The City of Fort Smith ARKANSAS™

PROJECT 17-03-C1 SERVICE LINES AND METER BOX REPLACEMENTS

UTILITIES DEPARTMENT

JULY 19, 2019

CONSTRUCTION CONTRACT AUDIT

PREPARED BY

VANESSA M. JOHNSON, CPA, LLC

INTERNAL AUDIT | SOX | PROCESS IMPROVEMENT

July 19, 2019

The Honorable Mayor, Board of Directors, and Audit Committee Members
City of Fort Smith
623 Garrison Avenue
Fort Smith, AR 72901

The Internal Audit Office contracted with Vanessa M. Johnson, CPA, LLC (VMJ CPA) to provide professional independent internal audit services. We have completed the Utilities Department's contract audit for project 17-03-C1 Service Lines and Meter Box Replacements and have issued a report dated July 15, 2019.

The scope of our work constituted the review of contract 17-03-C1 and related transactions and did not constitute an evaluation of the overall internal control structure of the Utilities Department.

The audit noted a primary strength of the Utilities Department:

- **The Department has grown its staff from the prior administration with inspectors and engineers who possess the technical knowledge of construction related to water utilities.**

The attached audit report identifies ten (10) opportunities for the Utilities Department to improve the effectiveness and efficiency of the Department's operations. During the audit, there were several observations made that should be brought to the attention of City management and those charged with governance, as outlined below:

1. **Project 17-03-C1 was bid out as a unit price contract. Under a unit price contract, a contractor is paid for the actual quantity of each line item performed as measured in the field during construction. Each unit price includes all labor, material, equipment, overhead, and profit attributable to that scope of work. Based on inquiries with management, audit evidence obtained regarding additional costs and change in scope, and the fact that this project has not historically been performed by a contractor, the project should have been considered to be a time and materials contract. Under a time and material contract, the owner and contractor must establish an agreed hourly or daily rate, including additional expenses that could arise in the construction process.**
2. **After performing three consecutive contract audits within the Utilities Department, contractors have not been involved in the audit process and were unresponsive to audit requests. There are no "Right to Audit" clauses outlined in contract documents with contractors, which has been recommended in previous audits and still has not been implemented.**
3. **The overall culture and tone at the top within Utilities management lacks knowledge in fundamental practices of risk management and internal controls enforcement. Ongoing trainings need to be held for the Department to educate those responsible for maintaining**

a system of internal control and safeguarding City assets. Utilities management should understand the importance of risk management and internal controls and be properly trained on how to identify and assess risks to implement the proper internal control structure.

4. The internal control environment within the Utilities Department is weak with several internal control deficiencies. These control deficiencies have been outlined in the current and past audit reports. These control deficiencies make the Department vulnerable to fraud, waste, and misuse of City assets.
5. Record keeping within the Department is poorly maintained. Documentation is handwritten and not legible to other readers. Documentation is incomplete or does not exist. Poor documentation poses many challenges within the audit process when documentation cannot be provided to corroborate departmental processes and activities. Staff's work, such as inspection reports, is not reviewed by management to ensure completeness and accuracy. Inspection reports are critical in the construction process to evidence work completed during each phase of the construction process and that a quality inspection was performed.
6. Management lacks involvement in the audit process and does not understand the importance of audit. Management does not attend status meetings or trainings held by internal audit that will educate them on the subject matter and provide insight to risks and vulnerabilities within the Department.
7. For project 17-03-C1, the initial unit cost for certain line items submitted by the Contractor in the bid documents increased in unit cost for the same line items when the change order was submitted the following year during construction.

The identified observations listed above make it very challenging to successfully complete an audit timely. While the Department is undergoing change from its prior management, it is important for Utilities management to collaborate with Internal Audit to ensure risks are properly identified and the proper internal controls are in place to make sure the Department is moving in the right direction and maintaining a better system of internal controls.

From the observations outlined above, the findings identified, and the responses provided by management, it is evident that serious attention should be given to the Department to remediate the findings and develop a culture that proactively manages risk.

We would like to express our appreciation to management and staff of the Utilities Department for their time and effort, responsiveness, and cooperation during the course of the audit.

Thanks,

Vanessa M. Johnson, MBA, CPA, CIA
Managing Director

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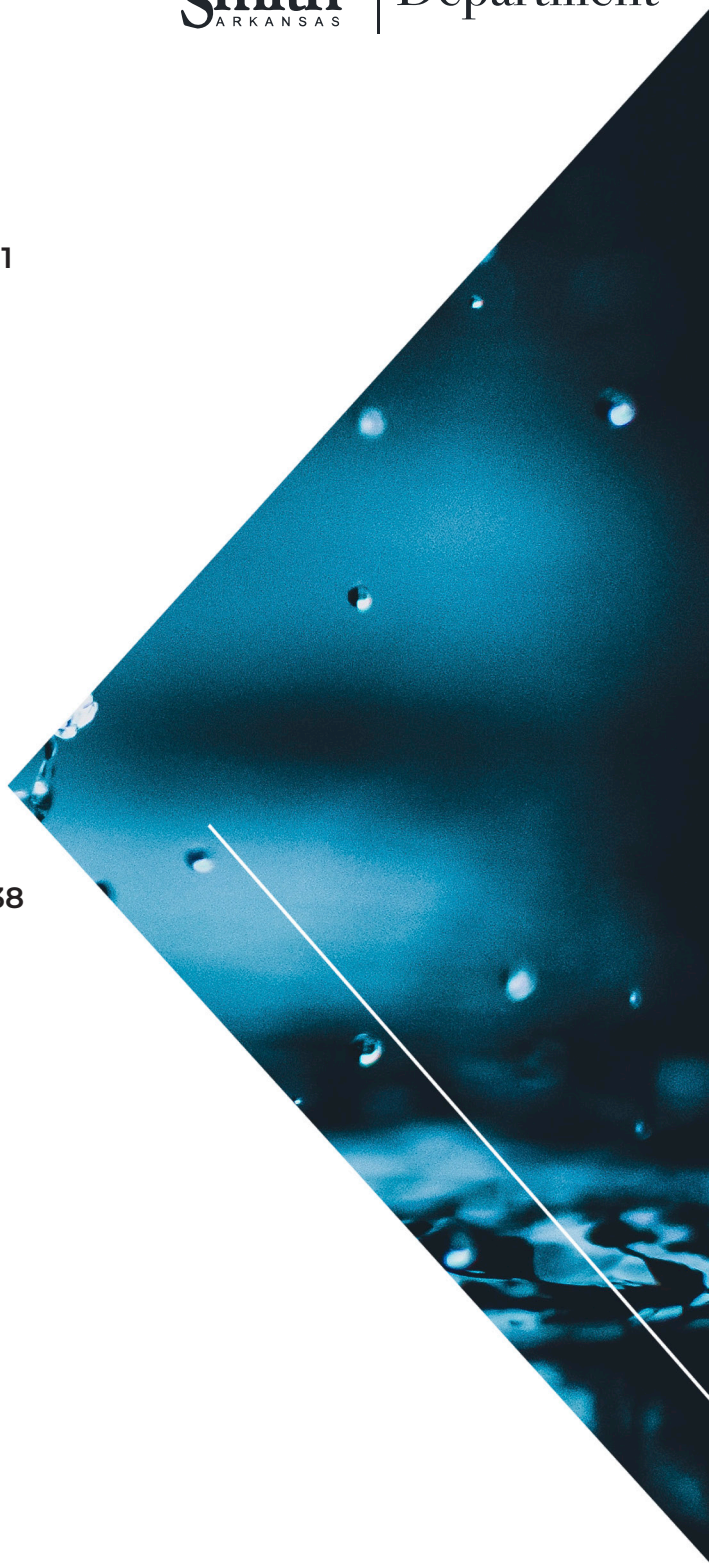

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

INTRODUCTION

The Internal Audit Department of the City of Fort Smith engaged VMJ CPA to conduct an internal audit of Capital Improvement Projects (CIP) managed by the City of Fort Smith Utilities Department. The internal audit focused on specific CIP projects funded via the Sales and Use Tax Bonds and Revenue Bonds to determine compliance with the City of Fort Smith's ordinances, key contractual and regulatory terms and requirements, and the effectiveness of internal controls.

BACKGROUND

In 2015, the Utilities Department had a backlog of over 600 work orders for service line and meter box replacements for which the Department's personnel did not have the capacity to complete the work orders timely.

Project 17-03-C1 Service Line and Meter Box Replacements was created to replace 1,169 concrete water meter boxes and approximately 23,000 feet of service line. The scope of this project covers the entire city and was expected to take a year to be completed on November 20. 2018. The low bid for the project was submitted by Forsgren Inc. in the amount of $2,321,171.00. Resolution 158-17 was approved by the Board of Directors on October 17, 2017 accepting the bid and authorizing a contract with Forsgren Inc. The project had a change order approved on September 24, 2018 in the amount of $207,430 that extended the project time 220 days. The project was ongoing during the time of the audit.

AUDIT SCOPE AND OBJECTIVES

The engagement scope considered activities and transactions related to project 17-03-C1 Service Lines and Meter Box Replacements.

Our audit objectives, as refined during research and the risk assessment process occurring throughout the course of our work, were as follows:

1. Reconcile service addresses and meter boxes used for project 17-03-C1 to financial records.
2. Determine if project design requirements were adequately prepared for project bidding.
3. Assess whether the contractor has the capacity to complete the project timely.
4. Determine if methods for reviewing project bids are appropriate and provide the best value and risk profile.
5. Determine if terms and conditions of the contract are being met.

PROCEDURES PERFORMED

To obtain sufficient evidence to achieve audit objectives and support our conclusions, we performed the following:

PLANNING

- Developed and submitted an initial data request to obtain construction contracts, relevant City ordinances, funding requirements, City policies, processes and control documentation relevant to CIP project management;
- Reviewed City ordinances, construction contracts, and funding requirements and identified key items;
- Reviewed any available policies and procedures to gain understanding of processes and controls related to CIP project management;
- Conducted interviews and process walkthroughs with key individuals from the design engineer consulting firm and the Utilities Department's Engineering Team;
- Identified key risks and controls and evaluated design of controls;
- Identified potential areas for process improvements and control gaps;
- Refined work plan based on risks and key ordinances/funding requirements/terms and conditions, and developed test plans; and
- Performed sampling of transactions within selected project and issued data request for detailed testing.

FIELDWORK

- Performed testing of selected project to include verification of;
- Compliance with key ordinances;
- Compliance with key contract terms and conditions;
- Construction project bids were awarded in compliance with applicable rules and regulations;
- Changes from the initial contract award amount and the final contract price were appropriately negotiated and documented;
- Reconciliations of project documents were completed and reviewed timely; and
- Documented findings and confirmed with process owners.

REPORTING

- Prepared a draft report to include testing results and recommendations; and
- Discussed draft findings with process owners and management, obtained management responses, and assessed management responses.

AUDIT METHODOLOGY

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards and in conformance with the International Standards for the Practice of Internal Auditing as promulgated by the Institute of Internal Auditors. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives.

The scope of our work did not constitute an evaluation of the overall internal control structure of the Utilities Department. Management is responsible for establishing and maintaining a system of internal controls to ensure that City assets are safeguarded; financial activity is accurately reported and reliable; and management and employees are in compliance with laws, regulations, and policies and procedures. The objectives are to provide management with reasonable, but not absolute assurance that the controls are in place and effective.

CONCLUSIONS AND SIGNIFICANT ISSUES

We believe that we have obtained sufficient and appropriate evidence to adequately support the conclusions provided below as required by professional auditing standards. Each conclusion is aligned with the related Audit Objective for consistency and reference. For detailed findings, recommendations, management responses, comments and assessment of responses see the “Detailed Findings, Recommendations, Management Responses, and Assessment of Responses” section of this report.

AUDIT OBJECTIVE 1: Reconcile service addresses and meter boxes used for project 17-03-C1 to financial records.

CONCLUSION

Based on the results of the audit procedures performed, the audit team noted that the Utilities Department should improve the design and operating effectiveness of internal controls to properly monitor the approval and payment of invoices submitted by Contractors.

- As of June 2019, there had been no service address and meter box reconciliations performed to pay applications. **(See Finding #1)**
- No supporting documentation was submitted by Contractor to indicate the location/service address where work was performed. **(See Finding #2)**
- Inspection Reports are not completed or lacks critical information related to the project. **(See Finding #3 and #10)**

AUDIT OBJECTIVE 2: Determine if project design requirements were adequately prepared for project bidding.

CONCLUSION

Based on the results of the audit procedures performed, the project design specifications lacked critical components. **(See Finding #4 and #9)**

AUDIT OBJECTIVE 3: Assess whether the contractor has the capacity to complete the project timely.

CONCLUSION

Based on the results of the audit procedures performed, the Contractor lacks the capacity to complete projects timely. The Contractor has excessive absences noted during the project that caused months of delay for project completion. **(See Finding #5)**

AUDIT OBJECTIVE 4: Determine if methods for reviewing project bids are appropriate and provide the best value and risk profile.

CONCLUSION

Based on the results of the audit procedures performed, the audit team noted that the Department does not have standardized or documented policies and procedures for determining reasonableness of engineer estimates for projects. **(See Finding #6)**

AUDIT OBJECTIVE 5: Determine if terms and conditions of the contract are being met.

CONCLUSION

Based on the results of the audit procedures performed, the audit team noted certain factors that contributed to the final contract price that were not properly outlined in contract documents and documented throughout the course of the project.

- Weather Day Extension Requests Not Properly Approved for project 17-03-C1. **(See Finding #7)**
- Work performed outside the scope of the project was inappropriately instructed by Utilities management. **(See Finding #8)**

OTHER OBSERVATIONS

Based on the overall results of the audit procedures performed, the audit team noted that:

- Project 17-03-C1 was bid out as a unit price contract. Under a unit price contract, a contractor is paid for the actual quantity of each line item performed as measured in the field during construction. Each unit price includes all labor, material, equipment, overhead, and profit attributable to that scope of work. Based on inquires with management, audit evidence obtained regarding additional costs and change in scope, and the fact that this project has not historically been performed by a contractor, the project should have been considered to be a time and materials contract. Under a time and material contract, the owner and contractor must establish an agreed hourly or daily rate, including additional expenses that could arise in the construction process.
- After performing three consecutive contract audits within the Utilities Department, contractors have not been involved in the audit process and were unresponsive to audit requests. There are no "Right to Audit" clauses outlined in contract documents with contractors, which has been recommended in previous audits and still has not been implemented.
- The overall culture and tone at the top within Utilities management lacks knowledge in fundamental practices of risk management and internal controls enforcement. Ongoing trainings need to be held for the Department to educate those responsible for maintaining a system of internal control and safeguarding City assets. Utilities management should understand the importance of risk management and internal controls and be properly trained on how to identify and assess risks to implement the proper internal control structure.
- The internal control environment within the Utilities Department is weak with several internal control deficiencies. These control deficiencies have been outlined in the current and past audit reports. These control deficiencies make the Department vulnerable to fraud, waste, and misuse of City assets.
- Record keeping within the Department is poorly maintained. Documentation is handwritten and not legible to other readers. Documentation is incomplete or does not exist. Poor documentation poses many challenges within the audit process when documentation cannot be provided to corroborate departmental processes and activities. Staff's work, such as inspection reports, is not reviewed by management to ensure completeness and accuracy. Inspection reports are critical in the construction process to evidence work completed during each phase of the construction process and that a quality inspection was performed. The Utilities Department's poor record keeping practices do not provide adequate documentation to support the Department's goals, objectives, activities, and infrastructure.
- Management lacks involvement in the audit process and does not understand the importance of audit. Management does not attend status meetings or trainings held by internal audit that will educate them on the subject matter and provide insight to risks and vulnerabilities within the Department.
- For project 17-03-C1, the initial unit cost for certain line items submitted by the Contractor in the bid documents increased in unit cost for the same line items when the change order was submitted the following year during construction.

ACKNOWLEDGEMENT AND SIGNATURES

We would like to express our appreciation to management and staff of the Utilities Department for their time and effort, responsiveness, and cooperation during the course of the audit.

Thanks,

Vanessa M. Johnson, MBA, CPA, CIA
Managing Director

DETAILED FINDINGS, RECOMMENDATIONS, MANAGEMENT RESPONSES, AND ASSESSMENT OF RESPONSES

FINDING #1

NO SERVICE ADDRESS & METER BOX RECONCILIATIONS PERFORMED TO PAY APPLICATIONS

BACKGROUND:

The design specifications for the 17-03-C1 Service Lines and Meter Box Replacement contract included forty (40) plan sheet documents that listed addresses to be serviced under the contract. The meter boxes that were to be used for replacements at the service addresses are stored in inventory at the City's warehouse location on Kelley highway. When the project commenced in November 2017, the contractor would pick up the meter boxes from the warehouse and check the corresponding addresses off on the warehouse's tracking sheet for the meter boxes that would be replaced during the upcoming period.

As the project progressed, in December 2017, the warehouse attendants noticed that the contractor were picking up meter boxes for addresses that had previously been checked. In addition, meter boxes were being replaced for service addresses not on the original list. The City's Internal Audit Director became aware of the issue and had a meeting with the City Administrator and Utilities Management requesting a reconciliation to account for meter boxes and ensure approved services were being performed and billed properly under the contract.

FINDING 1:

As of June 2019, there has been no service address and meter box reconciliations performed to pay applications. Due to the internal control deficiency in the pay application approval and payment process, management is unable to properly reconcile work performed at service addresses and ensure billing by the contractor is accurate.

RECOMMENDATIONS:

We recommend a properly designed internal control to mitigate the risk of inaccurate pay applications and payments made to contractors for incomplete or unauthorized work. This control should reconcile the list of addresses serviced for the period submitted by the contractor with its pay application to the list of services addresses logged by the City's Utilities inspector on the Inspection Reports to ensure completeness and accuracy.

FINDING #1 (CONTINUED)

NO SERVICE ADDRESS & METER BOX RECONCILIATIONS PERFORMED TO PAY APPLICATIONS

UTILITIES DEPARTMENT'S MANAGEMENT RESPONSE:

The Department disagrees with the risk assessment. The Department performed the address reconciliation between the construction inspector's records and the warehouse. This ongoing reconciliation is performed weekly to ensure the work is recorded correctly in the proper work order. An address reconciliation was not performed with the pay applications; however, all pay applications have been completely and accurately reconciled with the inspector's notes per bid line item, which is how the project was bid.

RESPONSIBLE PARTY:

Jerry Walters, Director Utilities

ESTIMATED DATE OF COMPLETION:

No date was provided by management.

ASSESSMENT OF RESPONSE*:

Management's response, as presented, does not sufficiently address the finding. See our assessment below of each statement made in the management response:

1. **The Department disagrees with the risk assessment.** The finding in the audit is not the risk assessment. Therefore, management's response does not address the finding that "No service address and meter box reconciliations are performed to pay applications."
2. **The Department performed the address reconciliation between the construction inspector's records and the warehouse.** The reconciliation of the inspector's records and the warehouse that management refers to did not occur until May 2019 when the information was requested during the audit. This process did not occur at the time pay applications were being submitted by the Contractor and paid by the City throughout the construction process. During the audit, we requested supporting documentation to reperform the address and meter box reconciliation since management could not provide supporting documentation of a reconciliation performed at the time pay applications were submitted. The list of addresses that were added and removed from the project were not able to be reconciled to plan sheets included with the Contract Documents due to incomplete and erroneous information. Dates were missing from the plan sheets to evidence when contractors picked up meter boxes to service addresses, and there were boxes picked up for addresses that already had meter boxes replaced. Therefore, no accurate reconciliation could be performed after-the-fact. The design of the reconciliation control is ineffective as it does not mitigate the risk of inaccurate pay applications and payments made to contractors for incomplete or unauthorized work. The reconciliation should be performed with inspector records to the pay applications submitted by contractors to verify amounts submitted are accurate at the time the pay applications are processed for payment.
3. **This ongoing reconciliation is performed weekly to ensure the work is recorded correctly in the proper work order.** According to management, the process that management points to as a reconciliation of inspector records with the warehouse did not began until August 8, 2018, which is 10 months after the project began in November 2017. However, supporting documentation from the audit evidences the reconciliations were not performed weekly during the contract period, but only when requested during the audit. This support was provided on May 22, 2019. For the

meter box portion of the reconciliation, management provided the same incomplete information. However, the design of the reconciliation control is ineffective as it does not mitigate the risk of inaccurate pay applications and payments made to contractors for incomplete or unauthorized work. The reconciliation should be performed with inspector records to the pay applications submitted by contractors to verify amounts submitted are accurate at the time the pay applications are processed for payment.

4. **An address reconciliation was not performed with the pay applications, however, all pay applications have been completely and accurately reconciled with the inspector's notes per bid line item, which is how the project was bid.** We requested the inspector's notes to evidence the reconciliation performed. What we received were handwritten notes that were not legible and incomplete lacking the necessary quantity calculations, dates when services were performed and completed and related service address. Moreover, the electronic files were missing days of completed inspections. There are several line items on the pay applications that are not related to materials but the number of installations and addresses serviced. This would require having a complete and accurate list of addressed serviced during each pay application period. We requested the documentation from the Contractor three times and did not receive any documentation. We requested support from the Utilities Department and received incomplete information or responses that the documentation was not maintained since they were under the impression no one would ever ask for it. Management agrees in their response that the address reconciliations were not performed to pay applications, which supports the fact the risk of inaccurate pay applications is not mitigated. In Finding #2 below, management concurs with the finding that there was no supporting documentation submitted by the Contractor to indicate the location/service address where work was performed to determine the total number of installations completed/allocation of time spent for the period. Therefore, management could not have properly reconciled quantities at the time the pay applications were provided and verified completeness and accuracy prior to processing pay applications.

***ALL SUPPORTING DOCUMENTATION RELATED TO THE DETAILED AUDIT FINDINGS CAN BE REQUESTED TO THE CITY'S INTERNAL AUDIT DIRECTOR.**

FINDING #2

PAY APPLICATIONS SUBMITTED BY CONTRACTOR LACKS PROPER SUPPORTING DOCUMENTATION

BACKGROUND:

Pay applications are submitted monthly by the Contractor for the prior period when services were performed. The pay applications list each material outlined in the design specifications, the unit cost for each line item, and the amount of materials installed for the pay application period. There are some line items that do not have any materials associated with service (i.e. City purchased materials), but only labor and overhead costs that are absorbed by the Contractor. The quantities billed in these cases are based on the number of installations completed during the pay application period.

FINDING 2:

No supporting documentation was submitted by the Contractor to indicate the location/service address where work was performed to determine the total number of installations completed/allocation of time spent for the period. Pay applications #1, #3, #4, #8, and #14 were selected for testing. From those pay applications, line items #24 Water Meter Box (A14 Fitting) (5/8" Meter) and #28 Install old meter in new meter box were sampled for testing. The Contractor indicated the following installations were performed on the respective pay applications; however, the Utilities Department did not maintain supporting documentation to evidence a reconciliation of these numbers were verified to be accurate.

Pay App	Line Item #24	Line Item #28	Total Cost	Verified
1	32	46	$11,640.00	No
3	34	33	$32,650.00	No
4	32	40	$44,170.00	No
8	16	36	$89,440.00	No
14	32	32	$169,635.00	No

RECOMMENDATIONS:

Supporting documentation should be a submission requirement with pay applications so that work performed and quantities used can be properly reconciled to ensure accurate billing and payment only for authorized work.

FINDING #2 (CONTINUED)

PAY APPLICATIONS SUBMITTED BY CONTRACTOR LACKS PROPER SUPPORTING DOCUMENTATION

UTILITIES DEPARTMENT'S MANAGEMENT RESPONSE:

The Department concurs with finding 2 and has taken steps to formally document pay application processing in E-builder. However, project 17-03-C1 was bid based on material line items with total quantities, not addresses. The construction inspector currently measures and records bid items in the field, reconciles with the total quantities provided on the pay application, and approves payment based on the inspector's records. The inspector provides the construction addresses to the warehouse weekly to be recorded properly in the work order history.

RESPONSIBLE PARTY:

Jerry Walters, Director Utilities

ESTIMATED DATE OF COMPLETION:

November, 2018

ASSESSMENT OF RESPONSE*:

Management's response, as presented, does not sufficiently address the finding. See our assessment below of each statement made in the management response:

1. **The Department concurs with finding 2 and has taken steps to formally document pay application processing in E-builder.** Management provided an implementation date of November 2018 of formally documenting the pay application process in E-builder. The audit of project 17-03-C1 commenced in April 2019 after the implementation date of November 2018. The audit found that the pay application process is not formally documented and remains incomplete with inadequate documentation.
2. **However, project 17-03-C1 was bid based on material line items with total quantities, not addresses.** We have an understanding that this project is under a unit price contract. Under a unit price contract, a contractor is paid for the actual quantity of each line item performed as measured in the field during construction. Each unit price includes all labor, material, equipment, overhead, and profit attributable to that scope of work. Line items #24 - #28 of the base bid and line items #24 - #27 of the alternate bid were not material line items, as these materials were provided by the City. These line items consisted of the Contractor's unit price for the labor, equipment, overhead, and profit to install new meter boxes provided by the City. The installation of these meter boxes was determined by the list of addresses that needed to be serviced, which were outlined on the plan sheets included in the project design specifications and contract documents. Due to the nature of this project, maintaining a complete and accurate record of the addresses serviced, installations completed, and time spent at each address during each pay application could be used to validate amounts invoiced by the Contractor to verify completeness and accuracy prior to processing payment. The Contractor should have been required to submit the documentation in addition to their pay application to support amounts charged on line items #24 - #28 of the base bid and line items #24 - #27 of the alternate bid. The supporting documentation was requested by the Contractor three times during the course of the audit and no information was provided. The same supporting documentation was requested by the Utilities Department, and the documentation was not provided.

FINDING #2 (CONTINUED)

PAY APPLICATIONS SUBMITTED BY CONTRACTOR LACKS PROPER SUPPORTING DOCUMENTATION

3. **The construction inspector currently measures and records bid items in the field, reconciles with the total quantities provided on the pay application, and approves payment based on the inspector's records.** Management stated above that it concurs with Finding #2 that there was no supporting documentation submitted by the Contractor to indicate the location/service address where work was performed to determine the total number of installations completed/allocation of time spent for the period. Therefore, management could not have properly reconciled quantities at the time the pay applications were provided and verified completeness and accuracy prior to processing pay applications. In addition, management does not maintain adequate documentation to support activities performed in the pay application payment process.
4. **The inspector provides the construction addresses to the warehouse weekly to be recorded properly in the work order history.** This process was not in place during the contract period audited. When the finding was presented to management during the audit, management stated on May 22, 2019 that Inspection will began providing daily emails to the Warehouse to confirm what addresses received new meter boxes for that date. However, we explained to management that this process still is not effectively designed to ensure pay applications submitted by Contractors are complete and accurate. One service address could have had worked performed over several pay applications until completed. The Warehouse only stores the meter boxes used for the project. Meter boxes are on pallets, which consists of 18 meter boxes per pallet. The Contractor cannot pick up partial pallets, but a minimum of 18 boxes at a time. The Warehouse is not responsible for tracking which addresses were serviced during a period. It is the Inspector's responsibility to track and monitor times, materials, and work performed at each service address location and reconcile to the Contractor's pay application submitted each period to verify completeness and accuracy.

***ALL SUPPORTING DOCUMENTATION RELATED TO THE DETAILED AUDIT FINDINGS CAN BE REQUESTED TO THE CITY'S INTERNAL AUDIT DIRECTOR.**

FINDING #3

INSPECTION REPORTS ARE NOT COMPLETED OR LACKS CRITICAL INFORMATION RELATED TO PROJECT

BACKGROUND:

Daily Inspection Reports are prepared by inspectors assigned to the project to record project status, issues on the project, the crew working on the project, weather conditions, and location of work being performed. There are no inspection reports that summarize when work was completed at a service address or of the total units of materials used for that service address. From November 20, 2017 to August 12, 2018, the inspection reports for the project were handwritten in the form of notes in the inspector's notebook. In August 2018, Utilities Management stated that inspection reports transitioned to an electronic format from the handwritten notes inspectors maintained in their notebooks. An electronic form is currently used to document the daily inspection reports.

FINDING 3:

There were over 30 days of daily inspection reports missing from documentation between the period of August 13, 2018 – May 20. 2019. The handwritten reports from the period of November 20, 2017 – August 12, 2018 were missing, not legible, or lacked critical information on project status, such as crew working on the project, date/time/location of when project work was finished, and weather conditions. None of the inspection reports documented units of material used for service addresses that could be used to reconcile pay applications submitted by the contractor. Some inspection reports provided indicated that inspectors were away for training, out sick, or something unrelated to the project. Incomplete documentation by inspectors increases the risks of fraud, payment of unauthorized work, and project overruns.

RECOMMENDATIONS:

The daily inspection reports should be a comprehensive preprinted form used consistently by inspectors to standardize documentation and capture the needed information throughout the life of the project. Inspection reports should not be used to document when inspectors are out of the office for training, sickness, or unrelated project tasks. Inspection reports should be used to document project status and inspections performed. Training should be provided to inspectors on how to properly complete the form and document project issues, and other critical information related to the project.

FINDING #3 (CONTINUED)

INSPECTION REPORTS ARE NOT COMPLETED OR LACKS CRITICAL INFORMATION RELATED TO PROJECT

UTILITIES DEPARTMENT'S MANAGEMENT RESPONSE:

Acknowledged. The Department has created electronic daily inspection logs to be filled out for each project in E-builder. Training will be provided to ensure the correct information is captured in future projects.

RESPONSIBLE PARTY:

Jerry Walters, Director Utilities

ESTIMATED DATE OF COMPLETION:

No date was provided by management

ASSESSMENT OF RESPONSE*:

Management's response, as presented, partially addresses the finding. There was no estimated date of completion provided by management.

*ALL SUPPORTING DOCUMENTATION RELATED TO THE DETAILED AUDIT FINDINGS CAN BE REQUESTED TO THE CITY'S INTERNAL AUDIT DIRECTOR.

FINDING #4

PROJECT DESIGN SPECIFICATIONS LACKED CRITICAL COMPONENTS

BACKGROUND:

Project 17-03-C1 was created due to a significant backlog of Utilities work orders related to water service lines and meter box replacements. Additional help was needed to complete the open work orders and other addresses that needed service lines and meter box replacements.

After analysis was performed of the service request data from the Lucity software, the information revealed the following:

1. From 2012 to 2017, there have been 998 completed work orders related to service line leaks with band, clamp, and hi-max repairs. There have been similar materials purchased by the Department in past projects that are identical to the materials purchased for project 17-03-C1.
2. Of those service line leaks, 51% were related to pipe ruptures, 20% for unknown reasons, and 11% for component failures.

Primary reasons of main breaks/pipe ruptures are
1) the age of infrastructure, 2) corrosion, 3) and cold temperatures.

Brixey Engineering was the design consultant engaged to prepare the design specifications for project 17-03-C1.

Brixey Engineering received a list of service addresses and a map from the City's Utilities Department that needed service lines and meter box replacements. City aerials were mapped out by Brixey, then each aerial was drilled down on each plan sheet to see addresses and meters in that aerial. Once prepared, Brixey's crew went onsite to locate the meters. A shot of the meter is obtained to provide coordinates where the meter is exactly located. In addition, the crew looked for evidence of the water line. Afterwards, any needed adjustments were made on the aerial map for meter placements and location of water lines to the main. The assumption was made that lines would be connected to nearest main. Material quantities were calculated based on how far the meter was from the nearest main. The pipe sizes were based on the City atlas. Once material quantities were calculated and meter taps and lines appropriately plotted on the aerial map, the information was provided to the City for use in the contract bid.

FINDING #4 (CONTINUED)

PROJECT DESIGN SPECIFICATIONS LACKED CRITICAL COMPONENTS

FINDING 4:

The surveying process to develop the design specifications was completed quickly to get the contract bided and underway.

According to Utilities Management, "During the construction of Phase 1 of the 2017 – Service Lines and Meter Replacements, the Contractor encountered several issues due to age of the infrastructure and insufficient records on older water services and distribution lines. The largest issue that impacted this contract related to the poor condition of existing water service taps. Many of these taps have been impacted by severe corrosion. To rectify this, the contractor needed to install repair bands to help prevent future water leaks. The second issue is related to how water service lines were previously installed, and the lack of records related to those installations. The Contractor found several instances where the service lines were not connected to the nearest water distribution line as expected."

The erroneous assumptions made during the design phase of where water taps were located, lack of sufficient records, and not considering the age and possible condition of the outdated infrastructure resulted in critical components being omitted from the project design specifications that later required a change order which increased the project cost an additional $200,000.

RECOMMENDATIONS:

When developing design specifications of a project, historical data, industry data, or other relevant information should be taken into consideration to minimize potential project overruns later in the project lifecycle. Design specification accuracy is critical to minimize scope creep, project overruns, and successful completion of the project in a timely manner. Additionally, it will help minimize possible change orders.

FINDING #4 (CONTINUED)

PROJECT DESIGN SPECIFICATIONS LACKED CRITICAL COMPONENTS

UTILITIES DEPARTMENT'S MANAGEMENT RESPONSE:

The Department does not agree with finding 4. The Lucity data provided in the background does not represent the work performed within this project; it is for service line repairs not replacements. The bands that were added to the project were for mainline connection elimination when a connection needed to be relocated, not repaired. The Lucity data represents service line (1-inch) bands and clamps to repair leaks, ruptures, and component failures, as stated in the background, which is entirely different construction. Additionally, hi-max is used to couple new and existing pipe when a leak is cut out and pipe replaced. This repair method is not part of this project and, therefore, not relevant data.

The specifications for Project 17-03 were appropriate for supplementing work typically performed by City Utilities maintenance crews, and historically never delivered by a contractor. Relevant information, such as passed experience in construction, was used to develop the specifications for this project. Survey was performed adequately to the project design needs. This project has not experienced scope creep as service line replacement is the primary scope.

Currently, the Department is developing GIS for all Utilities assets and making dependable data far more available for design. The Utilities records have greatly improved thus far and continue to do so for future projects.

RESPONSIBLE PARTY:

Jerry Walters, Director Utilities

ESTIMATED DATE OF COMPLETION:

N/A

ASSESSMENT OF RESPONSE*:

Management's response, as presented, does not address the finding. See our assessment below of each statement made in the management response:

1. **The Department does not agree with finding 4.** The finding states that the project design specifications lacked critical components. Management disagrees with the finding, yet there was a $207,430 change order approved by the Board that included installations of repair bands and clamps that were omitted from the original project design specifications.
2. **The Lucity data provided in the background does not represent the work performed within this project; it is for service line repairs not replacements. The bands that were added to the project were for mainline connection elimination when a connection needed to be relocated, not repair. The Lucity data represents service line (1-inch) bands and clamps to repair leaks, ruptures, and component failures, as stated in the background, which is entirely different construction. Additionally, hi-max is used to couple new and existing pipe when a leak is cut out and pipe replaced. This repair method is not part of this project and, therefore, not relevant data.** The Lucity data provided to perform analytics on the work orders is inclusive of repairs, replacements, and relocation of lines using comparable parts and materials (saddles, bands, etc.) for project 17-03-C1. During the

audit we sampled materials from the Lucity work order data and compared them to invoices submitted by the Contractor for materials and parts purchased for project 17-03-C1 and found the same materials/parts to be used. If the historical data from work orders were reviewed for materials and part used during the design phase of the project specifications, this information could have assisted in identifying the materials and parts needed for the project sooner rather than later.

3. **The specs for Project 17-03 were appropriate for supplementing work typically performed by City Utilities maintenance crews, and historically never delivered by a contractor. Relevant information, such as passed experience in construction, was used to develop the specs for this project. Survey was performed adequately to the project design needs. This project has not experienced scope creep as service line replacement is the primary scope.** We understand that a project of this nature was never performed historically by a Contractor. However, historical information was available to management to assist in developing design specifications and identifying necessary materials and parts for the project that had previously been performed by City personnel. Moreover, management states that the project has not experienced scope creep; however, the details of the change order approved on September 24, 2018 states, "Change Order #1 adds 220 days to account for weather days, On-Call time, and **the scope change in the project**." Therefore, the project did experience scope creep due to the additional work that had to be performed for installing repair bands/clamps that were omitted from the original design specifications.

   In management's memo to the City Administrator, "Many of these taps have been impacted by severe corrosion." We inquired with the designer engineer if condition assessment reports were taken into consideration when developing design specifications since it was known prior to construction that the infrastructure was old and deteriorating. The designer engineer responded that the project was constructed under the 2008 specifications and there was no indication that corrosive protection was included in the cost of pipe. The design engineer further states that corrosive protection is not an item that is generally included in all projects, and that it would be added if acidic soils were encountered.

   Without having a proper condition assessment performed to determine if corrosive protection for the pipe used in construction to slow the rate of corrosion of the newly installed pipe, could impact the longevity of the infrastructure.

***ALL SUPPORTING DOCUMENTATION RELATED TO THE DETAILED AUDIT FINDINGS CAN BE REQUESTED TO THE CITY'S INTERNAL AUDIT DIRECTOR.**

FINDING #5

CONTRACTOR LACKS CAPACITY TO COMPLETE PROJECT TIMELY (REPEAT FINDING)

BACKGROUND:

Forsgren, Inc. is the contractor currently performing work under contract 17-03-C1. Over the last five (5) years, Forsgren has won over $20 million in contracts to perform work for the Utilities Engineering Department.

We scheduled an onsite visit for project 16-10-C2 for the week of July 31, 2018. We were informed that Forsgren's crew performing work for the project was currently working on an emergency project for the City and was not available to be onsite to work on the project under audit. After further inquiry with Utilities management, it was discovered that Forsgren's crew working on project 16-10-C2 were also under another contract with City regarding emergency repairs.

After getting a change order approved for project 17-03-C1 in September 2018 for a 220-day extension on the project, in January 2019, the Contractor removed themselves from the project for approximately 2 months to work on a contract for another customer. This delayed the progression of project 17-03-C1 with the City. On April 18, 2019, it was noted on the inspection report that the Contractor's crew did not work on the project a second time due to performing work on another project.

FINDING 5:

The Contractor lacks the capacity to complete projects timely. The Contractor has excessive absences noted during the project that warrants attention by management for remediation and completion dates written into contracts should be enforced.

RECOMMENDATIONS:

Contractors selected for projects should have enough crews/capacity to work on the project for the duration of the project. This should be part of the qualification assessment process.

FINDING #5 (CONTINUED)

CONTRACTOR LACKS CAPACITY TO COMPLETE PROJECT TIMELY (REPEAT FINDING)

UTILITIES DEPARTMENT'S MANAGEMENT RESPONSE:

The Department disagrees with finding 5. The City can make a provision for a contractor to pull off an ongoing non-emergency project to focus on emergency work without penalty. It is reasonable to expect a contractor may need to pull a crew off a non-emergency project to respond. Liquidated Damages for late delivery are included in the contract and are assessed as necessary. Capacity to perform the work in the allocated timeframe is the responsibility of the contractor, not the City, and there is no way to confirm a contractor's capacity. State law dictates the lowest bid is award the contract, however, the Department uses poor prior experience with contractors to refuse bid acceptance for future projects.

RESPONSIBLE PARTY:

Jerry Walters, Director Utilities

ESTIMATED DATE OF COMPLETION:

No date was provided by management.

ASSESSMENT OF RESPONSE*:

Management's response, as presented, does not sufficiently address the finding. See our assessment below of each statement made in the management response:

1. **The Department disagrees with finding 5. The City can make a provision for a contractor to pull off an ongoing non-emergency project to focus on emergency work without penalty. It is reasonable to expect a contractor may need to pull a crew off a non-emergency project to respond. Liquidated Damages for late delivery are included in the contract and are assessed as necessary.** Contractors that have multiple contracts with the City should ensure there are enough crews available to properly perform all contracts without causing a delay in completing a project timely. In January 2019, the Contractor removed themselves from the project for approximately 2 months to work on a contract for another customer. This delayed the progression of project 17-03-C1 with the City. This delay in the project occurred after the City had already provided a 220-day extension to the project completion time. Whether the Contractor is working on another emergency project for the City, or the Contractor decides to stop performance on the project to perform work for another customer, the Contractor should not delay the current project because it does not have enough crews to perform the work. The assessment of crew capacity should be perform as part of the qualification process.
2. **Capacity to perform the work in the allocated timeframe is the responsibility of the contractor, not the City, and there is no way to confirm a contractor's capacity.** The Supplementary General Conditions No. 1 Qualifications of Contractor states, "Contractors submitting bids shall, upon request of the Owner, provide satisfactory evidence that they have experience relative to the type of work involved in the project and that they have the capital, equipment, and personnel to carry out the contract." Capacity to perform work is the responsibility of the Contractor; however, management should assess the Contractor's capacity and perform its due diligence during the qualification review process as noted above. This could include reviewing the number of City contracts the Contractor is currently engaged in by the City, or confirming the number of crews that will be dedicated to the project all times. There was no documentation provided during the audit where management performed this assessment during the qualification review process of the Contractor.

FINDING #5 (CONTINUED)

CONTRACTOR LACKS CAPACITY TO COMPLETE PROJECT TIMELY (REPEAT FINDING)

State law dictates the lowest bid is award the contract, however, the Department uses poor prior experience with contractors to refuse bid acceptance for future projects. According to the State of Arkansas Procurement Laws and Rules, §19-11-234 (c)(1)(A) states "All procurements shall be awarded to the responsive and responsible bidder who has submitted the lowest bid that meets the requirements, criteria, and specifications. §19-11-234 (c)(2) further states "Complete justification must be given if award is made to other than the low bidder." Therefore, if there is proper justification for the low bid Contractor not having the capacity to have crews on the project at all times due to other obligations with the City or other customers, then another low responsive and responsible bidder could be awarded a contract. No documentation was provided by management corroborate a performance review was performed by management during the low bid review process.

*ALL SUPPORTING DOCUMENTATION RELATED TO THE DETAILED AUDIT FINDINGS CAN BE REQUESTED TO THE CITY'S INTERNAL AUDIT DIRECTOR.

FINDING #6

NO STANDARDIZED OR DOCUMENTED POLICIES AND PROCEDURES FOR PREPARING ENGINEER ESTIMATES

BACKGROUND:

When the Design Engineer has completed measuring the quantities of material needed for the project, the Project Engineer develops the estimate based upon their opinion of probable cost. Each engineer has their own method for developing the pricing based on their previous experience. The methods also change depending on the scope and scale of the project. The engineer estimates what the unit price of each material used for the project. Economy of scale can play a big role in the actual pricing of materials. Engineers have multiple methods to obtain pricing. For example, engineers can develop their pricing by calling suppliers, referencing recently bid projects (in Fort Smith and other cities, agencies, states), RSMeans (national estimating tool), etc. There currently is no policy on what resources engineers use to develop their estimates. The Utilities Department does not require the engineer to submit a list of data referenced to create their opinion of probable cost.

Once the material quantities are determined and the corresponding unit prices are calculated, the quantity is multiplied by the unit price to come up with an estimated price for the line item in question.

FINDING 6:

The Department does not have standardized or documented policies and procedures for determining reasonableness of engineer estimates for projects. Engineers can develop their own estimates in their own way without having to properly support estimates. No documentation could be provided to support how unit prices were calculated for the project. Not sufficiently supporting the reasonableness of engineer estimates can increase the risks of bid rigging and not receiving competitive bids from contractors. In addition, unreasonable estimates for projects could lead to projects being undervalued and increasing the risks of project cost overruns.

RECOMMENDATIONS:

Policies and procedures for preparing engineer estimates should be developed to provide standardization and guidance on preparing reasonable estimates. The unit price components may be estimated using different techniques depending on the level of scope, size and complexity of the project. All of the supporting data should be properly documented and reviewed for reasonableness. This will help ensure competitive bidding is conducted for the project.

FINDING #6 (CONTINUED)

NO STANDARDIZED OR DOCUMENTED POLICIES AND PROCEDURES FOR PREPARING ENGINEER ESTIMATES

UTILITIES DEPARTMENT'S MANAGEMENT RESPONSE:

The Department does not agree with finding 6. The Engineer's estimate is part of the Engineering consultant agreement and only used for budgeting purposes. The Engineer's estimate is submitted for approval and reviewed by the Project Engineer. This is industry standard for municipal design projects. For this project specifically, bid items and pricing were provided for the consultant engineer by the Department project engineer, per documentation provided.

RESPONSIBLE PARTY:

Jerry Walters, Director Utilities

ESTIMATED DATE OF COMPLETION:

N/A

ASSESSMENT OF RESPONSE*:

Management's response, as presented, does not sufficiently address the finding. See our assessment below of each statement made in the management response:

1. **The Department does not agree with finding 6.** The finding states "The Department does not have standardized or documented policies and procedures for determining reasonableness of engineer estimates for projects." We requested documented policies and procedures during the audit for the engineer estimate development process and received a response from management that documentation on how engineer estimates are developed is not a requirement. As such, the finding remains that there are no documented policies and procedures.
2. **The Engineer's estimate is part of the Engineering consultant agreement and only used for budgeting purposes. The Engineer's estimate is submitted for approval and reviewed by the Project Engineer. This is industry standard for municipal design projects.** Per inquiry with management, the cost estimate for this project was collaborative due to unusual nature of the project. There was no documentation provided on how each line item costs were developed for the design specifications. Management stated there were conversations held via phone, but are undocumented. Inquiry was also made with the designer engineer who stated that unit costs were determined based on the average unit costs found on previous bid schedules. Those bid schedules were not provided. Since a project of this type has never been solicited historically to contractors, there could not have been previous bid schedules used. The review and approval of the engineer estimate was undocumented, which is not an industry standard for critical tasks in the procurement process. The lack of documentation does not support an environment of competitive bidding.
3. **For this project specifically, bid items and pricing were provided for the consultant engineer by the Department project engineer, per documentation provided.** The documentation provided during the audit contained pricing for meter boxes that were purchased by the City, not the Contractor. These items would not have been included in the engineer estimate. There was no documentation provided on how each line item costs were developed for the design specifications.

*ALL SUPPORTING DOCUMENTATION RELATED TO THE DETAILED AUDIT FINDINGS CAN BE REQUESTED TO THE CITY'S INTERNAL AUDIT DIRECTOR.

FINDING #7

WEATHER DAY EXTENSION REQUESTS NOT PROPERLY APPROVED (REPEAT FINDING)

BACKGROUND:

Weather days play a critical role for Utilities projects when determining the timely completion of projects. Weather days are beyond the Contractor's control and should be properly taken into consideration during the planning phases of projects. When extensions for project days related to adverse weather are requested, documentation such as weather reports and daily construction reports are provided to support those adverse weather days requested.

FINDING 7:

A total of 101 weather day requests has been submitted and recommended for Board approval as of May 20, 2019. The change order approved on September 24, 2018, approved 65 adverse weather days through September 20, 2018. A total of 18 days are properly supported as adverse weather days documented in the inspector's records. From the sampled days requested for November 2018, there were a total of 4 weather days requested by the Contractor and approved. Daily inspection logs show that the contractor performed work on November 5, 2018, a day requested as a weather day. There is also a missing daily inspection report by the inspector for November 30, 2018 where the Contractor requested a weather day and the inspector recommended the day for approval; however; no daily inspection log was documented for that day to support the recommendation. Due to the nature of the capital improvements projects for the Utilities Department, weather days are a non-controllable factor that impacts the successful completion of projects. The Contract Documents also did not specify how weather days should be calculated.

RECOMMENDATIONS:

The contract documents for construction projects should be updated to properly define weather days, weather day calculation, and the required supporting documentation to justify the request. In addition, supporting documentation related to the adverse weather days should be properly documented to include the impact to the critical path of projects and any other weather conditions considered (temperature, wind, etc.) and provided at the time the request is made so that it can be properly reviewed by the City.

FINDING #7 (CONTINUED)

WEATHER DAY EXTENSION REQUESTS NOT PROPERLY APPROVED (REPEAT FINDING)

UTILITIES DEPARTMENT'S MANAGEMENT RESPONSE:

The Department concurs with the second half of finding 7 and has taken steps to improve the electronic weather day documentation within E-builder.

Specification Section 108.08 clearly states how weather days should be calculated and how they are defined.
(7) All the Work, or the portion of the Work which is the currently controlling operation, is suspended due to unsuitable weather or to such conditions as are considered unfavorable to the suitable prosecution of the work, if the following conditions are satisfied:
(a) The weather must actually cause a delay to the completion of the project and the delay must be beyond the control and without the fault or negligence of the Contractor, and/or
(b) The Engineer orders the suspension of the work in the interest of public safety or health or due to specification requirements.

The Contractor is to provide written notification to the Engineer of the occurrence of adverse weather delay days and resultant impact to normally scheduled work, within 10 calendar days of each occurrence, when such weather prevents work on critical activities for 50 percent or more of the Contractor's scheduled work day. No compensation will be made for monetary damages due to weather delay(s).

RESPONSIBLE PARTY:

Jerry Walters, Director Utilities

ESTIMATED DATE OF COMPLETION:

March, 2019

ASSESSMENT OF RESPONSE*:

Based on management's response, we referenced §108.08 of the 2008 Standard Specifications for Public Works Construction outlined in the Contract Documents and noted the weather day calculation guidelines. We performed additional procedures based on the guidelines to determine if adverse weather days were properly calculated and approved. Our finding remains that the weather day applications were not properly approved. Management's reference to the 2008 Standard Specifications for Public Works Construction §108.08(7) in their response above was incomplete and omitted information on the weather day calculation.

The 2008 Standard Specification for Public Works Construction §108.08(7) fully states the following:

"All the Work, or the portion of the Work which is the currently controlling operation, is suspended due to unsuitable weather or to such conditions as are considered unfavorable to the suitable prosecution of the work, if the following conditions are satisfied:

(a) The weather must actually cause a delay to the completion of the project and the delay must be beyond the control and without the fault or negligence of the Contractor; and either:

FINDING #7 (CONTINUED)

WEATHER DAY EXTENSION REQUESTS NOT PROPERLY APPROVED (REPEAT FINDING)

(b) The weather experienced at the project site during the contract period must be found to be unusually severe, that is more severe than the adverse weather normally anticipated for the project location during the contract time; or
(c) The Engineer orders the suspension of the work in the interest of public safety or health or due to specification requirements.

The following schedule of anticipated adverse weather delays is based upon on National Oceanic and Atmospheric Administration (NOAA) data for Fort Smith and will constitute the baseline for the total contract time adverse weather delay evaluations. The Contractor's progress schedule must assume to anticipate this degree of adverse weather delays in all weather dependent activities.

MONTHLY ANTICIPATED ADVERSE WEATHER DAYS

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
7	8	10	10	11	8	7	7	8	7	7	8

The Contractor is to provide written notification to the Engineer of the occurrence of adverse weather delay days and resultant impact to normally schedule work, within 10 calendar days of each occurrence, when such weather prevents work on critical activities for 50 percent or more of the Contractor's scheduled work day. A Time Extension may be granted when the number of actual adverse weather days calculated from the Notice to Proceed date to the date the Contractor asserts the request exceeds the total anticipated adverse weather delays using the above table for the same time period. If the Contractor wishes to assert additional claim(s) for time adjustment at a later date(s), each succeeding claim must address the time period from [Notice to Proceed] NTP date to the date of the request. No compensation will be made for monetary damages due to weather delay(s)."

We obtained all the weather day requests submitted with pay applications from November 16, 2017 through May 4, 2019. We took the number of days requested and compared them to the anticipated adverse weather days outlined in the contract documents to determine the number of days requested exceeded the anticipated days. Since the anticipated days outlined were from the 2008 standards, we also gathered more recent documentation from the NOAA regarding weather days and compared those monthly averages to the averages in the 2008 standards and noted the number of days to be similar.

On September 24, 2018, the Board approved a change order extending the project 220 days, which was inclusive of 65 weather day requests. Only 4 of the weather days requested were properly supported in inspector's documentation that was maintained. Furthermore, only 8 adverse weather days should had been approved for extension for the project, according to contract provisions, if documentation was properly maintained.

See the table below of the summary of adverse weather days requested by the contractor and the comparisons we performed during the audit.

Overall, there has been 101 adverse weather days requested by the Contractor. Only 11 of those days are allowable based on the contract provisions.

*ALL SUPPORTING DOCUMENTATION RELATED TO THE DETAILED AUDIT FINDINGS CAN BE REQUESTED TO THE CITY'S INTERNAL AUDIT DIRECTOR.

FINDING #7 (CONTINUED)

WEATHER DAY EXTENSION REQUESTS NOT PROPERLY APPROVED (REPEAT FINDING)

Weather Day Requests						
Pay App No.	Date Range	Days Requested by Contractor	Days Properly Supported	Total Days Approved by Board	Monthly Anticipated Adverse Weather Days (NOAA)	No. of Days Exceed Anticipated Days
1	11/16/17 - 12/30/17	6	0	6	11.5	0
2	12/31/17 - 2/3/18	8	0	8	7	1
3	2/4/18 - 3/3/18	13	0	13	8	5
4	3/4/18 - 3/31/18	9	0	9	10	0
5	4/1/18 - 4/28/18	7	0	7	10	0
6	4/30/18 - 6/2/18	5	0	5	11	0
7	6/3/18 - 6/30/18	4	0	4	8	0
8	7/1/18 - 8/4/18	4	0	4	7	0
9	8/5/18 - 9/1/18	9	4	9	7	2
10	9/2/18 - 9/29/18	4	0	TBD	8	0
11	9/30/18 - 11/3/18	10	4	TBD	7	3
12	11/4/18 - 12/1/18	4	0	TBD	7	0
13	12/2/18 - 12/30/18	5	0	TBD	8	0
14	1/1/19 - 2/2/19	4	4	TBD	8	0
15	3/3/19 - 3/30/19	1	0	TBD	10	0
16	3/31/19 - 5/4/19	8	6	TBD	10	0
	Totals	101	18	65	137.5	11

FINDING #8

WORK PERFORMED OUTSIDE THE SCOPE OF THE PROJECT WAS INAPPROPRIATELY INSTRUCTED BY UTILITIES MANAGEMENT (REPEAT FINDING).

BACKGROUND:

In the early stages of the project, it was discovered that the Contractor was obtaining meter boxes from the warehouse for service addresses not on the original list of addresses included in the project design specifications. Meter boxes were being used to repair services for another service leak project that had not been approved at the time.

FINDING 8:

Utilities management instructed the Contractor to use meter boxes for project 17-03-C1 on another service leak project that, at the time, had not been approved by the board. Utilities management instructed the Contractor to perform work on a separate project using materials that had been allocated for project 17-03-C1. Management stated that if the change order for the leak repair services were not approved, even though services had already been performed, the number of boxes on project 17-03-C1 would be reduced by the number of leaking services replaced on the separate project. This incident led to the request of reconciliations to be performed between the separate projects. A field order was later issued on January 22, 2019 by Utilities management removing 106 service addresses from project 17-03-C1. During the audit, it was discovered that 4 of the addresses on the field order already had work performed. After this was brought to the attention of Utilities, an updated list of addresses were provided to support the field order. The updated list only indicates 67 addresses that were supposed to have been removed and not 106 addresses.

The justification of the field order supports what Utilities management stated of reducing the addresses of the original project since other addresses had services performed that were not on the original list.

RECOMMENDATIONS:

Work should only be performed once properly authorized and approved. Materials allocated for one project should not be appropriated for use on another project, unless a change order was approved.

FINDING #8 (CONTINUED)

WORK PERFORMED OUTSIDE THE SCOPE OF THE PROJECT WAS INAPPROPRIATELY INSTRUCTED BY UTILITIES MANAGEMENT (REPEAT FINDING).

UTILITIES DEPARTMENT'S MANAGEMENT RESPONSE:

The Department concurs with finding 8 and has taken steps to correct this item. Future service line replacement projects will describe an area of work, the number of replacements, but not specific addresses. The scope of the Contract was not changed, merely address substitutions were made.

RESPONSIBLE PARTY:

Jerry Walters, Director Utilities

ESTIMATED DATE OF COMPLETION:

March, 2019

ASSESSMENT OF RESPONSE*:

Management's response, as presented, sufficiently addresses the finding. The first change order dated January 8, 2018 was for adding an additional 427 services to project 17-03-C1. This change order request was rejected by the Contractor because they knew ahead of time of the additional leaking meters would take additional time per meter, thus changing the scope of the project. However, there was still a scope change to the project as outlined in change order No. 1 that was approved later in the year. The details of the change order approved on September 24, 2018 states, "Change Order #1 adds 220 days to account for weather days, On-Call time, and the scope change in the project." Therefore, the project did experience a scope change due to the additional work that had to be performed for installing repair bands/clamps that were omitted from the original design specifications.

*ALL SUPPORTING DOCUMENTATION RELATED TO THE DETAILED AUDIT FINDINGS CAN BE REQUESTED TO THE CITY'S INTERNAL AUDIT DIRECTOR.

FINDING #9

MATERIALS NOT INCLUDED IN ORIGINAL DESIGN SPECIFICATION WERE NOT PROPERLY APPROVED FOR PAYMENT

BACKGROUND:

Pay application #1 submitted by Contractor contained $17,125.42 of materials, including saddles and repair clamps, that were not outlined in the original design specifications for the project; however, these materials were paid by the City. Per inquiry with Utilities management, it is common for Contractors to purchase materials in advance to have them on-hand when needed. The change order approving the addition of these materials was not approved until September 24, 2018, nine months after the City had already paid for them.

FINDING 9:

Pay application #1 contains materials invoiced by Contractor and paid for by the City that were not in the original design specifications, but were later approved nine months after the fact in a change order.

RECOMMENDATIONS:

Materials that will be paid for by the City that are outside the original design specifications should obtain proper approval prior to payment.

UTILITIES DEPARTMENT'S MANAGEMENT RESPONSE:

The Department disagrees with finding 9. Section 605.05(3) of the specifications details that Repair clamps shall be used when authorized by the Engineer, as it was. The acquired several in advance based on lead times. The change order only accounted for the additional labor to install the bands and the clamps as this has become a larger requirement than originally anticipated and no longer incidental to the project.

RESPONSIBLE PARTY:

Jerry Walters, Director Utilities

ESTIMATED DATE OF COMPLETION:

2018

ASSESSMENT OF RESPONSE*:

Management's response, as presented, does not sufficiently address the finding. The materials not originally included in the design specifications were not properly approved. When the Contractor realized that the installation of band and clamps was no longer incidental to the project, but a change in scope of the project, a documented approval of the material purchase should have been maintained at the time the decision was made to evidence proper approval. Materials not included in the original design specifications of the project, but yet paid for by the City reduces allocated funds for lines that are outlined in the project design specifications.

*ALL SUPPORTING DOCUMENTATION RELATED TO THE DETAILED AUDIT FINDINGS CAN BE REQUESTED TO THE CITY'S INTERNAL AUDIT DIRECTOR.

FINDING #10

MATERIAL QUANTITIES ARE NOT PROPERLY RECONCILED

BACKGROUND:

When each pay application is submitted, a reconciliation of materials on hand is performed by the Project Engineer. This reconciliation used the Contractor vendor's invoices and the material quantities used on the pay application to determine the amount that should be on hand each month.

FINDING 10:

Material quantities are not properly reconciled. Pay application #1 submitted by Contractor contained 42 units of materials (saddles) installed for the current pay application. The unit cost per the Contractor vendor's invoice was $62.881, which is a total material cost of $2,641 installed for the current period. The materials installed per the reconciliation sheet stated $2,456.36, which is a $184.64 difference that was not explained or caught during the pay application review.

In addition, inspectors should maintain evidence to verify the material quantities submitted by the contractor are accurate as part of the reconciliation process.

RECOMMENDATIONS:

Reconciliations should ensure spreadsheet formulas are accurate and any discrepancies documented to ensure all items are properly reviewed for the pay application.

UTILITIES DEPARTMENT'S MANAGEMENT RESPONSE:

The Department disagrees with finding 10. The following mathematical explanation of the calculations is provided for your education. An average is an acceptable method for expensing material.

6"x1" Saddles on invoice WF001499 for 200 saddles had a unit price of 76.929
6"x1" Saddles on invoice WF001499-1 for 100 saddles had a unit price of 62.881
Average Price for the 6"x1" equals 200 units*$76.929 + 100 units*$62.881 = $21,673.90
$21,673.90/300 units = $72.246 Avg Price/Unit

On the Materials stored sheet you will notice that Invoice WF001499 has an amount of $577.97.
($577.97) / ($72.246 Avg Price/Unit) = 8 Units

On the Materials stored sheet you will notice that Invoice WF001499-1 has an amount of $2,456.36.
($2,456.36) / ($72.246 Avg Price/Unit) = 34 Units

8 Units + 34 Units = 42 Units which matches Line Item 17 (1" Water Service Connection – 6" Main Line).

RESPONSIBLE PARTY:

Jerry Walters, Director Utilities

FINDING #10 (CONTINUED)

MATERIAL QUANTITIES ARE NOT PROPERLY RECONCILED

ESTIMATED DATE OF COMPLETION:

N/A

ASSESSMENT OF RESPONSE*:

Management's response, as presented, does not sufficiently address the finding. The item selected for testing was 6x1 CC DL SDL 5.94-6.90 at a unit price of $62.881 ordered and shipped in 100 quantity shown on invoice WF001499-1. Management's response refers to a different line item 6x1 CC DL SDL 6.84-7.60, which had a unit price of $76.929 on both invoices WF001499 and WF001499-1. The materials are different with different unit costs assessed. There were a total of 192 materials of 6x1 CC DL SDL 6.84-7.60 ordered and shipped on invoice WF001499-1. On invoice WF001499, there were 200 materials of 6x1 CC DL SDL 6.84-7.60 ordered, but only 8 shipped and invoiced. If a total of 42 units of 6x1 CC DL SDL 6.84-7.60 were installed, the total value would be 42 x $79.929 = $3,357.018.

The item selected for testing, 6x1 CC DL SDL 5.94-6.90 at a unit price of $62.881, would have a value of $2,640.96 if a total of 42 units were installed (42 x $62.881). This amount does not agree to the supporting calculation with the pay application as noted above in the background section of the finding.

*ALL SUPPORTING DOCUMENTATION RELATED TO THE DETAILED AUDIT FINDINGS CAN BE REQUESTED TO THE CITY'S INTERNAL AUDIT DIRECTOR.

EXHIBIT I

ACKNOWLEDGMENT AND MANAGEMENT RESPONSES

July 12, 2019

RE: Utility Department Audit Response for Project 17-03-C1

Vanessa M. Johnson
Managing Director
Vanessa M. Johnson, CPA, LLC
12335 Kingsride Lane #245
Houston, TX 77024

The Utility Department has completed the review of the audit that was performed on Project 17-03-C1and has provided responses for the conclusions that were listed on the audit report. Please see the attached responses for the Utilities Department audit.

Regards,

Michelle Dodroe

Michelle Dodroe, P.E.
Deputy Director of Utility Engineering

attachment

c: Jerry Walters, Director of Utility Department

Conclusion Audit Responses

The Department disagrees with the risk assessment in finding 1.

The Department performed the address reconciliation between the construction inspector's records and the warehouse. This ongoing reconciliation is performed weekly to ensure the work is recorded correctly in the proper work order. An address reconciliation was not performed with the pay applications, however, all pay applications have been completely and accurately reconciled with the inspector’s notes per bid line item, which is how the project was bid.

Responsible Party: Jerry Walters, Director Utility

Estimated Date of Completion: N/A

The Department concurs with finding 2 and has taken steps to formally document pay application processing in E-builder. However, project 17-03-C1 was bid based on material line items with total quantities, not addresses. The construction inspector currently measures and records bid items in the field, reconciles with the total quantities provided on the pay application, and approves payment based on the inspector’s records. The inspector provides the construction addresses to the warehouse weekly to be recorded properly in the work order history.

Responsible Party: Jerry Walters, Director Utility

Estimated Date of Completion: November, 2018

Acknowledged. The Department concurs with finding 3.

The Department has created electronic daily inspection logs to be filled out for each project in E-builder. Training will be provided to insure the correct information is captured in future projects.

Responsible Party: Jerry Walters, Director Utility

Estimated Date of Completion: November, 2018

The Department does not agree with finding 4.

The Lucity data provided in the background does not represent the work performed within this project; it is for service line repairs not replacements. The bands that were added to the project were for mainline connection elimination when a connection needed to be relocated, not repair. The Lucity data represents service line (1-inch) bands and clamps to repair leaks, ruptures, and

component failures, as stated in the background, which is entirely different construction. Additionally, hi-max is used to couple new and existing pipe when a leak is cut out and pipe replaced. This repair method is not part of this project and, therefore, not relevant data.

The specs for Project 17-03 were appropriate for supplementing work typically performed by City utility maintenance crews, and historically never delivered by a contractor. Relevant information, such as passed experience in construction, was used to develop the specs for this project. Survey was performed adequately to the project design needs. This project has not experienced scope creep as service line replacement is the primary scope.

Currently, the Department is developing GIS for all utility assets and making dependable data far more available for design. The utility records have greatly improved thus far, and continue to do so for future projects.

Responsible Party: Jerry Walters, Director Utility

Estimated Date of Completion: N/A

The Department disagrees with finding 5.

The City can make a provision for a contractor to pull off an ongoing non-emergency project to focus on emergency work without penalty. It is reasonable to expect a contractor may need to pull a crew off a non-emergency project to respond. Liquidated Damages for late delivery are included in the contract and are assessed as necessary. Capacity to perform the work in the allocated timeframe is the responsibility of the contractor, not the City, and there is no way to confirm a contractor's capacity. State law dictates the lowest bid is award the contract, however, the Department uses poor prior experience with contractors to refuse bid acceptance for future projects.

Responsible Party: Jerry Walters, Director Utility

Estimated Date of Completion: N/A

The Department does not agree with finding 6.

The Engineer's estimate is part of the Engineering consultant agreement and only used for budgeting purposes. The Engineer's estimate is submitted for approval and reviewed by the Project Engineer. This is industry standard for municipal design projects.

For this project specifically, bid items and pricing were provided for the consultant engineer by the Department project engineer, per documentation provided.

Responsible Party: Jerry Walters, Director Utility

Estimated Date of Completion: N/A

The Department concurs with the second half of finding 7 and has taken steps to improve the electronic weather day documentation within E-builder.

Specification Section 108.08 clearly state how weather days should be calculated and how they are defined.

> (7) All the Work, or the portion of the Work which is the currently controlling operation, is suspended due to unsuitable weather or to such conditions as are considered unfavorable to the suitable prosecution of the work, if the following conditions are satisfied:
>
> (a) The weather must actually cause a delay to the completion of the project and the delay must be beyond the control and without the fault or negligence of the Contractor, and/or
>
> (b) The Engineer orders the suspension of the work in the interest of public safety or health or due to specification requirements.
>
> The Contractor is to provide written notification to the Engineer of the occurrence of adverse weather delay days and resultant impact to normally scheduled work, within 10 calendar days of each occurrence, when such weather prevents work on critical activities for 50 percent or more of the Contractor's scheduled work day. No compensation will be made for monetary damages due to weather delay(s).

Responsible Party: Jerry Walters, Director Utility

Estimated Date of Completion: March, 2019

The Department concurs with finding 8 and has taken steps to correct this item. Future service line replacement projects will describe an area of work, the number of replacements, but not specific addresses. The scope of the Contract was not changed, merely address substitutions were made.

Responsible Party: Jerry Walters, Director Utility

Estimated Date of Completion: 2018

The Department disagrees with finding 9.

Section 605.05(3) of the specifications details that Repair clamps shall be used when authorized by the Engineer, as it was. The acquired several in advance based on lead times. The change order only accounted for the additional labor to install the bands and the clamps as this has become a larger requirement than originally anticipated and no longer incidental to the project.

Responsible Party: Jerry Walters, Director Utility

Estimated Date of Completion: N/A

The Department disagrees with finding 10. The following mathematical explanation of the calculations is provided for your education. An average is an acceptable method for expensing material.

6”x1” Saddles on invoice WF001499 for 200 saddles had a unit price of 76.929

6”x1” Saddles on invoice WF001499-1 for 100 saddles had a unit price of 62.881

Average Price for the 6”x1” equals 200 units*$76.929 + 100 units*$62.881 = $21,673.90

$21,673.90/300 units = $72.246 Avg Price/Unit

On the Materials stored sheet you will notice that Invoice WF001499 has an amount of $577.97.

($577.97) / ($72.246 Avg Price/Unit) = 8 Units

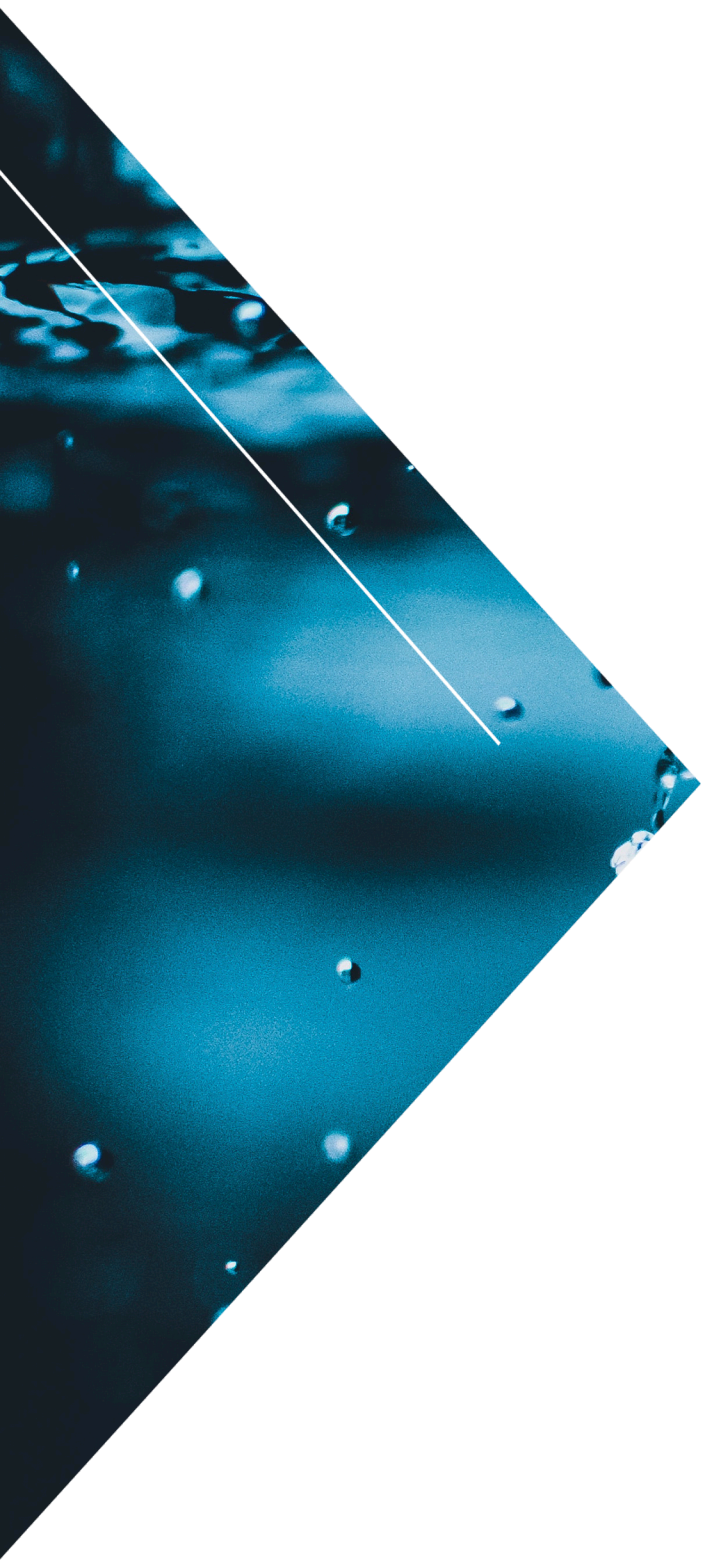
On the Materials stored sheet you will notice that Invoice WF001499-1 has an amount of $2,456.36.

($2,456.36) / ($72.246 Avg Price/Unit) = 34 Units

8 Units + 34 Units = 42 Units which matches Line Item 17 (1” Water Service Connection – 6” Main Line).

Responsible Party: Jerry Walters, Director Utility

Estimated Date of Completion: N/A



The City of Fort Smith ARKANSAS

The Utility Department

PREPARED BY

VANESSA M. JOHNSON, CPA, LLC
INTERNAL AUDIT | SOX | PROCESS IMPROVEMENT