

TTC AUDIT COMMITTEE REPORT NO.

MEETING DATE: January 23, 2011

SUBJECT: INTERNAL AUDIT CAPITAL REPORT – BIRCHMOUNT BUS
GARAGE REPAIR BAY MODIFICATIONS PROJECT

INFORMATION ITEM

RECOMMENDATION

It is recommended that the Audit Committee receive for information the attached Internal Audit Capital Report and Management's responses.

BACKGROUND

Internal Audit provides the Commission with independent evaluations of the efficiency and effectiveness of control systems, and operations. Internal Audit is also required to provide recommendations for improvement.

Richard G. Beecroft
Chief Auditor

January 23, 2011
01-23

Attachment – Internal Audit Capital Report

TORONTO TRANSIT COMMISSION

TO Dick Beecroft

FROM Tom Perry

DATE March 28, 2011

SUBJECT Internal Audit – Birchmount Bus Garage Repair Bay Modifications Project

Summary

An audit of the Birchmount Bus Garage Repair Bay Modifications Project has been conducted. Audit work performed indicates adequate documentation has been maintained to support incurred TTC labour and non-labour expenditures. In addition, construction management documentation and controls for contract changes and field measurements were satisfactory. However, controls over construction inspection reports, product submittals and daily work activity sheets need to be improved.

Background

The project involves addressing building, equipment and system deficiencies at the Birchmount Garage to ensure safe and efficient operating conditions. The work involves replacing hoists and the garage floor, construction of new hoists, providing new offices, upgrading the heating, ventilation, exhaust systems and air conditioning, expanding the parts storage area and employee parking area, and modifying the public address and intercom systems.

The actual costs incurred for this project as at the end of November 2010 were \$16.7M, comprised of the following:

Expenditures:	LTD (\$ Million)
Construction Costs	\$9.5
Consultant Costs	\$1.8
TTC Labour and Non-Labour Costs	\$5.4
Total	\$16.7

Observations

Audit reviewed financial records, contract documents and various correspondence relating to the Birchmount Bus Garage Repair Bay Modifications Project. While, TTC labour and non-labour expenditures, as well as, construction costs for contract changes and required field measurements were found to be supported and documented, audit did note some construction management and control issues requiring improvement. Specifically:

- Audit noted one incident where outstanding deficiencies have not been addressed. A Structural Steel Inspection Report dated June 23, 2010 identified 4 welding and installation concerns. Contract Deficiency Reports dated December 30/10 note corrective action has not yet been completed.
- Our review indicated incidents where the Contractor completed work and was paid without product approvals contrary to contract terms and conditions. Per the approval process, the contractor is required to provide various products, shop drawings, reports, etc. to Commission staff prior to physically carrying out the work. The contract outlines "do not carry out work until submittals have been reviewed" and "no work on any items for which shop drawings are required shall commence until the shop drawings are returned to the contractor marked Reviewed or Reviewed as Modified". There were 5 incidents where product submittals, valued at \$40K, had not been approved but 100% of the work had been paid.
- There were 3 Contract Directives (CD) where no Daily Work Activity Sheets (DWAS) were prepared. DWAS are not always being compiled or submitted as required when extra work is identified. The Contractor is required to prepare and submit DWAS daily for approval and in support of extra work performed. Also, on other CD's where DWAS were prepared audit noted 5 incidents where the contractor submitted the DWAS approximately five to six months after the work was completed.

Construction Costs:

- Construction contract documents, including contract amendments, were properly approved and in order. As of the end of November/10, the contract with Buttcon Limited is approximately 51% complete, and the contract with Cloke-Kirby Construction Ltd is approximately 79% complete.
- Adequate justification for extra work performed was noted for sampled contract changes valued at \$773K. All extra work was properly authorized prior to commencement. Paid amounts were made in accordance with the terms of the contract.
- Required field measurements are on file to support items and payments made.

TTC Labour & Non-Labour Expenditures:

- TTC labour, fringe and overhead costs incurred by the Engineering and Construction Department were appropriately charged and supported by signed attendance sheets. Non-Labour expenditures reviewed were reasonable and appropriate for the work being carried out.

Recommendations

Management should ensure that the Contractor:

- addresses inspection deficiencies;
- follows the contract product submittal approval and payment process; and
- compiles Daily Work Activity Sheets when required and promptly submits them for TTC approval.

Auditor
Internal Audit
01-33
File #10-70000-07

TORONTO TRANSIT COMMISSION

TO Dick Beecroft

FROM Tony Baik

DATE September 20, 2011

SUBJECT Management Response to Internal Audit –
Birchmount Bus Garage Repair Bay Modifications Project
File Ref: F45-10

This is in response to your audit report on Birchmount Bus Garage Repair Bay Modifications Project dated March 28, 2011.

Contractor Address Inspection Deficiencies

Management maintains a detailed construction deficiency list to monitor and track the status of deficiencies. All deficiencies are corrected based on their priority with critical deficiencies being corrected, first. Should there be any outstanding deficiencies at the end of construction, they are assessed to determine the equivalent cash value and withheld from the Contractor. The money is then used to pay for correction of these deficiencies through the miscellaneous construction contract.

The four welding deficiencies noted by the audit were initially assessed by the Resident Superintendent to be non-critical as they were minor in nature, not impacting the structural integrity of the fuelling bay structure. The deficiencies included welds not being all around, undersize welds and hangers not installed in specified locations. Subsequent to the audit fining, these deficiencies were further reviewed by the designer to confirm their non-critical nature.

Following the issuance of Contract Deficiency Reports (CDRs) to the Contractor, all 4 welding deficiencies have been corrected on following dates:

CDR 4 and CDR 6 - corrected on February 15, 2011,
CDR 7 - corrected on April 15, 2011,
CDR 5 - corrected on June 14, 2011.

Contractor Follows the Contract Product Submittal Approval and Payment Process

The construction was progressing slower than the initial schedule due to two subcontractors going out of business. Furthermore, the project is partially funded through the Infrastructure Stimulus Funding (ISF) program with the deadline of October 31, 2011.

To ensure that the project is completed by the ISF deadline and to return the fully functioning garage back to the Operations as quickly as possible, management implemented an acceleration plan and reduced the number of work stages associated with the bus hoist replacement work to one stage, extended the Contractor's working hours and added weekend shifts where practical. Also, as a part of the acceleration plan, some non-critical works as determined by the Resident Superintendent, were completed prior to receiving corresponding product submittals as noted below for a total value of \$35,540:

Traffic line markings and paintings - \$7,140

Roadway signs - \$3,675

Grating for openings at the inspection pits and hoist pit clean outs - \$4,725

Cement Terrazzo Samples - \$12,000

Wet and Dry Pipe Sprinklers - \$8,000

Corresponding submittals have since been received and the construction is currently on target to achieve Substantial Performance by end of October, 2011.

Contractor Compiles Daily Work Activity Sheets (DWAS) When Required and Promptly Submits them for TTC Approval

Contract Change Directives (CD) is issued to the Contractor to immediately start on an additional work while a price is being negotiated as a lump sum change to the contract. This is done to minimize the unnecessary delays arising from this additional work to the overall schedule. As a part of the CD process, the contractor is required to submit the DWAS to document and substantiate the work performed under the CD for payment should there not be a negotiated settlement as a lump sum change.

Management reviewed the DWAS submission requirement with the Contractor and the field staff to stress the importance of DWAS submission and to ensure timely submission in the future.

In case of 3 CD's the audit has noted without any DWAS's, the first CD, CD #6, for work associated with the east fuelling bay structure and the second CD, CD #8 for lunch room modifications have been negotiated as lump sum changes.

The third CD, CD #52, is for work on roofing modification over the traffic office. Although the CD was initially issued on December 13, 2010, due to inclement weather, the actual work only started on January 19, 2011, after the internal audit was performed. The contractor has submitted the required DWAS's for the work and the negotiation is ongoing to settle it as a lump sum change.

In addition, audit also noted 5 incidents of DWAS's being submitted 5 to 6 months after the date of actual work. Management reviewed the hours indicated on these 5 DWAS's against the daily activity reports prepared by the field staff. On 2 DWAS's, the number of hours worked matched corresponding daily activity report numbers. However, on 3 DWAS's, there were discrepancies with the number of hours worked between the

DWAS's and daily activity reports for a total difference of 7.5 hours. Management is following up with the Contractor to reconcile the discrepancies as a part of ongoing negotiation to settle the work on a lump sum change basis.

Chief Project Manager - Construction

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Copy: John Sepulis
Tom Perry

TORONTO TRANSIT COMMISSION

TO Dick Beecroft
FROM Tony Baik
DATE November 9, 2011
SUBJECT Follow up to Management Response to Internal Audit –
Birchmount Bus Garage Repair Bay Modifications Project
File Ref: F45-10

This is an update to the management response memo dated September 20, 2011.

Further to the management response of September 20, 2011, the construction has achieved the Substantial Performance on October 31, 2011.

Additionally, the ongoing negotiations to settle the CD #52 for work on roofing modification over the traffic office and the 7.5 hours of discrepancy in the hours worked between the 3 DWAS's and the daily activity reports have been settled as lump sum changes. The CD #52 was settled on November 4, 2011 and the 7.5 hours discrepancy was settled on November 1, 2011.

Chief Project Manager - Construction

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Copy: John Sepulis
Tom Perry