



**Office of the Auditor General: Report on Audit
Follow-ups, Tabled at Audit Committee – June
14, 2018**



Office of the Auditor General

June 14, 2018

Mayor, Members of Audit Committee and Council,

I am pleased to present this report on follow-ups of audits and related work carried out by the Office of the Auditor General of the City of Ottawa.

The report includes an overview and an executive summary for each of the follow-ups and related work conducted.

Respectfully,

A handwritten signature in black ink that reads 'Ken Hughes'. The signature is written in a cursive style with a large initial 'K'.

Ken Hughes

Auditor General



Staff of the Office of the Auditor General

Suzanne Bertrand

Sonia Brennan

Ken Hughes

Paul Karam

Ed Miner

Louise Proulx

Ines Santoro

Nathan Sassi

Margaret Sue

Table of Contents

Progress toward improvement.....	1
Summary and assessment of overall progress made to date on audit recommendations	2
Executive summaries – Audit follow-ups	5
Follow-up to the 2013 Audit of Management of the Environmental Legislated Approval Process.....	6
Follow-up to the 2015 Audit of 3-1-1 Contact Centre.....	8
Follow-up to the 2015 Audit of Planning Process for Cancellation of Bus Trips	13
Follow-up to the 2016 Audit of the ServiceOttawa Program	15
Follow-up to the 2013 Audit of Infrastructure Services Department – Administrative Management.....	19
Follow-up to the 2013 Audit of Infrastructure Services Department – Technical Management.....	21
Follow-up to the 2014 Audit of Specific Areas of the Infrastructure Services Department.....	24
Follow-up to the 2010 Audit of the Mackenzie King Bridge Rehabilitation	26
Follow-up to the 2014 Independent Review of the Airport Parkway Pedestrian/Cycling Bridge	28
Follow-up to the 2011 Audit of Procurement Practices related to the Source Separated Organics Contract	30
Review of the Source Separated Organics Program Business Case	32
Part A – 2018 Audit Procedures for Contract Management Practices – Springhill Landfill Site Contract.....	36
Part B – Follow-up to the 2011 Audit of Contract Management Practices – Springhill Landfill Site Contract.....	54

Progress toward improvement

The Office of the Auditor General (OAG) conducts audit follow-ups two to three years after an audit is complete to afford management time to implement the recommendations. A follow-up may be conducted sooner if corrective action is complete. The OAG adheres to the best practices and professional standards of the international audit community by including the practice of audit follow-ups. The Audit Process includes the Planning Phase, the Fieldwork Phase, the Reporting Phase, and finally, the Follow-up Phase. In the follow-up, the OAG evaluates the adequacy, effectiveness and timeliness of actions taken by management on reported observations and recommendations. This evaluation ensures that the required measures, promised by management and approved by Council, have been implemented. Accordingly, the 11 audit follow-ups and 1 review in this report were conducted according to the OAG's 2013 – 2017 Work Plans.

The 11 audit follow-ups and 1 review contained in this report are:

- Follow-up to the 2013 Audit of Management of the Environmental Legislated Approval Process
- Follow-up to the 2015 Audit of 3-1-1 Contact Centre
- Follow-up to the 2015 Audit of Planning Process for Cancellation of Bus Trips
- Follow-up to the 2016 Audit of the ServiceOttawa Program
- Follow-up to the 2013 Audit of Infrastructure Services Department – Administrative Management
- Follow-up to the 2013 Audit of Infrastructure Services Department – Technical Management
- Follow-up to the 2014 Audit of Specific Areas of the Infrastructure Services Department
- Follow-up to the 2010 Audit of the Mackenzie King Bridge Rehabilitation
- Follow-up to the 2014 Independent Review of the Airport Parkway Pedestrian/Cycling Bridge
- Follow-up to the 2011 Audit of Procurement Practices related to the Source Separated Organics Contract
- Review of the Source Separated Organics Program Business Case
- Follow-up to the 2011 Audit of Contract Management Practices – Springhill Landfill Site Contract and Additional 2018 Audit Procedures

As can be seen in the next section, it is clear from the results of these follow-ups that management is committed to the audit process.

Summary and assessment of overall progress made to date on audit recommendations

Audits are designed to improve management practices, enhance operational efficiency, identify possible economies and address a number of specific issues. The Follow-up Phase is designed to identify management's progress on the implementation of recommendations from the audit reports. This report is not intended to provide an assessment of each individual recommendation. Rather, it presents our overall evaluation of progress made to date across all completed audits. Should Council wish to have a more detailed discussion of specific follow-ups, OAG staff are available to do so.

The table below summarizes our assessment of the status of completion of each recommendation for the above-noted audit follow-ups.

Table 1: Summary of status of completion of recommendations

Follow-up	Total	Complete	Partially complete	Other*
Environmental Legislated Approval	5	5	-	-
3-1-1 Contact Centre	34	27	3	4
Cancellation of Bus Trips	2	2	-	-
ServiceOttawa Program	6	1	3	2
ISD – Administrative Management	9	7	2	-
ISD – Technical Management	8	2	5	1
Specific Areas of ISD	3	1	2	-
Mackenzie King Bridge	11	10	1	-
Airport Parkway	18	11	7	-
SSO Contract	10	9	1	-
Springhill Site Contract	4	-	4	-
Total	110	75	28	7
Percentage	100%	68%	25%	7%

* Other includes:

- Not started
- Unable to assess
- Deferred to a future audit
- No longer applicable

We categorize each of the audit follow-ups based upon the following criteria:

- **Solid progress** = 50% or more of the recommendations evaluated as 'complete'.
- **Little or no progress** = 50% or more of the recommendations evaluated 'not started'.
- **Gradual progress** = all others.

Based on this, all of the audit follow-ups showed solid progress. With these audit follow-ups now complete, no further work to review the implementation of these recommendations is intended by the OAG. However, as a result of the annual work plan and/or Council requests, new audits in any of these areas may occur in the future.

Executive summaries – Audit follow-ups

The following section contains the executive summary of each of the audit follow-ups and related reports.

Follow-up to the 2013 Audit of Management of the Environmental Legislated Approval Process

The Follow-up to the 2013 Audit of Management of the Environmental Legislated Approval Process was included in the Auditor General's 2015 Audit Work Plan.

Ontario's Environmental Assessment Act requires the City to undertake an environmental assessment (EA) for any major public project that might have significant environmental effects on ecological, cultural, economic and social aspects. In addition to provincial EA requirements, the project may also be subject to a federal EA pursuant to the Canadian Environmental Assessment Act (CEAA 2012).

Our original audit reviewed the City's understanding of the regulatory requirements for environmental assessments and the efficiency and effectiveness of the processes. The key findings of the original audit were:

- City staff properly used both the Municipal Engineers Association - Municipal Class Environmental Assessment (MCEA) and the Ontario's Transit Project Assessment Process (TPAP) guidelines to determine the type of Environmental Assessment (EA) that was required for a project.
- In the summer of 2013, work on a City construction project was delayed when a threatened bird was found under a structure. The EA for this project was completed in 2008 and the bird was added to the list of threatened species in 2012. City procedures did not look for this on ongoing projects.
- In half of the projects covered by MCEA guidelines that we reviewed, we found the City held more public consultations than the minimum required by the Municipal Engineers Association. The City considered public consultation to be one of the key elements for a successful EA. The project manager determined the number of public consultations to be held for each EA. However, there were no City guidelines or tools to assist the project manager in making this determination.
- Transportation Planning¹ within Transportation Services department prepared a Statement of Work before undertaking a Schedule C EA, and presented it to City Council, through Transportation Committee, for approval. This practice provided City Council with an opportunity to review the expected content of an EA.

¹ Formerly Transportation Planning branch within Planning and Growth Management department (PGMD)

However, other departments, such as Infrastructure Services² did not follow this approach.

- The City received comments and questions related to projects through several mechanisms (e.g., public open houses; emails to project managers; comments to Councillors; etc.). These comments had to be gathered, analyzed and discussed by the City and the consultant working on the project to determine how best to consider them in the project. There was however, no official tracking tool to ensure that this list was complete.

Table 2: Summary of status of completion of recommendations

Recommendations	Total	Complete	Partially complete	Not started	No longer applicable
Number	5	5	-	-	-
Percentage	100%	100%	-	-	-

Conclusion

Management has been proactive in addressing the recommendations, as all five are complete.

Acknowledgement

We wish to express our appreciation for the cooperation and assistance afforded the audit team by management.

² Formerly Infrastructure Services department (ISD)

Follow-up to the 2015 Audit of 3-1-1 Contact Centre

The Follow-up to the 2015 Audit of 3-1-1 Contact Centre was included in the Auditor General's 2017 Audit Work Plan.

As part of a corporate re-organization in October 2016, the 3-1-1 Contact Centre was renamed the Call Centre Services branch. The Call Centre is open 24 hours a day, 7 days a week. It responds to over half a million calls per year and provides residents and elected officials with information about the City's programs. The key findings of the original 2015 audit included:

Notification to Councillors of emerging issues:

- Subject to a 3-1-1 caller's explicit approval to share personal information, details of Service Requests (SRs) are provided to the caller's Councillor via a Consent Report. To the extent callers do not provide approval, there will be gaps in the SR information appearing in Consent Reports hindering Councillors' ability to identify emerging issues.
- Call Centre agents did not consistently request the caller's email address and whether the caller agreed with sharing their personal information. Failure to make these requests decreases the amount of information provided to Councillors.

Quality Assurance Process:

- Call satisfaction is measured from the post-call surveys. Overall, most callers are satisfied with the service. However, there are periods when callers are less satisfied, and this information is not currently reported at ServiceOttawa's departmental management team meetings.
- The quality assurance process in place is adequate, where the Quality Assurance Analysts are listening and scoring calls taken by different agents. However, the call selection for the "listen-in" process is random with no weighting given to agents' past performance.

Service level for phone calls: calculation and reporting:

- The Call Centre's service level target is to answer 80% of calls within 120 seconds. This service target was not formally approved and no support was provided for why this service level was selected.

- Calls that are abandoned (hang-ups) within the first 120 seconds are treated as answered calls in the Semi-Annual Performance Report to Council, providing a potentially misleading view of performance.

Reporting of total number of requests for service:

- The process for compiling the information presented in the Semi-Annual Performance Report to Council was manual, time-consuming and prone to human error as it involves combining data from multiple systems. As a result, the figures presented in the Semi-Annual Performance Report to Council with regards to the service requests contained a number of small errors.

Service level for email requests:

- There are two different service levels for emails, one for the public (five business days) and another for the Councillors (two business hours). Neither of these service levels have been approved, and they were not regularly achieved in 2014.
- The vast majority of emails were responded to during business hours and are not assigned to agents working shifts outside of business hours. Agents working outside business hours may have had the capacity to respond to more emails and improve the response times.

Wait time management:

- Wait times have an impact on customer satisfaction and service level performance. During our 12 “listen-in” sessions, wait times varied from zero to 16 minutes. The Call Centre had no consistent practices nor written procedures with thresholds to manage the wait times on a continuous basis to ensure consistency of response.

Accuracy of the Knowledge Base – the City’s centralized source of information:

- Call Centre agents relied on a Knowledge Base that was expected to contain up-to-date and accurate information. There were specifically designated individuals who were assigned responsibility for ensuring this information was current and accurate. However, the audit identified instances where these individuals either did not have access to their assigned information or were not clear about which information they were responsible.
- A sample of information items tested by the audit team indicated that 60% of the items were inaccurate, not up to date or no longer needed.

Accuracy of the information provided to callers by Call Centre agents:

- Some callers needed to be transferred from 3-1-1 to the Social Services or the Tax and Water Billing and Collection call centre. However, 6% of all calls were transferred back to the Interactive Voice Response instead of directly to these other lines. This process results in a longer call.

Resource (staff) utilization:

- The Call Centre was not fully staffed in 2014 with a full time equivalent (FTE) vacancy rate of 10%. This may have been a factor contributing to overtime budget overspending in 2014 as well as sick leave days being higher than the average.
- The Call Centre had one unbudgeted casual position in 2014, however during the year, casual employees collectively worked hours that were equivalent to 3.7 FTEs. Therefore, the use of casual agents was not accurately reflected in the Call Centre Services' financial budget.
- The agents working the overnight shift (11:00 p.m. to 7:00 a.m.) may have been underutilized. They answered fewer calls per hour than the day shift, responded to fewer emails and processed only a limited number of death registrations.

Workforce Optimization software (WFO) and Citizen Services Management (CSM) system implementation:

- The audit identified opportunities to improve the system used by the Call Centre to capture and track service requests. For example, the system does not capture details of progress made toward resolving a request. Further, the system was observed, at times, to slow down and/or stop responding.
- The business case used to justify the 2013 purchase of software designed to improve service delivery was not adequately compelling to justify the project. The benefits set out in the business case were either "soft" (e.g. increasing customer satisfaction) or potentially measurable but without clear targets.
- There was a lack of rationale for selecting the service-delivery software solution that was purchased in 2013.
- There were delays in the implementation of the service-delivery software. Moreover, a number of expected benefits expected had yet to be realized including a lack of expected automation and integration with other systems.

The possibility of outsourcing the Call Centre:

- The 2007 Audit of 3-1-1 recommended investigation of the possibility of outsourcing the 3-1-1 Contact Centre, this had not been completed.

Table 3: Summary of status of completion of recommendations

Recommendations	Total	Complete	Partially complete	Deferred to a future audit	No longer applicable
Number	34	27	3	1	3
Percentage	100%	79%	9%	3%	9%

Conclusion

Management has made significant progress in fully completing 27 out of 30 recommendations that are still applicable.

Three of the 34 original recommendations are no longer applicable as they related to the Semi-Annual Report to Council, which has since been discontinued for all services with the exception of Fire, By-Law and Paramedic Services. Additionally, follow up of one recommendation relating to purchasing processes, contract approval requests, has been deferred for consideration for a future audit of procurement.

The three partially completed recommendations all relate to implementing improvements to the Citizen Services Management system used to support Call Centre Services. The CSM is the transaction-processing platform for all information requests, service requests as well as the Knowledge Base repository. Additional information regarding the status of each of three partially completed recommendations is detailed below.

The original audit found that although the City had purchased the email functionality with the CSM system, the legacy system was still used by Call Centre Services branch. As such, the audit recommended that the ServiceOttawa department investigate using the functionality in the CSM email module system to improve the handling of Call Centre emails. Our follow-up work found that while the legacy system continues to be used to handle emails, management is currently customizing the email functionality of the CSM

system and is targeting full implementation for the end of Q1 2018, if certain vendor issues are resolved.

The original audit also recommended that management investigate the tracking of additional information on the status of service requests in the CSM system. Service requests for by-law services, parking, park maintenance, roads and traffic, solid waste, to name a few, can be entered online by residents through the ServiceOttawa portal or logged by Call Centre agents. At the time of the original audit, the status of a service request could be described only as “Open” or “Closed”. In many cases, this was not sufficient, and it was necessary for agents to contact the operating department to obtain more information about the service request’s status. Our follow-up work confirmed that greater status capability was implemented in two areas, Forestry and By-law Services, in Q4 2017. Management is anticipating the implementation of the improved status capability to additional groups by the end of Q2 2018.

Finally, the original audit recommended that the life-cycle management of Knowledge Base articles be automated. A plan has been put in place to implement the additional functionality by April 2018.

Acknowledgement

We wish to express our appreciation for the cooperation and assistance afforded the audit team by management.

Follow-up to the 2015 Audit of Planning Process for Cancellation of Bus Trips

The Follow-up to the 2015 Audit of Planning Process for Cancellation of Bus Trips was included in the Auditor General's 2015 Audit Work Plan.

The key findings of the original 2015 audit included:

- The Transit Operations Control Centre (TOCC) Standard Operating Procedures (SOP) required updating because the procedures, as documented, did not fully reflect the practices in place. The superintendents and transit supervisors of the TOCC are responsible to make operational decisions as a result of unplanned service disruptions including the cancellation and reassignment of buses. The purpose of the SOP is to guide the superintendents and transit supervisors in making these decisions. Although the superintendents and transit supervisors demonstrated a consistent understanding of priority routes (i.e. routes that cannot be cancelled such as school or rural routes) and routes with frequent service that can be cancelled when necessary, not all of this information was reflected in the SOP.
- Bus cancellation alerts were not issued as promptly as they could have been, and in some cases, were issued after the scheduled time of the bus. Transit Services offers riders the option to sign up for email and/or text alerts related to the cancellation of buses in order to assist riders in making alternative plans in the event of a bus cancellation. However, the usefulness of the information is diminished if it is not communicated in a timely manner.

Table 4: Summary of status of completion of recommendations

Recommendations	Total	Complete	Partially complete	Not started	No longer applicable
Number	2	2	-	-	-
Percentage	100%	100%	-	-	-

Conclusion

The SOP have been updated to clearly define all priority routes in order to support consistent handling of bus cancellations.

At the time of our follow-up work, there were approximately 1,300 riders subscribed to the email and text alerts for bus cancellations. When considering there are, on average, 340,000 riders per day, this represents a relatively small number of riders using this email and text alert service for bus cancellations. Transit Services provides a variety of other methods to communicate with riders on the status of their bus based on real-time GPS data. For example, there are a number of Apps for mobile devices available for riders to use. For a seven-day period in February 2018, there were over 10 million hits to these apps indicating riders are making use of these other methods. Based on this information, the Office of the Auditor General concludes that Transit Operations provides riders with sufficient information on the cancellation and status of buses.

Acknowledgement

We wish to express our appreciation for the cooperation and assistance afforded the audit team by management.

Follow-up to the 2016 Audit of the ServiceOttawa Program

The Follow-up to the 2016 Audit of the ServiceOttawa Program was included in the Auditor General's 2017 Audit Work Plan.

The ServiceOttawa Program was a City initiative undertaken between 2009 and 2014 through which the City invested \$72.9 million through nine initiatives. The initiatives were intended to result in service improvements and efficiencies across the City, including \$39 million in annual savings by 2014. The objective of the Audit of the ServiceOttawa Program was to determine whether the City received value for money from the ServiceOttawa Program and whether the outcomes of the ServiceOttawa Program met the stated expectations of cost savings, return on investment and service delivery enhancements.

The original audit identified areas of improvement that were categorized into three overarching themes:

1. **Unclear definitions and methodology:** The City did not clearly agree on definitions and methodology at the outset of the ServiceOttawa Program, including what constituted cost savings. The lack of clear definitions and methodology made it difficult to assess whether the ServiceOttawa Program achieved value for money. Specific findings included:
 - 1.1. The City stated that cost savings were achieved via reductions in departmental budgets. However, departments were unable to demonstrate how the reductions in budgets were driven by and/or linked to investments made through the ServiceOttawa Program.
 - 1.2. It is unclear whether cost savings linked to the reduction of Full Time Equivalent (FTE) employees, including cost savings related the elimination of unoccupied positions, were achieved as stated, and whether expenses related to the elimination of FTEs were tracked (e.g. severance costs).
 - 1.3. There was no evidence that key City stakeholders outside of the ServiceOttawa Steering Committee were engaged in the due diligence.
 - 1.4. The Business Cases presented to Council did not report on Return on Investment.

2. **Inconsistent reporting:** ServiceOttawa Program reporting, through both project reporting tools (i.e. project closeout reports) and reports to Council included some inconsistencies as outlined below and did not always align with the records of the City's financial system.
 - 2.1. Information in project closeout reports does not always align to financial system information (SAP) and is not always supported.
 - 2.2. Inconsistent information was reported to Council committees.
3. **Lack of performance management planning:** At the onset of the ServiceOttawa Program, the Business Cases identified several anticipated service enhancements that would be achieved once the initiatives were implemented. Service enhancements were categorized into three types:
 - **Improved Customer Service:** Service enhancements that are directly linked to increased customer satisfaction, for example, increased quality in phone interactions with citizen's that call the 3-1-1 service.
 - **Better Access to Information:** Service enhancements that are directly linked to citizens increased ability to access information, for example, the upgrades made to the ottawa.ca website.
 - **Operational Improvements:** Service enhancements that are directly linked to improvements in the City's operations, for example, the reduction in recruiting cycle time due to manager self-services functionality (MSS).
 - 3.1. The Business Cases created for the ServiceOttawa Program lacked baseline information to determine whether service enhancements were achieved.

To address the areas of improvement above, the original Audit of the ServiceOttawa Program provided 6 recommendations for implementation by the City of Ottawa. The follow-up to the 2016 Audit of ServiceOttawa Program assessed the status of completion for each recommendation, results of which are summarized in Table 5 below. Details on the assessment are included in the detailed report.

Table 5: Summary of status of completion of recommendations

Recommendations	Total	Complete	Partially complete	Unable to assess
Number	6	1	3	2
Percentage	100%	17%	50%	33%

The recommendations found to be partially completed included:

- *A due diligence process should be defined and followed for all major City initiatives.* The City's Business Case Guidelines outline a due diligence process, however, the follow-up identified that projects have not consistently implemented all stages of the City's Business Case Guidelines.
- The City should consider implementing a Project Performance Measurement process and/or a plan that would include a current state assessment to define baseline information that would be required to support expected results. The City's Project Management Directive and Framework includes a requirement that project managers work with Corporate Financial Services to outline the financial impacts of projects to the City within the Business Case Guidelines. However, neither projects examined worked with Corporate Financial Services to outline the financial benefits of the projects.
- The City, in collaboration with Finance, should define cost savings, as well as provide guidelines for how cost savings should be tracked and documented for cost savings initiatives. The City's Project Management Framework provides direction on when and how to develop project objectives including success measures and key performance indicators (KPIs). However, no requirements for approval of or ongoing measurements against success measure and KPIs are included within the Framework and there are no requirements or guidelines for establishing project baseline information.

The recommendations that were unable to be assessed included:

- The City should establish guidelines and quality control measures to help ensure information presented to oversight committees and Council is consistent and accurately reflects achieved results. The auditors were unable to assess this recommendation due to a lack of projects with similar reporting requirements to Council as were established for the ServiceOttawa Program.
- The City should ensure that information on revenues and expenses for programs through which significant investment is made are accurately reported in project documentation were unable to be assessed. The auditors were unable to assess this recommendation based on the level of detail provided in project status reports, which could not be verified in SAP due to timing differences.

Conclusion

Management has shown some progress towards the implementation of recommendations from the Audit of ServiceOttawa Program. Specifically, one of six recommendations was assessed as complete, three of six were assessed as partially complete, and the remaining two recommendations could not be assessed through this follow-up.

While management responses stated that recommendations were complete based upon the implementation of the City's Project Management Policy and Framework, it was found that in the project management practices of the City have not been significantly improved by the Framework because it has not been consistently applied. This may result in projects that lack alignment between strategic and operational objectives and which may not result in specific and measurable benefits for the City.

The Office of the Auditor General met with management regarding the incomplete recommendations and have agreed that these items will be addressed during the next review of the City's Project Management Directive and Framework, and Business Case Guidelines. We have assessed that no further follow-up is required.

Acknowledgement

We wish to express our appreciation for the cooperation and assistance afforded the audit team by management.

Follow-up to the 2013 Audit of Infrastructure Services Department – Administrative Management

The 2013 Audit of Infrastructure Services Department¹ (ISD) – Administrative Management was presented to Audit Committee and Council in 2015.

Our original audit reviewed the preparation of ISD's operating and capital budgets, and the reporting and analysis of overtime, sick leave and vacation hours. We also evaluated the adequacy and completeness of the training and development process.

The key findings included:

- Quarterly reviews of each branch's operating budget status could be improved by moving to monthly reviews.
- ISD's capital budgets were significant, and multi-year projects were budgeted and approved on a project basis and not on a fiscal-year basis. We found project budgets were properly authorized, however, there was no budget management for capital expenditures by fiscal year.
- The costs for change orders and outside engineering services were not easily identifiable in the financial reporting system. Separate general ledger accounts to account for the costs for change orders as well as for outside engineering services by phase would improve financial reporting and control.
- Two of the five ISD branches reported their overtime, sick leave and vacation time on paper forms.
- The City's Learning and Development Policy required that learning activities relate to "development plans identified in the employee's Individual Contribution Agreement (ICA)". Our review of a sample of ICA's for ISD employees found that none were completed on time.
- The City's Learning and Development Policy also required Learning Plans for each department. ISD did not have a Learning Plan, and as a result, training could have been undertaken that was not consistent with ISD's goals and priorities.
- ISD had drafted a "Training Policy" document that was consistent with the City's Learning and Development Policy.

¹Effective 2016, Infrastructure Services is a branch of the Planning, Infrastructure and Economic Development Department.

Table 6: Summary of status of completion of recommendations

Recommendations	Total	Complete	Partially complete	Not started	No longer applicable
Number	9	7	2	-	-
Percentage	100%	78%	22%	-	-

Conclusion

Management has made good progress by fully addressing seven of nine recommendations.

The original audit recommended, and management agreed, to change the financial reporting system to separately account for costs associated with change orders and outside engineering services. Our work confirmed that costs associated with external engineering design and construction costs can be separately identified in the City's financial system (SAP). ISD management needs to continue to work with Financial Services' staff to separately track the costs associated with change orders in SAP.

We had also recommended that ISD issue a Learning Plan consistent with the City's Learning and Development Policy. We confirmed that a Competency Development framework has been drafted, however, additional work is required to approve this framework and roll it out to staff.

Acknowledgement

We wish to express our appreciation for the cooperation and assistance afforded the audit team by management.

Follow-up to the 2013 Audit of Infrastructure Services Department – Technical Management

The 2013 Audit of Infrastructure Services Department¹ (ISD) – Technical Management was presented to Audit Committee and Council in 2015. The Audit examined the technical processes associated with the projects that ISD delivers for the City.

Our original audit reviewed compliance with Federal and Provincial guidelines and regulations, as well as with the objectives of the City's Comprehensive Asset Management (CAM) Program. It also looked at the structure of the department, processes and control systems used in the delivery of projects, selection of consultants and contractors, and overall project management and monitoring. Finally, it reviewed the processes used for control of change orders and costs in design and construction.

The key findings of the original audit were:

- ISD operated with due compliance with the Federal and Provincial guidelines and regulations that directly pertained to its activities. Furthermore, the mandate and scope of responsibilities of Infrastructure Services were not duplicated in other departments within the City.
- Council approved the Comprehensive Asset Management (CAM) Program in October 2012. ISD indicated at that time that an update would be provided at the same time as the refresh to the Long Range Financial Plan (LRFP) so that the CAM report would provide the basis for the LRFP update.
- The Project Delivery Manual (PDM) prepared by ISD provided detailed step-by-step direction to the ISD Design and Construction branches for the delivery of projects, including sample documentation for the various tasks that project managers must execute. However, our review indicated that these processes were not being consistently followed.
- The PDM was provided to consultants working for the City, but it was not referenced in the contracts' Terms of Reference, and therefore, its use was not a formal requirement of consultants.

¹ Effective 2016, Infrastructure Services is a branch of the Planning, Infrastructure and Economic Development Department.

- The Project Status Updates (PSU) are intended to help inform Councillors of the projects within their wards. However, Councillors were not receiving the same dashboard information that was being provided to the General Manager.
- Change orders were generally required when field conditions differed from those expected in the design phase. Detailed change order data was kept for each specific project. However, there was no centralized summary of change order amounts that summarized the total sum of change orders per project that could be reviewed by the managers and General Manager.
- Discussions with managers and program managers showed that the selection and assignment of project managers was based on workloads and the competencies of the project managers. However, ISD did not maintain a database of the skills, experience and specialized training of its program and project managers.
- There were potential cost savings to be realized by adding construction supervisors and inspectors to undertake contract administration and inspection duties of a larger proportion of projects, in lieu of consultants.

Table 7: Summary of status of completion of recommendations

Recommendations	Total	Complete	Partially complete	Not started	No longer applicable
Number	8	2	5	1	-
Percentage	100%	25%	63%	12%	-

Conclusion

Management has completed two of the eight recommendations and obtained an extension from Council for one of the partially completed recommendations.

Management has made significant progress on the four other partially completed recommendations. Three of the recommendations are awaiting the implementation of Infrastructure Services' new project management software, vISion, planned for the second quarter of 2018. The last partially completed recommendation is related to the staff Competency Development program, which is pending approval.

Work on Infrastructure Services' update to its Competitive Service Delivery Review has not yet started. It is planned once an evaluation of the organizational approach to quality management is complete.

Only fully implementing 25% of the audit's recommendation since 2015 could suggest a lack of sufficient focus on management's part. However, the Office of the Auditor General (OAG) did not find that to be the case. Management is implementing a new software system to support its project delivery practices, and we recognize that this is a significant undertaking.

Acknowledgement

We wish to express our appreciation for the cooperation and assistance afforded the audit team by management.

Follow-up to the 2014 Audit of Specific Areas of the Infrastructure Services Department

The 2014 Audit of Specific Areas of the Infrastructure Services Department¹ (ISD) was presented to the Audit Committee and Council in 2016. Our original audit reviewed the adequacy and effectiveness of selected aspects of the management control framework within the ISD.

The key findings of the original audit were:

- Over the two-year period from 2013 to 2014, ISD awarded \$3.3 million in sole source contracts for engineering services. Our review of the rationale provided by ISD to the Supply branch for using a sole source process showed that the City applied the Purchasing By-law appropriately; however, we found that there is a lack of documentation related to the level of scrutiny applied in assessing whether sole source contracts were required.
- While ISD had identified key roles and potential successors, individual development plans supporting the succession plans were not consistently documented.
- The audit reviewed the unit prices paid by the City for major contract items (e.g. concrete and asphalt) and compared them to two other municipalities. We found that in general, the prices paid by the City were comparable to those paid by other municipalities with the exception of asphalt, which required further analysis.

Table 8: Summary of status of completion of recommendations

Recommendations	Total	Complete	Partially complete	Not started	No longer applicable
Number	3	1	2	-	-
Percentage	100%	33%	66%	-	-

¹ Effective 2016, Infrastructure Services is a branch of the Planning, Infrastructure and Economic Development Department.

Conclusion

Management has completed one of the recommendations and has made significant progress on the two partially complete recommendations. The original audit recommended that Infrastructure Services complete a unit price comparison of asphalt with comparable municipalities. Our work confirmed that Infrastructure Services has reached out to five municipalities, and it plans to conclude its analysis after receiving relevant responses.

We also recommended that Infrastructure Services monitor individual development plans for succession management. We confirmed that the Human Resources Services branch is in the process of rolling out a new approach for succession management. The new process however has not yet been rolled out down to the branch level where it will apply to the Infrastructure Services branch.

Acknowledgement

We wish to express our appreciation for the cooperation and assistance afforded the audit team by management.

Follow-up to the 2010 Audit of the Mackenzie King Bridge Rehabilitation

The 2010 Audit of the Mackenzie King Bridge Rehabilitation was presented to Audit Committee and Council in 2015.

Our original audit examined the maintenance procedure for the Mackenzie King Bridge (MKB). We reviewed the scheduling of asphalt rehabilitation for the bridge, the alternative solutions examined and the procedures used for selection of asphalt rehabilitation methods, including coordination with structure renewal procedures.

The key findings of the original audit were:

- The decision to resurface the bus lanes appeared not to have taken into consideration previous reports commissioned by Infrastructure Management relating to evaluation of alternative pavement rehabilitation strategies.
- There was no documentation in the files attesting that the decision to use the Rosphalt modified hot mix asphalt (RMHMA) was preceded by appropriate tests, financial studies and preparation of specifications.
- The decision to remove the waterproofing membrane and to use RMHMA was made by a pavement engineer without approval by the Structures section of Infrastructure Management.
- The pavement engineer that selected the RMHMA strategy for the MKB left the City in early 2008. No other City staff had the experience or training to vet the decisions made by the manufacturer and/or the contractor with respect to the RMHMA mix design.
- The City did not engage a consultant to assist with pavement mix design and quality control issues, even though it became clear after 2008 that the City staff did not have the required training and experience.
- As a result of the lack of experience and training with RMHMA, Quality Assurance and Construction Services left it to the manufacturer and the contractor to prepare the mix design, test it, and control it during construction.
- Advice on project problems was provided by the same engineer that was responsible for the original design.

Table 9: Summary of status of completion of recommendations

Recommendations	Total	Complete	Partially complete	Not started	No longer applicable
Number	11	10	1	-	-
Percentage	100%	91%	9%	-	-

Conclusion

Management has made substantial progress in fully implementing 10 of 11 recommendations.

We recommended that management ensure all departments involved with the implementation of a new technology have proper training on that technology. Management has indicated that they are updating the procedures related to the use of new technologies and that the procedures will address training requirements for staff.

Acknowledgement

We wish to express our appreciation for the cooperation and assistance afforded the audit team by management.

Follow-up to the 2014 Independent Review of the Airport Parkway Pedestrian/Cycling Bridge

The City initiated the process to construct a pedestrian/cycling bridge across the airport parkway. The project encountered a series of problems that resulted in a three-year schedule delay and a significant increase to the budget. The City contracted for an independent review of the project that included recommendations for future projects. The Independent Review of the Airport Parkway Pedestrian/Cycling Bridge was presented to Council in 2014. Also that year, the Finance and Economic Development Committee approved the inclusion of a follow-up on the implementation of the recommendations of that report in the Office of the Auditor General's (OAG) 2014 Work Plan.

The scope of the original review was the City's management of the bridge project. The review included all phases and processes of the project from the initial Environmental Assessment to Project Intake, Design, Construction and Oversight.

The key findings of the original review were:

- The events that had a substantive impact on the project were delays in project initiation, defects in concrete placement, deficiencies in fabrication and design of the steel anchor plate and design deficiencies and defects discovered in a third-party design review.
- The project schedule was established early in the project in 2010 and did not change despite early indications that key construction milestones were not being met. There was limited evidence of rigorous schedule management prior to 2012.
- Project communications did not meet expectations and lacked coordination. Senior management and elected officials were not made aware of issues during the initial construction period.
- A third-party design review discovered deficiencies and defects in the design including that the design was complex and did not sufficiently address constructability issues.
- There was a lack of appreciation for the complexity of the work during construction.
- There were deficiencies in the management of the project. These deficiencies included the project hand-off, project reporting, consultant management,

construction contract management, risk management and project management accountability.

- There were no performance indicators to monitor project delivery.
- City project managers had full authority for changes to budget and scope without having to obtain additional approval for schedule extensions and contract defaults.
- “Liquidated damages” were used as the default resolution strategy; however, this only sought to compensate the City for direct costs, which were relatively minor.
- The City’s Supplier Performance process did not provide suppliers with a clear appreciation of the City’s expectations and use in making bid decisions.

Table 10: Summary of status of completion of recommendations

Recommendations	Total	Complete	Partially complete	Not started	No longer applicable
Number	18	11	7	-	-
Percentage	100%	61%	39%	-	-

Conclusion

Management has made good progress completing 11 of 18 recommendations.

Management also made significant progress on the seven other partially completed recommendations. All of these partially completed recommendations require Infrastructure Services’ new project management software, vISion, to be fully implemented.

Subsequent to our March 2018 fieldwork, Infrastructure Services officially launched vISion on May 14, 2018. Soon after it was launched, we confirmed that the system was operational. While we also observed that the full functionality of vISion was not yet available, this was because the system was not yet fully populated with project data. We expect all of the review’s recommendations will be complete as the system becomes fully operational.

Acknowledgement

We wish to express our appreciation for the cooperation and assistance afforded the audit team by management.

Follow-up to the 2011 Audit of Procurement Practices related to the Source Separated Organics Contract

The 2011 Audit of Procurement Practices related to the Source Separated Organics (SSO) Contract was presented to Audit Committee and Council in 2014. Our original audit reviewed the SSO contract with Orgaworld Canada Ltd (Orgaworld), including the determination of the key assumptions that the contract was based on (e.g. facility's capacity and curb-side participation rate) and the City's internal contract approval.

The key findings included the following:

- Data from pilot projects was not correctly interpreted. There were fundamental errors in arriving at the tonnage estimates used in the eventual contract, which required a facility to process an annual waste tonnage of 100,000 tonnes, and assisted in the determination of an annual 80,000 tonne put-or-pay threshold. The put-or-pay threshold obligated the City to pay Orgaworld for at least 80,000 tonnes of organic processing per year, even if the City did not deliver that quantity.
- Leaf and yard waste can be processed by the City at its Trail Road / Barnsdale facility for a fraction of the per tonne cost of sending it to Orgaworld. The potential savings from the internal processing of separately collected leaf and yard waste were not considered when establishing the facility's required capacity or the put-or-pay threshold. It would have been cost effective to set lower contract tonnages and redirect more of the leaf and yard waste to Trail Road.
- Communication to Council was ambiguous. It was unclear that leaf and yard waste was included in the 100,000 tonnes requirement of the contract, and it gave the impression that the 80,000 tonnes put-or-pay threshold would be easily achievable. Communications contained little or no discussion of the options and risks, and these were provided only after the Request for Proposal process had already been completed.
- There was an absence of documented and approved assumptions and analyses, nor was there a documented review and approval demonstrating a lack of due diligence.
- Roles, responsibilities and accountability for the oversight of the project were not clearly defined. The assessment and approval required on key elements of the

project could not be located in the corporate records and were not provided to us by City staff.

Table 11: Summary of status of completion of recommendations

Recommendations	Total	Complete	Partially complete	Not started	No longer applicable
Number	10	9	1	-	-
Percentage	100%	90%	10%	-	-

Conclusion

Management has made good progress by fully addressing 9 of 10 recommendations.

Most household leaf and yard waste is now collected and processed together with household organics. One aspect of one of the audit recommendations was to present to Council the marginal cost implications of separate leaf and yard waste processing and collection. Although staff did assess some of the costs associated with this alternative, it was not fully explored as an option in the City’s March 2018 business case, nor was it made fully transparent as it was not provided to Council.

Acknowledgement

We wish to express our appreciation for the cooperation and assistance afforded the audit team by management.

Review of the Source Separated Organics Program Business Case

Purpose

Following several pilot projects, staff were directed in 2005 to examine and report back on the implementation plan for a Source Separated Organics (SSO) program in the City. The intent of the program was to move the City's overall residential waste diversion rate from 32% towards the 60% Provincial target.

A 20-year contract was awarded to Orgaworld Canada (Orgaworld), and the Green Bin program was implemented in 2010. The Office of the Auditor General (OAG) conducted the Audit of Procurement Practices related to the SSO Contract in 2011. The audit work was updated, and the report was issued in 2014. One of the OAG's recommendations was that City staff examine the impact and cost of exercising the early termination clause in the contract and assess other service delivery options, including the construction of a City-owned and operated facility.

Consequently, the City reviewed various SSO processing options, and the Public Works and Environmental Services Department prepared a business case which identified and examined potential move-forward options.

The OAG reviewed the SSO business case that formed the basis for City staff's March 26, 2018 report to Committee and Council. This report presents the results of the OAG's review of the 2018 SSO business case.

Objectives and scope

The objectives of our review were to assess the reasonableness of the key assumptions made in the business case and the accuracy of its calculations.

Much of the analysis supporting the SSO business case was undertaken prior to 2018. For our purposes, the March 5, 2018 version of the SSO business case that was provided to us by City staff is considered final and represents our scope.

Conclusion

The business case states that upon consideration and evaluation of the options considered, City staff recommend that a renegotiated contract with Orgaworld be approved and that the Green Bin program be expanded to include the processing of plastic bags and dog waste. Staff believe that this approach will provide an improved contract for both the City and its taxpayers as it offers service enhancements that will assist in meeting the City's organic waste diversion goals and the proposed Provincial waste diversion targets.

Our review of the business case identified areas for improvement. One of the inputs into the analysis of the various options considered in the business case is the base-case tonnage of household organics to be processed each year. These tonnage figures were calculated using the percentage of residents' household organic waste expected to be diverted into green bins (a.k.a. capture rate). We found that the capture rate in the business case was assumed to increase over time at an unrealistic rate. We had staff re-run the figures in the business case using more realistic capture rates to ensure that the option that they were recommending was still the highest ranked.

We also found that the report to Council provided informative detail on the SSO options reviewed, however, it focused on the year one budgetary impact rather than on the total operating and capital costs of the proposed project. A net present value analysis is a superior method for comparing the financial impact of options such as these. Staff analyzed the net present values in assessing each option, but did not include them in the report to Council. Net present value analysis also supported the renegotiated contract option.

Our original audit included a recommendation to analyze the option of separate leaf and yard waste collection and processing. Staff estimated that changing the collection pattern would involve such costs that they would more than offset the estimated savings in processing costs, particularly when contract termination costs are considered. We expected to see this option presented and thoroughly analyzed in the business case.

We observed that the source of much of the analysis work was done by a consulting firm on behalf of the City. We expected to find evidence of a more robust challenge of the consultant's work.

Lastly, our work assumed that the City will change its Green Bin program to add plastic bags and dog waste when the Orgaworld facility is ready. It is important that the City

coordinate its change to the Green Bin program with the modifications to Orgaworld's facility to avoid paying higher processing fees to process the same organics stream.

The OAG did not perform a detailed review of the report to the Environment and Climate Protection Committee, however, we did confirm that it was generally consistent with the March 5, 2018 version of the SSO business case that we had reviewed. The OAG's observations are limited to the review of this business case. Our observations are not significant enough to alter the City's overall recommended option.

Recommendations and responses

Recommendation #1

That the City continually challenge consultants' statements and assumptions to ensure they are reasonable and supported by data that corroborates the key statements and assumptions. The results of the challenge function should at a minimum be documented and form part of the City's project's record keeping.

Management response:

Management agrees with this recommendation.

City staff will ensure that all records challenging or questioning Consultants' assumptions and/or findings are retained and properly stored.

Specific to the work undertaken by Dillon Consulting, City staff have stored all relevant communications with Dillon Consulting (including instances and results of the challenge function).

Recommendation #2

That the City monitor the tonnage of source separated organics versus the "put-or-pay" limit on an ongoing basis and begin changing its collection and processing methods for leaf and yard waste when cost effective to do so.

Management response:

Management agrees with this recommendation.

PWESD staff will monitor the tonnage of source separated organics versus the "put-or-pay" limit, and – with support from Corporate Finance – will determine when it is cost effective to begin changing its collection and processing methods for leaf and yard waste. This evaluation is contingent on several factors, including

but not limited to: pending provincial legislation, Council-approved service levels, future collection contracts, and program participation.

This recommendation will be implemented on an ongoing basis, with full implementation expected by no later than Q2 2021 when the curbside collection contracts are renewed and provincial legislation is likely to be confirmed.

Recommendation #3

That the City coordinate its change to accept plastic bags and dog waste in green bins with the completion of the modifications to the Orgaworld facility.

Management response:

Management agrees with this recommendation.

As committed at Environment and Climate Protection Committee on March 26, 2018, PWESD staff intend to work very closely with Orgaworld Canada to understand the pace of their progress (including approvals, procurement, construction, etc.) in order to coordinate the implementation of the enhanced organics program.

This recommendation is expected to be fully implemented by the end of Q2 2019.

Part A – 2018 Audit Procedures for Contract Management Practices – Springhill Landfill Site Contract

Purpose

The original 2011 Audit of Contract Management Practices – Springhill Landfill Site Contract was not tabled by the Auditor General because of arbitration and subsequent legal matters at the time. In 2017/2018, a follow-up to the 2011 audit was performed along with additional audit procedures to assess whether the City is effectively and efficiently managing the Springhill Landfill Site Agreement to date. Included in the audit procedures was an examination of the financial impact of the environmental contamination, closure and post-closure costs on the City.

This executive summary for Part A of the report covers the findings from the additional audit procedures performed in 2017/2018. A separate executive summary for Part B of the report covers the follow-up to the 2011 Audit of Contract Management Practices – Springhill Landfill Site Contract.

Background and rationale

The objective of the follow-up was to evaluate the adequacy, effectiveness, and timeliness of actions taken by management on the recommendations in the 2011 Audit of Contract Management Practices – Springhill Landfill Site Contract. Due to the significant amount of time since the original audit, additional procedures were required. These procedures included assessing the City's management of the agreement, and the financial impact of the environmental contamination, closure, and post-closure cost to the City.

The scope of the follow-up and additional audit procedures focused on the City's management of the Springhill Landfill Site Agreement. The period in scope spans the agreement start date of December 1996 through to February 2018.

The Springhill Landfill is a 100-acre natural attenuation¹ landfill site located within the City of Ottawa, and former Township of Osgoode, on Springhill Road just west of Regional Road 31, north of the Village of Vernon.

On December 23, 1996, a public private partnership Management Agreement (the Agreement) was entered into between the former Township of Osgoode and R.W. Tomlinson (RWT).

On January 23, 1998, a separate lease was entered into between the former Township of Osgoode and RWT. The lease allowed RWT to operate a construction and demolition waste recycling facility (C&D facility) on the landfill site. RWT operates their C&D facility under a separate Environmental Compliance Approval (ECA) and is accountable for compliance at the facility.

Upon amalgamation in 2001, the City of Ottawa assumed the Agreement from the former Township of Osgoode. RWT operates the Springhill Landfill on behalf of the City. The City owns the Environmental Compliance Approval (ECA) that is registered with the Ontario Ministry of Environment and Climate Change (MOECC) and is accountable for compliance at the landfill site.

Relations between the City and RWT had been difficult almost since the Agreement was assumed. The situation necessitated a formal arbitration process in the fall of 2009. The arbitration has been concluded. The arbitrator's report was issued on May 2010 and a payment amount was later determined on September 2, 2016. The City received payment on May 1, 2018.

Highlights of the Springhill Landfill Site Management Agreement

An Agreement was entered into between the Corporation of the former Township of Osgoode and RWT (the Manager) on December 23, 1996, and assumed by the City of Ottawa (the Owner) since 2001.

¹ In Natural Attenuation, the pollution level in the soil (soil, ground water, and soil air) is reduced by natural processes, without human intervention, within a reasonable timeframe compared to other more active approaches.

The Agreement is effective until the landfill reaches capacity. The Owner is entitled to dump all residential waste generated by the Municipal collection system sourced in the geographic area of the former Township of Osgoode free of charge.

The Manager, in its discretion is to set, maintain and revise the dumping fees at the then prevailing rate². The Owner will receive forty percent (40%) of the net profit generated from operations (the royalty payment) and the Manager retains the remaining profit. The Manager is obligated to establish and maintain an approved accounting system, provide the Owner with quarterly reports³, and annual financial statements audited by an auditor approved by both parties.

The Manager is responsible for policy decisions related to the daily operation of the landfill site. This includes decisions around managing and operating the landfill site for the purpose of receiving and processing qualifying waste. The Manager is also responsible for maintaining insurance at all times during the term of the Agreement. Additionally, the Manager is obligated to make annual contributions to the “Project Reserve Fund”. The Project Reserve Fund is to be maintained by the Owner and used for payment of costs incurred on and after the date the capacity of the landfill site is exhausted, to comply with the conditions of the Certificate of Approval and/or the requirements of the prevailing laws or regulations relating to closure of such sites. The Agreement specifies that the fund is to total \$1 million at the expiration of 30 years from the commencement of payments in the fourth year.

Highlights of the C&D Lease Agreement

A Lease Agreement was entered into between the Corporation of the former Township of Osgoode and RWT (the Manager/the Tenant) on January 23, 1998 and assumed by the City of Ottawa (the Owner/the Landlord) since 2001.

The purpose of the lease is to outline the Tenant/Owner rights while RWT is operating a Construction and Demolition (C&D) Material Recycling Facility on the Springhill Landfill site. The C&D facility collects, processes and recycles construction materials. Residual

² The “then prevailing rate” is understood to be a reasonable market rate most commonly charged at the time that is relevant in the area that is relevant.

³ Quarterly reports are to include revenue, chargeable costs and non-chargeable costs related to the project.

waste and unrecyclable material produced from the C&D facility is disposed of in Springhill landfill.

The Lease Agreement had a term of the earlier of twenty years from the date of the Certificate of Approval for the C&D Facility or the termination of the Management Agreement outlined above. Any income generated by the C&D facility is to be included in the Management Agreement's royalty payment.

The Tenant agreed not to conduct any activity that may constitute damage to the lands and premises or breach the regulations of any prevailing authority⁴. The tenant must carry Public Liability and Property Damage Insurance. Furthermore, the Landlord is indemnified against all claims and demands arising from the use and occupancy of the premises.

The original agreement was signed with R.W. Tomlinson Ltd. (RWT). On April 18, 2006, the name of the operating company was officially changed to Tomlinson Waste Management Inc. (TWM). Going forward, this report will refer to Tomlinson as Tomlinson Waste Management Inc. (TWM).

Findings

The audit focused on the City's contract management practices, corporate governance and oversight, and the financial impact of environmental contamination, closure and post-closure costs.

The key findings associated with each area are as follows:

1. Corporate Governance and Contract Management

Over the last 17 years, there has been a high turnover of City staff managing the Springhill file. There were three different City staff in the role of contract manager from 2006 to September 2014. Since 2001, there have been eight City staff in the position as manager/director/general manager. In addition, there was poor handover during periods of staff transition.

Prior to 2014, there is no evidence of documented regular meeting minutes between the City and TWM. The City has not been able to monitor TWM's compliance to key conditions of the Agreement including whether all costs included in the royalty

⁴ Prevailing authorities can include, but are not limited to City of Ottawa By-Laws, or order of regulations from the Municipal, Provincial or any other competent authority.

calculation are in fact eligible direct operating costs and whether non-chargeable costs have been excluded. Additionally, questions posed to TWM often went unanswered for a long period of time, and some remain unanswered. Greater senior management and legal involvement may have been more effective in compelling TWM to provide the necessary information for the City to monitor key aspects of the Agreement.

Review of the 2015 and 2017 Public Works and Environmental Services department risk registers showed that there was no mention of City landfills, including Springhill. Given the significant environmental contamination at Springhill identified since 2012 and the ongoing difficulties in the City's dealings with TWM, it is expected that matters with this level of financial and legal risk would be identified on the department's risk register. The effective management and maintenance of risk registers requires that significant risks are identified and monitored regularly, with mitigating actions developed and implemented.

Due to the significant environmental contamination identified by the Ontario Ministry of Environment and Climate Change (MOECC), the City was required to come up with a remediation plan. In an effort not to exacerbate the contamination, on January 31, 2018 and February 6, 2018, the City made two formal requests of TWM to temporarily suspend further placement of waste in the landfill. TWM disregarded both requests and continued operations at the landfill. The City went on to amend the landfill ECA to compel TWM to stop placing waste in Springhill landfill. The amended ECA will allow the MOECC to regulate this issue.

The inherited Agreement from the former Township of Osgoode contains a number of terms that are unfavourable to the City. The Agreement has provided and continues to provide considerable financial benefits to TWM. Terms of the Agreement allow TWM to make all policy decisions in respect of the daily operations of the landfill site and discretion in setting dumping fee rates. Meanwhile, the City must "co-operate wherever reasonably required".

Reliance cannot be placed on the financial audit to determine whether the royalty amount has been correctly calculated by TWM. The audit of TWM's financial statements is in accordance with Canadian accounting standards for private enterprises and not in accordance with the terms of the Agreement. Financial statement auditors do not provide an opinion on management's discretion to provide customer discounts, whether intercompany charges are at the market rate, or whether "non-chargeable" costs as per the Agreement have been excluded.

Over the last 21 years (1997 to 2017), the City has received \$6.3 million in royalty payments, or on average \$300,744 per year. Significant City resources have been required to manage the Springhill contract, including contract managers, senior management, Finance, and Legal Services. In addition, external resources required include legal counsel, forensic accounting and engineering consulting services. The arbitration in 2009/2010 was also a costly undertaking. All of these expenses likely far exceeded the royalties received by the City.

TWM's related parties⁵ are benefiting from disposing of C&D materials at preferential tipping rates while having Springhill Landfill accept the C&D facility's residual waste at no charge and having the City share in all the related costs. TWM is able to do this because the Agreement allows them to set tipping fees and to dispose of waste generated by the C&D facility in the landfill at no cost.

Out of the total tonnages dumped in the landfill in 2015, 23% came from C&D residual waste; 24% came from "rubble", a by-product of C&D waste processing that TWM indicated will be used to build roads inside the landfill; and 33% came from "fines"⁶, another by-product of C&D waste processing that TWM used as a daily landfill cover. Only 6% came from municipal waste generated in the geographic area of the former Township of Osgoode and another 13% came from waste deposited by other customers.

In 2015, 76% of the total material tonnage received at the C&D facility came from TWM's related companies. This material could have come from anywhere within Eastern Ontario and the Outaouais. While the City has identified that related parties are charged discounted tipping fees, they have not questioned TWM on how these rates were set and assessed whether the 30% discounted rate is reasonable.

The City has not obtained enough information from TWM to gain reasonable assurance over the eligibility of the expenses that TWM has reported over the last 21 years. The City has made requests for financial information from TWM; however, very few satisfactory responses have been received. For example, the City has been unable to

⁵ *International Accounting Standards* defines a related party as a person, including management and close family members, or entity that is related to the entity that is preparing its financial statements via control (direct or indirect), joint control or significant influence.

⁶ Fines are by-product remains after C&D material is sorted, screened, and crushed.

determine the specific expenses that make up summary expense categories such as; “corporate charges” and “consulting & professional fees” on the financial statements.

The Agreement gives the City the right to access accounting information and records related to the Springhill project. The City, however, has never obtained full access to TWM’s accounting information and has only recently considered hiring an external auditor to examine TWM’s accounting records and conduct a review on whether reported expenditures are in fact chargeable.

There are at least five related companies that do business with TWM at Springhill. A significant amount of revenues and expenses are from and to TWM’s related parties. While these types of transactions could be in the normal course of business, they may disproportionately benefit the related parties at the expense of the City. The risk of understating revenue and overstating expenses is much higher when TWM has conducted a significant amount of business with related parties.

The Project Reserve Fund is currently being funded as per the terms of the Agreement. However, since the landfill will reach capacity sooner than the initially anticipated date of 2029, it will likely be significantly underfunded when it reaches capacity. TWM has refused the City’s request to increase their contribution given the reduced life of the landfill. The City will therefore likely receive less than the expected \$1 million from TWM upon closure of the landfill.

The Manager is required to maintain insurance coverage throughout the Agreement. The minimum insurance requirements were set out in “Schedule E” of the Agreement. However, the City has been unable to locate or obtain a copy of Schedule E. The Schedule was not on file at the City and even after the OAG requested a copy of the insurance policy, it was not provided. The City has not been monitoring the insurance provisions required in the Agreement. Furthermore, there is no clear understanding among staff as to who is responsible to monitor insurance provisions in agreements with third parties who provide services to the City.

2. Financial impact of the environmental contamination, closure and post-closure costs on the City

As of December 2017, the Springhill Landfill was approximately 75% filled. Additionally, the MOECC has determined that the landfill is out of compliance with its ECA due to groundwater and surface water issues. Leachate⁷ impacted groundwater is migrating to neighbouring properties as well as interacting with surface waters outside of the landfill footprint. The environmental contamination is impacting a Provincially Significant Wetland (PSW) adjacent to the landfill. According to the MOECC, the conditions at the PSW are one of the worst in the Eastern Region of the province.

On January 30, 2018, as the site owner, the City of Ottawa submitted a medium-long term (MLT) remediation plan to the MOECC. The Plan includes a remedial action plan comprised of four major components:

- i. The removal of leachate by truck for off-site disposal.
- ii. The installation of a low permeability cover over the existing phases of the landfill (Phases 1 through 4⁸). If Phase 5 were developed, a similar final cover system would later be implemented there as well.
- iii. The implementation of a storm water management system to manage increased storm water flows from the landfill after the installation of the low permeability cover.
- iv. The monitoring and review of the cover system performance and water quality trends, coupled with a contingency plan.

On April 4, 2018 the MOECC agreed in principle with the course of action proposed by the City and requested that a more detailed plan be provided no later than August 31, 2018.

⁷ Leachate is the liquid that drains or 'leaches' from a landfill. It varies widely in composition regarding the age of the landfill and the type of waste that it contains. It usually contains both dissolved and suspended material. Leaching occurs when water percolates through any permeable material.

⁸ The Springhill landfill footprint is separated into five different "phases" or areas. At the time of our audit report, phases 1 to 4 have been filled to capacity. Phase 5 has not yet been filled.

TWM disagrees with the City's proposed medium-long term remediation plan. TWM would like to install a purge well system that potentially will provide hydraulic control of the contaminated groundwater away from the wetland and onto surrounding property owned by TWM⁹. Having the City purchase land or groundwater rights from Tomlinson for properties Tomlinson owns adjacent to the landfill to extend the contamination attenuation zone is part of the solution proposed by TWM. The City has stated it has no interest in being required to purchase these assets at a cost to be determined by TWM. In addition, this solution has significant long-term operating cost impacts that the City will have to assume once the landfill is closed.

In December 2017, the City hired Dillon Consulting (Dillon) to perform an estimate of the cost of the City's proposed remediation plan. Dillon's total estimated capital cost is in the range of \$7-8 million. This is comprised of \$5-6 million for the cover solution, and a further \$2 million to address storm water management. In addition, Dillon is working on estimating future operating costs associated with the City's proposed solution.

The Agreement contains an indemnification clause whereby the Owner is not held responsible for the consequences of the operation and management of the landfill site and its related activities. Therefore, the question thus arises as to whether or not the contamination is "as a consequence of [TWM's] operation and management of the landfill site and its related activities." The City is of the opinion that the environmental contamination has resulted from the C&D waste that TWM has managed and deposited into the landfill site.

TWM's use of fines as daily cover material has been a longstanding practice. TWM has been treating fines as "beneficial reuse" and reporting significant recycling targets for the C&D facility, while dumping it into the landfill for free as a daily cover. As stated previously, in 2015, fines accounted for 33% of the tonnage dumped in the landfill. In September 2015, the MOECC carried out a site inspection of Springhill Landfill and determined that TWM's use of fines as a daily cover was a violation of the landfill's ECA. The MOECC identified high concentrations of certain compounds in the leachate (e.g. boron – a fire suppressant contained in commercial drywall material). This determination has led the City to suspect that the use of fines from the C&D facility may have contributed to landfill contamination.

⁹ The Matchett property is a 50-acre parcel of land directly to the north of the Springhill Landfill site. As part of the Agreement, TWM purchased this property. Over the years, TWM bought up additional property surrounding the landfill.

A site-closing plan has not yet been drafted. Once the MLT plan is approved by the MOECC, a consultant will be engaged to provide a cost estimate of the remediation work, the environmental liability and the closure and post closure costs. Once all the costs are determined, the City will need to reassess closure and post-closure liabilities to ensure they are reasonable and sufficiently funded.

The C&D Lease Agreement expires on October 6, 2018. On January 31, 2018, the City informed Tomlinson that the City does not intend to renew the lease.

Conclusion

Overall, we found that the City inherited an Agreement with unfavourable terms from the former Township of Osgoode. While the landfill is in use, TWM has full control over the operations and can make policy decisions to their benefit. However, once the landfill capacity is exhausted, the City assumes all the risks and costs of the landfill's post-closure activities.

The City's management of the Springhill Landfill Agreement needs to be strengthened to ensure fulfillment of all contractual obligations. The City has not been able to verify the accuracy and completeness of its royalty payments because documentation and information has not been provided by TWM despite numerous requests. The City is contractually entitled to this information and greater management and legal involvement is required to compel TWM to provide the needed information. Given the lack of information provided by TWM throughout the course of the Agreement, the City should give consideration as to whether Tomlinson is a good business partner for this project and for other endeavours.

The City also needs to ensure that good contract management practices, such as timely escalation, strong record keeping of non-compliance issues, and communications are consistently applied by contract managers. Key terms in the Agreement, like monitoring the insurance requirements had not been fulfilled.

Significant environmental remediation is required at the Springhill landfill. The City will need to budget adequately for remediation, closure and post closure costs once they are fully determined.

Potential savings

Potential savings identified in this audit include the opportunity to engage an external auditor to assess the expenditures claimed by TWM over the term of the Agreement to date. This assessment would identify whether any non-chargeable expenditures have been deducted against revenues to reduce the royalty payments to the City.

Recommendations and responses

Recommendation #1

That the Director have regular meetings with the direct reports to discuss contract management issues. That the City ensure there is timely and documented senior management engagement and continued follow up to compel TWM to provide the requested information in the action register and by the FSU Coordinator.

Management response:

Management agrees with this recommendation and it has been partially implemented.

The Director has scheduled monthly one-on-one meetings (or more frequently, if and where required) with direct reports to review and provide input on any operational or contractual issues that may arise.

Specific to the Springhill Landfill, senior management has escalated the information request to the City's Chief Procurement Officer and Deputy City Treasurer for their review and action. On May 1, 2018, the Chief Procurement Officer requested specific information from TWM. As of May 22nd, TWM has indicated they have provided the responsive information. Corporate Finance is currently reviewing and analyzing the information received to ensure that the request has been fully satisfied, and will provide an update to management by Q3 2018. Subject to verification of compliance by Corporate Finance, the City will take action pursuant to the Management Agreement or the City's *Procurement By-law* where warranted.

Recommendation #2

That the City develop corporate wide contract management policies and procedures and make these available to contract managers. Included in these policies and procedures should be direction to establish responsibility and accountability for the monitoring of insurance certificates.

Management response:

Management agrees with this recommendation.

The existing Contract Administration and Reporting on Supplier Performance Procedures will be updated into a formal policy by Q4 2018. The policy will identify the responsibility and accountability for monitoring insurance certificates related to contracts awarded under the *Procurement Bylaw*.

Recommendation #3

That PWESD review their risk register and ensure that significant risks are identified, along with action plans and owners. The risks at Springhill Landfill should be clearly described and monitored.

Management response:

Management agrees with this recommendation and it has been partially implemented.

The risks for the Springhill Landfill have been included in the current departmental risk register, and PWESD is in the process of completing the remaining updates.

This recommendation will be fully implemented by Q3 2018.

Recommendation #4

That the City provide an annual report to Council on the Springhill Landfill P3 agreements until closure of the landfill or end of all agreements in accordance with the City's P3 Policy.

Management response:

Management agrees with this recommendation.

The Public Works & Environmental Services Department will work in conjunction with Supply Services to provide an update to Council on the P3 partner's financial and service level performance for the Springhill Landfill as part of the annual Procurement Year in Review report (typically tabled in May of the following year) to the Finance and Economic Development Committee (FEDCO) and Council.

This recommendation will be considered implemented by Q2 2019.

Recommendation #5

That the City question how the tipping rate that TWM is charging its related parties was set. The City should then assess whether the discount offered to related parties is reasonable and representative of the “prevailing rate”.

Management response:

Management agrees with this recommendation.

Senior management will work with staff from Solid Waste Services and the Corporate Finance branch, as well as any external experts/consultants (as and if required), to determine whether Tomlinson has been charging the required “prevailing rate” to any related parties.

This recommendation is expected to be complete by Q4 2018.

Recommendation #6

That as long as TWM is a partner in this Agreement, the City continue to pursue direct access to a TWM accounting manager contact. If necessary, the City should go through legal means and escalate to senior City management (i.e. General Manager, Public Works and Environmental Services and/or City Manager). Regular meetings need to be held to discuss financial questions to ensure that the City has a full understanding of the performance of Springhill. History has shown that it is inefficient and ineffective to go through TWM’s senior management to get answers to financial questions.

Management response:

Management agrees with this recommendation and it has been partially implemented.

Senior management has escalated the information request to the City’s Chief Procurement Officer and Deputy City Treasurer for their review and action. On May 1, 2018, the Chief Procurement Officer requested specific information from TWM. As of May 22nd, TWM has indicated they have provided the responsive information and identified an accounting manager contact. Corporate Finance is currently reviewing and analyzing the information received to ensure that the request has been fully satisfied, and will provide an update to management by Q3 2018. Subject to verification of compliance by Corporate Finance, the City will take action pursuant to the Management Agreement or the City’s *Procurement By-law*

where warranted. Semi-annual meetings with the TWM accounting manager will be established going forward.

Recommendation #7

That the City, with legal support, request TWM to provide a detailed breakdown of each of the expense line items on the financial statements. It is likely that this was provided annually to the financial auditor, KPMG, and can be provided to the City. The City needs to ensure that non-chargeable costs have been excluded from their royalty calculation.

Management response:

Management agrees with this recommendation, and it has been partially implemented.

Senior management has escalated the information request to the City's Chief Procurement Officer and Deputy City Treasurer for their review and action. On May 1, 2018, the Chief Procurement Officer requested specific information from TWM. As of May 22nd, TWM has indicated they have provided the responsive information. Corporate Finance is currently reviewing and analyzing the information received to ensure that the request has been fully satisfied, and will provide an update to management by Q3 2018. Subject to verification of compliance by Corporate Finance, the City will take action pursuant to the Management Agreement or the City's *Procurement By-law* where warranted.

This recommendation is expected to be complete by Q4 2019.

Recommendation #8

That the City should refer to the *Procurement By-law Section 37 and 47* and consider whether Tomlinson is a good business partner for this project and for future endeavours.

Management response:

Management agrees with this recommendation.

Senior management has already engaged the Chief Procurement Officer, City Treasurer, and Deputy City Solicitor to review all available mechanisms to obtain the requested financial information and responses to outstanding financial questions. Subject to verification of compliance by Corporate Finance, the City will take action pursuant to the Management Agreement or the City's *Procurement By-*

law where warranted, and will determine whether an external auditor should be engaged to review information received.

This recommendation is expected to be complete by Q4 2019. However, staff will be conducting an ongoing review and analysis of information provided by Tomlinson, as well as any further information provided, in the context of the applicability of *Procurement By-law Section 37 and 47*.

Recommendation #9

That going forward, the City identify all the related parties that conduct business with TWM and assess the reasonability of related party transactions at Springhill.

Management response:

Management agrees with this recommendation.

Currently, notes disclosed in the annual financial statements include a list of related party transactions; however, reasonability and appropriateness need to be verified. While operations at the landfill have been temporarily suspended, PWESD and Corporate Finance staff will work together to review these transactions and will address any questions concerning the reasonability of related party transactions with the TWM accounting contact, once identified and should operations resume at the landfill.

This recommendation is expected to be implemented by Q4 2018.

Recommendation #10

That the City ensure they have received the contractually agreed upon reserve amount to date and continue to monitor that the right amounts are being received each year.

Management response:

Management agrees with this recommendation.

The City has been receiving the annual contribution as per the Management Agreement and will continue to monitor that the right amounts are being received each year.

Recommendation #11

That the City locate Schedule E and verify that insurance terms as outlined in the Springhill Landfill Site Agreement Schedule E are in place.

Management response:

Management agrees with this recommendation.

Should Management continue to be unable to locate “Schedule E”, the City will assess the existing insurance in place as against current industry best practices. Should any deficiencies be identified, recognizing the status of operations at the site, these will be addressed with TWM.

This recommendation is expected to be implemented by Q4 2018.

Recommendation #12

That in all future public private partnership contracts, the City include an explicit right-to-audit clause.

Management response:

Management agrees with this recommendation.

The Public Private Partnership (P3) Policy will be updated to include the requirement for an explicit right-to-audit provision be included in P3 agreements.

This recommendation is expected to be complete by Q4 2018.

Recommendation #13

That the City weigh the cost of engaging an external auditor with the possible benefits of examining the expenses in the allowable period.

Management response:

Management agrees with this recommendation.

Senior management has escalated the information request to the City’s Chief Procurement Officer and Deputy City Treasurer for their review and action. On May 1, 2018, the Chief Procurement Officer requested specific information from TWM. As of May 22nd, TWM has indicated they have provided the responsive information. Corporate Finance is currently reviewing and analyzing the information received to ensure that the request has been fully satisfied, and will provide an update to management by Q3 2018. Subject to verification of compliance by Corporate Finance, the City will review the cost/benefit of engaging

an external auditor to review this information and details on expenditures over the past five years.

This recommendation is expected to be completed by Q4 2019.

Recommendation #14

That the City establish a site-closing plan in advance of the end of the Management Agreement in the event the site closing occurs earlier than expected.

Management response:

Management agrees with this recommendation, and it has been partially implemented.

Solid Waste staff are currently working with Dillon Consulting to develop a closure plan for Phases 1 to 4 of the Springhill Landfill (Phase 5 has not yet been developed, and therefore does not require a closure plan at this point in time).

This recommendation is expected to be complete by Q4 2019 (subject to the timing of MOECC approval).

Recommendation #15

That the estimate of the site closure costs and post-closure costs are updated upon receiving approval from MOECC for the medium-long term plan.

Management response:

Management agrees with this recommendation.

Upon receiving approval of the medium-long term plan from the MOECC, staff will work with Dillon Consulting to ensure that estimates are updated for site closure costs and post-closure costs.

This recommendation is expected to be complete by Q4 2019 (subject to the timing of MOECC approval).

Recommendation #16

That the City reviews its Springhill Landfill closure and post-closure liabilities in the financial statements to ensure they are reasonable and sufficiently funded.

Management response:

Management agrees with this recommendation, and it has been implemented.

The City already reviews closure and post-closure liabilities for its landfill sites on an annual basis, as that is a financial reporting requirement under the Canadian Institute of Chartered Accountants (CICA) Public Sector Accounting Board's PSAB 3270 - Solid Waste Landfill Closure & Post-Closure Liability. Furthermore, once the Remedial Action Plan is approved by the MOECC and revised closure and post-closure costs are estimated, the City will review and, if necessary, revise its annual contribution to the landfill liability closure and post-closure reserve fund to ensure the liability is sufficiently funded.

Part B – Follow-up to the 2011 Audit of Contract Management Practices – Springhill Landfill Site Contract

The Follow-up to the 2011 Audit of Contract Management Practices – Springhill Landfill Site Contract was included in the Auditor General's 2017 Audit Work Plan.

Due to the arbitrator's confidentiality order on the arbitration award and the resulting settlement, the contents in this report have been summarized to only include selective information that will not violate the confidentiality order. The Auditor General's full report will be provided to Audit Committee in camera.

Selective findings of the original 2011 audit included:

- City staff are not presented with sufficient information to assess the landfill operations and consequently, they cannot determine the adequacy of the royalty payment.
- Despite not having sufficient information since amalgamation, the City went to arbitration in 2009. The arbitration was commenced by Tomlinson in respect of other issues in dispute.
- The City should be more proactive in contract oversight and dispute management by monitoring contracts on a regular basis.
- The City did not request information and state reporting requirements to TWM in a timely manner after the arbitration process was completed.
- A number of document requests made of TWM have not been provided. This includes variance analysis explaining the fluctuations in revenues and expenditures, an annual budget and an operational plan.
- The unforeseen impact of the 200 tonne daily limit, or 62,400 tonnes per year (far beyond the projected approximately 7,400 tonnes per year for the former Township of Osgoode) combined with the operation of the C&D facility is leading to a fill rate of approximately seven times what was initially forecasted for the site.

Table 12: Summary of status of completion of recommendations

Recommendations	Total	Complete	Partially complete	Not started	No longer applicable
Number	4	-	4	-	-
Percentage	100%	-	100%	-	-

Conclusion

Management has made partial progress in implementing all four recommendations.

The original audit recommended that the City needs to document its information and documentation requirements, and submit them to Tomlinson to permit full understanding of landfill operations and the royalty payment.

Our work confirmed that from December 1996 to late 2014, there was no formal documentation of meeting minutes between the City and TWM. As part of good contract management practices, there needs to be a record of meetings and minutes, including any subsequent actions to be carried out by either party. Especially in the case where the City and TWM are in disagreement and there are suspected issues of non-compliance to the terms of the Agreement, minutes must be documented and retained.

Starting in late 2014, City staff recorded monthly meeting minutes and created an action register. Upon review of the action register, it was evident that numerous issues remained outstanding for a long period of time. While some efforts have been made by City staff to request the information from TWM, no consistent management follow up has been made to ensure that the information requested has been received and continues to be received.

The 2011 audit also recommended that the City ensure that it is proactive in contract oversight and dispute management by monitoring contracts on a regular basis. To address this, since late 2014, the Recycling and Material Diversion Program Coordinator has been more proactive in contract oversight by having monthly meetings with TWM and unannounced site inspections.

Over the course of the contract, City staff have identified suspected issues of non-compliance with contract terms and many of the questions they posed to TWM have gone unanswered. Given that repeated requests made by lower level City employees

have been unaddressed by TWM, dispute management should have been escalated and actioned at the senior management level. Escalation needs to be done in a timely manner and document requests need to be pursued until they are resolved.

The original audit also recommended that when the City has won any aspects of an arbitration, it proceeds without delay in order to ensure that the benefits are achieved in a timely fashion.

Our work confirmed that the arbitrator's award was completed on May 14, 2010 and a settlement was mutually agreed upon on September 2, 2016. The payment was received by the City in May 2018. There was a lack of urgency on the part of the City's legal counsel in the negotiation of the release of funds.

Based on our review of 2015, 2016 and 2017 tonnage reports, it is evident that TWM is still charging their related parties a discounted rate, similar to the discount given in the 15-year period from 1999 to 2013. In 2015 and 2016, related party rates were 28-30% less than unrelated party rates. In 2017, related party rates were 14-16% less than unrelated party rates. The City has not questioned TWM on how these rates were set or assessed the reasonability of related party rates.

Acknowledgement

We wish to express our appreciation for the cooperation and assistance afforded the audit team by management.