

Presentation to the Audit Committee
July 4, 2016

Improving the Tendering Process for Paving Contracts

Beverly Romeo-Beehler, Auditor General
Jane Ying, Assistant Auditor General
Ruchir Patel, Senior Audit Manager

Audit objectives and scope

Objective:

To assess whether –

- effective controls were in place to ensure fair and competitive tendering processes for paving
- the City received the best value for money

Scope:

Road Resurfacing, Utility Cut, and Sidewalk Repair contracts

- 188 contracts for \$437M
- January 1, 2010 to June 30, 2015

Summary of audit results:

Contract type	Total number of contracts issued	Number of contracts analyzed	Total value of contracts analyzed	Estimated excess costs paid due to materially unbalanced bidding	Excess costs as % of contract value analyzed
Road resurfacing	55	55	\$169 M	\$4.5 M	2.7%
Utility cut	116	94	\$187 M	\$5.1 M	2.7%
Sidewalk repairs	17	14	\$27 M	\$1 M	3.7%
Total	188	163	\$383 M	\$10.6 M	2.8%

Key findings

1. **Materially unbalanced bids**

- **Grossly inaccurate estimates**
- **Insufficient data to support estimated quantities**

2. **Corporate oversight of bidding process needs improvement**

- **No clear guidelines to identify and manage materially unbalanced bids**
- **Lack of standardized bid information**
- **Files are not organized or centralized**

Materially unbalanced bids

What is materially unbalanced bid?

A bid is **unbalanced** when the bid prices for certain contract line items of work are significantly lower than market prices while the bid prices for other items are significantly inflated

A bid is **materially unbalanced** if there is a **reasonable chance** that it will not result in the lowest ultimate contract cost

- for the purpose of the audit, we defined a bid as 'materially unbalanced' if it resulted in more than \$100,000 in additional cost

The winner may not be the best value – Impact of line items from a materially unbalanced bid

Estimated / Tendered quantity

	Estimated qty	City's price estimate	Budgeted total cost	Bidder A's price	Bidder A's proposed cost	Bidder B's price	Bidder B's proposed cost
Item A	1,000	\$25	\$25,000	\$46	\$46,000	\$14	\$13,600
Item B	14,500	\$52	\$754,000	\$39	\$565,500	\$56	\$812,000
Total			\$779,000		\$611,500		\$852,600

Awarded Contract

Actual quantity

	Actual qty	Qty variance	Bidder A's price	Amount city paid to bidder A	Bidder B's price	Amount city would have paid to bidder B
Item A	13,356	+1236%	\$46	\$614,376	\$14	\$181,642
Item B	7,162	-51%	\$39	\$279,318	\$56	\$401,072
Total				\$893,694		\$582,714

Difference: \$310,980

Lowest Cost based on actual quantities

Materially unbalanced bid starts with a grossly inaccurate estimate

Examples of inaccurate estimates

	City Estimated qty	Actual qty used	Actual qty exceeded estimate by (rounded up)
Concrete sidewalk	10 m ²	1,097 m ²	109 times
Crack repairs	100 m	7,372 m	73 times
Cold milling	200 m ²	10,203 m ²	50 times
Crack repairs	100 m	5,332 m	52 times
Cold milling	350 m ²	7,407 m ²	20 times

Example: impact of grossly inaccurate crack repairs estimates – Same contract series – year over year

Year	Estimated qty	Actual qty	City's price estimate	Winning bidder's price	Price range among bidders	Per line item – savings had the second lowest bidder been selected
2012	1,000	6,379	\$25	\$42.50	\$13.80- \$42.50	\$183,080
2013	1,000	13,356	\$25	\$46.00	\$13.60- \$46.00	\$432,745
2014	1,000	5,662	\$25	\$58.00	\$23.05- \$58.00	\$197,887
2015	3,500	19,756	\$25	\$56.00	\$21.29- \$56.00	\$476,118

Example: overall impact of materially unbalanced bids for three contracts

	Actual amount paid to the winning bidder	Amount that would have been paid to the second lowest bidder	Estimated savings had the second lowest bidder been selected
Contract 1	\$4,322,657	\$3,326,767	\$995,890
Contract 2	\$5,104,115	\$4,585,334	\$518,781
Contract 3	\$2,729,233	\$2,371,167	\$358,065

Why it matters

1. City is losing money -- \$10.6 Million over 5.5 years
 - 27% of Road Resurfacing & 21% of Utility Cut and Sidewalk Repair contracts materially unbalanced
2. Potentially undermining a fair procurement process
3. Potentially causing work delays or cancellations due to cost overruns on expensive items
4. Additional funding may become necessary to complete the planned work

File support is supposed to be 'court ready'

- Inadequate supporting documentation for tender estimates
- Contract documentation haphazardly stored



Lack of corporate oversight

Lack of guidelines for staff to identify materially unbalanced bids

Lack of centralized and standardized information hinders staff's ability to analyze historical bid and price information

- ✓ Tender line item numbers and descriptions not consistent across contracts
- ✓ Decentralized storage of contract documentation, files, estimates, and other information
- ✓ Subcontracting information not captured centrally

Unbalanced bidding is not new

2006 – The City was involved in a litigation by a contractor who had submitted a materially unbalanced bid

2007 – The Auditor General issued a report on unbalanced bidding requesting for action

2007 – The Auditor General's Office issued letters advising of unbalanced bid concerns as a result of Fraud & Waste Hotline complaint investigations

2012 – City Council adopted a staff report from PMMD recommending bypassing a lowest bidder who had submitted a materially unbalanced bid in favour of the second lowest bidder

2016 – Our current audit review found that materially unbalanced bids continue to exist in a number of contracts issued between 2010 and 2015

Three things need to change – key controls

1. Prepare reasonably accurate tender estimates that are supported
2. Review bid submissions for materially unbalanced bidding (establish guidelines)
3. Manage contract quantities to avoid the negative impact of materially unbalanced bidding

In Summary

- Seven audit recommendations
- Important to improve tendering process, ensure fair and objective procurement of paving contracts, and obtain the best value for money
- Management agrees with the recommendations and have initiated steps to implement these

Management Responses

- Agreed with all seven audit recommendations
- Reviewed Previous Year's Planned vs. Actual Quantities
- Developed a standardized Engineer's Estimate process
- Performed Unbalanced Bid Analyses on all 2016 contracts
- Developed and implemented a Checklist for 2016 summer contracts:
 - Historical Trend Analysis (Sr. Engineer & Analyst)
 - Reverse Bid Analysis (Sr. Engineer & Analyst)
 - Based on the historical trend and reverse bid analyses, prepared 2016 Engineer's Estimate (Sr. Engineer & Analyst)
 - Review 2016 Engineer's Estimate (Manager & Director)
 - Submit Tender Document to PMMD (Sr. Engineer)
 - Tendered (PMMD)
 - Receive Tender Bids from PMMD (Sr. Engineer)
 - Review and sign-off of Unbalanced Bid Analysis (Sr. Engineer, Manager, and Director)
 - Authorize Purchase Requisition (by GM)
- Revised current operating practices regarding documentation and files

Management Responses

- Deploying electronic tablets to over 60+ Inspectors/Maintenance Patroller
 - enable them to monitor in the field in real time the status of the contract bid item quantities and associated costs
 - inspection staff to take photos of the work and electronically post photos to the project file.
 - ensure work is properly documented and unforeseen work is substantiated
 - reducing the data entry errors
 - Expedites payment to the contractors
 - provide a direct real time link to project files, this enables the inspector to spend more time in the field to monitor and inspect.
- Rotated District Road Operations Managers, supervisory and inspection staff
 - a new set of eyes on operations and continued improvement in harmonization among the four Districts.

Management Responses

- PMMD developed unbalanced bid analysis procedure and applied to Transportation's 2016 road construction tenders
 - Unbalanced bidding procedure will be rolled out across all Divisions
- PMMD proposing changes to Purchasing By-law and Procurement Processes Policy
 - Addition of supplier code of conduct to assist in addressing subcontracting issue
 - Reinforcing bids will be analyzed for unbalanced bids
 - Purchasing By-law report at July Council
- PMMD working on implementing new technology to assist in the evaluation of bids and tracking of information
- PMMD conducting an organizational review to determine how to implement strategic sourcing and improve service