AMENDMENT NO. 5

AMENDMENT TO AGREEMENT BETWEEN OWNER AND ENGINEER FOR ENGINEERING SERVICES

This Amendment is made a part of the Agreement dated August 28, 2007 between the Norman Utilities Authority (OWNER) and RJN Group, Inc. (ENGINEER) for engineering design and installation services in connection with the Permanent Wastewater Flow Monitoring Project.

1. The Scope of Services of ENGINEER and Compensation as described in Attachment A of said Agreement are amended and supplemented as follows:

Scope of Services - Service and Data Management Period
The management period will be extended for a one year period under this amendment from August 28, 2013 through August 27, 2014.

Compensation
The compensation for amended services rendered by ENGINEER shall be set forth in the compensation table (compensation table included in attachment A).

Acceptance of the terms of this Amendment is acknowledged by the following authorized signatures of the parties to the Agreement:

OWNER:	ENGINEER:
Norman Utilities Authority	RJN Group, Inc.
Signature	Signature:
Chairman Title	Vice President Title
Date of Signature	10/30/13 Date of Signature
ATTEST	ATTEST
Secretary	Notary

Seal

CHERYL D. TEAMES
MY COMMISSION EXPIRES
NOVEMBER 30, 2013

APPROVED as to form and legality this 15 day of November 2013

City Attorney

RJN FM Amendment 5-(10-2013).doc

ATTACHMENT A

SCOPE OF SERVICES

Project Initiation Period

Coordination

RJN shall review all information collected by the Norman Utilities Authority (NUA) to ensure a thorough understanding of the project background. A kick-off meeting with the NUA shall be conducted to develop a thorough understanding of the project, goals and to coordinate the routine and timely exchange of information.

Routine project team meetings shall be conducted with NUA representatives as necessary to review the project issues and status. RJN shall institute a safety program to be strictly followed throughout the entire duration of the project. All crews shall wear appropriate identification.

Site Investigation

RJN shall assist in selecting the specific monitoring points from a strategic and feasibility viewpoint. Site investigations shall involve the evaluation of the monitoring location to ensure sensor survivability and the ability to collect quality flow data. The investigation shall further include hydraulic evaluation for potential flow regimes including laminar, turbulent, backwater, and surcharged conditions.

The investigation shall also include evaluation and feasibility of site accessibility, telemetry, and power.

Equipment Selection

Based on the site selection investigation reports, the appropriate technologies shall be considered and evaluated to fulfill the project objectives. Equipment selection criteria shall consider the pipe size, anticipated flow ranges, telemetry method, operating principal, accuracy, data management requirements, and cost. A recommendation of the most practical technology for each site shall be provided to the NUA.

Installation Period

Flow Monitoring Equipment

RJN shall procure and deliver the monitoring equipment including sensors, installation bands, and necessary installation hardware. The NUA will be provided with a copy of the selected flow monitoring software. The NUA shall become the owner of the equipment and software at the time that Substantial Completion is reached.

The selected flow monitoring units shall be operated under battery power to allow for in-manhole installations without the necessity to bring permanent power to each site.

Expanded Memory – RJN shall procure the equipment with expanded memory to increase the data storage capabilities by four fold. This provides the opportunity for the flow monitoring equipment to continue to collect and store data in the event that telemetry is lost.

Installation

The equipment shall be installed according to the manufacturers recommendations by trained technicians. The flow monitors shall be capable of recording both depth and velocity components and shall be configured to obtain readings on 15 minute intervals.

The sensing equipment is typically installed on a thin metal ring for smaller pipe applications. For larger pipe installations over 42", the sensing equipment is generally installed on a flange or partial band. The cabling shall be secured to the manhole walls and attached to a data logger at the top of the manhole for easy access. Prior to leaving the site, each flow monitor shall be configured and activated at the site.

Each monitored location shall be calibrated at installation, which involves comparing the returned sensor values against independent devices. RJN staff shall acquire at least six calibrations at various flow levels.

Telemetry

RJN shall recommend the most viable telemetry means which may include cellular or standard voice grade service. For standard voice grade service, RJN shall coordinate with the local phone provider to establish permanent service at each location. Phone cable shall be provided to the data logger and routed to the telephone network termination point (NTP). Modems shall be provided to establish remote telemetry capabilities. Phone service costs may vary depending on the installation and conduit requirements. RJN shall notify the NUA in the event that any installation may exceed the allotted amount.

Service and Data Management Period

The contract shall be in effect for a period of 1 year. The OWNER may terminate the contract in the event funding becomes insufficient.

Data Collection

Each flow meter shall be remotely collected and the data reviewed on a weekly basis. During each download operation, data shall be graphed to check for inconsistencies, gaps or adverse trends. The data shall be edited, processed and finalized on a monthly basis to generate final Q (flow) in addition to the depth and velocity readings.

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 shall be initially reviewed for hydraulic conditions such as bottlenecks, surcharging, suspected overflows, and wet weather contributions. If requested, the data shall be reviewed on a monthly basis for trend analysis of I/I contributions, I/I reduction and significant capacity variations. Any significant variations from this baseline flow shall be reported to the OWNER. Indications of concern shall be reported immediately.

Equipment Maintenance and Service

Quarterly calibrations shall be performed by RJN and shall be reviewed against the measured sensor readings. On a quarter year interval, each site shall be visited to obtain hydraulic calibrations and to perform routine interrogation of the meters. Service or maintenance requirements shall be scheduled within 48 hours of data collection. RJN technicians shall then have 72 hours to make necessary adjustments or repairs. Any equipment found to be working improperly shall be repaired or replaced with a spare unit until the equipment is repaired. Field technicians shall maintain a service log for all activities performed.

RJN shall organize and maintain electronic records of the flow data. RJN shall further maintain a back-up record of all collected flow data. The data shall be made available to the NUA upon request.

RJN shall perform quarterly calibrations of the flow meter equipment. The calibration of the flow metering sites shall consist of comparing manual depth and velocity measurements to the flow meters measurements using independent devices.

RJN shall replace batteries during field visits according to the manufacturer's recommended battery replacement interval or as needed due to battery failure.

Monthly Deliverables

RJN shall provide a monthly summary of the flow data in the form of average flow for each site and total cost for billing purposes. The summary shall note any maintenance and service requirements in addition to any downtime that may have occurred.

The data shall include a monthly 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 if requested in electronic formats to enable special reports to be generated by the NUA. Hard copies may be provided upon request. Electronic data shall be created using the selected manufacturer's software. Electronic data shall be compatible with Adobe and/or Microsoft Access and Excel.

SCHEDULE

RJN shall mobilize within 14 days of receipt of the written Notice to Proceed. RJN shall perform operation and maintenance on the existing Permanent Monitoring Meters as needed and on quarterly basis. Upon request to install new meters RJN shall achieve Substantial Completion for the installation of the requested equipment within 60 days of the authorization by NUA to install the flow meters at the approved site locations. Upon receipt of Substantial Completion, the annual Service and Data Management Period shall commence on a site-by-site basis.

Limits of Responsibility

RJN shall not be responsible for any damages to the equipment caused by activities of others including, construction, vandalism, sewer cleaning, sewer maintenance, or utility trenching. The NUA shall not make any modifications or repair to the equipment without the prior consent of RJN. The NUA may authorize RJN to repair such damages on a time and material basis. RJN shall not be liable for any loss of data due to meter malfunction or causes beyond its control.

Payment of the monthly telephone and power utilities shall be the responsibility of the NUA, unless otherwise provided in the compensation table.

COMPENSATION

The NUA agrees to compensate RJN for these services based on the unit rate table below. Quantities under Services Upon NUA Request are estimated and may be adjusted by NUA. The total contract amount $161,780 shall not be exceeded unless authorized by NUA.

The NUA may request Additional Services that may not have been identified in the compensation table. The NUA may request a cost estimates from the Engineer for services that may include equipment repair or other flow monitoring related services for the NUA.

Description	Quantity	Unit Rate	Total
Quarter Service and Data Management			
OU Permanent Meters (12 mos. x 10 meters)	120 meter/mos.	$437 meter/mo.	$52,440.00
Norman Interceptor Meters (12 mos. x 6 meters)	72 meter/mos	$437 meter/mo.	$31,464.00
Additional Meters (12 mos. x 4 meters)	48 meter/mos	$437 meter/mo.	$20,976.00
Telemetry Cellular Billing (12 mos. x 10 Telem)[1/]	120 Telem/mos	$15 meter/mo.	$1,800.00
Subtotal			**$106,680.00**
Services Upon NUA Request – Additional Site Visits	**Units**	**Unit Rate**	**Total**
A. FM Equipment	2	$7,346.00/meter	$14,692.00
B. Equipment Installation or Relocation	2	$2,369.00/meter	$4,738.00
C. Telemetry Install (cellular)	1	$3,450.00/meter	$3,450.00
D. Mobilization (Relocate crews to Norman and maintenance) other than quarterly	12	$2,085.00/each	$25,020.00
E. Equipment Repairs[2/]	2/	2/	$7,200.00
Subtotal			**$55,100.00**
Total			**$161,780.00**

1/ Based on Verizon charges
2/ As needed per repair based on Manufacturer's invoice