Concrete Pavement Construction Checklist

PRE-WORK SHEET FOR PROJECT MANAGERS

All original Contractor and KDOT documentation (for QC\QA Projects) must be in bound books.
Use this check list in conjunction with Part IV of the KDOT Construction Manual

- ☐ 1 Signed Proposal Received?
- ☐ 2 Review Proposal, highlight important facts. Know proposal well to be able to find answers quickly.
- ☐ 3 Review and check quantities for accuracy.
- ☐ 4 Have any items been noted that need addressed during the pre-con meeting?
- ☐ 5 Are any pictures needed to be taken for a later date: (i.e. striping, widening or signing)? (Can also use KGATE or video log to review)
- ☐ 6 Is the contract on CMS?
- ☐ 7 Is the contract downloaded on project manager's laptop?
- ☐ 8 Print "Contract Materials Report Final" now.
- ☐ 9 Have "Mix Designs" been submitted by the contractor and put on CMS by Materials?
  - ☐ If applicable, has the boil test passed for each mix design?
- ☐ 10 Once mix designs have been created, check and/or correct all "Primary Material Codes" for those line items. Review all remaining line items for proper material codes.
- ☐ 11 Remove any components to line items on CMS that will not be used on project.
- ☐ 12 Visit plant site and make sure that the aggregate stock piles to be used are in fact the same as those on the mix design.
- ☐ 13 Create All Field Books (Lab, Road, etc.)
- ☐ 14 Make personnel assignments for job with appropriate certifications (i.e. Nuke, Lab, Ticket Taker)
- ☐ 15 Are all Subcontractors approved for this project?
- ☐ 16 Station the project. (if applicable)
  - ☐ Split the project if contractor is not required to.
  - ☐ Make sure the contractor splits the entire roadway. Not just measuring in from one side.
- ☐ 17 Speak with Maintenance and make sure that temporary "Pass with Care" and "Do not Pass" signs are installed (where applicable).
- ☐ 18 Did you get Traffic Control certifications at Preconstruction Meeting?
- ☐ 19 What are the early/late start dates
- ☐ 20 Inventory traffic control signs. Is the **quantity and quality** correct for this project.
  - ☐ Are the signs / stands NCHRP 350 Compliant? Need letter stating this in file.
  - ☐ Discuss uneven lanes signs if required
  - ☐ Check flagger certifications
  - ☐ Discuss wait for pilot car signs and additional flaggers required
- ☐ 21 Have a copy of the original 402 on hand at all times to see how the design was done.
- ☐ 22 Notify "District Materials" for witnessing and pre-production(s).
- ☐ 23 Does the contractor have any haul roads to designate
  - ☐ Yes, contact county/city representative and contractor to document existing condition of roads
  - ☐ After project, review designated haul roads and have contractor fix to same or better condition
- ☐ 24 Discuss daily profilograph procedures and requirements with contractor
- ☐ 25 Record and verify that the contractor has permits for plant site (KDHE, Bureau of Water, NPDES General permit packet)
- ☐ 26 Form 219 For storm water pollution been filled out and submitted to District
- ☐ 27 Does the contractor have a stored material request?
  - ☐ Yes, enter into CMS and create conversion factor
- ☐ 28 Does the contractor have a request for payment for contract bond?
  - ☐ Yes, enter into CMS

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"FIELD LAB"

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- [ ] 1 **All original Contractor and KDOT documentation (for QC\QA Projects) must be in bound books.**
- [ ] 2 Get lab equipment and office supplies ready. **See specific list of lab equipment.**
- [ ] 3 Is lab certification current? If not, have "District Materials" certify the lab.
- [ ] 4 Review contract special provision, errata sheets and have contract available at the lab
- [ ] 5 Get cement and admixture sampling frequencies from CMS for each type of producer. (Re-check monthly)
- [ ] 6 Get list of "pre-qualified" of producers off of the PQL list. (aggregates, ect)
- [ ] 7 Are quality requirements up to date
- [ ] 8 Visit with plant manager about where to get daily plant paperwork (bill of ladings, daily aggregate charts, etc.) and who will get samples etc.
- [ ] 9 Does plant meet standard specification
- [ ] 10 Check batching equipment for overall condition
  - [ ] Bins vented properly
  - [ ] Scales operate freely, and available for inspection
- [ ] 11 How are gates actuated
  - [ ] Is there a provision for dribble feeding
- [ ] 12 Do hoppers always empty completely
- [ ] 13 Is blending of aggregates done with an approved method
- [ ] 14 Record equipment checks
- [ ] 15 Get copies of scale certifications from plant and make sure they are up to date.
- [ ] 16 Get Q/C lab technician's certifications off CMS.
- [ ] 17 Is the Q/C lab equipment calibrated and up to date?
- [ ] 18 Collaborate Q/C with Q/A lab technicians so procedures are understood.
- [ ] 19 Create files for paperwork (i.e. Q/C tests, Mix. Analysis, Densities, Cores etc.).
- [ ] 20 Create a list with all Material Codes, Producer Codes, Mix Designs, Nuke Meter Numbers, Inspector Id's, Plant Number, Phone Numbers etc. to put up on the wall for ease of data entry.
- [ ] 21 If possible, run Individuals, so as to avoid problems in the mix prior to job starting.
  - [ ] Are stockpiles identified correctly?
  - [ ] Separated correctly?
  - [ ] Free from mud balls?
- [ ] 22 Walk through plant to check for problems. (i.e..)
  - [ ] Scalping screens in good shape. (No holes or worn out).
  - [ ] Surge bin dividers tall enough to prevent mixing of individuals.
  - [ ] Stock piles being managed properly to prevent mud balls, etc.
  - [ ] Aggregate bin dividers in place (no damage)?
  - [ ] Are feeders operating properly (smoothly)?
  - [ ] Are bin settings correct and flow indicators working?
  - [ ] Document any of these deficiencies and the corrective actions taken by the contractor.
- [ ] 23 Record admixture Meter Setting
  - [ ] Admixture quantities checked?
- [ ] 24 Record Settings of Aggregate Cold Feeds
  - [ ] Blend % check (AM)?
  - [ ] Blend % check (PM)?
- [ ] 25 Moistures being checked
  - [ ] Check (AM)?
  - [ ] Check (PM)?
- [ ] 26 Check Ready-Mix trucks
  - [ ] Working counters
  - [ ] Capacity plates are thereon trucks
  - [ ] Clean drums
  - [ ] Fins not worn or have concrete build-up
  - [ ] Positive water shutoff valves

Concrete Pavement Construction Checklist

"FIELD LAB"

- [ ] 27 Check nonagitating delivery trucks
  - [ ] Smooth, water tight interiors
  - [ ] Clean surfaces
  - [ ] No dried concrete in truck bed
- [ ] 28 Check if correct admixtures being added
- [ ] 29 Keep record of material used, received, and on hand
- [ ] 30 Check Automatic Operation of Surge Bins.
- [ ] 31 Get 2 scale checks per week.
- [ ] 32 Make spreadsheets for each mix with random numbers (for Densities) that figure sample locations for both the contractor and KDOT. Or, do this manually with a calculator. Regardless, this must be entered into field book. Make sure KDOT and Contractors random numbers are on separate sheets and contractor should not see KDOT's numbers.
- [ ] 33 Read, understand and have copies of mix designs and the special provisions that pertain to testing on hand.
- [ ] 34 Record cement and/or fly ash batching and weighing equipment
- [ ] 35 Record make and model
- [ ] 36 Make sure concrete testing equipment is clean, calibrated and ready for use

- [ ] 37 **Daily List for Lab during Project.**
  - [ ] Record cement Received.
  - [ ] Get paperwork from plant each morning (circle charts, stabs etc.)
  - [ ] Fill out lab books as required (orange bound books not spreadsheets).
  - [ ] Fill out QC/QA Spreadsheets.
  - [ ] Have random numbers produced for the contractors testing.
  - [ ] Have random numbers produced for KDOT's testing.
  - [ ] Make sure KDOT & Contractors test results have been exchanged and also faxed to District Materials.
  - [ ] Make sure lab books balance with road books each day.
  - [ ] Record all cement used on or off project
- [ ] 38 Determine core locations based on daily production

Items Needed in Plant for Concrete Pavement

- [ ] 1 2 Rolls Duct Tape
- [ ] 2 2 Fans (For Cooling Samples)
- [ ] 3 Splitter
- [ ] 4 Minimum 6 Small Pans (Steel)
- [ ] 5 2 Timers
- [ ] 6 Thermometers (Probe Type & Sensor Type)
- [ ] 7 Scales (Electronic w/bottom screw attachment)
- [ ] 8 Minimum 2 Stirring Blades (Putty Knives, several sizes)
- [ ] 9 Set of Sieves (Preferably Large)
- [ ] 10 Mary Ann (Shaker)
- [ ] 11 Scoop & Trowels
- [ ] 12 Paper Towels, Shop Towels
- [ ] 13 Shovel and Sample Template
- [ ] 14 Sand Tube
- [ ] 15 Soft paint brush (for fine sieves)
- [ ] 16 Spatula (Metal)
- [ ] 17 3 Power Strips with Surge Protector
- [ ] 18 Citrus Cleaner in squirt bottle (from Maintenance)
- [ ] 19 Laptop
- [ ] 20 Printer w/extra cartridges & paper
- [ ] 21 Mop
- [ ] 22 Broom
- [ ] 23 Dustpan
- [ ] 24 Calendar
- [ ] 25 Stapler
- [ ] 26 Paperclips
- [ ] 27 2-Ring Punch
- [ ] 28 Thumbtacks
- [ ] 29 File Box with Folders
- [ ] 30 Brass Brushes
- [ ] 31 Concrete Cylinder Molds (6 X 12 and 4 X 8)
- [ ] 32 Oven
- [ ] 33 2 Scale Pans
- [ ] 34 6 Aggregate sample bags
- [ ] 35 Sample Tags
- [ ] 36 2 Cloth Towels
- [ ] 37 Aggregate Splitter
- [ ] 38 Beam Molds
- [ ] 39 Roller meter (air pot if calibrate roller meter)
- [ ] 40 Alcohol for roller meter
- [ ] 41 Unit weight bucket
- [ ] 42 Rubbermaid totes and lime or tanks (for storing cylinders/beams)
- [ ] 43 2-5 gallon buckets
- [ ] 44 Slump cone, base, and rod

Concrete Pavement Construction Checklist
"DAILY FIELD DATA"

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Daily Diary Items

- [ ] 1 Has Notice to Proceed been issued? (Make sure issued by latest start date)
- [ ] 2 Record time contractor began setting up traffic control. Traffic control checked.
- [ ] 3 Record reason for **NOT** charging a working day.
- [ ] 4 Record what work being done by contractor or sub-contractor.
- [ ] 5 Record weather conditions.
- [ ] 6 Record controlling Item of Work.
- [ ] 7 Record equipment and Personnel listed.
- [ ] 8 Record length and cause of delays.
- [ ] 9 Record disputed items. (Not a place for personal opinions)
- [ ] 10 Record pilot car operations what time it was ceased. (if applicable)
- [ ] 11 Record what time the contractor was completely off roadway, and open to unrestricted traffic.
- [ ] 12 Record all visitors on site and their purpose (Area Engineer, District Engineer, City or County Engineer, Topeka Personal/Representatives, etc)

Daily Field book Items

- [ ] 13 Record Traffic Control Checks.
- [ ] 14 Record temperature depth checks, width checks, edge slumps checks, density checks concrete checks
- [ ] 15 Record fresh concrete test results
- [ ] 16 Record of Patching / Waste. (Contractor should initial waste quantity on ticket)
- [ ] 17 Road Width / Lay down Width / After Rolling Width Checked and Recorded.
- [ ] 18 Balance books daily with Lab.
  ((recorded in field book (not spreadsheet) and checked by two (2) different inspectors))!

Miscellaneous Data

- [ ] 19 Check sub grade
  - [ ] Properly trimmed and compacted
  - [ ] Drains correctly
- [ ] 20 Check String line for slip forming
  - [ ] Free of tangles and knots
  - [ ] Straight and tight
  - [ ] Check that base properly moistened, no free standing water
  - [ ] Check sub grade elevation w/string line (once every 500')
  - [ ] Check dowel bars placed and secured
  - [ ] Check spacing and position
  - [ ] Make sure that support wires on baskets have been cut
  - [ ] Make sure dowels are greased
- [ ] 21 Checks forms properly set
  - [ ] Make sure contractor has side forms in case of repairs
  - [ ] Grade checked
  - [ ] steel/mesh wire placed correctly
  - [ ] Check paver-vibrator frequency, screeds
  - [ ] Check Concrete consolidated correctly
- [ ] 22 Concrete finished correctly
  - [ ] Check machines for oil leaks or contaminants
  - [ ] check depth, crown grade, width periodically
  - [ ] straight edging/hand floating correctly
  - [ ] joint conform to plans (expansion, transverse, ect.)
  - [ ] Curb edging
  - [ ] Check densities with a Nuclear Meter
  - [ ] Record Grooving checks

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"DAILY FIELD DATA"

- [ ] 23 Curing compound applied correctly
  - [ ] Certified material
  - [ ] Be sure that sides are cured
  - [ ] Rates documented and verified
- [ ] 24 After curing
  - [ ] Removal of forms according to specifications
  - [ ] Profilographs
  - [ ] Joints sawing at the appropriate time-check width and depth
- [ ] 25 Sealing joints
  - [ ] Make sure joints are clean and dry before sealing
  - [ ] Poured joints
  - [ ] Compression joints
  - [ ] Relief joints
- [ ] 26 Pay 90% of permanent striping items until 180 observation period has been observed

Concrete Pavement Construction Checklist

"Finaling"

- [ ] 1 Calculate profilograph and thickness adjustments if applicable
- [ ] 2 Are all dates entered in CMS (Work Complete, Acceptance, etc.)?
- [ ] 3 Print "Material Report Final" from CMS (both "acceptance" and "non-acceptance" reports).
- [ ] 4 Are all the "Primary Material Codes" correct at this point. If not, it would be best at this point to simply make the incorrect ones a "substitute" instead of trying to correct them completely by transferring materials off and then back.
- [ ] 5 Have the test reports been written for all the cement and admixtures? Did the verification samples pass that were sent in to Topeka?
- [ ] 6 Have all the "individuals" for each mix designation been entered into CMS under "Field Gradation Tests" (Type of Test = "ACI")?
- [ ] 7 Was the "Lab Inspector" witnessed by "District Materials" as was earlier required?
- [ ] 8 Are conversion factors needed? Do you have a square meter or square yard type of contract? If so, apply the appropriate conversion factors.
- [ ] 9 Submit final quantities change order for these line items along with newly created line items for bonus for final pay increase or pay decrease.
- [ ] 10 Make any necessary material re-assignments.
- [ ] 11 Prepare deviation report as per "District Policy".
- [ ] 12 Plant site released
- [ ] 13 Quarry roads reimbursement submitted
- [ ] 14 If stored material is on contract, make sure it is zero
- [ ] 15 Review striping after 180 day observation period an accept if satisfactory, if not have contractor correct necessary areas then accept project.
- [ ] 16 Does original contract amount plus/minus change order amount equal current contract amount?
- [ ] 17 Final estimate sent to contractor
- [ ] 18 Finals and proper forms sent to District