



**Hillsborough
County** Florida

**Board of County Commissioners
County Internal Auditor's Office**

**Fire Sprinkler Contract
Report #2023-13
December 20, 2023**



**Hillsborough
County Florida**

County Internal Auditor

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TO: Board of County Commissioners

FROM: Melinda Jenzarli, Acting County Internal Auditor

DATE: December 20, 2023

SUBJECT: Fire Sprinkler Contract, Report #2023-13

Pursuant to the 2023 Annual Audit Plan, the County Internal Auditor's Office conducted an audit engagement of the Fire Sprinkler Inspection, Testing, Maintenance, and Repairs Contract (Fire Sprinkler Contract). The Audit Team's objective was to determine if Piper Fire Protection, Inc. (Piper) complied with the terms of the Fire Sprinkler Contract and determine the maturity of the Fire Sprinkler Contract management activities. The Countywide Maintenance Team primarily manages the Fire Sprinkler Contract under the Facilities Management & Real Estate Services Department's (FMRES) Facilities Operations and Maintenance Division (Division).

The purpose of this Report is to provide management with independent, objective analysis, recommendations, counsel, and information concerning the activities reviewed. As such, this Report is not an appraisal or rating of management.

Although the Audit Team exercised due professional care in the performance of this engagement, this should not be construed to mean that unreported noncompliance or irregularities do not exist. The deterrence of fraud and/or employee abuse is the responsibility of management. Audit procedures alone, even when carried out with professional care, do not guarantee that fraud or abuse will be detected.

I appreciate the cooperation and professional courtesies extended to the Audit Team. The County Administrator gave the Audit Team full, free, and unrestricted access to all applicable activities, records, property, and personnel necessary to accomplish the stated objective of this engagement. Personnel also provided necessary assistance for the Audit Team to effectively perform the engagement in an efficient manner.

Sincerely,

Melinda Jenzarli, CIA, CISA, CFE, CPA, MBA
Acting County Internal Auditor

Copy: Christine Beck, County Attorney
Greg Horwedel, Deputy County Administrator
John Muller, Director Facilities Management & Real Estate Services
Bonnie M. Wise, County Administrator

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EXECUTIVE SUMMARY

Pursuant to the 2023 Annual Audit Plan, the County Internal Auditor's Office conducted an audit engagement of the Fire Sprinkler Contract. The Audit Team's objective was to determine if Piper complied with the terms of the Fire Sprinkler Contract and determine the maturity of the Fire Sprinkler Contract management activities in three key areas.

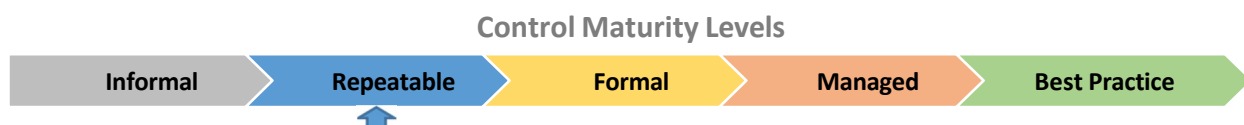
1. Facility and Equipment Inventory - Collectively, the Division's Fire Sprinkler Standard Operating Procedure (Fire Sprinkler SOP), control design, and activities performed do not provide a reasonable level of assurance that the "monitoring and reporting – inaccurate" risk is mitigated. Unsuccessfully mitigating this risk hampers the Division's ability to efficiently and effectively achieve its principal business objective to ensure the inventory listing of Hillsborough County facilities with equipment (fire sprinkler systems, fire pumps, and pre-action systems) requiring inspection and testing, prepared by Piper, and used to schedule inspections and maintenance, is accurate, complete, and reliable.
2. Piper Work Performance Validation - Collectively, the Fire Sprinkler SOP, control design, and activities performed do not provide a reasonable level of assurance that the "vendor" risk is mitigated. Unsuccessfully mitigating this risk hampers the Division's ability to efficiently and effectively achieve its principal business objective to ensure that Piper performs inspections and maintenance of fire sprinkler systems, fire pumps, and pre-action systems at various Hillsborough County facilities per its contractual obligations.
3. Fiscal Management - Collectively, the Business Operations Invoice Processing SOP, control design, and activities performed provide a reasonable level of assurance that the "transaction processing – misperformance" risk is mitigated. Mitigation of this risk enables the Division to efficiently and effectively achieve its principal business objective to ensure that Piper invoices submitted for services rendered are adequately reviewed and approved to identify contract compliance concerns before payment processing.

The Audit Team evaluated the impact control deficiencies had on ensuring the achievement of business objectives. The evaluation results are included in this Report. Recommendations were made to build upon the control environment already in place.

Other minor concerns that may have been identified and not included in this Report were communicated to management and/or corrected during fieldwork.

The exit conference was held on November 16, 2023

OVERALL OPINION



It is the Acting County Internal Auditor's overall opinion that the Fire Sprinkler Contract management activities are at the repeatable control maturity level. Controls are fragmented and ad hoc. The standard operating procedures lack detailed guidance on the Fire Sprinkler Contract management activities. This lack of detailed guidance risks the loss of institutional knowledge. There is some clarity on roles, responsibilities, authorities, and accountability.

The recommendations in this Report are designed to further strengthen and mature the control environment already in place.

AUDITED BY

Melinda Jenzarli, CIA, CISA, CFE, CPA, MBA, Acting County Internal Auditor
Abram Gablla, CIA, CGAP, Senior Internal Auditor
Jeremy Miller, CIA, MBA, Senior Internal Auditor

BACKGROUND INFORMATION

FMRES' primary business objective is to provide planning, design, construction, operation, maintenance, lease administration, and energy management of County-owned facilities. FMRES is also responsible for the County's custodial contract, land care, and parking facilities.

To assist in achieving FMRES' primary business objective, the Fire Sprinkler Contract provides for inspections and maintenance of fire sprinkler systems, fire pumps, and pre-action systems to be performed at certain County facilities in accordance with the National Fire Protection Association (NFPA) standards and other regulations. The five-year contract was awarded to Piper in February 2020 and is eligible for renewal in February 2025.

The Countywide Maintenance Team within the Division and under FMRES is responsible for overall contract management and contract compliance. The Fire Sprinkler SOP provides guidance to vendors and staff to ensure the NFPA-13 Standard for the Installation of Sprinkler Systems (NFPA-13) and NFPA-25 Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems (NFPA-25) are being applied when a fire protection system is disabled/interrupted for inspection, testing/maintenance, and/or damaged. The NFPA inspection schedule includes quarterly, semi-annual, annual, and five-year inspections based on the type of equipment installed.

The work performed under the Fire Sprinkler Contract serves two purposes: to ensure public and County staff safety through inspection and maintenance of life safety equipment; and, to comply with and retain eligibility for certain grants awarded to various County departments.

While the Division manages Piper's work performed at 41 facilities under the Fire Sprinkler Contract, six County departments are responsible for managing Piper's work at some or all of their own facilities, as indicated in the table below.

Self-Managing Department	Total Facilities
Aging Services	3
Children's Services	1
Fire Rescue	1 *Sprinklermatic performs inspections for most Fire Rescue facilities. Piper only performs repair work.
Head Start	1
Information Technology	2
Library Services	18

The Division utilizes an Enterprise Asset Management (EAM) system for data collection, principally storing invoices, work orders, and pertinent notes related to any inspections or maintenance work performed. The County departments that self-manage Piper's work have different methods to manage the contract, typically through a combination of spreadsheets and email.

The FMRES' Business Operations Division (Business Operations) is responsible for fiscal management of the contract.

ENGAGEMENT OBJECTIVE

The Audit Team's objective was to determine if Piper complied with the terms of the Fire Sprinkler Contract and determine the maturity of the contract management activities.

APPROACH

The audit was conducted in conformance with the *International Standards for the Professional Practice of Internal Auditing*. These Standards require that the County Internal Auditor's Office plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for the audit comments and conclusions based on the audit objectives. The Acting County Internal Auditor believes that the evidence obtained provides this reasonable basis.

To assist in evaluating the control environment, the County Internal Auditor's Office follows the Committee of Sponsoring Organizations of the Treadway Commission framework (COSO). This standardized system assesses and enhances internal controls, risk management, and business processes to assist organizations in maintaining accountability and achieving goals and objectives.

SCOPE

The Audit Team determined whether the following principal business objectives support the achievement of FMRES' primary business objective to provide planning, design, construction, operation, maintenance, lease administration, and energy management of County-owned facilities.

- The inventory listing of Hillsborough County facilities with equipment (fire sprinkler systems, fire pumps, and pre-action systems) requiring inspection and testing, prepared by Piper, and used to schedule inspections and maintenance, is accurate, complete, and reliable.
- Piper performs inspections and maintenance of fire sprinkler systems, fire pumps, and pre-action systems at various County facilities per its contractual obligations.
- Piper invoices submitted for services rendered are adequately reviewed and approved to identify contract compliance concerns before payment processing.

The Audit Team performed interviews, observations, and testing on the control environment and activities performed primarily from July 01, 2022, through July 31, 2023. Certain testing to determine conformance with the NFPA standards related to the frequency of inspections was expanded to April 1, 2022, through October 31, 2023.

POSITIVE ATTRIBUTE

In 2022, FMRES was accredited through The American Public Works Association (APWA) Accreditation Program, which involves a comprehensive assessment of an agency's public works practices and standards to ensure they meet established criteria and benchmarks for excellence in the field of public works. This evaluation encompasses various aspects of an agency's operations, including but not limited to infrastructure management, service delivery, sustainability, and workforce development. The goal of APWA accreditation is to validate that an agency adheres to best practices and consistently strives for high-quality service delivery and professionalism in the public works sector.

AUDIT COMMENTS & RECOMMENDATIONS

**PRINCIPAL BUSINESS OBJECTIVE
FACILITY AND EQUIPMENT INVENTORY**

AUDIT COMMENT 1

Collectively, the Fire Sprinkler SOP, control design, and activities performed do not provide a reasonable level of assurance that the monitoring and reporting – inaccurate risk is mitigated during the following activity:

- Inventory List Validation

Unsuccessfully mitigating this risk hampers the Division's ability to efficiently and effectively achieve its principal business objective to ensure the inventory listing of Hillsborough County facilities with equipment (fire sprinkler systems, fire pumps, and pre-action systems) requiring inspection and testing, prepared by Piper, and used to schedule inspections and maintenance, is accurate, complete, and reliable. Recommendations were made to build upon the control environment already in place.

1.1. INVENTORY LIST VALIDATION

DISCUSSION

Piper maintains an inventory listing of County facilities with equipment and frequency of inspections and testing. During its work, Piper performs a system survey at each facility to ensure the entire system is functioning as intended and to update each facility's equipment list. The Division maintains its own independent inventory list to assist with tracking and ensuring the quarterly, annual, and five-year inspections are completed on schedule.

AUDIT PROCEDURES

The Audit Team determined if policies and procedures align with written guiding principles and if the control design is efficient and effective to support management in achieving the inventory list validation activity and mitigating the monitoring and reporting - inaccurate risk.

To determine if Piper's inventory list is accurate and complete and activities performed conform with written guiding principles and the control design, the Audit Team interviewed management and compared inventory lists of facilities and fire protection equipment from Piper, the Division, and the Risk Management & Safety Division (maintained for insurance purposes). The Audit Team requested the Division provide the comprehensive inventory and equipment list completed by Piper within 90 days after the award of the Fire Sprinkler Contract required per §1.5.2.

FIGURE 1 – INVENTORY LIST VALIDATION		
PRINCIPAL BUSINESS OBJECTIVE – The inventory listing of Hillsborough County facilities with equipment (fire sprinkler systems, fire pumps, and pre-action systems) requiring inspection and testing, prepared by Piper, and used to schedule inspections and maintenance, is accurate, complete, and reliable. RISK: Monitoring and Reporting - Inaccurate – The inventory list used for scheduling does not contain all Hillsborough County facilities and/or the equipment that requires inspection or testing, resulting in possible loss of life and/or property due to inoperable fire safety equipment during an emergency. COSO CONTROL: Validity/Existence Tests – There are mechanisms to validate the existence of assets.		
Written Guiding Principle	Activities Performed Conform With Written Guiding Principle	
Fire Sprinkler Contract §1.5.2 , states, "During their first inspection, the Contractor shall visit each Hillsborough County facility and conduct a comprehensive inventory to verify the equipment installed requiring inspecting and testing The inventory list shall be provided electrically (e-mail) to the County Project Manager and Contracts Manager, no later than ninety (90) days from award date of contract. Should additional time be needed, Contractor shall communicate this to the County Project Manager and Contracts, and an extension may or may not be granted"	No	
Policy and Procedure	Policy and Procedure Aligns with Written Guiding Principle	
Fire Sprinkler SOP , Does not include a procedure for the Division to ensure the inventory listing used to schedule inspections and maintenance is accurate, complete, and reliable.	No	
Control Reviewed	Control Design is Efficient and Effective	Activities Performed Conform with Control Design
Control does not exist.	N/A	N/A

RESULTS

Test results indicate that the inventory list validation activity does not enable the Division to ensure the inventory list of facilities and equipment requiring inspection, testing, and maintenance under the Fire Sprinkler Contract is accurate, complete, and reliable. Test results are summarized below.

Conformance With Written Guiding Principle

Per the Fire Sprinkler Contract §1.5.2, Piper is required to provide a comprehensive inventory list to the County Project Manager and Contracts Manager no later than ninety (90) days from the award date of the contract. A comprehensive inventory and equipment list that should have been completed within 90 days after the award of the contract could not be produced or verified to have been completed.

The facilities and equipment on Piper's inventory list appear reasonably accurate and complete. A few exceptions noted, including the Riverview Library (self-managed by Library Services) not on Piper's or the Division's inventory lists and not inspected since opening to the public in 2021, were resolved by management during fieldwork.

Policy and Procedure Alignment With Written Guiding Principle

The Fire Sprinkler SOP does not include a procedure for the Division to ensure the inventory listing used to schedule inspections and maintenance is accurate and complete.

Control Design Efficiency and Effectiveness

The Division lacks a control to ensure that both Piper and the Division have an accurate and complete list of facilities that require work to be performed under the Fire Sprinkler Contract.

Conformance with Control Design

The Division lacks a control design that supports management in achieving the inventory list validation activity and mitigates the monitoring and reporting – inaccurate risk.

RECOMMENDATION

Policies, procedures, and control design are an essential part of any organization. Together, they provide a roadmap for day-to-day operations. They ensure compliance with higher-level written guiding principles, give guidance for decision-making, and streamline internal processes. Therefore, consideration should be given to building on the foundation already in place by:

- Enhancing the Fire Sprinkler SOP to include additional detailed written guidance.
- Implementing an efficient and effective control to periodically reconcile the Division's and Piper's list of facilities and equipment to ensure that both Piper and the Division have an accurate and complete list of facilities and equipment that require work to be performed under the Fire Sprinkler Contract.

Once the control deficiencies are mitigated, consideration should be given to conforming with the Fire Sprinkler Contract §1.5.2, the enhanced SOPs, and the documented control design.

MANAGEMENT RESPONSE: CONCUR

FMRES would concur that providing an enhanced written SOP can further demonstrate the assurance level of monitoring and reporting required. We would note that sprinkler inspections and tests have been and are being performed by a licensed contractor with expertise in Fire Protection in order to provide reasonable assurances and mitigate risks.

The department is further refining the Fire Sprinkler Standard Operating Procedures (SOP) to more specifically outline all necessary steps to the process complete with examples of Work Order comment sections, sample inspection sheets and equipment lists.

The Facilities Management & Real Estate Services Department (FMRES) does already receive a complete list of the facilities that is reconciled with the Contractor (Piper). However, for locations where the Piper Contract is used, but not managed by Facilities (e.g. Library Services or Aging Services) those departments need to have a reconciliation done also.

Going forward, FMRES has asked the vendor to provide a comprehensive Hillsborough County list that is all inclusive of facilities. FMRES will have to ensure that all other departments leveraging their contract have a reconciliation. In addition FMRES is including in their Business Operations SOP a checklist for all facilities that are constructed, leased, bought, sold, or transferred. The checklist will include verification of service contracts including fire protection.

TARGET COMPLETION DATE: DECEMBER 29, 2023

**PRINCIPAL BUSINESS OBJECTIVE
PIPER WORK PERFORMANCE VALIDATION**

AUDIT COMMENT 2

Collectively, the Fire Sprinkler SOP, control design, and activities performed do not provide a reasonable level of assurance that the vendor risk is mitigated during the following activities:

- Piper Work Performance Validation
- Quarterly Maintenance Reports Review

Unsuccessfully mitigating this risk hampers the Division's ability to efficiently and effectively achieve its principal business objective to ensure Piper performs inspections and maintenance of fire sprinkler systems, fire pumps, and pre-action systems at various Hillsborough County facilities per its contractual obligations. Recommendations were made to build upon the control environment already in place.

2.1 PIPER WORK PERFORMANCE VALIDATION

DISCUSSION

Before Piper starts work at a facility under the Division's responsibility, a work order is submitted and approved through the EAM system. The Division monitors Piper technicians from the start to completion of work to ensure conformance with the Fire Sprinkler Contract and NFPA standards, better understand the condition of fire protection systems, and validate hours billed. If Piper identifies repairs that can't be performed during a routine inspection, it must provide the Division with a quote for approval and scheduling.

The six self-managing departments do not consistently use the EAM system to assist in managing the Fire Sprinkler Contract, but rather a combination of spreadsheets and emails to track work scheduled and performed by Piper. Three of the self-managing departments (Fire Rescue, Information Technology, and Children's Services) monitor the work performed by Piper, while three (Library Services, Aging Services, and Head Start) do not monitor Piper's work.

AUDIT PROCEDURES

The Audit Team determined if policies and procedures align with written guiding principles and if the control design is efficient and effective to support management in achieving the piper work performance validation activity and mitigating the vendor risk.

To determine if activities performed conform with written guiding principles and the control design, the Audit Team:

- Performed interviews with the Division and the six self-managing departments to determine how each is managing the Fire Sprinkler Contract.
- Observed Piper performing an annual inspection at a facility under the Division's responsibility.
- Selected a random sample of 24 out of 66 facilities on the inventory list maintained by Piper using a 90% confidence level. Testing was conducted by comparing dates of work orders, inspections, and invoices to determine if activities performed by the Division and Piper conformed with the Fire Sprinkler Contract §1.5.5 and §1.8.3, Fire Sprinkler SOP §Notification and Authorization, and NFPA-25 as it relates to the required frequency for quarterly and annual inspections.

FIGURE 2 – PIPER WORK PERFORMANCE VALIDATION

PRINCIPAL BUSINESS OBJECTIVE – Piper performs inspections and maintenance of fire sprinkler systems, fire pumps, and pre-action systems at various Hillsborough County facilities per its contractual obligations.

RISK: Vendor Risk – Piper does not perform inspections and maintenance as required per its contractual obligations and NFPA standards, putting County employees, the public, and property at risk of loss or damage during a fire-related emergency.

COSO CONTROL: Employee/Supervisor Observation - Employees and/or supervisors directly observe the current status of achievement related to one or more business/quality objectives.

Written Guiding Principles		Activities Performed Conform With Written Guiding Principles	
<p>Fire Sprinkler Contract §1.5.5, states, "The Contractor shall conduct three (3) quarterly inspections, one (1) of which shall be considered a Semi-Annual Inspection/Test in accordance with the latest edition of NFPA-13 and NFPA-25 and one (1) Annual Fire Sprinkler Inspection/Test and required Preventative Maintenance, Minor Repairs, and Adjustments in accordance with the latest edition of NFPA-13 and NFPA-25 and Industry Standard...and one (1) Fire-year Sprinkler Inspection/Test "</p> <p>Fire Sprinkler Contract §1.8.3, states, "Contractor shall create an internal "work order" for each service and shall obtain a signature from a County employee on site at the conclusion of work. Employee signature only acknowledges Contractor staff was onsite and working. Project Manager/Designee shall schedule inspections to ascertain quality of completed work."</p> <p>NFPA-25 – requires quarterly inspections to be performed at least 2 but not more than 4 months apart. Annual inspections are to be performed at least 9 but not more than 15 months apart.</p>		No	
Policy and Procedure		Policy and Procedure Aligns with Written Guiding Principles	
<p>Fire Sprinkler SOP §Notification and Authorization, states, "The Countywide maintenance team is responsible for monitoring, reporting, and scheduling fire system inspections, testing, maintenance repairs and/or impairments All fire system inspections, testing, maintenance repairs and scheduled fire system impairments shall be coordinated/scheduled with Countywide Maintenance and inputted into EAM, before work is performed</p>		Partial	
Control Reviewed		Control Design is Efficient and Effective	Activities Performed Align with Control Design
<p>To ensure Piper conforms with the Fire Sprinkler Contract §1.5.5 and §1.8.3:</p> <p>The Division submits and approves a work order through the EAM system before Piper starts work and monitors Piper technicians at the facilities under its responsibility from the start to completion of work.</p> <p>The six self-managing departments do not consistently use the EAM system to assist in managing the Fire Sprinkler Contract, but rather a combination of spreadsheets and emails to track work scheduled and performed by Piper. Three of the self-managing departments (Fire Rescue, Information Technology, and Children's Services) monitor the work performed by Piper, while three (Library Services, Aging Services, and Head Start) do not monitor Piper's work.</p>		Partial	Partial

RESULTS

Test results indicate that the decentralization of the Piper work performance validation activity and a lack of detailed guidance in the Fire Sprinkler SOP inhibits the Division's ability to ensure conformance with the Fire Sprinkler Contract and NFPA standards. Test results are summarized below.

Conformance with Written Guiding Principles

Per the Fire Sprinkler Contract §1.5.5, Piper is required to conduct three quarterly inspections, one of which is considered a semi-annual inspection/test, one annual and one five-year sprinkler inspection/test and required preventative maintenance, minor repairs, and adjustments in conformance with the latest edition of NFPA-13 and NFPA-25. Of the 24 facilities tested, 11 exceeded the time allowed between quarterly inspections per NFPA-25. The time between these 11 quarterly inspections ranged from 4 months and 14 days to 8 months and 9 days. None of the 24 facilities tested exceeded 15 months between annual inspections as required per NFPA-25.

Figure 3 – NFPA-25 Conformance Results for 24 Facilities Tested (Inspection Frequency)

Inspection Type	NFPA-25 Requirement	Conformed with NFPA-25	Did not Conform with NFPA-25
Quarterly	Quarterly inspections must be performed at least 2 but not more than 4 months apart.	15	11 Managed by The Division (5) Library Services (4) Aging Services (2)
Annual	Annual inspections must be performed at least 9 but not more than 15 months apart.	24	0

Piper's inspection forms indicate that it complies with the 2017 NFPA edition, however, Fire Sprinkler Contract §1.5.5, specifies that the latest NFPA edition should be used, which currently is the 2020 edition. FMRES indicated that it plans to update the applicable language in the Fire Sprinkler Contract to state that the NFPA edition to be used is the latest edition adopted by the Authority Having Jurisdiction (AHJ). FMRES confirmed with the Hillsborough County and City of Tampa Fire Marshals (the AHJs) that the 2017 NFPA edition has been adopted through December 31, 2023. It is expected that the AHJs will adopt the 2020 NFPA edition effective January 01, 2024, and should be the edition guiding Piper's work as of that date.

Per the Fire Sprinkler Contract §1.8.3, Piper is required to create an internal "work order" for each service and obtain a signature from a County employee onsite at the conclusion of work to acknowledge Piper was onsite and working. The 24 facilities tested had 75 service orders completed by Piper. Only seven were signed by a County employee to acknowledge Piper was onsite and working. During fieldwork, the Division indicated that it started requiring an employee onsite to sign Piper's service order at the completion of work to acknowledge Piper was onsite and working.

Policy and Procedure Alignment With Written Guiding Principles

The Fire Sprinkler SOP includes that the Countywide Maintenance Team is responsible for monitoring, reporting, and scheduling fire system inspections, testing, maintenance, repairs, and/or impairments, however, it lacks detailed written guidance for County employees on how to ensure that occurs.

Control Design Efficiency and Effectiveness

The control design is inefficient and could be more effective as the decentralization of the Fire Sprinkler Contract management activities requires:

- Multiple areas to oversee the work and fiscal activities for a single contract/vendor.
- Some staff in the self-managing departments to oversee work without adequate experience or expertise.

The Division's current level of oversight may not be an efficient use of resources based on Piper's degree of experience, industry credentials, and historical work performance. Neither the Fire Sprinkler Contract nor NFPA standards require monitoring a qualified contractor's work performance from start to finish. The Fire Sprinkler Contract does require the scheduling of inspections after Piper's work is complete to ascertain the quality of work performed.

Conformance with Control Design

Per the Fire Sprinkler SOP §Notification and Authorization, before Piper starts work at a facility under the Division's responsibility, a work order is submitted and approved through the EAM system. Of the 75 inspections completed by Piper at the 24 facilities tested, 36 were under the Division's responsibility, of which 34 had an approved work order in the EAM system. Per the Division's control to monitor Piper's work from start to completion, 32 of the 34 approved work orders had the monitoring employee's time reported on the work order. During the Audit Team's observation of Piper performing an annual inspection, the Fire Sprinkler SOP was followed related to the Division's responsibility for monitoring fire system inspections.

RECOMMENDATION

Policies, procedures, and control design are an essential part of any organization. Together, they provide a roadmap for day-to-day operations. They ensure compliance with higher-level written guiding principles, give guidance for decision-making, and streamline internal processes. Therefore, consideration should be given to building on the foundation already in place by:

- Enhancing the Fire Sprinkler SOP to include additional detailed written guidance and to ensure that accurate, timely, and complete comments, labor information, inspection reports, and other documentation, as applicable, are added to work orders in the EAM system. As the system of record, EAM should be reliable for the Division and other authorized users.
- Implementing the embedded employee model demonstrated by FMRES to centralize contract management responsibilities under FMRES to help ensure work is performed per the Fire Sprinkler Contract requirements and NFPA standards. Utilizing embedded employees who work at a job site outside of FMRES and report functionally to FMRES can increase efficiency, allow for greater flexibility in scheduling and completing contract work, and provide for employees with the experience and expertise to better monitor work being performed on the County's fire protection systems.
- Modifying the level of vendor oversight to align with the requirements in the Fire Sprinkler Contract by conducting inspections after Piper has completed its work or by monitoring work performed on a certain percentage of work orders or classifying facilities and monitoring work as it's performed at those facilities determined to be higher priority based on the type of fire protection systems installed and/or potential impact to people, buildings, and/or the surrounding environment in the event of a fire-related emergency. Higher priority inspections might include annual or five-year inspections because of their increased scope.
- Clarifying language in the Fire Sprinkler Contract that the governing NFPA edition should be the latest edition adopted by the AHJ.

Once the control deficiencies are mitigated, consideration should be given to conforming with the Fire Sprinkler Contract §1.5.2, the enhanced SOPs, and the documented control design.

MANAGEMENT RESPONSE: CONCUR

FMRES would concur that work performance validation and formal Quarterly Maintenance Report Reviews would further demonstrate the assurance level of monitoring and reporting required. We would note that sprinkler inspections and tests have been and are being performed by a licensed contractor with expertise in Fire Protection in order to provide reasonable assurances and mitigate risks.

Addressed in response #1 above. The department is further refining the Fire Sprinkler Standard Operating Procedures (SOP) to more specifically outline all necessary steps to the process complete with examples of Work Order comment sections, sample inspection sheets and equipment lists.

TARGET COMPLETION DATE: DECEMBER 29, 2023

We would note that the internal audit included several County Departments which have maintenance personnel under their Departmental leadership to manage facilities related contracts, issues, or projects. These Departments are not obligated to follow the FMRES Fire sprinkler SOP, and do not provide FMRES reports nor scheduling information for their facilities. As a result, their inspection information cannot be found in the Facilities Asset management system (EAM).

Going forward the intent is to consolidate these maintenance resources through the assistance and collaboration of the executive staff and HR director. Maintenance personnel would report to the FMRES Department and work onsite with their respective departments. Direct FMRES oversight will standardize training, approach, and incorporate the FMRES Fire Sprinkler SOP and timely submittals into EAM.

TARGET COMPLETION DATE: OCTOBER 01, 2024

Much consideration goes into scheduling and providing oversight. Some facilities require special access and /or escorts while others are unmanned, or manned on partial basis (hybrid).

The department is taking the suggestion under advisement and will look to classify single, one-story facilities that are manned and have simple, stand pipe system set up for quarterly inspections to maximize staff utilization. The staff at these facilities will need to be pre-selected so training and access can be provided to accomplish these inspections. Due to the nature of these inspections, verifying them after the fact will be difficult as FMRES staff would have no way to determine if all components of the inspections are complete. Instead we would recommend a % of periodic, unannounced checks by FMRES at these sites be conducted as we can then visually verify the inspection being conducted.

TARGET COMPLETION DATE: JANUARY 31, 2024

While the contract calls for the "latest edition" we will notify both Piper & Procurement that the contract should be corrected to state "the latest edition adopted by the Authority Having Jurisdiction ("AHJ"). To that point: We have verified with Hillsborough and City of Tampa Fire Marshalls that until 12/31/2023 the 2017 NFPA version is the version most current for our facilities.

TARGET COMPLETION DATE: DECEMBER 29, 2023

2.2 QUARTERLY MAINTENANCE REPORTS REVIEW

DISCUSSION

The Fire Sprinkler Contract, §1.9.2 and §1.9.3, requires Piper to provide the project manager with quarterly maintenance reports of all services performed. Instead of requiring Piper to provide quarterly maintenance reports, the Division prepares its own report to track inspections and follow-up maintenance.

AUDIT PROCEDURES

The Audit Team determined if policies and procedures align with written guiding principles and if the control design is efficient and effective to support management in achieving the quarterly maintenance reports review activity and mitigating the vendor risk.

To determine if activities performed conform with written guiding principles and the control design, the Audit Team interviewed management and requested the quarterly maintenance reports Piper provided to the Division during the audit period required per §1.9.2 and §1.9.3 of the Fire Sprinkler Contract.

FIGURE 4 – QUARTERLY MAINTENANCE REPORTS REVIEW		
PRINCIPAL BUSINESS OBJECTIVE – Piper performs inspections and maintenance of fire sprinkler systems, fire pumps, and pre-action systems at various Hillsborough County facilities per its contractual obligations. RISK: Vendor Risk – Piper does not perform inspections and maintenance as required per its contractual obligations and NFPA requirements, putting County employees, the public, and property at risk of loss or damage during a fire-related emergency. COSO CONTROL: Results & Status Reports/Reviews - There are processes or other mechanisms that report on or examine the achievement status of a particular objective or objectives. For example, management review of monthly or quarterly results against targets.		
Written Guiding Principle	Activities Performed Conform With Written Guiding Principle	
Fire Sprinkler Contract §1.9.2 , states, "A complete and accurate Maintenance Report shall be furnished in either a Pdf or Excel format and submitted electronically. This maintenance report shall be provided for all services; including but not limited to five year, annual, quarterly and / or repair maintenance services " Fire Sprinkler Contract §1.9.3 , states, "Reports shall be submitted and sent quarterly to the Project Manager and Contracts via email "	No	
Policy and Procedure	Policy and Procedure Aligns with Written Guiding Principle	
Fire Sprinkler SOP , Does not include the submittal and/or review of the quarterly maintenance reports required to be submitted by Piper.	No	
Control Reviewed	Control Design is Efficient and Effective	Activities Performed Conform with Control Design
Control does not exist.	N/A	N/A

RESULTS

Test results indicate that the quarterly maintenance reports review activity does not enable the Division to ensure Piper is in conformance with the Fire Sprinkler Contract and NFPA standards. Test results are summarized below.

Conformance with Written Guiding Principle

Per Fire Sprinkler Contract § 1.9.2 and § 1.9.3, Piper is required to provide the Division with quarterly maintenance reports of all services performed. The Division has not required Piper to provide the quarterly maintenance reports.

Policy and Procedure Alignment With Written Guiding Principle

The Fire Sprinkler SOP does not include the submittal and/or review of the quarterly maintenance reports required to be submitted by Piper.

Control Design Efficiency and Effectiveness

The Division lacks a control to review quarterly maintenance reports provided by Piper.

Conformance with Control Design

The Division lacks a control design that supports management in achieving the quarterly maintenance reports review activity and mitigates the vendor risk.

RECOMMENDATION

Policies, procedures, and control design are an essential part of any organization. Together, they provide a roadmap for day-to-day operations. They ensure compliance with higher-level written guiding principles, give guidance for decision-making, and streamline internal processes. Therefore, consideration should be given to building on the foundation already in place by:

- Requiring Piper to provide quarterly maintenance reports per § 1.9.2 and § 1.9.3 of the Fire Sprinkler Contract.
- Enhancing the Fire Sprinkler SOP to include additional detailed written guidance.
- Implementing an efficient and effective control to validate that all equipment due for inspection and/or needing repairs was completed and ensure compliance with the Fire Sprinkler Contract and NFPA Standards regarding the frequency of required inspections.

Once the control deficiencies are mitigated, consideration should be given to conforming with the Fire Sprinkler Contract § 1.9.2 and § 1.9.3, the enhanced SOPs, and the documented control design.

MANAGEMENT RESPONSE: CONCUR

Piper Fire is providing quarterly written reports as of October 2023. Additionally there is a meeting with Piper personnel to review the inspection reports and discuss scheduling.

TARGET COMPLETION DATE: OCTOBER 23, 2023

Addressed in response #1 above. The department is further refining the Fire Sprinkler Standard Operating Procedures (SOP) to more specifically outline all necessary steps to the process complete with examples of Work Order comment sections, sample inspection sheets and equipment lists.

TARGET COMPLETION DATE: DECEMBER 29, 2023

As of October 2023, the entire year is now scheduled in EAM for FMRES managed facilities to ensure compliance with the Fire Sprinkler Contract and NFPA Standards regarding the frequency of required inspections. Once the self-managed departments and their maintenance embeds are reassigned those facilities inspections will also be added into EAM.

TARGET COMPLETION DATE: OCTOBER 01, 2024

**PRINCIPAL BUSINESS OBJECTIVE
FISCAL MANAGEMENT**

AUDIT COMMENT 3

Collectively, the Business Operations Invoice Processing SOP, control design, and activities performed provide a reasonable level of assurance that the transaction processing – misperformance risk is mitigated during the following activity:

- Invoice processing validation.

Mitigation of this risk enables the Division to efficiently and effectively achieve its principal business objective to ensure that Piper invoices submitted for services rendered are adequately reviewed and approved to identify contract compliance concerns before payment processing.

3.1 INVOICE PROCESSING VALIDATION

DISCUSSION

Billing for quarterly, semi-annual, annual, and five-year inspections is based on building square footage, with exceptions for fire hydrant, pre-action, and Vesda/Sapphire system inspections as specified in the Fire Sprinkler Contract.

Piper invoices received for services performed at facilities under the Division's responsibility are routed to Business Operations. The Business Operations fiscal staff verifies that information on an invoice matches information displayed in Oracle Cloud. An approver within the Division is emailed requesting review and approval or rejection of the invoice. Once validated by the Division approver and Business Operations fiscal staff, a FMRES administrative assistant is instructed to process the receipt of the invoice. Once receipted, Oracle Cloud moves the process to the Clerk of the Circuit Court's County Finance Department to review, process payment, and post to the general ledger.

Piper invoices received for services performed at a self-managing facility are routed to the applicable self-managing department for review and approval.

AUDIT PROCEDURES

The Audit Team determined if the policy and procedure align with the written guiding principle and if the control design is efficient and effective to support management in achieving the invoice processing validation activity and mitigating the transaction processing – misperformance risk.

To determine if activities performed conform with the written guiding principle and the control design, the Audit Team:

- Selected two facilities (Pierce Street Garage and Mosquito Control) under the Division's responsibility to perform a walkthrough of the Business Operations procedures for invoice processing validation. A review of the self-managing department's standard operating procedures for invoice processing validation was not included in the Audit Team's scope of work.
- Selected a random sample of 24 out of 66 facilities on the inventory list maintained by Piper using a 90% confidence level. During the audit period, 75 invoices were processed for services Piper performed at the 24 facilities selected in the random sample. Testing was performed to determine if each invoice was validated in Oracle Cloud, accurate based on the type of work completed and/or building square footage, excluded any preventative maintenance or minor repairs or adjustments, charged against the correct blanket purchase agreement, and posted to the correct general ledger account.

FIGURE 5 – INVOICE PROCESSING VALIDATION

PRINCIPAL BUSINESS OBJECTIVE – Piper invoices submitted for services rendered are adequately reviewed and approved to identify contract compliance concerns before payment processing.

RISK: Transaction Processing - Misperformance – Inaccurate Piper invoices are approved for payment and/or posted to the incorrect general ledger account, resulting in inaccurate financial reporting and possible budget overruns.

COSO CONTROL: Reconciliations/Comparisons/Edits - There are traditional control techniques such as reconciling bank accounts, comparisons of sub ledger totals to control accounts, system edits, etc. that are relevant to the achievement of the objective.

Written Guiding Principle		Activities Performed Conform With Written Guiding Principle	
Fire Sprinkler Contract §1.12.1, states, "Contractor shall submit an original invoice ... to include all data elements indicated on the Blanket Purchase Agreement"		Yes	
Policy and Procedure		Policy and Procedure Aligns with Written Guiding Principle	
Business Operations Invoice Processing SOP includes, Upon notification from Oracle that an invoice has been received, the SOP instructs fiscal staff to email the approver distribution and copy certain other FMRES staff. An approver reviews the invoice and sends an email reply confirming approval or rejecting the invoice.		Yes	
Control Reviewed		Control Design is Efficient and Effective	Activities Performed Conform with Control Design
Business Operations fiscal staff verify information on an invoice matches information displayed in Oracle Cloud. An approver within the Division is emailed requesting review and approval or rejection of the invoice. Once validated by the Division approver and Business Operations fiscal staff, a FMRES administrative assistant is instructed to process receipt of the invoice.		Yes	Yes

RESULTS

Test results indicate that the invoice processing validation activity enables the Division to ensure Piper invoices are adequately reviewed and approved before payment processing. Test results are summarized below.

Conformance with Written Guiding Principle

Per the Fire Sprinkler Contract §1.12.1, Piper is required to submit an original invoice including all data elements indicated on the Blanket Purchase Agreement 220204834. Of the 75 Piper invoices tested, no material concerns were identified.

Policy and Procedure Alignment With Written Guiding Principle

The Invoice Processing SOP provides detailed written guidance that aligns with the Fire Sprinkler Contract, §1.12.1.

Control Design Efficiency and Effectiveness

The control design is efficient and effective. The procedures followed by the Division and Business Operations fiscal staff complement the invoice to payment process in Oracle Cloud.

Conformance with Control Design

For the two facilities selected to perform a walkthrough, Business Operations followed its Invoice Processing SOP.