



REQUEST FOR PROPOSAL

SANITARY SEWER FLOW MONITORING PROJECT TO THE BRUNSWICK-GLYNN COUNTY JOINT WATER AND SEWER COMMISSION

Proposals Due by 12:00 NOON, EST on Friday, June 23, 2017 to:

**Office of Procurement
Joint Water and Sewer Commission
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Complete RFP Document and Specifications may be accessed electronically at

<http://www.bgjwsc.org/about-the-bgjwsc/bid-opportunities-and-rfps/>

**Please Label Submission with Firm's Name, Address and Project Title:
"Sealed Bid – Sanitary Sewer Flow Monitoring Project "**

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SECTION 1: PROJECT BACKGROUND

Brunswick-Glynn County Joint Water and Sewer Commission (BGJWSC) is implementing a sanitary sewer flow monitoring project in an effort to address the excessive storm water inflow and groundwater infiltration (I&I) levels experienced during and after significant rainfall events. The initial effort will include conducting wastewater collection system flow metering, rainfall monitoring and groundwater gauging. BGJWSC intends to complete the flow monitoring effort using a Professional Services contract. As such the responding Professional Engineering company (consultant) must be licensed to do business in the state of Georgia and shall be capable of completing the necessary services using in-house resources (staff and equipment). The process that will be undertaken as part of the consultant selection will include the following criteria evaluation and rating system.

- Professional Credentials of the Proposing Company (15 points)
- Relevant Experience Completing Projects of Similar Magnitude (15 points)
- Experience of Proposed Project Team (20 points)
- Approach to Completing the Project (25 points)
- Cost to Complete the Project (25 points)

Standards/protocols have been developed to ensure that the completed metering/gauging tasks provide the necessary data/information needed to develop a I&I source investigation program. The primary protocols developed for this project include selection of appropriate equipment and data monitoring platforms, as well as, the following required activities:

- Flow Meter Site Selection/Basin Delineation
- Equipment Installation/Initial Calibration
- Data Collection/Storage
- Equipment Maintenance
- Post Wet Weather Equipment Calibration
- Reporting Requirements
- Data Analysis

This document identifies the protocols that will be utilized as part of the flow monitoring/rainfall gauging/groundwater monitoring efforts by the selected consultant, as well as, the methodology that will be employed when performing data analysis and data reporting. BGJWSC requires that the selected consultant prepare monthly flow monitoring reports for submittal and review, to ensure that the flow monitoring and gauging activities are in compliance with the established protocols.

At the completion of the flow monitoring effort (3 months), the Consultant will prepare a Flow Monitoring Technical Memorandum which summarizes the results of the flow monitoring effort and provides the necessary documentation for BGJWSC to develop an I&I source investigation program.

BGJWSC will require five (5) hard copies and one (1) digital copy of all submittals associated with the project.

SECTION 2 FLOW METER SERVICE PROVIDER QUALIFICATIONS

2.1 GENERAL QUALIFICATIONS:

The consultant shall have a minimum of five (5) years of successful documented experience in the assembly, installation and maintenance of networked, telemetered flow monitoring and rainfall gauging equipment in gravity sewer applications. Documentation will include the submittal of a listing of successfully completed projects during the five (5) year period including project client references.

The consultant shall provide satisfactory evidence of having adequate staff, equipment and technical experience to furnish the equipment and provide the services required herein to the consultant for submittal to BGJWSC. The consultant shall also submit resumes' of the proposed project manager, project engineer, data analyst, instrument technicians and other key personnel who will perform the proposed work. Each resume shall reflect the competency of the consultant's personnel noting past experience on projects of similar scope and complexity.

The consultant shall indemnify and hold harmless BGJWSC from all liabilities, judgements, costs, damages, and expenses which may result in infringement of any patents, trademarks, or copyrights by use of any materials, devices, equipment, or processes incorporated in or used in the performance of the work under the consultant's contract.

The consultant shall comply with 29 CFR 1910.146 (OSHA confined space safety regulations) and all safety requirements involved with the project. The consultant shall submit Certificate of Completion for Confined Space Entry Training for all personnel involved with the project as well as a copy of the consultant's safety manual. If a meter location is at a manhole that requires Maintenance of Traffic (MOT) to access, the consultant shall be responsible for providing the necessary MOT. All consultant personnel or sub-consultant shall provide the necessary MOT training certificates.

2.2 FLOW METER/RAINFALL GAUGE EQUIPMENT SELECTION:

The consultant shall utilize approved open channel flow monitoring equipment. Open channel flow monitoring equipment shall be submerged sensor (area velocity) type meters with redundant level sensor. Primary level monitoring device shall be a pressure transducer and secondary level monitoring device shall be ultrasonic sensor mounted in the top of the pipe.

Approved open channel flow meters to be utilized are: ADS Triton +, ADS Flow Shark, ISCO 2150, Hach FL 900 Series, FloWav Shortboard 1000. , or approved equal. All flow monitoring devices shall incorporate cellular enabled recording telemetry units (RTUs) to upload the recorded level, velocity and flow rate data automatically to the proposed flow monitoring data storage platform on a daily basis. Level, velocity and flow rates shall be averaged and recorded every fifteen (15) minutes. The consultant shall submit for approval catalog information and equipment specifications for the flow metering devices the consultant proposes to use on the project.

Rainfall gauges must be electronic tipping buckets built to National Weather Service standards with bucket mechanism accurately measuring rainfall accumulation in 0.01 inch increments. The rainfall

logger must also have a cellular enabled RTU and be connected to the same monitoring platform utilized by the flow meter network. The logger shall totalize the recorded rainfall measured over every fifteen (15) minute period and upload the data remotely on a daily basis to the project's data storage platform.

2.3 FLOW METER/RAINFALL GAUGE DATA MANAGEMENT PLATFORM:

The consultant shall maintain a third party hosted, web-based data management platform for access by BGJWSC, to the flow monitoring and rainfall gauging fifteen (15) minute data. The approved data management platforms include ADS – Intelliserve, Hach – FS Data, ISCO – Flowlink, Telog – Enterprise, or approved equal.

In general the data management platform shall provide the following functionality:

- Collect Data – Data from RTU's
- Transfer Data – Automatically at Pre-determined Time Intervals
- Manage Data – Organize, View, Create Reports and Archive Data
- Share Data – Over Internet Using Web Browser Applications

The data management platform will collect and store data once per day for all flow meter and rainfall gauging equipment and provide notification when any of the monitoring equipment fails to send the 24-hour recorded data. Access to the data by BGJWSC, shall be gained through a dedicated web-based portal using a pre-established user name and password. The web-portal browsers shall utilize 'ActiveX', 'Chrome' or 'Fire Fox' for access.

Once accessed the data management platform shall have a graphical interface that allows for identification of equipment location, as well as identifying equipment communication status and remaining battery life. The data management platform shall also allow for the following actions:

- Review of Transient Data
- Creation of Flow, Level and Velocity Hydrographs for Selected Time Periods
- Creation of Rainfall Bar Graphs for Selected Time Periods
- Means to Save and Download Created Graphs
- Ability to Export Created Hydrographs, Bar Graphs and Tabular Data to .pdf, .txt, .csv

The consultant shall submit for approval from the BGJWSC, catalog information and specifications for the data management platform that the consultant proposes to use on the project.

SECTION 3: FLOW MONITORING & RAINFALL/GROUNDWATER GAUGING

3.1 GENERAL DISCUSSION:

The wastewater flow monitoring program is being conducted in an effort to characterize the flow regime in the sanitary sewer system during dry weather and wet weather periods under current conditions and to use the collected data as a benchmark to determine the effectiveness of storm water and groundwater infiltration abatement after sewer repair, rehabilitation and replacement projects are performed. The primary objectives of the flow monitoring program are as follows:

- Collect representative dry and wet weather flow data for the sewer basin(s)
- Measure flow rate amounts of wastewater conveyed to the wastewater treatment plant

- Identify conditions that cause sewer surcharging
- Observe and quantify dry weather infiltration
- Quantify rainfall derived inflow and infiltration (RDII) volumes
- Correlate RDII with rainfall volumes and intensities
- Determine seasonal variations of flow within the sanitary sewer system
- Assist in prioritizing SSES Basins (Final Technical Flow Monitoring Technical Memo)
- Observe and quantify potential dry-weather inflow (e.g., manholes located in low-lying areas which may be inundated in dry-weather by tidal effects or stream flow)
- Benchmark current RDII volumes so that BGJWSC can demonstrate that peak flow reductions have been achieved after RDII abatement construction has been completed

The scope of the BGJWSC's flow monitoring program has been developed to ensure flow data acquisition is adequate to meet the program objectives identified above. The following section(s) describes the various protocols that will be employed by the consultant to ensure that collected data is of the appropriate quality.

3.2 METER SITE SELECTION AND BASIN DELINEATION

Selection of meter location sites is critical to defining sewer sub-basins. Flow meter sites shall be selected so that the entire flow for the basin area can be characterized. This may require multiple meters for areas with parallel sewers or complex connectivity. Meter sites shall be compatible with the minimum requirements of the flow monitoring equipment manufacturer relative to physical site constraints and hydraulic conditions. A minimum of one sub-basin needs to be delineated that corresponds to a terminal pump station connecting to BGJWSC's force main piping.

Sewer basin delineation can be accomplished through use of sewer mapping noting that it is important that the meter locations are strategically selected to provide an appropriate delineation of sanitary sewer system basins.

If at any time a previously selected site is removed or replaced after approval of the Flow and Rainfall Monitoring Plan, BGJWSC shall be notified and it shall be noted within the monthly reporting.

3.3 ACCEPTABLE FLOW MEASURES AND RECORD KEEPING:

Flow monitoring equipment shall include a data logger, communication device and sensing units. All gravity sewer metering equipment shall be capable of recording in both low flow and surcharged conditions for wet weather monitoring. The consultant must utilize best engineering judgment in the selection of flow monitoring methods and the application of the resulting data. The flow monitoring equipment, methods and application of the resulting data shall be reviewed and approved by BGJWSC, as part of the required Flow and Rainfall Monitoring Plan submittal.

3.4 DURATION OF FLOW MONITORING:

For the purposes of identifying areas for future SSES activities, flow monitoring shall be conducted. The flow data shall capture a representative sample of dry weather flows as well as storm events of varying magnitudes. Flow monitoring shall be conducted for a duration of three (3) months to satisfy the following criteria:

Flow Monitoring for SSES Basin Identification

- Flow monitoring shall provide data that characterizes seasonal variations and captures the peak seasonal sanitary sewer system flows.

- Flow monitoring shall record as many individual wet-weather flow events possible. These events shall capture system response under a variety of antecedent rainfall and groundwater conditions.
- Flow monitoring shall continue for sufficient time between rain events for the flow to normalize to dry weather conditions.
- Flow monitoring period shall capture typical diurnal variations in dry-weather flow, including weekends and weekdays.

If these events do not occur during the 3-month period, BGJWSC may extend the monitoring period. Selection of locations for flow monitoring shall include pump stations that are representative of a group of pump stations that exhibit similar responses to the variables which impact peak flow. Examples of the variables that shall be considered include, but are not limited to: the average age of the gravity sewers in the sewer basin; pipe material and joint type; soil-type and porosity; maximum, minimum and groundwater elevations; proximity to surface water bodies; tidal influence; ratio of pervious to non-pervious surface area; service areas size; land use; historic I/I data; seasonal population patterns; and sanitary sewer system construction materials.

3.5 DATA ACCURACY SPECIFICATIONS:

Flow monitoring accuracies will be based on typical accuracies for the type of equipment used. Flow meters shall provide an average, maximum and minimum values at 15-minute intervals.

Prior to installation of any meter and/or gauge, the device shall be calibrated according to manufacturer's recommendations. The calibration of open channel flow meters shall be checked periodically after installation using supplemental velocity and level measurement devices, where the use of such devices is practical. After equipment installation, a form shall be prepared for each site by the consultant. Installation forms shall be submitted to BGJWSC for review. Installation forms shall be included with each monthly report for all flow meter sites. Calibration records shall be included in the monthly report for each flow meter site to demonstrate that the equipment was properly calibrated. Any recalibration required during the monitoring period shall be noted and also included in the monthly report. The flow meters shall be maintained in a manner that shall provide for a minimum of ninety percent (90%) uptime and for eighty five percent (85%) data reliability. Data reliability is identified as the percentage of flow data that has been collected that is obviously not incorrect (i.e., flat lines or drifted from known calibration levels).

Rainfall, and flow monitoring shall be carried out in accordance with current standard practices, and shall generally be in conformance with widely used industry guidance such as Water Research Centre's (WRC) "A Guide to Short Term Flow Surveys of Sewer Systems", Water Environment Federation's (WEF) MOP FD-6 "Existing Sewer Evaluation and Rehabilitation", and NASSCO's "Manual of Practices".

3.6 RAINFALL MONITORING:

Rainfall monitoring shall be completed to obtain the data needed to compare wet weather sewer flow to rainfall volume, duration and intensity. The relationship between peak sewer flow and rainfall shall be used during the evaluation of the sewer system's performance and the prediction of RDII. Rainfall gauges shall be of the continuous recording type, and store data in 15-minute increments. Rain gauges shall be distributed throughout the area covered by the sanitary sewer system on a minimum of every two (2) square miles. That density should provide reasonable coverage and representation of variations in rainfall intensity, duration and accumulation throughout the sewer system and shall be utilized to also calibrate any utilized Doppler radar rainfall data. Rainfall gauges shall be capable of recording rainfall at 0.1-inch intervals or less.

Rain data can be supplemented from gauges maintained by the United States Geologic Survey (USGS), the National Oceanic and Atmospheric Administration (NOAA) or County rainfall records. Radar rainfall records derived from radar information that is calibrated with rain gauges maintained by the USGS, NOAA, are also acceptable. Rain gauges shall be installed in the general vicinity of the flow monitoring sites as applicable.

3.7 GROUNDWATER MONITORING:

Groundwater level data shall be used to establish the potential for groundwater infiltration into the sewer system. Groundwater data can be used in conjunction with flow data to analyze infiltration based on the relationship between the groundwater table level and the elevation of the sewers. The consultant shall provide the proposed locations and methods to establish groundwater elevations to BGJWSC for approval.

3.8 FLOW AND RAINFALL MONITORING PLAN:

A Flow and Rainfall Monitoring Plan shall be developed by each consultant and shall be submitted to BGJWSC for review and approval. The Flow and Rainfall Monitoring Plan shall include the following minimum information:

TITLE PAGE

- *Project/Report Title*
- *Report Date*
- *Consultant Contact Information*

Section 1 - EXECUTIVE SUMMARY

Section 2 - FLOW AND RAINFALL MONITORING METHODOLOGY

- *Methodology Utilized to Determine Flow Meter Basin Limits*
- *Proposed Equipment Calibration Procedures*
- *Proposed Maintenance Procedures*

Section 3 - OPEN CHANNEL FLOW MONITORING SITE SELECTION

- *Site Selection Criteria*
- *Proposed Maintenance of Traffic Approach for Sites in Active Roadways*
- *Map Identifying Proposed Flow Monitoring Sites*

Section 4 - RAINFALL GAUGE SITE SELECTION

- *Site Selection Criteria*
- *Map Identifying Rainfall Gauge Sites*

Section 5 - GROUNDWATER LEVEL SENSOR LOCATIONS

- *Site Selection Criteria*
- *Proposed Method of Monitoring*
- *Map Identifying Groundwater Gauge Sites*

Section 6 – PROPOSED FLOW MONITORING EQUIPMENT

- *Manufacturer's Data for Proposed Equipment to be Utilized*
- *Equipment Data Acquisition/Transfer Capability*

Section 8 – PROPOSED PROJECT IMPLEMENTATION SCHEDULE

Section 9 - DATA COLLECTION ACTIVITIES

- *Data Acquisition Plan*
- *Data Collection Uptime/Reliability Reporting*

Section 10 - DATA MANAGEMENT

- *Data Transfer – Storage – Review (Procedures)*
- *Data Verification – Reporting (Procedures)*

Section 11 - QA/QC PROCEDURES

- *Documentation of Maintenance*
- *Documentation of Calibration*
- *Documentation of Data Review & Data Reliability Evaluation*

SECTION4: FLOW & RAINFALL MONITORING IMPLEMENTATION

4.1 DATA COLLECTION:

Electronic transmission, via cellular RTU, of data for flow and rainfall gauging sites is required. Sewer flow and rainfall information shall be collected (downloaded) every 24-hours for the duration of the monitoring period for each flow meter/rainfall gauge. If the instrument experiences a communication link failure, the consultant will remedy the situation immediately. Also, a site visit after every significant storm event is required to confirm accurate meter calibration, noting that a significant event is categorized as any event greater than one (1) inch during a 24-hour period. Significant rainfall event site visit shall occur within 48-hours after the rainfall event has ended. As previously described the FSP shall provide a minimum of ninety percent (90%) uptime for each flow monitoring device and a minimum of eighty five percent (85%) data reliability.

4.2 EQUIPMENT MAINTENANCE:

Open channel flow meters shall be calibrated weekly as a minimum during dry weather periods and more frequently as required during wet weather periods. Rainfall gauges shall be calibrated once every month. Calibration records shall be submitted as part of the monthly monitoring reports. Problems with the instrument operation should be corrected as soon as possible to sustain data collection and data reliability at the highest level.

The collected data will be reviewed daily to determine if any form of maintenance is required. The consultant will investigate any and all perceived equipment malfunctions within 48-hours of discovery and will replace any malfunctioning equipment within three (3) business days of the initial field investigations.

4.3 DATA STORAGE FORMAT AND WAREHOUSING:

The metered data shall be stored in an open data format that can easily be accessed in an ODBC (Open data base connectivity) compliant format. Data for each meter/gauge shall be uniquely identified and shall be distinguishable from the data from other meters. Each meter shall be identified by basin number and meter number. Meter shall be numbered in ascending order from furthest upstream site; one (1), to the furthest downstream site. Flow data shall be labeled using the assigned meter/gauge number with identification and determination of the dates of collection.

SECTION 5: MONTHLY REPORTING

5.1 DATA SUMMARIES:

Flow data summaries to be included in the monthly report shall present the flow data and observed flow conditions supported by graphical and tabular presentations of flow, level, and velocity, where applicable. Each summary shall include the following information:

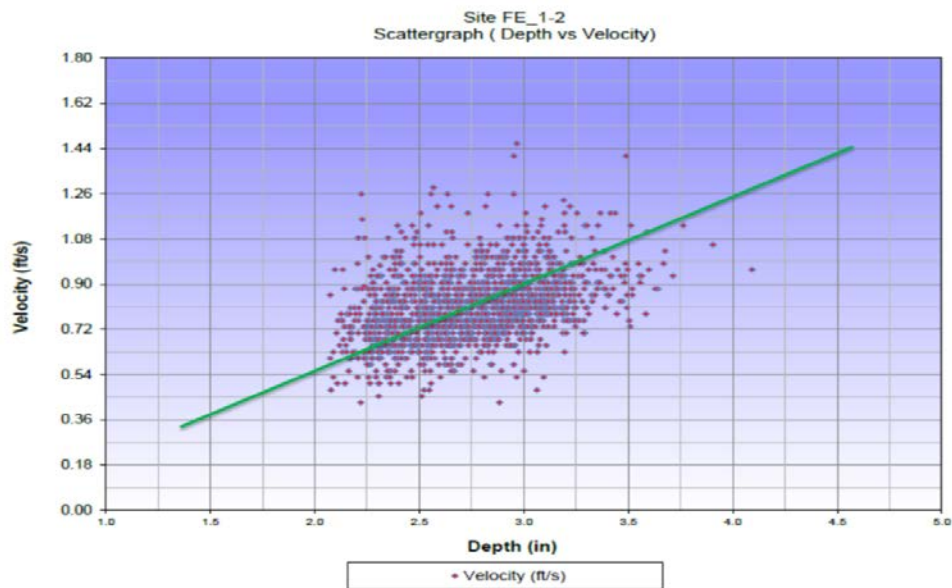
5.1.1 Graphical Representation of Data

A graphical time-series weekly plot (hydrograph) of flow rate vs. time data, as well as associated recorded rainfall data, shall be presented for each specific flow meter site. An average seven (7) day dry weather hydrograph will also be prepared/presented and flow data from any significant rainfall event (greater than 0.5-inches over 24-hours) during any specific seven (7) day period will be added to the hydrograph and RDII volumes for each significant event shall be calculated and displayed on the hydrograph. Additional graphs will also be required:

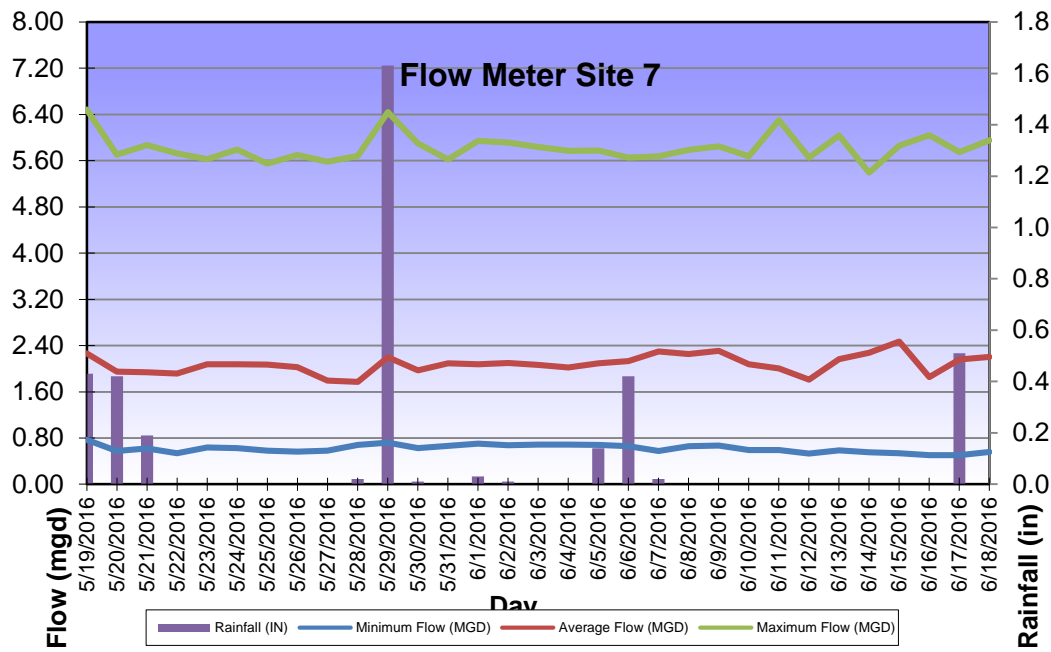
- Monthly graph (scatter graph) of flow depth versus velocity readings
- Monthly flow graph depicting daily maximum, average and minimum flow rates with daily rainfall accumulations
- Daily wet weather 24-hour flow volume versus recorded rainfall magnitude for events greater than 0.5-inches (regression analysis)
- Flow balance schematic depicting flow meter connectivity and measured flow volumes over each 24-hour rainfall event greater than 0.5-inches (with downstream flow volumes isolated from upstream flow meters)

Graphs shall be provided in both .pdf and .xls formats.

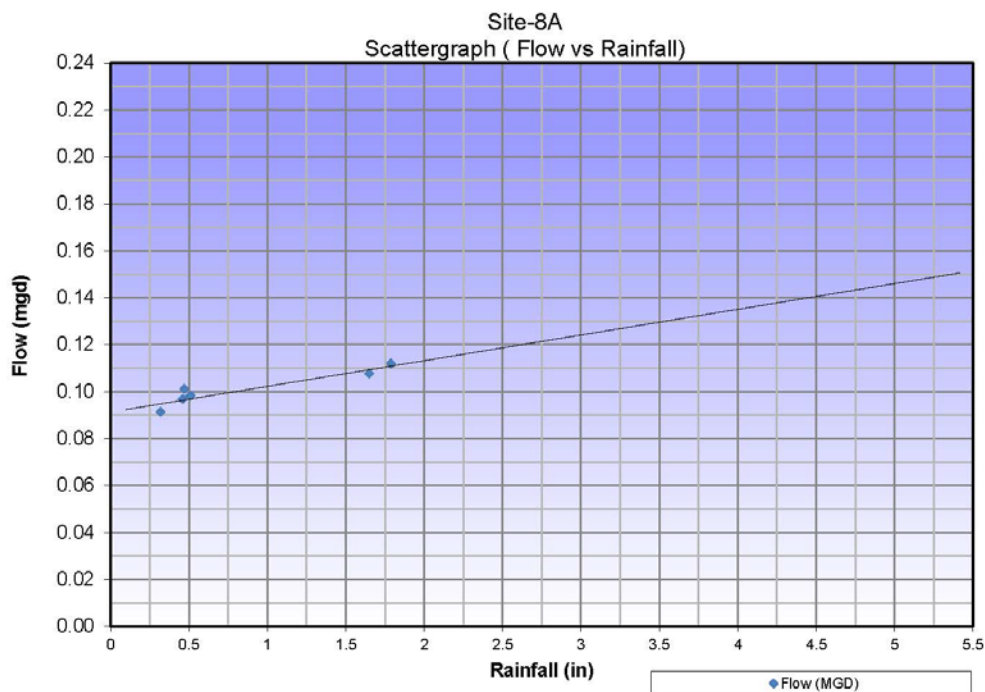
The following provides examples of graphs required.



Scatter Graph



Monthly 24-Hour Flow Maximums, Minimums, Averages and Rainfall Accumulation



Date	Flow (MGD)	Rainfall (IN)	R ² Value
5/19/2016	0.101	0.47	0.86
5/28/2016	0.108	1.65	
6/5/2016	0.091	0.32	
6/17/2016	0.098	0.51	
7/9/2016	0.097	0.46	
7/16/2016	0.112	1.79	

24-Hour Flow Volume (MGD) Versus Rainfall Accumulation (IN)

5.1.2 Tabular Data

The following data shall be submitted in electronic form with calculated statistics in .xls format for each specific flow meter/rainfall gauging site:

- Flow Meter Site Statistics:
 - Average dry weather flow rate (Million Gallons Per Day)
 - Peak hourly dry weather flow rate (Million Gallons Per Day)
 - Peak hourly wet weather flow rate (Million Gallons Per Day)
- Rainfall Monitoring Site Statistics:
 - Recorded rainfall event date (events greater than 0.5-inches)
 - Rainfall amount per event (Inches)
 - Recurrence storm interval (2, 5, 10 Year, etc.)
 - Identification of rainfall gauge used for each flow meter site analysis
- Flow Monitoring Data:
 - Time (15 Minute Increments)
 - Level (Inches)
 - Velocity (Feet Per Second)
 - Flow rate (Million Gallons Per Day)

- Rainfall Monitoring Data:
 - Time (15 Minute Increments)
 - Rainfall measured (Inches)
- Calibration records
- Data reliability summary of all meters
- Data excluded
- Maintenance activities completed
- Installation report

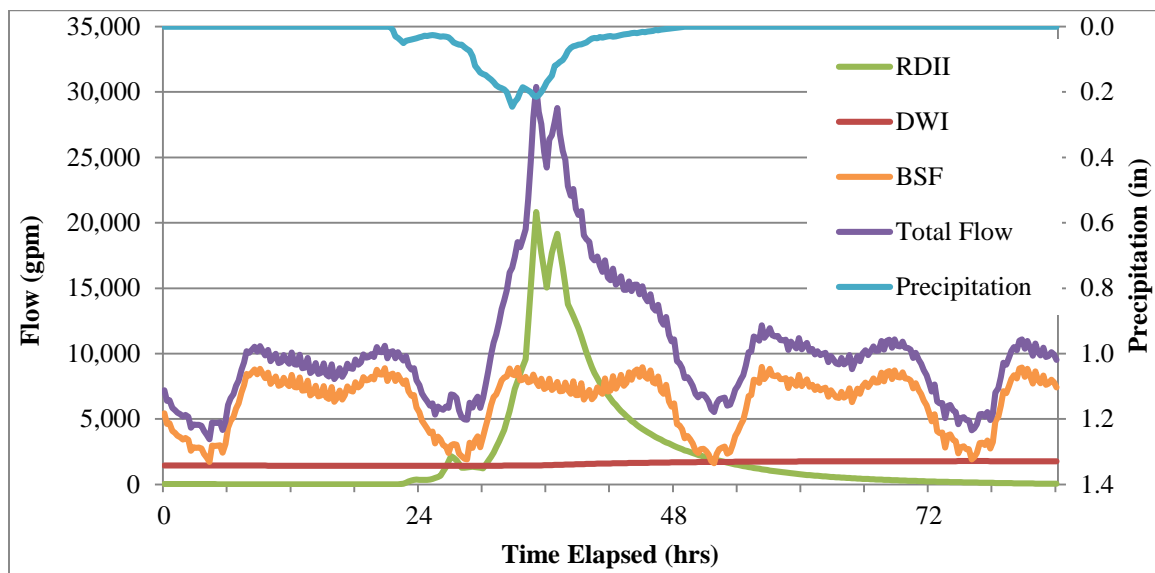
5.2 DATA ANALYSIS

The primary objectives of the flow evaluation are to characterize sewer flow under a range of hydrologic conditions, and quantify peak flow for the purposes of identifying SSES Basins. The sewer flow evaluation shall include quantification of base sewage flow, dry weather infiltration (DWI) and rainfall-derived inflow/infiltration (RDII) using the following procedure:

- Separate periods of dry and wet-weather flow with respect to rainfall data
- Establish a typical 24-hour and 7-day, dry-weather sewer hydrograph
- Estimate DWI by determining flow rate during off peak water usage hours
- Extract RDII by subtracting the applicable dry-weather flow hydrograph from the applicable wet weather hydrograph for the event or events of interest.

5.2.1 Flow Components

Sewer flow consists of base flow and RDII, as shown on the Figure on the following page. The first step in determining the peak flow reduction potential is to quantify the components. The following describe processes for determining each component of the total wastewater flow.



5.2.1.1 Base Sewage Flow

Base sewage flow (BSF) is defined as the domestic and industrial process sewage flow in the sanitary sewer system. It does not include DWI or RDII. The quantity of BSF shall be determined by each consultant and shall be based on information and conditions specific to the monitored basin/sub-basin. In general a dry weather period with low groundwater should be used for determining BSF values. In tidally influenced areas, periods of low tide should also be used for determining BSF values. Water consumption data shall be used to verify flow meter data. If water consumption data is found to be more representative of BSF, supporting documentation and/or engineering analysis must be submitted to the BGJWSC for review and approval. In either case, the BSF value and method of determination shall be submitted to the BGJWSC for review and approval.

5.2.1.2 Dry Weather Flow (DWF)

The Dry Weather Flow (DWF) is composed of BSF and DWI. The flow at each flow-monitoring site shall be used as the basis for determining the DWF for the metered areas and for estimating the dry weather infiltration entering the sewers. In determining the DWF, days with rainfall (and the following three days) shall be excluded from the analysis, and a minimum of one (1) month of flow data shall be used. Dry day flows identified for each monitoring site shall be averaged to determine the shape of the diurnal curve for each metered area. A comparison of peak hourly flows is suggested to identify anomalies in flow patterns.

5.2.1.3 Dry Weather Infiltration (DWI)

Dry weather infiltration (DWI) for each metered area shall be estimated by subtracting the BSF from the DWF. DWI is heavily influenced by groundwater, thus the time of year used for determining DWF and DWI are critical and engineering judgment shall be applied in the estimation of DWI. As median dry weather groundwater conditions are desired for this analysis, thus flow monitoring for determining DWF and DWI shall be performed between May and June.

5.2.1.4 Rainfall Derived Infiltration/Inflow (RDII) Evaluation

RDII is the component of total wastewater flow resulting from rainwater entering the sewer system. RDII is generally a substantial portion of the total sewer flow that occurs during wet-weather. In many cases, particularly in older sewers, RDII should be the largest component of wet-weather flow. RDII varies with rainfall volume, rainfall intensity, antecedent moisture conditions, the condition of the collection system, and other factors, including storm driven tidal effects. The constituents of RDII are infiltration and inflow.

Flows occurring during and after rainfall events that are higher than the dry weather diurnal curve represent potential RDII. The extraneous flow quantity is estimated by subtracting the measured flow diurnal pattern from the wet weather hydrograph. After taking into account temporal and usage variations, the accumulated extraneous wet weather flow volume can then be estimated. The extraneous wet weather flow quantity (in gallons) for each monitoring site can be divided by the average dry weather flow over the metered area to calculate an RDII factor, expressed as a percentage of the total accumulated rainfall that entered the sanitary sewer system.

In addition to estimating the volumetric contribution of rainfall to the sanitary sewer system flow, peak one (1) hour flow shall be observed in conjunction with each rainfall event. The peak one (1) hour flow is critical for identifying basins that will require future SSSES activities.

The rainfall-derived infiltration can be graphically observed in the receding portion of the wet weather hydrograph. After the rainfall event has passed and the peak flow response has passed, the slower decline of flow back to normal dry weather conditions may be an indicator of the wet weather infiltration. Volumetric quantification of this flow in the system can help determine the volume of rainfall dependent infiltration entering the system.

5.3 MONTHLY REPORT SUBMITTAL

The previously described graphical and tabular data will be submitted along with the following flow data representations.

Monthly reports shall contain charts, tables, hydrographs and figures demonstrating at a minimum, the following quantities and calculations:

- DWF, Dry Weather Flow (Daily)
- BSF, Average Daily Dry Weather Flow, determined by calculation
 - $BSF = DWF - DWI$
- DWI, Non-Rainfall Groundwater Infiltration, estimated by analysis of early morning flows when the sanitary sewer contribution is very low. DWI will be calculated by taking the lowest flow value during non-peak water usage hours and by multiplying that flow rate by 0.90. All upstream established DWI rates shall be subtracted from the minimum recorded flow rate prior to performing the computation.
- Ratio of DWI/DWF.
- Rainfall Amount and Intensity and Duration
- Rainfall Dependent Infiltration/Inflow, (RDII), directly resulting from rainfall.
 - $RDII = \text{Total Wet Weather Flow Volume} - BSF$
- Peak RDII, maximum difference between the BSF and Total Flow hydrographs.
- PHF, Peak Hourly Wet Weather Flow Rate
- Peaking Factor = PHF/DWF
- Peak 15-minute Flow Depth
- Peak 15-minute Flow Velocity
- Peak 15-minute Flow Volume
- Current Full Pipe Capacity (Based on Flow Velocity at Various Flow Depths)
- Total Monthly Flow
- Ratio of DWI/Inch-Diameter Miles of Upstream Contributing Sewer Mains for Each Meter Basin.

5.4 MONTHLY REPORT FORMAT

The consultant will submit monthly flow monitoring/rainfall gauging reports to the County for review. Included in the monthly report will be raw flow data, edited flow data, (changes highlighted in yellow) and raw rainfall data. The following identifies the format that the monthly report will be prepared.

SECTION 1 – SUMMARY OF FLOW AND RAINFALL RECORDED

- Summary of recorded flow and rainfall recorded during the month
- Identification of equipment/communication malfunctions during the month
- Identification of flow meter uptime and data quality percentages
- Identification of equipment calibrations completed during the month

- Identification of equipment maintenance activities completed during the month

SECTION 2 – TABULAR DATA (Per Meter Site)

SECTION 3 – GRAPHICAL REPRESENTATIONS (Per Meter Site)

SECTION 4 – DATA ANALYSIS RESULTS (Per Meter Site)

SECTION 5 – FLOW METER MAINTENANCE RECORDS (Per Meter Site)

SECTION 6 – FLOW METER & RAINFALL GAUGE CALIBRATION DATA (Per Meter Site)

5.5 FLOW METER TECHNICAL MEMORANDUM

BGJWSC will develop a sewer system evaluation survey (SSES) program based on the flow monitoring results presented by the consultant's Flow Monitoring Technical Memorandum. The program will be developed considering the results of sewer flow monitoring and other relevant information. The Flow Meter Technical Memorandum shall be formatted using the following criteria:

TITLE PAGE

- Project/Technical Memorandum Title
- Date of Submission
- Consultant Contact Information

Section 1 - EXECUTIVE SUMMARY

Section 2 – SUMMARY OF WORK COMPLETED

- Map Identifying Flow Meter/Rain Gauge/Groundwater Gauge Locations
- Description of Monitoring Scope/Approach
- Discussion of Equipment Maintenance and Calibration Procedures

Section 3 – FLOW MONITORING & RAINFALL GAUGING SUMMARY

- Description of Equipment and Monitoring Platform Functionality
- Identification of Equipment/Communication Outages Experienced
- Identification of Any Data Gaps Experienced During the Monitoring Period
- Identification of Gravity Piping at Meter Sites With Capacity Limitations

Section 4 – FLOW MONITORING/RAINFALL & GROUNDWATER GAUGING RESULTS

- Discussion of Flow Monitoring Results for Each Individual Basin
 - Flow Meter Site Statistics:
 - Average dry weather flow rate (Million Gallons Per Day)
 - Peak hourly dry weather flow rate (Million Gallons Per Day)
 - Peak hourly wet weather flow rate (Million Gallons Per Day)
 - Rainfall Monitoring Site Statistics:
 - Recorded rainfall event date (events greater than 0.5-inches)
 - Rainfall amount per event (Inches)
 - Recurrence storm interval (2, 5, 10 Year, etc.)
 - Identification of rainfall gauge used for each flow meter site analysis

- DWF, Dry Weather Flow (Daily)
 - BSF, Average Daily Dry Weather Flow, determined by calculation
- $BSF = DWF - DWI$
 - DWI, Non-Rainfall Groundwater Infiltration
- $RDII = \text{Total Wet Weather Flow Volume} - BSF$
 - Peak RDII, maximum difference between the BSF and Total Flow hydrographs.
 - PHF, Peak Hourly Wet Weather Flow Rate
 - Peaking Factor = PHF/DWF
 - Peak 15-minute Flow Depth
 - Peak 15-minute Flow Velocity
 - Peak 15-minute Flow Volume
 - Current Full Pipe Capacity (Based on Flow Velocity at Various Flow Levels)
 - Total Monthly Flow For Each Month
 - Ratio of DWI/Inch-Diameter Miles of Upstream Contributing Sewer Mains for Each Meter Basin.

Section 5 - GROUNDWATER MONITORING RESULTS

- Description of Groundwater Variance Between Low and High Tide Periods
- Discussion of the Effects of Rainfall on Groundwater Elevation
- Map Identifying Piping Which is Apparently Below Groundwater Table

Section 6 – SUB-BASINS RECOMMENDED FOR I/I SOURCE INVESTIGATIONS

- Rank Each Flow Meter Sub-basin for Susceptibility of Storm Water Inflow
- Rank Each Flow Meter Sub-basin for Susceptibility of Groundwater Infiltration
- Rank Each Flow Meter Sub-basin for Rainfall Derived Infiltration

Section 7 – ESTIMATED COST FOR COMPLETING I&I SOURCE INVESTIGATIONS

- Cost for Completing Smoke Testing (Per Flow Meter Sub-basin)
- Cost for Completing Manhole Inspections (Per Flow Meter Sub-basin)
- Cost for Completing Night Flow Isolations (Per Flow Meter Sub-basins)
- Cost for Preparing Proposed I&I Abatement Technical Memorandum

SECTION 6: BID TABLE

BGJWSC Flow Monitoring Project Bid Sheet					
	TASK	Unit Measure	Unit Count	Unit Cost	Total Cost
1	Mobilization				
	Mobilization and De-mobilization to/from Project (1 Lump Sum)	Lump Sum	1		\$ -
2	Flow Monitoring/Rainfall Gauging Plan				
	Development of Flow Monitoring/Rainfall Gauging Plan (1 Lump Sum)	Lump Sum	1		\$ -
3	Flow Monitoring/Rainfall Gauging				
	Flow Meter Investigations/Installations (45 Meters)	Each Meter	45		\$ -
	Groundwater Gauge Investigations/Installations (12)	Each Gauge	12		\$ -
	Rainfall Gauge Investigations/Installations (6 Gauges)	Each Gauge	6		\$ -
	Flow Meter Calibration/Maintenance (45 Meters for 3 Months)	Each Meter/Each Month	135		\$ -
	Groundwater Gauge Calibration/Maintenance (12 Gauges for 3 Months)	Each Meter/Each Month	36		\$ -
	Rain Gauge Calibration/Maintenance (6 Gauges for 3 Months)	Each Meter/Each Month	18		\$ -
4	Flow Data Analysis				
	Flow Meter Data Collection/Analysis (45 Meters for 3 Months)	Each Meter/Each Month	135		\$ -
	Groundwater Data Collection/Analysis (12 Gauges for 3 Months)	Each Meter/Each Month	36		\$ -
	Rainfall Data Collection/Analysis (6 Gauges for 3 Months)	Each Meter/Each Month	18		\$ -
5	Monthly Meetings				
	Monthly Data Analysis Meetings (3)	Each Monthly Meeting	3		\$ -
6	Flow Monitoring Technical Memorandum Preparation				
	Development of Draft & Final Technical Memorandum (1 Lump Sum)	Lump Sum	1		\$ -
	Total Project Cost				\$ -

ATTACHMENTS

BID BOND

**State of Georgia
City of Brunswick
County of Glynn**

KNOW ALL MEN BY THESE PRESENT, that we,

_____, as Principal, and

_____, as Surety, are held and firmly bound unto the

Brunswick-Glynn County Joint Water and Sewer Commission (JWSC) in the not to exceed sum of

Dollars

(\$ _____) lawful money of the United states, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, personal representatives, successors and assign, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted to the JWSC a Bid for:

**BRUNSWICK-GLYNN JOINT WATER & SEWER COMMISSION SANITARY SEWER FLOW
MONITORING**

NOW THEREFORE, the conditions of this obligation are such that if the Bid be accepted, the Principal shall, within fifteen days (15) days after receipt of conformed Contract Documents, execute a contract in accordance with the Bid upon the terms, conditions and prices set forth therein, and in the form and manner required by the JWSC and execute a sufficient and satisfactory Performance Bond and Payment bond payable to the JWSC, each in an amount of one hundred percent (100%) of the total contract price, in form and with security satisfactory to the JWSC, then this obligation shall be void; otherwise, it shall be and remain in full force and virtue in law; and the Surety shall, upon failure of the Principal to comply with any or all to the foregoing requirements within the time specified above, immediately pay to the aforesaid JWSC, upon demand, the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

This bond is given pursuant to and in accordance with the provisions of O.C.G.A. § 36-91-50 *et seq.*, as amended from time to time, and all the provisions of the law referring to this character of bond as set forth in said sections or as may be hereinafter enacted and these are hereby made a part hereof to the same extent as if set out herein in full.

(Continued on Next Page)

IN WITNESS WHEREOF, the said Principal has hereunder affixed its signature and said Surety has hereunto caused to be affixed its corporate signature and seal, by its duly authorized officers, on

This the _____ day of _____, 2017.

PRINCIPAL: _____

Signed and sealed in the Presence of: By: _____

Title: _____
(Seal)

1. _____

2. _____

SURETY: _____

Signed and sealed in the Presence of: By: _____

Title: _____
(Seal)

1. _____

2. _____

PERFORMANCE BOND

State of Georgia
City of Brunswick
County of Glynn

KNOW ALL MEN BY THESE PRESENT, that we _____

_____, as Principal, and _____

_____, as Surety, do hereby acknowledge ourselves indebted and firmly bound and held unto the Brunswick-Glynn County Joint Water and Sewer Commission (JWSC), for the use and benefit of those entitled thereto in the not to exceed sum of

_____ \$ (_____)

for the payment of which will and truly to be made, in lawful money of the United States, we do hereby bind ourselves, successors, assigns, heirs, and personal representatives.

BUT THE CONDITION OF THE FOREGOING OBLIGATION OR BOND IS THIS:

WHEREAS, the JWSC has engaged the said Contractor for the not to exceed sum of _____ \$ (_____)

for the **BRUNSWICK-GLYNN JOINT WATER & SEWER COMMISSION SANITARY SEWER FLOW MONITORING** as more fully appears in a written Agreement bearing the same project title, a copy of which Agreement is by reference hereby made a part thereof.

NOW, THEREFORE, if a said Contractor shall fully and faithfully perform all the undertakings and obligations under the said agreement or contract herein before referred to and shall fully indemnify and save harmless the JWSC from all costs and damage whatsoever which it may suffer by reason of any failure on the part of said Contractor to do so, and shall fully reimburse and repay the JWSC such default, and shall guarantee all products and workmanship against defects for a period of one year, then this obligation or bond shall be null and void, otherwise, it shall remain in full force and effect.

And for value received it is hereby stipulated and agreed that no change, extension of time, alteration or addition to the terms of the said Agreement or Contract or in the work to be performed there under, or the Specifications accompanying the same shall in any way affect the obligations under this obligation or bond, and notice is hereby waived of any such damage, extension of time, alteration or addition to the terms of the Agreement or Contract or to the work or to the Specifications.

This bond is given pursuant to and in accordance with the provisions of O.C.G.A. § 36-91-1 *et seq.* and all the provisions of the law referring to this character of bond as set forth in said sections or as may be hereinafter enacted, and these are hereby made a part hereof to the same extent as if set out herein in full.

IN WITNESS WHEREOF, the said Principal has hereunder affixed its signature and said Surety has

hereunto caused to be affixed its corporate signature and seal, by its duly authorized officers, on

This the _____ day of _____, 2017, executed in two (2) counterparts.

PRINCIPAL: _____

By: _____

Title: _____

(SEAL)

Signed and Sealed in the Presence of:

1. _____

2. _____

SURETY: _____

By: _____

Title: _____

(SEAL)

Signed and Sealed in the Presence of:

1. _____

2. _____

PAYMENT BOND

State of Georgia
City of Brunswick
County of Glynn

KNOW ALL MEN BY THESE PRESENT, that we _____

_____, as Principal, and _____

_____, as Surety, do hereby acknowledge ourselves indebted and firmly bound and held unto the Brunswick-Glynn County Joint Water and Sewer Commission (JWSC), for the use and benefit of those entitled thereto in the not to exceed the sum of _____

_____ \$ (_____)

for the payment of which will and truly to be made, in lawful money of the United States, we do hereby bind ourselves, successors, assigns, heirs, and personal representatives.

BUT THE CONDITION OF THE FOREGOING OBLIGATION OR BOND IS THIS:

WHEREAS, the JWSC has engaged the said Contractor for the not to exceed sum of _____ \$ (_____)

For the **BRUNSWICK-GLYNN JOINT WATER & SEWER COMMISSION SANITARY SEWER FLOW MONITORING** as more fully appears in a written Agreement bearing the same project title, a copy of which Agreement is by reference hereby made a part thereof.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if said Contractor and all subcontractors to whom any portion of the work provided for in said Contract is sublet and all assignees of said Contract and of such subcontractors shall promptly make payments to all persons supplying him or them with labor, products, services, or supplies for or in the prosecution of the work provided for in such Contract, or in any amendment or extension of or addition to said Contract, and for the payment of reasonable attorney's fees, incurred by the claimants in suits on this bond, then the above obligation shall be void; otherwise, it shall remain in full force and effect.

HOWEVER, this bond is subject to the following conditions and limitations:

- (a) Any person, firm or corporation that has furnished labor, products, or supplies for or in the prosecution of the work provided for in said Contract shall have a direct right of action against the Contractor and Surety on this bond, which right of action shall be asserted in a proceeding, instituted in the county in which the work provided for in said Contract to be performed or in any county in which Contractor or Surety does business. Such right of action shall be asserted in proceedings instituted in the name of the claimant or claimants for his or their use and benefit against said Contractor and Surety or either of them (but not later than one year after the final settlement of said Contract) in which action such claim or claims shall be adjudicated and judgment rendered thereon.
- (b) The Principal and Surety hereby designate and appoint _____ as agent of each of them to receive and accept service of process or other _____

pleading issue or filed in any proceeding instituted on this bond and hereby consent that such service shall be the same as personal service on the Contractor and/or Surety.

- (c) In no event shall the Surety be liable for a greater sum than the penalty of this bond, or subject to any suit, action or proceeding thereon that is instituted later than one year after the final settlement of said Contract.
- (d) This bond is given pursuant to and in accordance with the provisions of O.C.G.A. § 36-91-1 *et seq.* and all the provisions of the law referring to this character of bond as set forth in said sections or as may be hereinafter enacted, and these are hereby made a part hereof to the same extent as if set out herein in full.

IN WITNESS WHEREOF, the said Principal has hereunder affixed its signature and said Surety has hereunto caused to be affixed its corporate signature and seal, by its duly authorized officers, on

This the _____ day of _____, 2017, executed in two (2) counterparts.

PRINCIPAL: _____

By: _____

Title: _____

(SEAL)

Signed and Sealed in the Presence of:

1. _____

2. _____

SURETY: _____

By: _____

Title: _____

(SEAL)

Signed and Sealed in the Presence of:

1. _____

2. _____

PART D - AFFIDAVIT OF PAYMENT OF CLAIMS
(Submitted with Final Invoice)

_____ this the ____ day of _____, 2017,

appeared before me, _____, a Notary Public, in and for

_____, and being by me first duly sworn states that all subcontractors and suppliers of labor and materials have been paid all sums due them to date for work performed or material furnished in the performance of the Contract between:

Brunswick-Glynn County Joint Water and Sewer Commission (JWSC) and ***To Be Named*** (Contractor), last signed _____ for the **BRUNSWICK-GLYNN JOINT WATER & SEWER COMMISSION SANITARY SEWER FLOW MONITORING**

CONTRACTOR

Company: _____

By: _____

Title: _____

(SEAL)

Sworn to and subscribed before me this the ____ day of _____, 2017.

NOTARY PUBLIC:

Name: _____

My Commission Expires: _____

(NOTARY SEAL)

Oath

**State of Georgia
City of Brunswick
County of Glynn**

I, _____ (name of individual), solemnly swear
that in the procurement of the contract for

**BRUNSWICK-GLYNN JOINT WATER & SEWER COMMISSION
SANITARY SEWER FLOW MONITORING**

that I, nor any other person associated with me or my business, corporation or partnership, has prevented or attempted to prevent competition in the bidding or Bids of said project or from submitting a bid for this project by any means whatever.

Lastly, I swear that neither I, nor any other person associated with me or my business, Corporation or partnership has caused or induced any other bidder to withdraw his/her bid from consideration for this project. Said oath is filed in accordance with the requirements set forth in O.C.G.A. § 36-91-21 (e).

This the _____ day of _____ 2017.

Name of Party: _____

Corporate or Partnership Name: _____

Sworn to and subscribed before me this the ____ day of _____ 2017.

NOTARY PUBLIC:

Name: _____

My Commission Expires: _____

(SEAL)

E-VERIFY CONTRACTOR AFFIDAVIT AND AGREEMENT

Georgia Security Immigration and Compliance (GSIC) Act

The Brunswick-Glynn County Joint Water and Sewer Commission and Contractor agree that compliance with the requirements of O.C.G.A. § 13-10-91 and Rule 300-10-1-.02 of the Rules of the Georgia Department of Labor are conditions of this Agreement for the physical performance of services.

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, *stating affirmatively that the individual, firm, or corporation which is contracting with the Brunswick-Glynn County Joint Water and Sewer Commission has registered with and is participating in the federal work authorization program known as: "E-Verify", web address <https://e-verify.uscis.gov/enroll/> operated by the United States Citizenship and Immigration Services Bureau of the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603], in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91.* The undersigned Contractor also verifies that he/she/it is using and will continue to use the federal work authorization program throughout the contract period.

The undersigned Contractor agrees that, should it employ or contract with any subcontractor(s) in connection with the physical performance of services pursuant to the contract with the Brunswick-Glynn County Joint Water and Sewer Commission, Contractor will secure from each subcontractor(s) similar verification of compliance with O.C.G.A. § 13-10-91 on the Subcontractor Affidavit provided in Rule 300-10-01-.08 or a substantially similar form. Contractor further agrees the Contractor will advise the Brunswick-Glynn County Joint Water and Sewer Commission of the hiring of a new subcontractor and will provide the Brunswick-Glynn County Joint Water and Sewer Commission with a Subcontractor Affidavit attesting to the Subcontractor's name, address, user identification number, and date of authorization to use the Federal Work Authorization Program within five (5) days of the hiring before the Subcontractor begins working on the Project. Contractor also agrees to maintain all records of such compliance for inspection by the Brunswick-Glynn County Joint Water and Sewer Commission at any time and to provide a copy of each such verification to the Brunswick-Glynn County Joint Water and Sewer Commission at the time the subcontractor(s) is retained to perform such services.

(Continued on Next Page)

E-Verify Employment Eligibility Verification User I.D. Number

Date of Authorization to Use Federal Work Authorization Program

Name of Contractor

Title of Authorized Officer or Agent of Contractor

Signature and Printed Name of Authorized Officer or Agent

Sworn to and subscribed before me this the ____ day of _____, 2017.

NOTARY PUBLIC:

Name: _____

My Commission Expires: _____

(NOTARY SEAL)

As of the effective date of O.C.G.A. § 13-10-91, the applicable federal work authorization program is the "EEV/Basic Pilot Program" operated by the U.S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA).

PART H - E-VERIFY SUBCONTRACTOR AFFIDAVIT AND AGREEMENT

Georgia Security Immigration and Compliance (GSIC) Act

The Brunswick-Glynn County Joint Water and Sewer Commission and Subcontractor agree that compliance with the requirements of O.C.G.A. § 13-10-91 and Rule 300-10-1-.02 of the Rules of the Georgia Department of Labor are conditions of this Agreement for the physical performance of services.

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. § 13-10-91, *stating affirmatively that the individual, firm, or corporation which is contracting with a Contractor contracting with the Brunswick-Glynn County Joint Water and Sewer Commission has registered with and is participating in the federal work authorization program known as: E-Verify”, web address <https://e-verify.uscis.gov/enroll/> operated by the United States Citizenship and Immigration Services Bureau of the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603], in accordance with the applicable provisions and deadlines established in O.C.G.A. §13-10-91. The undersigned Subcontractor also verifies that he/she/it is using and will continue to use the federal work authorization program throughout the contract period.*

The undersigned Subcontractor agrees that, should it employ or contract with any other subcontractor(s) in connection with the physical performance of services pursuant to the contract with the Brunswick-Glynn County Joint Water and Sewer Commission, Subcontractor will secure from such subcontractor(s) similar verification of compliance with O.C.G.A. § 13-10-91 on the Subcontractor Affidavit provided in Rule 300-10-01-.08 or a substantially similar form. Subcontractor further agrees the Subcontractor will advise the Brunswick-Glynn County Joint Water and Sewer Commission of the hiring of a new subcontractor and will provide the Brunswick-Glynn County Joint Water and Sewer Commission with a Subcontractor Affidavit attesting to the Subcontractor's name, address, user identification number, and date of authorization to use the Federal Work Authorization Program within five (5) days of the hiring before the Subcontractor begins working on the Project. Subcontractor also agrees to maintain all records of such compliance for inspection by the Brunswick-Glynn County Joint Water and Sewer Commission at any time and to provide a copy of each such verification to the Brunswick-Glynn County Joint Water and Sewer Commission at the time the subcontractor(s) is retained to perform such services.

(Continued on Next Page)

E-Verify Employment Eligibility Verification User I.D. Number

Date of Authorization to Use Federal Work Authorization Program

Name of Subcontractor

Title of Authorized Officer or Agent of Subcontractor

Signature and Printed Name of Authorized Officer or Agent

Sworn to and subscribed before me this the ____ day of _____, 2017.

NOTARY PUBLIC:

Name:

My Commission Expires:

(NOTARY SEAL)

As of the effective date of O.C.G.A. § 13-10-91, the applicable federal work authorization program is the "EEV/Basic Pilot Program" operated by the U.S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA).

PART F – CERTIFICATE OF DRUG FREE WORKPLACE

In order to have a drug- free workplace, a business shall:

Publish a statement notifying employees that the unlawful, manufacture, distribution, dispensing, possession, or use of controlled substances is prohibited in the workplace and specifying the actions that shall be taken against employees for violation of such prohibition.

Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

As a condition of working on the commodities or contractual services then under bid, the employee shall notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of any controlled substance law of the United States or any State, for a violation occurring in the workplace no later than five (5) days after such conviction.

Impose a sanction on, or require satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.

Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.

Company Name:

Authorized Signature:

Title:

Date:

REPRESENTATION

EQUAL EMPLOYMENT OPPORTUNITY (EEO) PRACTICE:

EEO Plan: The successful Bidder will develop and implement an EEO policy that, as a minimum, will recruit, hire, train, and promote, at all levels, without regard to race, color, religion, national origin, sex, or age, except where sex or age is a bona fide occupational qualification.

EEO For Veterans/Handicapped: The successful Bidder will also provide equal employment opportunities for qualified disabled veterans, handicapped persons and veterans of the Vietnam Era.

EEO For Successful Bidder Programs: The successful Bidder, will ensure equal employment opportunity applies to all terms and conditions of employment, personnel actions, and successful Bidder-sponsored programs. Every effort shall be made to ensure that employment decisions, programs and personnel actions are non-discriminatory. That these decisions are administered on the basis of an evaluation of an employee's eligibility, performance, ability, skill and experience.

EEO Acquisitions: The successful Bidder will develop and implement a policy that will give equal opportunity to the purchase of various goods and services from small businesses and minority-owned businesses.

a. Does the Bidder have the above EEO policy in place?

☐ Yes

☐ No

b. If the answer to a. above is no, will the Bidder have such a policy in place for the project?

☐ Yes

☐ No

Statement of Assurance: The Bidder herein assures the JWSC that it is in compliance with Title VI & VII of the 1964 Civil Rights Act, as amended, in that it does not on the grounds of race, color, national origin, sex, age, disability, or veteran status, discriminate in any form or manner against employees or employers or applicants for employment and is in full compliance with A.D.A.

(Firm's Name)

(Authorized Signature)

(Title)

(Date)

LEGAL AND CHARACTER QUALIFICATIONS

Convictions: Has the Bidder (including parent corporation, if applicable) or any principal ever been convicted in a criminal proceeding (felonies or misdemeanors) in which any of the following offenses were charged?

	Yes	No		Yes	No
a. Fraud	[]	[]	h. Obstruction of justice (or any other misconduct affecting public or judicial officers' performance of their official duties)	[]	[]
b. Embezzlement	[]	[]	i. False/misleading advertising	[]	[]
c. Tax Evasion	[]	[]	j. Perjury	[]	[]
d. Bribery	[]	[]	k. Conspiracy to commit any of the Foregoing offenses	[]	[]
e. Extortion	[]	[]			
f. Jury Tampering	[]	[]			
g. Anti-Trust Violations	[]	[]			

Civil Proceedings: Has the Bidder or any principal ever been a party, or is now a party, to a civil proceeding in which it was held liable for any of the following?

	Yes	No		Yes	No
a. Unfair/anti-competitive business practices	[]	[]	c. Violations of securities laws (state & federal)	[]	[]
			d. False / misleading advertising	[]	[]
b. Consumer fraud misrepresentation	[]	[]	e. Violation of local Government ordinances	[]	[]

License Revocation: Has the Bidder or any principal ever had a business license revoked, suspended, or the renewal thereof denied, or is a party to such a proceeding that may result in same?

Yes [] No []

This image shows a blank sheet of white paper with horizontal black ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

AFFIDAVIT

This Bid is submitted to Brunswick-Glynn County Joint Water and Sewer Commission (JWSC) by the undersigned who is an authorized officer of the company and said company is licensed to do business in Georgia. Further, the undersigned is authorized to make these representations and certifies these representations are valid. The Bidder recognizes that all representations herein are binding on the Company and failure to adhere to any of these commitments, at the JWSC's option, may result in a revocation of the granted contract.

Consent is hereby given to the JWSC to contact any person or organization in order to make inquiries into legal, character, technical, financial, and other qualifications of the Bidder.

The Bidder understands that, at such time as the JWSC decides to review this Bid, additional information may be requested. Failure to supply any requested information within a reasonable time may result in the rejection of the Bid with no re-submittal rights.

The successful Bidder understands that the JWSC, after considering the legal, financial, technical, and character qualifications of the Bidder, as well as what in the JWSC's judgment may best serve the interest of its rate payers and employees, may grant a contract.

The successful Bidder understands that this bid is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a bid for the same, and is in all respects fair and without collusion or fraud. I understand that collusive bidding is a violation of state and federal law and can result in fines, prison sentences, and civil damage awards.

Any contract issued will be on the basis of the Bidder's service, financial plans and arrangements being feasible and adequate to fulfill the conditions set forth in this project and the successful Bidder's response.

Company Name: _____

Authorized Person: _____ Signature: _____

(Print/Type)

Title: _____ Date: _____

Address: _____

Telephone: _____ Fax: _____ Email: _____



Brunswick-Glynn County Joint Water and Sewer Commission

1703 Gloucester Street
Brunswick, Georgia 31520
(912) 261-7100

INSURANCE REQUIREMENTS

The description section of your insurance certificate must read:

***BGJWSC is named as an additional insured on all coverage except Workers' Compensation as per written contract.
A waiver of Subrogation applies to all policies shown above as per written contract.***

6 Insurance Requirements

Before starting and until acceptance of the Work by BGJWSC, and without further limiting its liability under the Contract, Company shall procure and maintain at its sole expense, insurance of the types and in the minimum amounts stated below:

SCHEDULE

AMOUNT

Workers' Compensation

Georgia Statutory coverage
and Employer's Liability (including
appropriate Federal Acts)

Statutory Limits (Workers' Compensation)
\$500,000 Bodily Injury each accident
\$500,000 Bodily Injury by Disease each Employee
\$1,000,000 Bodily Injury policy limit

Commercial General Liability

Premises-Operations
Products-Completed Operations
Contractual Liability
Independent Contractors
Broad Form Property Damage
Explosion, Collapse and Underground
Hazards (XCU Coverage) as appropriate
Primary and Non Contributory

\$1,000,000 each occurrence
\$2,000,000 annual aggregate for bodily injury
and property damage, combined single limit

Automobile Liability

All autos-owned, hired,
or non-owned

\$1,000,000 each occurrence, combined single limit

Excess or Umbrella Liability

**(This is additional coverage and limits
above the following primary insurance:
Employer's Liability, Commercial General
Liability and Automobile Liability)**

\$2,000,000 each occurrence and annual aggregate

Company's Commercial General Liability and Excess or Umbrella Liability policies shall be effective for two years after Work is complete. The above Indemnification provision is separate and is not limited by the type of insurance or insurance amounts stated above. The General liability shall contain a "Per Project Aggregate".

Company shall specify BGJWSC as an additional insured for all coverage except Workers' Compensation and Employer's Liability. Such insurance shall be primary and non-contributory as to any and all other insurance or self-insurance maintained by BGJWSC. Company shall include a Waiver of Subrogation on all required insurance in favor of BGJWSC, its commission members, employees, agents, successors and assigns.

Such insurance shall be written by a company or companies authorized to do business in the State of Georgia, rated at least A- VII by A M Best and satisfactory to BGJWSC. Prior to commencing any Work under this Contract, certificates evidencing the maintenance of the insurance shall be furnished to BGJWSC for approval.