

# The Corporation of the City of Windsor

## Value for money audit: Purchased services - Winter road clearing

### Distribution list

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#### For information

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FINAL Internal audit report

May 1, 2020

### Limitations and responsibilities

This Report was developed in accordance with our engagement letter addendum dated January 24, 2020 and is subject to the terms and conditions included therein.

Our work was limited to the specific procedures and analysis described herein and was based only on the information made available at the time we prepared the report. Accordingly, changes in circumstances after the date of this Report could affect the findings outlined herein. We are providing no opinion, attestation or other form of assurance with respect to our work and we did not verify or audit any information provided to us. This information has been prepared solely for the use and benefit of and pursuant to a client relationship exclusively with the Corporation of the City of Windsor. PwC disclaims any responsibility to others based on its use and accordingly this information may not be relied upon by anyone other than the Corporation of the City of Windsor.

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# Executive summary

## Winter road clearing overview

The City of Windsor (the City) has hired a contractor, CoCo Paving Inc., for winter road clearing services through a solicitation process. The contract is in effect for seven winter seasons starting from November 1, 2016 with an option for an additional three years. Public Works - Operations designed 17 routes for total of 853 km<sup>1</sup> which are assigned to the 17 trucks of the contractor. In the 2017/18 winter season, the contractor's snow plow/salt trucks cleared the routes and traveled 135,191 kms on the routes based on the truck GPS data we collected. In 2018/19 winter season, the total distance traveled on the routes was lower at 68,928 kms when there was less snow weather.

Payments to the contractor for these seasons were \$2,458,000 and \$1,871,000 respectively. When considering the payment total it is important to note that there are several components: the guaranteed minimum operating hours, operating hours exceeding minimum hours, standby hours and equipment daily standby rate as well as supervisor hours. The payments resulted in an average cost for road clearance per winter event day of \$76.81K (2017/18) and \$77.96K (2018/19).

The terms of contract for winter road clearance are such that the City supplies the salt and salt brine whereas other resources including salter/plow trucks, drivers, and supervisors shall be made available by the contractor. The City issues payment certificates on a monthly basis to the contractor. Technical Team within Public Works - Operations prepares a detailed report to summarize operating hours and standby hours for each contractor truck on each snow event day based on supervisor logs, timecards and Global Positioning System (GPS) records. (Each contractor truck is equipped with a City owned GPS transponder.) The instances of truck operating exceptions such as late arrivals, no shows and equipment breakdowns are also captured from supervisor logs and included in the summary report. The summary report is provided to Contract Management. Based on the summary report, the Contract Coordinator applies the contract specified rates to the hours and calculates penalties according to instances of exceptions.

## Road clearing metrics noted

Metric	2017-2018 Season	2018-2019 Season
Number of trucks	19	19
Number of operators/supervisors	71	69
Kilometers of road cleaned	135,191	68,928
Snow event days	32	24
Truck operating hours paid	6,573	3,591
Payment made to contractor (in \$'000s)	\$2,458	\$1,871
Approximate cost per snow event	\$76.81	\$77.96

<sup>1</sup> 853km is aggregated kilometers of the 17 routes. There are portions of the routes which are overlapping.

**Project purpose**

We conducted a Value for Money (VFM)/Performance Audit of purchased services related to winter road clearing. Our approach was based on both Internal Audit and Performance Auditing approaches and frameworks in accordance with the Auditor General Charter. For the VFM audit, we focused on:

- a set of performance objectives evaluated as part of this audit.
- internal controls and processes over the three key areas: including financial, operational, and compliance.

Specific scope, objectives and exclusions are described in Appendix B.

**What we did**

To conduct our work we completed various activities including, but not limited to:

- Re-calculated CPI adjustment factor for operating rates for the 2017/2018 and 2018/2019 season and noted variance. (see finding #1)
- Re-performed the summary of operating hours and standby hours for the contractor trucks for the four sampled months based on supervisor logs and timecards provided.
- Compared the hours we summarized to the hours captured in the Summary Report prepared by the Technical Team and noted variance in cost categories. (see finding #2)
- Traced hours and penalties summarized by the Technical Team to the corresponding payment certificates for the selected four months and noted favorable variance.
- Performed data analytics on available GPS records for the contractor trucks for 2017/2018 and 2018/2019 season and identified operational deficiencies. (see finding #3)
- We evaluated internal controls over issuance of payment certificate, monitoring contractor performance and contract management practices and identified areas for improvement. (finding #1, finding #2, and finding #3)

**Overall assessment**

**VFM/Performance Metrics:** Of the seven performance objectives assessed, **three** were **Attained**, **three** were **Substantially Attained**, and **one** was **Not Attained**. The last metric not attained had evidence of management awareness and some level of action but not sufficient evidence for an independent reviewer to assess full adherence and timely action.

**Internal Controls:** While **opportunities for improvement exist**, the controls are designed and operated in a manner to reasonably attain the City's objectives within the operating budget and resource constraints.

A total of **three findings** have been **identified** in the financial, operational and compliance areas whereas two considerations for improvements are raised over the contract management, and oversight over supervisor log completion.

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## Management comments

While we generally agree with the findings in the audit, and are pleased with the results showing that we have an effective and efficient service, we have a few concerns. A review of the Municipal Benchmarking Network Canada (MBNC) shows Windsor as having the lowest cost for Winter Maintenance per Lane Km of all participating municipalities. While climate is a factor, the comparators indicate that our winter control service is among the most efficiently run. For each of the findings in the audit, Management has an action plan that has either already been implemented or will be implemented in the upcoming winter control season.

Under heading #2 “Effective Review of Supervisor Log Completion”, while we agree that there is an opportunity for improvement, we note that the Supervisor reports were completed, occasionally with non-uniform methods between supervisors. The call-in time is always written in the Supervisor logs as it is our basis for payment. We agree that sometimes it is not in the correct box and sometimes the Supervisor notes the call-in times in their handwritten notes on the reverse side of the page, however the information is still there, in all cases. We will look to improve the reporting. Secondly, when an event runs over multiple shifts/days, there is only one call-in time which is at the beginning of the event. If the event continues over such time periods, the Supervisor does not repeat this call-in time on the log as it is irrelevant over the course of the same event.

Given that the Supervisor on duty is Supervising seven-nine City staff, six Contractor trucks, further contractors for other snow related activities (sidewalk snow clearing, bust stop clearing etc., other residential clearing contractors), the Technical Support person, and additional City staff performing other duties. They are also expected to be on the road checking road conditions, answering phone calls and communicating via radio to City staff and Coco. They are simply at their limit of being able to provide an extremely detailed log of events unless there are more resources dedicated to assist them.

In order to comply with performance objective #2 significant additional resources would be required, which would not, in our opinion, add additional value. For Performance Objective #5, “Contractor Equipment Breakdowns”, it is an operational expectation that equipment will break down during the fulfilling of contract duties. This is accounted for in the contract. While additional spares could be required, the additional cost and value added would not change the measured criteria.

For performance Objective #7 while the contractor did have “no-shows”, they were penalized for every instance and the contractor was advised via meetings and phone calls. We will be conducting contractor evaluations and improve on the documentation for this objective.

While we strive for continuous improvement, we would stress that our operation is the lowest cost and among the most efficient winter control operations in the country based on objective criteria such as MBNC. Management believes that these two

factors indicate that this is a well managed operation and is receiving good value for money.

# Summary of internal audit results

## Report classification

In general, controls are properly designed and are operating effectively for the purpose envisaged. Given the nature of this audit, we are providing an overall assessment using performance auditing measures as well as our standard internal controls assessment.

### Performance-based audit results<sup>2</sup>

In accordance with performance auditing standards, given that performance measures were not previously defined for the subject matter area, we worked with management to identify performance measures which could be used to measure the value and/or performance related to purchased winter services. The winter road clearing financial and operational performance objectives were established in coordination with the City's Public Works - Operations prior to the commencement of our field work. The results are based on our detailed review of selected monthly vendor payment certificates and data analytics on available GPS records for vendor salters/plow trucks over the 2017/2018 and 2018/2019 seasons.

Performance Objective	Assessment (% Attained)	Summary
<b>1. Aggregate certificates:</b> Aggregate payments certificates were issued with no more than a 2% aggregated variance for all certificates tested.	<b>Attained</b>  <b>100%</b>	We identified a total <b>overpayment of \$37,751</b> made over the course of both seasons due to incorrect utilization of the CPI rates in calculation of annual Consumer Price Index (CPI) adjustment factors. The overpayment accounted for 0.87% of the total payment of \$4,328,790 (over the two seasons). As a result of our work on this audit, <b>the City has recovered the overpayment</b> amount from the vendor and corrected the annual operating rates retrospectively for 2017/2018 and 2018/2019 seasons. The starting operating rates for the 2019/2020 season were set up correctly.
<b>2. Individual certificates:</b> Individual payment certificates were issued with no more than a 5% variance for all certificates tested.	<b>Attained</b>  <b>100%</b>	Based on our detailed testing of a sample of 4 monthly certificates, <b>we did not note any individual payment errors.</b> The 4 monthly certificates sampled related to \$2,766,080 (63.9%) of the total \$4,328,790 payments rendered.

<sup>2</sup> Performance rating scale and definitions contained in Appendix A.

Performance Objective	Assessment (% Attained)	Summary
<p><b>3. Contractor trucks on route:</b></p> <p>100% of contractor trucks were on the assigned routes during a winter event.</p>	<p><b>Substantially Attained</b></p> <p><b>For 86.5% of now event, contractor covered 99% of the routes assigned to them</b></p> <p><b>Substantially Attained</b></p> <p><b>98.9% of individual trucks covered more than 90% of the respective routes assigned to them</b></p>	<p>Using data analytics, based on available GPS records for contractor salter/plow trucks during 2017/2018 and 2018/2019 seasons, we identified that in 45 (86.5%) out of 52 snow events, the routes assigned to the contractor were covered for 99% and above. <b>7 (13.5%) out of 52 snow events the routes assigned to the contractor were covered for less than 99%.</b> When there is construction or emergency roadblocks, the routes may not be covered by 100% during a winter event.</p> <p>GPS data analysis also identified that in 704 (98.9%) of 712 individual truck snow events, the individual truck covered more than 90% of the respective routes assigned to them. <b>8 (1.1%) of 712 individual truck snow events, the individual trucks covered less than 90% of the respective routes assigned to them.</b> When there are construction or emergency roadblocks, the routes may not be covered 100%. In addition, some portions of the individual route are designed for the salter truck to come back to the City's yard when it completes the salting. The truck is allowed to choose other roads to come back.</p>
<p><b>4. Breaks:</b></p> <p>100% of contractor operators do not take more than half an hour break for every 4 hours operation</p>	<p><b>Substantially Attained</b></p> <p><b>99.8% of contractor operators followed the rules for taking breaks</b></p>	<p>Based on available GPS records for all contractor trucks during the 2017/2018 and 2018/2019 seasons we identified that 9,345.28 (99.8%) hours out of 9,362 operating hours identified through GPS are in compliance with break time entitled. In <b>12 different events trucks idled for more than one hour and less than two hours, for a total of 16.72 hours.</b> There were no notes regarding the idles identified above in the related supervisor logs. The locations the trucks idled suggest the idling may not be related to work. The total idle time counts for 0.2% of total 9,362 operating hours identified through GPS.</p> <p>The incidents appear to be isolated, however, the performance objective of 100% compliance with break time was substantially attained. We cannot readily determine the basis for the exceptions or whether they may be valid operational issues or potential performance issues; however proximity of truck GPS location to restaurants/coffee shops or non-work related areas is apparent.</p>





Performance Objective	Assessment (% Attained)	Summary
<p><b>5. Contractor equipment breakdowns:</b></p> <p>Contractor equipment breakdowns during one day in a given winter event should not exceed a total of 5 hours per truck.</p>	<p><b>Substantially Attained</b>  <b>97.4% contractor equipment did not have breakdowns exceeding performance threshold</b></p>	<p>From the sample testing of the selected 4 months covering 38 winter day events, we identified <b>1 (2.6%) instance where the contractor truck was noted as “broken down” for 5 hours 13 minutes</b> and no backup truck came as replacement.</p>
<p><b>6. Tardiness:</b></p> <p>Late show hours during any winter event for a contractor route should not exceed a total of one (1) hour.</p>	<p><b>Attained</b>  <b>100%</b></p>	<p>From our detailed review of 4 sampled months covering 38 winter events , <b>we did not note a winter event where the contractor late shows exceeded one hour.</b></p>
<p><b>7. No-show performance:</b></p> <p>100% of contractor no-shows were captured and communicated back to the Contractor for remediation and were considered in vendor performance evaluation.</p>	<p><b>Not Attained</b></p>	<p>From our detailed review of 4 sampled months, we identified 22 no shows occurred over 3 winter events in January 2019 and 4 no shows occurred over 2 winter events in February 2019. This results in <b>22 no shows out of a total of 724 truck shifts in the sample</b>. We noted that the contractor no-shows were captured on the supervisor logs; however, no formal notice letter was provided to the contractor requesting immediate remedy of the ‘unacceptable performance<sup>3</sup>’. In addition, the Contractor has been providing the winter road cleaning services for the City since November 2016 but there has been no vendor evaluation performed. <i>While there is no directly independently verifiable evidence, management has indicated that escalation conversations occurred with the contractor close to the time of the events.</i></p>

<sup>3</sup> Terminology as per contract.



### Internal controls assessment<sup>4</sup>

Based on the controls identified and tested, we have determined that there is reasonable evidence to indicate that:

#	Objective	Report classification				
		Optimally Controlled	Managed	Some Improvement Opportunity	Major Improvement Opportunity	Unacceptable Risk Exposure
1	The City has spent money on road clearing with due regard for economy and efficiency and has satisfactory procedures for measuring and reporting on the effectiveness of contractor performance.					
2	The City has clearly established contractors performance objectives for road clearing/maintenance, and the objectives were based on reasonable, researched and approved factors.					
3	The City has monitoring and reporting mechanisms in place to determine if the performance objectives are being attained and meeting its intended results.					
4	When the intended results of the road clearing were not being met, the City has taken actions to remediate.					

During the audit, we noted the following good practices implemented by Public Works - Operations.

- Operations has established a Winter Maintenance Manual and updates the manual annually. The manual documents operations objectives, level of services and specifies city and contractor's responsibilities during the winter season.
- Tracking Winter Control Contractor Hours procedure was developed and implemented by the Technical Team, which is designed to compile the hours which the City pays the contractor for.
- A Technical Team, which is independent from Supervisors and Contractor Coordinators, prepares detailed reports by truck and by date based on information collected from supervisors logs, time cards and GPS data. These reports serve as a basis for the monthly progress certificates.
- To ensure the contractor equipment was in good working condition and ready for the season, Operations collected contractor equipment calibration reports prior to the start of the two seasons we audited.

We identified areas where internal control weakness exists, however, none were noted as a significant control deficiency. If implemented, our recommendations would serve to provide greater financial accuracy, operational effectiveness and better leveraging of existing technology capabilities.

Management has provided comprehensive action plans, which we believe will address the deficiencies noted. Below we provide a summary of the findings noted as part of our work:

<sup>4</sup> Rating scale described in Appendix A

## Summary of findings

#	Topic	Rating <sup>5</sup>	Management action plan
<b>Financial</b>			
1	Establish control to independently review the payment certificate calculation template (design effectiveness)	Significant	Prior to each season, the Contracts Coordinator will prepare the adjusted rates for the applicable contract items based on the Consumer Price Index, Transportation component for Ontario. The Contracts Coordinator will submit these numbers to Finance for verification.
		Moderate	
		X Low	
<b>Operational</b>			
2	Leverage existing real time GPS records to improve vendor performance monitoring (operating effectiveness)	Significant	GPS will be used to establish an idle alarm which will indicate to the Technical Support person that a truck has not moved for 30 min. Any issues found are to be called into the Supervisor for immediate action. The Technical Support person's findings of their GPS analysis will be logged and documented several times throughout their shift.
		X Moderate	
		Low	
<b>Compliance</b>			
3	Formally amend contract terms to minimize risk of potential contract dispute (design effectiveness)	Significant	Moving forward, any and all settlements and agreements that are contrary to the terms of the contract will be documented with explanation and backup and formally agreed to by both parties.
		Moderate	
		X Low	

## Management comments

While we generally agree with the findings in the audit, and are pleased with the results showing that we have an effective and efficient service, we have a few concerns. A review of the Municipal Benchmarking Network Canada (MBNC) shows Windsor as having the lowest cost for Winter Maintenance per Lane Km of all participating municipalities. While climate is a factor, the comparators indicate that our winter control service is among the most efficiently run. For each of the findings in the audit, Management has an action plan that has either already been implemented or will be implemented in the upcoming winter control season.

Under heading #2 "Effective Review of Supervisor Log Completion", while we agree that there is an opportunity for improvement, we note that the Supervisor reports were completed, occasionally with non-uniform methods between supervisors. The call-in time is always written in the Supervisor logs as it is our basis for payment. We agree that sometimes it is not in the correct box and sometimes the Supervisor notes the call-in times in their handwritten notes on the reverse side of the page, however the information is still there, in all cases. We will look to improve the reporting. Secondly, when an event runs over multiple shifts/days, there is only one call-in time which is at the beginning of the event. If the event continues over such time periods, the Supervisor does not repeat this call-in time on the log as it is irrelevant over the course of the same event.

Given that the Supervisor on duty is Supervising 7-9 City staff, 6 Contractor trucks, further contractors for other snow related activities (sidewalk snow clearing, bust stop clearing etc., other residential clearing contractors), the Technical Support person, and additional City staff performing other duties. They are also expected to be on the road checking road conditions, answering phone calls and communicating via radio to City staff and Coco. They are simply at their limit of being able to provide an extremely detailed log of events unless there are more resources dedicated to assist them.

In order to comply with performance objective #2 significant additional resources would be required, which would not, in our opinion, add additional value. For Performance Objective #5, "Contractor Equipment Breakdowns", it is an operational expectation that equipment will break down during the fulfilling of contract duties. This is accounted for in the contract. While additional spares could be required, the additional cost and value added would not change the measured criteria.

<sup>5</sup> See Appendix A for Basis of Finding Rating and Report Classification

For performance Objective #7 while the contractor did have “no-shows”, they were penalized for every instance and the contractor was advised via meetings and phone calls. We will be conducting contractor evaluations and improve on the documentation for this objective.

While we strive for continuous improvement, we would stress that our operation is the lowest cost and among the most efficient winter control operations in the country based on objective criteria such as MBNC. Management believes that these two factors indicate that this is a well managed operation and is receiving good value for money.

Name: Mark Winterton

Title: City Engineer

Date: May 1, 2020

# Detailed findings

1. Establish control to independently review the payment certificate calculation template (design effectiveness)			<b>Overall rating:</b> Low																
<b>Impact:</b>	Low	<b>Likelihood:</b>	Unlikely																
<p><b>Observation:</b> The contract between the City and the contractor allows vehicle operating rates, wing plow operator rates, and drivers' standby rates to be adjusted at 85% of the increase or decrease in the CPI Transportation component at the start of each contract year, with the initial increase occurring on November 1, 2017. We noted the use of incorrect CPI rates for both the 2017/2018 and 2018/2019 season. These resulted in total overpayment of \$37,752 over the course of the two seasons.</p> <p>A summary of the calculation factors follows below.</p> <table border="1"> <thead> <tr> <th>Season</th> <th>CPI factor calculated by the City</th> <th>Our CPI factor calculation</th> <th>Over payment</th> </tr> </thead> <tbody> <tr> <td>Dec 2017/2018</td> <td>4.80%</td> <td>4.08%</td> <td>\$14,373</td> </tr> <tr> <td>Dec 2018/2019</td> <td>3.32%</td> <td>2.55%</td> <td>\$23,379</td> </tr> <tr> <td></td> <td></td> <td><b>Total</b></td> <td><b>\$37,752</b></td> </tr> </tbody> </table> <p>Based on our detection of the error, management has acted and recovered the full amount from the contractor as of January 2020. Management recovered this amount by deducting half the value on each of the November and December 2019 payment certificates.</p>				Season	CPI factor calculated by the City	Our CPI factor calculation	Over payment	Dec 2017/2018	4.80%	4.08%	\$14,373	Dec 2018/2019	3.32%	2.55%	\$23,379			<b>Total</b>	<b>\$37,752</b>
Season	CPI factor calculated by the City	Our CPI factor calculation	Over payment																
Dec 2017/2018	4.80%	4.08%	\$14,373																
Dec 2018/2019	3.32%	2.55%	\$23,379																
		<b>Total</b>	<b>\$37,752</b>																
<p><b>Implication:</b> The City incurred financial loss due to overpayment made to the contractor</p>																			
<p><b>Recommendation:</b> To ensure accuracy of future contractor payment, management should consider having an independent review of the payment certificate calculation template prior to each snow season. This review should check the operating rates and formulas.</p>																			
<b>Management Action Plan</b>																			
Prior to each season, the Contracts Coordinator will prepare the adjusted rates for the applicable contract items based on the Consumer Price Index, Transportation component for Ontario. The Contracts Coordinator will submit these numbers to Finance for verification.	<b>Responsible party:</b>	Contract Co-ordinator																	
	<b>Due date:</b>	Q4 Annually																	

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2. Leverage existing real time GPS records to improve vendor performance monitoring (operating effectiveness)		Overall rating: Moderate	
Impact:	Medium	Likelihood:	Likely
<p><b>Observation:</b> Based on the GPS data extracted from Focus database and the assigned contractor routes provided by the Operations team, we performed data analytics and noted:</p> <ol style="list-style-type: none"> <li>In seven out of 52 winter events the contractor had less than 99% of the overall coverage of all routes assigned to them by all the trucks; Refer to Truck Overall Coverage Maps in appendix D.</li> <li>In eight out of 712 individual truck events the individual trucks covered less than 90% of the routes specifically assigned to them; (Refer to Example of Individual Truck Coverage Maps in appendix E)</li> <li>We noted 12 instances where contractor trucks had more than one hour idle time during operations. (Trucks are entitled to half an hour break for every 4 hours of operation). The related Supervisor Logs did not have any specific reasons for the idles such as equipment breakdown or traffic accident, etc. The positions where the trucks were idle may imply that the operators were possibly taking prolonged breaks; however we cannot state that with certainty. (See Example of Truck Idle Map in appendix D).</li> <li>During the month of January and February 2019, the contractor incurred 22 instances of no shows. The no shows were captured in Supervisor Log, however, there was no notice letter issued to the contractor requesting immediate actions to be taken to remediate the unacceptable performance. Management indicated that a meeting with the contractor was held to discuss such issues, however it occurred significantly after the fact on October 4, 2019 and we could not detect evidence of what was discussed.</li> </ol>			
<p><b>Implication:</b> Contractor not performing to the required standards impacts the City in achieving its goal of maintaining safe and passable streets to the public.</p>			
<p><b>Recommendation:</b> The Operations team should consider enhancing monitoring and measuring controls by leveraging existing GPS technology. GPS records provide visibility over the entire fleet in real time during the winter event. Operations teams may identify performance issues such as late arrivals, uncovered routes or truck idling for a longer period of time on a timely basis through monitoring truck GPS records. The issues should be notified to the on duty supervisors immediately so they may be addressed during the event. There should be a log to document issues identified, actions taken and outcome.</p> <p>Operations management should improve contract management practices and hold the contractor accountable for service standards. A formal notice letter should be issued to the contractor promptly (within one to three days) when unacceptable performance issues are identified and formal requests should be made to the contractor to take immediate actions to address unacceptable performance. The notice letter also protects the City's interest in case of any contract dispute in the future.</p>			
<b>Management Action Plan</b>			
GPS will be used to establish an idle alarm which will indicate to the Technical Support person that a truck has not moved for 30 min. Any issues found are to be called into the Supervisor for immediate action. The Technical Support person's findings of their GPS analysis will be logged and documented several times throughout their shift. If there is an instance where the unacceptable performance issues arise, a letter will be sent to the Contractor with a date in which to expect a reply and remediation to the performance.	<b>Responsible party:</b>	Maintenance Co-ordinator	
	<b>Due date:</b>	Q4 2020	

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<b>3. Formally amend contract terms to minimize risk of potential contract dispute</b>			<b>Overall rating:</b> Low
<b>Impact:</b>	Low	<b>Likelihood:</b>	Likely
<p><b>Observation:</b> We observed that in practice, certain contract terms were modified in favor of the City and only verbal agreement with the contractor was obtained. Contract terms were not formally amended. For example, penalties applied and processed were higher in actual contract payment calculations than are specified in the agreement. Management has indicated that such items were agreed with the contractor however no documented evidence of such agreement exists.</p>			
<p><b>Implication:</b> Without formally amending the contract terms or obtaining written consent from the contractor, the City could be possibly exposed to the risk of non-compliance to the contract and involved in contract dispute if the contractor does not agree with the City's practice any more.</p>			
<p><b>Recommendation:</b> Contract Management should formally amend contract terms and obtain sign off from both parties. In addition, the City's standard Contract Dispute Resolution clause should be included in the contract to outline the process to be followed in case of disputes.</p>			
<b>Management Action Plan</b>			
Moving forward, any and all settlements and agreements made with the contractor that are contrary or different than the terms set out in the contract will be documented with explanation and backup and formally agreed upon by both parties.	<b>Responsible party:</b>	Contract Co-ordinator	
	<b>Due date:</b>	Q4 2020	

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# Considerations for improvement

**1. Readiness to adopt the mandatory vendor performance management controls**

**Observation**  
A set of Vendor Relationship Management Procedures and Guidelines have been drafted and will be presented to the Council in the upcoming months (preferably April 2020 or May 2020) as suggested by management. We noted that protocols for vendor performance evaluation for service providers have been established in the draft procedures and would be communicated to contract/vendor relationship owners once approved.

**Consideration**  
We recommend that the owners of significant contracts start to prepare for the implementation by reviewing vendor performance expectations and documenting baseline performance results/evaluations informally prior to the formal requirement.

The City may wish to consider one contract with joint responsibilities or multiple contracts with the same vendor and anticipate how each scenario impacts the process for evaluations.

**2. Effective review of supervisor log for completion**

**Observation:**  
Supervisors retain logs for each winter operation event. The log records the details of operations and serves as the main source for calculating operating hours, and thereby payments, for each of the contractor trucks. In order to pay, or apply penalties, to different categories of cost, the log indicates that the supervisors is to record call in time, and for each truck, arrival time, standby starts and ends time, shift starts and ends time, truck breakdown starts and ends time as well as trucks which did not show up on call. From our sample of 76 supervisor logs (38 for the east side and 38 for the west side covering December 2017, December 2018, January 2019 and February 2019), we noted a few cases where the supervisor logs were not completed consistently. As a result, the supervisor log may not be reliable to completely capture contractor hours, or may incur additional effort to determine so.

Furthermore, there are numerous days in both seasons where the GPS records for multiple trucks were not available. We were able to extract 9,362 truck operating hours from the GPS database while the City paid 10,092 operating hours for the same period. The difference of 730 hours are mainly caused by GPS data loss or GPS system malfunction.

**Consideration:**  
Operations should mandate critical time points including call in time, arrival time, shift start and end time, equipment breakdown start and duration/end time to be recorded in Supervisor Log for each event and for each truck. Such records should be captured and retained.

The Technical Team should review the supervisor logs and time cards after each event date to check the completeness of the information captured. For any missing time records, the Technical Team should follow up with the supervisors immediately. Management may wish to explore the cost/benefit of using automation to capture the data within the entire process using technology.

Operations team should notify the supplier for any GPS malfunction noted during the operations right away and request issues to be resolved on a timely basis.

This report is confidential and is intended solely for use by the management of The City of Windsor and is not intended or authorized for any other use or party. If any unauthorized party obtains this report, such party agrees that any use of the report, in whole or in part, is their sole responsibility and at their sole and exclusive risk; that they may not rely on the report; that they do not acquire any rights as a result of such access and that PricewaterhouseCoopers LLP does not assume any duty, obligation, responsibility or liability to them.





# Appendix A: Basis of findings rating and report classification

Finding rating matrix	Low Impact	Medium Impact	High Impact
<b>Highly likely</b> <ul style="list-style-type: none"> <li>History of regular occurrence of the event.</li> <li>The event is expected to occur in most circumstances.</li> </ul>	Moderate	Significant	Significant
<b>Likely</b> <ul style="list-style-type: none"> <li>History of occasional occurrences of the event.</li> <li>The event could occur at some time.</li> </ul>	Low	Moderate	Significant
<b>Unlikely</b> <ul style="list-style-type: none"> <li>History of none or seldom occurrence of the event.</li> <li>The event may occur only in exceptional circumstances.</li> </ul>	Low	Low	Moderate

Impact	Impact Consideration
High	<p><b>Financial impact</b> likely to exceed \$250,000 in terms of direct loss or opportunity cost.</p> <p><b>Internal Control:</b> Significant control weaknesses, which would lead to financial or fraud loss.</p> <p><b>An issue that requires a significant amount of senior management/Board effort to manage such as:</b></p> <ul style="list-style-type: none"> <li>Failure to meet key strategic objectives/major impact on strategy and objectives.</li> <li>Loss of ability to sustain ongoing operations:               <ul style="list-style-type: none"> <li>Loss of key competitive advantage/opportunity</li> <li>Loss of supply of key process inputs</li> </ul> </li> <li>A major reputational sensitivity, e.g. market share, earnings per share, credibility with stakeholders and brand name/reputation building.</li> </ul> <p><b>Legal/regulatory:</b> Large scale action, major breach of legislation with very significant financial or reputational consequences.</p>
Medium	<p><b>Financial impact</b> likely to be between \$75,000 to \$250,000 in terms of direct loss or opportunity cost.</p> <p><b>Internal Control:</b> Control weaknesses, which could result in potential loss resulting from inefficiencies, wastage, and cumbersome workflow procedures.</p> <p><b>An issue that requires some amount of senior management/Board effort to manage such as:</b></p> <ul style="list-style-type: none"> <li>No material or moderate impact on strategy and objectives.</li> <li>Disruption to normal operation with a limited effect on achievement of corporate strategy and objectives</li> <li>Moderate reputational sensitivity.</li> </ul> <p><b>Legal/regulatory:</b> Regulatory breach with material financial consequences including fines.</p>

Impact	Impact Consideration
<b>Low</b>	<p><b>Financial impact</b> likely to be less than \$75,000 in terms of direct loss or opportunity cost.</p> <p><b>Internal Control:</b> Control weaknesses, which could result in potential insignificant loss resulting from workflow and operational inefficiencies.</p> <p><b>An issue that requires no or minimal amount of senior management/Board effort to manage such as:</b></p> <ul style="list-style-type: none"> <li>• Minimal impact on strategy</li> <li>• Disruption to normal operations with no effect on achievement of corporate strategy and objectives</li> <li>• Minimal reputational sensitivity.</li> </ul> <p><b>Legal/Regulatory:</b> Regulatory breach with minimal consequences.</p>

## Performance measurement classification

Performance Measures Fully Met	
<b>Exceeded</b>	>100% of performance measure
<b>Attained</b>	100% of performance measure
Performance Measure Partially Met	
<b>Substantially Attained</b>	90-99.99% of performance measure
<b>Partially Attained</b>	70-89.99% of performance measure
<b>Somewhat Attained</b>	50-69.99% of performance measure
Performance Measure Not Met	
<b>Not Attained</b>	<50% of performance measure

## Audit report classification

Report Classification	The internal audit identified one or more of the following:
<b>Optimally Controlled</b>	<ul style="list-style-type: none"> <li>Well-structured design effectively achieves fit-for purpose control objectives</li> <li>Controls consistently applied and operating at optimum level of effectiveness.</li> </ul>
<b>Managed</b>	<ul style="list-style-type: none"> <li>Sound design achieves control objectives.</li> <li>No control design improvements identified.</li> <li>Controls consistently applied.</li> <li>Only minor instances of controls identified as not operating, which have mitigating back-up controls or the risk of loss is immaterial.</li> <li>All previous significant audit action items have been closed.</li> </ul>
<b>Some Improvement Opportunity</b>	<ul style="list-style-type: none"> <li>Control design improvements identified, however, the risk of loss is immaterial.</li> <li>Isolated or “one-off” significant controls identified as not operating for which sufficient mitigating back-up controls could not be identified.</li> <li>Numerous instances of minor controls not operating for which sufficient mitigating back-up controls could not be identified.</li> <li>Some previous significant audit action items have not been resolved on a timely basis.</li> </ul>
<b>Major Improvement Opportunity</b>	<ul style="list-style-type: none"> <li>Design is not optimum and may put control objectives at risk.</li> <li>Control design improvements identified to ensure that risk of material loss is minimized and functional objectives are met.</li> <li>A number of significant controls identified as not operating for which sufficient mitigating backup controls could not be identified which may put control objectives at risk.</li> <li>Losses have occurred as a result of control environment deficiencies.</li> <li>Little action taken on previous significant audit findings to resolve the item on a timely basis.</li> </ul>
<b>Unacceptable Risk Exposure</b>	<ul style="list-style-type: none"> <li>Control design leaves the opportunity for loss, error or abuse.</li> <li>Significant control design improvements identified to ensure that the risk of material loss is minimized and functional objectives are met.</li> <li>An unacceptable number of controls (including a selection of both significant and minor) identified as not operating for which sufficient mitigating back-up controls could not be identified creating the opportunity for loss, error or abuse.</li> <li>Material losses have occurred as a result of control environment deficiencies.</li> <li>Instances of fraud or significant contravention of corporate policy detected.</li> <li>No action taken on previous significant audit findings to resolve the item on a timely basis.</li> </ul>

# Appendix B: Background, Scope and Objectives

## Background

We conducted a The Value for Money (VFM) /Performance Audit of purchased services related to winter road clearing based on the risks identified through 2019-2020 City of Windsor Internal Audit Risk Assessment and Plan approved by the Corporate Services Standing Committee on May 6, 2019. This was a value enhancement audit where the Internal Audit (IA) addressed risks including: Materials/ Contractor availability, Third Party and Contract management, Inadequate governance structures/Operating Models, Project management, Asset Planning.

## Scope

The scope of this internal audit included an assessment of the performance measures as attained by management and the controls in effect related to winter road clearing for the period from Fall (November 1) 2017 to Winter (April 30) 2019.

## Performance objectives

- **Aggregate certificates:** Aggregate payments certificates were issued with no more than a 2% aggregated variance for all certificates tested.
- **Individual certificates:** Individual payment certificates were issued with no more than a 5% variance for all certificates tested.
- **Contractor trucks on route:** 100% of contractor trucks were on the assigned routes during a winter event.
- **Breaks:** 100% of contractor operators completed one cycle of their assigned routes before taking a 30 minute work break or were in conformance with other applicable legislative requirements.
- **Contractor equipment breakdowns:** Contractor equipment breakdowns during one day in a given winter event did not exceed a total of 5 hours per truck.
- **Tardiness:** Late show hours during any winter event for a contractor route did not exceed total of one (1) hour.
- **No-show performance:** 100% of contractor no-shows were captured and communicated back to the Contractor for remediation and considered in vendor performance evaluation.

## Internal audit objectives

Internal audit conducted procedures to determine if:

- The City has spent money on road clearing with due regard for economy and efficiency and has satisfactory procedures for measuring and reporting on the effectiveness of contractor performance.
- The City has clearly established contractors performance objectives for road clearing/maintenance and the objectives were based on reasonable, researched and approved factors.
- The City has monitoring and reporting mechanisms in place to determine if the performance objectives are being attained and meeting its intended results.
- When the intended results of the road clearing were not being met, The City has taken actions to remediate.

## Specific scope exclusions

Given the nature of the work and budgeted effort, the following elements are explicitly excluded from the scope of this internal audit:

- The design, implementation and operation of the Information and Technology (IT) environment and IT general controls, end-user computing controls, IT application controls, data integrity of reports used in IT dependent manual control;
- City's insourced snow clearing operations;
- Supplies and materials used in winter road clearing;
- Strategic sourcing public solicitation and vendor selection process.

# Appendix C: Example maps for full event overall route coverage less than 99%

Map 1 - On March 16th, 2019, 97% of all routes were covered by all contractor trucks. The grey areas with no overlapping blue dots indicate the portions of the roads were not covered by any of the trucks during the event.





Map 2 - On February 20th, 2019, 98% of all routes were covered by all contractor trucks. The grey areas with no overlapping blue dots indicate the portions of the roads were not covered by any of the trucks during the event.



- ◆ #1 Truck GPS Location
- #1 Assigned Truck Route



Map 3 - on November 11th, 2018, 98% of all routes were covered by all contractor trucks. The grey areas with no overlapping blue dots indicate the portions of the roads were not covered by any of the trucks during the event.



- ◆ #1 Truck GPS Location
- #1 Assigned Truck Route

# Appendix D: Example maps for individual truck route coverage less than 90%

Map 1 - On March 16th, 2019, truck 420 only completed 84% of its assigned route. The grey areas with no overlapping blue dots indicate the portions of the roads were not covered.



- ◆ #1 Truck GPS Location
- #1 Assigned Truck Route

Map 2 - On December 30th, 2018, truck 422 only completed 63% of its assigned route. The grey areas with no overlapping blue dots indicate the portions of the roads were not covered.





Map 3 - on December 13th, 2017, truck 417 only completed 83% of its assigned route. The grey areas with no overlapping blue dots indicate the portions of the roads were not covered.



# Appendix E: Example maps for truck idling more than one hour

Map 1 - On February 27th, 2019, truck 423 took a 1 hour break starting around 12:39 pm, potential risk as this is near a Tim Hortons





Map 2 - On December 15th, 2017, truck 423 took a 1 hour 24 minute break starting around 4:13 pm. The truck was stopped in a quiet area at the end of Catherine street. A Walmart Supercenter is connected to the end of Catherine St. .



◆ #1 Truck GPS Location



Map 3 - On January 22nd, 2019, truck 417 took two breaks greater than 1 hour each within the same shift. Map 11 shows the first break is for 1 hour 30 minutes starting around 11:35 pm. The driver was parked near the Windsor Health Centre.



◆ #1 Truck GPS Location





Map 4 - January 23rd, 2019 truck 417 took its second break at 1 hour 16 minutes starting around 12:52 pm. The truck GPS indicates it was idling in the parking lot of one of the restaurants in the area.



 #1 Truck GPS Location



# Appendix F: Limitations and responsibilities

## Limitations inherent to the internal auditor's work

### Internal control

Internal control systems, no matter how well designed and operated, are affected by inherent limitations. These include the possibility of poor judgment in decision-making, human error, control processes being deliberately circumvented by employees and others, management overriding controls and the occurrence of unforeseeable circumstances.

### Future periods

Our assessment of controls is for the period specified only. Historic evaluation of effectiveness is not relevant to future periods due to the risk that:

- the design of controls may become inadequate because of changes in operating environment, law, regulation or other; or
- the degree of compliance with policies and procedures may deteriorate.

### Responsibilities of management and internal auditors

It is management's responsibility to develop and maintain sound systems of risk management, internal control and governance and for the prevention and detection of irregularities and fraud. Internal audit work should not be seen as a substitute for management's responsibilities for the design and operation of these systems.

We endeavour to plan our work so that we have a reasonable expectation of detecting significant control weaknesses, and if detected, we shall carry out additional work directed towards identification of consequent fraud or other irregularities. However, internal audit procedures alone, even when carried out with due professional care, do not guarantee that fraud will be detected.

Accordingly, our examinations as internal auditors should not be relied upon solely to disclose fraud, defalcations or other irregularities which may exist.



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