



**MINNEHAHA CREEK**  
**WATERSHED DISTRICT**  
QUALITY OF WATER, QUALITY OF LIFE

**Meeting:** Board of Managers  
**Meeting date:** 1/25/2024  
**Agenda Item #:** 7.2  
**Board Consent Item**

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<b>Title:</b>	Approval to Continue Joint Funding Agreement with the USGS for Gauging Stations and Technical Assistance in 2024 and 2025	
<b>Resolution number:</b>	24-008	
<b>Prepared by:</b>	Name: Jill Sweet Phone: 952-930-1976 jsweet@minnehahacreek.org	
<b>Reviewed by:</b>	Name/Title: Brian Beck/R&M Manager	
<b>Recommended action:</b>	Board approval to continue a joint funding agreement with the United States Geological Survey	
<b>Schedule:</b>	USGS Fiscal Year: 10/1/23 – 9/30/24 10/1/24 – 9/30/25	
<b>Budget considerations:</b>	Fund name and code: R&M Contracted Services 5-5001-4320 Fund budget: \$163,730 Expenditures to date: 0 Requested amount of funding: NTE \$54,918 annually	
<b>Past Board action:</b>	Res #: 21-072	Title: Approval to Continue Joint Funding Agreement with the USGS for Gauging Stations and Technical Assistance in 2022 and 2023
	Res #: 20-019	Title: Approval to Continue Joint Funding Agreement with the USGS for Gauging Stations and Technical Assistance in 2020 and 2021
	Res #: 18-017	Title: Approval of Continuing MCWD and USGS Agreement for Joint Funding of O&M of Gage Stations near Minnehaha Falls and Grays Bay Dam for 2018 and 2019
	Res #: 16-048	Title: Approval of Continuing MCWD and USGS Agreement for Joint Funding of O&M of Gage Stations near Minnehaha Falls and Grays Bay Dam for 2016 and 2017
	Res #: 15-007	Title: Authorization to enter into a Joint Funding Agreement with the USGS for the O&M of a Stage Gage on Lake Minnetonka

### Summary:

Minnehaha Creek Watershed District (District) staff are tasked with managing the water quantity, quality, and ecological integrity within the District's legal boundary. The District's role in managing water quantity requires obtaining and curating information about how water moves through the watershed. There are two locations within Minnehaha Creek Watershed District that are critically important for managing water quantity, which include Grays Bay Dam and the outlet of Minnehaha Creek Watershed District into the Mississippi River. The water level at Grays Bay Dam and the outlet of Minnehaha Creek in Minneapolis are used to inform our dam management, understand the District's water budget, and calculate pollutant loads.

In 2005, District staff initiated a partnership with the United States Geological Survey (USGS) at the Hiawatha gauging station on Minnehaha Creek. The USGS is the national leader in the field of discharge measurement and water level gauging techniques, which ensures that critical flow measurement accuracy and precision is held to the highest standard.

The monitoring partnership remains a joint project where each agency pays a portion of the cost for operation, maintenance, and distribution of the data. Following record flooding in 2014, the partnership between the District and USGS was extended to include an additional gauge on Lake Minnetonka at the Grays Bay Dam. The District's partnership with USGS to obtain highly accurate water level and flow data have allowed District staff to improve dam management, forge partnerships with other agencies on water quantity management, and communicate current water level conditions to the public.

The benefits of this partnership agreement extend beyond the stream gauging stations. As key initiatives like the real-time sensor network and 2D modeling work are carried forward, staff will utilize the expertise available at the USGS. The contract, in addition to the routine stream gauging and storm sampling work, includes hours for technical support, to provide subject matter expertise relating to groundwater and surface water modeling. An additional element for this agreement includes an optional task of completing equipment maintenance and station upgrades for the autosampler at the Hiawatha Ave. station. District and USGS staff will work collaboratively to determine the necessary level of upgrades needed. This one-time expense has been estimated and amortized over the two-year agreement.

Projected costs for the gauging stations and technical support tasks are outlined in Table 1. Costs associated with the two gauging stations are required and include operations and maintenance, daily discharge computation, continuous specific conductance and water temperature, and stormwater collection and analysis. The USGS contributes funds toward the gauging stations, lowering the cost for the District. Optional technical support dollars can be utilized on an as-needed basis; the District is not obligated to spend any of those dollars during the two-year contract cycle.

Table 1. Annual Cost Breakdown (Representing Year 2 Costs)

Task	MCWD Share	USGS Matching Funds
Required Spending		
Grays Bay Station (lake side)	\$2,985	\$1,082
Grays Bay Station (below dam)	\$739	\$310
Hiawatha Ave. station	\$23,878	\$15,902
Sub-total	\$27,602	\$17,294
Optional Technical Support (not to exceed)		
Groundwater technical assistance	\$14,217	\$0
Equipment maintenance/station upgrades	\$6,170	\$0
Add-on storm runoff samples	\$6,929	\$0
Sub-total	\$27,316	\$0
<b>Annual Total</b>	<b>\$54,918</b>	<b>\$17,294</b>

The Joint Funding Agreement between MCWD and the USGS needs to be renewed once every two years. MCWD governance policies state that the Administrator will not enter into a professional services contract exceeding \$25,000

without using a competitive process. Staff has not obtained competitive quotes in this case under the rationale that the USGS is uniquely qualified for this scope of work based on its status as a national leader within the area of flow measurement, extensive track record of effective collaboration, and willingness to defray portions of the cost. For the reasons listed above District staff recommend that the Board proceed without a competitive selection process.

The agreement renewal, which continues funding by USGS and MCWD is for the following timeframe: October 1, 2023 through September 30, 2024 and October 1, 2024 through September 30, 2025. MCWD's portion of the contract will not exceed \$54,918 annually.

**Supporting documents (list attachments):**

USGS Statement of Work



## RESOLUTION

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Resolution number: 24-008

Title: Approval to Continue Joint Funding Agreement with the USGS for Gauging Stations and Technical Assistance in 2024 and 2025

- WHEREAS, the Minnehaha Creek Watershed District (District) staff are tasked with managing water quantity, quality, and ecological integrity;
- WHEREAS, the District's role in managing water quantity requires obtaining and curating information about how water moves through the watershed;
- WHEREAS, the United States Geological Survey (USGS) is the leader in the field with regards to stream gauging techniques;
- WHEREAS, the District has partnered with the USGS in the management, operations, and publishing of stream gauging information since 2005;
- WHEREAS, continuing the operation of the Hiawatha Avenue and Grays Bay Dam gauging stations is critical for dam operations, nutrient load calculations, and model development;
- WHEREAS, staff also foresee utilizing the expertise at the USGS for additional services on an as-needed basis to help carry key initiatives forward and have included technical support into the scope of services;
- WHEREAS, as-needed funds have also been included to address maintenance and station upgrade needs at the Hiawatha Avenue station;
- WHEREAS, the joint funding agreement between MCWD and the USGS needs to be renewed every two years;
- WHEREAS, MCWD governance policies specify a competitive process for selection of professional services for a scope exceeding \$25,000, however, the USGS is uniquely qualified for this scope of services based on its history of effective collaboration with the District, its status as a national leader in regards to gauging techniques, and its willingness to defray costs;

**NOW, THEREFORE, BE IT RESOLVED** that the Minnehaha Creek Watershed District Board of Managers authorizes the Administrator to extend a joint funding agreement with the USGS for services from October 1, 2023 through September 30, 2025 with a total cost not to exceed \$54,918 annually.

Resolution Number 24-008 was moved by Manager \_\_\_\_\_, seconded by Manager \_\_\_\_\_. Motion to adopt the resolution \_\_\_ ayes, \_\_\_ nays, \_\_\_ abstentions. Date: 1/25/2024

\_\_\_\_\_  
Secretary Date: \_\_\_\_\_

**U.S. Geological Survey Statement of Work  
In Cooperation with Minnehaha Creek Watershed District  
Federal Fiscal Years 2024 and 2025**

**The scope of work is identical for Fiscal Years 2024 and 2025, as described narratively below in tasks (1) – (5) and Table 1. Funding from MCWD and USGS is presented by individual Federal Fiscal Years and for the entire agreement in Tables 2-4, respectively, following the narrative.**

Data collected and computed in tasks (1) – (2) will be posted online at the links provided below in provisional format immediately after preliminary quality-assurance, and in approved format each fiscal year; except as noted for precipitation.

### **1) At Lake Minnetonka Dam in Grays Bay**

The U.S. Geological Survey will operate and maintain a gaging station for publication of continuous water level (stage) for head- and tail-water pools at Grays Bay Dam. Stations specifically:

- (A) Lake Minnetonka at Grays Bay outlet in Minnetonka, MN (USGS station ID 05289000)  
[https://waterdata.usgs.gov/nwis/inventory/?site\\_no=05289000](https://waterdata.usgs.gov/nwis/inventory/?site_no=05289000)
- (B) Minnehaha Cr below Grays Bay Dam in Minnetonka, MN (USGS station ID 05289100)  
[https://waterdata.usgs.gov/nwis/inventory/?site\\_no=05289100](https://waterdata.usgs.gov/nwis/inventory/?site_no=05289100)

### **2) Minnehaha Creek at Hiawatha Avenue**

The U.S. Geological Survey will maintain a streamgage for computation of continuous gage-height, streamflow, specific conductance, water temperature and precipitation; and collect and analyze water-quality samples from streamflow runoff. Data for each component below will be published in provisional and approved formats at

[http://waterdata.usgs.gov/mn/nwis/nwisman/?site\\_no=05289800](http://waterdata.usgs.gov/mn/nwis/nwisman/?site_no=05289800)

#### (A) Streamgage operation and maintenance and streamflow computation

A streamgage will be maintained and operated. Discharge measurements will be made to define changes to the stage-discharge rating over the range of flows that occur to produce an accurate streamflow record.

#### (B) Continuous specific conductance and water temperature

In-stream water-quality sensors will be operated and maintained to provide a continuous record of specific conductance and water temperature. Sensors will be cleaned and calibrated as needed to ensure accuracy.

#### (C) Runoff-triggered auto-samples (8)

A refrigerated autosampler will be used to collect samples from up to 8 runoff events (dependent on weather). For each event, a discharge-weighted sample will be composited from discrete samples obtained during the rising limb and peak of the runoff hydrograph, and analyzed for the constituents in Table 1. To minimize nutrient degradation, chilled samples will be processed, preserved, and shipped to the laboratory within 48-72 hours of sample collection. The MCWD may authorize additional samples to allow for unusually frequent runoff during wet years at a cost of \$1,690 per sample, as noted in item (5) of funding tables.

#### (D) Tipping bucket precipitation gage

A tipping bucket rain gage will be operated and maintained during the open-water season. Precipitation data will be available only in provisional format for 150 days before being purged from the USGS data base. Additional quality assurance and costs would be required to publish and archive approved data.

**U.S. Geological Survey Statement of Work  
In Cooperation with Minnehaha Creek Watershed District  
Federal Fiscal Years 2024 and 2025**

**Table 1. Laboratory analyses and physical measurements to be obtained from composited samples**

<b>Laboratory Analyses</b>	
Nutrients	Dissolved chloride
Total phosphorus	Total suspended solids
Dissolved phosphorus	Volatile suspended solids
Dissolved ortho-phosphate	Suspended sediment concentration
Total ammonia plus organic nitrogen	<b>Physical measurements from composite samples</b>
Dissolved ammonia nitrogen	Specific conductance
Dissolved nitrite plus nitrate nitrogen	pH
Dissolved nitrite nitrogen	--

**Upon request by MCWD staff, activities described in items (3)-(5) also may be undertaken.** The USGS is to be paid for completed activities. Costs negotiated prior to work; below are estimates for budgeting.

- 3) USGS technical assistance for groundwater and/or surface-water, water-quality.
- 4) Equipment maintenance and/or station upgrades for autosampler at Hiawatha Ave. gage.
- 5) Additional storm runoff composite samples; up to 4 in addition to those scheduled in item 2-C as a contingency for more frequent precipitation events.

**Table 2.--Federal FY24 Workplan summary and agency contributions (Oct. 1, 2023 - Sept. 30, 2024)**

<b>Task Number</b>	<b>Task</b>	<b>Total</b>	<b>USGS Matching Funds</b>	<b>MCWD Share</b>
<b>1-A</b>	<b>Lake Minnetonka at Grays Bay (station 05289000):</b>			
	-Stage sensor O&M and publication of stage data	\$3,994	\$1,082	\$2,912
<b>1-B</b>	<b>Minnehaha Cr below Grays Bay Dam (station 05289100):</b>			
	-Stage sensor O&M, publication of stage data	\$1,030	\$310	\$721
	-1-2 discharge measurements during inspections, on request			
<b>2</b>	<b>Minnehaha Cr at Hiawatha Ave (station 05289800):</b>			
2-A	-Streamgage O&M and data publication	\$18,016	\$8,472	\$9,544
2-B	-Cont. spec. conductance & water temperature O&M, publication	\$7,547	\$3,573	\$3,974
2-C	-Storm runoff sampling by autosample (up to 8 samples)*	\$13,540	\$3,857	\$9,683
2-D	-Tipping bucket precipitation gage O&M (provisional data only)	\$0	\$0	\$0
	<b>Subtotal for Data Monitoring (1A – 2D)</b>	<b>\$44,127</b>	<b>\$17,294</b>	<b>\$26,834</b>
<b>3</b>	<b>USGS staff-time for technical assistance of groundwater and/or surface-water/water-quality, as requested; up to 10-person days of USGS GS-12 @ \$173/hour</b>	<b>\$13,870</b>	<b>\$0</b>	<b>\$13,870</b>
<b>4</b>	<b>Equipment maintenance and/or station upgrades for autosampler, amortized over 2-years of agreement; upon request</b>	<b>\$6,170</b>	<b>\$0</b>	<b>\$6,170</b>
<b>5</b>	<b>*Additional storm runoff autosamples subsequent to the 8 samples scheduled in 2-C; upon request, up to 4 @ \$1,690 each</b>	<b>\$6,760</b>	<b>\$0</b>	<b>\$6,760</b>
	<b>Subtotal for Technical Assistance (3-5)</b>	<b>\$26,800</b>	<b>\$0</b>	<b>\$26,800</b>
	<b>TOTAL, FY24</b>	<b>\$70,927</b>	<b>\$17,294</b>	<b>\$53,634</b>

U.S. Geological Survey Statement of Work  
In Cooperation with Minnehaha Creek Watershed District  
Federal Fiscal Years 2024 and 2025

Table 3.--Federal FY25 Workplan summary and agency contributions (Oct. 1, 2024 - Sept. 30, 2025)

Task Number	Task	Total	USGS Matching Funds	MCWD Share
1-A	<b>Lake Minnetonka at Grays Bay (station 05289000):</b>			
	-Stage sensor O&M and publication of stage data	\$4,094	\$1,082	\$2,985
1-B	<b>Minnehaha Cr below Grays Bay Dam (station 05289100):</b>			
	-Stage sensor O&M, publication of stage data	\$1,056	\$310	\$739
	-1-2 discharge measurements during inspections, on request			
2	<b>Minnehaha Cr at Hiawatha Ave (station 05289800):</b>			
2-A	-Streamgage O&M and data publication	\$18,466	\$8,472	\$9,783
2-B	-Cont. spec. conductance & water temperature O&M, publication	\$7,736	\$3,573	\$4,073
2-C	-Storm runoff sampling by autosample (up to 8 samples)*	\$13,879	\$3,857	\$10,022
2-D	-Tipping bucket precipitation gage O&M (provisional data only)	\$0	\$0	\$0
	<b>Subtotal for Data Monitoring (1A – 2D)</b>	<b>\$45,231</b>	<b>\$17,294</b>	<b>\$27,602</b>
3	<b>USGS staff-time for technical assistance of groundwater and/or surface-water/water-quality</b> , as requested; up to 10-person days of USGS GS-12 @ \$173/hour	\$14,217	\$0	\$14,217
4	<b>Equipment maintenance and/or station upgrades for autosampler</b> , amortized over 2-years of agreement; upon request	\$6,170	\$0	\$6,170
5	<b>*Additional storm runoff autosamples</b> subsequent to the 8 samples scheduled in 2-C; upon request, up to 4 @ \$1,690 each	\$6,929	\$0	\$6,929
	<b>Subtotal for Technical Assistance (3-5)</b>	<b>\$27,316</b>	<b>\$0</b>	<b>\$27,316</b>
	<b>TOTAL, FY24</b>	<b>\$72,547</b>	<b>\$17,294</b>	<b>\$54,918</b>

Table 4.--Total program and agency contributions for FY24-25

Item	Total	USGS Matching Funds	MCWD Share
Subtotal for Data Monitoring (1A – 2D), FY24 and FY25	\$89,358	\$34,588	\$54,436
Subtotal for Technical Assistance, upon request, FY24 and FY25	\$54,116	\$0	\$54,116
<b>Total Program for FY24 and FY25 combined</b>	<b>\$143,474</b>	<b>\$34,588</b>	<b>\$108,552</b>