Cape Coral Fire Department Utilization of Asset Management Software Audit

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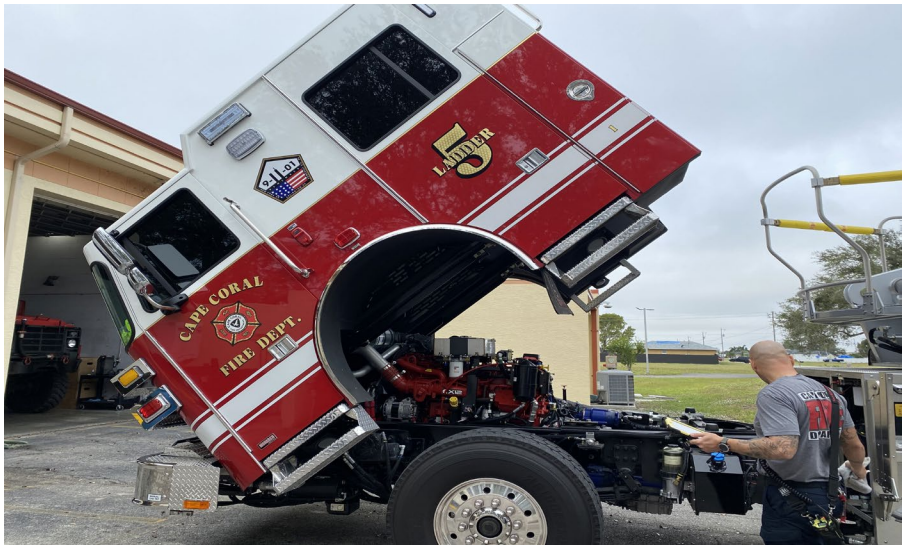

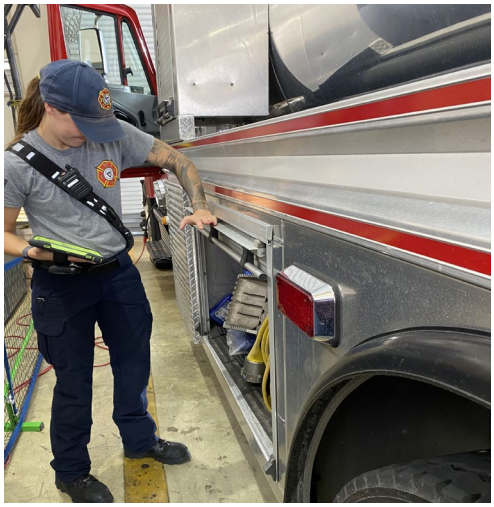

Report Issued

March 25, 2024

Audit Report No. 24-02

City of Cape Coral
City Auditor's Office

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TO: Mayor Gunter and Council Members

FROM: Andrea R. Russell, City Auditor

DATE: March 25, 2024

SUBJECT: Cape Coral Fire Department (CCFD) Utilization of Asset Management Software Audit

The City Auditor's Office has completed the audit of the CCFD Asset Management Software. The audit was conducted in conformance with Generally Accepted Government Auditing Standards by the authority granted through City Ordinances 28-02 and 79-10.

We would like to express our sincere appreciation to the CCFD command staff and CCFD firefighters for the courtesy, cooperation, and proactive attitude extended to the team members during the audit. If you have any questions or comments regarding this audit, please contact Andrea Russell at 242-3380.

C: Michael Ilczyszyn, City Manager
Connie Barron, Assistant City Manager
Aleksandr Boksner, City Attorney
Kimberly Bruns, City Clerk
Ryan Lamb, CCFD Chief
Michael Russell, CCFD Deputy Chief
James Parker, CCFD Division Chief Operations
Charles Raborn, CCFD Division Chief-Logistics
Audit Committee

CCFD UTILIZATION OF ASSET MANAGEMENT SOFTWARE AUDIT

Issued March 25, 2024

Objectives

To assess if CCFD's utilization of the asset management software is sufficient to ensure appropriate asset and inventory management.

To determine if controls are in place and operating as intended to ensure cost effective acquisition and monitoring of assets and inventory.

Background

CCFD is a full-service fire agency with a mission to protect and serve the community through risk reduction and prompt emergency response. There are currently 12 stations online with another scheduled to open soon. To monitor station assets and provide supplies to stations, CCFD utilizes a checklist and inventory asset management software system (software) specifically designed for first responders. This software is web-based and can be accessed on computers, tablets, and smart phones by firefighters and administration.

REPORT HIGHLIGHTS

WHY THIS MATTERS

Improvements in utilization of the asset management software will assist CCFD to more efficiently achieve department objectives.

WHAT WE FOUND

The City Auditor's Office conducted a performance audit of the CCFD asset management software. This audit is included as an addition to the City Auditor's approved FY24 Audit Plan.

Based on the test work performed and the audit recommendations below, we concluded the CCFD effectively utilizes department asset management software; however, we identified several administrative areas where the software could be better utilized to help fully achieve department objectives. These areas are discussed in further detail in the Findings and Recommendations section.

- Tracking of Personal Protective Equipment
- Software Alerts Administrative Policies
- Frontline Apparatus Swaps Not Tracked Within Software
- Monitoring of Station Supply Inventory

While administrative processes for use of the software need improvement, no material control deficiencies were noted.

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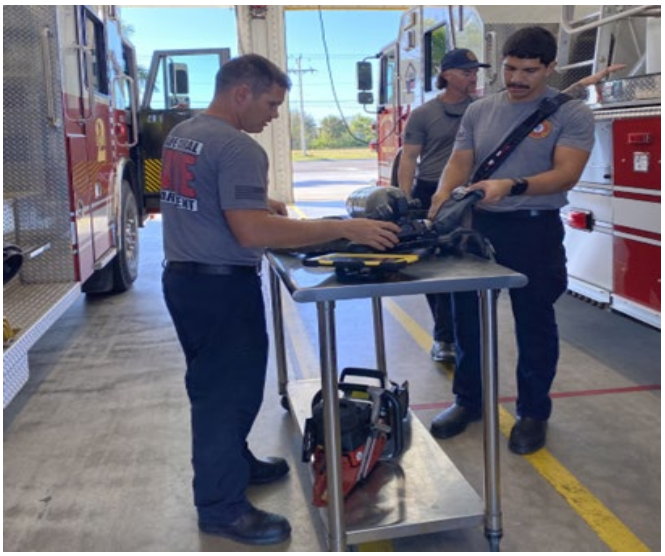
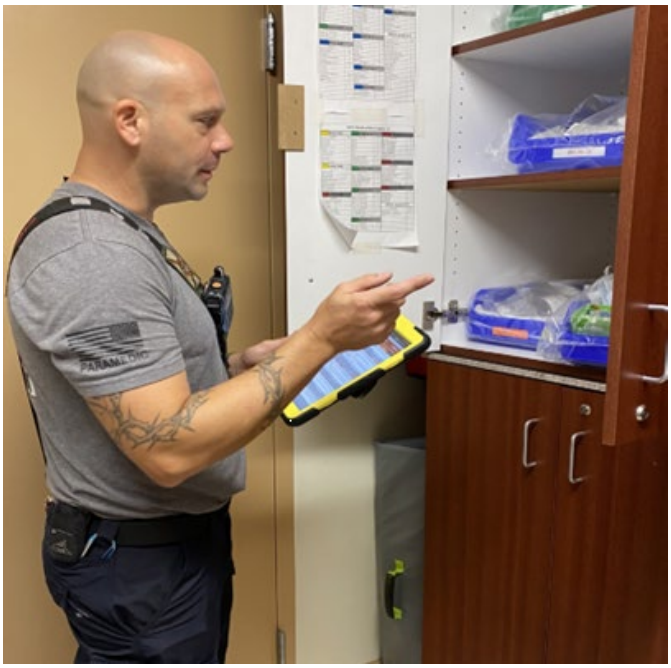
BACKGROUND

CCFD utilizes a checklist and inventory management system specifically designed for first responders. This asset management software (software) is a web-based software and can be accessed on computers, tablets, and phones by firefighters and administration. CCFD began using the software in December of 2016. The software has several modules to assist first responders with inventory management; these modules include vehicles, stations, personal protective equipment (PPE), self-contained breathing apparatus (SCBA), critical asset, fire and EMS inventory, and controlled substance. Currently, CCFD uses all modules except critical asset and fire and EMS inventory.



The software was originally used for daily apparatus inventory checks, but is now used for operational checks, station maintenance and repair needs, station supplies, paramedic equipment, and narcotics inventory. The software home screen provides a real-time status of checks completed and remaining for the day. The software also has a built-in alerts system for firefighters to note issues throughout the stations and immediately notify administration.



FINDINGS AND RECOMMENDATIONS

FINDING 2024-01 Personal Protective Equipment (PPE) Tracking Within Asset Management Software Needs Improvement

Rank: High

Condition:
CCFD utilizes a PPE module within the asset management software to track PPE. The module is used to record a variety of information for PPE, including item identification information (assignment, serial number, model, manufacturer), key dates (manufacturing, in-service and expiration), and inspection results.

When a new set of bunker gear is received, it is logged into the asset management software and assigned to the recipient using the manufacturing date, size, and serial number. It will stay assigned to them until there is a change of circumstance.

According to National Fire Protection Association (NFPA) 1851, Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting 4.3.3: "At least the following records shall be kept for each protective ensemble or ensemble element:

1. Person whom the element is issued
2. Date and condition when issued
3. Manufacturer and model name or design
4. Manufacturer's identification number, lot number, or serial number
5. Month and year of manufacture
6. Date(s) and findings of advanced inspections
7. Date(s) and findings of advanced cleaning, disinfection or sanitization, or specialized cleaning
8. Reason(s) for and who performed advanced cleaning, disinfection or sanitization, or specialized cleaning
9. Date(s) of repair(s), who performed repair(s), and brief description of repair(s)
10. Date of retirement
11. Date and method of disposal"

We randomly selected a sample of 60 PPE items tracked in the asset management software to determine if pertinent information is recorded in accordance with NFPA 1851 4.3.3. Our sample of PPE consisted of coats, fire boots, fire hoods, firefighting gloves, helmets, and pants. See test results in the following table.

	Total Number Tested	Number of Exceptions	Exception Percentage
Equipment Assigned	60	0	0%
Serial Number Recorded	37	0	0%
Manufacturer Recorded	60	9	15%
Model Recorded	47	32	68%
Condition When Issued Recorded	60	25	42%
Manufactured Date Recorded	52	12	23%
In-Service Date Recorded	60	11	18%
Expiration Date Recorded	60	20	33%

Note: Certain equipment does not contain serial numbers; model name or number; and/or manufactured date; and therefore, attributes were removed from our testing.

In addition, other observations we noted during our test work include:

- No record of equipment inspection prior to being unassigned and placed in storage
- Manufactured date recorded is after the in-service date recorded
- In-service date recorded after the first inspection date
- Inspections are completed annually but detailed results are not entered into the PPE module
- Three items were past their expiration date; however, all items were located in the warehouse and not assigned to an individual

It is important to note that firefighters inspect their PPE gear daily at the start of their shift and the asset management software is used to alert Logistics of any damage or items that need replacement. While we noted recurring instances of missing data that is required to be tracked by NFPA, we do not consider this a life safety issue; however, proper recording and monitoring of information is necessary for compliance with the NFPA standards.

Criteria:

- NFPA 1851

Cause:

- Lack of defined administrative policies and procedures
- No review of information entered in asset management software
- Information required to be monitored by NFPA tracked outside of the asset management software

Effect:

- Inaccurate and incomplete tracking of administrative information for PPE
- Noncompliance with NFPA 1851

Recommendations	Management Response and Corrective Action Plan:
2024-01a: *Develop administrative policies and procedures for recording and verification of NFPA required information for PPE into asset management software to ensure accuracy and compliance with the standards.*	**2024-01a ☒ Agree ☐ Partially agree* ☐ Disagree*** ***For partially agree or disagree a reason must be provided as part of your response:** **2024-01a** The Fire Department will develop administrative policies and procedures for recording and verification of NFPA required information for PPE into asset management software to ensure accuracy and compliance with the standards to the greatest degree possible. **2024-01a Management Action Plan Coordinator:** Fire Chief/Emergency Management Director **2024-01a Anticipated Completion Date:** 11/08/2024
2024-01b*: Review PPE currently in the module to determine missing information and update the records to include NFPA required information.*	**Management Response and Corrective Action Plan**: **2024-01b ☒ Agree ☐ Partially agree* ☐ Disagree*** ***For partially agree or disagree a reason must be provided as part of your response:** **2024-01b** The Fire Department will review PPE currently in the module to determine missing information and update the records to include NFPA required information, when applicable. The Fire Department will document all the information available as all equipment does not contain the same information (e.g., boots do not have serial numbers). **2024-01b Management Action Plan Coordinator:** Fire Chief/Emergency Management Director **2024-01b Anticipated Completion Date:** 11/08/2024

FINDING 2024-02 Asset Management Software Alerts Administrative Policies Need Improvement

Rank: High

Condition:
CCFD's asset management software has a built-in feature to create alerts for equipment or apparatus. Alerts can be set for a variety of categories, including for missing equipment, issues with PPE gear, broken station appliances, or apparatus breakdowns. Once a firefighter creates an alert, it is automatically emailed to employees set on a recipients list. After an alert is created, it will remain on the stations home page, and firefighters or administration can add additional comments.

We reviewed a total of 120 alerts, 60 created in August 2022 and 60 created in August 2023 to determine if alerts are triaged appropriately and if alerts are reviewed and communicated in a timely manner. Because there is no metric for recipients, for our testing, the CAO determined six recipients appeared reasonable to account for one or two division chiefs and their administrative assistants; logistics personnel; and the creator of the alert. In addition, we deemed 14 days to be an appropriate timeframe for an alert to be addressed. We did not test for the alert to be closed within the 14-day timeframe, but rather that receipt was acknowledged by command staff, and action was taken to address the alert. We verified this by reviewing comments in the asset management software.

The recipient list for alerts differs depending on the type of alert, such as a station supply order, facilities repair, or apparatus issue. Based on our analysis completed for testing, the number of recipients was between three to ten individuals. For our 2022 testing of 60 alerts, six (10%) alerts were sent to more than six recipients. For our 2023 testing of 60 alerts, 12 (20%) were sent to more than six recipients. While it is important to have backups, if alerts are sent to too many recipients it can create confusion as to who should address the alert.

Some alerts can be addressed immediately while others cannot. The CAO reviewed the alerts to see if a comment was added in the software within 14 days of the alert opening to acknowledge the issue. Of the 120 alerts reviewed, there were 22 (37%) in 2022 and 20 (33%) in 2023 that did not have a comment or acknowledgement in the software within 14 days. This resulted in duplicate alerts and numerous follow-up comments from firefighters noting the issue was still not addressed. Comment or communication from individuals who receive the alerts would allow firefighters to know the status of the alert and could minimize duplications.

Criteria:
- Asset management software administrative policies
- Asset management software alerts recipient list

Cause:

- Lack of defined asset management software administrative policies and procedures

Effect:

- Potential for alerts to not be addressed
- Potential for alerts to be missed
- Potential for issues to not be corrected
- Potential for duplicate alerts

Recommendation	**Management Response and Corrective Action Plan**:
2024-02: *Develop asset management software administrative policies and procedures to define distribution lists based on alert type; set time standards for addressing alerts; and implement a process to periodically monitor outstanding alerts to ensure they are addressed and closed out when no longer valid.*	**2024-02** ☒ **Agree** ☐ **Partially agree*** ☐ **Disagree*** ***For partially agree or disagree a reason must be provided as part of your response:** **2024-02** Management will develop asset management software administrative policies and procedures to define distribution lists based on alert type; set time standards for addressing alerts; and implement a process to periodically monitor outstanding alerts to ensure they are addressed and closed out when no longer valid. **2024-02** **Management Action Plan Coordinator:** Fire Chief/Emergency Management Director **2024-02** **Anticipated Completion Date:** 11/08/2024

FINDING 2024-03 Frontline Apparatus Swaps are not Tracked Within Asset Management Software

Rank: High

Condition:
When frontline apparatus (apparatus) breaks down or is out of service for preventative maintenance, a comparable unassigned frontline apparatus (reserve) is put in service to allow the station to remain online and capable of responding to the emergency needs of the community. It is not feasible to stock reserve apparatus with necessary equipment; therefore, when apparatuses are swapped out, equipment must be transferred from the apparatus to reserve and then back when the apparatus comes back into service. CCFD utilizes an asset management software to catalog all equipment on apparatus daily. The process is efficient and allows for quick identification and notification for missing or damaged equipment; however, when apparatus is taken out of service, the process is not recorded in the software. When performing the equipment swap, firefighters manually record the equipment exchanged on a Temporary Equipment Relocation (TER) form. There is no prepopulated list on the TER for equipment transferred. The engineer on shift when the swap occurs determines what equipment is transferred to the reserve. Sometimes apparatus can be out of service for an extended period of time. The daily equipment check on the reserve is not included in the asset management software.

We requested a sample of TER forms to assess the efficiency of the process; however, CCFD informed us that once a reserve is swapped back with the apparatus and all equipment is accounted for, the TER form is discarded. We were provided with an example TER form for an apparatus swap which occurred after our audit scope for review. We noted there are no instructions on the form; the forms are not filled out and signed consistently; items that were checked off previously were crossed out; and handwriting can be messy and difficult to read.

The CAO, alongside certain CCFD command staff, met with company representatives of the asset management software in use. They walked us through the software capabilities which include the ability to create TER forms within the system. The module within the software acts similarly to the paper TER forms but automates the manual process which is more efficient and creates more standardization for equipment transferred.

Criteria:
- TER Forms

Cause:
- Lack of full utilization of asset management software capabilities
- Lack of a defined and documented process

Effect:
- Potential difficulty tracking equipment during swaps

- Increased risk for lost equipment and supplies
- Inability to locate equipment and supplies

Recommendations	Management Response and Corrective Action Plan:
2024-03a: *Utilize the asset management software module to automate apparatus swaps.*	**2024-03a ☒ Agree ☐ Partially agree* ☐ Disagree*** ***For partially agree or disagree a reason must be provided as part of your response:** **2024-03a** The Fire Department will utilize the asset management software module to automate apparatus swaps to the greatest degree possible. Additionally, the department intends on providing a full complement of equipment to unassigned frontline apparatus to minimize the time necessary to perform an apparatus swap and maximize the apparatus's operational capabilities. **2024-03a Management Action Plan Coordinator:** Fire Chief/Emergency Management Director **2024-03a Anticipated Completion Date:** 3/08/2025
2024-03b: *Provide training to engineers on the use of the apparatus swap module.*	**Management Response and Corrective Action Plan**: **2024-03b ☒ Agree ☐ Partially agree* ☐ Disagree*** ***For partially agree or disagree a reason must be provided as part of your response:** **2024-03b** The Fire Department will provide training to engineers on the use of the apparatus swap module. **2024-03b Management Action Plan Coordinator:** Fire Chief/Emergency Management Director **2024-03b Anticipated Completion Date:** 3/08/2025

FINDING 2024-04: Monitoring of Station Supply Inventory Needs Improvement

Rank: Medium

Condition:
Once a month, firefighters utilize the asset management software to review current inventory stock to determine items that need to be ordered for each station. Firefighters complete a checkoff of pre-populated lists in the software, which allows them to submit the quantity needed for an item. Once the station inventory is complete, the software automatically sends the order to CCFD Logistics. Once Logistics has received orders from all stations, they gather items from the local warehouse and prepare them for distribution.

The asset management software has preset order limits for each item. While this feature is effective to prevent over ordering each month, there is no procedure in place to monitor whether an excessive amount of ordering occurs month after month. There is no overall monitoring or trend analysis for any station inventory. Monitoring of inventory levels would help to identify inefficient ordering trends. In addition, Logistics does not verify station inventory counts prior to re-order. When it is time to resupply the warehouse stock, Logistics staff walk through the warehouse, note items that appear to be in low supply, and create an order based on observation.

During our testing of alerts, we noted times when stations requested items outside of the scheduled monthly orders. During these unscheduled orders, it appears the warehouse had sufficient inventory as the items were delivered promptly. The process could be improved to more efficiently manage station item inventory and minimize overordering. We also were informed during station walkthroughs the station previously had overstocked “speedy dry” used to absorb liquids after an accident. The individual who informed us was not aware of why the overstock of material occurred. If Logistics periodically monitored inventory stock to identify trends, they could reduce the occurrence of inaccurate orders.

Criteria:
- Asset management software reorder module
- CCFD logistics policies and procedures

Cause:
- Lack of inventory monitoring
- Lack of controls over inventory and ordering
- Lack of policies and procedures

Effect:
- Potential over/understocking of warehouse items
- Increased risk of theft of inventory
- Potential inaccurate inventory amounts

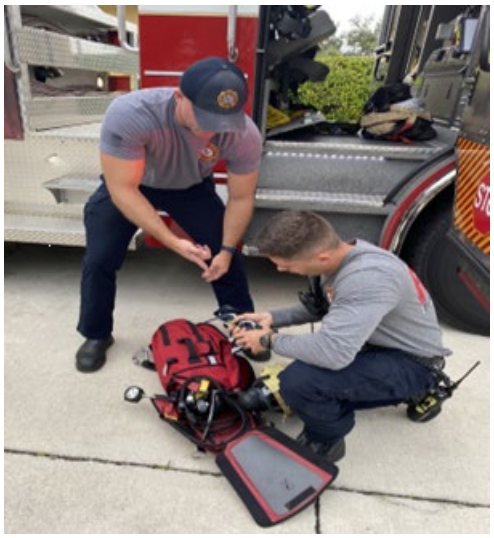
Recommendation	Management Response and Corrective Action Plan:
2024-04: *Define and implement a process for periodic monitoring of station supply orders and re-ordering of inventory items to more efficiently stock Logistics and individual stations.*	**2024-04 ☒ Agree ☐ Partially agree* ☐ Disagree*** ***For partially agree or disagree a reason must be provided as part of your response:** **2024-04** The Fire Department will define and implement a process for periodic monitoring of station supply orders and re-ordering of inventory items to more efficiently stock Logistics and individual stations. The department is implementing a RFID system which will greatly improve the efficiencies of the stock and re-ordering of inventory items system. **2024-04 Management Action Plan Coordinator:** Fire Chief/Emergency Management Director **2024-04 Anticipated Completion Date:** 3/14/2025

SCOPE

Based on the work performed during planning and the assessment of risk, the audit covers CCFD's use of the asset management software for the period of FY22 through FY23. To evaluate the use of the software and controls in place, we reviewed CCFD policies and procedures, NFPA best practices, and observed CCFD using the software.

STATEMENT OF AUDITING STANDARDS

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. 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 and conclusions based on our audit objectives.



METHODOLOGY

To achieve our audit objectives and gain an understanding of the asset management software, we conducted interviews and walkthroughs with key staff and those who utilize the software. We obtained original reports from the software to use as evidence for testing. Sample size and selection were based on the CAO Sample Methodology. We used random and judgmental sampling for sample selection. We tested a random sample of 120 software alerts for station supplies, apparatus issues, facilities repairs, and equipment repairs, initiated by CCFD in the asset management software to access CCFD's response and utilization of the alerts. We reviewed a random sample of 60 PPE items to determine compliance with NFPA standards. We also reviewed software data for a judgmental sample of ten small equipment items to determine if there was a need to acquire the assets module. We attempted to obtain a sample of TER forms to review the reserve swap process; however, CCFD does not maintain the TER forms. Finally, we attempted to review Logistics inventory monitoring process using the software; however, Logistics does not produce the monthly reports for inventory and does not formally monitor inventory; therefore, there was no data available for testing.

To achieve audit objectives, we utilized data from the software which is used as a repository of information for variety of CCFD assets including vehicles, stations maintenance and supplies, PPE, SCBA, and controlled substances. We determined the data was sufficiently reliable of the purpose of testing the audit objectives and no additional data reliance testing was deemed necessary for this audit because of our review of the software and data conducted as part of 23-07 CCFP Fleet Rolling Stock Audit.

METHODOLOGY (continued)

Unless specifically stated otherwise, based on our selection methods and testing of transactions and records, we believe that it is reasonable to project our results to the population and ultimately draw our conclusions for testing, findings, and recommendations on those results. Additionally, for proper context, we have presented information concerning the value and/or size of the items selected for testing compared to the overall population and the value and/or size of the exceptions found in comparison to the items selected for testing.

APPENDIX

Finding Classification

Findings are grouped into one of three classifications: High, Medium or Low. Those findings that are categorized as low are not included in the report but rather are communicated separately to management. Classifications prioritize the findings for management to address and also indicate the level of testing required to determine if a finding's Corrective Action Plan is fully implemented in accordance with recommendations and Management's Response.

High: A finding that is ranked as "High" will have a significant impact on the organization. It is one that *prevents* the achievement of a substantial part of significant goals or objectives, or noncompliance with federal, state or local laws, regulations, statutes or ordinances. Any exposure to loss or financial impact for a High finding is considered *material*. Examples include direct violation of City or Department policy, blatant deviation from established policy and procedure, such as actions taken to circumvent controls in place, material non-compliance with federal, state or local laws, regulations, statutes or ordinances, or an area where significant cost savings could be realized by the Department or the City through more efficient operations.

High findings require immediate management attention and should take management's priority when considering implementation for corrective action.

Medium: A "Medium" finding is one that *hinders* the accomplishment of a significant goal or objective or non-compliance with federal, state or local laws, regulations, statutes or ordinances, but can't be considered as preventing the accomplishment of the goal or objective or compliance with federal, state or local laws, regulations, statutes or ordinances. Exposure to loss or potential or actual financial impact is *significant but not material* to the Department or City. Examples include lack of monitoring of certain reports, insufficient policies and procedures, procedure in place or lack of procedure that can result in *potential* noncompliance with laws and or regulations.

Medium findings require management attention within a time frame that is agreed upon by the Department and the City Auditor. Priority for implementation of management's corrective action should be considered in light of other High or Low findings.

Low: A "Low" finding is one that warrants communication to management but is one that isn't considered as hindering the accomplishment of a significant goal or objective and isn't causing noncompliance with federal, state or local laws, regulations, statutes or ordinances. Financial impact or risk of loss is minimal to none; however, low findings can *hinder the effectiveness or quality of department operations and thus are communicated to management separately. Low ranked findings are not included in the final audit report.*

The City Auditor's Office will not follow up on the status of Low findings communicated to Management.