



# AUDITOR GENERAL'S REPORT ACTION REQUIRED

## Local Road Resurfacing – Contract Management Issues

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|--------------------------|-----------------|
| <b>Date:</b>             | May 10, 2013    |
| <b>To:</b>               | Audit Committee |
| <b>From:</b>             | Auditor General |
| <b>Wards:</b>            | All             |
| <b>Reference Number:</b> |                 |

### SUMMARY

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The Auditor General's Audit Work Plan included a review of Transportation Services' Summer Road Maintenance Program. The Division has recently realigned priorities with more emphasis being placed on road preventive maintenance activities. As a result, additional capital funding has been allocated to road resurfacing in order to extend the useful life of roads. In 2012, over \$30 million was spent on local road resurfacing contracts. The objective of this review was to assess the adequacy and effectiveness of the management of local road resurfacing contracts.

This report contains 14 recommendations along with a management response to each of the recommendations. The implementation of these recommendations will assist management in their oversight of local road resurfacing contracts.

### RECOMMENDATIONS

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**The Auditor General recommends that:**

1. City Council request the General Manager, Transportation Services to ensure that:
  - a. Inspectors use costs sheets to record quantities of material delivered and measurements taken;
  - b. All cost sheets are signed-off by the contractor representative, the City Inspector and the Inspector's supervisor;
  - c. Inspectors maintain adequate support for all quantities and measurements recorded on cost sheets; and
  - d. Supervisors randomly spot check cost sheet measurements and document results of their work.

2. City Council request the General Manager, Transportation Services to implement standard procedures for extra work orders and update the Road Operations Inspection Manual accordingly.
3. City Council request the General Manager, Transportation Services to ensure that proper supporting documentation is prepared and management approval is obtained for extra work orders.
4. City Council request the General Manager, Transportation Services to review opportunities to prevent or detect input errors for data entered into the Toronto Maintenance Management System.
5. City Council request the General Manager, Transportation Services to regularly monitor actual quantities of goods and services supplied against tender call quantities, make any inquiries necessary arising from such review and take appropriate action where required.
6. City Council request the General Manager, Transportation Services to review the material testing protocol to determine if it meets the requirements for local road resurfacing projects.
7. City Council request the General Manager, Transportation Services to ensure the City's material testing protocol is complied with, corrective action is taken on a timely basis when material test results fail to meet specifications and Divisional staff are adequately trained on testing requirements.
8. City Council request the General Manager, Transportation Services to ensure that all City designated testing laboratories are following the correct material testing specifications and tolerances.
9. City Council request the General Manager, Transportation Services to ensure that a uniform weight verification protocol is implemented and complied with.
10. City Council request the General Manager, Transportation Services to require that deficiency lists be prepared and contain adequate evidence indicating all deficiencies are resolved.
11. City Council request the General Manager, Transportation Services to review and update the Road Operations – Contract Inspection Manual and to communicate to staff and/or provide training on any updated or new procedures.
12. City Council request the General Manager, Transportation Services to ensure that daily work sheets are completed as required by the Contract Inspection Manual.
13. City Council request the General Manager, Transportation Services to develop and implement standard financial reports that meet management's requirements.

14. City Council request the General Manager, Transportation Services to ensure that approved capital funds are only used for local road resurfacing work.

## **Financial Impact**

The recommendations in this report have no financial impact.

## **COMMENTS**

The Auditor General has previously issued a number of reports related to construction contracts. Similar contract management issues were identified in the areas of progress payments, quality assurance, and project documentation. The implementation of these recommendations will assist management in their oversight of local road resurfacing contracts.

The Auditor General's report entitled "Local Road Resurfacing – Contract Management Issues" is attached as Appendix 1. Management's response to each of the recommendations contained in the report is attached as Appendix 2.

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## **SIGNATURE**

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Jeff Griffiths, Auditor General

12-TSD-01

## **ATTACHMENTS**

Appendix 1: Local Road Resurfacing – Contract Management Issues

Appendix 2: Management's Response to the Auditor General's Review of Local Road Resurfacing – Contract Management Issues

# **AUDITOR GENERAL'S REPORT**

## **Local Road Resurfacing - Contract Management Issues**

**April 18, 2013**

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**Jeffrey Griffiths, C.A., C.F.E.**  
**Auditor General**



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## EXECUTIVE SUMMARY

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The Auditor General's 2012 Audit Work Plan included a review of the Summer Road Maintenance program, primarily local road resurfacing. The program is managed by the Road Operations Unit within Transportation Services Division.

The Road Operations Unit is comprised of four district offices, Toronto and East York, North York, Etobicoke York and Scarborough. In 2012, over \$30 million was spent on local road resurfacing contracts.

***Increased capital funding for road resurfacing***

The Division has recently realigned priorities with more emphasis being placed on road preventive maintenance activities. As a result, additional capital funding has been allocated to road resurfacing in order to extend the useful life of roads.

***Audit objective***

The objective of this audit was to assess the adequacy and effectiveness of the management of local road resurfacing contracts.

***Payment processing controls can be improved***

Contractors receive monthly progress payments based on work completed. We found the following anomalies indicating that payment processing controls could be improved:

- cost sheets, the official record of measurements and quantities, are not consistently being used (although the measurements were recorded on a different form)
- in one district contractors and supervisors do not sign-off cost sheets to indicate agreement
- in two districts, detailed measurements to substantiate cost sheet quantities were not always maintained
- one district had a consistent coding error that led to incorrect payments
- two districts did not consistently document explanations for differences between the total quantity of material received and the quantity recorded on cost sheets

- in one district inspector's recorded measurements were not spot checked by the supervisor
- lack of management oversight for extra work orders
- there was no regular monitoring of items billed in excess of original tender quantities

***Quality assurance protocols not followed***

We reviewed quality assurance practices and observed that although material testing was taking place established protocols were not followed. In particular:

- required material tests not all completed
- reports from testing laboratories not reviewed to ensure standards were met
- corrective action not taken when required
- inconsistency between districts in testing methodology and use of forms
- testing laboratory not using the proper specifications and tolerances in their testing methodology
- weight of materials supplied not regularly verified
- incomplete or non-existent deficiency lists

***Contract Inspection Manual requires updating***

The Division's Contract Inspection Manual, created as a guide to ensure consistency in operations across the City, has not been updated recently. Staff indicated that the manual does not provide adequate guidance on operational processes. As a result, there are inconsistent contract management practices in place at the district offices.

***Contract documentation is not standardized***

Similarly, the contract file documentation requirements across the districts are not standardized. Deficiencies in contract documentation include:

- daily works sheets not being completed, omitting important site details, and using the form, rather than the cost sheet, to record quantities and measurements for payment
- inconsistent approach for reporting project financial information to management. Some information in reports was out of date and contained errors in one district

*Capital funds should not be used for operating costs*

Payments for utility cut repairs completed under local road resurfacing contracts were made from the capital funds account. Although the funds were subsequently recovered, this should not have occurred since the funds were not authorized for such use. Furthermore, delays in the billing of recoverable utility cut costs temporarily reduced the amount of funds available for local road resurfacing work in the current contract.

*Recovery of funds posted to operating budget permanently reducing funds for capital work*

In one district, at the end of the construction season there was an outstanding utility cut recovery amount of \$250,000. The subsequent recovery of the funds was posted to the operating budget rather than the capital budget permanently reducing the funds available for capital work.

### **Conclusion**

This report identifies a number of opportunities for improving the City's management of road resurfacing contracts. The implementation of the report's recommendations will assist management in their oversight of local road resurfacing contracts.

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## **BACKGROUND**

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Transportation Services Division's Road Operations Unit is responsible for the City's summer road maintenance activities which include local road resurfacing.

*Road Operations Unit manages local resurfacing contracts*

Road Operations yards are located in each of the four districts: Toronto and East York, North York, Etobicoke York and Scarborough. Each year districts tender contracts for local road resurfacing work. The majority of local road resurfacing contracts are managed by Road Operations. In some cases, Engineering and Construction Services Division takes over responsibility when water main and sewer replacement is scheduled in conjunction with the resurfacing.



***Increased  
funding for local  
road resurfacing***

Since 2012, the Division has shifted some funding from road reconstruction to road resurfacing. This reflects a realignment of priorities with more emphasis on road maintenance activities to extend the useful life of the City's roads.

Table 1 summarizes the Division's local road resurfacing expenditures from 2010-2012.

**Table 1: 2010–2012 Capital Local Road Resurfacing Expenditures (\$000)**

| <b>Year</b> | <b>Budget</b> | <b>Actual</b> |
|-------------|---------------|---------------|
| 2010        | \$25,187      | \$21,381      |
| 2011        | \$27,981      | \$23,781      |
| 2012        | \$34,028      | \$30,203      |

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## **AUDIT OBJECTIVES, SCOPE AND METHODOLOGY**

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The Auditor General's 2012 Audit Work Plan included a review of the Summer Road Maintenance program. The audit focused on local road resurfacing contracts.

Given the increasing importance of road resurfacing to extend the life of the City's roads, it is important to ensure that resurfacing contracts are properly managed to ensure the City is only paying for goods and services received and that the work meets the City's quality requirements.

***Audit objective***

The objective of this audit was to assess the adequacy and effectiveness of the management of local road resurfacing contracts.

The specific audit objectives were to determine whether:

- local road resurfacing contracts are effectively monitored to avoid unnecessary delays and cost overruns
- adequate quality assurance and financial controls are implemented to mitigate risks
- contractors comply with contract terms and conditions

***Audit scope***

The audit focused on local road resurfacing contracts from 2010 to 2012 calendar years. We selected one contract in each of the four districts. The total value of the contracts reviewed was \$15.8 million.

***Audit Methodology***

Our audit methodology included the following:

- review of the Road Operations - Contract Inspection Manual
- interviews with Road Operations staff
- review of selected contract files and related documentation
- review of financial and management reports
- review and testing of contract payments and quality assurance procedures
- review of audit reports issued by other jurisdictions
- other relevant audit procedures

***Compliance with generally accepted government auditing standards***

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## **AUDIT RESULTS**

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### **A. PROGRESS PAYMENTS TO CONTRACTORS**

#### **A.1. Cost Sheet Not Used by All Districts**

Each year, Transportation Services determines the number of roads to be included in each district's road resurfacing schedule. Contracts are awarded by district for the work to be performed.

The road resurfacing tendering process starts with the City issuing a call document specifying the types and quantity of goods and services required. Potential vendors submit bids based on a unit price for each good or service specified by the City. The contract is awarded to the bidder having the lowest total cost when unit price submitted is multiplied by the City specified quantity of goods and services.

***Cost sheets are used to record measurements and quantities***

Once the contract has been awarded, staff assign each road to be resurfaced a unique work order number in the Toronto Maintenance Management System. Pertinent information is recorded against the work order for tracking project progress and costs. Throughout a project, the responsible City inspector records the measurements taken or quantities delivered for each item used in the project. These are recorded on specifically designed cost sheets that are signed off by the inspector and the contractor's representative and then submitted to the district supervisor for review and approval. Supervisors are expected to perform random spot checks on the recorded quantities and measurements.

Amounts to be paid to contractors are calculated using the inspector's verified quantities and measurements, as recorded on the cost sheets, and contract unit prices. It is important that cost sheets are complete, accurate, and authorized to ensure payments made by the City are accurate.

***Cost sheets are incomplete and not used by all districts***

In a sample of cost sheets selected for review the following anomalies were observed at one or more districts:

- one district did not use cost sheets (although the measurements were recorded on a different form)
- in one district there was a lack of contractor sign-off, supervisory review and authorization on recorded quantities or measurements
- in two districts, detailed measurements to substantiate cost sheet quantities were not always maintained
- one district had a consistent coding error that led to incorrect payments

- two districts did not consistently document explanations for differences between the total quantity of material received and the quantity recorded on cost sheet
- in one district inspector's recorded measurements were not spot checked by the supervisor

Procedures established by the Division were put in place as controls to protect the City's interests. The control deficiencies noted above should be addressed to ensure that the City is only paying for goods and services received.

**Recommendation:**

- 1. City Council request the General Manager, Transportation Services to ensure that:**
  - a. Inspectors use costs sheets to record quantities of material delivered and measurements taken;**
  - b. All cost sheets are signed-off by the contractor representative, the City Inspector and the Inspector's supervisor;**
  - c. Inspectors maintain adequate support for all quantities and measurements recorded on cost sheets; and**
  - d. Supervisors randomly spot check cost sheet measurements and document results of their work.**

**A.2. Accountability for Extra Work Orders**

***Contract administrator must approve extra work orders***

The general conditions of the district road resurfacing contracts anticipate the need for changes in work or extra work deemed necessary. A change in work arises from changes in engineering or technical specifications whereas extra work generally relates to conditions that become apparent as a project is being completed. In both a change in work or extra work, prior City approval is required. The contractor is required to submit invoices for labour, equipment and material for all such work performed. All additional work is subject to the terms of the contract and must be approved by the contract administrator.

The City has well documented procedures for change orders. However, extra work orders are more specific to Transportation Services Division and are not governed by any documented procedures. The documentation on file to support extra work orders was inconsistent and in many cases inadequate.

***Documentation to support extra work orders is lacking***

In particular, one district had no documentation on file to support that staff had reviewed and approved any extra work orders prior to payment. It appears that all of the payments were made based solely on the invoices submitted by the contractor.

**Recommendations:**

- 2. City Council request the General Manager, Transportation Services to implement standard procedures for extra work orders and update the Road Operations Inspection Manual accordingly.**
- 3. City Council request the General Manager, Transportation Services to ensure that proper supporting documentation is prepared and management approval is obtained for extra work orders.**

**A.3. Processing of Progress Payments Can Be Improved**

***Contractors are paid monthly***

Contractors are paid according to the total amount of work completed and materials supplied on a monthly basis less a statutory hold back amount of ten per cent. The holdback amount is released upon satisfactory completion of all contract terms.

Road Operations administrative staff enter the approved labour hours and material quantities from the inspector's cost sheet into the Toronto Maintenance Management System. After checking to verify data was entered correctly, a progress payment certificate is finalized for management approval. The progress payment certificate shows year to date quantities and costs for materials and services provided.

*Payment errors on progress payment certificates*

In our review of progress payment certificates, we found the following anomalies:

- data entry errors resulting in both overpayment and underpayments to contractors although the number of errors and amounts were minimal
- instances of overpayment of the Harmonized Sales Tax on contractor invoices on one contract
- one district had no evidence that management is regularly monitoring items that have exceeded the original tender quantity

*Closer review of progress payment certificates will enhance controls*

Progress payment certificates should be reviewed in the context of the quantities estimated in the initial tender documents. This will assist management in tracking and monitoring overall contract costs and allow for any necessary corrective action to be taken on a timely basis.

The supply of quantities in excess of the quantities listed in tenders is not unusual since the values in tender documents are merely estimates of the work required. However, management is advised to monitor such excesses to ensure they are reasonable in the circumstances and to monitor any potential budget impacts.

**Recommendations:**

- 4. City Council request the General Manager, Transportation Services to review opportunities to prevent or detect input errors for data entered into the Toronto Maintenance Management System.**
- 5. City Council request the General Manager, Transportation Services to regularly monitor actual quantities of goods and services supplied against tender call quantities, make any inquiries necessary arising from such review and take appropriate action where required.**

## **B. QUALITY ASSURANCE PRACTICES**

### ***Regular material testing is required***

A key factor in road repair management is the quality of the materials used for the repair. Contracts for road repairs have strict specifications relating to the composition of material to be used. Materials used must be regularly tested and inspected to ensure contractors are in compliance with contract specifications. City Inspectors are responsible for arranging the testing and inspection of materials. It is extremely important to deal with test results on a timely basis to ensure corrective action can be taken where material does not meet City standards.

### ***Previous Auditor General reports identified issues with managing and testing quality of contractor's work***

The Auditor General has issued a number of reports related to construction contracts that have identified issues with managing and testing the quality of contractors' work including:

- Contract Management Procedures – Transportation Services Division, Works and Emergency Services Department, 2001
- Contract Management Issues, 2005
- Review of Infrastructure Stimulus Funding – Opportunities Exist to Improve Controls over Construction Projects, 2011

### ***Quality assurance issues are still prevalent***

The above reports identified concerns with quality assurance practices. Our detailed observations are noted below. It appears that previously identified issues pertaining to quality assurance have not been fully addressed.

#### **B.1. Material Testing Protocol**

Engineering and Construction Services Division has published mandatory construction specifications for roads and related materials. These specifications, embedded in the contracts for road resurfacing, require the contractor to submit a material mix design for materials supplied. A material mix design is similar to a recipe and is very important to ensure the City is receiving materials (such as concrete and asphalt) of the required quality. The City's designated testing laboratory must approve each material mix design prior to their use.

***City's material testing protocol prescribes testing requirements***

The City's material testing protocol also prescribes the testing that is required for various materials. To avoid a detailed description of what is meant by these specific tests, suffice it to say that they are industry standard tests to ensure material received meets the requirements of the purchaser.

For concrete, the material testing protocol is as follows:

- every day, regardless of quantity or every third load to test for specific characteristics (e.g. air content, temperature and slump)
- three samples per 50 cubic metres of concrete placed for testing the strength of the concrete

For asphalt, the material testing protocol is to:

- test for mix design compliance every day regardless of quantity
- take one sample every 250 metric tonnes
- take asphalt temperature every load
- test for Full Marshall (hot mix asphalt test) compliance every 1000 metric tonnes, daily or per street
- arrange for compaction testing

For concrete, it's strength is very important and is assessed by using a compressive strength test. The results from this test cannot be obtained until 28 days after the concrete has been poured since time is required for the concrete to harden sufficiently. Should the concrete not meet the City standards, one possible outcome is that the contractor could be required to rectify the deficiency up to and including replacement of the defective work. Given the time delay between concrete pouring and receipt of strength test results, it is important that test results are reviewed on a timely basis.

***Administration of material testing is unsatisfactory***

Although material testing was performed, an adequate process was not in place for ensuring that all required tests are being completed, reviewed by staff and that corrective action was taken when required.



***Concrete testing  
and results  
incomplete***

For example, concrete tests were generally not completed each day and staff had not reviewed all test results because they were not aware that reports were missing. We were able to obtain some copies of missing reports and subsequently identified some compressive strength test results that required action according to the City's protocol. Appropriate corrective action was not taken as staff had not reviewed the reports.

***Asphalt testing  
and results  
incomplete***

Similarly, for asphalt, all required tests were not completed each day and staff had not reviewed all test results because they were not aware that reports were missing. Corrective action was not taken for asphalt lots with failing test results.

***No standard  
testing  
methodology***

The established material testing protocol in the Contract Inspection Manual are adopted from Engineering and Construction Services Division. In addition to the deficiencies noted above, there is not a consistent approach to conducting material testing and as a result testing methodology varies significantly amongst districts.

Testing standards appear to be directed primarily at large road reconstruction projects. As such, the testing frequencies and thresholds may not be suitable for smaller projects such as local road resurfacing.

***Material testing  
form is not  
consistently used***

Management indicated that the Contract Inspection Manual includes a material testing template that provides guidance on material testing. However, the template is not used at all districts and is not aligned with the section on material testing protocol.

Given the above, it would be advisable to review established material testing protocols to ensure there is an appropriate distinction between the testing required for large versus small projects.

**Recommendations:**

- 6. City Council request the General Manager, Transportation Services to review the material testing protocol to determine if it meets the requirements for local road resurfacing projects.**
- 7. City Council request the General Manager, Transportation Services to ensure the City's material testing protocol is complied with, corrective action is taken on a timely basis when material test results fail to meet specifications and Divisional staff are adequately trained on testing requirements.**

**B.2. Laboratory Testing Is Not in Accordance With City Specifications**

All testing of construction materials used in contracts is performed by City designated independent testing laboratories. Regular testing is required to ensure that the contractor is providing material that conforms with City specifications and the associated material mix design.

*Testing laboratories are testing against incorrect material specifications*

During our review of material test reports, we noted that some laboratories had not used the proper specifications and tolerances in their testing methodology. The lab reports contained results that should have failed the test had the correct specifications been used at the time. The test results that failed would have required the inspector to take corrective action against the contractor.

**Recommendation:**

- 8. City Council request the General Manager, Transportation Services to ensure that all City designated testing laboratories are following the correct material testing specifications and tolerances.**

### **B.3. Weight Verification Protocol Is Not Followed**

***Weight verification protocol not followed***

The weight verification protocol provides assurance to management that materials paid by unit weight are accurate. Random weight verification of material delivered to the construction site was not consistently performed by the districts. For example, we found instances where the tare weight (weight of an empty vehicle) was obtained prior to the gross weight and instances where the tare weight was not obtained at all. In one district, there was no weight verification completed for the contract we reviewed. Management indicated that sometimes weight verification was not completed because of the lack of available staff.

The Contract Inspection Manual contains conflicting weight verification requirements. The inconsistent weight verification practices may be due to the absence of clear procedures and requirements in the manual.

**Recommendation:**

- 9. City Council request the General Manager, Transportation Services to ensure that a uniform weight verification protocol is implemented and complied with.**

### **B.4. Deficiency Lists**

***Deficiency lists not maintained***

According to the Contract Inspection Manual, inspectors should maintain an ongoing deficiency list throughout a project and periodically discuss the deficiencies with the contractor to resolve outstanding issues. Deficiency lists should be periodically updated to demonstrate that outstanding issues have been resolved. Some Road Operations staff indicated that they do not maintain a formal deficiency list because deficiencies are addressed as they occur.

***Deficiency lists not completed or updated***

Again, there was inconsistency between districts on complying with the requirement to keep a deficiencies list. We noted:

- deficiency lists that were followed-up to ensure that work was completed
- deficiency lists that were not kept up to date and had no evidence that deficiencies had been resolved
- a complete lack of deficiency lists

It is also important to review contractor work prior to the expiration of any warranty period to identify any deficiencies that should be covered under warranty.

**Recommendation:**

**10. City Council request the General Manager, Transportation Services to require that deficiency lists be prepared and contain adequate evidence indicating all deficiencies are resolved.**

**C. CONTRACT FILE DOCUMENTATION AND MANAGEMENT REPORTS**

**C.1. Contract Inspection Manual Requires Updating**

***Road Operations – Contract Inspection Manual requires updating***

The Road Operations - Contract Inspection Manual is used by inspectors, supervisors and contract administrators and is intended to promote consistency in operations, support effective decision making, and define staff roles and responsibilities.

***Inconsistent practices and procedures***

Road Operations staff indicate they seldom refer to the manual because it does not provide adequate guidance on operational processes. This has resulted in inconsistent practices and procedures at each district.

Some sections that require updating include: project team duties and responsibilities, project issues and contract changes, field construction procedures, inspection procedures, forms, material testing protocol and weight verification protocol.

**Recommendation:**

- 11. City Council request the General Manager, Transportation Services to review and update the Road Operations – Contract Inspection Manual and to communicate to staff and/or provide training on any updated or new procedures.**

**C.2. Daily Work Sheets Are Incomplete**

The Contract Inspection Manual requires that each inspector prepare a daily work sheet and submit it to their supervisor for review. Daily work sheets should document site conditions, equipment used, size of labour force, materials received, site work performed, and significant events encountered. Comprehensive and accurate records are important in case of contractor dispute or litigation.

*Daily work sheet used improperly*

One district is using the daily work sheet instead of the standard cost sheet to record quantities and measurements for progress payments. The daily work sheet is not designed for this purpose making it more likely that errors could occur in the subsequent processing of information for making payments to contractors.

*Daily work sheets are not complete*

In three of the four districts, inspectors were not consistently completing daily work sheets and key details were not documented. For example, information such as plant and equipment, sub-contractor information, materials received, and location references was often omitted.

**Recommendation:**

- 12. City Council request the General Manager, Transportation Services to ensure that daily work sheets are completed as required by the Contract Inspection Manual.**

### C.3. Management Reports

***Management reports can be improved***

Effective and accurate financial reports provide management with timely information for tracking contract costs and key performance metrics. Financial reports assist management in making informed decisions when monitoring project costs and analyzing final project costs. Such information can also be used by management to analyze and identify where efficiencies can be achieved in future contract work.

The level of information tracked by each district varied and some had more comprehensive information available. Some districts had reports that contained errors and were out of date.

**Recommendation:**

**13. City Council request the General Manager, Transportation Services to develop and implement standard financial reports that meet management's requirements.**

### D. RECOVERABLE CONTRACT COSTS

All local road resurfacing work is funded from Transportation Services' capital budget. Some districts use capital funds to finance utility cuts repairs, an operating budget item recovered from other City divisions or third parties (generally utilities). These are handled this way as it is deemed more efficient to have a contractor working on the capital project make the repair while working in the same general area.

***Capital Funds temporarily used for operating costs not recovered on a timely basis***

Although the funds used for utility cut repairs are to be returned to the capital projects when the funds are recovered this is not always done on a timely basis. The impact of this is that the funds used for utility cut repairs are not available for capital projects. In one district, at the end of the construction season there was an outstanding utility cut recovery amount of \$250,000. The unavailability of these funds could reduce the amount of road resurfacing performed.

In the \$250,000 example noted above, the subsequent recovery of the funds was posted to the operating budget rather than the capital budget permanently reducing the funds available for capital work. Division staff have been advised of this error.

Better controls and accounting procedures are required to ensure capital projects are not delayed by temporarily using the funds for operating expenditures.

**Recommendation:**

**14. City Council request the General Manager, Transportation Services to ensure that approved capital funds are only used for local road resurfacing work.**

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## **CONCLUSION**

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This report presents the results of our review of local road resurfacing contracts. The report contains fourteen recommendations.

The Auditor General has previously issued a number of reports related to construction contracts. Similar contract management issues were identified in the areas of progress payments, quality assurance, and project documentation as well. In our view, the implementation of the recommendations will improve the management of local road resurfacing contracts in regards to effectiveness, efficiency and economy.

**Management’s Response to the Auditor General’s Review of  
Local Road Resurfacing - Contract Management Issues**

| Rec No. | Recommendations  | Agree (X)   | Disagree (X) | Management Comments:<br><i>(Comments are required only for recommendations where there is disagreement.)</i>  | Action Plan/Time Frame  |
|---------|--|---|--------------|---|---|
| 1.      | <p><b>City Council request the General Manager, Transportation Services to ensure that:</b></p> <p>a. <b>Inspectors use costs sheets to record quantities of material delivered and measurements taken;</b></p> <p>b. <b>All cost sheets are signed-off by the contractor representative, the City Inspector and the Inspector’s supervisor;</b></p> <p>c. <b>Inspectors maintain adequate support for all quantities and measurements recorded on cost sheets; and</b></p> <p>d. <b>Supervisors randomly spot check cost sheet measurements and document results of their work.</b></p> | <p align="center">X</p> <p align="center">X</p> <p align="center">X</p> <p align="center">X</p> |              | <p>Three of the four Districts are already doing this.</p> <p>Three of the four Districts are already doing this.</p> <p>This is generally already done. Documentation needs to be consistent.</p> <p>This already being done, but not consistently documented.</p> | <p>Ensure consistency for the 2013 construction season.</p> <p>Ensure consistency for the 2013 construction season.</p> <p>Ensure consistency for the 2013 construction season.</p> <p>Minimum of five (5) cost sheets per Progress Payment will be audited. Ensure consistency for the 2013 construction season.</p> |



| Rec No. | Recommendations  | Agree (X) | Disagree (X) | Management Comments:<br>(Comments are required only for recommendations where there is disagreement.)   | Action Plan/Time Frame   |
|---------|--|-----------|--------------|---|--|
| 2.      | <b>City Council request the General Manager, Transportation Services to implement standard procedures for extra work orders and update the Road Operations Inspection Manual accordingly.</b>  | X         |              | Road Operations Contract Inspection Manual and form TR102 (Work Done on Cost Plus Basis and Schedule of Prices) to be revised and updated to reflect appropriate procedures and documentation for: <ul style="list-style-type: none"> <li>• Schedule "A" prices</li> <li>• Work done by price quote</li> <li>• Work done by cost plus basis</li> <li>• Additional work</li> </ul> | Implement by July 2013.  |
| 3.      | <b>City Council request the General Manager, Transportation Services to ensure that proper supporting documentation is prepared and management approval is obtained for extra work orders.</b>   | X         |              | See response to recommendation No. 2  | Implement by July 2013   |
| 4.      | <b>City Council request the General Manager, Transportation Services to review opportunities to prevent or detect input errors for data entered into the Toronto Maintenance Management System.</b>  | X         |              | This was observed to occur very infrequently (e.g., 3 out of 16,500 entries), and to the extent it occurred it was related to support staff shortages. With increasing contracted volumes delivered by technical, inspection and supervisory staff, additional support staff are required.  | To be addressed in 2014. A Business Case will be proposed as part of the 2014 Operating Budget submission to request two additional Support Assistant C positions per District to assist with data entry and verification, for a total of eight (8) new staff to address this issue. |
| 5.      | <b>City Council request the General Manager, Transportation Services to regularly monitor actual quantities of goods and services supplied against tender call quantities, make any inquiries necessary arising from such review and take appropriate action where required.</b> | X         |              | Some practices are already in place, and consistency will be improved.  | An over-run justification form is to be included with each Progress Payment Certificate for bid items that are over the contracted quantities. This will be completed by the inspector at time of over-run and approved by the Supervisor and Manager.<br>Implement by July 2013.    |

| Rec No. | Recommendations  | Agree (X) | Disagree (X) | Management Comments:<br><i>(Comments are required only for recommendations where there is disagreement.)</i> | Action Plan/Time Frame   |
|---------|--|-----------|--------------|--|--|
| 6.      | <b>City Council request the General Manager, Transportation Services to review the material testing protocol to determine if it meets the requirements for local road resurfacing projects.</b>  | X         |              |  | Implement by July 2013. Revised Material testing form TR107 and procedures will be introduced to include actions taken and frequency of testing for each of the material tests.  |
| 7.      | <b>City Council request the General Manager, Transportation Services to ensure the City's material testing protocol is complied with, corrective action is taken on a timely basis when material test results fail to meet specifications and Divisional staff are adequately trained on testing requirements.</b> | X         |              |  | Implement during 2013 construction season following introduction of revised form and procedures.   |
| 8.      | <b>City Council request the General Manager, Transportation Services to ensure that all City designated testing laboratories are following the correct material testing specifications and tolerances.</b>   | X         |              |  | Implement by July 2013. Transportation Services Road Operations staff will meet with Material Testing Consultants to review protocol, procedures and forms to ensure that Material Testing Consultants follow City of Toronto Specifications.      |
| 9.      | <b>City Council request the General Manager, Transportation Services to ensure that a uniform weight verification protocol is implemented and complied with.</b>   | X         |              |  | Implement by July 2013. Uniform Weight verification protocol will be updated in the Contract Inspection Manual to ensure a consistent and reasonable approach is taken in light of additional cost and associated risk, and that it is documented. |

| Rec No. | Recommendations   | Agree (X) | Disagree (X) | Management Comments:<br>(Comments are required only for recommendations where there is disagreement.)  | Action Plan/Time Frame   |
|---------|---|-----------|--------------|--|--|
| 10.     | City Council request the General Manager, Transportation Services to require that deficiency lists be prepared and contain adequate evidence indicating all deficiencies are resolved.  | X         |              |  | Implement a revised deficiency reporting form (TR103), and provide training regarding interpretation of the form for July 2013.  |
| 11.     | City Council request the General Manager, Transportation Services to review and update the Road Operations – Contract Inspection Manual and to communicate to staff and/or provide training on any updated or new procedures. | X         |              | As indicated in other responses within this form, the Contract Inspection Manual is a "living document" created in 2010 and has been improved and updated in 2011 and 2012. This process will continue as the document evolves to changes and improvements.            | Further updating of the Contract Inspection Manual and training will be undertaken for 2013.   |
| 12.     | City Council request the General Manager, Transportation Services to ensure that daily work sheets are completed as required by the Contract Inspection Manual.   | X         |              | The value of the daily work sheet in addition to cost sheet and field book notes will be reviewed.   | Implement by July 2013.<br>Revise daily work sheet form TR101.   |
| 13.     | City Council request the General Manager, Transportation Services to develop and implement standard financial reports that meet management's requirements.  | X         |              |  | Implement by July 2013.<br>All districts of Road Operations will continue to use the TMMS tracking data within consistent standardized reports and a Divisional summary spreadsheet. |
| 14.     | City Council request the General Manager, Transportation Services to ensure that approved capital funds are only used for local road resurfacing work.  | X         |              | Utility cut repairs are often performed at the time of local road resurfacing in order to minimize disruption to residents. These costs are funded from the Operating Budget and are fully recovered from utility companies without the need to draw on capital funds. | Ensure compliance for 2013 construction season.  |