

City Council Agenda Items
and
Contracts, Leases or Agreements

11/20/2012

City Council Meeting Date
Agenda Items Only

David Jurgens
Submitted By

Utilities Capital Projects
Division

Utilities
Department

Action Required:

Approval of Amendment Number 1 to the Engineering Services Agreement with RJN Group for \$160,957.58 to update the Wastewater Collection System Model and Master Plan.

\$ 160,958
Cost of this request

5400.5700.5314.00
Account Number

02017-2012
Project Number

\$ 4,097,341
Category / Project Budget

\$ 878,591
Funds Used to Date

\$ 3,218,750
Remaining Balance

Water & Sewer
Program Category / Project Name

Sanitary System Rehab
Program / Project Category Name

Water & Sewer
Fund Name

Budgeted Item

Budget Adjustment Attached

[Signature]
Department Director
30 Oct 12
Date

Previous Ordinance or Resolution # 108-12

[Signature]
City Attorney
10-31-12
Date

Original Contract Date: 5/15/2012

Original Contract Number: 2251

Paul a. Baker
Finance and Internal Services Director
11-1-2012
Date

Received in City Clerk's Office 10-31-12 A 11:24 RCVD
King

Ann Ma
Chief of Staff
11-7-12
Date

Received in Mayor's Office
ENTERED 11/16/12

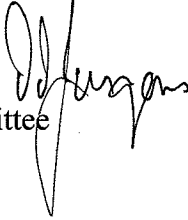
Donald Jordan
Mayor
11/8/12
Date

Comments:

To: Fayetteville City Council

Thru: Mayor Lioneld Jordan
Don Marr, Chief of Staff

From: David Jurgens, Utilities Director
Water/Sewer/Solid Waste Committee



Date: November 7, 2012

Subject: Amendment Number 1 to the Engineering Services Agreement with RJN Group for Wastewater Collection System Model and Master Plan

RECOMMENDATION

City Administration recommends approval of Amendment Number 1 to the Engineering Services Agreement with RJN Group for \$160,957.58 to update the Wastewater Collection System Model and Master Plan.

BACKGROUND

An accurate wastewater collection system model is critical to preventing future sanitary sewer overflows, identifying collection system capacity and infiltration/inflow problems before they result in sanitary sewer overflows (SSOs), and for planning collection system and wastewater treatment plant improvements. The last model, completed in 1996, established the capacity design criteria for all aspects of the \$187 million wastewater system improvement project. As a result, the City has virtually eliminated wet water SSOs. However, the collection system deteriorates with time, and the model has not been updated since we performed the WSIP work. As a result, the City awarded a \$499,595 contract to the RJN Group in May 2012, to update the model.

RJN installed flow monitors in the City's sewer collection system in late spring. The intent was to capture both spring season wet weather and dry summer flows in the collection system. Both are critical to obtaining an accurate model. Unfortunately, the drought had already set in, and there was not enough rain to develop wet weather flow information. The effort was not completely wasted as we did obtain excellent dry weather data. Thus, the model cannot be calibrated. We need at least three rains of greater than 1.5 inches of rainfall, occurring when the ground water table is normal and the ground is already wet.

DISCUSSION

This amendment provides installation and monitoring of sewer flow monitors intended to collect flows for a 60-day period for the City of Fayetteville to capture wet-weather related flows and collect sufficient dry and wet-weather flows for the City of West Fork. The City's existing permanent flow meters will be utilized during the project and will be serviced and calibrated by RJN on a regular basis. The City of Fayetteville's permanent meters will be supplemented by nineteen RJN owned temporary flow meters. In order to prepare for the possibility of receiving wastewater from West Fork, this amendment also includes provisions to install two additional flow meters in the West Fork wastewater collection system.

BUDGET IMPACT

Funds are available in project 02017.

RESOLUTION NO. _____

A RESOLUTION APPROVING AMENDMENT NO. 1 TO THE ENGINEERING SERVICES AGREEMENT WITH RJN GROUP, INC. IN THE AMOUNT OF \$160,957.58 TO UPDATE THE WASTEWATER COLLECTION SYSTEM MODEL AND MASTER PLAN

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1. That the City Council of the City of Fayetteville, Arkansas hereby approves Amendment No. 1 to the Engineering Services Agreement with RJN Group, Inc. in the amount of \$160,957.58 to update the wastewater collection system model and master plan.

PASSED and APPROVED this 20th day of November, 2012.

APPROVED:

ATTEST:

By: _____
LIONELD JORDAN, Mayor

By: _____
SONDRA E. SMITH, City Clerk/Treasurer

AMENDMENT NO. 1
TO
AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES
BETWEEN CITY OF FAYETTEVILLE, ARKANSAS
RJN GROUP, INC.

WHEREAS, On May 15, 2012, the City of Fayetteville, Arkansas (**City of Fayetteville**) and **RJN Group, Inc.** of Dallas, Texas entered into an Agreement for engineering services in connection with the Wastewater Collection System Master Plan Update Project. The scope of these services included flow monitoring to collect dry and wet weather flows, updating the existing Hydraulic Model and Analysis/Report.

WHEREAS, **RJN Group, Inc** has proceeded with these services in accordance with the scope set forth in the Agreement, and

WHEREAS, **City of Fayetteville** requests that the scope of **RJN Group, Inc.**'s services be amended to provide additional flow monitoring services to collect wet weather flows that were not obtained during the initial flow monitoring period due to severe drought conditions and to install, maintain and provide report for two (2) additional flow meters in the West Fork Collection System, and

WHEREAS, **RJN Group Inc** agrees to provide the amended scope of services for a fee increase not to exceed \$160,957.58;

NOW THEREFORE, in consideration of the mutual covenants and Agreements herein contained, **City of Fayetteville** and **RJN Group Inc.**, the parties hereto, stipulate and agree that the Agreement for Engineering Services dated May 15, 2012, is hereby amended in the following particulars:

SECTION 2 - BASIC SERVICES OF RJN GROUP INC

1. ADDITIONAL PROJECT ADMINISTRATION AND MANAGEMENT:

A. PROJECT ADMINISTRATION:

Meet with **City of Fayetteville** and **City of West Fork** staff on a periodic basis, to coordinate upcoming work, and to receive any input from staff. Written documentation of each meeting will be provided. A total of two meetings are anticipated.

Perform general consultation with appointed **City** representative on an as-needed basis. Provide general overview opportunities for **City** personnel for observing regularly scheduled flow meter installation and calibration activities.

Perform internal project control procedures for the additional period including schedule and budget control, and quality control review.

2. FLOW MONITORING

The flow monitoring program is intended to collect flows for a 60-day period for the **City of Fayetteville** and that sufficient dry and wet-weather flows will be collected for the **City of West Fork**. It is anticipated that sufficient wet-weather data will be collected during this time. Should sufficient data be collected prior to the end of the 60-day period, the flow monitoring activities will be ceased and the **City of Fayetteville** will only be invoiced for the actual number of days that the monitoring occurs. The **City's** existing permanent flow meter will be utilized during the project and will be serviced and calibrated by **RJN** on a regular basis. The **City of Fayetteville's** permanent meters will be supplemented by 19 **RJN** owned temporary flow meters. Two additional flow meters will be installed in the West Fork Wastewater Collection System.

A. METER INSTALLATION

Prepare flow metering equipment for field installation conducting a series of performance and calibration tests to verify equipment meets operating standards.

A sixty (60) day monitoring period is predicated on obtaining sufficient wet weather conditions that include at least four (4) storm events of varying rainfall intensities in order to adequately calibrate the hydraulic model. 19 **RJN** meters are assumed in the cost proposal for the Fayetteville Collection system and two for the West Fork Collection System.

B. METER MAINTENANCE

Maintain the temporary flow meters and **City's** Permanent Flow Meters over the monitoring period to achieve at least a 90% uptime requirement. Routine service visits shall be performed on a bi-weekly basis to include in-situ depth and velocity confirmations, downloading recorded data, onsite analysis of the data, cleaning of the sensors, and replacing any defective or deficient equipment. In the event telemetry is used, data shall be downloaded and evaluated on a weekly basis. Data shall be reviewed within 24 hours of collection and field technicians will be dispatched no later than the following working day to correct any issues identified. If any issues are noted with the **City's** permanent meters between **RJN's** regularly scheduled site visits, **RJN** will notify the **City** in order for their staff to service the meter(s).

C. METER REMOVAL (TEMPORARY METERS)

In the event the wet weather criteria have been met before the end of the scheduled monitoring period, recommend the removal of flow meters. If the criteria have not been observed during the scheduled monitoring period, advise **City of Fayetteville** and **City of West Fork** to consider extending the monitoring period.

D. RAINFALL MONITORING

Acquire access to the existing **City of Fayetteville** rain gauges and install up to ten (10) supplemental gauges with 0.01 inch accuracy to satisfy coverage requirements. Service rain gauges to obtain a continuous record of rainfall conditions during the monitoring period. One additional rain Gauge will be installed in the **City of West Fork**.

E. FLOW ANALYSIS AND REPORTS

- 1) Edit raw data and develop final calibrated flow data for flow meters.
- 2) Develop depth, velocity and quantity hydrographs for dry and wet- weather flow conditions.
- 3) Analyze flow data for sub-drainage basins and develop average daily dry weather flow diurnal curves and base flow peaking factors.
- 4) Determine peak inflow rate for selected rainfall events and determine corresponding rainfall intensity for areas tributary to all flow monitoring locations.
- 5) Determine peak infiltration rates during high groundwater conditions, if possible.
- 6) Prepare brief letter report for **City of West Fork** and submit to **City** staff.

SECTION 4 – PERIOD OF SERVICE

The completion date for all service included in the amended agreement shall extend until 5 months from the date that the additional flow monitoring is completed.

SECTION 5 - PAYMENTS TO RJN GROUP INC.

5.1 Compensation

The total payment for the scope of services set forth in the original Agreement plus the additional services set forth in this Amendment No. 1 is estimated to be **SIX HUNDRED SIXTY THOUSAND, FIVE HUNDRED FIFTY-TWO DOLLARS AND 58 CENTS (US\$660,552.58)**, but is not a guaranteed maximum.

5.1.1 Amount of Payment:

For services performed under this Amendment No. 1, **City of Fayetteville** shall pay RJN Group Inc. for the additional services in accordance with Attachment C-1:

5.1.2 Subject to prior City Council approval, adjustment of the not-to-exceed amount may be made should **RJN Group Inc.** establish and **City of Fayetteville** agree that there has been or is to be a significant change in scope, complexity or character of the services to be performed; or if **City of Fayetteville** decides to shorten the duration of work from the time period specified in the amended Agreement for completion of work and such modification warrants such adjustment.

5.1.3 Monthly statements for each calendar month shall be submitted to **City of Fayetteville** or such parties as **City of Fayetteville** may designate for these services consistent with **RJN Group Inc's** normal billing schedule. Once established, the billing schedule shall be maintained throughout the duration of the Project. Final payment for these services shall be made upon **City of Fayetteville's** approval and acceptance with the satisfactory completion of this phase for the Project.

All other provisions of the original Agreement remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed this ____ day of _____, 2012.

CITY OF FAYETTEVILLE, ARKANSAS

By: _____
Mayor

ATTEST:

By: _____
City Clerk

Hugh M. Kelso

By: Hugh M. Kelso

Title: Vice President

END OF AMENDMENT NO. 1 TO AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES

ATTACHMENT C-1 COMPENSATION

CITY OF FAYETTEVILLE MASTER PLAN UPDATE

In consideration of the services to be performed under this Agreement, RJN GROUP, INC. shall be paid as per the following compensation schedule:

TASK DESCRIPTION	Units	Unit Rate \$	Total Cost \$
<u>CITY OF FAYETTEVILLE</u>			
1. PROJECT ADMINISTRATION AND MANAGEMENT			
A. Project Administration	LS	10,567	10,567
SUBTOTAL			10,567
2. FLOW MONITORING			
A. Meter Installation	19 meters	679.68	12,914
B./C. Meter Maintenance / Removal (60 days)	2400 meter-days	31.87	76,495
D. Rainfall Monitoring	10 gauges	840.04	8,404
E. Flow Editing/Analysis / Report	LS	38,706	38,706
SUBTOTAL			136,519
TOTAL CITY OF FAYETTEVILLE			147,086
<u>CITY OF WEST FORK FLOW MONITORING</u>			
1. FLOW MONITORING			
A. Site Investigation/Selection	2 meters	444.95	889.90
B. Meter Installation	2 Meters	691.82	1,383.64
C./D. Meter Maintenance / Removal (60 days)	120 meter-days	64.65	7,758.00
E. Rainfall Monitoring	1 gauge	840.04	840.04
F. Data Analysis/Reporting	LS	3,000.00	3,000.00
TOTAL CITY OF WEST FORK			13,871.58
GRAND TOTAL			160,957.58

2.21 AIR RELIEF VALVES

- A. All water mains shall have 1"-2" single bodied air and or combination air and vacuum valves or 3"-10" dual bodied combination air and vacuum valve where indicated on the drawings. Valves shall have fiberglass reinforced nylon body or epoxy coated and lined cast iron bodies with stainless steel or non-metallic internal parts. Valve shall have rolling seal mechanism to allow full or partial opening and sealing of orifice or metal to metal stainless steel seating. The 1" – 2" valves float shall be made of foamed polypropylene and shall disrupt vortex and allow float to remain open until a 11 psi differential is achieved. Valves shall have a 250 psi working pressure. Valves shall be listed under NSF-61 and shall have ISO 9001 certificate. Valves shall be supplied with a male thread outlet or flanged outlet. All nipples and isolation valves for 1"-2" valves shall be brass or stainless steel. Ball style isolation valve shall be full port. Isolation valves for 3"-10" shall conform to Paragraph 2.12 – Gate Valves.
- B. Air release valves shall be A.R.I. Model D-040 for 1" and 2" or A.R.I. Model D-060-C HF NS for 3" – 10", or approved equal.

2.22 SERVICE SADDLES

- A. Service saddles for 1" and 2" NPT service taps shall be sized for use on C900 PVC. Service saddles shall be Romac 101NS.

2.23 TAPPING SLEEVES

- A. Tapping sleeves shall be designed for a minimum 200 psi working pressure and the material being tapped. All bolts and nuts shall be stainless steel.
1. Tapping sleeves for 4-inch through 24-inch shall be stainless steel. Tapping sleeves shall have a **MJ outlet**. Tapping sleeves shall be Smith-Blair 663 or Ford FAST.
 2. Tapping sleeves for greater than 24-inches shall be Smith-Blair 622 with Flexi-Coat epoxy. Tapping sleeves shall have a **MJ outlet**.

2.24 SERVICE CONNECTION MATERIALS

- A. Materials and standards for larger meters (3" and greater) are not listed in the standard specifications. Larger meter installations require a site specific design. Please contact the City of Fayetteville Meter Department if you require a meter size 3" or greater.
- B. Brass for meter materials shall be manufactured by Ford Meter Box Company, Inc. or Mueller Company. Equivalent cross referencing for corporation stops and meter setters shall be permitted as approved by the City of Fayetteville. Materials for standard meter sets 5/8", 1", 1-1/2", and 2" are as follows:

Single Meter Set

main diameter x 1" saddle	Romac 101NS
1" corporation stop	Ford FB1000-4-Q
	Mueller B-25008 ✓
1" SDR 9 HDPE pipe w/ inserts	
5/8" x 3/4" x 12" meter yolk	Ford VB72-12W-44-43-SQ
	Mueller B-2404R
	Mueller H-14227 end connection for 1" inlet
1/2" x 16" SCH 40 PVC brace	
3/4" SDR 9 tail piece w/ insert, 4' long	
18" diameter x 24" deep SDR51 PVC meter box	
18" cast iron flat meter lid	East Jordan 109, w/ Fayetteville logo (35109014)

Double Meter Set

main diameter x 1" saddle	Romac 101NS
1" corporation stop	Ford FB1000-4-Q
	Mueller B-25008 ✓
1" SDR 9 HDPE pipe w/ inserts	
1" U branch x 3/4"	Ford U48-43-7.5-Q
	Ford multipurpose end C31-23 (x2)
	Mueller H-15363 (1" compression inlet)
	Mueller end connection XXXX (x2)
5/8" x 3/4" x 12" meter yolk x 2	Ford VB72-12W-14-33-Q
	Mueller B 2404R
	Mueller H-14227 end connection for 3/4" inlet
1/2" x 16" SCH"40 PVC brace	
3/4" SDR 9 tail piece w/ insert, 4' long	
18" diameter x 24" deep SDR51 PVC meter box	
18" cast iron flat meter lid	East Jordan 109, w/ Fayetteville logo (35109014)

1-inch Meter Set

main diameter x 1" saddle	Romac 101NS
1" corporation stop	Ford FB1000-4-Q Mueller B-25008 ✓
1" SDR9 HDPE pipe w/ inserts	
1" x 12" meter yolk	Ford VB74-12W-44-44-Q Mueller B-24701R - verify
3/4" x 16" SCH40 PVC brace	
1" SDR 9 tail piece w/ insert, 4' long	
24" diameter x 24" deep SDR51 PVC meter box	
24" cast iron flat meter lid	East Jordan 111, w/ Fayetteville logo (35108004)

1-1/2 inch and 2-inch Meter Set

main diameter x 2" saddle	Romac 101NS
2" brass close nipple	
2" ball valve	Ford B11-777 James Jones J1900
2" MIP x quick joint	Ford C84-77-Q
2" SDR HDPE pipe w/ inserts	
2" MIP x quick joint	Ford C84-77-Q
2" meter setter	Ford VVB77-15HB-11-77
1" x 24" SCH40 PVC brace (x2)	
24" brass nipple tail piece	
36" diameter x 36" deep composite meter box w/ top ring	East Jordan 8428 Assembly (38003636A01)
28" outer cover, w/ lock	East Jordan 8428E, w/ Fayetteville lettering (00842845A01)
11" inner cover, w/o lock	East Jordan D Meter Cover (32193001)

2.25 TRACER WIRE

- A. Tracer wire shall be 12-gauge solid coated copper or 14-gauge coated copper clad steel for underground burial.
- B. Jacket color shall be BLUE, and made of High Density Polyethylene (HDPE) or High Molecular Weight Polyethylene (HMWPE) designed for direct burial.

