



Audit Follow Up Report

September 23, 2013

To: Pre Audit Sub Committee
From: Brian Bigger, Auditor General

Re: Water Main – Emergency Repairs

Audit Report Released	April 2012
Original # Of Recommendations	11
# Of Action Plans Previously Completed	0
# Of Action Plans Now Completed	11
# Of Action Plans On Next Follow Up	0
Status As Of June 30, 2013	Completed

Recommendation and Summary Of Progress (Note: Self assessment conducted by Water / Wastewater Services)	Self-assessed Status
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Recommendation 1	
<p>When the Auditors brought an observed excavation that did not meet OHSA O. Reg. 213/91 to Management's attention, they investigated and took immediate action to formally address this incident with the workers involved. Management must ensure that tools and options required for excavation work in accordance with the Act are available to all City work crews.</p> <p><u>Original Management Response</u></p> <p>Management intends to remedy the noted deficiencies and take concrete actions to consistently meet the safe trenching requirements.</p> <p>Changes to trenching equipment and business processes have already started and will be in full effect by the end of the second quarter 2012.</p> <p><u>Actions Taken, Results and /or Actions Planned</u></p> <p>Modernized excavation techniques using hydro-excavation, use of different types of trench boxes, and more innovative tools requiring less space and causing less requirements to enter the trenches. Cost containment on restoration costs and overtime have been achieved.</p>	Fully or Substantially Implemented

Recommendation 2

Based on an average 7 foot depth excavation, our analysis indicated that a 20 tonne dump truck / backhoe / trench box method is the most economical, efficient and effective method. Supervisors should document their work plan instructions on CMMS job cards for emergency repairs in support of excavation crews who are expected to consider other options based on the actual conditions of each excavation.

Fully or
Substantially
Implemented

Original Management Response

Procedural changes to adopt this method as the standard operational mode have already been taken. This method will be implemented whenever specific site conditions allow.

Supervisors have started attaching work instructions to CMMS job cards.

Actions Taken, Results and /or Actions Planned

More appropriate trench boxes were purchased and significant additional training and procedural changes have occurred. Excavation staff were also re-aligned and a specialized city-wide digging program was implemented to ensure consistent and more optimal use of resources is used. This program has significantly changed our approach to excavations since full implementation occurred in the fall of 2012. So far this change is achieving those stated objectives.

Recommendation 3

The volume and carrying capacity of dump trucks commonly used in current excavation projects contributes to unproductive wait times for City excavation resources, and can contribute to unnecessary overtime. Management should take the necessary steps to ensure the consistent use of larger 20 tonne dump trucks which will allow the City to save resource hours on each excavation.

Fully or
Substantially
Implemented

Original Management Response

Management has requested that fleet convert three existing 10 tonne dump trucks to 20 tonne dump trucks at the first available opportunity.

Fleet advises that the incremental cost per truck is about \$35,000 and the conversion can be completed over the next two years within existing Fleet capital allocations.

In the interim, we will coordinate with Roads to utilize any of their existing 20 tonne trucks that may be available during non winter control periods.

Actions Taken, Results and /or Actions Planned

With the increased use of hydro-excavation technology and trench boxes, we move substantially less material, especially during summer months when there are less emergencies. We are able to exchange trucks to make use of Roads tandems during summer months when they are not being used for plowing and Roads operations benefit from the single axles. W/WW expects to receive 2 - 20 tonne trucks by the end of 2013 - in time to coincide with the 2013/2014 peak emergency repair times, where larger excavations are most often involved and the larger trucks are most beneficial.

Recommendation 4

Update the Standard Operating Procedures to reduce a standard repair crew size to three rather than four. The crew size can be reduced by 1.0 FTE (Relief Operator) on each excavation. Some exceptions may be required.

Fully or
Substantially
Implemented

Original Management Response

This recommendation has already been implemented and the employee resources redeployed to other core operational work tasks.

Actions Taken, Results and /or Actions Planned

Standard crew deployment has changed from a 4 person crew to a 3 person crew since the time of the audit. The resources freed up from this change have been redirected other essential core work allowing us to more with the same total number of employees.

Recommendation 5

During unproductive wait time, Management should consider scheduling preventative maintenance work within the same proximity of the job for the Operator B.

Fully or
Substantially
Implemented

Original Management Response

Management has begun scheduling preventative maintenance work in the area of the work site for the Operator B.

This recommendation is scheduled to be fully implemented by the end of the second quarter of 2012.

Actions taken, results and /or actions planned

Given the reduced crew size opportunities for reallocating on site resources have been reduced as remaining crew members are occupied with equipment set up, delivering notices to affected homeowners, safety tailgate talks, traffic control, documenting work order data, etc. When opportunities occur for reallocating resources to other productive work nearby the resource is redeployed. This has been implemented fully at this point with existing paper based CGS work order systems however additional efficiencies can be developed once mobile capabilities and the GIS based CityWorks CMMS systems are in place.

Recommendation 6

Management should review the current process of dispatching entire crews to the job site. When safe to do so, less staff may be required to be dispatched to the work site until locate information is obtained, providing the opportunity to save resource hours.

Fully or
Substantially
Implemented

Original Management Response

Management has already begun to deploy the crews to and from work sites on an incremental basis as required by the site specific conditions and requirements.

Actions Taken, Results and /or Actions Planned

With the centralization of excavation resources we have been able to more consistently obtain locates (using a single CGS resource) prior to dispatching the crew. Effectively this has meant that this recommendation is substantially been implemented. At this time, crews seldom are deployed without first receiving locates.

Recommendation 7

Management must continue to improve and re-enforce the organizations commitment to internal controls intended to detect the abuse or falsification of overtime.

Fully or
Substantially
Implemented

Original Management Response

Management has implemented improved controls including improved pre-approval processes, increased time sheet documentation requirements and supervisory reviews, and spot checks of depot activity to detect and control abuse or falsification of overtime.

Actions Taken, Results and /or Actions Planned

Along with the increased controls that were implemented, there is less opportunity for overtime as we have introduced our new excavation technologies that are reducing the total time required to complete the repairs. As part of a larger ISD initiative Automated vehicle locating systems are being implemented. This additional

data on vehicle locations will improve safety for our staff and help staff plan work more effectively.

Recommendation 8

Allowing workers to work through their lunch does not provide value for money. This practice should be discouraged whenever possible unless required to improve service to the public.

Fully or
Substantially
Implemented

Original Management Response

Changes to work processes have been implemented to discourage working through lunch unless required to protect public health and safety.

Actions Taken, Results and /or Actions Planned

The 2013-2016 CBA has all operators working on a shift schedule eliminating all overtime opportunities at lunch and extending straight time capability over days & afternoon shifts.

Recommendation 9

Management should continue to work with the Union in order to explore the use of afternoon shifts and other non-dayshift options for Water/Wastewater work crews.

Fully or
Substantially
Implemented

Original Management Response

Management is actively continuing attempts to achieve consent from the Local Union to implement non-dayshift, non-weekday straight time shift opportunities.

Actions Taken, Results and /or Actions Planned

The 2013-2016 CBA has all operators including hydro excavation employees working on a shift schedule that allows for daytime and afternoon shifts.

Recommendation 10

Management should consider centralizing water/ wastewater operations. The location should have adequate storage for parts, stockpiles and meet all health and safety requirements. Centralization will enable the establishment of specialty teams, aid in supervision and employee deployment.

Alternative
Action Taken

Original Management Response

A list of requirements has been prepared to identify required improvements to the existing core depot or any new strategically located depot option that will reduce travel times, satisfy health & safety, provide indoor heated storage for hydro excavation trucks, excavation trailers, other parts & equipment, along with other requirements to support centralized staff deployment and the specialty crew concept.

Actions Taken, Results and /or Actions Planned

CGS Depot asset management review study is underway

Recommendation 11

Management should focus on the consolidation and rationalization of obsolete or overstocked repair parts and establish and maintain desired inventory levels for parts. Centralizing inventory will reduce costs of maintaining buildings, assist in ensuring parts are stored in a safe and organized manner, and that desired inventory levels are maintained.

Fully or
Substantially
Implemented

Original Management Response

Management will emphasize rationalization of existing inventory and in association with the central depot concept above, develop a central inventory concept where parts will be stored in a safe and organized manner. Depletion of existing parts inventory will commence through 2012 and a centralized parts inventory will be coordinated with implementation of Recommendation 10 (Centralized Depot).

Actions Taken, Results and /or Actions Planned

A significant amount of stock from outlying depots has been centralized using existing resources and space available. Depot reviews currently underway includes considerations to help rationalize and centralize stock.



Brian Bigger, CGA, CRMA

Auditor General for the City of Greater Sudbury