Concrete Paving Field Inspection Inspector’s Workshop
PCC Paving Field Inspection

• Why are we here?
• How do we achieve quality for PCC paving?
• Got a project….Now what?
• What is concrete?
• What kinds of equipment are used?
• What happens before you start paving?
• What happens when you’re finally paving?
• What is the inspector’s role?
• What about all of the other road building stuff?
• What do you look for in urban paving?
• What paperwork?
Instructor

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Q: I’VE GOT A PROJECT, NOW WHAT?
Preparation
General Instructions

• Review plans, special provisions, appropriate manuals, standard specifications, and supplemental specifications

• Discuss your responsibility and authority with the project engineer

• Review format and required content of your inspection diary

• Review required Schedule of Materials Control, testing procedures, and forms

• Discuss notification, changes, corrections, delays, rejections, tolerances, and checks with the project engineer
General Instructions

• Attend and/or coordinate a pre-paving/pre-construction meeting with the Engineer and Contractor
• Know the contractor’s key site contact and who the materials supplier(s) will be.
• Make sure testing devices are calibrated and correlated prior to the day’s pour.
• Contact District Materials Engineer to schedule appropriate independent assurance sampling and testing at applicable work intervals.
• Review utility requirements.
• Review documentation of pay item quantities.
Preparation

Things you will need:

• Plans
• Proposal/Contract
• Specifications
• Standard Details
• Documentation Tools
• Testing Equipment
• Storm Water Plan
• Safety Review
• Traffic Control Items
Preparation – Plans

Title Sheet(s)
- Location
- Project Description
- Project Length(s)
- Vehicle Counts
- Index of Sheets
- Begin/End Stations of Project/Divisions
Preparation – Plans

Typical Cross Sections

- Provide standard dimensions and other important information
- Separated by location
- Can be multiple on one project
  - Mainline
  - Superelevations
  - Curbs
  - Ramp Grading & Paving
  - Shoulder Details
Preparation – Plans

Estimate of Quantities and Item Description

- Design quantities
- Reference notes for individual items
- References to standard details

### ESTIMATED ROADWAY QUANTITIES

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item Code</th>
<th>Item Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>As-built Quantity</th>
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<tbody>
<tr>
<td>1</td>
<td>2101-0850002</td>
<td>CLEARING AND GRABBING</td>
<td>UNIT</td>
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<td>2102-2710070</td>
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<td>375.1</td>
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<td>2105-8425015</td>
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<td>733</td>
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<td>5</td>
<td>2115-0100000</td>
<td>MODIFIED SUBBASE</td>
<td>CY</td>
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<td>2470.79</td>
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<tr>
<td>6</td>
<td>2123-7450000</td>
<td>EARTH SHOULDER CONSTRUCTION</td>
<td>STA</td>
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<td>7</td>
<td>2201-0505050</td>
<td>BASE, STD OR SLIP FORM PCC PVMT, 5 IN.</td>
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<td>287</td>
<td>277.8</td>
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<td>2214-5145150</td>
<td>PAVEMENT SCARIFICATION</td>
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<td>STD OR SLIP FORM PCC PVMT, CLS C, CLS 3 DURABILITY, 9 IN.</td>
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<td>2301-6911722</td>
<td>PORTLAND CEMENT CONCRETE PAVEMENT SAMPLE</td>
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<td>11</td>
<td>2303-0031500</td>
<td>HMA ON E6ALSHRE 1 1/2” NO. ERIC</td>
<td>TON</td>
<td>22</td>
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</table>
Preparation – Plans

Estimate of Quantities and Item Description

- Design quantities
- Reference notes for individual items
- References to standard details

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</thead>
<tbody>
<tr>
<td>1</td>
<td>210-0850002</td>
<td>CLEARING AND GRUBBING. Refer to D sheets and tabulation on Sheet C003. Clearing and Grubbing areas shall be marked out and approved by the Engineer prior to beginning of clearing operations. Contractor shall take care to protect all trees and other plant material to remain.</td>
</tr>
<tr>
<td>2</td>
<td>2102-2700070</td>
<td>EXCAVATION, CLASS 10, ROADWAY AND BORROW. Quantity includes excavation for sidewalk per cross sections. Surplus material shall become property of the Contractor. Payment will be per specifications. Excavation to remove unsuitable soils will be measured separately and paid as additional Class 10 excavation. No additional payment will be made to provide and place suitable backfill soil that is available on site to replace the excavated unsuitable material.</td>
</tr>
<tr>
<td>3</td>
<td>2102-2700860</td>
<td>EXCAVATION, CLASS 10, UNSUITABLE OR UNSTABLE MATERIAL. Item includes preparation of poor subgrade. Payment will be per specifications. One inch nominal clean crushed limestone may be used as new subgrade if existing soil has excessive moisture or is unstable. Payment for the crushed limestone will be for the contract quantity.</td>
</tr>
<tr>
<td>4</td>
<td>2103-8425015</td>
<td>TOPSOIL, STRIP, SALVAGE, AND SPREAD. Quantity is based on 6 inch depth of resprayed over all disturbed seeding areas.</td>
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<tr>
<td>5</td>
<td>2115-0100000</td>
<td>MODIFIED SUBBASE. Construct under Morill Roadway and Driveways.</td>
</tr>
<tr>
<td>6</td>
<td>2123-7450000</td>
<td>EARTH SHOULDER CONSTRUCTION. Payment will be per the Specifications.</td>
</tr>
<tr>
<td>7</td>
<td>2201-0505050</td>
<td>BASE, STD OR SLP FORM PCC PVMT, 5 IN. Quantity is based on brick paver areas. Construction measurement and payment shall be according to section 2201 of the Specifications.</td>
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<tr>
<td>8</td>
<td>2214-5145150</td>
<td>PAVEMENT SCARIFICATION. Includes removal of 2 inches of existing HMA surface from Union Drive to Station 12+20 to match the existing cross section. Refer to Sheet D01 for the limits of pavement scarification.</td>
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<td>9</td>
<td>2201-1035000</td>
<td>STD OR SLP FORM PCC PVMT, CLS C, CLS 3, DURABILITY 9 IN. Iowa Department of Transportation Standard Specification Section 2315. Schedule B Smoothness shall apply to aluminite paving. Microtexture shall be applied to all finished concrete surfacing with artificial turf or coarse carpet.</td>
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</tbody>
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Preparation – Plans

Plan & Profile Sheets

- Give plan & profile view
  - Entire project
  - Side Roads
  - Ramps

- Show new and existing features
  - Drainage structures
  - Entrances
  - Ditch Cuts
Preparation – Plans

Geometrics Sheets

- Staking
- Jointing
- Edge profiles
- Intersections
Preparation – Standard Details

Standard Details

• Show you how to construct something according to agency standard

• Provides uniformity

• Ensure you have the current version associated with project letting

• Print out the ones specifically for the project

• Use a computer (if you can) for the entirety
Preparation – Proposal/Contract Documents

Proposal/Contract

• Quantities
• Contract Period
• Utility Attachments
• Other Requirements
Preparation – Proposal/Contract

Contract

• Unit Prices
  ➢ Familiarize
  ➢ What’s an overrun cost?

• Addendums

• Plan Revisions

• Letting Date
  Dictates specification version
Preparation - Specifications

Specifications

- Standard
  - Correct (UPDATED) Version
- Supplemental
- Special Provisions
- Supplemental Agreement
Preparation – Documentation Tools

Documentation Tools

• Computer

• Fieldbook
  ➢ Electronic
  ➢ Paper

• Camera (Smart phones work well)
• Paper
• Writing Utensils
• Blank Forms
Preparation – Testing Equipment

- Ruler
- 4’ Level
- Thermometer
- Shovel
- Measuring Wheel
- Air Meter
- Rubber Mallet
- Brush
- Slump Cone
- Scale
- Spray Paint
- Tire Tread Depth Gauge
- Hammer
- Bucket
- Stamps (station location)
- Vibrator Checker
- Beam Boxes/Molds
Preparation – Storm Water Plan

• Regulations

• Inspections

• Be aware of construction runoff!

• Best Management Practices
Preparation – Safety Review

- Backing hazards ⇒ congested work areas
- Overhead power lines
Preparation – Traffic Control Items

Inspect and adjust as needed each morning and evening.

- Reflectance of signage and delineators
- Arrow boards and message boards
- Barrier wall and attenuators
- Condition of detour pavement
Got a project?

The key to success is preparation and cooperation.