



# **2021-2997 - JFA DEKALB COUNTY SCOPE OF WORK\_FY 2022-2026**

**U.S. Geological Survey  
In Cooperation With  
DeKalb County, Georgia**

## **Federal Interest Statement**

An important part of the U.S. Geological (USGS) mission is to provide scientific information to manage the water resources of the Nation. To effectively assess the Nation's surface-water resources, the USGS operates more than 7,000 streamgauge stations, monitors lakes and reservoirs, makes periodic flow measurements on rivers and streams using standardized methods, and maintains the data from these stations in a national data base. The data are made available on the World Wide Web (WWW) and are published for each State annually. Much of the data are available on a near real-time basis to cooperators, customers and the public on the WWW, which is critical for the effective management of the Nation's water resources. Surface-water data are needed to develop information about flow and stage that can be used by a variety of individuals and agencies for the planning and management of diverse water-resources projects and programs including flood warning; flood assessment; reservoir operations; monitoring water-quality and setting water-quality standards; designing infrastructure such as bridges, culverts, and dams; evaluating the effects of changing land use; detecting long-term changes in climate; and administering compacts, decrees, and (or) treaties on interstate and international bodies of water. The streamgauge stations and lake and reservoir monitoring stations operated in this State are an integral part of the nationwide surface-water data program.

To effectively assess the quality of the Nation's surface-water and ground-water resources, the USGS collects water-quality data from rivers, lakes, estuaries, and ground-water aquifers. Water-quality data are published in annual data reports and an increasing amount of real-time and historical water-quality data are available on the World Wide Web. The data, collected using standardized instruments and procedures, contribute to a nationally consistent data set for assessment of the water quality of the Nation. Long-term water-quality data characterize the physical, chemical, and biological changes in our water resources in response to natural processes including climatic variations, storms, floods, droughts, volcanic eruptions, and a variety of human activities that exert an influence on water-quality conditions. The data are useful in designing programs to protect watersheds, sensitive aquatic habitats, biota, and drinking water sources from urban and agricultural runoff, sewage, and industrial and mining wastes. The data are also useful in designing programs to maintain waterways for other designated beneficial uses such as navigation, aesthetics, recreation, and to meet national and international treaty obligations. The water-quality data collected in DeKalb County are an integral part of the nationwide water-quality data program.

## **Background of Program**

This agreement continues the work currently being conducted within DeKalb County, GA by the USGS South Atlantic Water Science Center (SAWSC). The investigations are broken into tasks, which provide water resources monitoring to enable informed management by the County, and to satisfy National Pollutant Discharge Elimination System (NPDES) permit requirements, and to meet the requirements of the Metropolitan North Georgia Planning District (MNGWPD). Additionally, the Long-Term Trend Monitoring (LTTM) program will contribute the data needed for the county's ongoing Watershed Protection Plan (WPP). The long-term monitoring data are crucial to determine the effectiveness of the WPP, to refine and improve the plan, and to enable assessment of actual or planned changes in a watershed's land use and Best Management Practices (BMP's). The monitoring stations will also provide valuable data that can allow for the computation of loads per selected constituent—a critical result that can be analyzed with drainage areas, land use characteristics, and other factors to see how changes in a watershed over time impact the receiving streams.

## **Background of Monitoring Needs**

DeKalb County's excellent watershed management is founded on critical information from its Long-Term Trend Monitoring (LTTM) Program. This monitoring program provides comprehensive and consistent hydrologic and water-quality data that is used to protect and enhance the streams in DeKalb County.

Maintaining and building the infrastructure to meet the expanding needs of DeKalb County creates changes to natural watershed topography, drainage network, vegetation, and land-surface characteristics. These changes affect the stream resources of DeKalb County in several ways including flow characteristics, channel stability, sedimentation, nutrient levels, toxicity, and water temperature. Informed and deliberate management is required to avert degradation of stream and riparian natural areas and habitat.

DeKalb County needs information on the effects of urbanization on flood-flow magnitude and frequency to design and evaluate the effectiveness of flood-detention reservoirs. In addition to flood magnitude data, engineers and managers need information to assess other effects of urbanization on the stream resource; and to answer important management questions. What are the water-quality conditions of the streams now? What are the trends in those conditions as management practices and point-source controls improve, and development continues? What are the impacts of specific land uses, point-source discharges, and management practices on different stream processes and resource values? The key to answering these difficult questions is to conduct intensive, long-term monitoring of stream quality and watershed characteristics. Such monitoring may quantify and describe the sources and magnitude of pollutants in the stream. Comparing monitoring results over time and between watersheds, the monitoring data will describe the effectiveness of different management practices in the context of broad watershed processes. The proposed work continues a long-term monitoring program to evaluate the effectiveness of the protection strategies currently being implemented and enforced in DeKalb County.

## **Objectives**

The objectives of the program are as follows:

- Provide continuous monitoring of streamflow, precipitation, and selected water-quality parameters on 15 streams and report streamflow data in real time on the USGS web site: <http://waterdata.usgs.gov/ga/nwis/>
- Provide water-quality sampling for selected constituents and continuous monitoring of water temperature, conductance, dissolved oxygen, pH, and turbidity at 15 stations
- Conduct regular quality assurance and control sampling and procedures at all 15 stations
- Provide annual peak flow data for 15 streams in the county for use in evaluation of regional flood frequency analysis
- Provide continuous stage and rainfall at 3 additional stations and rainfall only at 4 additional stations for spatial coverage of rainfall runoff and peak stage events
- Flood Inundation Mapping (FIM) project support and operation in conjunction with the NOAA National Weather Service (NWS) - <http://ga.water.usgs.gov/fim/>
- Data compilation, summary and reporting for the annual watershed assessment data request to the Georgia Dept. of Natural Resources (GaDNR) Environmental Protection Division (GaEPD).
- Publish a USGS Scientific Investigations Report (SIR) and accompanying USGS ScienceBase data release that will update the SIR "Hydrology and Water Quality in 15 Watersheds in DeKalb County, Georgia, 2012–16" for the period 2017–2021.

## **Part I. Continuous Discharge and Water-Quality Monitoring**

This monitoring plan is designed to define and quantify the discharge, rainfall, and water quality conditions in the monitored watersheds and to maximize the information provided to DeKalb County. Continuous monitoring at the fifteen (15) water-quality trend-monitoring stations will provide valuable information on the real-time response of the watershed to runoff events. The continuously monitored parameters include stage, discharge, precipitation, water temperature, specific conductance, dissolved oxygen, pH and turbidity. These parameters will be measured at 15-minute intervals. All continuous monitored parameters will be transmitted normally at 1-hour intervals for display on the USGS public access internet site ([ga.water.usgs.gov](http://ga.water.usgs.gov)). During runoff events, the sites are programmed to transmit data at 15-minute intervals.

The USGS will obtain discharge measurements to develop and maintain stage-discharge relations at each site. Field monitoring and discharge computation follow procedures described in Rantz S.E. (a,b 1982). USGS field personnel will analyze all continuous data and apply any necessary corrections. All continuous data is stored in the USGS NWIS database and permanently archived as public record. On a continual basis, the data is checked and reviewed by qualified USGS personnel in preparation for publication. The USGS also performs a review with personnel outside the SAWSC every three years in order to assure the use of proper techniques and protocols.

The water-quality meter, also called a water-quality sonde, will monitor water temperature, specific conductance, dissolved oxygen, pH and turbidity. Continuous water-quality monitoring provides valuable information for water-quality sampling planning, data interpretation and helps to identify sources of concern. There is a fairly strong relation between turbidity and suspended-sediment related water-quality parameters such as total suspended solids and total nutrients. Also, specific conductance is a direct surrogate for total dissolved solids. In the future, we may be able to use these continuous water-quality parameters to develop more accurate estimates of constituents. To meet the requirements of the watershed protection plan, and future data analysis, the monitoring stations will include real-time monitoring of water temperature, specific conductance, dissolved oxygen, pH, and turbidity

If at any time the stream DO or pH are found to be outside of Environmental Protection Division (EPD) water-quality standards, DeKalb County will be notified of the stream condition so that they can mobilize to trace potential sources of pollution causing this condition. The standard for DO in these streams having a designated use of fishing is a daily average of 5.0 mg/l and no less than 4.0 mg/l at all times for waters supporting warm water fish species. The standard for pH in these streams having a designated use of fishing is within the range of 6.0 – 8.5.

**Data will be delivered to DeKalb County by May 31<sup>st</sup> of each year to meet the GaEPD report cycle.**

## **Part II. Storm and Low-Flow Water-Quality Sampling**

Water quality samples will be collected at each of the fifteen sites to help characterize the stream and to potentially develop relationships between continuously monitored parameters and laboratory-analyzed concentrations. Annually, during each of the summer and winter seasons, a minimum of three samples will be collected during representative wet-weather events and one sample will be collected under dry-weather conditions, from each sampling location. The summer season is from May to October, and the winter season is from November to April.

“Representative wet-weather events” require a minimum precipitation accumulation of 0.3 inches per event. A minimum time of 72 hours is required between each wet-weather event sampled to ensure that the events are discrete and that the measured water quality parameters are associated with the event sampled. Dry-weather samples are not to be collected until 72 hours after wet-weather event. During the 72-hour period between the last wet-weather event and the dry-weather sample, there must be less than 0.1 inch of precipitation.

During wet-weather events, samples will be collected using automated composite samplers, which will use associated flow meters to trigger sampling at the start of a wet-weather event (determined by the resulting increase in water level or flow). Flow-proportional composite samples of the wet-weather flow will be collected over the duration of each wet-weather event. Flow proportional composite samples comprise of aliquots collected at equal increments of volume, rather than increments of time. The composite sample method ensures that the sample accounts for pollutant concentration differences throughout the storm hydrograph. Stream flow measurements and stage discharge relationships will be used to determine stream volume for composite storm sampling.

Dry-weather sampling will be conducted using manual samples collected at equal width increments across the section as described in the USGS QA/QC plan and the National Field Manual for the Collection of Water-Quality Data (Wilde 1998). The automatic samplers will not be used for dry-weather sampling, because stream mixing may not be uniform during low flow conditions, and the manual method collects a more representative sample of the total stream cross section.

Samples will be typically analyzed for the flowing parameters:

Biochemical Oxygen Demand <sub>5</sub> (BOD <sub>5</sub> )	Chemical Oxygen Demand (COD)
Total suspended solids (TSS)	Total phosphorus
Total dissolved solids (TDS)	Ammonia nitrogen (NH <sub>3</sub> -N)
Orthophosphate	Total Organic Carbon (TOC)
Total Kjeldahl nitrogen (TKN)	Total Nitrogen
Nitrates-Nitrites (NO <sub>3</sub> -NO <sub>2</sub> )	Hardness (from Ca and Mg)
Copper (total)	Cadmium (total and dissolved)
Zinc (total)	Lead (total)
Suspended Sediment (SSC)	Turbidity
pH	

**\*\*\* Semi-annually, analysis of major ion constituents will be added to the above sampling schedule \*\*\***

All metals sampling will use the parts-per-billion (ppb) protocols as set forth by the USGS. The accuracy and precision of the sampled data are maintained by standard protocols and QA/QC sampling. Two (2) field equipment blank samples and two (2) concurrent samples, EWI versus automated point samples, for QA/QC of the automated sampling equipment will be taken each year. Please note that the 48-hour window from sample collection to the start of processing for the BOD samples is a very short timeframe, and there are instances where some storm samples may not be able to have BOD analyzed.

All sampled data would be permanently stored in the SAWSC NWIS computer database. On an annual basis, these data would be published in the USGS-SAWSC annual data report for public release. Data requests more frequent than an annual basis can be requested at any time by contacting USGS personnel.

### **Part III. QA/QC Sampling**

QA/QC is designed to assure the accuracy and precision of the analysis and data to identify any potential contamination that may result from lab methods, equipment, or sample collection. Sample collection, preservation, handling, storage, and analytical procedures will be in accordance with standard methods and practice, as described in the “Quality Assurance Quality Control Plan for Water-Quality Activities in the Georgia Water Science Center” (Lawrence, 2016 unpublished) and the “USGS National Field Manual for the Collection of Water-Quality Data” (Wilde 1998). A minimum of 10% of total samples, including blank samples and replicate samples, will be collected to evaluate QA/QC protocols.

### **Part IV. Flood Inundation Mapping at 02336152 South Fork Peachtree Creek at Casa Road**

The objective of this task is to create and maintain a library of flood inundation maps for a specific stream reach that can be used in conjunction with National Weather Service (NWS) flood forecasts and USGS real-time streamflow data to show detailed predicted areas and depths of flood inundation in the basin for real-time public safety operational use. The areas of inundation will be mapped onto recent imagery so that emergency agencies as well as home and business owners in the area would be able to determine the extent of flooding and take appropriate measures. This element requires extensive coordination with the NWS and was selected in coordination for DeKalb County Flood Control managers. Site selection was based on where the real-time inundation maps will have the greatest value at a NWS flood forecast point.

All flood-inundation mapping for the SAWSC can be found at:

[https://www.usgs.gov/centers/sa-water/science/flood-inundation-mapping-georgia-north-and-south-carolina?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/centers/sa-water/science/flood-inundation-mapping-georgia-north-and-south-carolina?qt-science_center_objects=0#qt-science_center_objects)

Flood inundation map for 02336152 South Fork Peachtree Creek at Casa Road can be viewed at:

[https://fim.wim.usgs.gov/fim/?site\\_no=02336152](https://fim.wim.usgs.gov/fim/?site_no=02336152)

## Part V. Data Presentation and Reporting

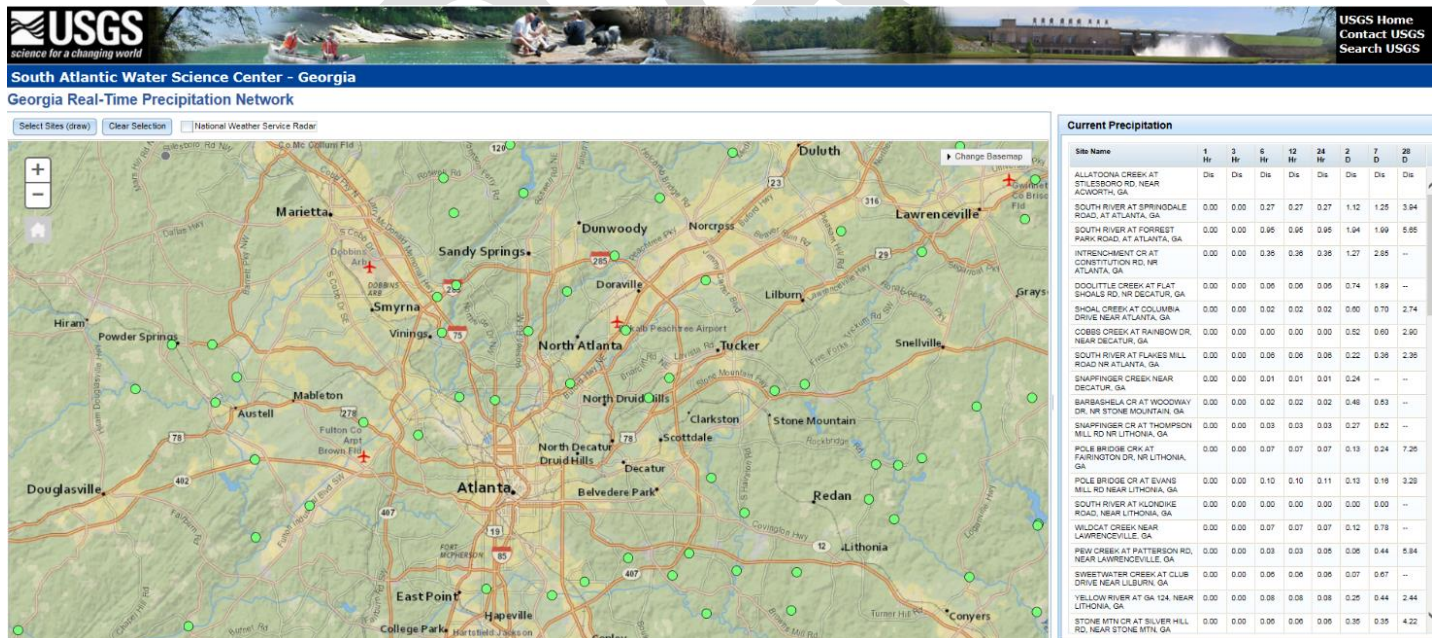
The continuous real-time data will be provided either for public use or limited solely to cooperator access using the USGS NWISWeb software, which will automatically display all parameters collected and transmitted from the site. The continuous river stage, rainfall, streamflow and water-quality data, and the discrete water-quality sample data, will also be published in an online Annual Data Report (ADR) entitled “Water Resources for Georgia, WY XXXX”.

Data transfer for DCDWM annual watershed protection plan report to EPD. This data request will be provided annually by May 31<sup>st</sup>. It will include information from the active Long-Term Monitoring stations. Summary and daily value data will be provided in electronic formats and in paper format upon request. Data shorter than daily time intervals (down to 15-minute intervals) are collected, permanently archived and are available on the USGS NWIS web page and are available on request. Annually the data will be published in in the online USGS Annual Data Report.

All real-time data will be available at the USGS website: <https://waterdata.usgs.gov/ga/nwis/rt>.

To receive automated emails or text notifications for any real-time parameter using the USGS WaterAlert system at: <https://water.usgs.gov/wateralert>.

Additionally, the new USGS National Water Dashboard is a great real-time awareness tool that merges USGS data with other Federal partners information, including the National Weather Service weather information. The NWD can be found at <https://dashboard.waterdata.usgs.gov>.



Example of USGS real-time precipitation data map.

● **DeKalb County**

<a href="#">02203700</a>	INTRENCHMENT CR AT CONSTITUTION RD, NR ATLANTA, GA	07/31 23:15 EDT	2.26	4.2	14.0	--
<a href="#">02203831</a>	DOOLITTLE CREEK AT FLAT SHOALS RD, NR DECATUR, GA	07/31 23:00 EDT	1.02	--	---	--
<a href="#">02203863</a>	SHOAL CREEK AT COLUMBIA DRIVE NEAR ATLANTA, GA	07/31 22:15 EDT	3.48	3.1	5.20	--
<a href="#">02203873</a>	COBBS CREEK AT RAINBOW DR, NEAR DECATUR, GA	07/31 22:30 EDT	1.83	--	---	--
<a href="#">02203900</a>	SOUTH RIVER AT FLAKES MILL ROAD NR ATLANTA, GA	07/31 23:00 EDT	3.38	178	68.0	--
<a href="#">02203950</a>	SNAPFINGER CREEK NEAR DECATUR, GA	07/31 22:15 EDT	2.60	3.9	10.0	--
<a href="#">02203960</a>	SNAPFINGER CR AT THOMPSON MILL RD NR LITHONIA, GA	07/31 22:30 EDT	3.26	12	24.0	--
<a href="#">02204037</a>	POLE BRIDGE CR AT EVANS MILL RD NEAR LITHONIA, GA	07/31 22:30 EDT	1.33	11	---	--
<a href="#">02204070</a>	SOUTH RIVER AT KLONDIKE ROAD, NEAR LITHONIA, GA	07/31 22:45 EDT	5.30	171	145	--
<a href="#">02207130</a>	STONE MTN CR AT SILVER HILL RD, NEAR STONE MTN, GA	07/31 22:30 EDT	3.04	--	---	--
<a href="#">02207135</a>	LITTLE STONE MTN CR NEAR STONE MOUNTAIN, GA	07/31 22:30 EDT	2.24	0.63	---	--
<a href="#">02207160</a>	STONE MOUNTAIN CREEK AT GA 124, NEAR LITHONIA, GA	07/31 22:45 EDT	3.61	10	12.0	--
<a href="#">02207200</a>	SWIFT CREEK NEAR LITHONIA, GA	07/31 22:30 EDT	***	--	---	--
<a href="#">02207220</a>	YELLOW RIVER AT PLEASANT HILL ROAD, NR LITHONIA, GA	07/31 22:45 EDT	1.42	91	139	--
<a href="#">02336120</a>	N.F. PEACHTREE CREEK, BUFORD HWY, NEAR ATLANTA, GA	07/31 23:15 EDT	3.61	6.0	18.0	--
<a href="#">02336152</a>	SOUTH FORK PEACHTREE AT CASA DR, NR CLARKSTON, GA	07/31 22:15 EDT	3.08	0.92	5.20	--
<a href="#">023362095</a>	BURNT FORK CR AT MILLWOOD WAY NEAR CLARKSTON, GA	07/31 23:00 EDT	1.12	<a href="#">Rat</a>	4.20	--
<a href="#">02336240</a>	S.F. PEACHTREE CREEK JOHNSON RD, NEAR ATLANTA, GA	07/31 23:15 EDT	3.38	7.5	29.0	--
<a href="#">02336340</a>	NANCY CREEK AT JOHNSON FERRY RD, AT CHAMBLEE, GA	07/31 22:30 EDT	3.85	4.6	29.0	--

Example of USGS NWISWeb real-time data page.

### **Part VI. USGS Scientific Investigations Report (SIR)**

The USGS will publish a USGS Scientific Investigations Report (SIR) and accompanying USGS Science Base data release that will update the SIR “Hydrology and Water Quality in 15 Watersheds in DeKalb County, Georgia, 2012–16” for the period 2017–2021. The SIR will summarize precipitation, streamflow, and water-quality monitoring, and will include analyses of land use characteristics, base-flow runoff, stream flashiness, and stream water constituent loads and yields for each study watershed, covering the 10-year study period. Now that there is sufficient long-term data, the water-quality data will also be evaluated for trends. In addition, changes in land use and urban impervious areas of the study watersheds will also be evaluated and compared with trends in water quality. This data will come from the Nation Land Cover Database (NLCD; <https://www.mrlc.gov>), which has recently released consistently produced (compatible) versions of previous NLCD coverages that can be utilized to evaluate changes. We will utilize land coverages and impervious products from 2011, 2013, 2016, and 2019. The SIR and data release will be published in 2023.



## **Part VII. Budget Summary and Project Cost – For the period of Oct. 1, 2021- Sept. 30, 2026**

The below cost summary reflects the equipment, analysis, and cooperative matching funds being provided by the USGS-SAWSC. DCDWM will be notified if cooperative funding levels change.

*It is noted that there are three (3) continuous water-quantity & water-quality monitoring stations that are included in this network that are current USGS gaging stations that are funded through other cooperative agreements with other agencies and the USGS. Those stations are as follow: 1) 02336240 S.F. Peachtree Creek at Johnson Road, 2) 02336120 N.F. Peachtree Creek at Buford Hwy and 3) 02203700 Intrenchment Creek at Constitution Road. The following cost breakdown reflects the inclusion of these stations.*

### **Continuous Stage, Discharge, Precipitation and Water-Quality Monitoring**

The operation and maintenance cost covers the salaries of USGS personnel to clean, calibrate and maintain the continuous streamflow, precipitation, and water-quality monitoring stations, as well as repair/replace any malfunctioning instrumentation. It also includes daily quality-assurance checks of the real-time data, routine visits for maintaining the stage-streamflow rating with instantaneous streamflow measurements, cleaning verifying the calibration of the water-quality sensors, and the processing, quality-assurance, and publication of all data collected.

### **Dry and Wet Weather Water-Quality Sampling**

The operation and maintenance cost covers the salaries for USGS personnel to clean, calibrate, operate, and maintain the automatic samplers, process, ship/deliver all samples to the analyzing laboratory, as well as replace/repair any malfunctioning instrumentation. Additionally, semi-annually, the USGS-SAWSC will include the analysis of major ion constituents to the suite of analytical parameters.

### **Determine Annual Peak Flows For 15 Stations**

Annual peak flow (APF) information is used to determine the magnitude and frequency of floods, which is essential for accurate storm runoff design and management. At each station, the annual peak stage is determined from crest-stage gages or continuous stage gages. The peak discharge is determined from the stage-discharge relation. Annual peaks will be determined on a water year basis, October through September.

**DETAILED ANNUAL BUDGET**—Current list of active stations, see Appendix A.

**FY 2022**

Rainfall ONLY (4)	\$ 2,100 per station
Stage & Rainfall ONLY (3)	\$ 9,250 per station
Streamflow Only (1)	\$ 15,400 per station
Streamflow & Rainfall Monitoring (11)	\$ 17,500 per station
Water-Quality Monitoring (12)	\$ 35,000 per station
Water-Quality Sampling & Laboratory Analysis (15), includes: Number of Samples Collected per station: 16 bacteria samples 6 wet weather samples 2 dry weather samples 2 QA/QC samples 2 EWI concurrent samples	\$ 31,700 per station
Flood inundation map support, annual data summary, data presentation and annual watershed assessment data request	\$ 80,000
Total cost	\$1,219,550

At the writing of this proposal, the USGS has **\$40,000** in cooperative matching funds to contribute to this program. DeKalb County will be notified if additional cooperative funding levels change.

USGS matching cooperative funds	<b>\$ 40,000</b>
DCDWM funds	<b>\$ 1,179,550</b>

**FY 2023**

Rainfall ONLY (4)	\$ 2,100 per station
Stage & Rainfall ONLY (3)	\$ 9,250 per station
Streamflow Only (1)	\$ 15,400 per station
Streamflow & Rainfall Monitoring (11)	\$ 17,500 per station
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USGS matching cooperative funds	<b>\$ 40,000</b>
DCDWM funds	<b>\$ 1,179,550</b>

**FY 2024**

Rainfall ONLY (4)	\$ 2,100 per station
Stage & Rainfall ONLY (3)	\$ 9,250 per station
Streamflow Only (1)	\$ 15,400 per station
Streamflow & Rainfall Monitoring (11)	\$ 17,500 per station
Water-Quality Monitoring (12)	\$ 35,000 per station
Water-Quality Sampling & Laboratory Analysis (15), includes: Number of Samples Collected per station: 16 bacteria samples 6 wet weather samples 2 dry weather samples 2 QA/QC samples 2 EWI concurrent samples	\$ 31,700 per station
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USGS matching cooperative funds	<b>\$ 40,000</b>
DCDWM funds	<b>\$ 1,179,550</b>

**FY 2025**

Rainfall ONLY (4)	\$ 2,100 per station
Stage & Rainfall ONLY (3)	\$ 9,250 per station
Streamflow Only (1)	\$ 15,400 per station
Streamflow & Rainfall Monitoring (11)	\$ 17,500 per station
Water-Quality Monitoring (12)	\$ 35,000 per station
Water-Quality Sampling & Laboratory Analysis (15), includes: Number of Samples Collected per station: 16 bacteria samples 6 wet weather samples 2 dry weather samples 2 QA/QC samples 2 EWI concurrent samples	\$ 31,700 per station
Flood inundation map support, annual data summary, data presentation and annual watershed assessment data request	\$ 80,000
Total cost	\$1,219,550

At the writing of this proposal, the USGS has **\$40,000** in cooperative matching funds to contribute to this program. DeKalb County will be notified if additional cooperative funding levels change.

USGS matching cooperative funds	<b>\$ 40,000</b>
DCDWM funds	<b>\$ 1,179,550</b>

**FY 2026** (reflects a 2% cost of increase)

Rainfall ONLY (4)	\$ 2,100 per station
Stage & Rainfall ONLY (3)	\$ 9,250 per station
Streamflow Only (1)	\$ 15,400 per station
Streamflow & Rainfall Monitoring (11)	\$ 17,500 per station
Water-Quality Monitoring (12)	\$ 35,000 per station
Water-Quality Sampling & Laboratory Analysis (15), includes: Number of Samples Collected per station: 16 bacteria samples 6 wet weather samples 2 dry weather samples 2 QA/QC samples 2 EWI concurrent samples	\$ 31,700 per station
Flood inundation map support, annual data summary, data presentation and annual watershed assessment data request	\$ 80,000
Total cost	\$1,242,470

At the writing of this proposal, the USGS has **\$40,000** in cooperative matching funds to contribute to this program. DeKalb County will be notified if additional cooperative funding levels change.

USGS matching cooperative funds	<b>\$ 40,000</b>
DCDWM funds	<b>\$ 1,202,470</b>

<b>Total FY 2022-2026</b>	
Total USGS matching cooperative funds	<b>\$ 200,000</b>
Total DCDWM funds	<b>\$ 5,920,670</b>

## **Agency Roles in the Project**

### **USGS Role in Proposal**

The role of the USGS will be to order and purchase all equipment needed for the project, provide turn-key installation, operation and maintenance for each station. All data will be provided on the real-time display on the USGS NWISWeb pages. At a minimum, the USGS will perform sampling and monitoring of constituents in compliance with the sampling and monitoring methodology, frequency and criteria established in the MNGWMD District-Wide Watershed Management Plan. USGS personnel will collect all water-quality samples, send collected samples to the analyzing lab, and will process the results for storage in the USGS databases. The USGS will routinely monitor the quality of the real-time data according to the SAWSC's approved quality assurance document which meets and exceeds the standards as set by the MNGWMD District-Wide Watershed Management Plan. All data will be QA/QC to USGS standards and protocols and the USGS will publish all collected hydrologic information in its annual data report. Purchased equipment will remain the property of the USGS.

### **DCDWM Role in Proposal**

The role of the DCDWM in this proposal will be to provide ongoing electrical service at each monitoring stations. DCDWM would be responsible for paying the total costs (on a quarterly basis), less USGS cooperative funds, associated with this project and assist with the site selection and location of benchmarks. It is also noted that there are stations that are included in this network that are current USGS gaging stations that are funded through other cooperative agreements with other agencies and the USGS. The cost breakdown above reflects the inclusion of these stations. If at some point the funding levels for these stations change, DCDWM would be notified and the additional cost for those station elements would need to be included in an amended USGS-DCDWM Joint Funding Agreement.

## **SCHEDULE**

The existing LTTM monitoring program covers operations through September 30, 2021. This new agreement begins October 1, 2021 and will expire September 30, 2026.

## REFERENCES

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Appendix A

Number	Short Name	Rainfall	Stage & Rainfall	Streamflow	Streamflow & Rainfall	QW Monitoring	QW Sampling
02203700	Intranchment at Constitution						X
02203831	Doolittle Creek at Flat Shoals Rd				X	X	X
02203863	Shoal Creek at Columbia Drive				X	X	X
02203873	Cobbs Creek at Rainbow Drive				X	X	X
02203900	South River at Flakes Mill Rd				X	X	X
02203950	Snapfinger Creek at Redan Rd				X	X	X
02203957	Barbashela Creek at Woodway Dr	X					
02203960	Snapfinger Creek at Thompson Mill				X	X	X
02204010	Pole Bridge Creek at Fairington Rd						
02204037	Pole Bdrge at Evans Mill Rd				X	X	X
02207130	Stone Mnt Creek at Silver Hill Rd		X				
02207135	Little Stone Mountain Creek				X	X	X
02207160	Stone Mnt Creek at Ga 124				X	X	X
02207200	Swift Creek near Lithonia		X				
02336093	NF Peachtree Creek Trib at Dresdon Dr	X					
02336120	NF Peachtree Creek at Buford Hwy						X
02336152	SF Peachtree Creek at Casa Rd			x		X	X
023362075	Burnt Fork Creek at Montreal Rd	X					
023362095	Burnt Fork Creek at Millwood Way		X		X	X	X
02336240	SF Peachtree Creek at Johson Rd						X
02336321	Trib to Nancy Creek at Peachford Dr	X					
02336340	Nancy Creek at Johson Ferry Road				X	X	X
	<b>Total</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>11</b>	<b>12</b>	<b>15</b>