Construction Contract Finals: Vermont’s Cloud Based Process Improvement Solution

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Director of Construction & Materials Bureau
Vermont Agency of Transportation
AASHTO SOC Annual Meeting
August 12, 2015
# 2015 Project Box Checklist

**Contract Name & Number**
Appointment Date: ________ CES number: ________
Resident Engineer: ________ Finals Representative: ________

## Pre Final Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>By</th>
<th>Date</th>
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<tbody>
<tr>
<td>1. Completion &amp; Acceptance Memo written</td>
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<tr>
<td>- Right of Way Encroachment Certification written</td>
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<td>2. Ratings Forms completed by RE, and distributed by Regional Office</td>
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<tr>
<td>- Contractor, Subcontractor and Consultant</td>
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<td>3. Project Manager Closeout Comments Memo complete/distributed/Z:Drive</td>
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<tr>
<td>4. All Summary Book quantities complete and checked by RE/RT</td>
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<tr>
<td>a. All Book quantities verified to match Site Manager</td>
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<tr>
<td>5. Final Field Estimate run by Regional Tech</td>
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<tr>
<td>a. Stockpiles and Other Adjustments = $0</td>
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<td>b. All Dates entered into SM by RT (C&amp;A, Substantial, etc.)</td>
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<tr>
<td>6. Explanations for Overruns/Underruns(Completed after #4 &amp; #5 are done)</td>
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<tr>
<td>- Distributed and Placed in Z:Drive (RE/Clerk)</td>
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<tr>
<td>7. IPSM Explanations for Materials &amp; Certs failures &amp; omissions to Lab (RE)</td>
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## Project Box Contents

<table>
<thead>
<tr>
<th>Content</th>
<th>Included in Box?</th>
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<tbody>
<tr>
<td>1. Project Summary (Orange Field) Books (Check Engineering Force)</td>
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<tr>
<td>2. Computations Binder – Must be bound</td>
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<td>3. Contract</td>
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<td>4. Written Orders (specifically check for Substantial and Interim Comp)</td>
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<td>5. Change Orders - including all backup documentation</td>
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<td>6. Paving Slips – Labeled in envelopes, by day and location and checked</td>
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<td>7. Concrete Batch Slips and Test Results</td>
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<tr>
<td>8. Materials, Samples &amp; Certifications Booklets - completed</td>
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<tr>
<td>9. Inspectors Daily Reports, especially handwritten reports</td>
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<tr>
<td>10. Contractor Daily Reports, including available Flagger &amp; UTO reports</td>
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<tr>
<td>11. Record Plans</td>
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<tr>
<td>12. Environmental, including contractor plans and reports</td>
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<tr>
<td>13. Correspondence: Utilities, Prop Owner, PR, Municipal, Contractor.</td>
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<tr>
<td>14. Shop Drawings</td>
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<td>15. Project Photos and Video Logs</td>
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<td>16. Contractor’s Progress Schedules</td>
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<td>17. Regional File added to Project Box, with duplicate documents “weed”</td>
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<td>18. Extension of Time information (additional info beyond written order)</td>
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<td>19. Was there an interim completion date? If yes, note dates below.</td>
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<td>- Were any weather days credited. (Should NOT be)</td>
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<td>20. Is there an overpayment? If yes, explain why in Notes below.</td>
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<tr>
<td>- Contractor to be notified by Regional Staff. Who was notified?</td>
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**Notes:**
The Finals Process

**START STEP 1**

- **Final Quantities to Contractor**
  - Resident Engineer Delivers Project Box; Summary Books completely red-checked
  - Check Comparative Quantities Report to Summary Books
  - Create a Daily Work Report (DWR) for items which do not match; generate & process new Estimate in Site Manager
  - Verify Material Certification memo is complete
  - Send Quantities & EOT (when necessary) to Contractor for approval
  - Send Potential Overruns & Underruns Explanations to Project Manager (see STEP 3)
  - Receive approved Final Quantities (& completed EOT if applicable) from Contractor
  - Process EOT for Agency & FHWA approval (if necessary)

**END STEP 1**

**START STEP 2**

- **Final Estimate to Contractor**
  - Check status of claims against Contractor
  - Send Final Estimate ("Zero" Estimate) & Contractor Certificate of Claim Form to Contractor
  - Receives signed Final Estimate & Certificate of Claim Form from Contractor

**END STEP 2**

**START STEP 3**

- **Final Estimate Routing & Approval**
  - Receive justification of Over- and Underruns from Resident Engineer via Project Manager
  - Sign Final Estimate & route Estimate Packet to Construction Engineer & other Agency entities
  - Sign & send Original Contract to Construction Engineer & Director of PDD
  - Receive Final Estimate Packet & signed Original Contract from PDD Director

**END STEP 3**
Processes and Sub-Processes

• Plan reviews
• Certified payroll reporting and reviews
• Paying a bi-weekly estimate
• Responding to complaints,
• Contractor submittals
• Executing a contract
• Material Sampling and testing
• Development of specifications

Who is managing your process?
The Solution

• LEAN
• SIX-SIGMA

• Business Process Management (BPM)
A discipline devoted to process improvement; a tool to re-engineer your workflows.
The Objective

- Efficient and Effective workflows
- Auto-generated tasks
- Fully Transparent
- Document Management
- Data Driven Reports and Metrics
- Accountability
- Performance Management
The Well Intentioned Process Owner

- Identifies a Problem
- Designs the Solution
- Implementation
- Monitor & Control (feedback)

Was the solution a success?
Business Process Management

• Step 1: Document the AS-IS workflow
  – Who does what, where, when, why, how.
  – Preliminary list of errors, defects.
  – Preliminary list of opportunities for improvement (OFI’s).
  – Collect the artifacts.
Business Process Management

• Step 2: Analysis
  – Capture all problems and OFI’s
  – Interview all stakeholders
  – Customer Centric
  – Requirements gathering
  – Quantitative & qualitative measurements of the existing process
  – Establish scope of the improvement project
Business Process Management

• Step 3: Design
  – Develop new workflow
  – Identify implementation requirements
  – Design monitoring & control requirements
  – Report requirements
Business Process Management

- **Step 4: Implementation**
  - Training
  - Transition plan
  - Communication

- **Step 5: Monitor, Control & Measure**
  - Assess
  - Apply corrective action
  - Lessons learned
  - Close iteration
The Value

- “It is the journey, not the destination”
- Employee engagement & buy-in
- Knowledge & mastery of the process
- Customer Centric
Getting Started

• Hire a Business Process Analyst
• Find a process in need of improvement
• Find the right Manager
• Start documenting the existing work flows
CCF Demo

Appian for Vermont Agency of Transportation
Questions?

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802-828-2593