

**TRANSPORTATION AND  
STORMWATER SERVICES  
STORMWATER ZONE MAINTENANCE  
AUDIT 19-08  
NOVEMBER 13, 2019**



# CITY OF TAMPA

Jane Castor, Mayor

Internal Audit Department

Christine Glover, Internal Audit Director

November 13, 2019

Honorable Jane Castor  
Mayor, City of Tampa  
1 City Hall Plaza  
Tampa, Florida

RE: Stormwater Zone Maintenance, 19-08

Dear Mayor Castor:

Attached is the Internal Audit Department's report on Transportation and Stormwater Services Department - Stormwater Zone Maintenance.

We thank the management and staff of Stormwater Operations for their cooperation and assistance during this audit.

Sincerely,

/s/ Christine Glover

Christine Glover  
Internal Audit Director

cc: John Bennett, Chief of Staff  
Brad Baird, Public Works and Utility Services Administrator  
Dennis Rogero, Interim Chief Financial Officer  
Jean Duncan, Transportation and Stormwater Services Director  
Pete Brett, Transportation and Stormwater Services Operations Manager  
Bryan Rodger, Stormwater Operations Chief

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/s/ Debbie Abbott

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Auditor

/s/ Christine Glover

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Audit Director

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**BACKGROUND**

Stormwater Operations, a division within the Transportation and Stormwater Services Department (TSS), is responsible for approximately 600 miles of stormwater pipe, 180 miles of ditches, and over 100 retention and detention ponds. Debris and silt are removed regularly to maintain the system's ability to control flooding and prevent stormwater pollution. Additional responsibilities include:

- Construction of new storm sewers and the emergency repair of all existing drainage infrastructure within the City limits.
- Repairing concrete drainage structures such as retaining walls and stormwater inlets, including resetting inlet tops which have been knocked off by traffic. In an average year, crews will make over 300 repairs.
- Cleaning approximately 18,000 inlets annually using vacuum trucks and small inlet cleaning equipment. These crews keep the system from clogging and prevent material from ending up in receiving waters.
- Cleaning 21,000 miles of curbed roadway with a fleet of street sweepers to reduce flooding.
- The operation and maintenance of nine permanent pumping stations in closed drainage basins, as well as emergency pumping which relieves localized flooding.

**STATEMENT OF OBJECTIVES**

This audit was conducted in accordance with the Internal Audit Department's FY20nn Audit Agenda. The objectives of this audit were to ensure that:

1. Vehicle inspections are being performed according to policy.
2. Work orders are being completed and closed timely.

**STATEMENT OF SCOPE**

The audit period covered Vehicle Inspection Reports (VIRs) for the period January 2018 to February 2019 and work orders opened during period of December 2018 through January 9, 2019. Original records as well as copies were used as evidence and verified through observation and physical examination.

## **STATEMENT OF METHODOLOGY**

A statistical sample of the population of vehicles and equipment was selected for testing. The sample was then stratified to review inspection reports for requirements according to the type of equipment and vehicle. Vehicles were reviewed to identify mileage gaps, repairs needed that address safety issues, and completion of the reports. Equipment was reviewed for gaps in mileage and/or hours operated, completion of reports, preventive maintenance, and maintenance requests.

A statistical sample of open work orders was selected from a January 9, 2019, report for testing. The sample of work orders was reviewed to determine completion of the work order, including assigning a priority level, and the current status of the work order. The priority level was used to evaluate the length of time the work order was open. The report of open work orders was analyzed to review the backlog and determine if work orders should have been closed.

In addition, we performed an analysis on the age of open work orders from a report generated January 9, 2019.

## **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.

## **AUDIT CONCLUSIONS**

Based upon the test work performed and the recommendations noted below, we conclude that:

1. Vehicle inspection are not being performed according to policy.
2. Work orders are not always completed and closed timely.

## **VEHICLE INSPECTION REPORTS**

**STATEMENT OF CONDITION:** A review of VIRs identified the following discrepancies:

- The “Date Range” field on the VIRs is not always completed on the form which makes the date (year) of the report unidentifiable.
- Vehicle/equipment use is not always being recorded. There are gaps in mileage/hours of use. For example, the mileage/hours reported at end of day is not the same as the pre-trip mileage reported the next time the vehicle/equipment is used.
- Vehicle/equipment defects/issues identified on VIR do not appear to be reported for repair. For example: VIRs identified fuel leaks, air leaks, and turn signals not working, causing safety issues with vehicle or equipment identified on the VIRs. In most cases, there was no evidence these issues were reported to a supervisor or the Vehicle Coordinator as stated in policy. Additional testing found most of the time Maintenance Vehicle/Equipment Repair Requests were not completed to indicate repairs had been made.
- Policy and procedures require random and spot checks of vehicles, but there is no requirement for periodic checks to occur for all vehicles’ VIRs to ensure reports are being completed.

**CRITERIA:** Forms should be completed in order for information to be useful and also to document the task was performed. Documentation should be maintained in accordance with the record retention schedule.

**CAUSE:** Paperwork is not being completed or completed incorrectly; policies and procedures do not require a sample of VIRs to be reviewed periodically for all vehicles and equipment. Requiring only random spot checks and field and yard surveys may not include all vehicles and equipment during their life cycle.

**EFFECT OF CONDITION:** Potentially unsafe vehicles/equipment; appearance of lack of due diligence.

**RECOMMENDATION 1:** Emphasis should be put on the above-mentioned problem areas in the form of training and safety meetings; accountability should be decided and put into action; and policies and procedures should be revised to include more specific instructions for completion of the reports and for management to review a sample of reports from all vehicles.

**MANAGEMENT RESPONSE:** The TSS Operations Division, Stormwater Section agrees with the suggested recommendations for improvements in VIR compliance, consistency and monitoring of repair work orders.

For informational purposes a short history of the VIR program has been provided below concerning the efforts taken to create, initiate and consistently improve the VIR program.

The TSS Operations Division began coordination efforts with Risk Management (RM) concerning the development of a vehicle and equipment inspection and safety report program (VIR) in March 2016. At that time there was no Citywide program. However, RM had been working on a draft outline and suggested we start a pilot program phase with the TSS Operations Division that would help develop more detailed standard operating procedures (SOP) for the VIR safety program, which could be tested, refined and finalized for implementation Citywide.

During 2016–2017, Vehicle and equipment inspection form reports were created for over a dozen types of vehicles and equipment along with draft SOPs. Employee training was also provided to initiate the first phase of the program. That working phase uncovered a plethora of problems that needed to be solved and that information helped in creating a more formal SOP package for the program, which finally developed into several detailed SOPs that were completed during 2017-2018.

Consistent compliance by operators and supervisors were problems encountered during the implementation phase. Therefore, additional compliance SOPs regarding mandatory surprise field checks by supervisors and RM were initiated in 2018-2019 along with more training and refining of the SOPs. That effort has shown improvement in the consistency of keeping vehicles and equipment in clean and good working condition. These new policies tied employee VIR conformance with employee evaluation scores, and discipline, and will eventually have a significant impact on conformance by operators and supervisors.

The Stormwater Section along with the entire TSS Operations Division continue to be committed to improving the VIR Program. Management will conduct training with the supervisors and technicians. A record of this training will be kept in the VIR Program folder on the T:Drive along with the improved SOPs. Emphasis will be placed on conducting the vehicle inspections through “Take 5” safety meetings, continuous training, and meeting discussions. Accountability will be enforced on a case by case basis depending on the severity of the infraction. Egregious irresponsibility or repetitive misuse of the program will be handled with progressive discipline according to the personnel manual.

TARGET IMPLEMENTATION DATE: Implementation for the above referenced management action shall be completed by the end of October 2019.

## **WORK ORDERS**

**STATEMENT OF CONDITION:** Work orders are not always closed when jobs are complete. Our analysis noted over 1,200 work orders are still open in the Access database between 2003 through 2017. This number consists of all work orders in the TSS. Further, when created, fields detailing the work order priority are not always completed.

A work order is created when a call comes in to the Customer Service Center reporting an issue with flooding, cave-ins, etc. Inspector technicians visit the site and identify the problem and assign a priority level based on criteria such as public safety, emergency, etc. When the job is finished, the technician completes job costing information in the Work Order system and forwards to the team leader. The team leader reviews the work order form, inspects the completed job, and closes out the work order. If the work order needs to be assigned to another department, contact is made with that department and the work order should be closed.

Reports are disseminated monthly to team leaders to follow up to see if work has been completed and the work order needs to be closed.

**CRITERIA:** All relevant fields should be used to provide complete information about the work order. Work orders should be closed when the job is complete.

**CAUSE:** Critical fields on the work order form are not required fields and are not always completed in the system. One of the fields not required to be completed is the Priority level of the problem. Team leaders are not always closing work orders for jobs that are complete.

**EFFECT OF CONDITION:** Data in the work order system is inaccurate and/or incomplete. Open work orders do not accurately reflect the Division's workload and therefore is not useful to management in assessing staffing and setting priorities. TSS is in the process of purchasing a new work order system; information transferred from the current system will be inaccurate and/or incomplete.

**RECOMMENDATION 2:** All relevant fields should be used to provide complete information about the work order. When designing the new system, consideration should be given to identifying "required" fields in order to advance through work order set-up. The information in the old system should be cleaned up so that bad data is not transferred to the new system.

**MANAGEMENT RESPONSE:** Management will develop and implement a standard operating procedure (SOP) detailing the lifecycle process for a work order. Management will then provide training on this SOP to supervisory staff and all other staff members that are involved in the work order process. For the long term, the department is procuring a new work management system that will have required fields preventing a work order from being completed without entering in the proper data. The timetable for implementing the new work management system is approximately 18 months.

TARGET IMPLEMENTATION DATE: The target implementation date for the SOP development and implementation will be June 30, 2019. The long term solution for implementing the new work order management system will be approximately twelve months from the implementation start date. The department is currently in negotiations with the vendor so it hasn't started the implementation.