



## Memorandum

**To:** Bassett Creek Watershed Management Commission  
**From:** Barr Engineering Co.  
**Subject:** Item 5E – Consider Approval of Proposal to Prepare Feasibility Study for the Medley Park Stormwater Treatment Facility (2022 CIP Project ML-12)  
BCWMC August 20, 2020 Meeting Agenda  
**Date:** August 13, 2020

### **5E. Consider Approval of Proposal to Prepare Feasibility Study for the Medley Park Stormwater Treatment Facility (2022 CIP Project ML-12)**

#### **Recommendations:**

1. Consider approving the scope of work and \$88,200 budget presented in this memorandum and direct the BCWMC Engineer to complete the feasibility study for the Medley Park Stormwater Treatment Facility (2022 CIP Project ML-12), scheduled for construction in 2022 and 2023.
2. Direct the BCWMC Engineer to consult with the U.S. Army Corps of Engineers (USACE) to determine whether the Resources Management Plan Pre-application Consultation Protocols may apply for this project.
3. Direct the BCWMC Engineer to prepare a feasibility study that complies with the requirements of the USACE and BCWMC criteria.

#### **Background**

The Medley Park Stormwater Treatment Facility is included in the BCWMC's current CIP as ML-12 (Table 5-3, as amended in 2018). The proposed project is located in Golden Valley and would address intercommunity flooding issues and improve water quality in Medicine Lake. The feasibility study will aid in the future development of designs for anticipated construction and implementation of the project in 2022 and 2023 at an estimated BCWMC cost of \$500,000. The proposed facility would help achieve the goals of the Medicine Lake TMDL. Figure 1 shows the location of Medley Pond and the surrounding Medley Park area.

The proposed project will develop flood storage volumes within the project area (approximately 2.5 acres of existing park area) adjacent to the existing Medley Pond, develop additional water quality treatment volume for total suspended solids (TSS) and particulate phosphorus, and develop opportunities to enhance dissolved phosphorus removal. The project will address an intercommunity flooding issue and help alleviate flooding of residential structures and streets south of the park by looking at opportunities to expand the existing Medley Pond footprint, develop additional stormwater ponds within the project footprint and/or investigate subsurface storage options (Figure 2). Additionally, the project will improve

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water quality downstream by trapping sediment and suspended particulates in the expanded storage, thus minimizing sediment and solids transferred to downstream stormwater ponds and Medicine Lake. Additional stormwater features that target the removal of dissolved phosphorus will also be investigated. Furthermore, the proposed project will improve ecology and wildlife habitat, enhance active and passive recreation opportunities within the park, and provide educational opportunities to park users. The existing pond, Medley Pond, is not classified as a public water by the Minnesota Department of Natural Resources (MnDNR).

As is required for BCWMC CIP Projects, a feasibility study must be completed prior to BCWMC holding a hearing and ordering the project. The feasibility study will develop conceptual designs of the flood mitigation and water quality improvement project, review the permitting requirements, review the field investigation requirements, and develop concept plans and cost estimates for the project.

This project is consistent with the goals (Section 4.1) and policies (Sections 4.2.1, 4.2.2, 4.2.8, and 4.2.10) in the 2015 – 2025 BCWMC Watershed Management Plan.

The BCWMC completed a Resource Management Plan (RMP) in 2009 through which the USACE and the BCWMC agreed on a series of steps, work items, deliverables (called “protocols”) that must be accomplished and submitted to complete the RMP process and USACE review/approval process. Although this project was not included in the RMP, the USACE has allowed the RMP protocols to be applied to other projects not specifically included in the RMP. With the completion of the protocols, we expect the USACE application process to move more quickly than it would otherwise. Most of the protocols must be addressed as part of the feasibility study, in addition to the usual tasks that would be performed as part of a BCWMC feasibility study. In general, the protocols require compliance with Section 106 of the National Historic Preservation Act, compliance with Section 404 of the Clean Water Act, and Clean Water Act Section 401 Water Quality Certification. Compliance with Section 106 typically requires a cultural resources inventory.

As part of past street reconstruction, stream stabilization, and dredging projects within and adjacent to Medley Park, the City of Golden Valley performed geotechnical investigations (soil borings), utility surveys, tree surveys, and developed dredging plans for nearby stormwater ponds. We intend to utilize as much of this data as applicable and will build on it as needed for this feasibility study.

## **Content and Scope of Feasibility Study**

The feasibility study will address and include the feasibility study criteria adopted by the BCWMC in October 2013:

- Analysis of multiple alternatives with the context of Commission objectives, including the following for each alternative:
  - Pros and cons analysis
  - Cost estimate for construction and a “30-year cost”
  - Analysis of life expectancy

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- Summary of each alternative for the Commission to judge its merits
- Cost estimate for annualized cost per pound of pollutant removal
- Evaluation of new and/or innovative approaches
- Identification of permitting requirements

The BCWMC developed the above criteria when the BCWMC's CIP was limited to water quality improvement projects, so they do not specifically address flood mitigation aspects of CIP projects. Therefore, in addition to the criteria above, the following will also be analyzed as part of each alternative:

- Evaluate the flood reduction benefits of each alternative, including acre-feet of additional flood storage provided, lowering of 2, 10, 50, and 100-yr flood elevations at key locations, and quantification of homes and other structures and infrastructure impacted (e.g., homes/households no longer within 1% annual chance floodplain, reduced inundation depth at adjacent roadways, etc.).

As noted earlier, most of the RMP protocols must be addressed as part of the feasibility study. In addition to the tasks above, the feasibility study will include the identification of wetland impacts to meet the RMP pre-application protocols.

In addition to the RMP protocols and specific criteria adopted by the BCMWC, it is important to gather stakeholder input. The BCWMC Engineer will work with the BCWMC Administrator, and City of Golden Valley staff to identify the most-effective means to gather input from the public and other affected stakeholders.

Figure 1 shows the project area covered by this feasibility study. As previously mentioned, the City of Golden Valley completed work in the project study area as part of earlier road reconstruction, stream stabilization, and stormwater pond dredging projects. This included the following tasks:

- Stream stabilization plans for the channel north of Medley Pond (2005).
- Pond maintenance dredging and planting plans for the two stormwater ponds (ML-2 and ML-3) south of Medley Pond (2018).
- Geotechnical investigations of surrounding streets consisting of nine SPT soil borings using a hollow stem auger and standard penetration test sampling every 2.5 feet (2019). Soil borings B-14 and B-15 are closest to Medley Park.
- Tree survey GIS data to the east of Medley Pond containing information on species, diameter, condition, and inspection dates (2010 through 2019).

For this project, we anticipate utilizing the above information and other information available from past City of Golden Valley projects and amending these documents as appropriate, based on further investigations that will be required as outlined below.

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

## 1) Project Meetings

- a) Project kick-off meeting with BCWMC staff, BCWMC commissioners representing Golden Valley, and Golden Valley staff; and preparation of meeting notes.
- b) Technical stakeholder meeting with BCWMC, Golden Valley, USACE, MPCA, and other agency staff as necessary to discuss concept alternatives and review permit requirements for project, and prepare meeting minutes to confirm regulatory agencies' discussion results. We don't anticipate MnDNR staff to attend the meeting because Medley Pond is not classified as a MnDNR public water.

## 2) Field Investigations

- a) Bathymetric surveys & sediment sampling – the City of Golden Valley partially dredged Medley Pond of accumulated sediment in 2005 as part of the stream stabilization project north of the pond. We anticipate that some sediment accumulation has occurred since completion of the dredging project. Therefore, we propose to perform a bathymetric survey of Medley Pond to assess the existing pond bottom.

As part of the wetland delineation task (see (d) below), field staff will screen the sediments in Medley Pond to see if there appear to be layers of coarse sediment accumulation in the bottom. If this screening indicates that there may be accumulated sediment, we will conduct sediment sampling of up to three sediment cores to determine if the accumulated sediment is contaminated, thus restricting the use of the dredged material. The investigations will follow the Minnesota Pollution Control Agency's (MPCA) "Managing Stormwater Sediment Best Management Practice Guidance" (June 2015); we will use the investigation results to estimate the amount of sediment removal, methods, disposal requirements, and costs. Per City request, the BCWMC Engineer will notify the City at least 21 days prior to any and all pond sediment screening as part of the City's typical protocol.

- b) Geotechnical Investigations – A geotechnical investigation within the Medley Park proposed project area will be performed, specifically in locations where we anticipate incorporating water quality infiltration/filtration practices. This will help us understand the geotechnical limitations of potential infiltration/filtration practices before developing these alternatives more thoroughly. The geotechnical investigations will include SPT soil borings using a hollow stem auger and standard penetration test sampling and classifying soil type every 1-foot to a total depth of 12 feet. Any groundwater or debris-laden or contaminated soil encountered will be documented.
- c) Additional environmental investigations – Review of the Minnesota Pollution Control Agency's (MPCA) "What's in my Neighborhood?" database did not show any MPCA Sites within Medley Park. There are hazardous waste sites northwest of the park on Hillsboro Ave N. (Jewelry Works, LLC, Advanced Chiropractic Clinic, Johnson Stone & Assoc Dds Pa, Former Super America, Verizon Wireless); but they are far enough away from the park that there should be low risk of impacts to

the project area from these waste sites. Because the historic land use of the surrounding area is primarily residential, we do not anticipate widespread contamination within the park. As part of this feasibility study, we will request and review the information in the MPCA's file for these sites. We assume that after review of the MPCA files, a Phase I environmental site assessment will not be needed for this project and the final project design should proceed with a contingency plan in place should contamination be encountered during construction.

- d) Wetland delineations – The BCWMC Engineer will perform wetland delineations around Medley Pond and the northern edge of the pond located directly southwest of Medley Pond (City Pond ML-2). The field wetland delineation will be performed in accordance with the Routine Level 2 procedures specified in the USACE's 1987 Wetland Delineation Manual ("1987 Manual", USACE, 1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (USACE, 2010), and the 2013 Guidance for Submittal of Wetland Delineation Reports to the USACE and WCA LGUs in MN. We will identify/flag and record wetland boundaries using a GPS unit with sub-meter accuracy. We will develop a wetland delineation report that includes the wetland type classifications and descriptions of the delineated wetlands, a brief description of the proposed project, general environmental information, and a discussion of regulations and the administering authorities. The report will also include wetland data forms, precipitation analysis, and site photographs. The BCWMC Engineer also will obtain a Wetland Type and Boundary Approval from the Local Government Unit (LGU). The cost estimate includes a wetland functions and values assessment (i.e., a Minnesota Rapid Assessment Method, or MNRAM, analysis) of Medley Pond and the pond directly southwest. This effort will include review by the Technical Evaluation Panel (TEP) for concurrence on the delineation boundary.
- e) Topographic and utility location survey – We will complete a topographic and utility location survey for the project area, including the area immediately surrounding Medley Pond and approximately 3.5 acres of Medley Park within the anticipated project area. The survey will include a detailed survey of the outlet structure at Medley Park. Underground utilities will be located based on the location of manhole structures in the field, as-built/construction plan drawings from the City, and utilization of a Gopher State One Call utility locate. We will conduct the survey in NAVD88 and use available City of Golden Valley benchmarks.
- f) Tree location, diameter, species, and condition survey – As part of the topographic survey, we will also survey all trees within the proposed project extents with a diameter of 4 inches or greater, recording the diameter, species, and condition (e.g. dead/live, shaggy/peeling/deeply furrowed bark) of the trees, working closely with the City of Golden Valley foresters. In addition to helping with estimated project costs, the tree survey will help determine if the trees within the project area could provide habitat for the northern long eared bat (endangered), are invasive, or are threatened by pests (e.g., green ash trees). Consideration will be given to replace trees along portions of the project area where feasible. Although the city has existing tree survey information

east of Medley Pond, the survey shows a majority of the trees listed in 2010 as their last inspection date. Since 10 years have elapsed since this inspection, it would be a good idea to survey these trees again along with the survey of new trees not in the existing data set.

- g) Threatened and endangered species and cultural resources desktop review – We will complete a desktop review of the available databases to determine the potential for adverse impacts to state and federally listed species. We will also complete a desktop review of the existing database from the State Historic Preservation Office (SHPO) for information related to known historic and archaeological resources in the project vicinity and will summarize any available information in the feasibility report.
- h) Project easements – The proposed project is located on two public parcels owned by the City of Golden Valley. It is anticipated that the project will be located entirely on the publicly-owned parcels. No easement acquisition is anticipated.

### **3) Evaluation and Concept Plans**

- a) Develop up to 3 concepts for the expansion of flood mitigation volume and water quality treatment (particulate and dissolved removal options) around Medley Pond and within Medley Park.
- b) Update the BCWMC Phase 2 XP-SWMM and P8 models to include new bathymetric information for the stormwater ponds dredged by the City of Golden Valley.
- c) Use the BCWMC Phase 2 XP-SWMM and P8 models to estimate impacts to peak flood elevations and pollutant removals, respectively, as a result of the project concepts.
- d) Identify permitting requirements for the concepts, based on wetland delineations and other compiled data, and one (1) meeting with USACE, MnDNR and MPCA staff (see task 1b).
- e) Develop tree removal estimates for each concept, including removals needed for construction access to implement each concept
- f) Develop cost estimates for the project, including a “30-year cost,” analysis of life expectancy, and annualized cost per pound of pollutant removal for the water quality treatment portion of the project.
- g) Evaluate the pollutant removals (pounds of pollutants removed per year) and flood reduction benefits of the project, including acre-feet of additional flood storage provided, lowering of flood elevations at key locations, and impact on homes in the floodplain (e.g., are any homes removed from the floodplain, is inundation depth reduced at adjacent roadways).

### **4) Public Engagement**

- a) Coordinate with BCWMC Administrator and City staff to determine best means to gather public input, such as mailings, newspaper articles, open houses, online surveys, etc. The primary group

for public discussions will be the nearby residents living around Medley Park including single family and multiple family properties such as Kings Valley Homeowners Association and its residents, Pheasant Glen condominiums, Medley Hills Apartments and Townhomes and non-local park users. The City’s Open Space and Recreation Commission and Parks and Recreation staff will also be engaged during the process. The budget for this task includes time to prepare materials for two public outreach activities, one early in the process, and one after completion of concept plans. We assume that public outreach coordination will be largely completed by the BCWMC Administrator in close collaboration with the City.

- b) Assist with public involvement process as necessary – prepare handouts, interactive GIS maps, online surveys and/or presentations, and record and compile comments. Due to Covid-19 concerns, the public involvement process may need to be virtual and we will adjust the correspondence and involvement process accordingly.

## 5) Feasibility Report

- a) Prepare draft report for review by City staff and BCWMC staff/interested commissioners; revise report based upon review comments.
- b) Present draft feasibility study findings at BCWMC meeting.
- c) Prepare final report for approval at BCWMC meeting and use at future project hearing.
- d) Present final feasibility study findings at BCWMC meeting.

## Cost Estimate

Table 1 summarizes our cost estimate for the scope of work outlined above.

**Table 1 Feasibility Evaluation Cost Estimate**

Tasks	Estimated Total
1) Project Meetings	\$5,000
2) Field Investigations	\$26,100
a. Geotechnical Investigation	\$4,700
3) Evaluation and Concept Plans	\$29,200
4) Public Engagement	\$10,100
5) Feasibility Report	\$13,100
<b>Total</b>	<b>\$88,200</b>

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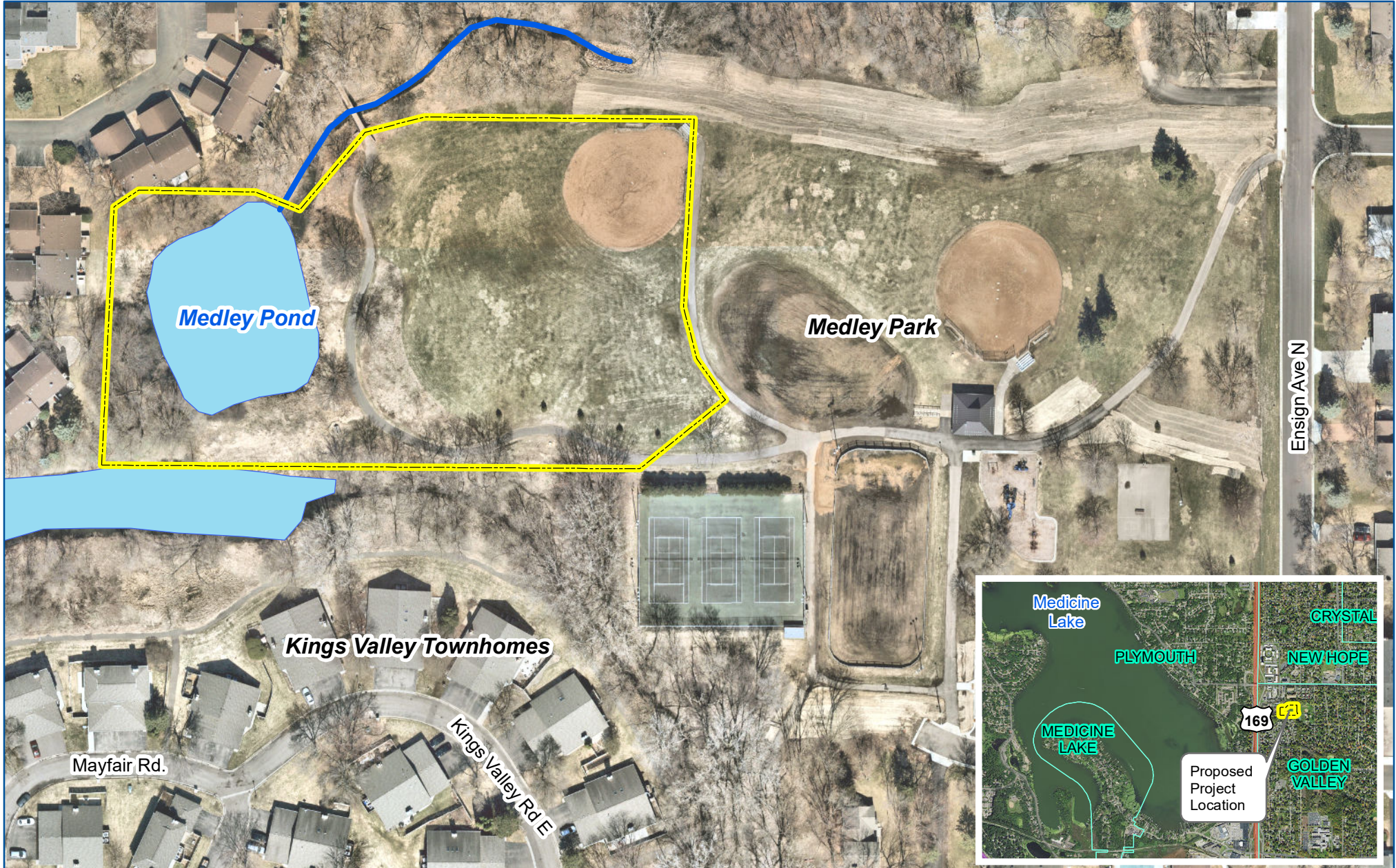
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


## Schedule

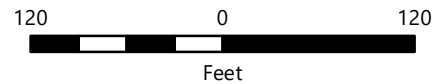
We will complete the tasks and milestones outlined in the scope of work on the following schedule.

Component	Tasks and Milestones	Estimated Schedule
Field Investigations	Wetland delineation	August 2020
	Bathymetric survey and sediment sampling	August/September 2020
	Topographic, utility, and tree survey	August/September 2020
	Review of MPCA files	August/September 2020
	Desktop review – threatened and endangered species, cultural resources	August/September 2020
Project Meetings	Kick-off meeting with BCWMC and City of Golden Valley staff	September 2020
Field Investigations	Combined agency field review/TEP review	September 2020
Project Meetings	Meeting with BCWMC, Golden Valley, USACE, MnDNR, and MPCA staff	September/October 2020
Field Investigations	Geotechnical investigations (soil borings)	September 2020
	Environmental investigations (if needed)	September 2020
Public Engagement	Public meeting (virtual boards and online survey)	October 2020
Evaluation and Concept Plans	Develop concept alternatives, perform hydraulic and water quality modeling, and develop cost estimates	October 2020 – January 2021
Public Engagement	Public meeting (virtual PowerPoint)	January/February 2021
Feasibility Report	Submit draft feasibility report for BCWMC and City of Golden Valley staff review	March 12, 2021
	BCWMC and City of Golden Valley staff complete review and provide comments for draft feasibility report	March 26, 2021
	Submit draft feasibility report for BCWMC review at Commission meeting	April 7, 2021
	Present draft report at Commission Meeting	April 15, 2021
	Submit final feasibility report for BCWMC review at Commission meeting	May 12, 2021
	Final Feasibility Report – BCWMC approval at Commission meeting	May 20, 2021



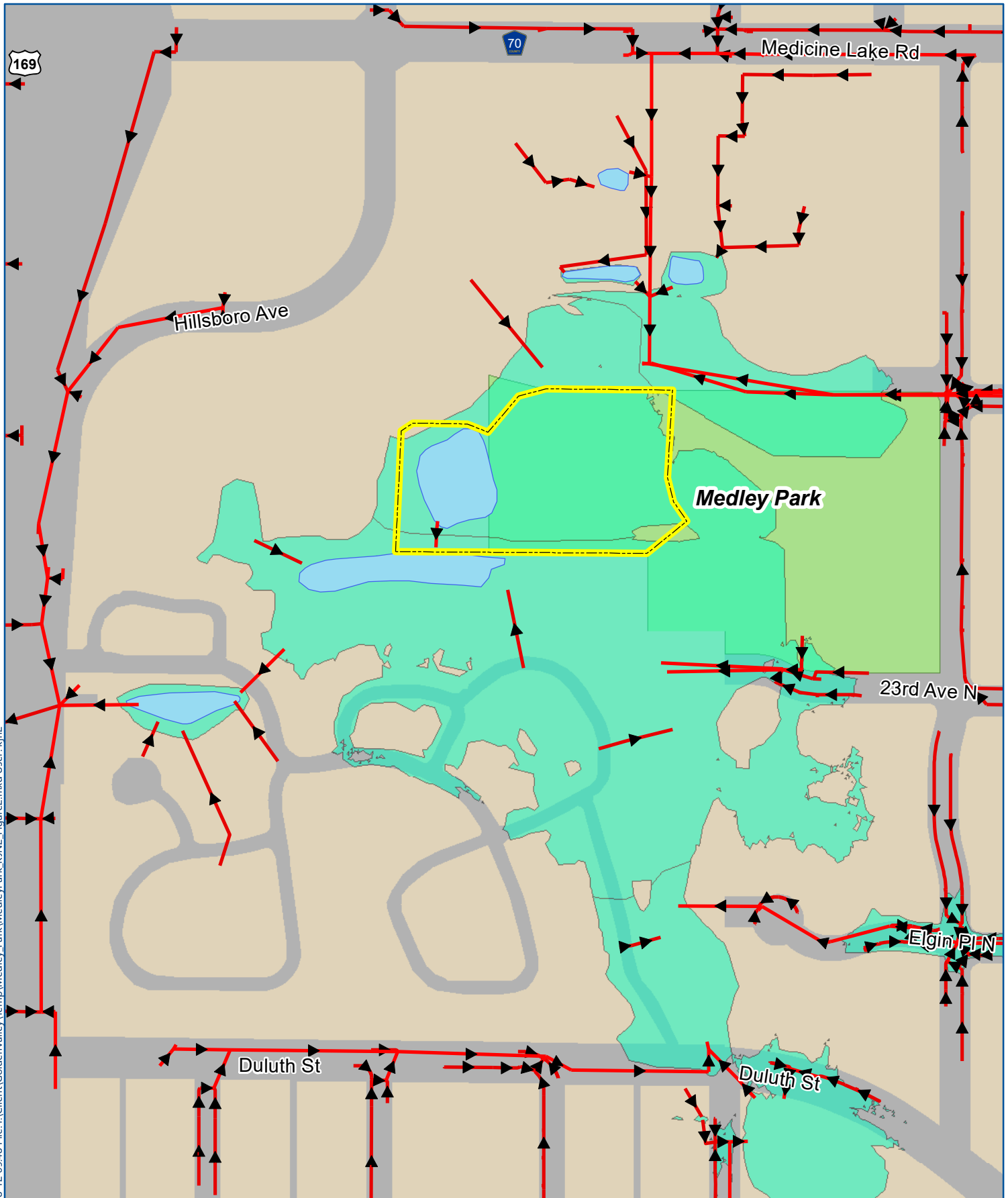






-  Proposed Project Boundary
-  Streams
-  Ponds & Wetlands

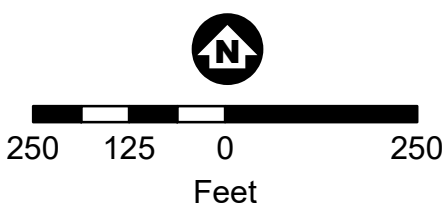


**MEDLEY PARK  
FLOOD MITIGATION &  
WATER QUALITY IMPROVEMENTS  
PROJECT AREA**

FIGURE 1



-  Proposed Project Boundary
-  Ponds & Wetlands
-  Atlas-14 100-year Inundation
-  Storm Pipe



MEDLEY PARK  
FLOOD MITIGATION &  
WATER QUALITY IMPROVEMENTS  
EXISTING INUNDATION  
FIGURE 2