

# Preventative Maintenance

Internal Audit Report

May 22, 2023



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# Table of Contents

|                                   | Page Number |
|-----------------------------------|-------------|
| EXECUTIVE SUMMARY                 | 1           |
| DEFINITIONS                       | 2           |
| BACKGROUND                        | 3           |
| OBJECTIVE, SCOPE, AND METHODOLOGY | 4           |
| RESULTS AND RECOMMENDATIONS       | 5           |
| APPENDIX                          | 9           |

## EXECUTIVE SUMMARY

### Why We Did This Audit

The objective of this audit was to evaluate the effectiveness and efficiency of internal controls in the district’s preventive maintenance (PM) program.

This audit was included in the 2022-2023 Annual Audit Plan.

### Observations and Conclusion

Our overall conclusion is that internal controls around Facilities Maintenance’s PM program are effective and efficient, but they are not consistently applied and could benefit from written procedures. We commend the department for managing a growing number of sites and schools across the county. We acknowledge that there is a strain on resources, both monetary and human, and we considered this impediment when making our recommendations.

| <b>Audit Results at a Glance</b>        |                      |          |        |
|---|----------------------|----------|--------|
| Results and Observations                | Risk / Impact Rating |          |        |
|   | Significant          | Moderate | Minor  |
| IA-Internal Audit<br>or<br>M-Management | M – 1<br>IA – 1      | M – 1    | IA – 1 |
| D- Deficiency or<br>O-Opportunity       | O – 1<br>D – 1       | O – 1    | D – 1  |

### Results and Recommendations

- Although each maintenance area has PM plans (school sweeps), and recurring service inspections, Facilities Maintenance does not have an overall, high-level PM schedule.

- Standard Operating Procedures (SOP's) exist for Recurring Services but not for PM work performed by Building Service Technician (BST) sweep teams nor for Grounds crews.
- We noted five instances where repair work orders were not created when deficiencies were identified in inspection reports.
- We noted three instances where the vendor representative did not sign the contract completion form to indicate their inspection/ service was complete.

#### Recommendations:

- Best practices include having a high-level, long-term PM plan.
- We recommend written procedures for PM work performed by BST sweep teams and Grounds crews.
- We recommend the Work Control Center (WCC) carefully review all inspection reports and create necessary repair work orders when deficiencies have been identified, per the SOP.
- We recommend the Recurring Services Department review contract completion forms for completeness, including vendor signatures.

This report has been discussed with management, and they have prepared their response which follows.

**DEFINITIONS:**

**Risk / Impact Ratings**

|             |   |
|-------------|---|
| Minor       | Low risk with a financial impact of less than one percent and/or an isolated occurrence limited to local processes (low impact and low likelihood)  |
| Moderate    | Slight to moderate risk with a financial impact between one and five percent and/or a noticeable issue that may extend beyond local processes (low impact and high likelihood or high impact and low likelihood)                |
| Significant | High risk with a financial impact greater than five percent and/or a significant issue that occurs in multiple processes and/ or noncompliance with Florida Statutes or School Board Policies (high impact and high likelihood) |

*We categorize risk/ impact as:*

- *Minor*
- *Moderate*
- *Significant*

**Observations Categories**

|             |   |
|-------------|---|
| Opportunity | A process that falls short of best practices or does not result in optimal productivity or efficient use of resources                 |
| Deficiency  | A shortcoming in controls or processes that reduces the likelihood of achieving goals related to operations, reporting and compliance |

*We categorize our observations as opportunities or deficiencies.*

**Criteria for Observations Sourced to Management**

- Internal audit was informed of the issue prior to starting detailed testing
- Management identified, evaluated, and communicated the issue to appropriate levels of the district
- Management has begun corrective action with clear, actionable plans and targeted completion dates

Audit Results #1 and #2 are sourced to Management.

*Two audit findings are sourced to management.*

**BACKGROUND:**

Facilities Maintenance ensures a safe, healthy, and inclusive learning/working environment for all OCPS sites by planning, scheduling, and implementing a comprehensive maintenance program at well over 200 locations (schools and other sites).

In addition to reactive and responsive work (i.e. repairs) submitted by schools/sites, there is also preventative maintenance (PM). PM includes correcting various minor maintenance items, such as changing light bulbs, replacing damaged ceiling tiles, tightening door hinges, etc. Sweep teams of Building Service Technicians (BST's) are responsible for both general repairs and preventative maintenance (PM). Due to facility size and demand for services, BST's are also permanently stationed at each traditional high school. The BST's record their daily activities by work order number on a "P"-sheet.

P-sheets are in Adobe PDF, and are uploaded to the Facilities Maintenance server. P-sheets are reviewed daily, and work orders can be closed/transferred. A P-sheet tracker is also created by each area to notify the Work Control Center (WCC) which BST's reported to work or were out for the day. Staff of the WCC is responsible for recording PM work by inputting the P-sheet information/hours, by work order number, into SAP. Monthly metrics are maintained, mainly for repair work, including "average days outstanding" and "number of created and closed work orders."

PM also includes term-service contracts with vendors that provide technical expertise for recurring service inspections in specific areas (see Appendix A). Recurring service inspections are tracked in Excel, not SAP, and they do not have work order numbers. The Recurring Services Department is dedicated to recurring service inspections. Invoices from recurring service vendors cannot be paid without an inspection report and a contract completion form. If any issues are noted during the inspection, work orders for repair are created in SAP.

*Sweep teams of Building Service Technicians (BST's) are responsible for both general repairs and preventative maintenance (PM). Due to facility size and demand for services, BST's are permanently stationed at each traditional high school.*

*Preventative maintenance also includes term-service contracts with vendors that provide technical expertise for recurring service inspections in specific areas (see Appendix A).*

**OBJECTIVE, SCOPE AND METHODOLOGY:**

**Objective**

The objective of this audit was to evaluate the effectiveness and efficiency of internal controls in the district's preventative maintenance program (PM).

**Scope**

Our audit covered the period from July 1, 2021 to June 30, 2022 and included all district facilities maintenance areas: Northeast, Northwest, South, and Grounds. Only preventative maintenance, not repairs, was in-scope. During the audit period, 19,018 preventative maintenance work orders were created (as PM08's in SAP) and 6,379 inspection reports (see Appendix A) for recurring services (tracked outside of SAP) were received.

**Methodology**

We conducted this audit in accordance with the *International Standards for the Professional Practice of Internal Auditing* of the Institute of Internal Auditors and included such procedures as deemed necessary to provide reasonable assurance regarding the audit objective. Internal Auditing is an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.

We are required to note any material deficiencies in accordance with Florida Statutes, School Board Policy, and sound business practices. No material deficiencies were noted in this audit. We also offer suggestions to improve controls or operational efficiency and effectiveness.

Details of our audit methodology included:

- Interviewing Facilities Maintenance personnel
- Conducting a walkthrough at a school with a BST sweep team
- Reviewing P-sheets of both Maintenance and Grounds personnel
- Reviewing SOP's of the Recurring Services Department

*We evaluated PM work during the period from July 1, 2021 through June 30, 2022.*

*We conducted this audit in accordance with the International Standards for the Professional Practice of Internal Auditing.*

*No material deficiencies were noted in this audit.*

- Reviewing recurring services inspection reports, contract completion forms, and invoices
- Tracing deficiencies identified during recurring services inspections to repair work orders
- Reviewing the latest Facilities Conditions Assessment (FCA) report
- Tracing recommendations from the FCA report to SAP work orders

**RESULTS & RECOMMENDATIONS:**

**Overall Conclusion:** Our overall conclusion is that internal controls around Facilities Maintenance’s PM program are effective and efficient, but they are not consistently applied and could benefit from written procedures. We commend the department for managing a growing number of sites and schools across the county. We acknowledge that there is a strain on resources, both monetary and human, and we considered this impediment when making our recommendations.

***1) Although each maintenance area has well-established PM plans (school sweeps), and there is a schedule for recurring service inspections, the Facilities Maintenance Department does not have an overall, high-level PM schedule for items such as roofs or resurfacing of paved lots. Significant Risk, Opportunity***

**Best Practice:**

Best practices include having a high-level, long-term PM plan.

**Audit Result:**

During our first walkthrough on January 10, 2023, management noted that there was no overall, high-level PM schedule for items such as roofs or resurfacing of paved lots because they would not be able to abide by the schedule due to budget limitations. When there is available budget, management must prioritize the PM projects (e.g. power washing over paving), which may contradict the schedule and the best practices for PM/useful life of the assets. In order to avoid

*Internal controls around Facilities Maintenance’s PM program are effective and efficient, but they are not consistently applied and could benefit from written procedures.*

*Facilities Maintenance Department does not have an overall, high-level PM schedule for items such as roofs or resurfacing of paved lots.*

conducting work differently than in a plan, they simply don't prepare a plan.

Recommendation:

Best practices include having a high-level, long-term PM plan to evidence when maintenance is scheduled, occurs, or is deferred, and to document unmet PM needs.

**2) Although SOP's exist for Recurring Services, written procedures for PM work performed by Maintenance BST sweep teams and by Grounds crews do not exist. *Moderate Risk, Opportunity***

Best Practice:

Written procedures help ensure preventative maintenance work is performed, documented, and entered into P-sheets (and SAP) in a consistent and uniform manner.

Audit Result:

During our entrance meeting on January 5, 2023, management noted their policies and procedures were only partially documented. SOP's exist for Recurring Services but not for Maintenance BST sweep teams nor for Grounds crews.

We tested P-sheets to see how often sites were swept by a BST (or Grounds) team. We sampled 4 sites from each area (Northeast, Northwest, South, Grounds), to get 16 sites total. We looked at each site during the audit period (12 months). We anticipated 192 site visits in total (16 sites visited 12 times each).

Of the 192 anticipated site visits, we noted 166 (86%) had been visited by a BST (or landscaper for Grounds) sweep team. However, 26 (14%) of the anticipated site visits either did not occur or were not documented with P-sheets. Twenty-two of those 26 sites were in the Northwest area. We learned that the Northwest Area did not schedule work orders on a monthly basis for all its sites. Instead, visits were scheduled about every other month. We also learned the Northwest Area has over 10 sites more than the other maintenance areas, but the same number of BST teams (6 teams of 3 people each). The Northwest

*Although SOP's exist for Recurring Services, written procedures for PM work performed by BST sweep teams do not exist.*

*Management mentioned they are in the process of creating a Share Point, where policies and procedures could be uploaded.*

*Twenty-six out of 192 (or 14%) of the sites tested were either not visited by a BST or the P-sheets could not be found to evidence the visit.*



Area placed an emphasis on staying at one school, and sweeping all the buildings, instead of sticking to a schedule where they visit a school for 2-3 days but may not sweep every building. So, there were different practices in place, not documented, across the maintenance areas.

Recommendation:

We recommend written PM procedures. These should include:

1. the creation/approval process of PM plans,
2. procedures for both BST sweep teams and Grounds crews,
3. procedures for supervisors who review BST/Grounds P-sheets, and,
4. the data entry process for the WCC to enter those P-sheets into SAP.

**3) We noted five instances where repair work orders were not created when deficiencies arising from preventative maintenance in recurring services were identified in inspection reports. *Significant Risk, Deficiency***

Best Practice:

According to the SOP "Recurring Services Process" (dated April 5, 2022), the WCC submits work orders based on deficiencies identified in the inspection report.

Audit Result:

There were 6,379 inspection reports during our audit period. From those inspection reports, the WCC created 1,262 repair work orders. To see if the WCC completely captured all repairs, we judgmentally sampled 30 inspection reports, and noted 25 inspections that identified deficiencies. We then attempted to confirm whether work orders had been created to address those deficiencies by searching SAP (using IW39). We searched by date and description because the work order number created was not listed on the inspection report beside the "entered" stamp of the reviewer from the WCC. We noted work orders had been created for 23 of those 25 inspection reports, and 2 had not. We then extended our review period from June 30, 2022 to March 30, 2023, and sampled 30 more inspection reports. We noted another 3 instances where work orders had not been created for repairs when inspection reports noted deficiencies.

*We noted five instances when repair work orders were not created when deficiencies were identified in inspection reports.*

*There were 6,379 inspection reports during our audit period. From those inspection reports, the WCC created 1,262 repair work orders.*

The exception rate in the first sample was 8% (2 of 25), while the exception rate in the second sample was 10% (3 out of 30).

Recommendation:

We recommend the WCC carefully review all inspection reports and create necessary repair work orders when deficiencies have been identified, per the SOP "Recurring Services Process" (dated April 5, 2022).

**4) We noted three instances where the vendor representative did not sign the contract completion form to indicate their inspection/service was complete. *Minor Risk, Deficiency***

Best Practice:

Best practice to ensure vendor performance of services is to inspect the work. However, since there are only three employees in the department to oversee Recurring Services, the department has adopted an SOP "Recurring Services Process" (dated April 5, 2022), that requires vendors sign contract completion forms stating they performed the work for which they have billed the district.

Audit Result:

Per our conversation with the Recurring Services Department on April 7, 2023, they consider the vendor signature on the contract completion forms as evidence (other than the inspection report itself) the service has actually been performed.

We sampled 7 of 18 recurring services resulting in 14 inspection reports/ invoices/ contract completion forms, provided by 10 different vendors. Three of those 14 contract completion forms had not been signed by the vendor representative.

Recommendation:

We recommend the Recurring Services Department review the contract completion form for completeness, including the vendor's signature.

*We noted three instances where the vendor representative did not sign the contract completion form.*

*Maintenance considers the vendor signature on the contract completion form as evidence the service has actually been performed.*

We wish to thank Facilities Maintenance staff for their cooperation and assistance with this audit.

**Appendix A**

**Recurring Service Inspections  
July 1, 2021 to June 30, 2022**

| <u>Services</u>       | <u>Number of<br/>Inspection Reports</u> |
|-----------------------|---|
| 1 Backflow            | 155                                     |
| 2 Bleachers           | 45                                      |
| 3 Boilers             | 353                                     |
| 4 Chillers            | 686                                     |
| 5 DAS Radios          | 135                                     |
| 6 Elevators           | 148                                     |
| 7 Fire Alarm          | 454                                     |
| 8 Fire Extinguishers  | 257                                     |
| 9 Fire Hydrants       | 218                                     |
| 10 Fire Sprinklers    | 1,030                                   |
| 11 Generators         | 492                                     |
| 12 Grease Traps       | 594                                     |
| 13 Kitchen Hoods      | 456                                     |
| 14 Lift Stations      | 1,315                                   |
| 15 Pool Service       | 13                                      |
| 16 RBELC Roof Anchors | 1                                       |
| 17 Rubberized Tracks* | 0                                       |
| 18 Wastewater         | 27                                      |
| Total                 | <hr/> <hr/> <u>6,379</u>                |

*Source: Facilities Maintenance server  
\* No reports required per management.*



|  |                               |
|--|-------------------------------|
| <b>Department / School Name</b>            | <b>Facilities Maintenance</b> |
| <b>Administrator / Department Head</b>     | <b>Chris Solomon</b>          |
| <b>Cabinet Official / Executive Leader</b> | <b>Rory Salimbene</b>         |

| <b>Audit Result / Recommendation</b>   | <b>Management Response Acknowledgement/ Agreement of Condition</b>  | <b>Responsible Person (Name &amp; Title) And Target Completion Date (MM/YYYY)</b> | <b>Management's Action Plan</b>  |
|--|---|---|--|
| Best Practices include having a high-level long-term PM plan.  | PM work is completed on many critical components like HVAC, generators, lift stations etc... We concur that there are system components that have been deferred from a lack of resources i.e., roofing & asphalt. | Chris Solomon, Maintenance Director 07/2024                                       | Develop a comprehensive Preventive Maintenance plan encompassing all major systems. Identify resource shortfalls for implementation and include in budget requests.  |
| Recommend written procedures for PM work performed by BST Teams.   | We concur that the process for completing PM work by the BST Teams was not consistent between all Maintenance Areas.  | Chris Solomon, Maintenance Director 12/2023                                       | Produce a written SOP along with an updated checklist for the BST Teams. Share new process & procedure with all Maintenance Areas and keep documents on server for future reference. Establish plan to monitor compliance.   |
| Recommend the Work Control Center carefully review all inspection reports and create necessary repair work orders when deficiencies have been identified, per the SOP. | We concur that there were follow up work orders that did not get created.   | Chris Solomon, Maintenance Director 09/2023                                       | Add a Senior Manager position to the Recurring Services team for additional oversight (complete). Revise procedures for Work Control Center staff to require a complete review of inspection reports and communicate with the Recurring Services Senior Manager for clarifications regarding follow- |



|   |   |   |  |
|---|---|---|--|
|   |   |   | on work requirements. Establish and enforce a requirement for vendors' final inspection reports to include a summary of necessary repairs.   |
| Recommend the Recurring Services Department review contract completion forms for completeness, including vendor signatures. | We concur that there were contract completion forms missing signatures from the vendor. | Chris Solomon, Maintenance Director 09/2023 | Reiterate to the Recurring Services staff the requirement that contract completion forms need to be signed by the vendor. Communicate the invoicing process with our term service vendors. |