



Hot Mix Asphalt Pavements

PE/PS Workshop

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Overview

- Contract Documents/Other References
- Scope of Work
- Acceptance of Mixtures
- Preconstruction Activities
- Construction/Post-Construction Activities
- Available Resources



Contract Documents/Other References

- Standard Specifications
 - Section 401—QC/QA HMA Pavement
 - Section 402—HMA Pavement
 - Section 410—SMA Pavement
 - Section 304—Asphalt Bases
 - Section 306—Milling
 - Section 610—Approaches/Crossovers



Contract Documents/Other References (Continued)

- Contract Special Provisions
- Plans
- Indiana Test Methods
 - <http://www.in.gov/indot/3276.htm>
- GIFE/Construction Memorandums
 - www.in.gov/dot/div/contracts/conmemo/con_memo.htm



Scope of Work

- New Construction
- Reconstruction
- Rehabilitation
 - Patching
 - Widening
 - Overlays
 - Milling



Acceptance of Mixtures

- 401/410 Mixtures—QA Testing
 - Pay Factors
 - VMA, Air Voids, Binder Content, Density, Smoothness
- 402 Mixtures—Certification
- Warranty Mixtures



Preconstruction Activities

- Precon Discussion/Checklist Items
- QCP Submittal/Review (ITM 803)
- Coordination with District Testing
- Establish Computer Filing System
- Testing Sequence Number Log Book



Precon Discussion/Checklist

- Obtain Contractor's QCP
- HMA Production Plant Location(s)
 - Haul distance
 - Trucking/Plant Production Issues
 - Tarping of Mixtures During Haul



Precon Discussion/Checklist (Continued)

- Discuss Paving Operation
 - Number of Crews
 - Number of Shifts
 - Day Shifts vs. Night Shifts
 - Paving Sequencing/MOT Requirements
 - Planned Production Rates



Precon Discussion/Checklist (Continued)

- Schedule Pre-Production Meeting
 - Discuss Safety Issues
 - Discuss District Testing Requirements
 - Discuss Profilograph Operation Requirements
 - Discuss Coring Operation Requirements



QC Plan Review

- Performed by PE/PS
- Refer to ITM 803
- Contact District Testing for Guidance
- Do Not Approve if QCP is Deficient
- Require Compliance During Paving Operation

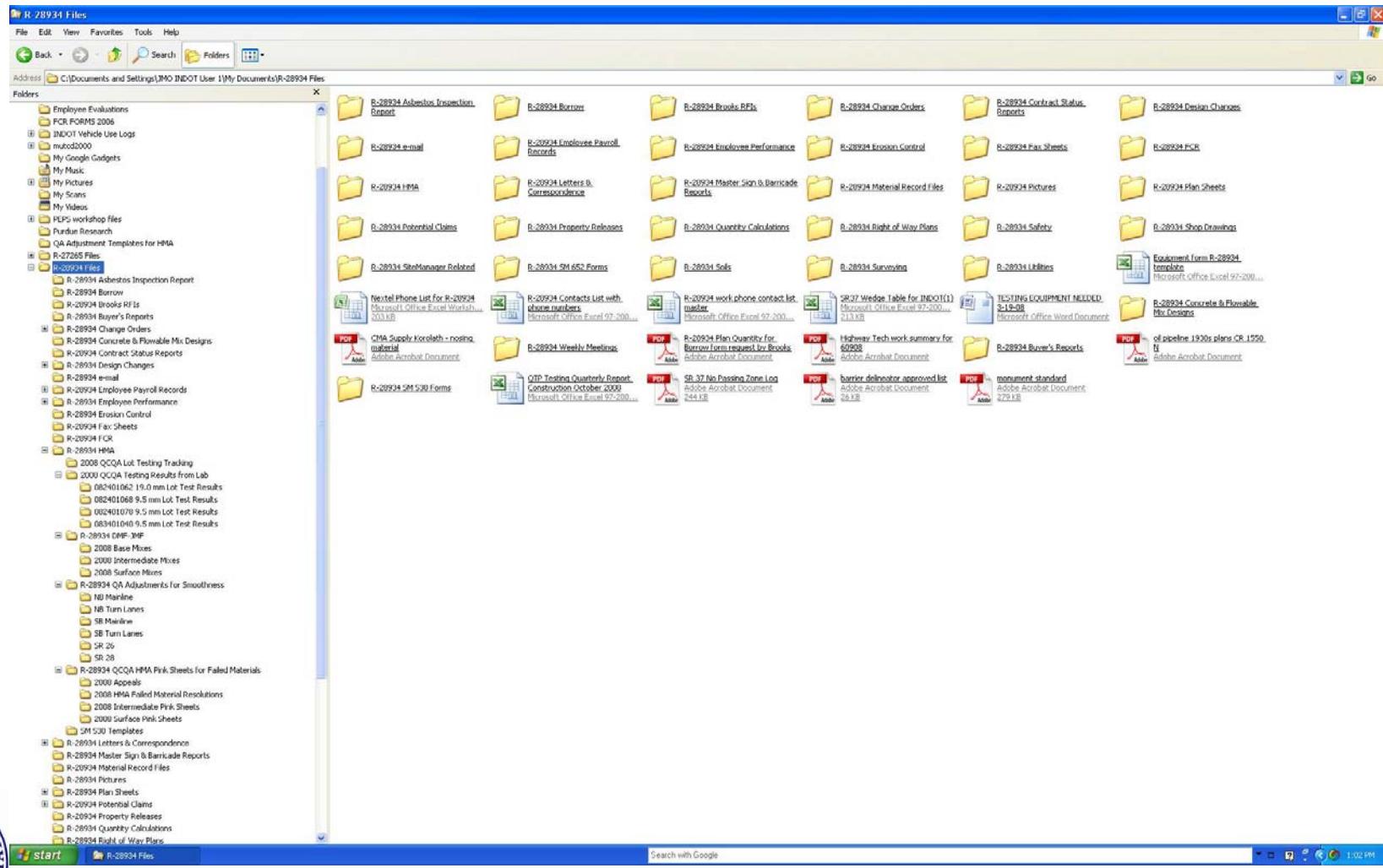


Coordination with District Testing

- Obtain Submitter Number
- Determine Lab Location
- Set Up Sample Delivery
- Coordinate SiteManager Data Requirements
- Coordinate Sample Paperwork Requirements



Example of Computer Filing System



Testing Sequence Numbers Log Book

Sample	Mix	Contract	Use/ Sample	L/S	At	Date
51364	084020745 #113 HMA Base, type A	R-28934	OCert	8-9 ^h	1000mg	9/2/08
51365	"	"	"	9 ^h -10 ^h	1000mg	9/2/08
51366	"	"	"	10 ^h -11 ^h	1000mg	9/3/08
51367	084020655 #32 HMA Base, type C	"	OCert	12-13 ^h	1000mg	9/3/08
51368	084020425 H3 HMA for granular, type A	"	OCert	3 ^h -4 ^h	1000mg	9/3/08
51371	083401068013 #28 HMA Surface, 3.649.5mm R-28034	Plate A: 304256858L 2.5m B: 30429058L 2.7m	1/1	600mg	9/22/08	
51371		Plate A: 30429658L 2.0m	1/1 ^A		9/23/08	
51372		Plate A: 33422858L 0.8m	1/2		9/23/08	
51372		Plate A: 334234658L 0.6m	1/2 ^A		9/23/08	
51373		Plate A: 324267158L 1.5m	1/3		9/23/08	
51373		Plate A: 33427058L 0.9m	1/3 ^A		9/23/08	
51374		Plate A: 334262658L 3.2m	1/3 ^B		9/23/08	
51374		Plate A: 3041618N8L 1.4m	1/4		9/23/08	
51381		Plate A: 334247258L 1.7m	1/4 ^A		9/23/08	
51381		Plate A: 304135N8L 0.7m	1/4 ^B		9/24/08	
51382		Plate A: 3342155N8L 2.5m	2/1		9/23/08	
51382		Plate A: 314625N8L 1.7m	2/1 ^A		9/24/08	
		Plate A: 334012N8L 1.0m	2/1 ^B		9/24/08	
		Plate A: 3441312N8L 3.4m	2/2		9/23/08	
		Plate A: 334108N8L 1.4m	2/2 ^A		9/24/08	
		Plate A: 334810N8L 1.5m	2/2 ^B		9/24/08	



Construction/Post-construction Activities

- DMF/JMF Management
 - Required for All Mixtures
 - Electronically Signed by DME
- 401 Mix Lot/Sublot Management
 - Separate for Each DMF/JMF
 - Based on Delivered Quantities
 - MAF Adjustments



Construction/Post-construction Activities (Continued)

- Paver Certification Verification
 - 401.10
- Multiple Crew/Plant Management
- Weather Management
 - 401.13, 402.12, 402.16
- QC Plan Compliance



Construction/Post-construction Activities (Continued)

■ Common Problems

- Noncompliant Mix Temperatures
- Debris in Mix
- Segregation of Mix
- Flushing of Asphalt
- Mat Pumping Due to Poor Subgrade
- No/Wrong JMF on Ticket
- No 402 Mix Certification



Construction/Post-construction Activities (Continued)

- Common Problems (Continued)
 - Diesel Fuel on Truck Beds/Hand Tools
- Suspension of Paving Operation
 - Communicate with AE
 - Non-conformance with Specifications
 - Non-conformance with QCP



Construction/Post-construction Activities (Continued)

- Failed Materials Management
 - “Pink Sheets” Include FMC Ruling
- QA Adjustments (401.19)
 - Volumetric Properties
 - Density
 - Smoothness



Construction/Post-construction Activities (Continued)

- Weigh Ticket/Yield Management
 - Verify Mix Lay Rate is Appropriate
 - Calculate Theoretical Quantity, TQ
 - $TQ = (\text{Plan Rate})(\text{Paved Area})(\text{MAF})$
 - Compare to Delivered Quantity for Area



Construction/Post-construction Activities (Continued)

- Witness Sampling Operation
- Immediate Possession of Samples
- Good Construction Practices
 - Paper for Construction Joints
 - Compaction Practices (402.15)
 - Longitudinal Joint Overlap
 - Vertical Face at Transverse Joints



Construction/Post-construction Activities (Continued)

- Milling Issues (306)
 - Macrotexture Testing
 - Straightedge Requirements
 - Milling Existing Deficient Cross Slopes
- Patching/Widening Issues (304)
 - Verify Patching Quantity in Contract
 - Excavation Included in Pay Item



Construction/Post-construction Activities (Continued)

- Tack Coat Issues (406)
 - Requires Clean, Dry Surface
 - Let Tack Break (Turn Black)
- Seal Coat Issues (404)
 - Requires Clean, Dry Surface
 - Place Cover Aggregate Before Emulsion Breaks



Construction/Post-construction Activities (Continued)

- Night Work Issues
 - Poor Visibility
 - Difficult to Identify Defects in Mat
 - Worker Safety
 - Safety of Traveling Public
- Warranty Contract Issues
 - Don't Overinspect



Available Resources

- District Resources
 - AE
 - District Testing
- Central Office Resources
 - Division of Construction Management
 - Office of Pavement Engineering
 - Office of Materials Management





Questions?

