

Engineering and Construction Services

Response to Phase Two: Construction Contract Change Management Controls Should be Strengthened



Michael D'Andrea
Chief Engineer and Executive Director

Engineering and Construction Services

MISSION: *“To build safe and sustainable infrastructure that enhances the quality of life for the people of Toronto”*

VISION: *“Be an industry leader in delivering municipal infrastructure engineering services with integrity and pride”*

VALUES:

Service: *responsive, cooperative, fair and professional in dealings with our stakeholders*

Stewardship: *responsibly balance economic, social and environmental needs in the delivery of our mandate*

Commitment: *to collaboration, organizational excellence, accountability, respect*

ECS Services and Operations

ACTIVITIES

- Create safe and sustainable municipal infrastructure
- Provide engineering design and construction services to in-house clients:
 - ✓ Transportation Services
 - ✓ Toronto Water
 - ✓ Solid Waste Management Services
 - ✓ TTC
- Conduct condition assessments and rehabilitation planning for bridges and the Gardiner Expressway
- Undertake engineering review of development applications and proposals for works by third parties, such as Metrolinx

SERVICES



**Municipal
Infrastructure
Construction**



**Engineering
Information**



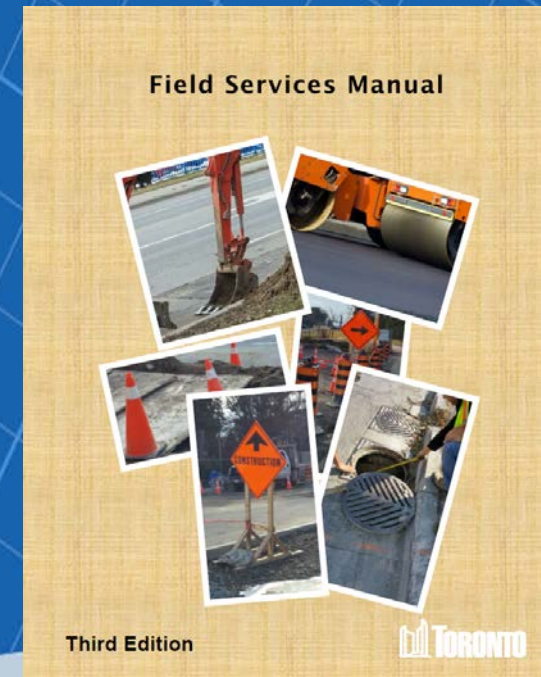
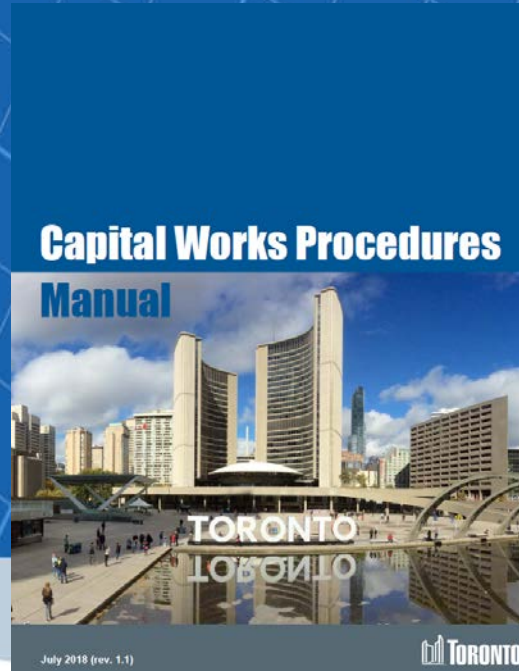
**Engineering
Review and
Acceptance**

ECS Accomplishments in 2018

- Delivered over \$578 M in capital projects
- Completed 2,015 development application circulations
- Completed all legislated bridge condition assessments (677 total in 2018):
 - 348 discrete spans along the elevated portion of the F.G. Gardiner Expressway
 - 286 bridges and culverts along City roads
 - 43 vehicular bridges within City parks
- Reviewed 6,032 third party application circulations:
 - 241 for transit expansion
 - 5,791 full stream utility applications

Audit Findings

- ECS appreciates the Auditor General's review of our operations
- Acknowledgement that
 - “Changes during construction can occur in large and complex construction contracts”
 - ECS “has good guidelines”



ECS Actions

- Review done on contracts that were completed between 2013 and 2017
- ECS is continuously enhancing its policies, procedures, practices and training:
 - Provided mandatory training by subject matter experts including change management
 - Revised the ECS Capital Works Procedures Manual and Field Services Manual to incorporate up to date best practices
 - Currently working with Legal Services and Purchasing and Materials Management to update City contract documents to ensure compliance with the new Construction Act

Audit Findings

- There is no industry standard for the value of change orders as a percentage of construction cost
- Reasons for change orders are numerous; those identified by Auditor:
 - Unforeseen site conditions
 - Errors and omissions in drawings, designs and contract documents
 - Poor quantity estimates
 - Contractor claims
 - Scope changes requested by client divisions
 - Discovery of toxic substances requiring proper disposal
 - Utility conflicts

Example A: Major Roads Contract

- ECS employee involved with the project is no longer employed at the City.

Example B: Basement Flooding Contract

- ECS initiated a review of the contract and change orders prior to the start of the Audit
- This contract is still being investigated by ECS management in consultation with Legal Services, and by the Auditor General
- NO monies claimed on the unauthorized work have been paid

ECS Concurs with Audit Recommendations

- Refer to the Management Response in the Auditor General's Report: ECS is in agreement with all four Recommendations
- ECS is taking corrective action by way of:
 - a) Enhancing staff training and strengthening the performance planner process to capture compliance with stated procedures and protocols
 - b) Improving records management protocols within the Division's Project Tracking Portal system

ECS Concurs with Audit Recommendations

- ECS is taking corrective action by way of:
 - c) In collaboration with Legal Services, instituting a cost recovery mechanism for design errors and omissions by professional services consultants
 - d) Advancing the Professional Services Performance Evaluation Tool in collaboration with PMMD and Legal Services
 - e) Instituting an internal project audit framework

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