Quality Management Review

MoDOT
Dave Ahlvers P.E.
Dennis Brucks P.E.
Josh Kincaid P.E.
Quality Management

Introduction to Quality Management
Dave Ahlvers, P.E.

Review of Job Special Provision & Terms
Dennis Brucks, P.E.

Forms, Checklists, ITP, Documentation, Sharepoint, Etc.
Josh Kincaid, P.E.
Quality Management

Session Format:
Complete three presentations from MoDOT
Field questions from attendees
DCEs will moderate questions from remote sites
Provide contact information for any follow-up questions
Quality Management

What is Quality Management?

• A process that gives the contractor the primary role and responsibility for incorporating QUALITY into the project.

• QUALITY is included in the planning and scheduling of all project activities.

• Contractor manages QUALITY with quality control testing and inspection.
Quality Management

Evolution from Method Specs to Quality Management
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>Implemented QC/QA for Asphalt</td>
</tr>
<tr>
<td>2002</td>
<td>Implemented QC/QA for PCCP</td>
</tr>
<tr>
<td>2004</td>
<td>Released “Performance” Spec Book</td>
</tr>
<tr>
<td>2007</td>
<td>Quality Management on Design-Build</td>
</tr>
<tr>
<td>2012</td>
<td>46 QM Pilot Projects (Design-Bid-Build)</td>
</tr>
<tr>
<td>2013</td>
<td>Full implementation</td>
</tr>
</tbody>
</table>
Quality Management

Design-Build Projects
2007-2012
Quality Management

Design-Bid-Build Model

**Contractor Role**
- Quality Control Testing
- Inspection
- Documentation

**MoDOT Role**
- Quality Assurance Testing
- Inspection Oversight
- Documentation
Review of Job Special Revision & Terms

Dennis Brucks P.E.
Quality Management

Primary Components of Quality Management

1. Quality Manager (Contractor-employed)
2. Quality Management Plan
3. Quality Control staff (Certified technicians provided by contractor)
4. Quality Assurance staff (provided by MoDOT)
Quality Management

Quality Manager

- Contractor-employed or Third-Party
- Qualified, competent, knowledgeable, experienced
- Implements the QMP
- Directs all QC activities
- Is the point of contact for MoDOT
- Preferred to be “on-site” for larger projects
- Preferred to be separate from Production Manager
Quality Management Plan

• Contractor’s Blueprint for Quality
• Approved QMP necessary prior to start of work
• Contractor submits draft for review (before pre-con)
• RE & Contractor meet to discuss details
• After agreement, both parties sign
• Contractual document
• “Living Document” - Revise as necessary
Quality Management

**Inspection and Test Plan (ITP)**

- MoDOT provides a base ITP with minimum testing frequencies for QC and QA
- New base ITP posted on website
- Modify to fit your project (i.e. reduce as necessary)
- Contractor can propose changes to ITP testing frequencies (submit in writing)
- All proposed changes reviewed at the appropriate level (RE / District / Division)
- Issue a change order for any spec changes
Quality Management

Document Control Procedure

• Paperless method for storing/retrieving documents
• Preferred location: MoDOT’s external Sharepoint
• MoDOT needs full access to documents
• Easy-to-follow folder structure and file naming convention
• Post documents 12 hrs. following shift, or as approved in QMP
• RE will move files to MoDOT V drive at closeout
Quality Management

Materials Sampling & Testing

- Contractor performs Quality Control testing
- MoDOT performs Quality Assurance testing
- QC/QA Testing frequency listed in ITP
- All testers must be certified
- Contractor testers listed in QMP
- Independent third party used for dispute resolution
Quality Management

Inspection

• Contractor provides basic inspection
• Inspectors need to be competent, but not certified
• Inspectors can perform dual role (i.e. foreman or worker), but this is not ideal
• Inspectors can use New MoDOT-provided checklists and reports or other approved documents
• General layout and surveying done by contractor
• MoDOT provides inspection oversight (QA)
• Off-site inspection provided by MoDOT
Quality Management

Materials Receiving

• Contractor collects acceptance documents for materials delivered to the site
• Standard materials receiving forms provided by MoDOT
• Contractor records basis for acceptance (MoDOT-OK stamp, PAL, certifications, etc.)
• Material acceptance documentation is required before work items are placed on pay estimate
Quality Management

Hold Points

- This is a check point
- Set at critical stages in the work to verify specific aspects (material, dimensions, specifications, etc.)
- QC provides completed Daily Inspection Reports, Checklists, and Material Test reports
- QA testing or inspection may be required
- QA approval is required before proceeding
- Hold Points established by QA, with QC input
- Intermediate (QC) Hold Points are optional
Quality Management

Hold Point Examples

- After BMPs installed, just prior to grading
- Prior to concrete or asphalt paving
- Prior to driving pile
- Prior to any substructure pour
- Prior major traffic switch
- Prior to deck pour
Quality Management

Role of QA (MoDOT)

- Verify performance of QC
- Enter QC data and DWR Diary into SiteManager
- Perform QA testing and inspection
- Interpret plans and specifications
- Liaison to MoDOT Design for project issues
- Measure pay items or verify measurements
- Verify QC tests / inspection / materials receiving / documentation is complete prior to payment
Quality Management

Role of QA (MoDOT)

- Attend pre-activity meetings
- Present at Hold Points
- Present on job as much as possible (risk based)
- Perform 10% check on surveying
- QA on IRI Measurements
- Help train contractor staff on inspection and documentation procedures
Quality Management

Pay Items

• Contractor documents location and quantity of installed items on DIR
• DIR serves as the contractor’s request for payment
• MoDOT measures and documents quantity for pay items that require measurement
• MoDOT verifies quantity, checklists, and materials acceptance before making payment
Quality Management

Work Planning & Scheduling

- Contractor is required to include Quality in all planning and scheduling
- Work plan should include QC testing/inspection, and hold points
- Pre-Activity Meetings held just prior to each new activity (QM and/or QC, QA, Production)
- Weekly Schedule (Two-week look ahead), including planned hold points
- Hold points can be rescheduled with 24 hour notice
Quality Management

Standard Forms & Checklists

• MoDOT provides Forms & Checklists (See new)
• Contractor forms OK if they have required information
• Daily Inspection Reports (Now on website)
• Contractor saves all documentation to Sharepoint
• Name of technician on testing reports
• Documents digitally signed, submitted timely
• Digital signature can be any contractor representative
Quality Management

Non-Conforming and Deficient Work

Non-Conforming work:
“Completed work that does not meet the contract requirements”

Deficient work:
“In-progress work that does not meet the contract requirements”
Quality Management

Non-Conformance Report

• Documents deficient or non-conforming work
• NCR is NOT an Order Record
• Example: MRB project has over 200 NCRs
• Either party can issue an NCR
• QC should issue the majority of NCRs
• New NCR form now available on website
Quality Management

Resolving a Non-Conformance Report

- NCR serves as documentation and tracking
- Contractor proposes resolution
- Three options:
  1. Use “as is”
  2. Fix it
  3. Replace it
- MoDOT approves or disapproves
- MoDOT closes NCR once resolved
- No. of NCRs does not affect Contr. Perf. Rating
Quality Management

Corrective Action Request

• Issued for *recurring* non-conforming or deficient work
• Issued by QC (preferably) or QA
• Contractor must track corrective action until there is a solution
• Rare - none were issued in 2012
• Do not affect Contractor Performance Rating unless accompanied by an Order Record
Forms, Checklists, ITP, Documentation, Sharepoint, Etc

Josh Kincaid P.E.
Quality Management

MoDOT & Contractor Training
Quality Management Training Overview

- Quality Management Plan (QMP)
- Inspection and Test Plan (ITP)
- QC Inspection Checklists
- QA Inspections
- Daily Inspection Reports (DIR) vs. MoDOT DWR’s
- Materials Inspection
- Forms
- SharePoint
Job Special Provisions Section 2.3

- A) General Organizational Structure of Production and QC staff
- B) Name, qualifications and job duties of the Quality Manager and all QC inspectors
- C) A procedure describing QC Inspections
- D) A procedure describing QC Testing
- E) A procedure describing Material Receiving
- F) A Document Control Procedure
- G) A procedure for Non-Conforming and Deficient work, and Corrective Action Requests
- H) A list of work items that will be sub-contracted and the QC personnel who will be responsible for inspection and testing sub-contracted work
- I) A list of QA Hold Points and a procedure for addressing any issues found during the QA Hold Point Inspections
J) A list of QC Hold Points and a procedure for addressing any issues found during the QC Hold Point Inspections

K) A procedure for making revisions to the QMP

L) References to specific applicable QC Plans such as asphaltic concrete pavement or Portland cement concrete pavement

M) A proposed independent third party company name, address and phone number for dispute resolution

N) Any approved changes to the standard forms provided by MoDOT

O) Format for the Weekly Schedule and Work Plans

P) A procedure for project closeout, including Quality Documentation Audit that verifies all project documentation is accurate and complete
ITP Example
QC Inspection Checklists

* Process for QC to provide a check on Quality of the work
* Activity/Work Driven
* Hold Points included in Checklists (Decide if QC, QA or both)
* Hold Points may have separate form to fill out for documentation purposes.
* Flexibility to modify on projects as needed
* Changes to Checklists can be made at RE Level
* Need to develop Checklists for JSP items
* Only QC has frequency in ITP for Checklists
<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All materials (reinforcing steel, bar splices, deck forms, ties, supports, curing compound, concrete sealer, etc.) meet specifications?</td>
<td></td>
<td></td>
<td></td>
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</table>

### Formwork

<table>
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<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Forms mortar tight and sufficiently rigid to prevent excessive deflections?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Forms of adequate thickness and design to remain true to shape?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Forms present a smooth surface and joints align properly?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Inside of forms cleaned of dirt, mortar, and foreign materials?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>All materials (e.g. conduit, drains, blockouts, anchoring devices, etc.) to be embedded placed and adequately secured?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Dirt, chips, sawdust, water, and other foreign material removed from within</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Forms lubricated to ensure removal? Including overhang coil ties?</td>
<td></td>
<td></td>
<td></td>
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### Permanent Steel Bridge Deck Forms

<table>
<thead>
<tr>
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<th>Items</th>
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<th>No</th>
<th>N/A</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Erection drawings provided?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Forms, materials, and installation in accordance with erection drawings?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Attachments made by approved methods?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Contractor prevented welding arcs from contacting steel girder flanges?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Permanent Precast Concrete Deck Panels

<table>
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<tr>
<th>No.</th>
<th>Items</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Panels checked for conformance?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Erection of panels in accordance with working drawings?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Attachments made by approved methods?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Butt joints between panels caulked to prevent grout leakage?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Reinforcing Steel

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bars proper size, length, grade, and epoxy coated as required?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Proper number and spacing of bars?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Proper procedures followed for field bending or cutting of bars?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>If cut, epoxy bar ends coated with approved material?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Does reinforcement have required clearance or depth of cover from surface of concrete?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Mechanical bar splices appropriate length for size and type of bar?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Supports and ties plastic or epoxy coated as required?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Bars tied at intersections or as required?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Upper mat of re-steel bars tied properly to lower mat?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Chairs and slab bolsters at proper location and spacing?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Bar splices correctly staggered?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Items</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Bar placement, clearance, and tying checked?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>All bars clean and free of oil, dirt, and rust?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>HOLD POINT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Pre-Pour Activity Meeting</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Concrete Placing and Curing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Bridge Deck Summary</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Pre-Pour Activity Meeting**

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Trial run of finishing machine performed to test for deck thickness and grade?</td>
</tr>
<tr>
<td>2</td>
<td>Procedures reviewed for placing concrete?</td>
</tr>
<tr>
<td>3</td>
<td>Procedures reviewed for finishing and curing concrete?</td>
</tr>
<tr>
<td>4</td>
<td>Emergency plan in place for header?</td>
</tr>
</tbody>
</table>

**Concrete Placing and Curing**

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Concrete mix design and class to be used are correct and approved for the</td>
</tr>
<tr>
<td>2</td>
<td>Reinforcing steel checked and approved prior to concrete placement?</td>
</tr>
<tr>
<td>3</td>
<td>Construction joints cleaned?</td>
</tr>
<tr>
<td>4</td>
<td>Does ambient temperature for placing concrete meet specifications?</td>
</tr>
<tr>
<td>5</td>
<td>Information on the concrete batch ticket indicates conformance with mix design and specifications?</td>
</tr>
<tr>
<td>6</td>
<td>Does concrete temperature at placement meet specifications?</td>
</tr>
<tr>
<td>7</td>
<td>Designated pathway has been established for concrete crew to eliminate mud, debris, and other material to get tracked on deck?</td>
</tr>
<tr>
<td>8</td>
<td>Formwork pretreated to surface saturated condition without free standing water prior to concrete placement?</td>
</tr>
<tr>
<td>9</td>
<td>Concrete placed continuously at minimum rate of pour?</td>
</tr>
<tr>
<td>10</td>
<td>Concrete placed to avoid segregation?</td>
</tr>
<tr>
<td>11</td>
<td>Vibrators providing adequate consolidation?</td>
</tr>
<tr>
<td>12</td>
<td>Concrete checked for thickness and level during pour?</td>
</tr>
<tr>
<td>13</td>
<td>Proper finishing methods performed?</td>
</tr>
<tr>
<td>14</td>
<td>Finish true to design grade, camber, and cross-section?</td>
</tr>
<tr>
<td>15</td>
<td>Excess concrete is being removed from exposed barrier resteel?</td>
</tr>
<tr>
<td>16</td>
<td>Proper curing method performed?</td>
</tr>
<tr>
<td>17</td>
<td>Approved curing compound applied at proper rate?</td>
</tr>
<tr>
<td>18</td>
<td>Curing compound applied just after texturing?</td>
</tr>
<tr>
<td>19</td>
<td>Burlap is presoaked?</td>
</tr>
<tr>
<td>20</td>
<td>Wet burlap applied right after cure has dried?</td>
</tr>
<tr>
<td>21</td>
<td>Continued wet cured for 7 days and 3000 psi concrete obtained?</td>
</tr>
<tr>
<td>22</td>
<td>Deck washed and concrete sealer applied after curing compound dissipated?</td>
</tr>
</tbody>
</table>

**Bridge Deck Summary**

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Were the materials tested at the required frequency?</td>
</tr>
<tr>
<td>2</td>
<td>Did this work meet the project specifications?</td>
</tr>
</tbody>
</table>

**Comments:**

---

**QC Signature:**
# Section 613 Pavement Repair Checklist

**Project:**

**Route:**

**Date:**

**Contractor:**

**Item:**

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Do all materials meet specification and is proper documentation supplied to MoDOT?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
</tbody>
</table>

## Full Depth Pavement Repair

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Was all material taken out of the repaired area recycled or disposed of in accordance with this section? This may require</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>2</td>
<td>Was subgrade and aggregate base replaced and/or compacted to the satisfaction of the Engineer?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>3</td>
<td>Were all tie bars and dowel bars installed properly?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>4</td>
<td>HOLD POINT</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>5</td>
<td>Was a MoDOT approved &quot;pavement repair&quot; mix used, and did test results yield specification compliant concrete?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>6</td>
<td>Was the pavement repair concrete in accordance with Sections 501 and 502?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>7</td>
<td>Did the repaired area meet smoothness and surface variation requirements?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
</tbody>
</table>

## Full Depth Pavement Repair Summary

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Were the materials tested at the required frequency?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>2</td>
<td>Did this work meet the project specifications?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Comments:**

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

QC Signature: ___________________________
SECTION 616 TEMPORARY TRAFFIC CONTROL CHECKLIST

Project: 
Route: 
Date: 
Contractor: 
Item: 

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Do all materials meet specification and is proper documentation supplied to MoDOT?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Temporary Traffic Control Devices and Flaggers**

<table>
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<th>No.</th>
<th>Items</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Do all devices meet requirements for location, reflectivity, sight distance, plumbness &amp; splicing?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Are flaggers certified and wearing proper safety apparel?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Was traffic control checked twice daily?</td>
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</tr>
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**Work Zone Lighting**

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
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<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Do all construction related vehicles and equipment have USDOT approved warning lights?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Does work area lighting provide adequate illumination and proper positioning?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Changeable Message Signs**

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Is the CMS in the appropriate location and displaying the correct message?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Work Zone Traffic Signals**

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Are the temporary work zone traffic signals in the proper locations and functioning properly?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

QC Digital Signature: ___________________________
QA Inspections

* Process for QA to audit/monitor QC Inspections
* QA does not have a required “Inspection” frequency in the ITP
* QA inspections should be a minimum of 10% of QC’s Inspections
* Types of Possible QA Inspections
  * QA can do an audit of a QC Checklist
  * This can be done daily at random and is intended to be while QC is filling it out
  * This is a check for QA to make sure the work is inspected and not just checked off of a list
  * QA should initial and date the QC Checklist next to items audited
  * QA can also fill out an independent Checklist if desired
QC Daily Inspection Reports (DIR)

- Documents daily contractor activities
- Separate DIR’s or separate documentation of installed quantities per project
- Subcontractor information should be included or have separate DIR
- MODOT will provide generic form for use
- Contractor can use their own form but it should have MODOT generic form information at a minimum

Basic Information Needed
- Project Conditions (weather, temperature, etc.)
- General Remarks of the work taking place, where and by whom
- Contractor personnel and equipment
- Testers and tests performed
- Installed work listed like the pay items with details and location descriptions as described in 2B Sheets and Contract Plans
QC DIR Form Example
QA should still enter a daily DWR in SiteManager
DWR’s should reference not restate the remarks in the Contractors DIR
The remarks should indicate QA inspection information separate from QC DIR Information
Remarks about any QC documents should include a reference to that specific document
QA is only required to measure items for pay that are required to be measured per specifications.
The following DWR Tabs should be copied from the QC DIR:
  * Contractors (Personnel for Payroll Reports)
  * Contractor Equip (This is optional)
  * Cert Testers (QC and QA testers for that day)
  * Work Items (This produces details for payment documentation)
QC Daily Inspection Report: DIR NAME WITH DATE

QA Remarks:

J5L1300B: I inspected the contractor paving from log mile 100.0 to 100.6 on EB Route 32. I audited their QC Checklist for traffic control and noted that their CMS was not operating and I saw that they checked yes to item No. 01 in that section. I explained what I saw when I came on the project and they said they filled the checklist out an hour ago and it was correct then. They then fixed the CMS and decided to change the times when they would check it in the future to approximately 30 minutes before they were experiencing their peak traffic times.
QA will report all QC and QA tests
QA will enter one report to satisfy the QC & QA test requirement in the ITP for items accepted on certification, PAL and items like tack.
QA will supply templates and forms for QC to fill out
QA needs to make a distinction in remarks as to whether the test is QC’s or QA’s and list the tester
Examples can be provided for setting up contracts in SiteManager
Be sure to document that inspection is by Contractor QC.

List the location of the filed certification.
**QC Daily Responsibilities**

- Fill out and submit DIR’s
- Check all materials received for quality and quantity
- Provide Materials Receiving Reports, Invoices & Certifications
- Do applicable testing based on ITP
- Provide test information based on MoDOT provided templates/forms
- Fill out checklists
- Provide detailed measurements in installed work portion of DIR
- Develop weekly/2 week schedules
- Hold Pre-activity meetings
- Communicate with QA regarding documentation, testing & Hold Points
QA Daily Responsibilities

- Enter DWR’s
- Audit QC Documents in SharePoint prior to entering pay items
- Audit QC Checklists or fill out QA checklists
- Evaluate Hold Points when applicable
- Measure quantities for pay (that need to be)
- Do applicable testing based on ITP
- Check materials invoices, documentation and communicate with District Materials
- Enter Materials Reports (QC & QA)
- Communicate with QC regarding documentation, testing & Hold Points
Central District Inspection Guide

For MoDOT personnel it is located on the Central District Construction and Materials SharePoint Site.

Contractors will be provided a copy for use upon their request.
Where to find MoDOT provided ITP, Checklists & Forms
American Recovery and Reinvestment Act Civil Rights Notice

Bidding on an ARRA project? Read this first!

Business with MoDOT covers a wide range of topics in an effort to provide information to those wishing to do business with the agency. Included in this section are standards and specifications, various manuals, bidding lists and results, motor carrier details and consultant services.

MoDOT now accepting credit card payment

Become a MoDOT Vendor

- Become a Prime Contractor
- Perform Subcontracting Work
- Obtain Plans
- Become A Material Provider

Contractor Resources

- Active Projects Directory
- External Civil Rights
- Disadvantaged Business Program
- MRCC Directory
- Policies, Lists and Specifications by Product Types
- Pre-Qualified and Pre-Accepted Product Listings
- Project History Maps
- New Product Qualification
- Bid Opening Info
- Bid Items Listing
- Notice of Intent to Perform Work
- Forms
- Lead Paint Activities
- Technician Certification Program
- Electronic Design Files
- Missouri Business Portal
- Land Disturbance Items
- Pile Driving Set Calculator
- Storm Water Pollution Prevention Plan (SWPPP)
- Contractor Pay Estimator
- Quality Management
- Safety Plan

Standards and Specifications

- Specification Book for Highway Construction
- Standard Plans for Highway Construction
- End Terminal and Barrier Systems
- CADD Standards
- Job Special Provisions
- Quality Standards for Temporary Traffic Control Devices
- Specifications of Computer Deliverable Contract Plans
- Engineering Policy Standards Letters

Local Public Agency

- Local Public Agency
- Local Public Agency Manual

Manuals

- Engineering Policy Guide
- Construction & Materials
- MoDOT's Approach to Program Management (May 2007)

Surplus Equipment and Auctions

- MoDOT Auctions on GovDeals
- Realty for Sale
- MoDOT Auction Vendors
- Office of Administration Real Estate Services

Regulatory and Permit Services

- Motor Carrier Services
Quality Management

MoDOT Sharepoint - Partner Sign In

SPECIAL NOTICE - Quality Management Training 🌐

Quality Management Documents

MoDOT ITP Plan (03-18-2013)  Excel Format
Sample Quality Management Plan  Word Format

Checklists

ADA Checklist
ITS Checklist
MOT Lane Closure Checklist
QA Hold Points
Section 200 Checklist
Section 300 Checklist
Section 400 Checklist
Section 500 Checklist
Section 600 Checklist
Section 700 Checklist
Section 800 Checklist
Section 900 Checklist
Traffic Control Checklist

Forms

Absorption Worksheet 📄
Compaction Test C709ND 📄
Concrete Pour Card
Consensus Test 📄
Daily Inspection Report 📄
DCP Test 📄
Embarkment Monitoring 📄
Gradation Worksheet 📄
Land Disturbance Inspection Record
Materials Receiving Inspection Report
Materials Request for Transfer
Misc Concrete Placement Test Record

...
To add a new Contract and Contractor Personnel to SharePoint QA will send an e-mail to Mike Meyerhoff with the Contract ID, names of contractor personnel and their respective e-mail addresses.
Quality Management

MoDOT Sharepoint - Partner Sign In

SPECIAL NOTICE - Quality Management Training

Quality Management Documents

- MoDOT ITP Plan (03-18-2013) [Excel Format]
- Sample Quality Management Plan [Word Format]

Checklists

- ADA Checklist
- ITS Checklist
- MOT Lane Closure Checklist
- QA Hold Points
- Section 200 Checklist
- Section 300 Checklist
- Section 400 Checklist
- Section 500 Checklist
- Section 600 Checklist
- Section 700 Checklist
- Section 800 Checklist
- Section 900 Checklist
- Traffic Control Checklist

Forms

- Absorption Worksheet
- Compaction Test C709ND
- Concrete Pour Card
- Consensus Test
- Daily Inspection Report
- DCP Test
- Embankment Monitoring
- Gradation Worksheet
- Land Disturbance Inspection Record
- Materials Receiving Inspection Report
- Materials Request for Transfer
- Misc Concrete Placement Test Record
-
Construction and Materials Division
-External Sharepoint

Welcome to the Sharepoint site used by MoDOT's Construction and Materials Division to collaborate with our industry partners.

David Ahlvers, P.E.
State Construction and Materials Engineer

Getting Started
- Share this site
- Change site theme
- Set a site icon
- Customize the Quick Launch
Construction Contracts

This portion of the Sharepoint site is dedicated to allowing MoDOT and our industry partners to share files related construction contracts in a secure and efficient manner.

There is help available on how to use this site at the bottom left of this page by following the "Help/FAQ" link. If you require additional assistance please email:

Jeremy.Kempeter@modot.mo.gov or call (573) 751-4314
Michael.Meyerhoff@modot.mo.gov or call (573) 522-5047
Questions?

Email questions to: Christina.Teter@modot.mo.gov

Quality Management Documents: www.modot.org/quality