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# FCPS Audit Report: 24-1002 – Facilities Maintenance Audit

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February 2024

Prepared by  
Office of Auditor General

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# Report Highlights

<p><b>Background:</b> The Office of Facilities Management's (OFM) Facilities Maintenance program operates five satellite maintenance facilities to provide support throughout FCPS. The Work Order Branch manages work order requests with the assistance of TeamWORKS<sup>1</sup>, its management system, assigning work to 324 FCPS tradespersons as well as to outside vendors.</p>	<p><b>Audit Objectives:</b></p> <ul style="list-style-type: none"> <li>• Evaluate the status of fiscal year (FY) 18 Facilities Maintenance audit remaining recommendations.</li> <li>• Evaluate internal controls (including work orders, assets and inventory and monitoring of overtime).</li> <li>• Evaluate relevant FCPS policies and regulations.</li> <li>• Conduct a physical count of select facility maintenance assets and inventory.</li> </ul>
<p><b><u>Financial Indicators (from FCPS FY23 Program Budget):</u></b> OFM Budget: \$69.1 million Total Positions: 454.8 Annual Work Order Requests: 100,000</p>	

#	Findings	Recommendations
1	Control deficiencies related to workflows approval, maintenance response and completion time, and documentation of work order.	(a) Develop written procedures, (b) Ensure employees are complying with work order standard operating procedures and (c) Conduct quality reviews and obtain feedback from customers.
2	Preventive maintenance work orders are generally not completed as scheduled. Also, all preventive maintenance work orders are not prioritized in TeamWORKS.	Consider forming a dedicated preventive maintenance team and utilize TeamWORKS to prioritize preventive maintenance tasks.
3	Not utilizing benchmarking or key performance indicators to measure work order process effectiveness.	Establish and track key performance indicators corresponding to FCPS' strategic goals and measuring operational performance.
4	TeamWORKS is inefficient.	Explore information systems with functionalities better suited to support current OFM operations.
5	No comprehensive process to ensure compliance with all federal, state, and other requirements.	Organize existing processes to assure compliance and define roles and responsibilities of staff to ensure regulatory risks are minimized.

Risk rating: High, Moderate and Low

**One observation:** No formal annual physical count performed when the inventory balance is kept constant for an accurate inventory count at a specific point in time.

Management concurred with all findings and recommendations.

For more information and context, please refer to the report in its entirety.

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<sup>1</sup> TeamWORKS is a computerized maintenance management system to facilitate the work order management process.

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## Executive Summary

Office of Auditor General (OAG) conducted a performance audit of the Office of Facilities Management's (OFM) Facilities Maintenance program in accordance with the Fiscal Year (FY) 2024 audit plan approved by the Fairfax County School Board.

OFM is responsible for routine preventive and reactive building and grounds maintenance services, facilities infrastructure repair and replacement, and energy conservation in the design and operation of Fairfax County Public Schools (FCPS) facilities, as well as warehouse operations.

OFM operates four satellite maintenance facilities to provide mechanical, electrical, and structural maintenance and repair operations throughout FCPS. A fifth centralized facility is responsible for grounds maintenance and centralized trades functions.

The scope of this audit includes an evaluation of FCPS facilities maintenance process for FY 2023 (July 1, 2022 to June 30, 2023). The objectives of this audit included the following:

- Evaluate the current status of the remaining recommendations from the FY18 Facilities Maintenance audit.
- Evaluate FCPS internal controls over facility maintenance, specifically for maintenance work orders and determine if (a) estimate is aligned with the work being performed, and (b) whether the workflow is effective.
- Evaluate FCPS policies, other regulations, and controls surrounding facility maintenance assets and inventory, and monitoring of hours (including overtime) worked by staff.
- Conduct a physical count of select facility maintenance assets and inventory.

As a result of this audit, OAG identified one high risk finding, four moderate risk findings, and one observation which are detailed below:

**Finding 1 - Work Order Internal Control Deficiencies [High risk]:** OAG reviewed a sample of 28 completed work orders including 20 reactive maintenance (RM), five preventive maintenance (PM), and three DC407<sup>2</sup> and noted internal control inefficiencies related to workflows approval, maintenance response and completion time, and documentation of work order. Specifically, OAG noted:

- Work orders are not properly documented prior to their closing. OAG identified ten work orders that did not include sufficient and/or accurate information. For six of the ten work orders, the cost of labor, materials and details of when work was performed were not documented. The other four work orders reflected work performed by vendors and failed to capture the correct cost, the vendor completion date, or evidence of OFM monitoring to ensure that vendors completed the work orders.
- OFM has not established standards to guide the expected time of maintenance completion. TeamWORKS<sup>3</sup> has the capability to track estimated work order date (completion deadline); however, OFM is not currently utilizing that field.
- OFM is not sending or following up on customer satisfaction surveys. While TeamWORKS is capable of sending online customer satisfaction surveys, a

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<sup>2</sup> DC407 work orders refer to work that alters or adds to an existing FCPS facility.

<sup>3</sup> TeamWORKS is a computerized maintenance management system to facilitate the work order management process.

review of 23 work orders (20 reactive maintenance and three DC407) revealed OFM did not send surveys requesting feedback for these work orders.

- While OFM has verbally communicated guidance for work order response time, OAG noted that these guidelines are not formally documented, or being tracked in TeamWORKS to ensure accountability.
  - Supervisors are responsible for approving a technician's work order for accuracy before sending it for closing. OAG noted that 18 work orders were not properly approved by a supervisor. Furthermore, four work orders tasks were not ideally segregated as the supervisor conducted and approved work orders.
  - OFM does not have an adequate mechanism to verify the accuracy and reasonableness of technician hours to complete the work order. Per OFM, supervisors utilize their years of experience to review work orders for reasonableness of hours worked.
- **Recommendation:** OAG recommends OFM develop and communicate written procedures to guide the work order process and increase monitoring and oversight to include conducting quality reviews and obtaining feedback on customer satisfactions.

**Finding 2 - Deferred Preventive Maintenance Work Orders [Moderate risk]:** Preventive maintenance work orders are not completed as scheduled. OFM is currently operating at a Reactive Management Level (Level 4), as defined by APPA Maintenance Standards (formerly known as the Association of Physical Plant Administrators). Level 4 is characterized by maintenance activities being performed inconsistently or not at all with a preventive maintenance ratio of 25-50%. OFM aspires to be at the Comprehensive Stewardship Level (Level 2), where maintenance activities appear to be organized and maintenance calls are responded to in a timely manner with a preventive maintenance ratio of 75-100%. Furthermore, OFM does not have an official process to prioritize preventive maintenance work orders in TeamWORKS.

- **Recommendation:** OAG recommends OFM enhance the preventive maintenance program; consider forming a dedicated preventive maintenance team; and utilize TeamWORKS to prioritize preventive maintenance tasks based on a documented risk model.

**Finding 3 - Benchmarking and Key Performance Indicators [Moderate risk]:** OFM does not currently utilize effective benchmarking or Key Performance Indicators (KPI) to measure work order process effectiveness.

- **Recommendation:** OAG recommends OFM establish and track KPIs that correspond to FCPS' strategic goals and measure performance of operations; communicate the results of KPIs at regular intervals to leadership; and explore benchmarking with other educational institutions.

**Finding 4 - Improvements to Existing Information System (TeamWORKS) [Moderate risk]:** TeamWORKS, the information system that supports OFM's operations, is inefficient. It was established in the 1990s. Although it has supported OFM for decades, daily operations could run more effectively and efficiently if the supporting information system is improved.

- **Recommendation:** OAG recommends OFM consider exploring information systems with functionalities better suited to support current OFM operations.

**Finding 5 - Comprehensive Process to Ensure Compliance with Federal, State and Local requirements [Moderate risk]:** While OFM is not aware of non-compliance issues with federal, state and local regulations, it does not appear that OFM has a comprehensive process to ensure compliance with all applicable requirements. Although OFM assigns tasks internally to OFM technicians, it does not appear that there is clarity on the roles and responsibilities of the different staff member involved. Additionally, there is not an explicit role within OFM overseeing the compliance effort.

- **Recommendation:** OAG recommends OFM organize the existing processes in place and define roles and responsibilities of staff to ensure regulatory risks are managed at an acceptable level.

**Observation 1 - Inventory and Assets Physical Count:** OAG observed that warehouse stockroom managers at five satellite locations perform the inventory physical count individually and separately multiple times during the fiscal year. There is no formal annual physical count performed when the inventory balance is kept constant (in accounting terms - "*freeze*" the *inventory*), for an accurate inventory count at a specific point in time.

OAG observed that a physical count of assets is currently conducted every three to five years.

- **Recommendation:** OAG recommends OFM consider (a) formalizing the inventory physical count process, (b) maintaining the relevant supporting documents and records, and (c) increasing the frequency of performing the assets physical counts, based upon the risk level of the assets.

Management agrees with the findings and recommendations. We appreciate the consultation, cooperation, and courtesies extended to our staff by OFM.

# Background, Scope and Objectives, and Methodology

## Background

Office of Facilities Management (OFM) is responsible for routine preventive and reactive building and grounds maintenance services, facilities infrastructure repair and replacement, and energy conservation in the design and operation of FCPS facilities. As of February 2024, OFM reports into the Facilities Services & Capital Programs Department.

Per the fiscal year (FY) 2023 FCPS Program Budget, the budget expenditure for OFM totals \$69.1 million and includes 454.8 positions to support more than 220 FCPS facilities consisting of over 27.7 million square feet and approximately 3,800 acres. Annual work order requests received are about 100,000.

OFM operates four satellite maintenance facilities to provide mechanical, electrical, and structural maintenance and repair operations throughout FCPS. The Herndon Support Center serves 39 facilities in the northern area of the County. The Merrifield Support Center serves 54 facilities in the northeastern portion of the County. The Edison Support Center serves 64 facilities in the southern end of the County. The remaining 68 facilities are served by the Sideburn Support Center in central Fairfax. Refer to [Appendix A - Office of Facilities Management Sections and Satellites](#).

### Work Order Process:

Maintenance and repair work orders are any type of work required by an existing FCPS facility that involves repairs or direct replacement to include preventative and reactive maintenance. The Work Order Branch under the Facilities Resource Management Section, receives and manages work order requests. Both in-house technicians and third-party vendors perform the maintenance and repair services. As outlined in the FY 2023 Program Budget, OFM employed 324 tradesperson positions that are assigned maintenance work orders based on the type of trade needed to complete the work order.

OFM utilizes TeamWORKS, a computerized maintenance management system, to facilitate the work order management process. TeamWORKS functions as the central document repository for work order-related documentation, it allows OFM to manage work order activities through the entire lifecycle (See [Appendix B - Work order Flowchart](#)) from initial request through completion. TeamWORKS also records the amount of labor and materials used. However, the data may not be accurate and complete (refer to [Finding 1](#) for additional information).

- **Preventative Maintenance (PM) Work Orders**

Preventive maintenance work orders are planned and periodic inspections, adjustments, protection, and minor replacements of building system elements and components. Typical preventive maintenance tasks may include painting exterior walls and windows, replacing filters, cleaning drains and testing alarms and security systems.

Preventive maintenance work orders are set up in TeamWORKS, on a pre-determined schedule defined by the Asset Management Section. Once a week, the Work Order Branch pushes the system to release preventive maintenance work orders to respective trade supervisors. However, these work orders are not assigned a level of priority as done for reactive

maintenance work orders. The trade supervisors are responsible for prioritizing which preventive maintenance work orders will be completed first (refer to [Finding 2](#) for additional information).

- **Reactive Maintenance (RM) Work Orders**

Reactive maintenance work orders are unplanned, repair of inoperative, deficient, or damaged building system elements and components to return the item to working order. OFM prioritizes reactive maintenance work orders as either Emergency, Serious, Routine, or Planned based on the severity of the inoperative component and its impact on the health and safety of the occupants. **Table 1** provides the response time for each priority level based on OFM verbal guidance:

**Table 1 - RM Priority**

Priority Level	Description	Response Time
Emergency	Immediate repairs required to correct hazard, a serious health problem, a situation that has stopped the instructional program, a problem affecting the security of a building, or a condition, that if not repaired, could cause extensive property damage.	Within 1 hour
Serious	Repairs that do not require immediate attention, however, if not handled promptly could cause a potential emergency.	Within 24 hours (0-1 working day)
Routine	Repairs that are not of an emergency nature.	Within 48 hours (0-2 working days)
Planned	Any maintenance that can be scheduled within time frame of schedule.	As time allows

All emergency maintenance and repair work orders are called into the Facilities Management Work Order Section phone number. This is limited to immediate repairs required to correct a safety hazard, a serious health problem, a situation that has stopped an instructional program or a problem affecting the security of a facility. All non-emergency work order requests (serious, routine and planned) are submitted by requestors through the Facilities Management Work Order Request on the EmployeeHub that provides access to TeamWORKS.

- **DC407 Work Orders**

DC407 work orders consists of requests that alters or adds to an existing FCPS facility. They are submitted through Facilities Improvement Request Form (DC407). OFM performs certain DC407 requests except for construction projects that require county permits. Typical DC407 requests include turf fields, key and lock requests, wall signs installations and light installations.



During FY 2023, OFM received a total of 116,457 work orders. **Table 2** below includes the total number of work orders requested and the status of those work orders as of October 2023. For a detailed analysis of FY 2023 work orders, refer to [Appendix C - FY 2023 Work Orders Analysis](#).

**Table 2 – FY2023 Work Order Status**

<b>Work Orders</b>	<b>Reactive Maintenance</b>	<b>Preventive Maintenance</b>	<b>DC407</b>	<b>Total</b>
FY 2023 Completed	68,294	17,182	1,241	86,717
FY 2023 Incomplete	1,572	28,168	0	29,740
<b>Total</b>	<b>69,866</b>	<b>45,350</b>	<b>1,241</b>	<b>116,457</b>

**Asset Management:**

The Asset Management Section has developed analytics to identify lifecycle expectations and optimize service life by the application of effective maintenance and replacement strategy. Along with lifecycle analysis, Asset Management has implemented a process to perform and assign a base condition and mission criticality rating to each asset. The asset condition and criticality rating combine to provide an industry-accepted asset assessment index value, which allows staff to prioritize resources for maintenance and replacement.

In addition, this section is also responsible for development and implementation of the preventive maintenance program within the department. Through its preventive maintenance program oversight and enforcement combined with its asset management efforts, the Asset Management Section supports OFM’s role in preserving the value of FCPS assets while maximizing its return on investment. OFM uses the asset module in TeamWORKS information system to track facilities’ assets during their lifecycle.

**Inventory Management:**

The Inventory Management Branch under the Facilities Resource Management Section administers five distribution centers that are located at the Sideburn, Edison, Herndon, Merrifield, and Woodson (Grounds) Support Centers. The branch is also responsible for the management of the custodial and trades employee uniform and safety shoe programs. Inventory functions include inventory cycle counting, parts issues, parts and materials receipts, inventory replenishment requirements, capital assets and surplus of excess equipment. On-hand inventory averages 13,000 individual line items.

The Procurement Branch under the Facilities Resource Management Section is responsible for the procurement of inventory, equipment, and replacement parts.

**Scope and Objectives**

OAG conducted this performance audit in accordance with Generally Accepted Government Auditing Standards (GAGAS). 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. We believe that the evidence obtained provides a reasonable basis for our findings, observations and conclusions based on our audit objectives.

The objectives of the audit were to perform the following:

- Evaluate the current status of the remaining recommendations from the FY18 Facilities Maintenance audit.
- Evaluate FCPS internal controls over facility maintenance, specifically for maintenance work orders and determine if (a) estimate is aligned with the work being performed, and (b) whether the workflow is effective.
- Evaluate FCPS policies, other regulations, and controls surrounding facility maintenance assets and inventory, and monitoring of hours (including overtime) worked by staff.
- Conduct a physical count of select facility maintenance assets and inventory.

The scope of this audit includes an evaluation of FCPS facilities maintenance process for FY23 (July 1, 2022 to June 30, 2023).

Based on our risk assessment, the focus of this audit was on facilities maintenance which consists of OFM's Resource Management, Asset Management and Planning and Operations Sections. As such, the scope of this audit did not include areas such as Plant Operations (Custodial services), Infrastructure and Environmental Engineering (IEE) and Energy Management Sections.

As required by GAGAS, OAG assessed whether internal control was significant to the audit objectives. OAG's assessment included the use of the Committee of Sponsoring Organizations of the Treadway Commission internal control framework. The framework includes five components: Control Environment; Risk Assessment; Control Activities; Information and Communication; and Monitoring; along with 17 related principles.

## **Methodology**

To satisfy our audit objectives, the audit team performed the following:

- Reviewed applicable FCPS policies, regulations and procedures.
- Reviewed applicable reports from facilities maintenance industry experts and the School Board Facilities Planning Advisory Council.
- Interviewed key personnel from OFM to gain an understanding of the facilities maintenance process including maintenance work orders, assets maintenance and inventory and overtime authorization.
- Reviewed information system controls of OFM applications.
- Assessed OFM internal controls through an internal control questionnaire.
- Performed data analysis on OFM maintenance assets, inventory, and work orders.
- Evaluated the internal controls and the operating effectiveness of the work order process, on a sampling basis.
- Evaluated the internal controls of the overtime hours worked process, on a sampling basis.
- Performed physical verification of inventory and critical assets, on a sampling basis.
- Benchmarked facilities maintenance leading industry practices and compared to current FCPS processes.

## Sampling Plan

### Maintenance Work Orders

The audit team used ACL, a data analytical software, to select a random sample of 36 work orders (including 28 completed and eight incomplete) to test controls with the work order management process to ensure work orders are:

- Completed and accurate, which includes verifying work orders includes all necessary documentation such as labor hours, materials used and details of work to be done.
- Approved by the appropriate personnel.
- Responded to and completed in a timely manner.
- Completed to the satisfaction of the customer.

The sample included the following:

	FY 23 Completed PM	FY 23 Completed RM	FY 23 Completed DC407	FY 23 Incomplete PM	FY 23 Incomplete RM	Total
Work Orders	17,182	68,294	1,241	28,168	1,572	116,457
Sample Size	5	20	3	5	3	36

The above work orders reflected their status as of October 2023. The sample size includes different trades such as welding, outsources, filters, HVAC and lock, roofing, sheet metal, painting, masonry, appliance equipment, electrical, plumbing, refrigeration, outsourced, playground inspections and fields, and carpentry.

### Overtime

According to OFM, FY 2023 overtime costs was \$704,854. The audit team selected a random sample of 15 overtime reports from Sideburn Support Center. Audit tests focused on verifying the existence of the overtime reports, reviewing their approvals by supervisors and satellite managers, and inspecting their accuracy and completeness. No reportable findings were identified.

### Assets and Inventory

As part of the independent verification of sampled inventory and critical assets, OAG used random sampling to test 85 stock items out of 143 material inventory items for HVAC, electric, plumbing or structural work orders. For critical assets, we used judgmental sampling to select a total of 150 assets including bleacher systems, dividers and stage curtains, electrical generators, emergency control systems, energy management systems, fire systems and sprinklers, and others from four schools. We observed a real-time inventory count at OFM satellite warehouses. We also viewed the physical condition of a sample of physical assets at four school locations. No reportable findings were identified except for one observation.

### OAG Organization

OAG is free from organizational impairments to independence in our reporting as defined by government auditing standards. OAG reports directly to the Fairfax County School Board through the Audit Committee. We report the results of our audits to the Audit Committee and the reports are made available to the public via the FCPS website.

# Audit Findings, Recommendations, and Management’s Responses

The finding(s) within this report has been attributed a risk rating in accordance with established risk criteria as defined in Table 1.

**Table 1 – Risk Criteria**

Type	Description
High	One or more of the following exists: <ul style="list-style-type: none"> <li>● Controls are not in place or are inadequate.</li> <li>● Compliance with legislation and regulations or contractual obligations is inadequate.</li> <li>● Important issues are identified that could negatively impact the achievement of FCPS program/operational objectives.</li> </ul>
Moderate	One or more of the following exists: <ul style="list-style-type: none"> <li>● Controls are in place but are not sufficiently complied with.</li> <li>● Compliance with subject government regulations or FCPS policies and established procedures is inadequate, or FCPS policies and established procedures are inadequate.</li> <li>● Issues are identified that could negatively impact the efficiency and effectiveness of FCPS operations.</li> </ul>
Low	One or more of the following exists: <ul style="list-style-type: none"> <li>● Controls are in place but the level of compliance varies.</li> <li>● Compliance with government regulations or FCPS policies and established procedures varies.</li> <li>● Issues identified are less significant but opportunities exist that could enhance FCPS operations.</li> </ul>

OAG identified one high risk finding, four moderate risk findings, and one observation.

**Observation Risk Rating:** Observations are defined as risks identified which either (a) are not included in the audit objectives, or (b) do not arise to the level of low findings, but that OAG would like to communicate to stakeholders. No formal management response or OAG follow-ups are required on observations.

## Finding 1 – Work Order Internal Control Deficiencies

**Risk Rating:** *High – Important issues are identified that could negatively impact the achievement of FCPS program/operational objectives.*

### Condition:

OAG reviewed a sample of 28 completed work orders including 20 Reactive Maintenance, five preventive maintenance and three DC407 requests and noted internal controls deficiencies. Specifically, we noted the following deficiencies related to workflows approval, maintenance response and completion time, and documentation of work orders.

- Work orders are not properly documented prior to their closing. OAG identified ten work orders that did not include sufficient and/or accurate information. For six of the ten work orders, the cost of labor, materials, and details of when work was performed were not documented. The other four work orders reflected work performed by vendors and failed to capture the correct cost, the vendor completion date, or evidence of OFM monitoring to ensure that vendors completed the work orders.
- OFM has not established standards to guide the expected time of maintenance completion. TeamWORKS has the capability to track estimated work order date (completion deadline); however, OFM is not currently utilizing that field.
- OFM is not sending or following up on customer satisfaction surveys. While TeamWORKS is capable of sending online customer satisfaction surveys, a review of 23 work orders (20 reactive maintenance and three DC407) revealed OFM did not send surveys requesting feedback for these work orders.
- While OFM has verbally communicated guidance for work order response time, OAG noted that these guidelines are not formally documented, or being tracked in TeamWORKS to ensure accountability.
- Supervisors are responsible for approving a technician’s work order for accuracy before sending it for closing. OAG noted that 18 work orders were not properly approved by a supervisor. Furthermore, four work orders tasks were not ideally segregated as the supervisor conducted and approved work orders.
- OFM does not have an adequate mechanism to verify the accuracy and reasonableness of technician hours to complete the work order. Per OFM, supervisors utilize their years of experience to review work orders for reasonableness of hours worked.

### Criteria:

The Standards for Internal Control in the Federal Government<sup>4</sup> (Green Book 2014 Revision) states the following in reference to addressing appropriate documentation of transactions and internal control:

*10.03 - “Management clearly documents internal control and all transactions and other significant events in a manner that allows the documentation to be readily available for examination. The documentation may appear in management directives, administrative policies, or operating manuals, in either paper or electronic form. Documentation and records are properly managed and maintained.” P.48.*

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<sup>4</sup> Standards set forth by [US Government Accountability Office](#) provides the overall framework for establishing and maintaining an effective internal control system. The Green Book may be adopted by state, local, and quasigovernmental entities, as well as not-for-profit organizations, as a framework for an internal control system.

10.03 - *“Transactions are authorized and executed only by persons acting within the scope of their authority. This is the principal means of assuring that only valid transactions to exchange, transfer, use, or commit resources are initiated or entered into. Management clearly communicates authorizations to personnel.” P. 48.*

10.03 - *“Management divides or segregates key duties and responsibilities among different people to reduce the risk of error, misuse, or fraud. This includes separating the responsibilities for authorizing transactions, processing and recording them, reviewing the transactions, and handling any related assets so that no one individual controls all key aspects of a transaction or event.” P. 47.*

10.03 - *“Transactions are authorized and executed only by persons acting within the scope of their authority. This is the principal means of assuring that only valid transactions to exchange, transfer, use, or commit resources are initiated or entered into. Management clearly communicates authorizations to personnel.” P. 48.*

12.03 - *“Management documents in policies for each unit its responsibility for an operational process’s objectives and related risks, and control activity design, implementation, and operating effectiveness. Each unit, with guidance from management, determines the policies necessary to operate the process based on the objectives and related risks for the operational process. Each unit also documents policies in the appropriate level of detail to allow management to effectively monitor the control activity.” P. 56.*

16.04 - *“Management monitors the internal control system through ongoing monitoring and separate evaluations. Ongoing monitoring is built into the entity’s operations, performed continually, and responsive to change. Separate evaluations are used periodically and may provide feedback on the effectiveness of ongoing monitoring.” P. 65.*

**Cause:**

OFM does not have written standard operating procedures for the work order process that ensures work orders are addressed in a timely manner, properly documented, properly reviewed and approved prior to closing.

**Effect:**

- The lack of documented standard operating procedures increases the potential for inconsistencies in the work order process. Further, it increases the time it takes to train staff in the event of employee turnover and decreases employee accountability to properly fulfilling their responsibilities over the work order process.
- Without an effective work order process, it may be difficult to ensure the reliability of critical information about needed repairs (e.g., nature of the problem, identification of the piece of equipment and the resources required); prioritization of tasks; and establishment of a systematic record of repairs that can be analyzed to inform future decisions related to operations, planning of resources and budgeting.

**Recommendation:**

OAG recommends OFM should:

- Develop and communicate written standard operating procedures to govern and guide the work order process to include at a minimum the following areas:

- Response and completion time for maintenance requests.
- Work orders data entry requirements.
- Supervisor approval in TeamWORKS.
- Segregation of duties within the work order process.
- Increase monitoring and oversight to include conducting quality reviews and obtaining feedback on customer satisfactions.

**Management Responses (Actions and Due Date):**

Planned Action(s)	Action Owner(s)	Expected Completion Date (ECD)
<p><b>1.1 Develop Written Standard Operating Procedure (SOPs):</b>            We will immediately initiate the development of comprehensive written SOPs to govern and guide the work order process. These SOPs will cover key areas, including:</p> <ul style="list-style-type: none"> <li>- Response and completion time for maintenance requests.</li> <li>- Work orders data entry requirements.</li> <li>- Supervisor approval in TeamWORKS.</li> <li>- Segregation of duties within the work order process.</li> </ul> <p>The SOPs will be communicated to all relevant staff, ensuring clarity on expectations and procedures.</p>	<p>Assistant Director,            Facilities Management            (Operations)</p>	<p>A preliminary list of SOPs with target dates will be provided to OAG.</p> <p>ECD of lists in Sep 2024</p>
<p><b>1.2 Enhanced Monitoring and Oversight:</b></p> <ul style="list-style-type: none"> <li>- We commit to increasing monitoring and oversight of the work order process. This will include conducting regular quality reviews to identify and rectify any deviations from established procedures.</li> <li>- Additionally, we will implement a system for obtaining feedback on customer satisfaction to ensure continuous improvement in our service delivery.</li> </ul>	<p>Assistant Director,            Facilities Management            (Support)</p>	<p>Monitoring and reviews to begin immediately. OFM will collaborate with Admin Services on customer satisfaction feedback.</p> <p>Preliminary feedback will be provided to OAG with SOP updates.</p> <p>ECD Aug 2024</p>

<p><b>1.3 Documentation and Training:</b></p> <ul style="list-style-type: none"> <li>- Recognizing the importance of documented internal controls, we will establish a robust system for recording and maintaining documentation related to work orders. This will include ensuring that all completed work orders include sufficient and accurate information.</li> <li>- We will conduct training sessions for our staff to ensure a clear understanding of the new SOPs and internal control requirements.</li> </ul>	<p>Assistant Director, Facilities Management (Support)</p>	<p>OFM will collaborate with Admin Services on customer new documentation and training processes.</p> <p>Preliminary feedback will be provided to OAG with SOP updates.</p> <p>Training will be conducted after completion and approval of the SOP ECD 2025</p>
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By taking these actions, we aim to address the root causes of the deficiencies identified and establish a more resilient and accountable work order process.

We appreciate the guidance provided by the Standards for Internal Control in the Federal Government (Green Book 2014 Revision) and will ensure that our corrective measures align with the specified criteria.

We understand the urgency of resolving these issues and are committed to implementing the corrective measures within the proposed timeframes. Our goal is to enhance the reliability and effectiveness of our work order processes to better serve the needs of FCPS and its stakeholders.

Thank you for your collaboration, and we look forward to providing updates on our progress.



## Finding 2 – Deferred Preventive Maintenance Work Orders

**Risk Rating:** *Moderate – Issues are identified that could negatively impact the efficiency and effectiveness of FCPS operations.*

**Condition:**

OAG analyzed FY 2023 preventive maintenance work orders; the data indicated that there were 17,182 completed preventive maintenance versus 68,294 reactive maintenance work orders. See table below for details:

Work Order Types	Total Work Orders	Percentage
Preventive Maintenance	17,182	20%
Reactive Maintenance	68,294	80%
<b>Total</b>	<b>85,476</b>	<b>100%</b>

Preventive maintenance work orders are not completed as scheduled per the Asset Management Section planned schedule. OFM is currently operating at a Reactive Management Level (Level 4), as defined by APPA Maintenance Standards (formerly known as the Association of Physical Plant Administrators). Level 4 is characterized by maintenance work being performed inconsistently or not at all with a preventive maintenance ratio of 25-50%. OFM aspires to a Comprehensive Stewardship Level (Level 2) where maintenance activities appear to be organized and maintenance calls are responded to in a timely manner with a preventive maintenance ratio of 75-100%. Furthermore, OFM does not have an official process to prioritize preventive maintenance work orders in TeamWORKS.

This was also identified in the FY 2018 Facilities Maintenance Audit where the preventive maintenance ratio did not meet industry best practices and was less than 20% of total maintenance conducted by OFM.

Currently, all preventive maintenance work orders are not prioritized in TeamWORKS. Per OFM, preventive maintenance work orders are generated weekly, supervisors receive preventive maintenance work orders in a queue, and assign preventive maintenance work orders to technicians. Trade Supervisors direct technicians that large, expensive and safety related equipment work orders are considered priority. Specific definitions of large and expensive were not provided to OAG.

**Criteria:**

- According to APPA: Leadership in Educational Facilities, to achieve a level 2 of facilities maintenance, preventive maintenance should make up between 75-100% of total maintenance.
- Our review of facilities maintenance practices at Montgomery County Public Schools (MCPS) indicates that in order for all MCPS facilities to receive dedicated preventive maintenance care at least one day each week, the district implemented a centralized preventive maintenance team in 2021. The team consists of plant equipment operators who were previously part of the school-based building services.

Furthermore, MCPS created the Preventive Maintenance University in 2023 to support the preventive maintenance team. The Preventive Maintenance University allows the school district to provide hands-on training and support to the preventive maintenance teams. Although the preventive maintenance technicians are not trade technicians, they are trained to identify the preventive maintenance work needed based on trade (HVAC, electrical, carpentry and plumbing). For example, these teams complete preventative maintenance tasks, such as replacing air filters, checking plumbing fixtures and water coolers for leaks, and reporting condensate leaks from chilled water piping and HVAC equipment.

While we understand school districts may operate differently, we are including MCPS example here for reference.

**Cause:**

- While OFM has not performed a staff analysis since FY 2022, it appears resources, such as staff availability, have created an environment where OFM is mostly responding to reactive work orders.
- OFM has not performed an asset level facility condition assessment (FCA) to validate the deferred maintenance backlog.
- Additionally, there is no official process to prioritize preventive maintenance work orders in TeamWORKS. Prioritizing preventive maintenance tasks would help management determine where to first use limited staff and budget resources. A preventive maintenance task's priority could be assigned based on the delay impact, which considers both the likelihood and the consequence of a delay in performing the task.

**Effect:**

- Preventive maintenance work orders not completed or not completed timely can have a negative impact on the life of the asset, operation, productivity, and safety.
- Increase of backlog maintenance.
- Without risk assessment activities, the impact and likelihood of risks associated with significant business operations and activities are unknown. As a result, management cannot assure the effective use of resources to mitigate risks determined to be significant and likely.
- Assets may exceed their useful life. Currently, 34% of OFM assets have exceeded their life expectancy. Refer to [Appendix D - Assets Useful Life](#)

**Recommendation:**

OAG recommends OFM should:

- Enhance the preventive maintenance program to continue to align new apprentice positions with "Trades for Tomorrow" to provide job opportunities to FCPS high school graduates (among others) who participated in the summer internship program. Additional funding has been included in the OFM FY 2025 Fiscal Forecast request to support larger Trades for Tomorrow participation.
- Consider forming a dedicated preventive maintenance team.
- Continue its effort to develop a comprehensive FCA. Currently, OFM received \$2 million in FY23 as part of a one-time critical need carryover request to be used for a FCA and is in the process of developing its RFP for vendor proposals and plans to have this ready to bid before the end of this school year.

- Utilize TeamWORKS to prioritize preventive maintenance tasks based on a documented risk model.

**Management Responses (Actions and Due Date):**

Planned Action(s)	Action Owner(s)	Expected Completion Date (ECD)
<p><b>2.1 Enhancement of Preventive Maintenance Program:</b></p> <ul style="list-style-type: none"> <li>- We will review the recommendation to align new apprentice positions with "Trades for Tomorrow" to provide job opportunities for FCPS high school graduates. These are paid hourly positions for students and additional funding has been included in the OFM FY 2025 Fiscal Forecast request to support increased participation in "Trades for Tomorrow" through the summer internship program.</li> <li>- We will actively collaborate with "Trades for Tomorrow" to identify opportunities for apprenticeship positions that align with our preventive maintenance needs.</li> </ul>	<p>Assistant Director, Facilities Management (Operations)</p>	<p>Resource Driven</p> <p>A preliminary plan based on the FY 2025 approved budget will be provided to OAG.</p> <p>ECD Aug 2024</p>
<p><b>2.2 Formation of a Dedicated Preventive Maintenance Team:</b></p> <ul style="list-style-type: none"> <li>- In response to the recommendation, we will explore the feasibility of forming a dedicated preventive maintenance team. This team will focus on executing preventive maintenance tasks efficiently and consistently.</li> <li>- The formation of the team will involve the identification and allocation of resources, including personnel and training requirements.</li> <li>- A Preventive Maintenance plan and team (Night Operations) were formed in FY2012 in response to the FEA report. The plan was not achievable due to a lack of funding and positions.</li> </ul>	<p>Assistant Director, Facilities Management (Operations)</p>	<p>Resource Driven Pending funding and positions.</p> <p>A preliminary plan based on the FY 2025 approved budget will be provided to OAG.</p> <p>ECD Aug 2024</p>

<p><b>2.3 Utilization of TeamWORKS for Prioritization:</b></p> <ul style="list-style-type: none"> <li>- To address the lack of an official process for prioritizing preventive maintenance work orders, we commit to utilizing TeamWORKS to implement a documented risk model.</li> <li>- The risk model will consider factors such as the delay impact, incorporating both the likelihood and consequence of a delay in performing preventive maintenance tasks.</li> </ul>	<p>Assistant Director, Facilities Management (Operations)</p>	<p>A preliminary plan will be provided to OAG.  ECD Aug 2024</p>
<p><b>2.4 Exploration of Future Software Solutions:</b></p> <ul style="list-style-type: none"> <li>- Recognizing the need for efficient and modernized processes, we are initiating an exploration into potential future software solutions to replace TeamWORKS.</li> <li>- The aim is to identify a software platform that not only addresses the current deficiencies but also provides advanced features for preventive maintenance prioritization, comprehensive reporting, and streamlined workflows.</li> <li>- We will engage in a thorough evaluation process, considering industry best practices and emerging technologies to ensure the selected software aligns with our operational needs.</li> </ul>	<p>Assistant Director, Facilities Management (Operations)</p>	<p>Resource Driven Pending funding. A preliminary plan will be provided to OAG.  ECD Aug 2024</p>

By implementing these actions, we aim to enhance our preventive maintenance program, ensure effective resource allocation, and mitigate the risks associated with deferred preventive maintenance work orders. The exploration of future software solutions aligns with our commitment to continuous improvement and leveraging technology for enhanced operational efficiency.

We appreciate the benchmark example provided by Montgomery County Public Schools (MCPS) and will consider relevant practices in our improvement efforts, recognizing the unique operational context of school districts.

We fully understand the potential negative impacts of deferred preventive maintenance on the life of assets, operations, productivity, and safety. Our commitment is to address these concerns proactively and ensure the effective use of resources to mitigate identified risks.

Thank you for your valuable recommendations, and we look forward to providing updates on our progress in addressing the deferred preventive maintenance work orders.

### **Finding 3 – Benchmarking and Key Performance Indicators**

**Risk Rating:** *Moderate – Issues are identified that could negatively impact the efficiency and effectiveness of FCPS operations.*

**Condition:**

OFM tracks performance with metrics such as *total* work orders requested versus *closed* work orders (by work type). While these are critical to understanding quantity of workload, OFM is not tracking any Key performance indicators (KPIs) related to process and outcome measures, such as customer satisfaction, response or completion time and staffing analysis. Furthermore, OFM is not benchmarking any analytical metrics results.

**Criteria:**

The Standards for Internal Control in the Federal Government (Green Book 2014 Revision) states the following in reference to measuring performance.

*6.07 - “Management determines whether performance measures for the defined objectives<sup>5</sup> are appropriate for evaluating the entity’s performance in achieving those objectives. For quantitative objectives, performance measures may be a targeted percentage or numerical value. For qualitative objectives, management may need to design performance measures that indicate a level or degree of performance, such as milestones.” P.36.*

*10.03 - “Management establishes activities to monitor performance measures and indicators. These may include comparisons and assessments relating different sets of data to one another so that analyses of the relationships can be made, and appropriate actions taken. Management designs controls aimed at validating the propriety and integrity of both entity and individual performance measures and indicators.” P.47.*

**Cause:**

OFM is working on developing KPIs but has not implemented them; OFM has routed the KPIs to FCPS management for review and currently waiting for approval.

**Effect:**

Without effective KPIs and benchmarking, it may be difficult to determine how successful OFM is during a particular time period and whether their work aligns with FCPS’ strategic goals.

**Recommendation:**

OAG recommends OFM should:

- Establish and track KPIs that correspond to FCPS’ strategic goals and measure performance of operations.
- Communicate the results of KPIs at regular intervals to leadership.
- Explore benchmarking with other educational institutions.

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<sup>5</sup> An entity’s objectives can be classified as operations objectives (effectiveness and efficiency of operations), reporting objectives (reliability of reporting for internal and external use), and compliance objectives (compliance with applicable laws and regulations).

**Management Responses (Actions and Due Date):**

Planned Action(s)	Action Owner(s)	Expected Completion Date (ECD)
<p><b>3.1 Establishment and Implementation of KPIs:</b></p> <ul style="list-style-type: none"> <li>- We acknowledge the recommendation to establish and track KPIs that correspond to FCPS' strategic goals. Currently, we are in the process of developing KPIs, and we appreciate the guidance provided by the Standards for Internal Control in the Federal Government.</li> <li>- To expedite the implementation, we have routed the proposed KPIs to FCPS management for review. We are actively working towards obtaining approval and plan to finalize the implementation promptly.</li> </ul>	<p>Executive Director, Facilities Management</p>	<p>Draft KPIs developed and available.</p> <p>Final KPIs will be provided to OAG once approved. ECD Aug 2024</p>
<p><b>3.2 Regular Communication of KPI Results to Leadership:</b></p> <ul style="list-style-type: none"> <li>- Recognizing the importance of transparent communication, we commit to regularly communicating the results of KPIs to FCPS leadership. This will include updates on performance measures and indicators related to process and outcome metrics, such as customer satisfaction, response or completion time, and staffing analysis.</li> <li>- The communication will be structured to provide meaningful insights into our performance against defined objectives.</li> </ul>	<p>Executive Director, Facilities Management</p>	<p>Initial KPI results will be provided once approved.</p> <p>ECD Aug 2024</p>

<p><b>3.3 Exploration of Benchmarking with Other Educational Institutions:</b></p> <ul style="list-style-type: none"> <li>- In response to the recommendation, we will initiate efforts to explore benchmarking opportunities with other educational institutions. This will involve identifying relevant analytical metrics for benchmarking and establishing connections with comparable organizations to share best practices.</li> <li>- We recognize the value of benchmarking in assessing our performance relative to industry standards and will actively seek collaboration with peer institutions.</li> </ul>	<p style="text-align: center;">Executive Director, Facilities Management</p>	<p style="text-align: center;">Initial KPI results will be provided once approved.</p> <p style="text-align: center;">ECD Aug 2024</p>
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By implementing these actions, we aim to strengthen our performance measurement processes, align them with FCPS' strategic goals, and enhance transparency in reporting. The development and implementation of KPIs, coupled with benchmarking initiatives, will provide a comprehensive framework for evaluating our success and identifying areas for improvement.

We appreciate the OAG's recommendations and are committed to ensuring that these corrective measures are implemented effectively. We look forward to providing updates on our progress and addressing the identified deficiencies in a timely manner.



## Finding 4 – Improvements to Existing Information System (TeamWORKS)

**Risk Rating:** *Moderate – Issues are identified that could negatively impact the efficiency and effectiveness of FCPS operations.*

### **Condition:**

TeamWORKS, the information system that supports OFM's operations, is inefficient. Per OAG understanding, the system was established in the 1990s and has been augmented over the years. Although it has supported OFM for decades, daily operations could be run more effectively and efficiently if the supporting information system is improved to address the following issues:

- **Inventory Management:** Currently, inventory procurement is performed outside of TeamWORKS. While TeamWORKS manages inventory flow to and from warehouses, a separate logistics system is used for procurement. Manual processes are also in place, such as creating and submitting purchase orders, receiving inventory, communicating with vendors, receiving invoices, performing three-way match (purchase order, invoice, and item receipt), and reconciling with payment cards. The current logistics system generates purchase orders without all the necessary information, such as HVAC brand model number. Vendors may need to contact OFM buyers to obtain the necessary information.
- **Reporting and Analysis:** TeamWORKS has limited reporting and analysis capabilities, which do not fully support the needs of the various users, including technicians, supervisors, satellite managers, buyers, warehouse managers, financial managers, customer service, and leaders. TeamWORKS cannot combine inventory movement, receiving, transfer, and disbursement into a consolidated report for meaningful analysis. Currently, for management purposes, OFM uses Microsoft SharePoint as a dashboard and TeamWORKS as a transactional system.
- **Limited Access to Modules within TeamWORKS:** Technicians who are assigned to repair assets and devices do not have access to the asset's maintenance history. This increases the amount of time and expense devoted to diagnosing and troubleshooting repairs.
- **Labor Management:** While TeamWORKS is designed to capture labor hours incurred on work orders only, OFM needs to maintain a separate Microsoft Access Application for Time and Attendance to track attendance and leave, so that OFM could better plan for labor resources.

### **Criteria:**

- The Standards for Internal Control in the Federal Government<sup>6</sup> (Green Book 2014 Revision) states the following in reference to addressing a manual environment: 10.04 - *“Control activities can be implemented in either an automated or a manual manner. Automated control activities are either wholly or partially automated through the entity's information technology. Manual control activities are performed by individuals with minor use of the entity's information technology. Automated control activities tend*

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<sup>6</sup> state, local, and quasigovernmental entities, as well as not-for-profit organizations, as a framework for an internal control system.

*to be more reliable because they are less susceptible to human error and are typically more efficient. If the entity relies on information technology in its operations, management designs control activities so that the information technology continues to operate properly.” P. 49.*

- According to the 2012 Facility Engineering Associates report, dashboards are recommended for supervisors to incorporate metrics showing outstanding work orders, responsibilities and current status of trades, and other measurable Key Performance Indicators.
- The APPA: Leadership in Educational Facilities also promotes the use of dashboards in managing facilities maintenance.

**Cause:**

OFM information systems are inefficient due to inadequate system integration.

**Effect:**

Systems not being linked causes inefficiencies in OFM processes and puts additional work on OFM staff members, who must manually enter data into the system to complete monthly reports and monitoring.

**Recommendation:**

OFM should consider exploring information systems with functionalities that can support current OFM operations.

**Management Responses (Actions and Due Date):**

Planned Action(s)	Action Owner(s)	Expected Completion Date (ECD)
<p><b>4.1 Labor Management Enhancement:</b></p> <ul style="list-style-type: none"> <li>- In response to the identified issues with labor management, we acknowledge the need for a more streamlined approach. We plan to explore and implement enhancements within TeamWORKS to capture labor information comprehensively, including labor incurred outside of work orders.</li> <li>- We will assess the feasibility of integrating the division wide MyTime application and the Time and Attendance application into TeamWORKS to create a unified labor management system.</li> </ul>	<p>Assistant Director, Facilities Management (Operations)</p>	<p>A preliminary plan will be provided to OAG.  ECD Aug 2024</p>

<p><b>4.2 Inventory Management Integration:</b></p> <ul style="list-style-type: none"> <li>- Acknowledging the challenges in inventory management, we commit to improving the integration of procurement processes within TeamWORKS. Our goal is to eliminate manual processes and ensure a seamless flow of information.</li> <li>- We will explore and assess system enhancements to incorporate procurement functionalities into TeamWORKS, ensuring a centralized and efficient inventory management system.</li> </ul>	<p>Assistant Director, Facilities Management (Operations and Support)</p>	<p>A preliminary plan will be provided to OAG.  ECD Aug 2024</p>
<p><b>4.3 Enhanced Reporting and Analysis Capabilities:</b></p> <ul style="list-style-type: none"> <li>- Recognizing the limitations in reporting and analysis within TeamWORKS, we will focus on enhancing these capabilities. Our plan includes evaluating and implementing features that allow for consolidated reporting on inventory movement, receiving, transfer, and disbursement.</li> <li>- We will evaluate new software to meet our needs.</li> </ul>	<p>Assistant Director, Facilities Management (Operations and Support)</p>	<p>A preliminary plan will be provided to OAG.  ECD Aug 2024</p>
<p><b>4.4 Expanded Access to Modules within TeamWORKS:</b></p> <ul style="list-style-type: none"> <li>- Addressing the limited access issue, we commit to providing technicians assigned to repair assets and devices with access to asset and work order history within TeamWORKS. This will contribute to more efficient diagnosis and troubleshooting of repairs.</li> <li>- We will review and adjust access permissions within TeamWORKS to ensure that relevant modules are accessible to technicians.</li> </ul>	<p>Assistant Director, Facilities Management (Operations and Support)</p>	<p>A preliminary plan will be provided to OAG.  ECD Aug 2024</p>

<p><b>4.5 Exploration of Information Systems with Enhanced Functionalities:</b></p> <ul style="list-style-type: none"> <li>- In line with the recommendation, we recognize the need to explore alternative information systems with advanced functionalities that can better support current OFM operations.</li> <li>- We will initiate a thorough exploration of available information systems, considering functionalities, integration capabilities, and alignment with our operational needs.</li> </ul>	<p style="text-align: center;">Assistant Director, Facilities Management (Operations)</p>	<p style="text-align: center;">A preliminary plan will be provided to OAG.  ECD Aug 2024</p>
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By implementing these actions, we aim to address the inefficiencies identified in TeamWORKS, improve overall system integration, and enhance the effectiveness of FCPS operations.

We appreciate the OAG's recommendations, and we are committed to ensuring that these corrective measures are implemented effectively. We look forward to providing updates on our progress and working towards a more efficient and streamlined information system.

## **Finding 5 - Comprehensive Process to Ensure Compliance with Federal, State and Local Requirements**

**Risk Rating:** *Moderate – Issues are identified that could negatively impact the efficiency and effectiveness of FCPS operations.*

### **Condition:**

While OFM is not aware of non-compliance issues with federal, state and local regulations, it does not appear that it has a comprehensive process to ensure compliance with all applicable requirements. Per OAG understanding, the applicable requirements (including elevators, boilers, HVAC systems and inspections, and certification on pressure valves on steam boilers, etc.) have been increasing and may frequently undergo changes.

OFM contracted with specialized vendors for services to address the compliance requirement per asset type. OFM also assigned tasks internally to OFM technicians, and different staff members might be involved. It does not appear that there is clarity on their roles and responsibilities. Additionally, there is not an explicit role within OFM overseeing the compliance effort.

### **Criteria:**

The Standards for Internal Control in the Federal Government (Green Book 2014 Revision) states the following in reference to addressing appropriate documentation of transactions and internal control:

*12.03 - "Management documents in policies for each unit its responsibility for an operational process's objectives and related risks, and control activity design, implementation, and operating effectiveness. Each unit, with guidance from management, determines the policies necessary to operate the process based on the objectives and related risks for the operational process. Each unit also documents policies in the appropriate level of detail to allow management to effectively monitor the control activity." P. 56.*

*16.04 - "Management monitors the internal control system through ongoing monitoring and separate evaluations. Ongoing monitoring is built into the entity's operations, performed continually, and responsive to change. Separate evaluations are used periodically and may provide feedback on the effectiveness of ongoing monitoring." P. 65.*

### **Cause:**

OFM does not have written standard operating procedures defining roles and responsibilities of staff to ensure regulatory risks are managed at an acceptable level.

### **Effect:**

Inadequate compliance effort and process/program will result in one or more of the following:

- Unsafe conditions for persons located within or nearby a facility.
- Negative publicity/reputational damage.
- Interruption of learning process.

### **Recommendation:**

OAG recommends OFM organize the existing processes in place and define roles and responsibilities of staff to ensure regulatory risks are managed at an acceptable level.

**Management Responses (Actions and Due Date):**

Planned Action(s)	Action Owner(s)	Expected Completion Date (ECD)
<p><b>5.1 Organizing Existing Processes and Defining Roles:</b></p> <ul style="list-style-type: none"> <li>- In response to the identified gaps in our compliance processes, we acknowledge the need for a comprehensive approach. We commit to organizing the existing processes in place, ensuring clarity on roles and responsibilities of staff involved in compliance efforts.</li> <li>- We will initiate the development of written standard operating procedures defining the roles and responsibilities of each staff member involved in compliance activities. This will help manage regulatory risks at an acceptable level.</li> </ul>	<p>Executive Director, Facilities Management</p>	<p>Ongoing</p> <p>A preliminary plan will be provided to OAG.</p> <p>ECD Aug 2024</p>
<p><b>5.2 Review and Documentation of Applicable Requirements:</b></p> <ul style="list-style-type: none"> <li>- Recognizing the dynamic nature of federal, state, and local regulations, we commit to conducting a thorough review and documentation of all applicable requirements. This will include regulations related to elevators, boilers, HVAC systems, inspections, and certifications on pressure valves on steam boilers.</li> <li>- We will ensure that all compliance efforts are aligned with the latest regulatory updates, and the documented information will serve as a reference for ongoing monitoring.</li> </ul>	<p>Executive Director, Facilities Management</p>	<p>Ongoing</p> <p>A preliminary plan will be provided to OAG.</p> <p>ECD Aug 2024</p>

<p><b>5.3 Establishment of Ongoing Monitoring Mechanism:</b></p> <ul style="list-style-type: none"> <li>- In alignment with the Standards for Internal Control in the Federal Government, we commit to establishing an ongoing monitoring mechanism. This mechanism will be built into our operations, performed continually, and responsive to changes in federal, state, and local regulations.</li> <li>- We will conduct separate evaluations periodically to provide feedback on the effectiveness of ongoing monitoring and the overall compliance program.</li> </ul>	<p>Executive Director, Facilities Management</p>	<p>Ongoing</p> <p>A preliminary plan will be provided to OAG.</p> <p>ECD Aug 2024</p>
<p><b>5.4 Enhanced Communication and Training:</b></p> <ul style="list-style-type: none"> <li>- Recognizing the potential complexity of federal and state compliance requirements, we commit to enhancing communication and training within OFM. This includes providing staff with regular updates on regulatory changes and conducting training sessions to ensure a clear understanding of roles and responsibilities.</li> <li>- We will establish communication channels to disseminate information on compliance requirements effectively.</li> </ul>	<p>Executive Director, Facilities Management</p>	<p>Ongoing</p> <p>A preliminary plan will be provided to OAG.</p> <p>ECD Aug 2024</p>
<p><b>5.5 Evaluation of Safety Measures:</b></p> <ul style="list-style-type: none"> <li>- In order to address potential safety concerns, we commit to conducting a thorough evaluation of safety measures within our facilities. This will involve assessing conditions within and nearby facilities to identify and rectify any potential unsafe conditions.</li> <li>- The safety evaluation will be an integral part of our ongoing compliance efforts.</li> </ul>	<p>Executive Director, Facilities Management</p>	<p>Ongoing</p> <p>A preliminary plan will be provided to OAG.</p> <p>ECD Aug 2024</p>

By implementing these actions, we aim to enhance our compliance processes, ensure effective management of regulatory risks, and safeguard the well-being of individuals within and nearby our facilities.

We appreciate the OAG's recommendations, and we are committed to ensuring that these corrective measures are implemented effectively. We look forward to providing updates on our progress and working towards a more robust compliance program.



## Observation 1 - Inventory and Assets Physical Count

This observation did not meet the finding risk level because compensation controls exist that may not present risk. However, there is an opportunity for improvement because although OFM conducts part and asset inventory, the process is not formally documented.

### Inventory

OFM maintains approximately \$500,000 (per OFM internal records) of parts at its stockrooms monthly. Parts related to HVAC, electric, plumbing, or structural work orders are stocked. The Sideburn Warehouse Manager sets up high and low stock levels to manage inventory on-hand based on the real demand. Sideburn Warehouse receives items ordered centrally and transfers inventory to the other warehouse stockrooms at satellite locations (Merrifield, Herndon, Edison, and Woodson).

OAG observed that warehouse stockroom managers at five satellite locations (Sideburn, Merrifield, Herndon, Edison, and Woodson) perform the inventory physical count individually and separately multiple times during the fiscal year. There is no formal annual physical count performed when the inventory balance is kept constant (in accounting terms - "*freeze*" the inventory), for an accurate inventory count at a specific point in time.

### Assets

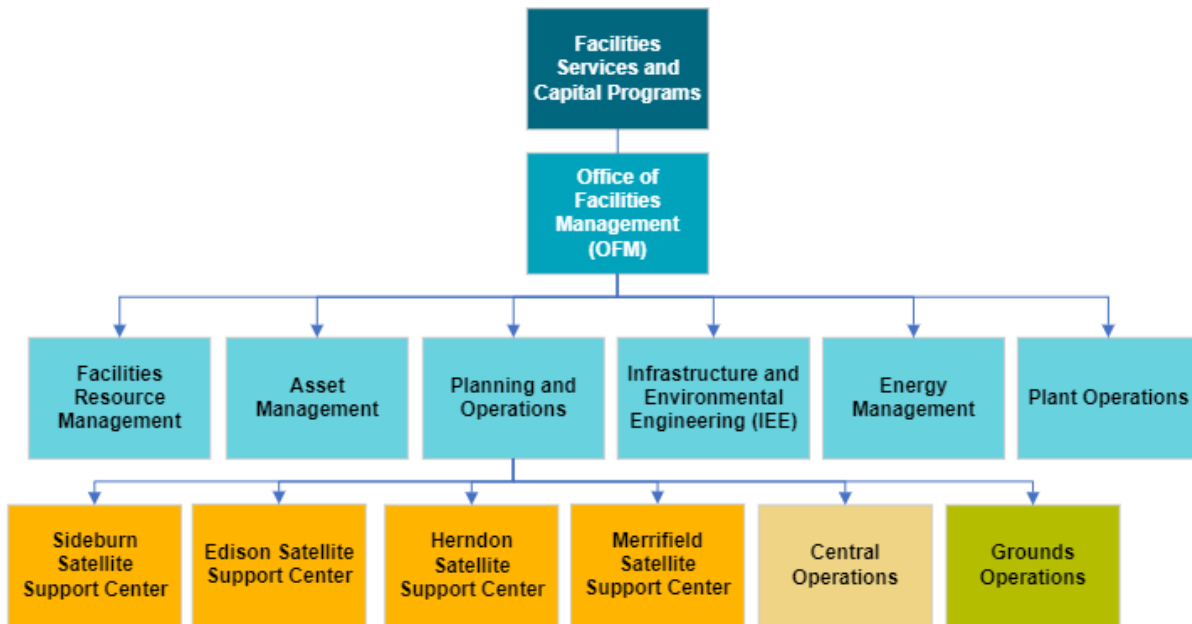
OFM maintains more than 135,000 assets on FCPS' facilities including but not limited to equipment pertaining to trades, food services, vocational, tools, grounds, custodial, and structural items that are attached to the facilities. OFM asset categories include bleacher systems, dividers and stage curtains, electrical generators, emergency control systems, energy management systems, fire systems and sprinklers, asphalt, athletic board assembly, roof sections and systems, solar panels, and irrigation systems.

OAG observed that a physical count of assets is currently conducted every three to five years.

The frequency and formality of the current physical count of inventory and asset may increase the risks for (a) incorrect or outdated records, (b) fraud and theft, (c) maintenance delays, and (d) reduced assets utilization if their location or availability is not accurately tracked.

OAG recommends OFM consider: (a) formalizing the inventory physical count process, (b) maintaining the relevant supporting documents and records, and (c) increasing the frequency of performing the assets physical counts, based upon the risk level of the assets.

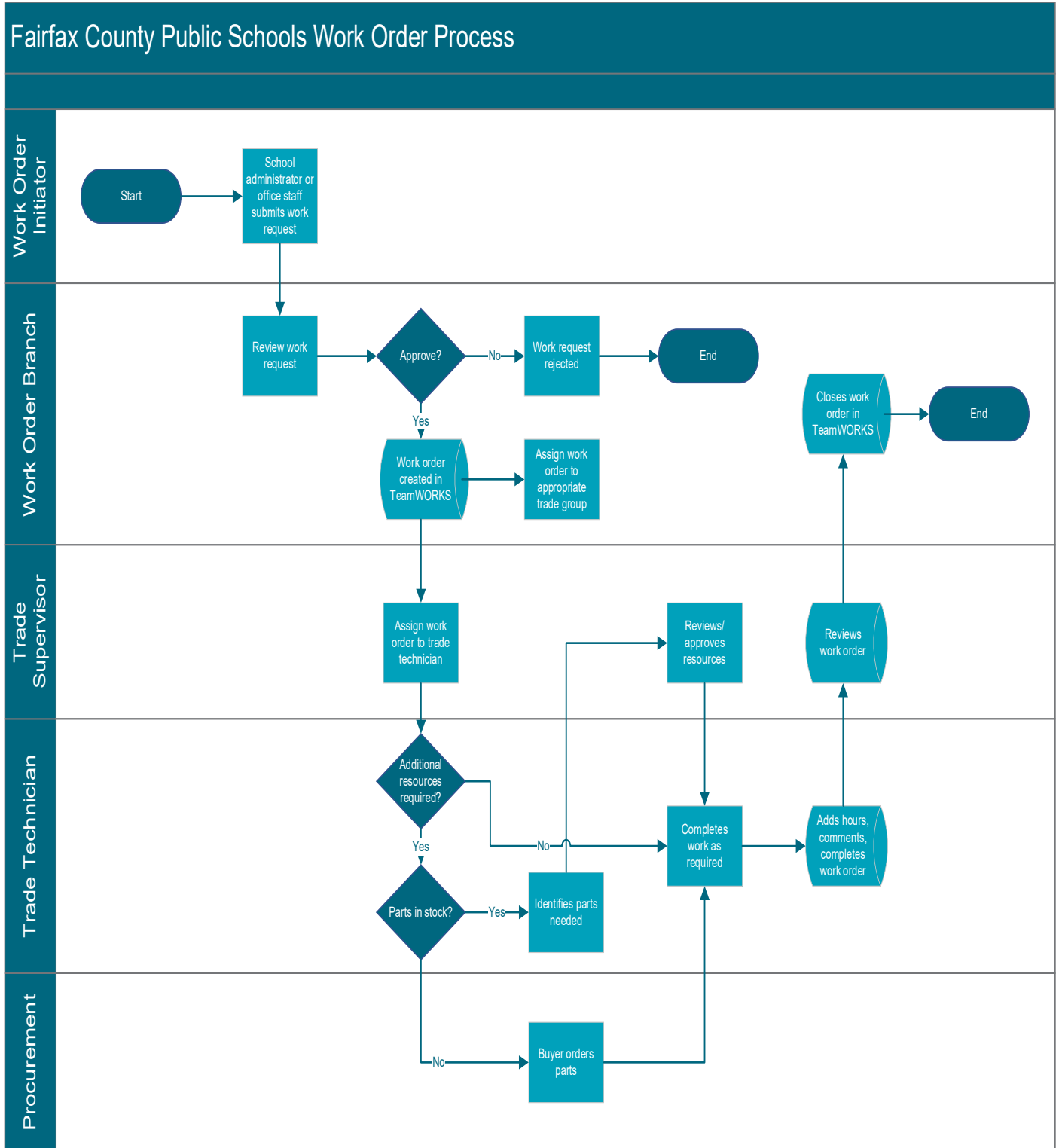
## Appendix A – Office of Facilities Management Sections and Satellites



- **Facilities Resource Management Section** provides operational and administrative support to Sideburn Center, the Grounds and Central Operations at Woodson, as well as the satellite centers at Edison, Herndon, Sideburn, and Merrifield.
- **Asset Management Section** is responsible for planning, managing, coordinating, and implementing the system-wide facilities asset management program for OFM. This section is responsible for conducting and capturing asset inventory of facilities related equipment at FCPS sites to identify the department's current infrastructure backlog and future funding requirements.
- **Planning and Operations Section** is responsible for strategic planning and operational support for OFM. They also support the trade groups, develop and implement the staff development training and testing program and manage contract development and oversight for the department. In addition, this section administers the PM program within OFM.
- **Infrastructure and Environmental Engineering Section** provides technical support, construction and contract management for the maintenance and repair of FCPS buildings and grounds. Services include asbestos and radon abatement, underground storage tanks and indoor air quality. The section also manages infrastructure bond replacement of HVAC, boilers, and asphalt and manages the monitoring and mitigation of environmental hazards in FCPS buildings.
- **Energy Management Section** is responsible for preparing utility consumption forecasts, managing utility contracts and rate schedules, implementing energy-related mandates and monitoring utility bills and fuel oil inventory.
- **Plant Operations Section** provides custodial staffing information, technical assistance, training, supply management and pest control services to all FCPS facilities.
- **Central Operations Section** is comprised of two branches, mechanical and structural, that provide fire sprinkler systems services, and a machine shop services, and repairs to a variety of equipment such as cabinetry, locks, sheet metal and roofing.

- **Grounds Operations Section** is responsible for the general landscape and hardscape maintenance, as well as pest control services at all FCPS facilities. In addition, this section provides service and repair for all school and department-based grounds care equipment.

## Appendix B – Work Order Flowchart



## Appendix C – FY 2023 Work Orders Analysis

### 1.1 Work Order Population

Work Orders	RM	PM	DC407	Total
FY 2023 Complete	68,294	17,182	1,241	86,717
FY 2023 Incomplete	1,572	28,168	0	29,740
<b>Total</b>	<b>69,866</b>	<b>45,350</b>	<b>1,241</b>	<b>116,457</b>

Within a universe of 116,457 work orders, the five most frequent maintenance requests were as follows:

- **Complete Preventive Maintenance by Trade**

Maintenance	Maintenance Cost	Maintenance Count
Fire Sprinkler	\$339,269	3,724
HVAC	\$550,461	2,817
Plumbing	\$677,297	2,733
Kitchen Equipment	\$204,842	2,001
Insulation Night Ops	\$1,727,864	1,593

- **Incomplete Preventive Maintenance by Trade**

Maintenance	Maintenance Cost	Maintenance Count
HVAC	\$28,004	10,446
Plumbing	\$177,396	5,836
Appliance Equipment	\$8,120	2,634
Electrical	\$82,522	2,321
Refrigeration	\$10,378	1,966

- **Complete Reactive Maintenance by Trade**

Maintenance	Maintenance Cost	Maintenance Count
Plumbing	\$2,885,420	9,439
HVAC	\$3,991,786	8,103
Electrical	\$2,359,235	7,095
Carpentry	\$2,747,718	5,897
Field Custodial Request	\$2,980,021	5,442

- **Incomplete Reactive Maintenance by Trade**

Maintenance	Maintenance Cost	Maintenance Count
HVAC	\$115,268	257
Infrastructure Engineering	\$3,982,655	167
Logistical Services	\$30,199	161
Painting	\$36,408	126
Tool Management	\$199,181	105

- **DC407 Maintenance by Trade**

Maintenance	Maintenance Cost	Maintenance Count
Lock	\$172,699	700
Field Custodial Request	\$52,887	109
Electrical	\$276,431	104
Carpentry	\$169,977	77
Plumbing	\$109,717	67

## **1.2 Completion Time**

The following tables were developed using data from work orders that were completed during our scope period. On average, 29 days elapsed between the date requested and completion of the work order within TeamWORKS. Since OFM does not have completion date guidelines, OAG could not verify if work orders were completed in a timely manner.

- **Table 1.2.A RM Completion Time**

Days	Count	Percent of Count
Less than 0	1	0%
0-29	50,177	73%
30-59	10,948	16%
60-89	3,448	5%
90-119	1,777	3%
More than 120	1,943	3%
<b>Total</b>	<b>68,294</b>	<b>100%</b>

- **Table 1.2. B PM Completion Time**

Days	Count	Percent of Count
0-29	4,857	28%
30-59	4,670	27%
60-89	2,662	16%
90-119	1,748	10%
More than 120	3,245	19%
<b>Total</b>	<b>17,182</b>	<b>100%</b>

- **Table 1.2.C DC407 Completion Time**

Days	Count	Percent of Count
0-29	899	72%
30-59	148	12%
60-89	74	6%
90-119	28	2%
More than 120	92	8%
<b>Total</b>	<b>1,241</b>	<b>100%</b>

## Appendix D – Assets Useful Life

The table below shows that 34% of all FCPS maintained assets are past their useful life expectancy.

Asset Category	Total Assets	Past Useful Life	% Past Useful Life	Life Cycle (Years)	Asset Age Avg (Years)	Total Replacement Cost
ADA Accessibility	211	73	35%	25	22	\$61,149,028
Asphalt/ Pavement	1,301	348	27%	22	15	\$55,683,020
Athletic Infrastructure	923	304	33%	21	16	\$97,628,670
Electrical Systems	9,261	2,656	29%	22	17	\$176,233,817
Energy Management	198	68	34%	17	15	\$149,263,046
Environmental	72	39	54%	30	34	\$1,050,086
Fire Sprinkler Systems	3,273	1,267	39%	25	22	\$15,198,872
Health/Safety	435	192	44%	18	17	\$14,504,054
HVAC Infrastructure	33,927	12,056	36%	21	18	\$383,918,812
Playgrounds	244	134	55%	15	17	\$33,099,365
Plumbing Systems	2,339	658	28%	17	13	\$27,099,349
Structural Systems	191	88	46%	24	22	\$4,766,722
<b>Total</b>	<b>52,375</b>	<b>17,883</b>	<b>34%</b>	<b>21</b>	<b>19</b>	<b>\$1,019,594,841</b>