



MEMO

Date: August 23, 2013

To: Kevin Shaw – Director Engineering Services

CC: Doug Nadorozny, Tony Ceccutti, David Shelsted, Lee Laframboise

From: Brian Bigger, Auditor General

Re: Audit Follow Up -Changes In Road Design – 2013 Asphalt Test Results

SUMMARY

Background

- The Auditor General's 2012 audit report for Changes In Road Design identified the need to improve CGS quality assurance procedures and adherence to OPSS 310 (Ontario Provincial Standards and Specifications) for asphalt.

Scope

- Review of a sample of CGS Laboratory test results for asphalt laid in 2013 noting follow-through procedures supporting enhanced quality assurance such as testing against CGS authorized asphalt JMFs (Job Mix Formulas) for results against tolerances defined in OPSS310.

Objectives

- Determining whether action plans related to asphalt testing have been "Fully or Substantially Implemented".
- Determining whether expected outcomes have occurred.

Methodology

- We interviewed staff about improvements implemented in the CGS asphalt "Quality Assurance" testing process.
- We selected four construction projects where asphalt was laid in 2013.
- Obtained copies of contract specifications, pre-approved JMFs, CGS laboratory test results for asphalt, and any memo's or emails indicating follow through reporting of deficiencies.

GAGAS Compliance

We conducted our review in accordance with generally accepted government auditing standards. Those standards require that we adequately plan for the audit; properly supervise audit staff; obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions; and prepare audit documentation related to the planning, conducting, and reporting for each audit. We believe that the

evidence obtained provides a reasonable basis for our findings and conclusions based on our review objectives.

Risks / Opportunities We Evaluated

- Contractor's adherence to terms and conditions of the construction contract, OPSS and GSSS.
 - proper mix of asphalt laid in accordance with tender and approved JMF
 - asphalt mix testing supported by a pre-approved JMF
 - asphalt mix test result tolerances in accordance with OPSS 310
 - concerns and out of tolerance results communicated to contractor as well as CGS Construction Services Management and inspectors

Elements Operating Effectively

- Our follow up test procedures indicated that contractor adherence to terms and conditions of the construction contract, OPSS and GSSS were much improved.
 - We reviewed tests for base asphalt on one project (Eng 13-16 Lasalle & Notre Dame Intersection) and surface asphalt on three projects (Eng 12-1 Robinson St, Eng 11-17 Bancroft Drive, Eng 12-16 Neimi Road), laid in the 2013 construction season
 - The proper mix of asphalt was laid for all four projects and all 22 asphalt tests reviewed.
 - Asphalt sample testing was supported by a pre-approved JMF for all four projects and all 22 asphalt tests reviewed
 - Asphalt mix testing tolerances were based on OPSS 310 for all four projects and all 22 asphalt tests reviewed
 - One of 22 (5%), asphalt mix test results completed by the City Laboratory was identified as out of tolerance in accordance with the JMF and OPSS 310.
 - An improvement to the CGS quality assurance process includes the collection of two asphalt samples. (previously only one sample was taken at each sample point)
 - The out of tolerance result was communicated to the contractor as well as CGS Construction Services Management and the Construction Services Inspector.
 - In follow through for this out of tolerance result, a second sample was provided to an independent laboratory for testing. The independent "referee" test indicated that the second asphalt sample was acceptable. (the referee sample was within OPSS 310 tolerances in comparison to the pre approved Job Mix Formula)

Elements Not Operating Effectively

- None observed through our follow up test procedures.

Value For Money Considerations (no formal response from management is required)

- During our follow up review, we noted that an opportunity exists to improve the process used to record, communicate and report test results. Currently test information is manually recorded, calculated and copied a number of times. A desktop computer may improve the process.

We thank Staff for their cooperation and assistance in the completion of this audit follow up review.

Regards

A handwritten signature in black ink, appearing to read 'B Bigger', with a stylized flourish at the end.

Brian Bigger, CGA, CRMA
Auditor General for the City of Greater Sudbury