BROKEN ARROW MUNICIPAL AUTHORITY
PROFESSIONAL SERVICES AGREEMENT
2025-2026 PERMANENT FLOW MONITORING
PROJECT NUMBER: 2654490

1. Professional Service Provider:

a. Name: RJN Group, INC.

b. Telephone No.: 918-627-9737

c. Address: 4500 S Garnett Rd. Ste. 110, Tulsa, OK 74146

2. Project Title and Location: 2025-2026 Permanent Flow Monitoring within Broken Arrow, OK.

3. Contract for: Providing professional flow monitoring services associated with public works projects for the Broken Arrow Municipal Authority. Professional services to include providing a yearly flow monitoring period at the agreed upon locations within the City of Broken Arrow's collection system and related support services. The Professional Service Provider shall perform all duties, responsibilities and requirements set out in Attachment A hereto. The Professional Service Provider agrees that this professional service shall be treated as an important service to the BAMA and also agrees to commit the time necessary to perform the professional services in a professional manner.

4. Compensation: Professional Service Provider shall be compensated at the hourly rate in accordance with attached hourly rate schedule and the total compensation under this contract is Not to Exceed One Hundred Four Thousand Eight Hundred Eighty and No/100 ($104,880.00) for the entire Scope of the Professional Services rendered. The parties agree that the Professional Service Provider's position is not a traditional BAMA employee position; therefore, the foregoing constitutes all the benefits and other forms of compensation due the Professional Service Provider, acting in the role of an independent contractor, and therefore ineligible for all other benefits paid to regular full-time BAMA employees. The Professional Service Provider shall be responsible for his own vehicle expenses and any other indirect costs incurred in fulfilling the stated contract requirements. The Professional Service Provider agrees to abide by and comply with all of the BAMA's Administrative Policies.

5. Invoicing and Payment: The Professional Service Provider shall submit invoices requesting payment for services rendered to the BAMA monthly in accordance with actual progress of the work on each work item. The invoices shall be in a format satisfactory to the BAMA. Payment will be made within 30 days following the first eligible BAMA meeting occurring after the date on the invoice.

6. Time for Performance: These duties, responsibilities and requirements shall begin upon the execution of this Contract and shall be completed within Three hundred Eighty (380) calendar days after the date the Notice to Proceed is issued. The BAMA will issue a Notice to Proceed for each item of work identified under this agreement, following mutual agreement between the

Professional Service Provider and the BAMA on the hours required for the work item.

7. Insurance: The Professional Service Provider shall acquire all insurance policies required for professional liability insurance, general liability, auto insurance, workers' compensation and/or health insurance. The Professional Service Provider shall provide proof of general liability and professional liability insurance coverage to the BAMA on or before the effective date of this Agreement.

During the performance of the services under this Professional Services Contract, the Professional Service Provider shall maintain the insurance coverage required below and the BAMA shall be named as an Additional Insured on each required policy:

(1) General Liability Insurance, with a combined single limit of $1,000,000 for each occurrence and $1,000,000 in the aggregate;

(2) Automobile Liability Insurance, with a combined single limit of not less than $1,000,000 for each person, not less than $1,000,000 for each accident and not less than $1,000,000 for property damage; and

(3) Professional Liability Insurance, with a limit of $1,000,000 annual aggregate.

8. Indemnification: The Professional Services Provider agrees to defend, indemnify, and hold harmless the BAMA, and its agents and employees, from and against legal liability for all claims, losses, damages, and expenses to the extent such claims, losses, damages, or expenses are caused by the negligent or intentional acts, errors, or omissions of The Professional Services Provider, its agents or employees.

9. Immigration Compliance: The Professional Service Provider shall comply in all respects with all immigration-related laws, statutes, ordinances and regulations including without limitation, the Immigration and Nationality Act, as amended, the Immigration Reform and Control Act of 1986, as amended, and the Oklahoma Taxpayer and Citizen Protection Act of 2007 (Oklahoma HB 1804) and any successor laws, ordinances or regulations (collectively, the Immigration Laws").

10. Governing Documents: The parties agree to perform this contract in strict accordance with the clauses, provisions, and the documents identified as follows, all of which are made part of this contract. In the event of conflict, these documents shall be interpreted in the following order:

a. This Contract
b. Attachment A to this Contract
c. Duly Authorized Amendments arising out of this Contract

11. Electronic Signatures:

The Parties agree this transaction may be completed by electronic means and an electronic signature on this Contract will be given the same legal effect as a handwritten signature and cannot be denied enforceability solely because is it in electronic form. If the Professional Services

Provider signs this Contract electronically and/or submits documents electronically, the Professional Services Provider agrees to comply with the BAMA's requirements for submission of electronically signed and/or submitted documents.

12. Governing Law: This agreement shall be governed by the laws of the State of Oklahoma and venue for any action concerning this Agreement shall be in the District Court of Tulsa County, Oklahoma.

13. Entirety of Agreement: The foregoing Professional Services Contract supersedes all previous negotiations and may not be modified except by a written order executed by the parties hereto.

14. Effective Date: This Contract is effective shall be effective upon signature of both parties.

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IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed by their duly authorized officers or representatives on the dates set forth below.

Broken Arrow Municipal Authority:

By: ______________________________

Michael Spurgeon, General Manager

Date: ______________________________

Attest:

____

Secretary [Seal]

Date: ______________________________

Approved as to form:

D. Graham Parker

Assistant City Attorney

Professional Service Provider:
RJN Group, INC.

By: Randall J Brodner

Title: Vice President

Date: June 26, 2025

Attest:
By: Jared Burgh

Title: Project Manager

Date: June 26, 2025

VERIFICATIONS

State of Oklahoma)
) §
County of Tulsa)

Before me, a Notary Public, on this 26th day of June 2025, personally appeared Randall J. Brodner, known to me to be the (President, Vice-President, Corporate Officer, Member, Partner or Other: ______________ (Please circle or specify) of RJN Group, INC. to be the identical person who executed the within and foregoing instrument, and acknowledged to me that s/he executed the same as his/her free and voluntary act and deed for the uses and purposes therein set forth.

AMY GENTRY
Notary Public - State of Oklahoma
Commission Number 16000355
My Commission Expires Jan 12, 2028

Amy Gentry
Notary Public

BROKEN ARROW MUNICIPAL AUTHORITY
PROFESSIONAL SERVICES AGREEMENT
2025-2026 PERMANENT FLOW MONITORING
PROJECT NUMBER: 2654490

ATTACHMENT A

SP - 1.0 SCOPE OF THE PROJECT:

1.1. Providing Professional Surveying and Related Support Services associated with providing a year flow monitoring period at the agreed upon locations within The City of Broken Arrow's collection system. Services performed under the contract shall be performed on a not to exceed contract as requested by the BAMA.

SP- 2.0 SERVICES OF THE BAMA: THE BAMA WILL:

2.1. Furnish to Professional Service Provider all data in its possession and needed engineering guidance as necessary for the service provider to complete the contract requirements.

2.2. Designate in writing a person to act as its representative in respect to the work to be performed under this agreement. Such person shall have complete authority to transmit instructions, receive information, interpret and define the BAMA's policies and decisions with respect to materials, equipment, elements and systems pertinent to the services covered by this agreement.

SP - 3.0 SCOPE OF SERVICES: THE PROFESSIONAL SERVICE PROVIDER SHALL:

3.1 The Professional Service Provider shall provide a yearly Flow Monitoring Evaluation at the agreed upon locations by RJN Group and BAMA. Professional services shall also include: services outlined in Attachment B (RJN 2025-2026 Flow Monitoring Proposal), Flow Monitoring support services provided by RJN Group with RJN Flow Monitoring Equipment at agreed upon locations within the City of Broken Arrow's collection system and a Flow Data Report with a summary of all findings and data collected in the evaluation of the selected locations.

3.2 Work will be a not to exceed contract all costs associated with the performance of the work, including any support and supervision cost required from the Professional Service Provider.

[END OF ATTACHMENT A]

ATTACHMENT B

June 4, 2025

Mr. Tim Robins, P.E.
City of Broken Arrow
485 N. Poplar Ave.
Broken Arrow, OK 74013

Subject: 2025-2026 Permanent Flow Monitoring

Dear Mr. Robins,

RJN Group, Inc. is pleased to submit this contract proposal to the City of Broken Arrow for the above-referenced project. RJN Group shall provide sanitary sewer flow monitoring services and flow evaluation to the City of Broken Arrow. The primary goal of the project is to measure the flow in the City of Broken Arrow's sanitary sewer system.

RJN shall coordinate its activities with the City of Broken Arrow to ensure that operation and maintenance activities are coordinated and that selected flow monitoring locations are appropriate for the evaluation. A total of six (6) flow meters and two (2) tipping bucket rain gauges are anticipated.

The work shall include the following activities:

A. Mobilization & Project Management

1. **Project Team –** RJN's project team shall include:
   a. A **Project Manager** to coordinate the Consultant's activities with the City of Broken Arrow, including monthly progress meetings.
   b. A **Data Manager** to direct the processing, finalization, and reporting of data.
   c. A **Field Manager** to supervise the installation and maintenance of the flow monitoring equipment utilizing equipment manufacturer's procedures.
   d. **Field Crews** and **Data Technicians** trained in the proper installation, operation, and maintenance of the equipment and in the tasks associated with this project.

2. **Safety Equipment - RJN** shall ensure that all personnel are certified in confined space entry. RJN shall provide the required and necessary confined space access safety equipment, and the traffic control devices necessary to meet Federal, State and Local requirements.

B. Flow Meter Site Selection and Installation

1. **Site Selection** – The City of Broken Arrow has selected existing manholes as the proposed monitoring sites.
   a. LL-01 – Manhole 4131
   b. LL-03 – Manhole 2393
   c. LL-06 – Manhole 3434
   d. LL-08 – Manhole 3331
   e. LL-12 – Manhole 406
   f. LL-18 – Manhole 436

2. **Site Investigations –** The proposed flow monitoring locations currently have temporary flow meters installed as part of an ongoing temporary project. RJN has verified these sites by conducting a thorough site investigation, which included descending into the manhole, verifying hydraulic suitability, pump station operation, and other pertinent factors that influence the site. Traffic and other accessibility conditions shall also be evaluated during site investigations. The hydraulic conditions at each site, including flow depth and velocity, shall be evaluated and shall dictate the metering equipment selection and optimal sensor placement.

3. If a flow meter must be relocated due to various reasons, RJN shall coordinate with City of Broken Arrow of the proposed location. If the proposed location is identified as being unsuitable, RJN shall coordinate with the City of Broken Arrow and investigate up to two (2) alternate sites (upstream or downstream) for consideration. RJN shall also check for debris and other operational or maintenance concerns in the manhole that could impact data quality, including sensor fouling, surcharging, and excessive siltation.

   A City of Broken Arrow representative shall be available at request of RJN field crews to aid in locating and/or accessing meter sites, including providing necessary traffic control measures.

4. **Flow Meter Installation** – Flow meters shall be installed in accordance with manufacturer recommendations at the flow metering site approved by the City of Broken Arrow. RJN shall use area-velocity flow meters designed to measure flow in sanitary sewer pipes under free-flow and surcharged conditions. The primary depth sensor shall be ultrasonic with a resolution to the nearest 0.01 foot. The meter shall have level measurement redundancy in the form of a pressure sensor. The primary velocity sensor shall use Doppler technology to measure the flow velocity. The sensors shall be securely attached to the pipe by means of metal bands or anchoring hardware designed specifically for that purpose. Based on the results of the site investigations, RJN shall select the equipment that is best suited for the application in order to provide accurate and reliable flow data. Metering equipment shall be laboratory tested prior to deployment on the project. The proposed equipment allows RJN technicians to view data collected by the meter and to perform on-site comparison testing and calibration to measured flows. All on-site calibrations shall be documented as part of the initial meter set-up documentation.

   Finalized Installation Site Reports shall be submitted to the City of Broken Arrow after equipment installation. Finalized Installation Site Reports shall include but not be limited to the following:

   - Flow meter site location and method of measurement (equipment installed)
   - Velocity and depth sensor locations on pipe (clock position, distance to pipe invert)
   - Sediment depth, if any
   - Monitor level and independently measured level (flow depth)
   - Monitor flow velocity and independently measured velocity
   - On-site adjustments made to calibrate flow meter to in-situ conditions per equipment manufacturer recommendations
   - Map indicating site location
   - Photograph of site location at surface
   - Photograph of installed equipment

5. **Rainfall Measurement –** RJN shall prepare a tipping bucket rain gauge for field installation and conduct a series of performance and calibration tests to verify

equipment meets operating standards. RJN shall inspect the proposed gauging locations to determine their suitability for installation of the equipment.

6. **Typical Installation -** A typical flow monitor installation shall include: the primary ultrasonic depth sensor mounted at the crown of the pipe, a redundant depth sensor mounted in the invert, and a Doppler primary velocity sensor also mounted in or near the invert. The meter (data logger) and sensor cables shall be firmly secured to the manhole walls and/or steps to allow ready access by field personnel and to minimize the chances for debris to get caught in the cables.

7. **Location and Equipment Owner Identification** – Manhole lids where meters are installed shall be painted green to alert maintenance crews and others to the presence of monitoring equipment. Installed equipment shall also be tagged with RJN contact information with a request to contact RJN prior to disturbing any of the installed equipment.

8. **Clocks and Equipment Sampling Rate -** All flow meters and rain level monitors shall be synchronized in time to the same clock. Flow meters shall be programmed to collect depth and velocity data at five-minute (5) minute intervals. Clocks shall be programmed to record data at CT minus 5 (central time) for the duration of the flow monitoring period. Adjustments for daylight savings shall not be made in the processed data submitted to the City of Broken Arrow and shall need to be accounted for by the user of the data, as necessary and appropriate.

9. **Initial Meter Confirmations / Hydraulic Calibrations -** Upon installation and activation of each flow meter, RJN field crews shall take manual depth and velocity readings using independent instrumentation to confirm that the in-situ monitor yields data representative of actual field conditions. Field crew(s) shall also take manual velocity readings of the cross-section (velocity profile) of flow to determine the pipe hydraulic profile (hydraulic calibrations). All hydraulic calibration measurements, adjustments, and efforts undertaken shall be logged on the Meter Installation Site Report specific to that installation.

C. Monitoring Program Start and Duration

1. **Monitoring Program Start** – The flow metering period shall start upon approval of this contract, as the temporary flow metering project is ongoing.

2. **Monitoring Period -** The monitoring period is estimated to be 365 days.

D. Monitor Maintenance and Data Collection

1. **Wireless Remote Data Collection -** RJN shall utilize a host software support application program for remote wireless flow meter and rain gauge data collection. The host software shall be capable of individually, by group or globally changing the data collection interval including collection after each measurement. The host software shall enforce clock synchronization with the host system's clock for all field RTUs, thus ensuring time interval integrity for all collected data. RJN shall install, operate, maintain, and remove the telemetry upon the completion of the monitoring period, and shall repair any disturbed areas resulting from the wireless telemetry installations.

2. **Data Transfer to Modeling Software –** At request, monthly flow data submittals shall be in .csv file format for use by the City of Broken Arrow and its hydraulic modeling consultants.

3. **Data Review -** RJN shall utilize trained data analysts experienced in processing and analyzing flow and rainfall data from sanitary sewer systems. RJN shall use various analytical tools, such as hydrographs, scattergraphs, and flow balancing methods to verify the accuracy of the flow data. Furthermore, RJN shall schedule the data collection activities in a manner to allow data review by a trained data analyst within 24 hours of the data collection or delivery from the field. All measurements, adjustments, and efforts undertaken during site visits shall be logged in an installation/maintenance log specific to that installation. Such logs shall be made available to the City of Broken Arrow at request.

4. **Equipment Operation and Maintenance (O&M) -** Qualified field crews shall visit each monitor installation as appropriate to perform maintenance on the equipment. Equipment maintenance requirements are expected to vary considerably depending on the site being monitored and site conditions. However, it is anticipated that each meter site shall be visited monthly or as

required for battery replacement and data retrieval purposes. All measurements, adjustments, and efforts undertaken during site visits shall be logged in a maintenance log specific to that site, which shall be available to the City of Broken Arrow upon request. The following activities shall be performed during each maintenance site visit:

- Record date, time, weather conditions
- Review monitor depth and velocity measurements
- Download depth and velocity measurements from monitoring equipment
- Take and record independent manual depth and velocity measurements
- Take and record depth-of-silt measurements, if any
- Record comparison to monitor depth and velocity measurement
- Adjust and document monitor depth and velocity measurement adjustment (if necessary)
- Clean / scrub flow velocity and depth sensors
- Check battery levels and replace as necessary
- Record equipment replacement or adjustments, if any

E. Meter Confirmation

1. **Permanent Meters -** In accordance with RJN procedures, RJN shall perform dry-weather, independent depth and velocity measurements during dry weather conditions periodically throughout the project duration. Furthermore, RJN shall assess meter performance relative to these measurements and make any adjustments as necessary to increase the accuracy of the data with respect to actual conditions. Such meter confirmations shall be evenly scheduled and performed a maximum of twelve (12) times during the 365-day flow monitoring period, including removal. All measurements, adjustments, and efforts undertaken during site visits shall be logged in an installation/maintenance log specific to that installation. Such logs shall be provided to the City of Broken Arrow upon request.

F. Equipment Removal

1. **Notification –** The City of Broken Arrow shall give RJN at least a 14-day written notice before the end of the flow monitoring period.

2. **Confirmation –** Prior to removing the equipment, RJN shall take manual depth and velocity readings using independent instrumentation to confirm that the in-

situ monitor yields data representative of actual field conditions. Field crew(s) shall also take manual velocity readings of the cross-section (velocity profile) of flow to determine the pipe hydraulic profile. All measurements, adjustments, and efforts undertaken shall be logged in the maintenance log specific to that installation.

3. **Site Restoration -** RJN shall remove all the flow meters at the completion of the flow-monitoring period and shall repair any damage or disturbance from the installation and operation of the flow meters or rain gauges.

G. Data Analysis & Reporting

1. **Flow Data Processing -** RJN shall provide data processing services for each flow-monitoring site for the entire duration of the flow-monitoring period. Data processing shall include a comprehensive review of collected data to identify data gaps, equipment service needs, as well as the conversion of raw flow data into final edited data. An experienced Data Analyst shall review the flow data to verify diurnal patterns and reasonable depths and velocities using data diagnostic tools such as hydrographs and scattergraphs. Rainfall derived infiltration and inflow (RDII) analysis is not included as part of the proposed services.

   An established RJN internal data quality control program shall be implemented to ensure reliability and accuracy of reported data. Quality assurance shall consist of periodic independent review of field data collection, data review, and data processing procedures.

2. **Flow Data Reporting -** RJN shall report flow evaluation and rainfall data to the City of Broken Arrow as follows:

   a) RJN shall provide a monthly summary of the flow data including a brief status of the monitoring results for each interceptor meter location along with interpretations of unique hydraulic conditions. The summary shall note any maintenance and service requirements in addition to any downtime that may have occurred.

   b) RJN shall prepare and deliver electronically on a monthly basis a summary (as described below) to the City of Broken Arrow.

c) The data shall include a summary of the daily total flow, monthly minimum, average, and maximum flow. Depth, velocity, and flow shall be represented in tabular and graphical formats. All monthly flow and data reports shall be delivered in electronic format to enable special reports to be generated by the City of Broken Arrow. Electronic data shall be created using the selected manufacturer's software. Electronic data shall be compatible with Microsoft Access and Excel.

d) RJN shall analyze data from each monitoring site for maintenance problems and predictive failure. Any modifications to the meter configuration or adjustments to the data based on field calibrations shall be logged. Data analysis shall include the evaluation of hydraulic conditions such as surcharging, suspected overflows at meter site, and wet weather contributions. Average dry weather (baseline) and peak wet weather flows shall be established for each monitoring location. The data shall be reviewed for trend analysis of inflow and infiltration (I/I) contributions, and significant capacity variations. Any significant variations from this baseline flow shall be included with the deliverable. Indications of concern shall be reported immediately.

3. **Flow Data Hosting Platform –** RJN shall incorporate and host all flow data collected by City of Broken Arrow-owned and maintained depth-only meters. The City of Broken Arrow shall request that ADS Environmental create an API Key and provide it to RJN. RJN will then utilize this to retrieve the data. The flow data collected by the permanent flow meters, depth-only meters, and rain Gauges shall be hosted on RJN's Clarity Platform. Logins shall be provided to the City of Broken Arrow.

4. **High-Level Alarms –** RJN shall work with the City of Broken Arrow to set high-level alarms at strategic locations. If these alarms are activated, an automated alert shall notify City of Broken Arrow personnel of the issue. The call-in intervals will be customized to suit the City of Broken Arrow's needs.

H. Compensation

1. **Compensation -** In consideration of the services to be performed under the 2025-2026 Permanent Flow Monitoring project, the compensation is as follows:

Phase	Quantity	Unit	Unit Price	Total
Monthly Service and Monthly Data Management				
Permanent Meters (12 mos. X 6 meters)	72	Meter/mos.	$1,375.00	$99,000.00
Rain Gauges (12 mos. X 2 rain gauges)	24	Gauge/mos.	$245.00	$5,880.00
			Total	$104,880.00

RJN appreciates the opportunity to submit this contract proposal to the City of Broken Arrow. We look forward to working with the City of Broken Arrow in the future. Should you have any questions, please contact us.

Respectfully Submitted,
RJN GROUP, INC.

Jacob Brumbaugh, P.E.
Project Manager

JB
Enclosure