Board"), and the City of Minneapolis, a Minnesota municipal corporation (the "City"). The Commission, the Park Board, and the City may be referred to herein collectively as the "Parties."

RECITALS

A. On September 17, 2015, the Commission adopted the Bassett Creek Watershed Management Commission Watershed Management Plan (the "Commission Plan"), a watershed management plan within the meaning of Minnesota Statutes, section 103B.231.

B. The Commission Plan incorporates the Commission's 10-year capital improvement program, which includes the Bryn Mawr Meadows Water Quality Improvement Project BC-5 (the "Water Quality Improvement Project").

C. The Water Quality Improvement Project will treat stormwater runoff from residential areas in the city that currently flow untreated into Bassett Creek. The Water Quality Improvement Project's elements will include the construction of two new stormwater ponds, storm sewer pipes, and associated appurtenances to be located within Bryn Mawr Meadows Park ("Bryn Mawr Park"), along with the construction of flow diversions and storm sewer work within City right-of-way. Together, the Water Quality Improvement Project components are estimated to reduce phosphorus by 30 pounds per year.

D. On September 19, 2019, following a duly noticed public hearing, the Water Quality Improvement Project was ordered by the Commission in accordance with all requirements contained in Minnesota Statutes, sections 103B.205-.255 (the "Act") with an estimated cost of approximately $904,900.00.

E. On February 6, 2019, the Park Board adopted its comprehensive North Service Area Master Plan (the "NSAMP"). The NSAMP guides capital improvements and other improvements for Park Board facilities in North Minneapolis west of the Mississippi River and north of I-394. Included within the NSAMP is a significant reconstruction and revitalization project of Bryn Mawr Park, which the Park Board intends to design in 2021 and construct in 2022 (the "Park Project"). The Park Board took into account the opportunity to improve and protect downstream water resources, including Bassett Creek, designed the Park Project to incorporate a major stormwater facility within Bryn Mawr Park, and envisions said stormwater facility as a high-quality habitat area that will provide benefit to park users.

F. On September 2, 2020, the Park Board adopted its Ecological System Plan, which is a vision for improving the environmental performance of its parks and, as an extension, of the city as

a whole. Goal A of that document (Improve Water Quality) includes specific strategies and recommendations that support the inclusion of this stormwater-management facility at Bryn Mawr Park. Most notable are Recommendation 2.1 ("Continue to work with community partners and agencies, including watershed districts and the City of Minneapolis…to better address and manage the collective impacts of polluted stormwater runoff") and Recommendation 2.2 ("Implement regional stormwater facilities and BMPs in parks, in partnership with the City of Minneapolis and watershed districts, only where envisioned in park master plans").

G. The Parties determined it will be most efficient for the Water Quality Improvement Project to be designed simultaneously with the Park Project and, to the greatest extent practicable, integrated with the Park Project design so that a substantial portion can be competitively bid and constructed by the Park Board as part of the Park Project with the remaining components constructed concurrently by the City.

H. The Parties understand the considerable long-term benefit that the Water Quality Improvement Project will produce for the community and its residents, and desire to work collaboratively throughout design and implementation so that the Water Quality Improvement Project can be delivered in an efficient, cost-effective manner that minimizes physical disturbance to the project area and maximizes value for taxpayers.

I. The Parties desire to enter into this Agreement to formally outline the terms and conditions for implementation of the Water Quality Improvement Project, document their understanding as to the scope of the Water Quality Improvement Project, affirm their commitments as to responsibility for tasks to be undertaken, grant and assign the rights necessary, establish a roadmap and other procedures for performing these tasks and fulfilling these responsibilities, and facilitate communication and cooperation to ensure successful improvement of local water quality.

AGREEMENT

In consideration of the foregoing recitals, which are incorporated into and made a part of this Agreement, and other good and valuable consideration, the sufficiency of which is hereby acknowledged, the Parties hereby agree as follows:

1. Project Funding; Subsequent Agreements.

   A. *Funding*. The Commission will be responsible for all costs for the Water Quality Improvement Project, not to exceed a not-to-exceed figure approved by the Commission and based on available capital improvement project funding and other available funding sources.

   B. *Subsequent Agreements.* Traditionally, the Commission's practice for implementing capital improvement projects is to enter into an agreement with another public body, e.g. one of its member cities, through which (i) the public body is responsible for letting a contract, administering project construction, and

ensuring long-term project maintenance; and (ii) the Commission is responsible for reimbursing the public body for actual project costs up to a certain not-to-exceed amount based on estimated costs and available funding. For the Water Quality Improvement Project, given that there are both Park Elements and City Elements, as those terms are defined in section 2 below, the Parties agree that following 90 percent design of the Water Quality Improvement Project and subsequent approval of the plans by the Parties in accordance herewith, the Commission will enter into two separate cooperative agreements, one with the Park Board that will address construction of the Park Elements by the Park Board and subsequent reimbursement by the Commission, and another with the City that will address construction of the City Elements by the City and subsequent reimbursement by the Commission. At the time of the 30 percent Plans ("Concept Design"), the Commission, Park Board, and the City agree to work in good faith to determine and delegate commitments for ongoing operations and maintenance of the Water Quality Improvement Project elements in accordance with standards recommended by the Commission engineer and section 4 of this Agreement. The subsequent agreements required herein shall be developed in accordance with said maintenance requirements, including easement rights, as needed, to ensure proper long-term functionality of the Water Quality Improvement Project elements. Said maintenance standards will need to be developed in conjunction with and after installation so that they are informed by what is ultimately constructed.

2. Project Design and Construction.

A. *Design*. Plans and specifications for the Water Quality Improvement Project (the "Plans") will be designed by the Commission engineer in close collaboration with the Park Board and the team designing the Park Project on behalf of the Park Board, as well as with the City and its public works department. The Commission engineer will work collaboratively with designated representatives from both the Park Board and the City throughout the design phase to ensure that input from those parties is received and considered throughout the process. Design plans, status, and engineering cost estimates will be shared throughout the design phase whenever reasonably requested to allow for Park Board and City collaboration. The Park Board and the City understand and acknowledge that during the design phase, the Commission engineer may need to access property or right-of-way that is owned or maintained by the Park Board and the City. Accordingly, the Park Board and the City grant such access to the extent reasonably required by the Commission engineer to complete the Plans, and further agree to cooperate with the Commission engineer in such efforts. It is further understood that the Plans will also include an exhibit delineating the access, construction and maintenance areas in the project area for purposes of the Park Board's and the City's grant of property-use rights for the Water Quality Improvement Project, as detailed in section 3 of this Agreement.

The 30 percent Plans ("Concept Design"), showing general layout, features, landscape types, conceptual system functionality, and overall integration within

the Park Project, including all drawings and cost estimates, will be submitted by the Commission to the Park Board for its review and approval in conjunction with the Park Project's conceptual design approval.

The 90 percent Plans, including all specifications and engineering cost estimates, will be submitted by the Commission to the Park Board and City staff for review and written approval. Following said submission, the Park Board and City shall have 30 days from delivery to complete such review and either approve said Plans or request adjustments to any project components they will own or have responsibility to maintain in writing. All three Parties shall collaborate in good faith regarding any requested adjustments and, following a determination by the Commission engineer regarding such requested adjustments, revised Plans shall be resubmitted to Park Board and City staff for review and written approval, which shall not be unreasonably withheld. Following Park Board and City staff approval of the 90 percent Plans in accordance with the provisions above, said Plans shall be submitted to the Commission for finalization and approval. Any material changes made to the 90 percent Plans approved by Park Board and City staff shall be resubmitted for subsequent review and written approval or requested adjustments, again within 30 days of delivery, and such approvals shall not be unreasonably withheld. The Plans may then be finalized and approved by the Commission and thereafter shall become incorporated into this Agreement as if fully set forth herein and by operation of contract. Any failure to act within any of the timelines specified herein shall constitute approval.

B. *Park Elements*. Upon approval of the 90 percent Plans by all Parties in accordance with section 2A, those elements of the Water Quality Improvement Project that are physically located on the Bryn Mawr Meadows Park property (the "Park Elements") shall be integrated into the Park Board's Park Project design so that they can be competitively bid and constructed by the Park Board as part of the Park Project. The Park Elements are expected to include, but not necessarily be limited to, two new stormwater ponds sized with a permanent volume of approximately 5.4 acre-feet, appropriate disposal of contaminated soils, an equalizer pipe between the two ponds, and an outlet structure and pipe installed at the downstream pond to convey flows to the existing storm sewer which outlets at the creek. The Park Board intends to finalize the plans and specifications for its Park Project on or before April 20, 2022, and such plans and specifications will incorporate the Park Elements. A subsequent cooperative agreement shall be entered into between the Commission and the Park Board, as outlined in section 1B of this Agreement , which will address, among other things, the construction of the Park Elements by the Park Board, including, but not necessarily limited to, adherence by the Park Board of all applicable legal requirements related to public contracting and permitting, the Park Board's administration and oversight of construction and beyond to ensure that the Park Elements are constructed in accordance with the Plans and maintained long term, and reimbursement of Water Quality Improvement Project costs by the Commission. If following the delegations of responsibility for long-term maintenance of the project, as required

in this Agreement, it is determined that the City will own or maintain any components of the Park Elements following completed construction, the City shall also be a party to said agreement for the limited purpose of allowing City staff to review and approve any change orders that relate to such components that it will own or maintain.

C. *City Elements*. All Water Quality Improvement Project elements within City right-of-way will be constructed by the City. Such elements shall be referred to herein as the "City Elements." The City Elements are expected to include, but not necessarily be limited to, a stormwater pipe and related infrastructure to divert stormwater from 15.9 acres in the residential neighborhood west of Bryn Mawr Park and low flows from Penn Pond into stormwater ponds within Bryn Mawr Park. Likely components include stormwater flow diversion near the intersection of Laurel Avenue West and Morgan Avenue South through redirection of flow within existing catch basins into a new storm sewer, additional catch basins to capture the first flush of stormwater runoff, and a new pipe to carry flow from City streets into stormwater ponds in Bryn Mawr Park. A subsequent cooperative agreement shall be entered into between the Commission and the City, as outlined in section 1B of this Agreement, which will address, among other things, the construction of the City Elements by the City, including, but not necessarily limited to, adherence by the City of all applicable legal requirements related to public contracting and permitting, the City's administration and oversight of construction and beyond to ensure that the City Elements are constructed in accordance with the Plans and maintained long term, and reimbursement of Water Quality Improvement Project costs by the Commission.

3. Additional Commission Rights. The Parties understand and acknowledge that upon execution of this Agreement by all Parties, the Commission will incur an estimated $183,000 in engineering expenses as it relates to the Water Quality Improvement Project design. Accordingly, and in an effort to reduce the potential waste of such public moneys, the Parties desire to establish the following contingencies in the event that the Water Quality Improvement Project is not constructed in accordance with the terms contained in section 2 above:

A. In the event that, following the Commission engineer's submission of the 90 percent Plans to the Parties, said Plans are approved by each respective party in accordance with section 2A but the Water Quality Improvement Project is not constructed in accordance with section 2 for any reason within 24 months of such approvals, then the Commission shall have the right but not the obligation to contract on its own for the construction of the Water Quality Improvement Project, or any portion thereof which was not otherwise constructed.

B. The Park Board hereby grants to the Commission, its contractors, agents and assigns a nonexclusive easement to access and use all portions of Bryn Mawr Meadows Park reasonably necessary for access and construction of the Water Quality Improvement Project as delineated in the 90 percent Plans and otherwise

as necessary to construct the Water Quality Improvement Project in accordance with the Commission's rights contained in section 3A. The Commission, on reasonable notice to and with the assistance of the Park Board, may temporarily restrict or preclude public access to portions of Bryn Mawr Meadows Park to ensure safety while such construction activities are under way. Additionally, the Park Board agrees to fully cooperate with the Commission as it relates to the Commission's undertaking of the Water Quality Improvement Project, including, but not limited to, accessing the park property, securing any required permits, and ensuring that the Commission and its contractors are fully enabled to efficiently construct the Water Quality Improvement Project in accordance with this section 3. Nothing contained in this Agreement shall be interpreted to suggest or otherwise imply that any construction activities undertaken by the Commission will include any components of the Park Project.

C. Likewise, the City hereby grants to the Commission, its contractors, agents and assigns a nonexclusive easement to access and use all portions of City property, easement, and public right-of-way reasonably necessary for access, construction and maintenance of the Water Quality Improvement Project as delineated in the 90 percent Plans and otherwise as necessary to construct the Water Quality Improvement Project in accordance with the Commission's rights contained in section 3A. The Commission, on reasonable notice to and with the assistance and approval of the City, which approval may not be unreasonably withheld, may temporarily restrict or preclude public access to portions of such areas to ensure safety while such construction activities are under way. Additionally, the City agrees to fully cooperate with the Commission as it relates to the Commission's undertaking of the Water Quality Improvement Project, including, but certainly not limited to, accessing any City property and right-of-way, securing any required permits or other City approvals that may be necessary, and ensuring that the Commission and its contractors are fully enabled to efficiently construct the Water Quality Improvement Project in accordance with this section 3.

4. Ownership and Maintenance. Irrespective of whether the Water Quality Improvement Project is constructed in accordance with section 2 or section 3 of this Agreement, and unless the Parties subsequently agree otherwise in writing, ownership of all of its components and improvements installed will immediately, upon project completion, vest in the Park Board as it relates to the Park Elements and in the City as it relates to the City Elements. Notwithstanding ownership, the parties will enter into a separate agreement to the extent necessary which will assign maintenance responsibilities and include terms and conditions for such long term maintenance and repairs to ensure the Water Quality Improvement Project's long-term sustainability, including, but not necessarily limited to, any grant of easement rights that might be needed to perform such maintenance and repairs. It is expressly understood by the Parties that the Commission does not perform ongoing maintenance of capital improvement projects within the watershed and so the future agreement required herein shall delegate such responsibility to one of the other Parties hereto.

5. Penn Pond Maintenance. It has been determined that the Water Quality Improvement Project will provide an opportunity for certain maintenance to Penn Pond, which is located to the southwest of the I-94 and Penn Avenue interchange on property owned by the State of Minnesota through its Department of Transportation ("MnDOT"). Penn Pond is maintained by MnDOT, and discussions with MnDOT have revealed that little is known about the pond's overall size and capacity. The Commission intends to take on the responsibility of coordinating with MnDOT before and throughout construction of the Water Quality Improvement Project so that MnDOT can obtain access to Penn Pond in order to conduct a survey of the pond, dredge any accumulated sediment, and maximize the pond's water quality treatment benefits for the surrounding areas. The Parties understand the benefits of such maintenance work and, while the Commission intends to be the liaison as it relates to MnDOT, the Parties all agree to cooperate with one another in good faith so that, to the extent necessary, Penn Pond can be accessed by MnDOT in an efficient manner throughout Water Quality Improvement Project design and construction and improved to any extent deemed reasonably necessary.

6. Ongoing Cooperation; Existing Rights and Obligations. The Parties understand and acknowledge the substantial benefits of the Water Quality Improvement Project and intend to cooperate with one another in good faith to ensure that the Water Quality Improvement Project is delivered in a timely manner and pursuant to the goals and understandings outlined herein. Except as expressly outlined herein, this Agreement shall not in any way be interpreted to affect or otherwise alter the rights, obligations, and responsibilities of the Parties or any other persons or entities under any laws, regulations, or agreements that are in effect or existence as of the date of this Agreement.

7. Dispute Resolution Process. The Parties will use a dispute resolution process for any unresolved dispute between the Parties before exercising any legal remedies. The dispute resolution process is a three-level dispute resolution ladder that escalates a dispute from the project management level through the executive management level. At each level of the dispute resolution process, the Parties' representatives will meet and explore resolution until one party determines that effective resolution is not possible at the current level and notifies the others that the process is elevated to the next level. The Parties designate the following dispute resolution representatives:

	The Commission	**Park Board**	**The City**
Level 1	Project Engineer	Project Manager	Project Engineer
Level 2	Commission Engineer	Assistant Superintendent for Planning	Division Director
Level 3	Administrator	Superintendent	City Engineer

The Parties will complete the dispute resolution process in good faith before resorting to any other legal process or remedy.

8. Miscellaneous.

A. This Agreement does not create a joint powers board or organization within the meaning of Minnesota Statutes, section 471.59. Each party agrees that it will be responsible only for its own acts and the results thereof to the extent authorized by the law and will not be responsible for the acts or omissions of the other Parties hereto and the results thereof. This Agreement creates no right in and waives no immunity, defense or liability limitation with respect to any third party. As between the Parties, only contract remedies are available for a breach of this Agreement.

B. The Parties designate the following authorized representatives to serve as the liaison to the other Parties for purposes of coordination of all work involved in or related to the Water Quality Improvement Project as provided in this Agreement. Any written communications required under this Agreement will be addressed to the other Parties as follows, except that any party may change its address for notice by so notifying the other Parties in writing:

To the Commission:	Bassett Creek Watershed Management Commission Attention: Administrator 16145 Hillcrest Lane Eden Prairie, MN 55346
To the Park Board:	Minneapolis Park and Recreation Board Attention: Michael Schroeder, Assistant Superintendent for Planning 2117 West River Road North Minneapolis, MN 55411
To the City:	City of Minneapolis Attention: Stephanie Johnson, Director, Surface Water and Sewers 250 South 4th St, Room 300 Minneapolis, MN 55415

C. This Agreement contains the complete agreement between the Parties and supersedes any previous oral agreements, representations and negotiations between the Parties regarding the subject matters of this Agreement. This Agreement may be executed in more than one counterpart, each of which shall be deemed to be an original but all of which taken together shall be deemed a single instrument. No party shall assign an interest in this Agreement, nor shall transfer any interest in the same, without the other Parties' written consent. No

modifications or amendments may be made to this Agreement unless in writing and signed by all Parties hereto.

D. The Parties shall abide by all applicable laws, statutes, ordinances, rules, and regulations in performing this Agreement.

E. The headings contained in this Agreement have been inserted for convenience of reference only and shall in no way define, limit, or affect the scope and intent of this Agreement.

F. Any waiver by any of the Parties of a breach of any provision of this Agreement will not affect, in any respect, the validity of the remainder of this Agreement.

G. The execution, interpretation, and performance of this Agreement will, in all respects, be controlled and governed by the laws of Minnesota. The provisions of this Agreement are severable. If any portion of this Agreement is, for any reason, held by a court of competent jurisdiction to be contrary to law, such decision will not affect the remaining provisions of the Agreement.

H. This Agreement may be executed with electronically authenticated signatures or in multiple counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same document.

[signature page to follow]

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the day and year first written above.

BASSETT CREEK WATERSHED MANAGEMENT COMMISSION

By:_____
Its Chair

And by:_____
Its Secretary

MINNEAPOLIS PARK AND RECREATION BOARD

By: _____
Its President

And by: _____
Its Secretary

FOR THE CITY:

Approved as to Form by:

Signature: _____

Assistant City Attorney

Signature: _____

Department Head (or Designee) Authorized to Sign this Contract and/or Responsible for Administering and Monitoring Contract

Signature: _____

Finance Officer or Designee/Purchasing Agent

Item 5G.
BCWMC 6-17-21

Bassett Creek Watershed Management

MEMO

To: BCWMC Commissioners and Alternate Commissioners
From: Laura Jester, Administrator
Date: June 9, 2021

RE: Proposed 2022 Operating Budget

The Commission briefly discussed the 2022 Operating Budget at the May meeting including an overview of the budget by Budget Committee Chair McDonald Black, additional suggestions from Plymouth commissioners to lower city assessments, and recommendations from me to reallocate some savings in water monitoring expenses to other areas of the budget. The Commission asked the committee to re-evaluate the information and bring a revised budget to the June meeting.

The Budget Committee met on June 1st and recommends the following:

1. Close the TMDL Studies long term account and move the remaining $27,149.85 into the general fund (operating budget). This long-term fund was created in 2005 with $135,000 to assist with TMDL development. Expenses were last charged to the fund in February 2013. (Although staff initially recommended maintaining the fund for possible future TMDLs or subwatershed analyses, since there are no actual plans to utilize these funds, we agree it's appropriate that they be moved into the general fund.)

2. Keep the increase in city assessments to no more than 2% over 2021 levels.

3. Use my earlier recommendations to reallocate a portion of the $10,000 in water monitoring savings to other budget lines.

The attached proposed budget reflects these recommendations. The proposed budget and city assessments should be forwarded to member cities no later than July 1st for their review and comment by August 1st. A final 2022 Operating Budget would be approved on or after your August meeting.

Item 5G.
BCWMC 6-17-21

PROPOSED 2022 OPERATING BUDGET

	2018 Budget	2018 Gross Expenses	2018 Revenue	2018 NET Expense	2019 Budget	2019 Gross Expenses	2019 Revenue	2019 NET Expense	2020 Budget	2020 Gross Expenses	2020 Revenue	2020 NET Expenses	2021 Budget	2022 Proposed Budget	2022 Expected Income	See Notes
ENGINEERING & MONITORING																
Technical Services	125,000	126,154	-	126,154	130,000	156,941	-	156,941	130,000	143,081	-	143,081	134,000	145,000	-	(A1)
Development/Project Reviews	75,000	45,070	49,000	(3,930)	80,000	56,420	50,096	6,324	75,000	94,267	63,000	31,267	68,000	75,000	60,000	(A)
											Review fees				Review fees	
Non-fee and Preliminary Reviews	10,000	23,073	6,881	16,192	15,000	32,937	18,203	14,734	20,000	16,851	-	16,851	24,000	22,000	-	(B)
Commission and TAC Meetings	12,000	10,575	-	10,575	12,000	13,207	-	13,207	12,000	10,478	-	10,478	12,000	14,000	-	(C)
Surveys and Studies	12,000	-	-	-	20,000	16,316	-	16,316	10,000	3,745	-	3,745	9,000	10,000	-	(D)
Water Quality / Monitoring	80,700	120,728	-	120,728	78,000	76,754	-	76,754	102,600	119,397	-	119,397	129,000	110,000	-	(E)
Water Quantity	6,300	5,678	-	5,678	10,000	9,998	-	9,998	6,500	6,229	-	6,229	7,000	8,000	-	(F)
Assistance on Erosion Control Inspections	1,000	-	-	-	-	-	-	-	-	-	-	-	-		-	(G)
Annual Flood Control Project Inspections	48,000	20,279	21,000	(721)	48,000	26,744	19,593	7,151	12,000	69,149	69,149	0	12,000	12,000	12,000	(H)
											Transfer from long term account				Transfer from long term account	
Municipal Plan Review	8,000	26,779	-	26,779	4,000	5,406	-	5,406	2,000	1,548	-	1,548	2,000	2,000	-	(I)
Watershed Outlet Monitoring Program	20,500	18,145	4,500	13,645	20,500	19,530	5,500	14,030	20,500	20,837	4,500	16,337	23,000	28,500	5,000	(J)
											Grant from Met Council				Grant from Met Council	
Annual XP-SWMM Model Updates/Reviews	10,000	8,918	-	8,918	-	-	-	-	-	-	-	-	-	5,000	-	(K)
APM/AIS Work	32,000	35,977	19,454	16,523	32,000	21,246	9,861	11,385	30,000	11,634	1,128	10,506	14,000	13,000	1,400	(L)
											Cost share with TRPD				Cost share with TRPD	
Subtotal Engineering & Monitoring	**$440,500**	**$441,376**	**$100,835**	**$340,541**	**$449,500**	**$435,499**	**$103,253**	**$332,246**	**$420,600**	**$497,215**	**$137,777**	**$359,438**	**$434,000**	**$444,500**	**$78,400**	
PLANNING																
Next Generation Plan Development					12,000	12,000	-	12,000	18,000	18,000	-	18,000	18,000	18,000	-	(M)
Subtotal Planning	**$0**	**$0**	**$0**	**$0**	**$12,000**	**$12,000**	**$0**	**$12,000**	**$18,000**	**$18,000**	**$0**	**$18,000**	**$18,000**	**$18,000**	**$0**	

Item	2018 Budget	2018 Actual	2018 Revenue	2018 NET Expense	2019 Budget	2019 Actual	2019 Revenue	2019 NET Expense	2020 Budget	2020 Gross Expenses	2020 Revenue	2020 NET Expenses	2021 Budget	2022 Proposed Budget	2022 Expected Income	See Notes
ADMINISTRATION																
Administrator	67,200	59,955	26,936	33,019	69,200	64,926	28,720	36,206	69,200	64,764	30,000	34,764	67,400	70,848	35,800	(N)
											Transfer from CIP account				Transfer from CIP account	
MAWD Dues				-				-	500	500	-	500	3,750	7,500	-	(O)
Legal	17,000	13,313	-	13,313	17,000	14,428	-	14,428	15,000	20,996	-	20,996	15,000	17,000	-	(P)
Financial Management	3,200	3,200	-	3,200	3,500	3,500	-	3,500	3,500	3,500	-	3,500	4,000	13,500	-	(Q)
Audit, Insurance & Bond	15,500	17,648	-	17,648	18,000	15,892	-	15,892	18,000	18,684	-	18,684	18,000	18,700	-	(R)
Meeeting Catering	1,600	1,295	-	1,295	1,500	1,341	-	1,341	1,500	317	-	317	1,300	1,300	-	(S)
Administrative Services	15,000	14,240	-	14,240	15,000	12,992	-	12,992	15,000	11,887	-	11,887	8,000	8,000	-	(T)
Subtotal Administration	**$119,500**	**$109,651**	**$26,936**	**$82,715**	**$124,200**	**$113,079**	**$28,720**	**$84,359**	**$122,700**	**$120,648**	**$30,000**	**$90,648**	**$117,450**	**$136,848**	**$35,800**	
OUTREACH & EDUCATION																
Publications / Annual Report	1,500	937	-	937	1,300	1,263	-	1,263	1,300	1,069	-	1,069	1,300	1,300	-	(U)
Website	4,200	443	-	443	3,000	1,617	-	1,617	1,000	1,264	-	1,264	1,800	1,800	-	(V)
Watershed Education Partnerships	13,850	13,454	-	13,454	15,850	13,810	-	13,810	15,850	16,535	-	16,535	17,350	18,350	-	(W)
Education and Public Outreach	22,000	18,585	38,082	(19,497)	25,000	23,588	1,000	22,588	22,000	38,321	28,811	9,510	26,000	28,000	-	(X)
										Grant from BWSR						
Public Communications	2,500	563	-	563	1,000	878	-	878	1,000	1,113	-	1,113	1,000	1,100	-	(Y)
Subtotal Outreach & Education	**$44,050**	**$33,982**	**$38,082**	**-$4,100**	**$46,150**	**$41,156**	**$1,000**	**$40,156**	**$41,150**	**$58,302**	**$28,811**	**$29,491**	**$47,450**	**$50,550**	**$0**	
MAINTENANCE FUNDS																
Channel Maintenance Fund	25,000	25,000	-	25,000	25,000	25,000	-	25,000	25,000	25,000	-	25,000	20,000	25,000		(Z)
Flood Control Project Long-Term Maint.	25,000	4,000	-	4,000	25,000	25,000	-	25,000	25,000	25,000	-	25,000	25,000	25,000		(AA)
Subtotal Maintenance Funds	**$50,000**	**$29,000**	**$0**		**$50,000**	**$50,000**	**$0**	**$50,000**	**$50,000**	**$50,000**	**$0**	**$50,000**	**$45,000**	**$50,000**		
TMDL WORK																
TMDL Implementation Reporting	10,000	4,668	-	4,668	10,000	215	-	215	10,000	263	-	263	7,000	7,000	-	(BB)
Subtotal TMDL Work	**$10,000**	**$ 4,668**	**$ -**	**$ 4,668**	**$10,000**	**$10,000**	**$0**	**$10,000**	**$10,000**	**$263**	**$0**	**$263**	**$7,000**	**$7,000**	**$0**	
GRAND TOTAL	**$664,050**	**$618,677**	**$165,853**	**$423,824**	**$691,850**	**$661,734**	**$132,973**	**$528,761**	**$662,450**	**$744,428**	**$196,588**	**$547,840**	**$668,900**	**$706,898**	**$114,200**	

2022 Proposed Revenues		
Expected Income		Proposed Income
Assessments to cities		$ 565,998
Use of fund balance		$ -
CIP Administrative Funds (2.0% of est. requested levy of $1.79M)		$ 35,800
Project review fees		$ 60,000
Transfer from Long-term Maint Fund for Flood Control Proj Inspections		$ 12,000
WOMP reimbursement		$ 5,000
TRPD reimbursement		$ 1,400
TMDL Studies Long Term Account Close Out (One Time Allocation)		$ 27,149
		$ 707,347
Expected Expenses		
Total operating budget		$ 706,898
Fund Balance Details		
Est. Beginning Fund Balance (Jan 31, 2022)		$ 404,513
Change in Fund Balance (income - expenses)		$ 449
Est. Remaining Fund Balance (Jan 31, 2023)		$ 404,962

Proposed City Assessments

Community	For Taxes Payable in 2021	2021 Percent of	Area Watershed	Percent of	Average	2015	2016	2017	2018	2019	2020	2021	2022 Proposed Assessments (2.0% increase)
	Net Tax Capacity	Valuation	in Acres	of Area	Percent	$490,345	$490,345	$500,000	$515,050	$529,850	$550,450	$554,900	$565,998
Crystal	$10,436,901	5.59	1,264	5.09	5.34	$25,868	$25,771	$25,704	$26,904	$27,877	$29,062	$29,898	$30,206
Golden Valley	$48,278,560	25.84	6,615	26.63	26.23	$121,964	$127,675	$131,270	$134,649	$138,553	$144,693	$145,228	$148,477
Medicine Lake	$1,136,635	0.61	199	0.80	0.70	$3,543	$3,600	$3,561	$3,783	$3,846	$3,975	$3,928	$3,988
Minneapolis	$13,106,438	7.01	1,690	6.80	6.91	$33,235	$32,885	$33,609	$34,763	$35,805	$37,631	$37,983	$39,103
Minnetonka	$11,762,188	6.30	1,108	4.46	5.38	$28,121	$27,536	$28,199	$28,053	$28,989	$29,967	$29,622	$30,437
New Hope	$10,448,489	5.59	1,252	5.04	5.32	$25,681	$25,627	$25,917	$26,740	$27,987	$28,987	$29,464	$30,087
Plymouth	$79,203,316	42.39	11,618	46.77	44.58	$225,159	$220,974	$224,531	$231,682	$237,986	$245,942	$247,860	$252,307
Robbinsdale	$3,537,475	1.89	345	1.39	1.64	$7,587	$7,843	$7,747	$8,189	$8,523	$8,937	$9,299	$9,288
St. Louis Park	$8,938,699	4.78	752	3.03	3.91	$19,184	$18,433	$19,463	$20,287	$20,284	$21,257	$21,618	$22,105
TOTAL	**$186,848,701**	**100.00**	**24,843**	**100.00**	**100.00**	**$490,345**	**$490,345**	**$500,000**	**$515,050**	**$529,850**	**$550,450**	**$554,900**	**$565,998**

NOTES
(A1) General technical services by Barr Engineering; amount based on actual expenditures in 2019 and 2020.
(A) Partially funded by application fees; with the creation of the preliminary and non-fee budget category, most of the review costs will be covered by application fees. 2021 budget assumes 30 submittals at average cost of $2,000 - $2,500 per review. 2022 budget based on 2019 and 2020 actuals
(B) Based on actual expenses in 2019 and 2020. This was a new line item in 2015 used to cover reviews for which either we do not receive an application fee or it's too early in the process for us to have received an application fee. Includes DNR application reviews, MnDOT project reviews, and other prelim reviews requested by administrator and member cities.
(C) Includes attendance at BCWMC meetings, TAC meetings and other committee meetings, as needed. 2017 budget increased to allow for additional BCWMC Engineer staff to attend Commission/TAC meetings (total of 3 assumed). 2018 - 2020 budgets were reduced from 2017 and assumed 12 BCWMC meetings and 5 other meetings (TAC, etc.). 2021 budget also assumes 17 meetings including BCWMC meetings (12), TAC meetings (3), Administrative Services Committee meetings (1), Budget Committee meetings and other meetings (1). 2022 budget increased to reflect likely return to in-person meetings, plus additional staff attendance at meetings
(D) For Commission-directed surveys and studies not identified in other categories - e.g., past work has included watershed tours, Medicine Lake outlet work, Flood Control Project Maintenance and Responsibilites, Sweeney Lake sediment monitoring, stream monitoring equipment purchase. 2018 budget was reduced from previous years for overall budget savings. 2019 budget is more in line with previous years and gives Commission flexibility to investigate or tackle unforeseen issues that arise. Lowered again in 2020, 2021, and 2022 for budget savings.
(E) Routine lake and stream monitoring. See details on next page. Costs are considerably lower than normal stream monitoring due to partnering with city of Plymouth's Plymouth Creek Monitoring by TRPD.
(F) Water Quantity (lake level) monitoring. 2018 budget lowered for budget savings and resulted in fewer data points. 2019 budget back to earlier budget levels. 2020 budget lowered again for budget savings. 2022 budget increase allows for additional measurements and benchmark checks, beyond the once/month lake level measurements
(G) After recommendations from the TAC and Budget Committee,the Commission’s ended the erosion and sediment control inspection program (Watershed Inspection) in 2014 due to duplication with activities required by the member cities. Some budget remained here to provide, as requested by the Commission, some oversight of city inspection activities (reports of inspections are available from each city). However, little or no expenses have been incurred since 2014. In 2019 it was removed from budget. If inspections are needed they can be charged to general technical services.
(H) 2022 budget includes annual typical inspection of Flood Control Project (FCP) features without tunnel inspections. Does not include follow-up work on the deep tunnel inspection, such as developing cost estimates for recommended repair work, and the box culvert repairs, wuch as development of plans and specifications.
http://www.bassettcreekwmo.org/application/files/4514/9637/1815/2016_FCP_Policies.pdf
(I) Municipal plan approvals completed in 2019; however, this task has also included review of adjacent WMO plan amendments, and review of city ordinances; $2,000 budget recommended in 2021 for these types of reviews.
(J) Monitoring at the Watershed Outlet Monitoring Program (WOMP) site in Minneapolis through an agreement with Met Council (MCES). Commission is reimbursed $5,000 from Met Council. Met Council pays for equipment, maintenance, power, cell service, and lab analyses. Monitoring protocol changed in 2017 with collection of bi-monthly samples (up from once-per-month sampling).Both Barr and Wenck have tasked related to WOMP activities. Barr's 2020 & 2021 budget = $4,500. Actual spent in 2020 =$4,265. Station was moved in late 2020. In 2022, Barr work is proposed at $10,000 because MCES requests additional high flow measurements (doubling from about 6 to 12), due to the new station location. The MCES recommends 9 routine scheduled flow measurements (range of flows beyond base flow), plus up to 3 additional for special events such as high flow, drought, or backwater. The additional budget would also allow for the measurement of up to two higher flows, as needed, using an Acoustic Doppler unit (StreamPro) that allows for measurement of higher flows than was possible using past equipment. Wenck portion is similar to previous years at $18,500 due to similar sampling regime.
(K) This item is used to make updates to the XP-SWMM model, coordinate with P8 model updates, and assist cities with model use. No XP-SWMM updates were performed 2019 - 2021 due to work on the grant funded FEMA modeling project. 2022 budget assumes the Commission adopts the "FEMA model" as the Commission's model, including flood elevations. Then would need to re-start XP SWMM model updates. The last update was in 2018. Engineers will begin updating process in 2021 with "Surveys and Studies" budget. Process will likely be completed in FY2022.

(L) Funds to implement recommendations of Aquatic Plant Management/Aquatic Invasive Species Committee likely including curly-leaf pondweed control in Medicine Lake and small grant program for launch inspectors, education/outreach, etc. by other organizations including TRPD, AMLAC, others. 2020 expenses $11,400 due to grant funding and cost sharing with TRPD. 2021 and 2022 budget set to be in line with actual expected costs.
(M) Funding that will be set aside and accrued over next 5 years to pay for 2025 Watershed Plan development which will start in 2023.
(N) Typically includes $72/hour for average of 80 hours per month. In 2021 reduced to an average of 78 hours per month for overall budget savings and to reflect actual annual expenses. Budget committee recommended same for 2022. Increased to 82 hours per month (pending approved contract amendment) due to increasing workload.
(O) MN Association of Watershed District Annual dues. New budget item. 2019 and 2020 dues were $500 because WMOs were newly allowed to join the organization. 2021 dues $3,750. 2022 dues expected to be $7,500 similar to other Metro watersheds.
(P) For Commission attorney. 3% hourly rate increase over 2021 + more work expected. High legal costs for CIP projects will be charged to specific CIP budgets, as warranted.
(Q) Reflects new agreement with Redpath. $1,000/mo + up to 10 hours audit assistance at $150/hr
(R) Insurance and audit costs have risen considerably in the last few years.
(S) Meeting catering expenses from Triple D Espresso (includes delivery). Assumes 12 in-person meetings
(T) Recording Secretary $45/hr rate * 8 hrs/mo for meeting attendance and minutes ($4,320 total) + $290 annual mileage + $250/mo meeting packet printing/mailing + $390 contingency.
(U) Budget was decreased in last few years to be more in line with actual expenses. Costs associated with Commission Engineer assistance with annual report
(V) Based on 2017-2019 agreement with HDR for website hosting and maintenance activities and closer to actual funds spent in 2019.
(W) Includes CAMP ($7,000), River Watch ($2,000), Metro Watershed Partners ($3,500), Metro Blooms Workshops ($1,500; a decrease from previous years), Children's Water Festival ($350). Does not allow for additional partnerships or increases in contributions. CAMP costs set by Met Council increased significantly in 2019 (after 16 years w/o increases). In 2021 moved $4,000 in annual support to Metro Blooms for resident engagement in Harrison Neighborhood, MPLS from Education & Outreach line item (X)
(X) Includes funding for West Metro Water Alliance at $13,000 and $10,310 for other educational supplies and materials including educational signage, display materials, Commissioner training, etc. In 2021, moved social media ($480 FB ads + $3,510 for 1.5 hr/week*52 wks*$45/hour) and moved educational newspaper column writing ($2,700 for 5 hr/mo*12 months*$45/hour) from Administrative Services line item (T).
(Y) Public Communications covers required public notices for public hearings, etc.
(Z) Will be transferred to Channel Maintenance Fund for use by cities with smaller projects along main streams. Reduced in 2021 for one-time budget savings. TAC recommends fully funding this line item at $25,000
(AA) Will be transferred to Long-Term Maintenance Fund (less actual costs of FCP inspections in line (H).
(BB) Budget reduced since 2018 for overall budget savings.Task includes reporting on TMDL implementation and updating P8 model to include new BMPs. Reduced in 2021 for overall budget savings. Updates did not occur in 2020; this budget will be needed especially if the XP SWMM model is updated.

BCWMC 2022 Water Quality Monitoring Budgets - by item		
Item	**Budget**	**Notes**
Reporting on 2020 Sweeney Branch biotic index monitoring	$7,000	Coincides with, and included in, the Sweeney Brach stream flow and quality monitoring report below – this budget is as shown in the 2021 budget documentation.
Reporting on 2021 monitoring:		
Westwood and Crane Lake	$12,000	this budget is as shown in the 2021 budget documentation.
Parkers Lake	$6,000	this budget is as shown in the 2021 budget documentation.
Sweeney Branch stream flow and quality monitoring	$7,000	this budget is as shown in the 2021 budget documentation.
2022 monitoring:		
Year 1 of Plymouth Creek stream flow and quality monitoring	$20,000	This budget is lower than typical stream monitoring budgets due to a partnership with city of Plymouth (through TRPD monitoring). Assumptions: 1) the BCWMC's 2022-2023 Plymouth Creek monitoring will use the City of Plymouth's Plymouth Creek monitoring site (site IP2), rather than set up a new location and TRPD performs the monitoring on behalf of the City of Plymouth; 2) TRPD staff will perform all monitoring, except for DO monitoring (continuous for 1 – 2 weeks) and quarterly metals/hardness sampling, which the Commission Engineer will perform; 3) rental of dissolved oxygen probe for continuous dissolved oxygen monitoring at assumed cost of $100/day; 4) $5,000 budget for one-time purchase of specific conductance and temperature monitoring equipment to support the TRPD monitoring efforts (may not be required) – the BCWMC's continuous temperature/specific conductance monitoring equipment is not compatible with the TRPD's equipment; 5) TRPD will maintain the current rating curve for the TRPD monitoring site; 6) the Commission Engineer will verify/modify the TRPD rating curve for the old downstream IP1 station (60" pipe) (assists with understanding impacts of flows from large inflow pipe on the downstream biological monitoring station; and 7) Commission Engineer review of TRPD data
Northwood Lake (Priority 1 Shallow lake) & Lost Lake (Priority 2 Shallow lake)	$40,000	Assumptions: 6 sample events from Northwood Lake and 6 Sample events from Lost Lake; 2 TP samples per event (epilimnetic composite and bottom); all other WQ samples only 1 sample per event. AIS suitability parameters sampled in June and August; all other WQ parameters sampled on all 6 events. Plant surveys in June and August by Endangered Resource Services. Budget does not include report and presentation to Commission, which will occur in 2023 (and be included in 2023 budget).
Plymouth Creek biological monitoring	$8,000	identification/ enumeration by subconsultant (Dr. Dean Hansen); and 3) MPCA computes MIBI at no cost to BCWMC. Budget does not include report and presentation to Commission, which will likely occur in 2024 (and be included in 2024 budget), to coincide with the reporting on the Sweeney Branch stream flow and water quality monitoring. This monitoring could be deferred to 2023, if needed.
General water quality	$10,000	
Total Water Quality Monitoring	**$110,000**	

Item 6A.
BCWMC 6-17-21

Bassett Creek Watershed Management

MEMO

Date: June 9, 2021
From: Laura Jester, Administrator
To: BCWMC Commissioners
RE: Administrator's Report

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

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

2019 Medicine Lake Road and Winnetka Avenue Area Long Term Flood Mitigation Plan Implementation Phase I: DeCola Ponds B & C Improvement Project (BC-2, BC-3 & BC-8) Golden Valley (no change since Feb): A feasibility study for this project was completed in May 2018 after months of study, development of concepts and input from residents at two public open houses. At the May 2018 meeting, the Commission approved Concept 3 and set a maximum 2019 levy. Also in May 2018, the Minnesota Legislature passed the bonding bill and the MDNR has since committed $2.3M for the project. The Hennepin County Board approved a maximum 2019 levy request at their meeting in July 2018. A BCWMC public hearing on this project was held on August 16, 2018 with no comments being received. Also at that meeting the Commission officially ordered the project and entered an agreement with the City of Golden Valley to design and construct the project. In September 2018, the City of Golden Valley approved the agreement with the BCWMC. The Sun Post ran an article on this project October 2018. Another public open house and presentation of 50% designs was held February 6, 2019. An EAW report was completed and available for public review and comment December 17 – January 16, 2019. At their meeting in February 2019, the Commission approved the 50% design plans. Another public open house was held April 10th and a public hearing on the water level drawdown was held April 16th. 90% Design Plans were approved at the April Commission meeting. It was determined a Phase 1 investigation of the site is not required. The City awarded a contract to Dahn Construction for the first phase of the project, which involves earthwork, utilities, and trail paving and extends through June 2020. Dewatering began late summer 2019. Tree removal was completed in early winter; excavation was ongoing through the winter. As of early June 2020, earth work and infrastructure work by Dahn Construction is nearly complete and trail paving is complete. Vegetative restoration by AES is underway including soil prep and seeding. Plants, shrubs, and trees will begin soon along with placement to goose protection fencing to help ensure successful restoration. The construction phase of this project was completed in June with minor punch list items completed in September. The restoration and planting phase is complete except for minor punch list items and monitoring and establishment of vegetation over three growing seasons. A final grant report for BWSR's Watershed Based Implementation Funding was submitted at the end of January. Project website: http://www.bassettcreekwmo.org/index.php?cID=433 .

2020 Bryn Mawr Meadows Water Quality Improvement Project (BC-5), Minneapolis (see Items 4E and 5E): A feasibility study by the Commission Engineer began last fall and included wetland delineations, soil borings, public open houses held in conjunction with MPRB's Bryn Mawr Meadows Park improvement project, and input from MPRB's staff and design consultants. At their meeting in April, the Commission approved a TAC and staff recommendation to move this project from implementation in 2019 to design in 2020 and construction in 2021 to better coincide with the MPRB's planning and implementation of significant improvements and redevelopment Bryn Mawr Meadows Park where the project will be located. The final feasibility study was approved at the January 2019 Commission meeting. Staff discussed the maintenance of Penn Pond with MnDOT and received written confirmation that pond maintenance will occur prior to the park's reconstruction project with coordination among the BCWMC, MPRB, and MnDOT. A public hearing for this project was held September 19, 2019. The project was officially ordered at that meeting. An agreement

with the MPRB and the city of Minneapolis will be considered at a future meeting. In January 2020 this project was awarded a $400,000 Clean Water Fund grant from BWSR; a grant work plan was completed and the grant with BWSR was fully executed in early May. The project and the grant award was the subject of an article in the Southwest Journal in February: https://www.southwestjournal.com/voices/green-digest/2020/02/state-awards-grant-to-bryn-mawr-runoff-project/. In early September, Minneapolis and MPRB staff met to review the implementation agreement and maintenance roles. BCWMC developed options for contracting and implementation which were presented at the November meeting. At that meeting staff was directed to develop a memorandum of understanding or agreement among BCWMC, MPRB, and city of Minneapolis to more formally recognize and assign roles and responsibilities for implementation. The draft agreement was developed over several months and multiple conversations among the parties. At the May meeting the Commission approved to waiver potential conflict of the Commission legal counsel and reviewed a proposal for project design by the Commission Engineer. The updated design proposal is included on this month's consent agenda. The design agreement among all three parties will be presented and considered at this meeting as well. Project website: http://www.bassettcreekwmo.org/projects/all-projects/bryn-mawr-meadows-water-quality-improvement-project

2020 Jevne Park Stormwater Improvement Project (ML-21) Medicine Lake (No change since Oct 2019): At their meeting in July 2018, the Commission approved a proposal from the Commission Engineer to prepare a feasibility study for this project. The study got underway last fall and the city's project team met on multiple occasions with the Administrator and Commission Engineer. The Administrator and Engineer also presented the draft feasibility study to the Medicine Lake City Council on February 4, 2019 and a public open house was held on February 28th. The feasibility study was approved at the April Commission meeting with intent to move forward with option 1. The city's project team is continuing to assess the project and understand its implications on city finances, infrastructure, and future management. The city received proposals from 3 engineering firms for project design and construction. At their meeting on August 5th, the Medicine Lake City Council voted to continue moving forward with the project and negotiating the terms of the agreement with BCWMC. Staff was directed to continue negotiations on the agreement and plan to order the project pending a public hearing at this meeting. Staff continues to correspond with the city's project team and city consultants regarding language in the agreement. The BCWMC held a public hearing on this project on September 19, 2019 and received comments from residents both in favor and opposed to the project. The project was officially ordered on September 19, 2019. On October 4, 2019, the Medicine Lake City Council took action not to move forward with the project. At their meeting on October 17th, the Commission moved to table discussion on the project. The project remains on the 2020 CIP list. Project webpage: http://www.bassettcreekwmo.org/index.php?cID=467.

2019 Westwood Lake Water Quality Improvement Project (WST-2) St. Louis Park (No change since October 2020): At their meeting in September 2017, the Commission approved a proposal from the Commission Engineer to complete a feasibility study for this project. The project will be completed in conjunction with the Westwood Hills Nature Center reconstruction project. After months of study, several meetings with city consultants and nature center staff, and a public open house, the Commission approved Concept 3 (linear water feature) and set a maximum 2019 levy at their May meeting. 50% designs were approved at the July meeting and 90% design plans were approved at the August meeting. The Hennepin County Board approved a maximum 2019 levy request at their meeting in July. A BCWMC public hearing on this project was held on August 16th with no comments being received. At that meeting the Commission officially ordered the project and entered an agreement with the City of St. Louis Park to design and construct the project and directed the Education Committee to assist with development of a BCWMC educational sign for inside the nature center. The draft sign was presented at the October 2017 meeting and was finalized over the winter. The Sun Sailor printed an article on the project in October 2018. A ribbon cutting by the city was held September 13th. The building and site are open to the public and being used to educate students. The system is capturing stormwater runoff from roof and paving, and the runoff is being stored underground and pumped via solar or hand pumps into the engineered creek. None of the captured water is flowing over land into Westwood Lake. The educational sign indoors is installed. Project website: http://www.bassettcreekwmo.org/projects/all-projects/westwood-lake-water-quality-improvement-project.

2017 Main Stem Bassett Creek Streambank Erosion Repair Project (2017CR-M) (no change since Feb): The feasibility study for this project was approved at the April Commission meeting and the final document is available on the project page at: http://www.bassettcreekwmo.org/index.php?cID=281. A Response Action Plan to address contaminated soils in the project area was completed by Barr Engineering with funding from Hennepin County and was reviewed and approved by the MPCA. The Commission was awarded an Environmental Response Fund grant from Hennepin County for $150,300 and a grant agreement is in the process of being signed by the county. A subgrant agreement with the City will be developed. The City hired Barr Engineering to design and construct the project. Fifty-percent and 90% designs were approved at the August and October Commission meetings, respectively. In September 2017, design plans were presented by Commission and city staff to the Harrison Neighborhood Association's Glenwood Revitalization Team committee and through a public open house on the project. Construction was to begin summer of 2018 but was delayed until due to the unanticipated need for a field based cultural and historical survey of the project area required by the Army Corps of Engineers and ongoing negotiations with Pioneer Paper.

Construction began in November 2020 with clearing and grubbing to have access to the creek and to remove trees from the work area. In the Fruen Mill Reach work was completed per design plans on the south side of the creek, including stabilizing the existing MPRB trail, installing riprap toe protection and grading the bank. In the Cedar Lake Road to Irving Avenue Reach, the City was unable to come to an agreement with Pioneer Paper to get the amount of access needed to install the VRSS on the north side of the creek. The property owner allowed access to the streambank but instead of installing VRSS through this reach the City installed riprap toe protection, removed debris, completed bank grading and live staking and seeding, and installed the in-stream rock vanes to divert flows away from the steep banks. In Irving Avenue to the tunnel reach, the work was completed according to design plans with the installation of live staking, rock vanes within the stream channel, removal of brush and invasive species, and the installation of live stakes and fascines to encourage native plant growth and minimize bank erosion. Construction was completed in December 2020. An ERF grant report and RAP report are currently being developed. Vegetation will be established this spring. Project Website: www.bassettcreekwmo.org/projects/all-projects/bassett-creek-main-stem-erosion-repair-project-cedar-lake-ro

2014 Schaper Pond Diversion Project and Carp Management, Golden Valley (SL-3) (no change since March): Repairs to the baffle structure were made in 2017 after anchor weights pulled away from the bottom of the pond and some vandalism occurred in 2016. The city continues to monitor the baffle and check the anchors, as needed. Vegetation around the pond was planted in 2016 and a final inspection of the vegetation was completed last fall. Once final vegetation has been completed, erosion control will be pulled and the contract will be closed. The Commission Engineer began the Schaper Pond Effectiveness Monitoring Project last summer and presented results and recommendations at the May 2018 meeting. Additional effectiveness monitoring is being performed this summer. At the July meeting the Commission Engineer reported that over 200 carp were discovered in the pond during a recent carp survey. At the September meeting the Commission approved the Engineer's recommendation to perform a more in-depth survey of carp including transmitters to learn where and when carp are moving through the system. At the October 2020 meeting, the Commission received a report on the carp surveys and recommendations for carp removal and management. Carp removals were performed through the Sweeney Lake Water Quality Improvement Project. Results were presented at the February 2021 meeting along with a list of options for long term carp control. Commission took action approving evaluation of the long-term options to be paid from this Schaper Pond Project. Commission and Golden Valley staff met in March 2021 to further discuss pros and cons of various options. Evaluation results will be presented at a future meeting. Project webpage: http://www.bassettcreekwmo.org/index.php?cID=277.

Sweeney Lake Water Quality Improvement Project, Golden Valley (SL-8) (No change since March): This project was added to the 2020 CIP list after receiving a federal 319 grant from the MPCA. It is partially a result of the carp surveys completed through the Schaper Pond Diversion Project and a study of the year-round aeration on Sweeney Lake. This project will treat curly-leaf pondweed in spring 2020, will remove carp in summer 2020, and will perform an alum treatment on Sweeney Lake

in late summer 2020. The project was officially ordered by the Commission after a public hearing in September 2019. A public open house on this project was held via Webex on April 8th with approximately 20 people joining. The open house presentation and a question and answer document are available online. The curly-leaf pondweed herbicide treatment was completed in May. Carp Solutions performed carp tracking and setting nets in early June. The first round of netting resulted in 334 carp removed from Sweeney Lake (mean length 620 mm, mean weight 3.1 kg), representing an estimated 29% of the total population. From Schaper Pond 82 carp removed which likely represents about 17% of the initial population. After another round of carp removals in late July, 118 additional carp were netted from Sweeney. Based on preliminary estimates, approximately 40% of the carp population was removed from Sweeney this summer. The carp biomass was reduced from approximately 129 kg/ha to 79 kg/ha, which is below the threshold where adverse impacts on water quality are expected. The first round of alum treatment was completed in late October. A grant report and payment request were submitted at the end of January. A report on the results of the carp removals and recommendations for future management were presented at the February 2021 meeting. Long term carp management evaluation will happen through the Schaper Pond Diversion Project funding. A one-page overview of 2020 activities and outcomes was developed for the Sweeney Lake Association and posted online in March. The project website: Sweeney Lake Water Quality Improvement Project, SL-8).

2014 Twin Lake In-lake Alum Treatment, Golden Valley (TW-2): (No change since June 2018) At their March 2015 meeting, the Commission approved the project specifications and directed the city to finalize specifications and solicit bids for the project. The contract was awarded to HAB Aquatic Solutions. The alum treatment spanned two days: May 18- 19, 2015 with 15,070 gallons being applied. Water temperatures and water pH stayed within the desired ranges for the treatment. Early transparency data from before and after the treatment indicates a change in Secchi depth from 1.2 meters before the treatment to 4.8 meters on May 20th. There were no complaints or comments from residents during or since the treatment. Water monitoring continues to determine if and when a second alum treatment is necessary. Lake monitoring results from 2017 were presented at the June 2018 meeting. Commissioners agreed with staff recommendations to keep the CIP funding remaining for this project as a 2nd treatment may be needed in the future. Project webpage: http://www.bassettcreekwmo.org/index.php?cID=278.

2013 Four Seasons Area Water Quality Project/Agora Development (NL-2): At their meeting in December 2016, the Commission took action to contribute up to $830,000 of Four Seasons CIP funds for stormwater management at the Agora development on the old Four Seasons Mall location. At their February 2017 meeting the Commission approved an agreement with Rock Hill Management (RHM) and an agreement with the City of Plymouth allowing the developer access to a city-owned parcel to construct a wetland restoration project and to ensure ongoing maintenance of the CIP project components. At the August 2017 meeting, the Commission approved the 90% design plans for the CIP portion of the project. At the April 2018 meeting, Commissioner Prom notified the Commission that RHM recently disbanded its efforts to purchase the property for redevelopment. In 2019, a new potential buyer/developer (Dominium) began preparing plans for redevelopment at the site. City staff, the Commission Engineer and I have met on numerous occasions with the developer and their consulting engineers to discuss stormwater management and opportunities with "above and beyond" pollutant reductions. Concurrently, the Commission attorney has been working to draft an agreement to transfer BCWMC CIP funds for the above and beyond treatment. At their meeting in December, Dominium shared preliminary project plans and the Commission discussed the redevelopment and potential "above and beyond" stormwater management techniques. At the April 2020 meeting, the Commission conditionally approved the 90% project plans. The agreements with Dominium and the city of Plymouth to construct the project were approved May 2020 and project designers coordinated with Commission Engineers to finalize plans per conditions. In spring 2021, the City of Plymouth is now pursuing purchasing of the property from Walmart and has indicated that if the purchase goes through, they will continue to plan for the construction of the stormwater management BMPs with redevelopment or in advance of full redevelopment. Project webpage: http://www.bassettcreekwmo.org/index.php?cID=282.

2021 Parkers Lake Drainage Improvement Project (PL-7) (See Item 5A): The feasibility study for this project was approved in May 2020 with Alternative 3 being approved for the drainage improvement work. After a public hearing was held with no public in attendance, the Commission ordered the project on September 17, 2020 and entered an agreement with the city of Plymouth to design and construct the project. The city hired WSB for project design which is currently underway. 60% plans will be presented at this meeting. www.bassettcreekwmo.org/projects/all-projects/parkers-lake-drainage-improvement-project

2021 Parkers Lake Chloride Reduction Project (PL-7): The feasibility study for this project was approved in May 2020 with Alternative 3 being approved for the drainage improvement work. After a public hearing was held with no public in attendance, the Commission ordered the project on September 17, 2020 and entered an agreement with the city of Plymouth to implement the project in coordination with commission staff. City staff and I have had an initial conversation about this project. The city plans to collect additional chloride data this winter in order to better pinpoint the source of high chlorides loads within the subwatershed. Partners involved in the Hennepin County Chloride Initiative (HCCI) are interested in collaborating on this project. A proposal from Plymouth and BCWMC for the "Parkers Lake Chloride Project Facilitation Plan" was approved for $20,750 in funding by the HCCI at their meeting in March. The project will 1) Compile available land use data and chloride concentrations, 2) Develop consensus on the chloride sources to Parkers Lake and potential projects to address these sources, and 3) Develop a recommendation for a future pilot project to reduce chloride concentrations in Parkers Lake, which may be able to be replicated in other areas of Hennepin County, and 4) help target education and training needs by landuse. Plymouth staff and I are gathering technical experts for this project. An internal kickoff meeting was held and work is continuing to gather data and stakeholders. Project website: www.bassettcreekwmo.org/projects/all-projects/parkers-lake-drainage-improvement-project

2021 Mt. Olivet Stream Restoration Project (ML-20) (See Item 5A): The feasibility study for this project was approved in May 2020 with Alternative 3 being approved for the drainage improvement work. After a public hearing was held with no public in attendance, the Commission ordered the project on September 17, 2020 and entered an agreement with the city of Plymouth to design and construct the project. The city hired WSB for project design which is currently underway. 60% plans will be presented at this meeting. www.bassettcreekwmo.org/projects/all-projects/mt-olivet-stream-restoration-project

2021 Main Stem Lagoon Dredging Project (BC-7) (No change since May): The feasibility study for this project was approved in May 2020 with Alternative 2-all (dredge all three lagoons to 6-foot depth) being approved. After a public hearing was held with no public in attendance, the Commission ordered the project on September 17, 2020. Rather than entering an agreement with a separate entity to design and construct this project, the Commission will implement the project in close coordination with the MPRB. At their meeting in November, the Commission approved a timeline for implementation and the Commission Engineer was directed to prepare a scope of work for project design and engineering. That scope is presented in 5C at this meeting. Design and permitting should get underway in summer 2021. Dredging of all three lagoons is planned for winter 2022/2023. A grant agreement for the $250,000 Watershed Based Implementation Funding grant was approved at the January meeting. The project work plan was approved by BWSR. The Commission recently approved a grant agreement for a Hennepin County Opportunity Grant for this project. Project website: www.bassettcreekwmo.org/projects/all-projects/bassett-creek-main-stem-lagoon-dredging-project

2021 Cost-share Purchase of High Efficiency Sweeper (ML-23) (No change since Dec): Because the Commission had not entertained a project like this in the past (to cost share equipment purchase), this proposed project was discussed by the Commission in February and April, 2020 after being recommended for approval by the TAC. The Commission approved a policy regarding the use of CIP funds for equipment purchases at their April 2020 meeting. The project was added to the CIP through a Watershed Plan Amendment adopted in August 2020 and was officially ordered by the Commission on September 17, 2020 after a public hearing. The Commission entered an agreement with the city of Plymouth which includes reporting requirements for street sweeper use and effectiveness. The first report is expected spring 2021.

2022 Medley Park Stormwater Treatment Facility (ML-12) (See Item 6B): The feasibility study for this project is underway after the Commission Engineer's scope of work was approved last August. City staff, Commission Engineers and I collaborated on developing materials for public engagement over the fall/early winter. A project kick-off meeting was held in September, an internal public engagement planning meeting was held in October, and a Technical Stakeholder meeting with state agencies was held in November. A story map of the project was created and a survey to gather input from residents closed in December. Commission Engineers reviewed concepts and cost estimates have been reviewed by city staff and me. Another public engagement session was held in April to showcase and receive feedback on concept designs. A draft feasibility report was presented at the May meeting; the final feasibility study will be considered at this meeting. www.bassettcreekwmo.org/projects/all-projects/medley-park-stormwater-treatment-facility

2022 SEA School-Wildwood Park Flood Reduction Project (BC-2, 3, 8, 10) (See Item 4D): The feasibility study for this project is complete after the Commission Engineer's scope of work was approved last August. A project kick-off meeting with city staff

was held in late November. Meetings with city staff, Robbinsdale Area School representatives, and technical stakeholders were held in December, along with a public input planning meeting. A virtual open house video and comment form were offered to the public including live chat sessions on April 8th. A draft feasibility study report was presented at the May meeting. The Commission approved implementing Concept #3 and asked for some minor edits to the report. The final report is included on this month's consent agenda. www.bassettcreekwmo.org/projects/all-projects/sea-school-wildwood-park-flood-reduction-project.

Administrator Report May 10 – June 8, 2021

Subject	Work Progress
Work with Member Cities & Partners	• Attended Friends of Northwood Lake annual meeting • Reviewed Golden Valley Comprehensive Plan revision and provided comment • Responded to questions re: Medicine Lake vegetation conditions from AMLAC president and Plymouth staff • Communicated with St. Louis Park staff re: Smart Cities initiative •
Budget & Finances	• Prepare agenda and materials for Budget Committee meeting, participate in meeting • Review May invoices, code and send to Redpath • Develop Budget Committee recommendation memo and documents for June Commission meeting • Send documents to DNR to receive $5,000 AIS Treatment Grant • Prepared WOMP expense report for Met Council's grant • Prepared maximum levy table
Education	• Review WMWA meeting materials and attend meeting • Assist with revisions to WMWA Strategic Plan • Correspond with Golden Valley Water Steward • Promote, disseminate WCCO Finding Minnesota segment • Meet with D. Pape re: "Making Connections" series ideas and outreach in Harrison Neighborhood ideas
CIP	• Medley Park Stormwater Improvement Project: Meet with city staff and Commission Engineer to review changes needed to draft feasibility study • Bryn Mawr Water Quality Improvement Project: Assist with finalization of design agreement with MPRB and city of Minneapolis; participate in interviews with three firms MPRB Bryn Mawr Park design; review revised Commission Engineer design proposal for June Commission meeting • Parkers Lake and Mt. Olivet Drainage Projects: Participate in meeting to review Commission Engineer comments on draft 60% design plans with Plymouth staff, Commission Engineer, and Plymouth design consultants (WSB, Inc.) • Beacon Heights 2nd Addition Stormwater Improvement Project: Meet with city staff and Commission Engineer to discuss development of feasibility study
Henn Co. Chloride Initiative	• Prepare and send follow up information after HCCI meeting • Arrange and host "small group" HCCI meeting and set next meeting • Correspond with Fortin Consulting re: Chloride Management Template Project • Request grant extension for project (RPBCWD grant)
MAWD	• Assist with updates to MAWD Handbook and participate in MAWA Handbook Committee meeting • Discuss options for collaborating with MASWCD on resolutions
Environmental Justice	• Participate in meeting of Environmental Justice Committee's Comp Plan Review workgroup meeting • Meet with Alt. Commissioner McDonald Black re: internship possibility
Administration	• Finalized and submitted/posted 2020 BCWMC Annual Report • Met with new alternate commissioners (separately) • Worked to find options for future BCWMC location and format • Updated online water quality graphs with latest data
Other Issues & Projects	• Twin Lake Water Quality and Riparian Area: Attended a meeting hosted by GV for residents on May 10th; arranged meeting with GV to discuss beaver activity and new conservation easement