

MUNICIPAL AUDITING REPORT CITY OF ROANOKE



Transportation Right-of-Way Maintenance Follow-Up

November 22, 2017

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AUDIT OBJECTIVES & SCOPE

Audit Objectives:

1. To determine if management performs safety inspections at least weekly.

Yes – The two (2) Crew Supervisors perform and document a safety inspection on each of their three (3) crews on a weekly basis. The Landscape Coordinator also performs unscheduled safety inspections of each crew and reviews the Crew Supervisor Weekly Report for documentation of inspections performed by the Crew Supervisors.

2. To determine if management revised the crew weekly reports and spreadsheets to track only data needed to ensure goals and employee performance standards are achieved, and communicated the expectations to landscape maintenance employees.

Yes with Exceptions – Management revised internal reports and spreadsheets to remove redundant and/or unnecessary information and communicated the expectations to staff. While the Crew Supervisor Weekly Reports and Landscape Areas Maintained spreadsheets are substantially completed, inconsistencies remain among the Crew Leader Weekly Reports. More coaching may be needed to improve consistency and completeness.

3. To determine if landscape maintenance employees complete OSHA-required training in a timely manner each year.

No – Out of a total of 135 courses requiring completion (27 employees x 5 courses reviewed), approximately 21 courses (or 16 %) had not been completed for the 2017 mowing season as of 10/25/17. Six (6) of the nine (9) employees not completing courses were seasonal employees hired for the 2017 mowing season, and three (3) employees were new hires that had not completed New Employee Orientation. Orientation includes the safety training required by OSHA. One (1) existing employee had an expired OSHA required course.

Implementing a process to ensure attendance at new employee orientation within 60 days of hire may help improve OSHA compliance. Furthermore, the Safety Specialist plans to schedule his orientation presentation at the beginning of the mowing season for all seasonal staff to address the gap in coverage of OSHA compliance for those employees.

4. To determine if work orders are closed in the FASTER system within one (1) business day of the work being completed.

Yes – The Outdoor Power Equipment (OPE) Shop closes work orders in the FASTER system within one (1) business day of the work being completed. This has had a positive effect on work order completion time and reported equipment downtime

Audit Scope:

We verified that safety inspections were performed weekly between April 1, 2017 and September 15, 2017.

We reviewed revised weekly crew reports and spreadsheets and confirmed that expectations were communicated to staff. We reviewed completed crew report documentation during April 1, 2017 and September 15, 2017.

We reviewed OSHA-required training documentation for calendar year 2017, and work orders closed in FASTER from April 1, 2017 through September 30, 2017.

End of Audit Objectives and Scope

BACKGROUND

The Transportation Division is primarily responsible for maintaining and improving the appearance, ride-ability, and safety of the City's streets and rights of way. The Division strives to create a safe and attractive environment for all right of way users by providing appropriate pedestrian and bicycle accommodations, smooth surfaces, good drainage, as well as appropriate traffic signs and markings.

The Division's Landscape Maintenance group is responsible for maintaining the City's medians and rights of way [ROW] including:

- Mowing
- Controlling and abating weeds
- Maintaining turf
- Collecting litter
- Mulching
- Pruning

The group also manages a number of vacant properties purchased by the Roanoke Redevelopment and Housing Authority on behalf of the City.

The Landscape Maintenance group employs 20 permanent and ten (10) seasonal employees full time from April through November of each year. These employees are organized into six (6) crews:

- Three (3) trim crews are responsible for mowing and edging the turf, as well as collecting litter. These crews use walk-behind mowers, weed-eaters, blowers, Ventrac mowers, and zero turn mowers.
- One (1) weed seeker crew is responsible for spraying and pulling weeds, edging, planting, collecting litter and limited mowing in medians. The crew uses walk-behind mowers, weed-eaters, blowers, and zero turn mowers.
- One (1) ROW tractor crew is responsible for larger sloped areas, areas with heavier brush and areas behind guardrails that other crews cannot reach. This crew uses large tractors with A-Boom and Sidehog attachments.
- One (1) Ventrac crew is responsible for mowing and trim work of smaller but steeper areas that aren't well suited to the trim crews or tractor crew. The crew uses walk-behind mowers, weed-eaters, blowers, zero turn mowers, and the 8-wheeled Ventrac with a 72-inch cut.

Each crew has a crew leader who directs the work and oversees crew performance. Two (2)

Crew Supervisors coordinate the work of the crews, monitor compliance with safety protocols and performance standards, and fill in when crews are short-staffed. A Landscape Coordinator oversees the entire group and reports to the Manager of Transportation.

The Landscape Maintenance group also operates an Outdoor Power Equipment (OPE) Shop that maintains and repairs the tools and equipment used by the median and ROW landscape crews, as well as Parks and Recreation, and the Stormwater Division. The OPE Shop also services tools and small equipment used by other City departments when requested.

The three (3) Trim crews and the Ventrac crew maintain a total of 134 sites on a 14-day cycle. The ROW tractor crew mows more than 700 rough and steep slope areas between City streets and adjoining private parcels on a 28-day cycle. The Weed Seeker crew focuses on weed abatement once per month at 282 sites including concrete medians, turn lanes, bridge decks, full and partial blocks of brick sidewalks and 1,400 mulch tree rings. Crews also perform traditional landscaping activities such as turf grass fertilization of medians and rights of way, as well as plant and shrub maintenance at the following locations:

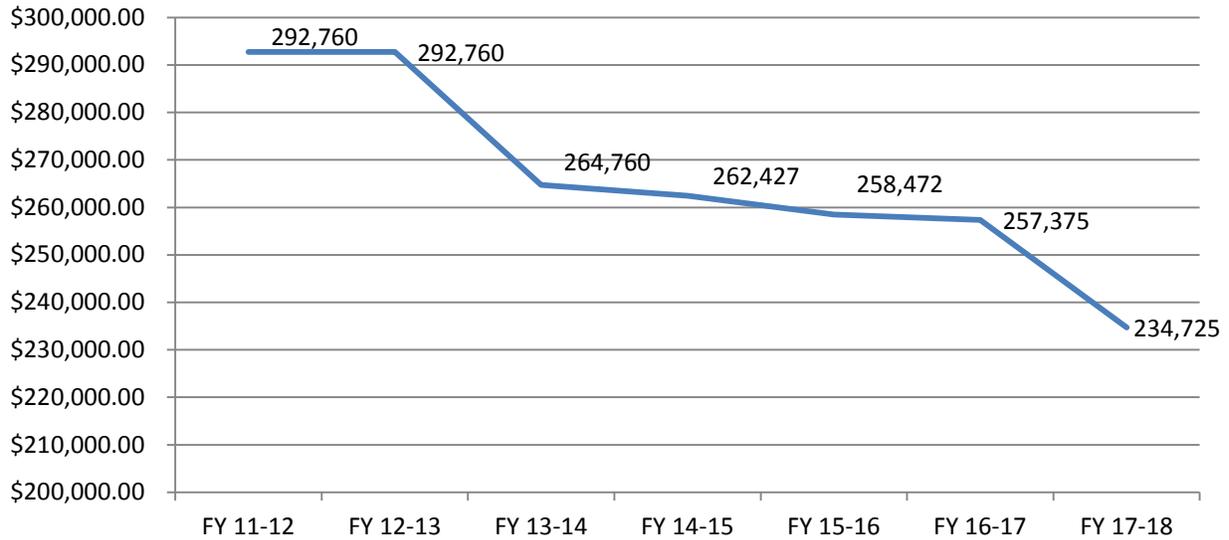
1. Martin Luther King, Jr. Memorial
2. Valley View Boulevard
3. Crystal Spring Village Center
4. Williamson Road Medians
5. Public Works Service Center
6. Municipal Building Green Roof

The Transportation Division also oversees the following contracts for landscape maintenance and mowing:

- Creative Nursery and Landscapes – landscape maintenance to the I-581 interchange at Orange Avenue **[\$10,800 annually]**
- Grounds Management Services D/B/A One Earth Landscapes – turf grass maintenance for Roanoke Redevelopment & Housing Authority (RRHA) lots (various lots on Orange, Cherry, Hackley, Gilmer, and Shenandoah Avenues, and 5th Street) **[\$5,665 annually]**
- M & M Grounds Management – turf grass maintenance and mowing at Roanoke Centre for Industry & Technology (RCIT) **[\$42,500 annually]**

Budgeted operating expenditures for the Landscape Maintenance group have trended down since FY 2013 as illustrated by the following graph:

Total Operating Expenditure



The FY 16-17 budget reflects funding to replace one of the four (4) existing Ventrac mowers at a cost of approximately \$25,000. The landscape and ROW budget also funds small equipment replacements such as lawn mowers, string mowers, and weed eaters. All large tractors and lawn mowers are purchased by the Fleet Management Division through the fleet replacement program.

The original audit of Transportation Right-of-Way Maintenance processes performed as of June 30, 2016 addressed the following objectives:

1. To determine if the City’s landscape and right of way maintenance employees safely perform their work.

Conclusion: The City’s Office of Risk Management evaluated workplace hazards for landscaping and right of way maintenance employees in 2015. The Transportation Division requires that employees utilize appropriate personal protective equipment (PPE) that meets or exceeds the requirements set out by the Occupational Safety and Health Administration (OSHA) based on the identified hazards. In addition to regular guidance provided by crew leaders while on the job site, employees attend monthly safety presentations provided by the City’s Safety Specialist. Two (2) Crew Supervisors are responsible for conducting regular, random site inspections to ensure employees are working safely, including appropriate signage and PPE.

2. To determine if the City's landscape and right of way maintenance crews are effectively meeting established cycle times for mowing, trimming and weed control.

Conclusion: There are three (3) Trim crews and one (1) Ventrac crew who maintain 134 sites over a 14 day cycle. One (1) Tractor crew maintains over 700 steep slope and large median areas over a 28 day cycle. A Weed Seeker crew abates weeds at 282 sites monthly and performs plant and shrub maintenance at six (6) locations. Crew activity is documented weekly and entered into spreadsheets to compute and report cycle times. Average cycle times for the Trim and Ventrac crews substantially met the 14 day goal. The cycle times for the Tractor crew exceeded the 28 day goal from April through June. One (1) seasonal position was unfilled during this time.

3. To determine if contracted landscape maintenance crews meet established contract specifications.

Conclusion: The City's Crew Supervisors regularly visit all sites assigned to contractors and grade the quality of each contractors' work. Performance is documented on the Landscape Areas Maintained spreadsheets. Contractor services and associated payments were consistent with the signed contracts.

End of Background

Objective 1: Safety Inspections

Management Response / Action Plan:

Management will perform safety inspections on at least a weekly basis and revise the weekly reports to record only the date and time the supervisors perform their crew's safety inspections. The landscape coordinator will periodically review the crew supervisor's weekly reports to assure the safety inspections are being performed according to department procedures.

Follow Up (October, 2017) – Issue resolved

There are two Crew Supervisors, each one having three crews to supervise. The Supervisors visit all six crew locations daily to provide direction, observe performance, and verify compliance with safety protocols. These inspections are documented on the Crew Supervisor Weekly Report. Compliance with required safety protocols must be documented for each crew at least **once each week**:

- Accidents and injuries, if applicable
- Use of Personal Protective Equipment (PPE): hardhats, safety vests, eye protection, ear protection
- Use of Work Area Protection Standards (W.A.P.S.): signs, strobes, and beacons

We reviewed a sample of Crew Supervisor Weekly Reports completed between April 1 and September 15, 2017 to verify weekly safety inspections were performed. We looked at reports covering all six crews for 10 random weeks, for a total of 60 required safety inspections. Due to vacations and equipment downtime, there were three weeks in which a crew was not operating and therefore no inspection was needed. Of the remaining 57 possible inspections:

- 54 of 57 (95%) were performed and documented
- 03 of 57 (05%) were not documented as having been performed.

The Landscape Coordinator stated that he reviews the Crew Supervisor reports at least once a week to verify safety inspections are performed. He visits worksites himself on an unscheduled basis to observe crews. He also meets regularly with crew supervisors to discuss crew performance, including any concerns about safety protocols and injuries.

End of Objective 1

Objective 2: Crew Report Documentation

Management Response / Action Plan:

Management will review the internal crew weekly reports and spreadsheets and make revisions to track only data needed to ensure goals and employee performance standards are achieved. Management will also communicate and explain expectations to landscape maintenance employees as to why this data is collected and relevant. These reports will also be reviewed by management as needed.

Follow Up (October, 2017) – Issue partially resolved

Prior to the 2017 mowing season, management revised internal reports and spreadsheets to remove redundant and/or unnecessary information. Revisions included the following:

Crew Supervisor Weekly Report

- Updated personnel and equipment resources
- Removed seven (7) items not used/tracked by department including daily starting mileage and vehicle gas gallons
- Changed “quality” and “safety inspection” sections from daily requirement to once a week requirement for each crew

Weekly Crew Leader Report

- Updated personnel and equipment resources
- Removed “fuel consumption” section
- Removed weekly weed/trash ordinance ID and weekly small project ID & completion from the “crew production” section
- Removed cycle day, days since last mow, and crew hours columns from the Landscape Areas Maintained spreadsheet excerpt

Landscape Areas Maintained Spreadsheets.

- Removed eight (8) items which were more appropriately tracked on other reports, such as total # bags of litter collected and equipment PM & clean date
- Removed data irrelevant to tracking cycle time, such as W.A.P.S Safety Check and PPE Safety Check
- Removed Tractor Crew section that is now tracked using the GIS system and Route Smart routing optimization tool.

We reviewed a sample of reports and spreadsheets from ten (10) weeks of the 2017 mowing season to determine if they were substantially completed:

- All information on the Landscape Areas Maintained spreadsheet was consistently updated by Crew Supervisors.

- Crew Supervisor Weekly Reports were substantially completed based on the function of each crew, variations such as weather, and informational needs of the Landscape Coordinator. Supervisors continue to leave fields blank rather than marking them as not applicable.
- Crew Leader Weekly Reports were not consistently completed as noted on the tables below:

	Trim Crew Reports			
	Incomplete	Complete	Total	% Incomplete
Personnel Resources	0	30	30	0.00%
Equipment Resources	17	13	30	56.67%
Crew Production	20	10	30	66.67%
Driver Signature	3	27	30	10.00%
Supervisor Signature	30	0	30	100.00%
Excerpt from Landscape Areas Maintained SS	0	30	30	0.00%

	ROW Crew Reports			
	Incomplete	Complete	Total	% Incomplete
Personnel Resources	1	39	40	2.50%
Equipment Resources	37	3	40	92.50%
Crew Production	36	4	40	90.00%
Driver Signature	11	29	40	27.50%
Supervisor Signature	40	0	40	100.00%
Excerpt from Landscape Areas Maintained SS	12	18	30	40.00%

In the "equipment resources" section, operating hours on equipment meters were not recorded at the beginning of each day. In the "crew production" section, bags of litter collected, and preventive maintenance and cleaning tasks performed on equipment, were not consistently documented.

Overall, reports were more complete than in the original audit. Both Crew Supervisors felt they received the necessary data to monitor crew production and cycle time. Both agreed more coaching is needed to improve consistency and completeness of reports.

We confirmed with the Landscape Coordinator and both Crew Supervisors that they were all involved in revising the reports and spreadsheets. The Landscape Coordinator felt he had adequately communicated the purpose of the data Crew Supervisors and Crew Leaders were being asked to document, as well as his expectations regarding completion of reports.

End of Objective 2

Objective 3: OSHA-Required Training

Management Response / Action Plan:

We agree that all employees including newly hired employees and those who miss scheduled training need to complete the required OSHA training in a timely manner. The Manager of Transportation and Landscape Coordinator will ensure attendance and proper documentation of training.

Suggestions for ensuring completion of training include having employees participate in an upcoming training session conducted by the safety specialist for other Divisions and providing the required training documents in an online format for review by individual employees.

Follow Up (October, 2017) – Issue not resolved

According to the 2017 Transportation Safety Training Schedule, the following six (6) OSHA courses were required to be completed by all Median and Right-of-Way employees during the year:

1. Blood borne Pathogens
2. Hazard Communication
3. Hearing Conservation
4. Personal Protective Equipment (PPE)
5. Lockout / Tagout
6. Emergency Egress / Fire Extinguisher

We reviewed the Employee Competency Database for all Median and Right-of-Way employees active as of September 1, 2017 to determine that OSHA required training courses were completed for 2017. Our review only included the first five (5) OSHA required courses identified above, since the sixth course, Emergency Egress / Fire Extinguisher, is not scheduled until December 19, 2017. Out of a total of 135 courses requiring completion (27 employees x 5 courses reviewed), approximately 21 courses (or 16 %) had not been completed for the 2017 mowing season as of 10/25/17:

	# Incomplete	% Incomplete
Bloodborne Pathogens	9	8%
Hazard Communication	2	2%
Hearing Conservation & PPE	2	2%
Lockout/Tagout	6	6%

	# Incomplete	% Incomplete
Bloodborne Pathogens	9	7%
Hazard Communication	2	1%
Hearing Conservation	2	1%
PPE	2	1%
Lockout/Tagout	6	4%

Note: One (1) of the two (2) exceptions for the Hearing Conservation & PPE courses were expired, not incomplete.

Six (6) of the nine (9) employees not completing courses were seasonal employees hired for the 2017 mowing season. Three (3) of those six (6) were re-hires whose records indicated they had never received the required OSHA training. Their original hire dates were as follows:

- i. 9/2/14
- ii. 5/27/14
- iii. 7/27/11

Three (3) employees not completing courses were new hires during the 2017 mowing season and had not completed New Employee Orientation. Orientation includes the safety training required by OSHA. The one (1) employee with an expired OSHA required course was an existing employee.

Ordinarily, completion of required safety training, including OSHA required training, is tracked in an employee competency database on Lotus Notes. The Risk Management Safety Specialist is responsible for updating the database based on sign-in sheets he collects when providing safety training sessions. However, a dedicated sign in sheet is not used at new employee orientation to document attendance for the safety training session. As a result, the Safety Specialist considered HR's records sufficient to prove compliance and did not update the employee competency database. In conjunction with this issue, Transportation did not have a process in place to ensure new employees completed orientation. Seasonal, temporary employees are also not required to attend employee orientation.

The Safety Specialist agrees that a gap in coverage exists based on the seasonal nature of right of way and landscape maintenance operations. He plans to work with the Transportation division to schedule his orientation presentation at the beginning of the mowing season, for all seasonal staff. Permanent full time employees would still be expected to attend new hire orientation within 60 days of hire as specified by the Safety Specialist.

Based on the results of our follow up work, this action item will be revised and another follow up audit performed at the conclusion of the 2018 mowing season.

End of Objective 3

Objective 4: Closing Work Orders in FASTER

Management Response / Action Plan:

Management will work towards a goal of closing out work orders in the Faster system in the Outdoor Power Equipment (OPE) shop at the end of the business day or by the next morning. Management is not of the opinion that the Active Work Order by Shop report is necessary to manage workload and determine excessive downtime. The majority of repair efforts occur the same day while the operator waits on a particular piece of equipment. The OPE shop supervisor currently manages daily workload effectively and communicates directly with each department as to the repair status of their equipment.

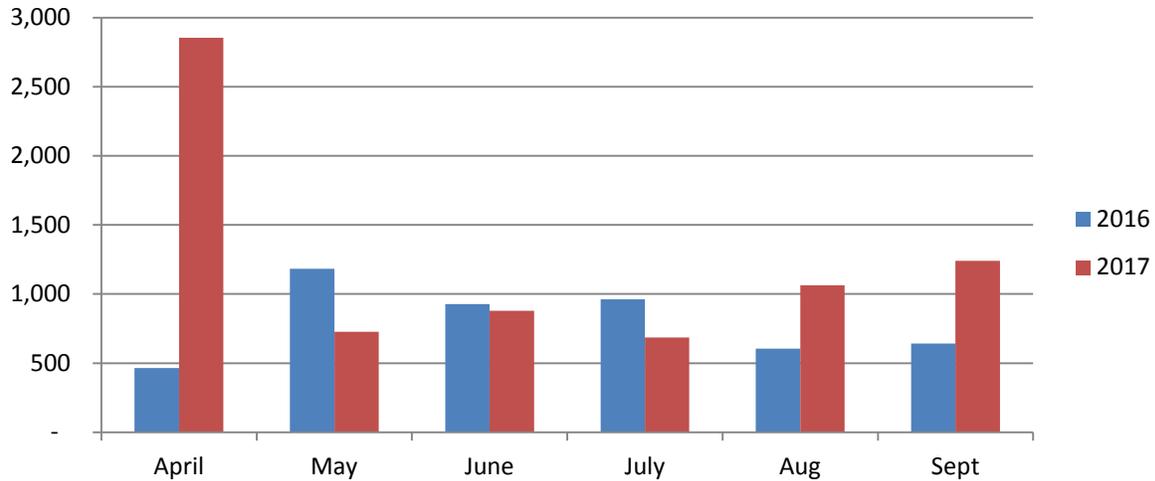
Follow Up (October, 2017) – Issue resolved

We reviewed 15 work orders closed between March 1 and September 30, 2017, with a large volume of hours open from the Fleet Work Order Activity report. We confirmed per work order details that all except for one (93.3%) were closed within one (1) business day of the work being completed. Less than 1% (3 of 308) of work orders originating during this time frame had not been closed as of the date of our fieldwork (10/19/17). Discussion with the OPE Shop Maintenance Technician IV, revealed that these were the result of human error, and have since been closed in the system.

We compared Faster work order reports from March 1 to September 30, 2016 to reports from the same time period in 2017 to determine if work order completion times had decreased from year to year and/or if equipment availability had increased. This review revealed that downtime hours had decreased by 76% (from 10,487 to 2,484) from the period in 2016 versus 2017, and fleet availability had increased by 1.94%.

The chart on the following page shows the average work order completion times for the months of April through September, 2016 versus 2017:

Average Work Order Completion Hours



April 2017 hours are inflated due to 12 work orders (11 from 2016 and 1 from 2012) closed during the month. This appears to be part of a cleanup process, as we noted 26 work orders were closed out in March 2017, with dates ranging from 2008 through 2016. August and September 2017 had notably more work orders than the same months in 2016 (47:32 in August and 75:5 in September).

Our review of the *Fleet Work Order Activity Report* shows that work orders completed in less than 24 hours increased by 75% from the period of March 1 to September 30, 2016 to the same time period in 2017, and work orders taking more than 96 hours to complete decreased over the same time period by 8%.

The Outdoor Power Equipment (OPE) Shop has been successful in closing out work orders in the Faster system at the end of the business day or by the next morning. This has had a positive effect on work order completion time and reported equipment downtime.

End of Objective 4

SUMMARY OF MANAGEMENT ACTION PLANS

Management Action Plan – Weekly Crew Leader Reports

From our standpoint, we feel the forms do not need any doctoring at this moment, but we are in agreement that we need to be more diligent in making sure that our crew leads complete their paperwork properly. Our plan of action is to have a team meeting and presentation at the beginning of the upcoming year detailing exactly how the forms need to be completed and their purpose. And to address the signatures, or lack thereof, we have agreed that not only will the crew leads need to sign off on weekly sheets but that the crew supervisors will not sign their signature on them until they have been completed properly.

Assigned To	Target Date
Jerrald Beheler (Crew Supervisor)	04/15/2018

Management Action Plan – OSHA Required Training

The Landscape Coordinator will work with the crew supervisors to ensure that newly hired full-time landscape maintenance employees are scheduled for the City's New Employee Orientation within 60 days after date of hire.

The Landscape Coordinator will also work with the Risk Management Safety Specialist and crew supervisors to ensure that seasonal employees are scheduled for OSHA training at the beginning of the mowing season.

Assigned To	Target Date
Bob Boeren (Landscape Coordinator)	06/01/2018

Management Action Plan – OSHA Required Training

To ensure compliance with OSHA's training requirements for employees that are exposed to hazards on the job:

- In conjunction with the New Employee Orientation training arranged by Human Resources, the Safety Specialist will offer training that encompasses the required training material. Existing employees will be offered monthly training that reinforces and updates the initial training.
- Within 60 days of the seasonal start date (this date is weather dependent), the Seasonal Employees will be offered a similar training session that encompasses the required training material.
- Recordkeeping will be maintained by the Safety Specialist, alerts will be sent to the appropriate management staff if attendance is missed and make-up classes will be offered.
- In all cases, it is the responsibility of the departmental management to require attendance.

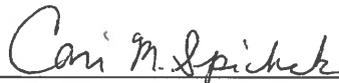
This Action Plan was implemented with the most recent New Employee Orientation that was held on December 13-14, 2017.	
Assigned To	Target Date
Eugene Pritts, Risk Management Safety Specialist	01/01/2018

MANAGEMENT COMMENTS

Management had no comments, other than the action plans noted above.

ACKNOWLEDGEMENTS

We would like to thank the Transportation and Right-of-Way Maintenance Department, specifically Mark Jamison, Director of Transportation and Bob Boeren, Landscape Coordinator their cooperation and assistance throughout the audit. We would also like to thank Crew Supervisors Jerrald Beheler, George Bradney, and Christopher Eanes for the help and insight provided. We are also thankful to the Office of Risk Management for their time and cooperation during this audit.



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