



**Pump Station 6 Dry Pit Submersible Pump Installation  
Audit 2022-U3  
June 2023**



## PUMP STATION 6 DRY-PIT SUBMERSIBLE PUMP INSTALLATION (2022-U3)

### BACKGROUND

The City of Fort Smith has a population of approximately 89,000. The Utility Department's mission is "We are a unified team committed to delivering reliable, high-quality drinking water and water reclamation services for the City of Fort Smith and the River Valley." The City has approximately 627 miles of sanitary sewer lines, 23 pump stations, and two wastewater treatment plants.

The Utility department utilizes e-Builder, a project management software program, to manage its water and sewer projects. The Utility Department also developed a Project Management Manual to document processes used to administer infrastructure projects. The primary focus of the Project Management Manual is to guide the Utilities Department, their Project Engineers, Engineering Consultants, and Contractors through the necessary processes to accomplish the goals of each project. Finally, the Utility Department developed Standard Operating Procedures (SOP) for the Engineering Department Work Flow Process. The use of e-Builder, the project management manual, and the SOP should ensure the Utility Department properly and adequately ensures all processes and documents for each project are reviewed, complete and accurate and uploaded into e-Builder.

Under the Wastewater Pump Station Flood Damage Remediation Project, 19-29-C5, the contractor was to remove and repair the wastewater pumps for pump station 6. In December 2021, while one pump had been removed and was being evaluated, the second pump failed and the City initiated bypass pumping at the pump station. The Utility Department determined that it was more cost effective to purchase new dry pit submersible pumps than to proceed with repairing the existing pumps and the Pump Station 6 Dry Pit Submersible Pump Installation project was initiated. The total estimated cost of the project is \$3.1 million, with approximately \$2.7 million allocated to construction costs and the remainder of the cost allocated to engineering services (design and construction observation), and materials (2 dry-pit submersible pumps). Due to supply chain issues and contract changes; two change orders were approved by the Board of Directors for additional time and additional cost.

Construction Contract	Date	Contract Amount	Change Order (add \$amount)	Contract Time (Days)	Change Order (add Days)
Total Contract	8/3/2021	\$2,218,000.00		240	
Change Order 1	10/28/2021	\$2,218,000.00	\$0.00	324	84
Change Order 2	10/3/2022	\$2,666,506.12	\$448,506.12	572	248

Pump station 6 is identified in the Consent decree in Appendix B "Pump Station / Force Main Evaluations" indicating the pump station was scheduled to be replaced and in Appendix E2 "Other Previously Identified Capacity-Related Remedial Measures Projects". Pump Station 6 Rehabilitation & Capacity is included in the Utility Department's Consent Decree Capital Improvements Plan for the year 2022.

In accordance with paragraph 135 of the Consent Decree "Until five (5) years after the termination of this Consent Decree, City shall retain, and shall instruct its Consultants, Contractors and agents to preserve, all non-identical copies of all records and documents (including records or documents in electronic form) now in its or its Consultants', Contractors' or agents' possession or control, or that come

into its or its Consultants, Contractors' or agents' possession or control, and that relate in any manner to City's performance of its obligations under this Consent Decree. This record retention requirement shall apply regardless of any document-retention policy to the contrary." Therefore, it is important that the City obtain and retain all pertinent documents related to the Consent Decree.

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## **AUDIT SCOPE AND OBJECTIVES**

The scope of the audit covers activities and transactions for the Pump Station 6 Dry-Pit Submersible Pump Installation Project that occurred during the calendar year 2022. Internal Audit selected this project because the pumps were to be repaired under the Wastewater Pump Station Flood Damage Remediation project.

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

1. Comprehensive policies and procedures for Construction Management have been established and are followed by staff;
2. The City is in compliance with all applicable laws and regulations;
3. The City has an effective system of controls in place that assist in appropriately managing construction-related costs;
4. Construction project bids were awarded in compliance with applicable rules and regulations;
5. Internal controls over change orders to the contract are appropriate and adequately documented;
6. City facilities and construction projects are adequately protected from liability by insurance and bonding;
7. Information systems are reliable and timely, and accurate information is available to management and the Board; and
8. Contractors complied with the provisions stated in the contract.

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## **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 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** - Comprehensive policies and procedures for Construction Management have been established and are followed by staff.

**CONCLUSION** - The Utility staff does not consistently follow the policies and procedures for construction management that are in place. *(See findings 1 – 4)*

**AUDIT OBJECTIVE 2** - The City is following all applicable laws and regulations.

**CONCLUSION** - No findings noted.

**AUDIT OBJECTIVE 3** - The City has an effective system of controls in place that assist in appropriately managing construction-related costs.

**CONCLUSION** - No findings noted.

**AUDIT OBJECTIVE 4** - Construction project bids were awarded in compliance with applicable rules and regulations.

**CONCLUSION** - No findings noted.

**AUDIT OBJECTIVE 5** - Internal controls over change orders to the contract are appropriate and adequately documented.

**CONCLUSION** - No findings noted.

**AUDIT OBJECTIVE 6** - City facilities and construction projects are adequately protected from liability by insurance and bonding.

**CONCLUSION** - No findings noted.

**AUDIT OBJECTIVE 7** - Information systems are reliable and timely, and accurate information is available to management and the Board.

**CONCLUSION** - Information systems are not consistently reliable and timely, and therefore, accurate information is not consistently available to management and the Board. *(See findings 1 & 2)*

**AUDIT OBJECTIVE 8** - Contractors complied with the provisions stated in the contract.

**CONCLUSION** - Contractor did not comply with the provisions stated in the contract. *(See finding 1)*

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

**FINDING # 1 - PAYMENT APPLICATIONS ARE NOT CONSISTENTLY SUBMITTED IN A TIMELY MANNER.**

**BACKGROUND:**

The General Conditions of the contract describes monthly pay estimates in Article 14 and the Pre-Construction conference summary indicates that the timeliness of payment estimates was discussed.

The General Conditions of the agreement states “The ENGINEER will prepare the monthly pay estimate based on the work completed to date and the materials on hand.” Additionally, the Pre-Construction Conference Summary states “Application for periodic payments must be prepared for Engineer’s completion and recommendation prior to the first day of the calendar month. Contractor should submit pay request to Engineer by the 25<sup>th</sup> of each month.”

Payment applications and/or the schedule of values typically include the amount of work performed for each period and the amount of work performed to date. Without timely payment applications, Utility Department may not be fully aware of the exact project completion status. Utility Department may unexpectedly have to extend the contract time or may not meet requirements of the consent decree. Details in e-Builder identify the Project Type as CD-Sewer, and CD Tracker lists E2 - Projects from CD Table E2. Furthermore, the payment may not be recorded in the proper period and/or year.

**FINDING:**

Engineer submitted payment application #1 for a period of eight and one-half (8.5) months, payment application #2 for a period of six (6) months, payment application #3 for a period of two (2) months and payment application #4 was for one month. Additionally, no payment applications were received in 2023 until April 18th.

Payment Application #	Date	Amount Requested	% of Contract	% of Contract
			Amount Completed	Time Completed
1	6/30/2022	\$604,918.33	20%	80%
2	10/4/2022	\$685,097.88	61%	110%
3	12/6/2022	\$433,469.32	68%	73%
4	1/4/2023	\$95,486.59	72%	78%
5	4/12/2023	\$313,355.96	84%	95%
<b>Total To Date</b>		<b>\$2,132,328.08</b>		

Amounts and percentages from payment applications

**RECOMMENDATIONS:**

Utility Department should ensure contractor is submitting periodic payment requests in a timely manner as specified in the contract. Utility Department should also ensure that the payments are identified in the correct reporting period.

**UTILITY DEPARTMENT'S MANAGEMENT RESPONSE:**

*Water Utilities agree with the finding. This is a challenge faced with this particular contractor. Water Utilities is currently working with the City's legal team to try to find a solution moving forward. One suggestion is to place a 10% penalty for payments that are submitted late.*

**RESPONSIBLE PARTY:**

Director of Water Utilities

**ESTIMATED TIME OF COMPLETION:**

On-going: as legal is involved, the time frame for resolution is fluid and may be dependent up on the Board of Directors or court system.

**ASSESSMENT OF RESPONSE:**

Management's response, as presented, sufficiently addresses the issues identified.

**FINDING # 2 - RECORDING, REPORTING, AND APPROVAL OF WEATHER DAYS IS NOT CONSISTENTLY FOLLOWED AS DEFINED IN THE AGREEMENT. REPEAT FINDING.**

**BACKGROUND:**

Weather Days Notification Form paragraph 108.08, (c), states that the contractor is to provide written notification to the Engineer of the occurrence of adverse weather days within 15 days of each occurrence. Paragraph 108.08, (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. Additionally, the daily inspector's logs note if weather adversely affected work for the date reported.

Approved weather days may be added to the contract/agreement time when those days adversely affect the contract/agreement time. However, if weather days are not properly recorded and approved the contractor may be allowed extra time for days improperly approved. Additionally, this could affect the contract/agreement time and the calculation of liquidated damages due to the City.

**FINDING:**

- Payment application #1 and weather days notification form was for eight and one-half (8.5) months. Sixteen (16) weather days were requested and engineer approved twelve (12) weather days. However, there was no documentation for the dates requested or approved.
- Payment applications #2 through #4 do not include a weather days notification form.
- There have been no payment applications received for 2023 (January, February, and March) and therefore, no weather days notification forms have been received for 2023 through March.
- The contract does not sufficiently define weather days and requirements for requesting weather days other than notification of change in contract time as described in Article 12 of the General Conditions of the contract.

**RECOMMENDATIONS:**

Utility Department should consider the effects of weather days to the contract time and ensure all weather days approved are valid.

Utility Department should ensure contracts/agreements adequately address how weather days are defined, notification requirements, and approval requirements.

Utility Department should not approve any weather days when the contractor does not follow proper requirements as indicated in the contract.

**UTILITY DEPARTMENT'S MANAGEMENT RESPONSE:**

*Water Utilities agrees with the finding.*

*Weather day definitions in the contract will be reviewed and changed if possible. As weather is not predictable, defining what is a weather day is impossible. This is where engineering judgement is vital.*

*Water Utilities staff have been given verbal instructions to only award weather or any other extension of time days as it pertains to the contract.*

*Written notification of the proper policy based on the contract language will be provided to staff and all engineering observation firms.*

**RESPONSIBLE PARTY:**

Director of Water Utilities

**ESTIMATED DATE OF COMPLETION:**

May 15, 2023 for notification to follow proper policy

Contract Manual October 1, 2023

**ASSESSMENT OF RESPONSE:**

Management's response, as presented, sufficiently addresses the issues identified.



**FINDING # 3 - INSPECTION LOGS ARE NOT CONSISTENTLY ENTERED IN E-BUILDER.**

**BACKGROUND:**

Inspection logs are used during the construction phase to document the location of work performed, weather conditions, work performed, labor force counts, photos, etc. The inspection logs are completed and entered in e-Builder by the engineer consultant on a regular basis as specified by the project engineer and/or contract.

Contract time is specified and should be adhered to as much as possible. When there are delays, those delays should be adequately documented. Delays may result in change orders for extensions of time and/ improper calculation of liquidated damages.

**FINDING:**

Daily inspection logs are missing for 28 out of 178 regular business days, including sixteen (16) consecutive business days between October 17, 2022 and November 7, 2022.

**RECOMMENDATIONS:**

Utility Department should ensure all inspection logs are entered in e-Builder in a timely manner. Utility Department and engineer consultant should document instances when work is suspended giving reason(s) why work was suspended or no work was performed.

Utility Department should consider not granting additional time for days that are not properly documented when work was not performed on site.

**UTILITY DEPARTMENT'S MANAGEMENT RESPONSE:**

*Water Utilities agrees with the finding. Proper documentation is important and all inspection logs are now being uploaded to e-Builder.*

*New agreements will be developed for construction observation to include providing an inspection log documenting no work performed on days when the contractor is absent from the work site.*

*Water Utilities staff have been given verbal instructions to only award weather or any other extension of time days as it pertains to the contract.*

*Written notification of the proper policy based on the contract language will be provided to staff and all engineering observation firms*

**RESPONSIBLE PARTY:**

Director of Water Utilities

**ESTIMATED TIME OF COMPLETION:**

May 15, 2023 for notification to follow proper policy

New Agreements October 1, 2023

**ASSESSMENT OF RESPONSE:**

Management's response, as presented, sufficiently addresses the issues identified.

**FINDING # 4 - CONTRACTOR WAS NOT ON SITE AND NO WORK WAS PERFORMED DURING REGULAR BUSINESS DAYS.**

**BACKGROUND:**

The pre-construction conference summary states the contractor's work schedule is Monday – Friday, 7:00 A.M. – 5:00 P.M., excluding Owner holidays.

IA reviewed inspection logs for four (4) other Utility projects that the contractor for project 21-03-C1 was also working on. Those inspection logs indicate that the contractor worked on other Utility projects at times when they were not on project 21-03-C1 worksite.

This could affect the contract/agreement time and calculation of liquidated damages.

**FINDING:**

Daily inspector logs indicate that the contractor was not on site and no work was performed on nineteen (19) regular business days during 2022.

IA was not able to locate documentation in e-Builder for communication from contractor for not being on site for those dates.

**RECOMMENDATIONS:**

Utility Department should require and ensure that documentation from the contractor is provided for times when they do not report to the work site during normal business days as specified in the agreement and the pre-construction meeting.

Utility Department should take into consideration the times when the contractor does not report to the work site when granting additional time and calculating liquidated damages.

**UTILITY DEPARTMENT'S MANAGEMENT RESPONSE:**

*Water Utilities agrees with the finding. This is a challenge faced with this particular contractor. Water Utilities is currently working with the City's legal team to try to find a solution moving forward. One suggestion is to place a 10% penalty for payments that are submitted late.*

*Written request for additional time are required and will be compared to work days performed and contract language.*

*Days that have been granted for extension of this project have been due to the delay in receiving the pumps ordered by the City for this project, i.e. known supply chain issues on behalf of the City.*

*Request for additional days will only be granted in accordance with the contract.*

*Written notification of the proper policy based on the contract language will be provided to staff and all engineering observation firms*

**RESPONSIBLE PARTY:**

Director of Water Utilities

**ESTIMATED TIME OF COMPLETION:**

May 15, 2023 for notification to follow proper policy

**ASSESSMENT OF RESPONSE:**

Management's response, as presented, sufficiently addresses the issues identified.

## **OBSERVATIONS:**

### **Documentation is not consistently found in e-Builder.**

The Utility Department utilizes e-Builder, a project management software program, to manage its water and sewer projects. E-Builder contains project information specific to the Utility Department's water and sewer projects; including contracts/agreements, amendments to contracts/agreements, resolutions and ordinances relative to the project, payment applications, daily inspection logs, communications (email, letters, memos, and meeting documents), etc.

During IA's discussion with Managements, Management indicated that they thought that e-Builder was working exceptionally well.

However, the data in e-Builder varies from project to project and engineer to engineer. Documents and information uploaded into e-Builder is not consistent throughout the Engineering and Engineering Technology department and at times documents are not uploaded in e-Builder. While some differences may be expected because of the nature of the different projects, the different types of contracts/agreements, and different users uploading and entering data into e-Builder; there should be some consistency in regards to standard documents required for project contracts and agreements. The Project Management Manual and Engineering Workflow Process SOP should identify standard documents required.

Additionally, the Project Management Manual identifies a pre-construction meeting; however, the preconstruction meeting agenda and summary are not consistently uploaded to e-Builder.

Furthermore, there is not usually documentation located in e-Builder for the regular construction progress meetings.

### **Inconsistencies with information as reported in memorandums for resolutions and ordinances.**

IA reviewed resolutions and ordinances related to the projects to better understand the approval of the resolutions related to the agreements and amendments.

Below is the sequence of approvals of ordinances and resolutions related for the pump station 6 pump installation project:

- **On January 26, 2021**, the City entered into an agreement with Hawkins-Weir Engineers, Inc. to provide engineering services in connection with the PS 6 Dry Pit Submersible Pump Installation (Project 21-03-ED1). The agreement was not required to go the Board for approval because the amount of the agreement (\$66,750) did not meet the requirements for Board Approval.
- **On March 2, 2021** the Board approved ~~Resolution R-23-21~~ Ordinance No. 23-21 for the purchase of replacement pumps for Pump Station 6. The memorandum states "Because the pump station was out of service and the delivery time for the new pumps was 12 weeks and time was of the essence, the Department is requesting waiving of competitive bidding to purchase the dry-pit submersible pumps. The pumps for purchase allow for minimal re-piping of the pump station and will allow space for an additional pump should it be needed in the future." (*February 24, 2021 memorandum, Pump Station 6 Pump Replacement*) (~~Resolution No. R-23-21~~) (Ordinance no. 23-21)

- **On May, 18, 2021** the Board approved amendment number one to the agreement with Hawkins-Weir Engineers, Inc. with Resolution No. R-72-21. This amendment was required to go to the Board for approval because the new total amount (\$120,330) of the agreement exceeded the amount required for Board approval. The memorandum stated, “The new pumps require additional design work due to the size and weight of the pumps and the need to provide for a new roof with lift hatches for pump removal and installation.” *(May 16, 2021 memorandum, Amendment One to Pump Station 6 Dry Pit Submersible Pump Installation)*
- **On August 3, 2021** the Board approved the bid from Goodwin & Goodwin, Inc. for the construction of Pump Station 6 Dry Pit Submersible Pump Installation, Project 21-03 Construction Services (C1) by Resolution No. R-112-21 and an agreement with Hawkins-Weir Engineers, Inc. for engineering services, construction observation (21-03-EC1) by Resolution No. R-113-21. The memorandum states “In February 2021 the Board approved Ordinance 23-21 amending the Utility Department budget and authorized the purchase of three new pumps to be installed as part of the Pump Station conversion to submersible dry pit pumps. *(July 22, 2021 memorandum, Pump Station Six Dry Pit Submersible Pump Installation)*

The following inconsistencies with the information as presented with the Utility Department’s request for Ordinances and Resolutions are listed below:

- The timing of the agreements indicates that the City had already entered into an agreement with Hawkins-Weir Engineers, Inc. before the Utility Department requested an ordinance declaring an exceptional situation for the purchase of replacement pumps for pump station 6.

The agreement with Hawkins-Weir Engineers, Inc. states “The PS 6 Dry Pit Submersible Pump Installation (Project Number: 21-03-ED1) includes the review of available flow data to determine the viability of installing two (2) dry pit submersible pumps, review of discharge piping within the dry pit for the connection of a third pump discharge, review of the Hydraulic Institute guidelines for the current wet well and suction piping configuration, and design of a concrete headwall for the bypass pump connection. *(Hawkins-Weir agreement, Exhibit A, Scope of Services)*

- Utility management’s memorandum included with Resolution No. R-112-21 is not consistent with a previous memorandum and Ordinance. The memorandum with Resolution No. R-112-21 states that under Ordinance No. 23-21 the Board approved the purchase and installation of three (3) new pumps. Ordinance No. 23-21 does not specify a number of pumps to be purchased. It simply states “replacement pumps”, and since there were two (2) pumps installed at PS 6, it would infer that two (2) pumps would be purchased. Additionally, the statement regarding the timing of the approval of Ordinance 23-21 in the memorandum included with Resolution No. R-112-21 is not does accurately reflect the date that the Board of Directors approved Ordinance No. 23-21. The ordinance was not approved in February as stated in the memorandum; Ordinance No. 23-21 was approved at the regular Board meeting on March 2, 2021.

Ordinances and resolutions are brought to the Board Directors for approval at regular Board of Directors meetings. Supporting documentation for those resolutions and

ordinances should accurately reflect the explanation for the ordinance or resolution. Otherwise, the Board of Directors may not have correct information to decide whether to approve the ordinance or resolution or not.

**The Project was not set up in e-Builder and in the Tyler-Munis ERP system before the agreement with Hawkins-Weir Engineers was executed.**

- Project 21-03 was not set up in e-Builder until April 1, 2021;
- The project was set up in Tyler-Munis February, 26, 2021;
- The agreement with Hawkins-Weir Engineers was signed in January 26, 2021;
- Ordinance No. 23-21 was approved by the Board of Directors on March 02, 2021.
- The project request form and request for budget adjustment indicate they were sent to Finance on 04/05/2021. However, the dates of the request by email and the dates on the supporting documentation do not agree. Therefore, IA took the date of the initial email request as the date that the project was set up in Tyler-Munis.
- The project initiation in e-Builder for project 21-03, Pump Station 6 Pump Installation is dated 04/01/2021.

**Invoices for Consent Decree projects were not processed in a timely manner.**

Invoice 210130 from Hawkins-Weir Engineers, Inc. is dated February 10, 2021. However, the invoice was not uploaded to e-Builder until 04/05/2021. The Request for Payment was approved in e-Builder on 04/15/2021 and the purchase requisition was entered in Tyler-Munis on 4/15/2021. Payment was made on 04/22/2021.

Invoice 210226 from Hawkins-Weir Engineers, Inc. is dated March 17, 2021. However, the invoice was not uploaded to e-Builder until 04/05/2021. The Request for Payment was approved in e-Builder on 04/15/2021 and the purchase requisition was entered in Tyler-Munis on 4/15/2021. Payment was made on 04/22/2021.

*Water Utilities staff duly note the observations and thank Internal Audit Staff for bring these to our attention.*