PE/PS Workshop - 2009

Project Materials Use and Concerns

Project Materials and Acceptance

- QC/QA Specifications
- Quality Control Plans
- Certified Producers
- Personnel Qualifications
- Approved Materials
- Frequency Manual
- Material Testing and Acceptance

Types of Specifications

- METHOD
- END RESULT
- QC/QA – Statistically Based
- PERFORMANCE
  - Warranty
  - Performance Related

QC/QA SPECIFICATIONS

- HOT MIX ASPHALT (HMA)
- PORTLAND CEMENT CONCRETE PAVEMENT (PCCP)

QUALITY CONTROL

- Activities that have to do with making the Quality of a product what it should be

Quality Control

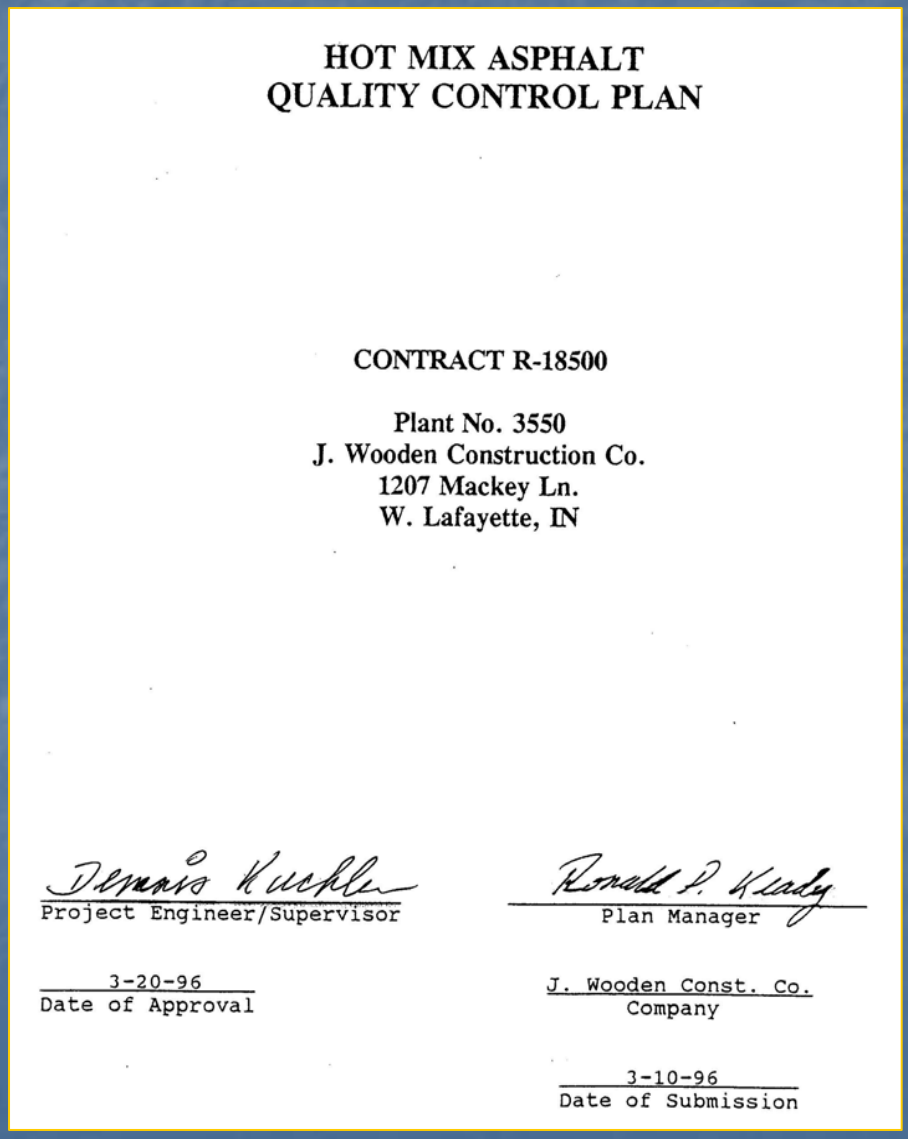
- Quality Control Plans – ITM 803
- Producer Technicians
- Certified Producers

QUALITY CONTROL PLANS

- QCP – A detailed description of the type and frequency of inspection, sampling, and testing deemed necessary to measure and control the various properties of the material

Quality Control Plans

- Contract specific
- Signed and dated by Contractor and PE/PS
- Maintained to reflect current status of operations
- Shall contain name and duties of all quality control personnel
- Placement operations shall not begin before the QCP has been accepted



HOT MIX ASPHALT
QUALITY CONTROL PLAN

CONTRACT R-18500

Plant No. 3550
J. Wooden Construction Co.
1207 Mackey Ln.
W. Lafayette, IN

Project Engineer/Supervisor

3-20-96
Date of Approval

Plan Manager

J. Wooden Const. Co.
Company

3-10-96
Date of Submission

Quality Control Plans – HMA & PCCP

- Quality Control Technicians
- Transportation of materials to project
- Paving Operations
- Joints
- Materials Sampling and Testing
- Response to Test Results
- Pavement Smoothness
- Documentation

Quality Control Plans - HMA

- Milling Procedures
- Process Balance

Quality Control Plans - PCCP

- Concrete Batching
- Trial Batch
- Finshing, Texturing, and Curing

Quality Control Technicians HMA

- Paving operations and joint construction
- Quality control tests for temperature, density, and smoothness
- Pavement samples for quality control and acceptance

Quality Control Technicians PCCP

- ACI Certified Concrete Field Testing Technician, Grade I
- Trial Batch
- Quality control tests
  - Gradation of aggregates
  - Flexural strength
  - Air content
  - Unit Weight
  - W/C ratio
  - Surface smoothness
  - Control charts

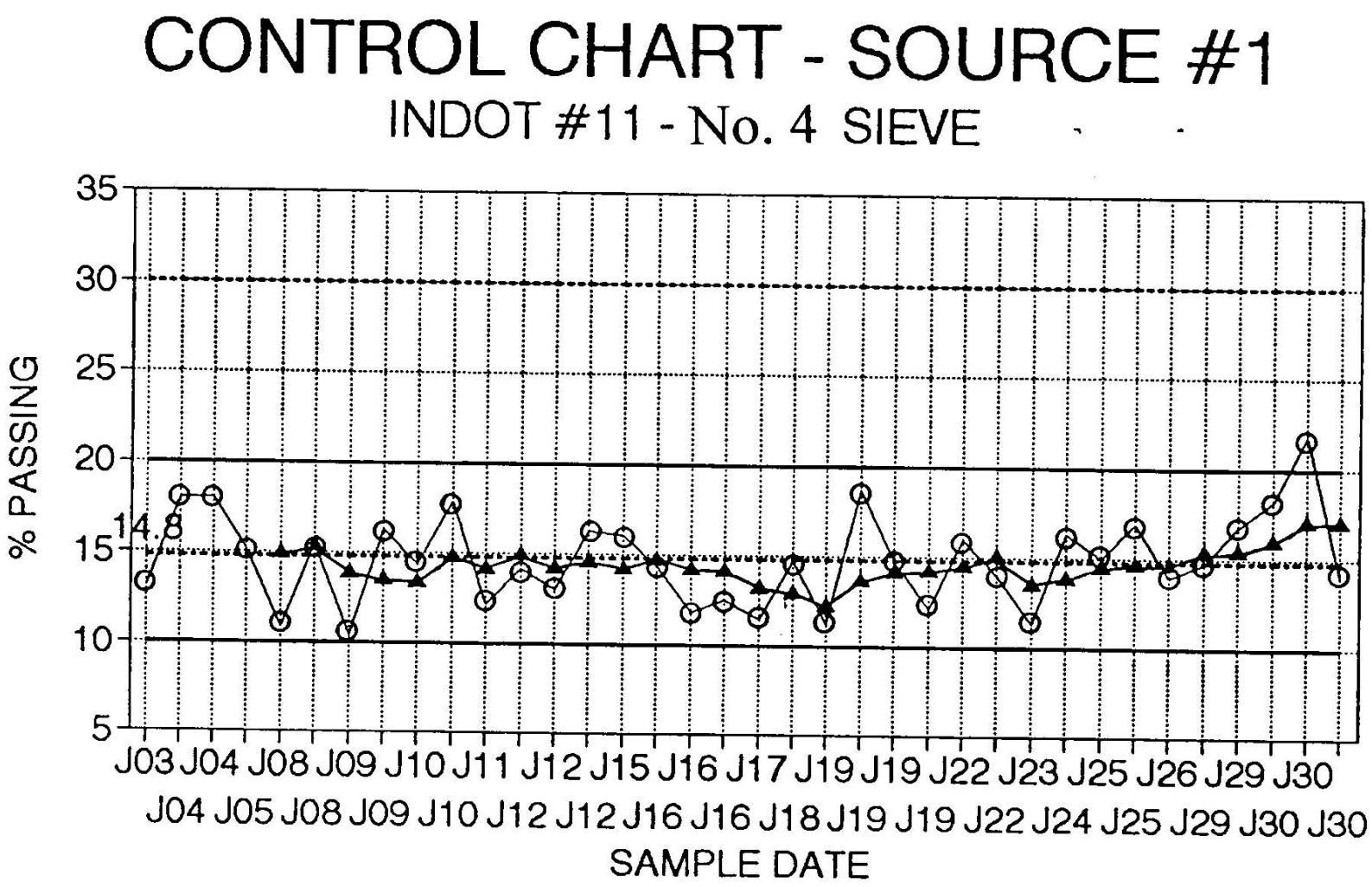
Certified Producers

- Certified Aggregate Producers (ITM 211)
- Certified HMA Producers (ITM 583)
- Asphalt Supplier Certification Program (ITM 581)
- Certified Precast Concrete Producer Program (ITM 813)
- Certified Precast Prestressed Concrete Producer Program (ITM 814)
- Reinforcing Bar and Dowel Bar Certification Program (ITM 301)
- Ready Mixed Concrete Plant Program (ITM 406)

Certified Aggregate Producer Program

- Statistically Based Program
- Quality Control Plan
- Daily Diary
- Production Testing – gradation, deleterious, & crushed content
- Load-out testing – gradation & decant

Certified Aggregate Producer Program



Certified HMA Producer Program

- Quality Control Plan
- Daily Diary
- Sample and test material from pavement and plant
- Control Charts
  - Binder content
  - Air voids
  - VMA

Certified HMA Producer Program

- Aggregates (stockpiles & blended), RAP, and HMA
- Binder content, moisture content, air voids, CAA, draindown (OG), temperature, and gradation (SMA)

Certified Asphalt Supplier Certification (ASC) Program

- Complete PG binder testing on each grade
- Supplies proper storage and handling procedures

PG Binder Acceptance - INDOT

- Lot – one week
- Sublot – one calendar day
- One sample tested per lot

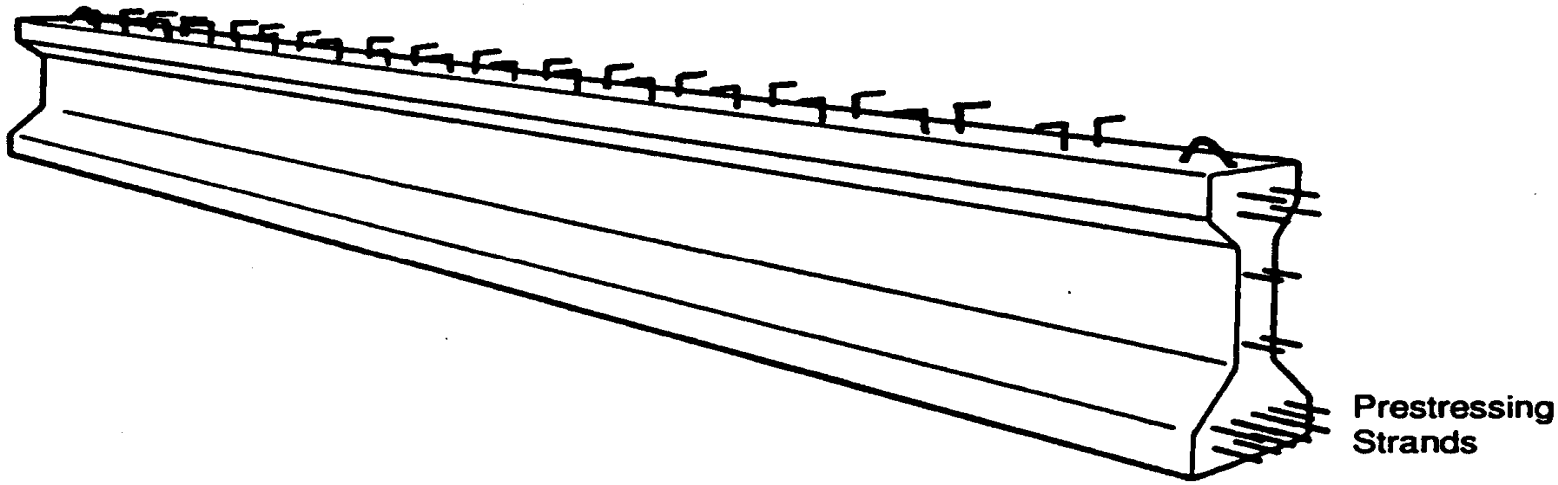
Certified Precast Concrete Producer Program

- ACPA or NPCA Certified
- INDOT Approved Materials

Certified Precast Concrete Producer Program

- Markings
  - Date of Manufacture
  - INDOT ID number
  - ACPA – “ACPA Certified Product” or “QCast” emblem
  - NPCA – “NPCA Certified Product”
  - Specification marking
- INDOT Approved Materials List

Certified Precast Prestressed Concrete Producer Program



- NPCA or PCI PB3 Certified – straight strands
- PB4 Certified – deflected strands
- INDOT inspection

Reinforcing Bar and Dowel Bar Certification Program – ITM 301

- Coater – Concrete Reinforcing Steel Institute (CRSI) Certified
- Manufacturer
  - Compliance to specification requirements for heats
  - Satisfactory testing with INDOT
  - Satisfactory verification testing

Reinforcing Bar and Dowel Bar Certification Program – ITM 301

- Acceptance – Bars
  - Type B Certification provided by manufacturer
- Acceptance - Coating
  - Type A Certification for coating thickness and adhesion tests
  - Type C Certification to identify coating material and state that the coating is from the Approved List of Epoxy Coatings for Steel

Certified Ready Mixed Concrete Plant Program

- NRMCA Plant Certification
- 2 Year cycle for inspection of plant
- Voluntary program
- More frequent scale calibrations
- INDOT still does inspection

Certified Ready Mixed Concrete Plant Program

- Delivery trucks included
- 14 month cycle for inspection

Personnel

- Qualified Technician Program
- Independent Assurance Program

Qualified Technicians

- Requirements
  - Written examination on test procedure
  - Proficiency by Independent Assurance Technician
  - Proficiency required once per year
  - If no proficiency within three years, the written exam is required again

Qualified Technicians - HMA

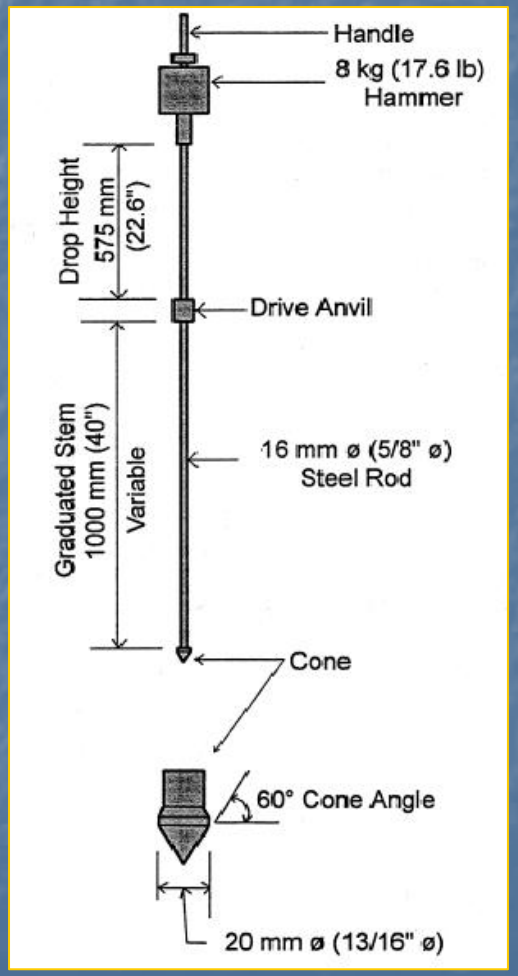
- Sampling – ITM 580

Qualified Technicians - PCCP

- AASHTO T 23 – Making and Curing Test Specimens in the Field
- AASHTO T 97 – Flexural Strength
- AASHTO T 119 – Slump
- AASHTO T 152 – Air Content by Pressure Method
- ASTM C 173 – Air Content by Volumetric
- ITM 403 – W/C Ratio

Qualified Technicians - Soils

- AASHTO T 191 – Density by Sand Cone
- AASHTO T 255 – Moisture Content of Aggregate
- AASHTO T 310 – Density by Nuclear Gauge
- ASTM D 6951 –Density by DCP
- ITM 506 – Field Moisture Content



Qualified Technicians - Smoothness

- ITM 912 -- Profilographs

Materials

- Approved Materials List
  - Materials
  - Sources
- Material Certifications
- Pre-Approved Materials
- Verification Samples

Approved Materials Lists

- **Approved Materials List**
  - **Materials (34)**
  - **Sources (14)**
  - **Specification Reference**
  - **Contact Person**

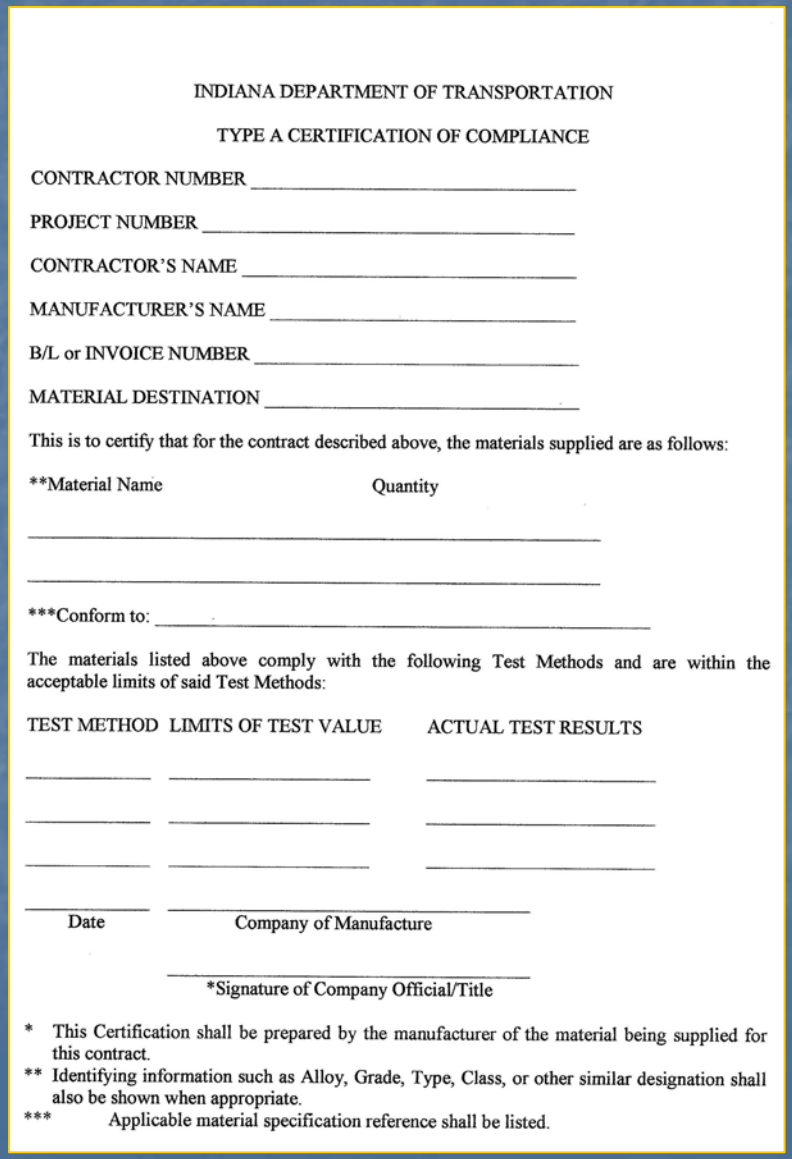
INDOT - Approved Materials List

If you have any questions or require additional information about an item on any list below, please e-mail them by selecting the author. Questions or additional information about the contents of this page, please e-mail Kenny Anderson, Materials Services Engineer or call 317-610-7251 ext. 203.

Approved Material List		
List Name	Specification/ITM	Contact Person
Anti-Adhesive Materials	409.03(b)	Harley Phillips
Cable Barrier Systems	SP 627-R-546	Yadu Shah
Cellular Concrete Fill Concentrate Manufacturers	216	Nayyar Siddiki
Cement Sources	901.01(b)2d	Tony Zander
Certified Aggregate Producers	917 & ITM 211	Robert Rees
Certified Guardrail Suppliers	910.12	Kenny Anderson
Certified Hot Mix Asphalt Producers	ITM 583	Mike Prather
Certified Precast Concrete Producers	ITM 813	Tony Zander
Certified Ready Mixed Concrete Plants	ITM406	Tony Zander
Certified Reinforcing Bar Epoxy Coaters	910.01(b)9 & ITM 301	Kenny Anderson
Certified Uncoated Reinforcing Bar Manufacturers	910.01 & ITM 301	Kenny Anderson
Chemical Anchor Systems	901.05	Tony Zander
Coating Formulations	909.02	Todd Tracy
Delineators	926.02(a) & (c)	Ting Nahrwold
Detectable Warning Elements	905.05	Tony Zander
Epoxy Coating for Steel	910.01(b)9 & 915.01(d)	Kenny Anderson
Geogrids	913.21	Som Hiremath
Geotextiles Used With Riprap And Underdrains	913.18 & 913.19	Som Hiremath
Guardrail End Treatments	601.07	Yadu Shah
Impact Attenuators	601.07.1	Yadu Shah
Joint Sealants	906.02(a)1	Tony Zander
Latex Modifiers	912.04	Tony Zander
Manhole Steps	907.04	Tony Zander
Non-Vapor Barrier Type Bonding Agents	506.02	Tony Zander
PCC Admixtures and Admixture Systems	912.03	Tony Zander
PCC Curing-Sealing Materials	702.22 & 912.02	Tony Zander
PCC Sealer/Healers	722.10	Tony Zander
Performance-Graded Asphalt Binder Suppliers	902.01(a) & ITM 581	Mike Prather
Plastic Delineator Posts	926.01	Ting Nahrwold
Plastic Pipe and Pipe Liner Sources	907.16 thru 907.25	Kenny Anderson
Polish Resistant Aggregate Sources	904.03(b) & ITM 214	Robert Rees
Pozzolan Sources	901.02, 901.03, & 901.04	Tony Zander
Proprietary Portland Cement Concrete Sealers	909.10	Tony Zander
Rapid Setting Patch Materials	901.07	Tony Zander
Recycled Foundry Sand	SP200-R-401	Nayyar Siddiki

Material Certifications

- Type A
  - Manufacturer
  - Copy of lab report
  - Certify materials meet specifications
- Type B
  - Manufacturer
  - Applicable specifications
  - Indicate limits of test values
  - Certify materials meet specifications
- Type C
  - Manufacturer
  - Applicable specifications
  - Certify materials meet specifications



INDIANA DEPARTMENT OF TRANSPORTATION

TYPE A CERTIFICATION OF COMPLIANCE

CONTRACTOR NUMBER _____

PROJECT NUMBER _____

CONTRACTOR'S NAME _____

MANUFACTURER'S NAME _____

B/L or INVOICE NUMBER _____

MATERIAL DESTINATION _____

This is to certify that for the contract described above, the materials supplied are as follows:

**Material Name Quantity

_____

_____

***Conform to: _____

The materials listed above comply with the following Test Methods and are within the acceptable limits of said Test Methods:

TEST METHOD	LIMITS OF TEST VALUE	ACTUAL TEST RESULTS
_____	_____	_____
_____	_____	_____
_____	_____	_____

_____ _____

Date Company of Manufacture

_____

*Signature of Company Official/Title

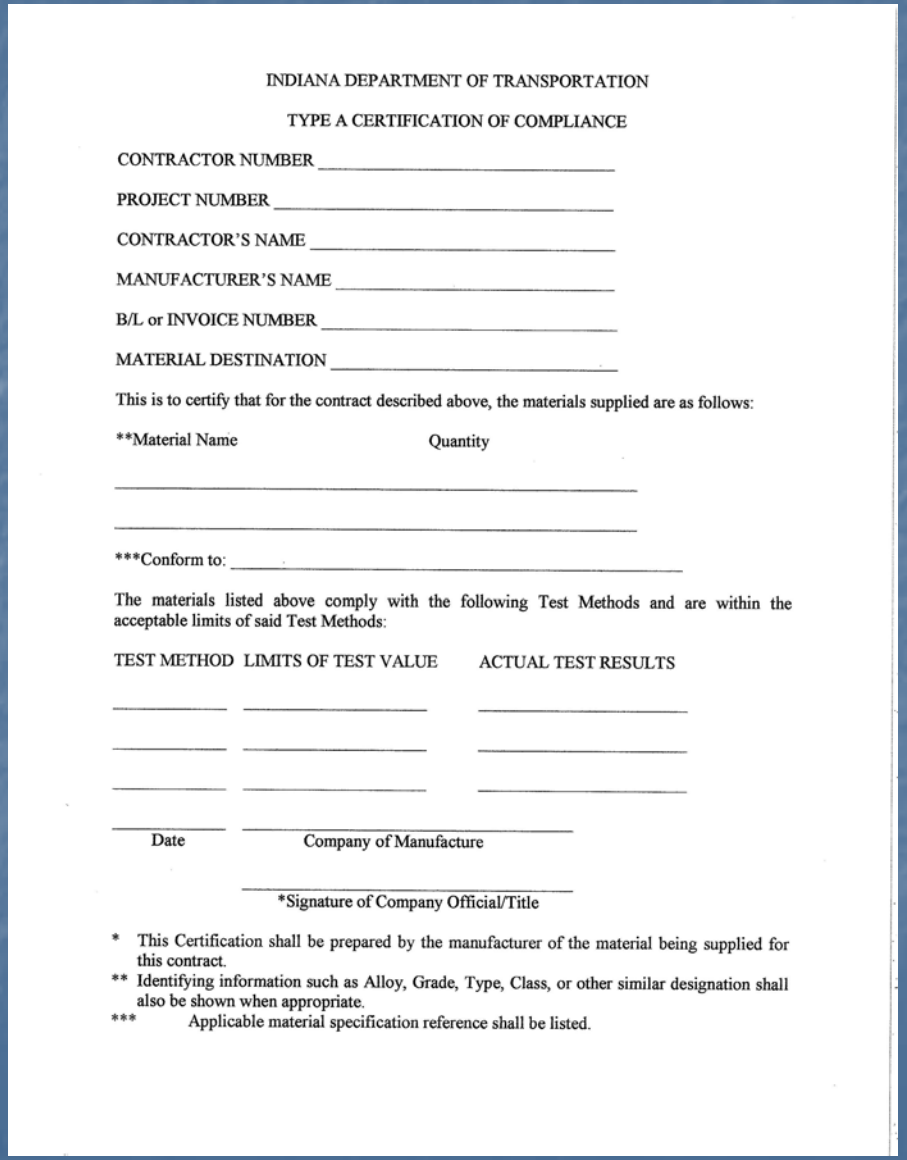
* This Certification shall be prepared by the manufacturer of the material being supplied for this contract.

** Identifying information such as Alloy, Grade, Type, Class, or other similar designation shall also be shown when appropriate.

*** Applicable material specification reference shall be listed.

Material Certifications

- Type D
  - Contractor
  - Applicable specifications
  - Certify materials meet specifications
  - Product identification
- Other Types
  - Described in material's specifications



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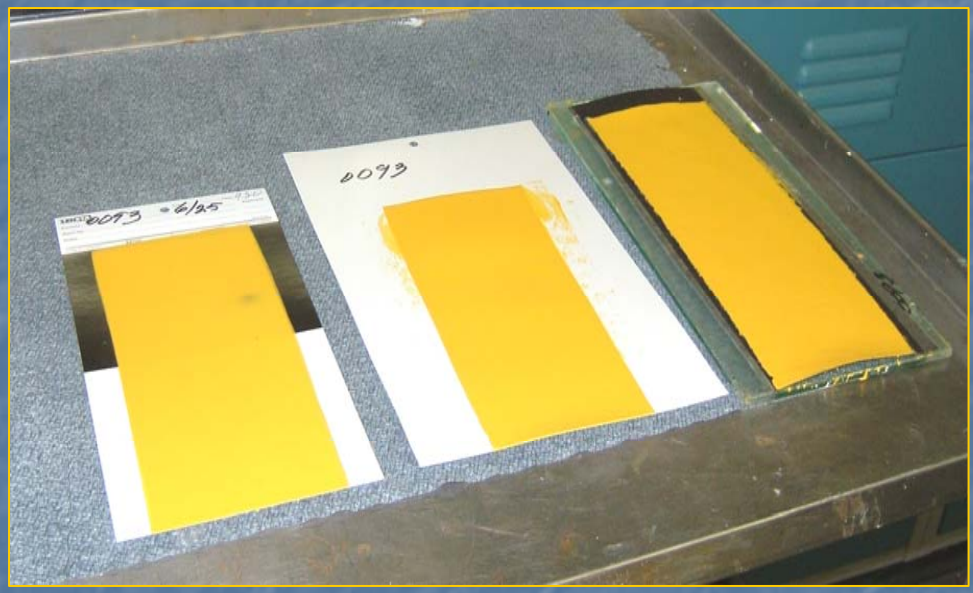
Pre-Approved Materials



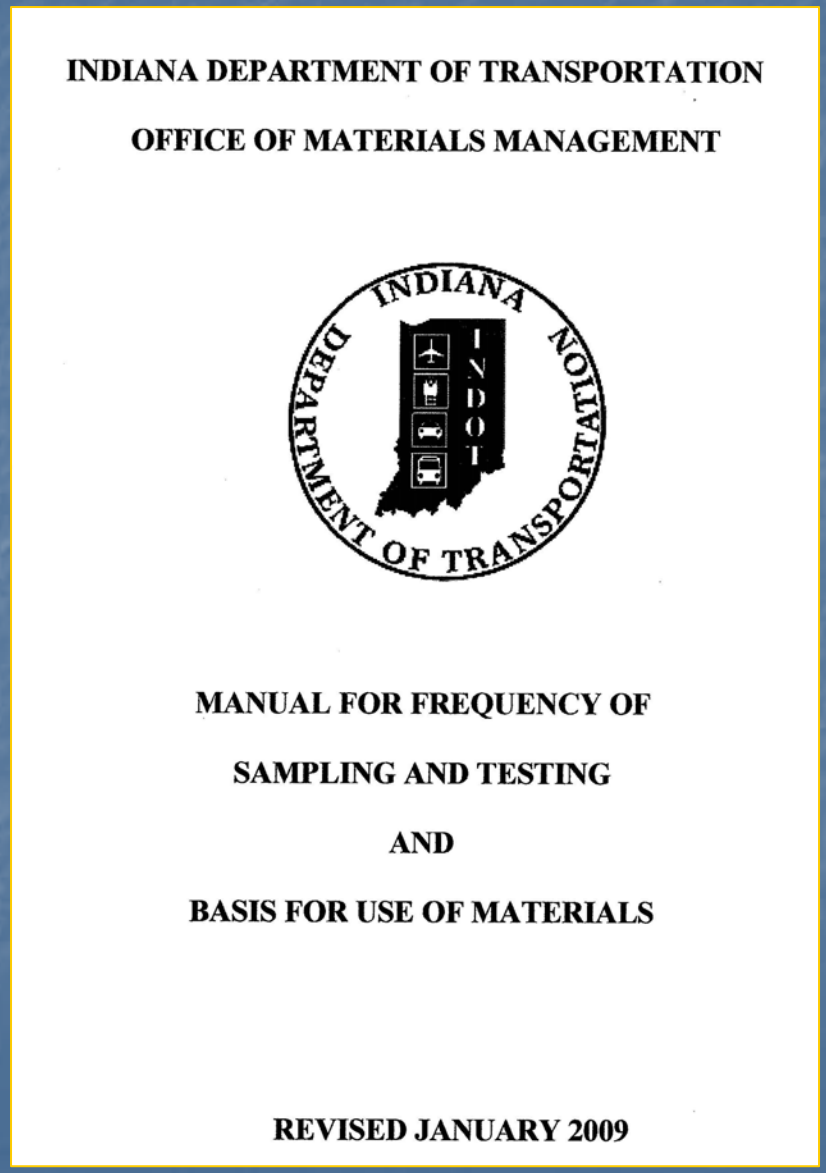
- Glass Spheres
- Paints
- Hot Pour Joint Sealants

Verification Samples

- Frequency Manual
  - Cement
  - Fly ash
  - Concrete admixtures
  - Curing materials
  - Reinforcing steel
  - Hydrated lime
  - Geotextiles

Frequency Manual

- Minimum required number of tests
- Location of samples and tests
- Basis of Use – SiteManager Test Template



INDIANA DEPARTMENT OF TRANSPORTATION

OFFICE OF MATERIALS MANAGEMENT

MANUAL FOR FREQUENCY OF

SAMPLING AND TESTING

AND

BASIS FOR USE OF MATERIALS

REVISED JANUARY 2009

QUALITY ASSURANCE

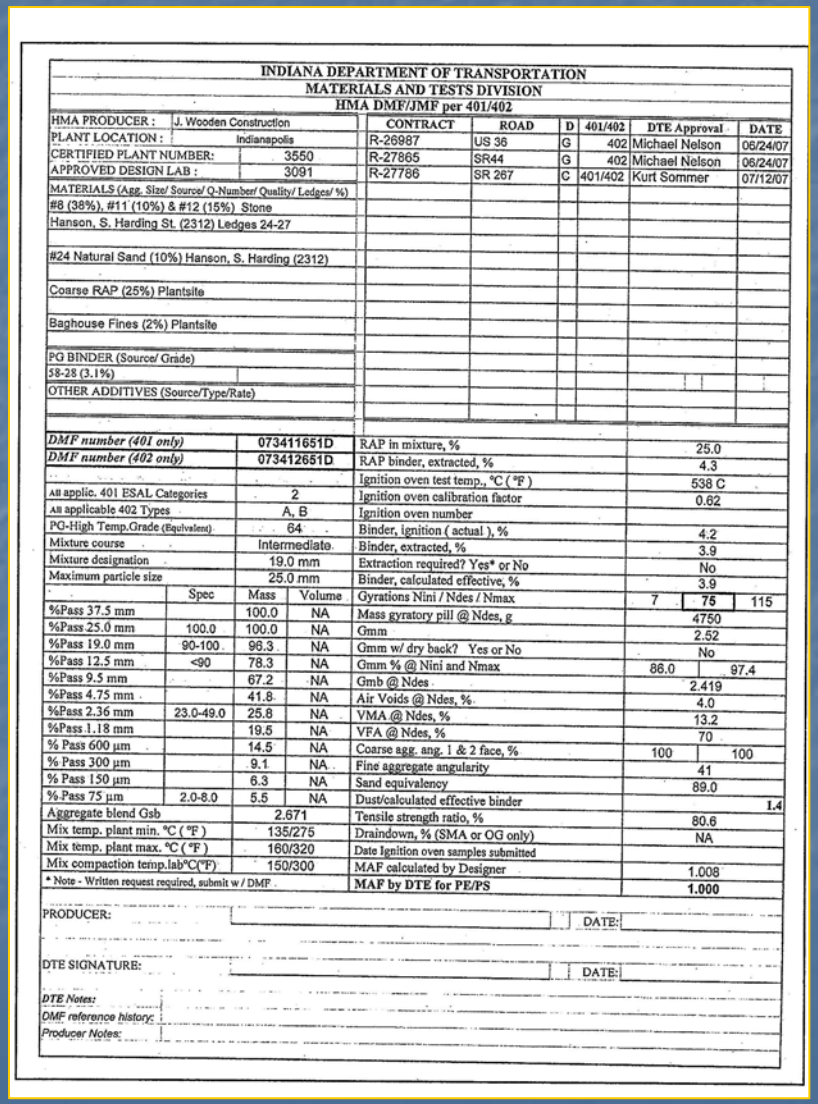
- Activities that have to do with making sure that the Quality of a product is what it should be

Quality Assurance - Mix Designs

- HMA
  - Approved Lab
  - AMRL Inspection
  - Sample Proficiency Program
  - Design Approved by DTE
- PCCP
  - Trial Batch
  - Design Approved by DTE

Quality Assurance – HMA DMF

- Submitted one week prior to use
- Based on ESAL and mixture designation
- Approved by DTE



INDIANA DEPARTMENT OF TRANSPORTATION
MATERIALS AND TESTS DIVISION
HMA DMF/JMF per 401/402

HMA PRODUCER :	J. Wooden Construction
PLANT LOCATION :	Indianapolis
CERTIFIED PLANT NUMBER:	3550
APPROVED DESIGN LAB :	3091

CONTRACT	ROAD	D	401/402	DTE Approval	DATE
R-26987	US 36	G	402	Michael Nelson	06/24/07
R-27865	SR44	G	402	Michael Nelson	06/24/07
R-27786	SR 267	C	401/402	Kurt Sommer	07/12/07

MATERIALS (Agg. Size/ Source/ Q-Number/ Quality/ Ledges/ %)
#8 (38%), #11 (10%) & #12 (15%) Stone
Hanson, S. Harding St. (2312) Ledges 24-27
#24 Natural Sand (10%) Hanson, S. Harding (2312)
Coarse RAP (25%) Plantsite
Baghouse Fines (2%) Plantsite
PG BINDER (Source/ Grade)
58-28 (3.1%)
OTHER ADDITIVES (Source/Type/Rate)

DMF number (401 only)	073411651D
DMF number (402 only)	073412651D
All applic. 401 ESAL Categories	2
All applicable 402 Types	A, B
PG-High Temp.Grade (Equivalent)	64
Mixture course	Intermediate
Mixture designation	19.0 mm
Maximum particle size	25.0 mm

	Spec	Mass	Volume
%Pass 37.5 mm		100.0	NA
%Pass 25.0 mm	100.0	100.0	NA
%Pass 19.0 mm	90-100	96.3	NA
%Pass 12.5 mm	<90	78.3	NA
%Pass 9.5 mm		67.2	NA
%Pass 4.75 mm		41.8	NA
%Pass 2.36 mm	23.0-49.0	25.8	NA
%Pass 1.18 mm		19.5	NA
% Pass 600 µm		14.5	NA
% Pass 300 µm		9.1	NA
% Pass 150 µm		6.3	NA
% Pass 75 µm	2.0-8.0	5.5	NA
Aggregate blend Gsb		2.671	
Mix temp. plant min. °C (°F)		135/275	
Mix temp. plant max. °C (°F)		160/320	
Mix compaction temp.lab°C(°F)		150/300	

* Note - Written request required, submit w / DMF

RAP in mixture, %	25.0
RAP binder, extracted, %	4.3
Ignition oven test temp., °C (°F)	538 C
Ignition oven calibration factor	0.62
Ignition oven number	
Binder, ignition (actual), %	4.2
Binder, extracted, %	3.9
Extraction required? Yes* or No	No
Binder, calculated effective, %	3.9
Gyrations Nini / Ndes / Nmax	7 | 75 | 115
Mass gyratory pill @ Ndes, g	4750
Gmm	2.52
Gmm w/ dry back? Yes or No	No
Gmm % @ Nini and Nmax	86.0 | 97.4
Gmb @ Ndes	2.419
Air Voids @ Ndes, %	4.0
VMA @ Ndes, %	13.2
VFA @ Ndes, %	70
Coarse agg. ang. 1 & 2 face, %	100 | 100
Fine aggregate angularity	41
Sand equivalency	89.0
Dust/calculated effective binder	1.4
Tensile strength ratio, %	80.6
Draindown, % (SMA or OG only)	NA
Date Ignition oven samples submitted	
MAF calculated by Designer	1.008
MAF by DTE for PE/PS	**1.000**

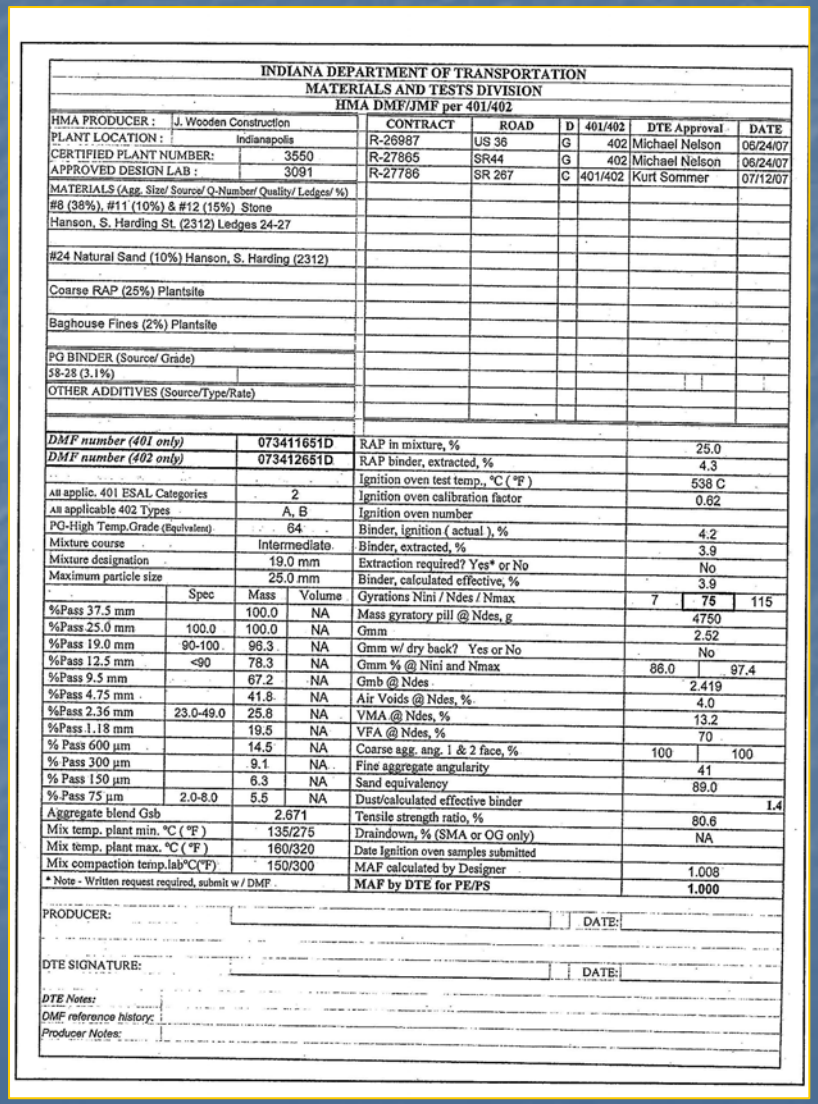
PRODUCER: DATE:

DTE SIGNATURE: DATE:

DTE Notes:
DMF reference history:
Producer Notes:

Quality Assurance – HMA JMF

- Adjustment Period
  - 5000 tons for Base and Intermediate mixture
  - 3000 tons for Surface mixture
- JMF submitted for approval to DTE one working day after receipt of test results for binder content, VMA, and air voids from adjustment period



INDIANA DEPARTMENT OF TRANSPORTATION
MATERIALS AND TESTS DIVISION
HMA DMF/JMF per 401/402

HMA PRODUCER :	J. Wooden Construction
PLANT LOCATION :	Indianapolis
CERTIFIED PLANT NUMBER:	3550
APPROVED DESIGN LAB :	3091

CONTRACT	ROAD	D	401/402	DTE Approval	DATE
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58-28 (3.1%)
OTHER ADDITIVES (Source/Type/Rate)

DMF number (401 only)	073411651D
DMF number (402 only)	073412651D
All applic. 401 ESAL Categories	2
All applicable 402 Types	A, B
PG-High Temp.Grade (Equivalent)	64
Mixture course	Intermediate
Mixture designation	19.0 mm
Maximum particle size	25.0 mm

	Spec	Mass	Volume
%Pass 37.5 mm		100.0	NA
%Pass 25.0 mm	100.0	100.0	NA
%Pass 19.0 mm	90-100	96.3	NA
%Pass 12.5 mm	<90	78.3	NA
%Pass 9.5 mm		67.2	NA
%Pass 4.75 mm		41.8	NA
%Pass 2.36 mm	23.0-49.0	25.8	NA
%Pass 1.18 mm		19.5	NA
% Pass 600 µm		14.5	NA
% Pass 300 µm		9.1	NA
% Pass 150 µm		6.3	NA
%.Pass 75 µm	2.0-8.0	5.5	NA
Aggregate blend Gsb		2.671	
Mix temp. plant min. °C (°F)		135/275	
Mix temp. plant max. °C (°F)		160/320	
Mix compaction temp.lab°C(°F)		150/300	
* Note - Written request required, submit w / DMF			

RAP in mixture, %	25.0
RAP binder, extracted, %	4.3
Ignition oven test temp., °C (°F)	538 C
Ignition oven calibration factor	0.62
Ignition oven number	
Binder, ignition (actual), %	4.2
Binder, extracted, %	3.9
Extraction required? Yes* or No	No
Binder, calculated effective, %	3.9
Gyrations Nini / Ndes / Nmax	7 / 75 / 115
Mass gyratory pill @ Ndes, g	4750
Gmm	2.52
Gmm w/ dry back? Yes or No	No
Gmm % @ Nini and Nmax	86.0 / 97.4
Gmb @ Ndes	2.419
Air Voids @ Ndes, %	4.0
VMA @ Ndes, %	13.2
VFA @ Ndes, %	70
Coarse agg. ang. 1 & 2 face, %	100 / 100
Fine aggregate angularity	41
Sand equivalency	89.0
Dust/calculated effective binder	1.4
Tensile strength ratio, %	80.6
Draindown, % (SMA or OG only)	NA
Date Ignition oven samples submitted	
MAF calculated by Designer	1.008
MAF by DTE for PE/PS	**1.000**

PRODUCER: DATE:

DTE SIGNATURE: DATE:

DTE Notes:
DMF reference history:
Producer Notes:

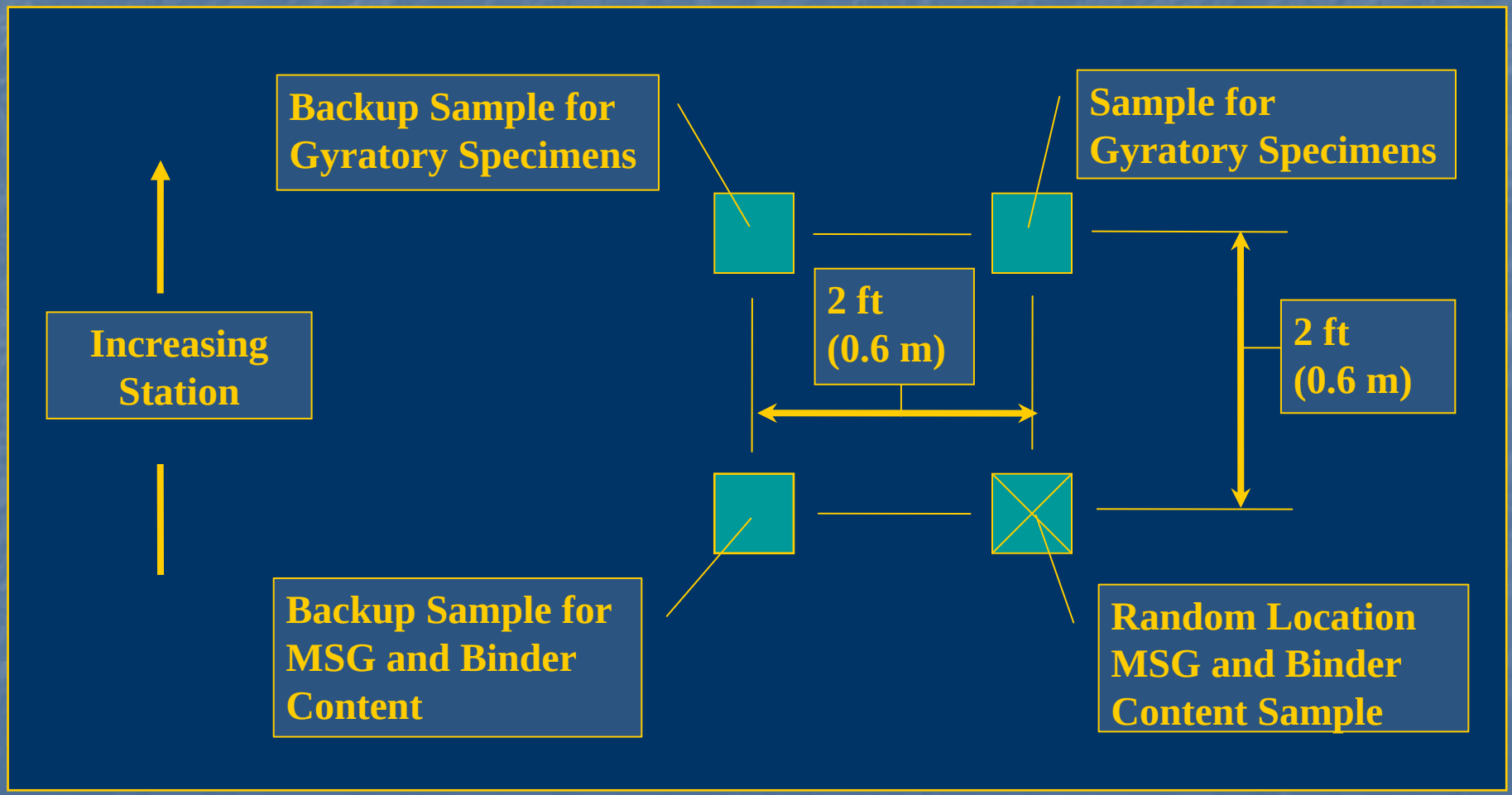
Quality Assurance HMA Random Sampling – ITM 802

- HMA
  - Random sublot ton
  - Truck containing that ton is selected
  - Distance truck places the mixture determined
  - Random transverse and longitudinal distance determined

Quality Assurance Sampling
Lots and Sublots - HMA

- **Lots -- 5000t for Base & Intermediate**
  -- 3000t for Surface
- **Sublots -- 1000t for Base & Intermediate**
  -- 600t for Surface

Quality Assurance Sampling - HMA



Quality Assurance Sampling - HMA

Quality Assurance - CMDS Concrete Trial Batch

- PCCP
  - Validate CMD compliance
  - Validate sampling and testing procedures

Quality Assurance - CMDS Concrete Trial Batch

- Air Content -- 5.0 % - 10.0 %
- Plastic Unit weight -- ± 3.0 % of CMDS
- W/C ratio -- ± 0.030 % of target value of CMDS and shall not exceed 0.450
- Flexural strength -- minimum of 570 psi

Volume (ft^3)		One yd^3 Materials	Weight (lb)	
			SSD	Batch
A	**1.755**	Air	I **0**	O
B	**2.582**	Cement	J **507.6**	P **508**
C	**0.452**	Fly Ash	K **70.5**	Q **71**
D	**4.929**	Water	L **307.5**	T**(29gal)242**
Paste (E)	**9.718**			
Aggregate (F)	**17.282**			
G	**6.567**	Fine Aggregate	M **1073.6**	R **1115**
H	**10.715**	Coarse Aggregate	N **1785.2**	S **1810**
Total (E + F)	**27.0**			

Quality Assurance - CMDP

- Submitted to DTE upon completion of Trial Batch
- INDOT Spreadsheet
- Minimum of 3 work days prior to production
- Production shall not start without approved CMDP

Volume (ft^3)		One yd^3 Materials	Weight (lb)	
			SSD	Batch
A	**1.755**	Air	I **0**	O
B	**2.582**	Cement	J **507.6**	P **508**
C	**0.452**	Fly Ash	K **70.5**	Q **71**
D	**4.929**	Water	L **307.5**	T**(29gal)242**
Paste (E)	**9.718**			
Aggregate (F)	**17.282**			
G	**6.567**	Fine Aggregate	M **1073.6**	R **1115**
H	**10.715**	Coarse Aggregate	N **1785.2**	S **1810**
Total (E + F)	**27.0**			

Quality Assurance Sampling Lots and Sublots - PCCP

- PCCP
  - Lots -- 7200 syd
  - Sublots -- 2400 syd

Quality Assurance Sampling - PCCP

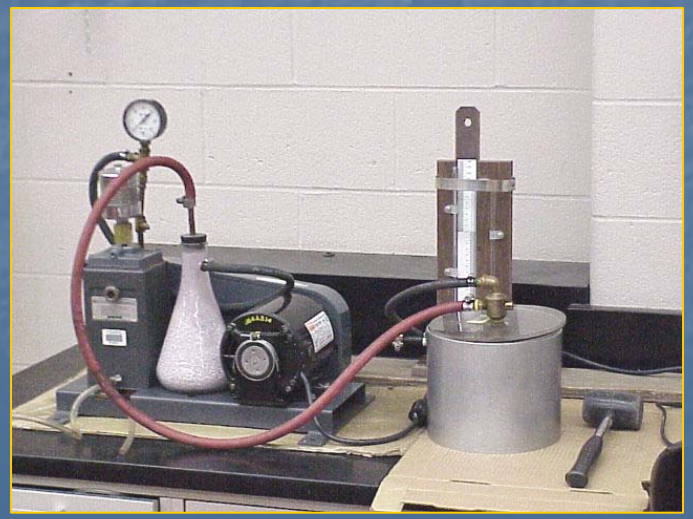
- Paver – air content and unit weight
- Plant – flexural strength

Quality Assurance Sampling - Cores

- HMA – Density
- Concrete - Thickness
- HMA/PCCP
  - Length of sublot x random number
  - Width of pavement x random number

Quality Assurance
HMA Acceptance -- INDOT

- HMA
  - Binder Content
  - Air Voids
  - VMA
  - Density
  - Smoothness



Quality Assurance
Material Acceptance -- 402

- 402 – Type D Certification
  - Air voids
  - Binder content
  - 1st 250t and each subsequent 1000t of base and intermediate
  - 1st 250t and each subsequent 600t for surface

INDIANA DEPARTMENT OF TRANSPORTATION
HOT MIX ASPHALT (HMA) CERTIFICATION

CONTRACT NUMBER RS-30000 DATE 5/3/07

CERTIFIED HMA PRODUCER J. Wooden Construction

CERTIFIED HMA PLANT NUMBER 3550 DMF/JMF NUMBER 0310075

PG BINDER SOURCE 7199 PG BINDER GRADE PG 64-22

MIXTURE TYPE AND SIZE HMA Surface, 9.5 mm, Type A

DESIGN ESAL 200,000

Air Voids 4.0 (from DMF/JMF) Binder Content 5.5 (from DMF/JMF)

This is to certify that the test results for Air Voids and Binder Content represent the HMA mixture supplied to this contract.

Air Voids 4.3 (± 1.5 % from DMF/JMF) Binder Content 5.7 (± 0.7 % from DMF/JMF)

* [ ] Test results are not available for submittal. A production sample shall be taken within the first 250 t (250 Mg) and each subsequent 1000 t (1000 Mg) for base and intermediate mixtures and each subsequent 600 t (600 Mg) for surface mixtures.

* ✓ If Applicable

Signature of HMA Producer Official

Title of Official

FOR PE/PS USE ONLY

PAY ITEM(S) _____ BASIS FOR USE NO. C999998

SPECIFICATION REFERENCE

__ 304.04 - Patching	__ 402.07(c) - Temporary HMA	__ 610.02 - Approaches
__ 304.05 - Widening	__ 503.03(e) - Terminal Joints	__ 611.02 - Crossovers
__ 402.04 - HMA Pavements	__ 507.05(b) - Partial Depth Patching	__ 718.04 - Underdrains
__ 402.07(a) - Rumble Strips	__ 604.07(c) – Sidewalk	__ 801.11- Temp. Cross
__ 402.07(b) - Wedge & Leveling	__ 605.07(c) - Curbing	

Quality Assurance Concrete Random Sampling – ITM 802

- Plastic Concrete
  - Determine the number of sample segments
  - Determine sample segment size
  - Random target area
  - Length of target area
  - Distance to random target area

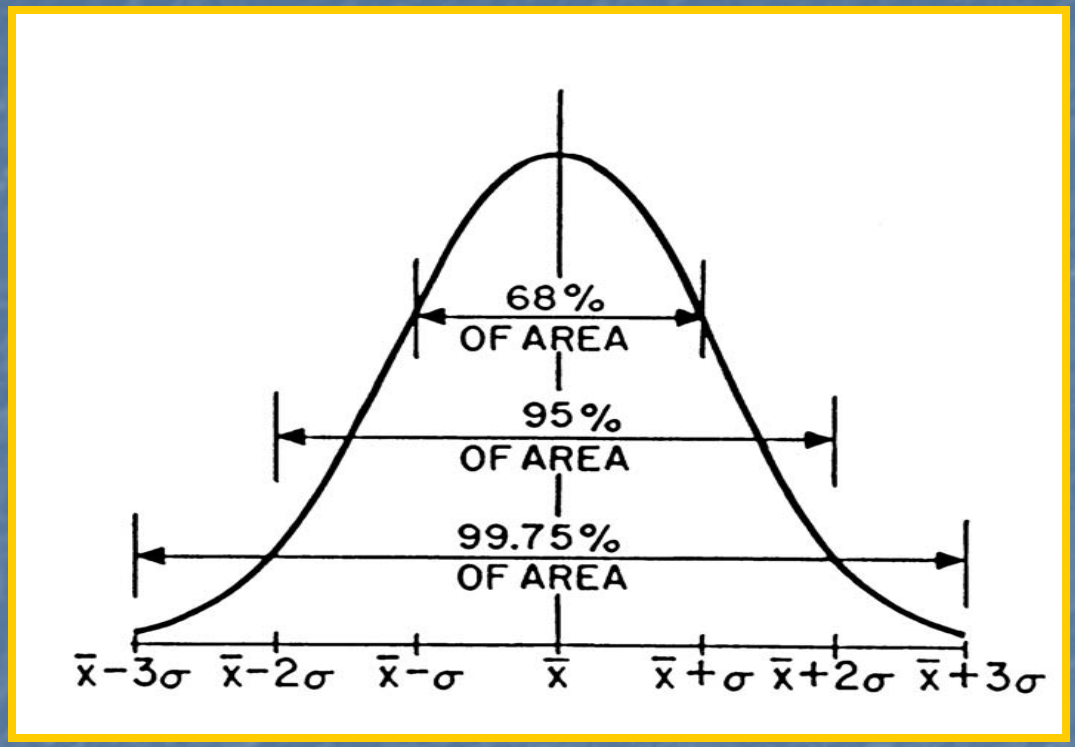
Concrete Acceptance - INDOT

- PCCP
  - Flexural Strength
  - Air Content
  - Unit Weight
  - W/C Ratio
  - Thickness

Quality Assurance
Smoothness – HMA/PCCP

- Smoothness – Profilograph

Quality Assurance - HMA Pay Factors



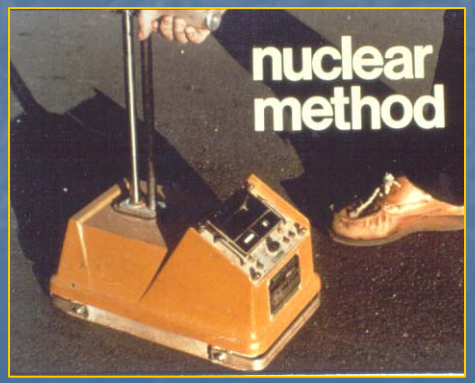
- HMA – Percent Within Limits (PWL)
  - Binder Content, Air Voids, VMA, & Density (% MSG)
  - Smoothness – Profile Index

Material Acceptance -- Aggregates

- CAPP Producer – D number
  - Subbase
  - Underdrains
  - B Borrow and Structural backfill (may come from a local site)
- Exceptions for CAPP
  - Precast concrete items
  - Snow and ice abrasive materials

Material Acceptance -- Soils

- Moisture Content
  ITM 506
- Density
  - Sand Cone
    AASHTO T 191
  - Nuclear Gauge
    AASHTO T 310
  - Dynamic Cone Penetrometer
    ASTM D 6951



HMA Appeal Process

- HMA
  - Appeal in writing within seven days of receipt of results for lot
  - Includes QC test results
  - Backup samples for binder content, air voids, and VMA
  - Additional cores for density

Quality Assurance
PCCP Pay Adjustments

- PCCP Concrete
  - Flexural Strength
  - Air Content
  - Lot Range for Air Content
  - Thickness
  - Smoothness

Lot Average Flexural Strength	
psi	Pay Factors
570 and above	1.00
565 - 569	0.98
560 - 564	0.96
555 - 559	0.94
550 - 554	0.92
545 - 549	0.89
540 - 544	0.86
535 - 539	0.83
525 - 534	0.78
515 - 524	0.72
514 or less	*

PCCP Appeal Process

- PCCP
  - Appeal in writing within five days of receipt of results for lot
  - Includes QC test results
  - Flexural Strength (>50psi) -- cores taken for split tensile strength
  - Air Content (>0.5%)– additional cores

- www.in.gov/dot
- Doing Business with INDOT
  - Other Business

Other Business

- Contractors
  Letting Information, Standards and Specifications, Bid Tabulations, etc. information
- Designers
  Design Manual, Utility Information, Bulletins, etc.
- Local Public Agencies
  LPA, RFP, consultant selection, production schedule, letting, etc. information
- Public Private Partnerships
  The Indiana Department of Transportation is in the process of creating a program to advance public-private partnerships for transportation infrastructure. If you have any questions regarding our program, please send them to I-69@indot.in.gov and we will respond as soon as possible. Thank you for your interest. Joe Gustin, Deputy Commissioner, Division of Public-Private Partnerships.
- Vendors
  - Purchasing/Procurement
- Available Funding Programs
  - Rail
    - Industrial Rail Service Fund
    - Railroad Grade Crossing Fund
    - Section 130 Program
  - Transit
    - Public Mass-Transportation Fund
    - Rural Public Transportation
    - Specialized Public Transportation
- Freight Mobility
- Materials and Tests information

Materials Management Information

Approved Lists

Geotechnical Consultants
A listing of Geotechnical Consultants approved to perform geotechnical work on INDOT projects.

HMA Design Labs
A listing of HMA Design Laboratories approved to perform HMA Design work for INDOT projects.

Approved Materials
A listing of materials and suppliers pre-approved and tested that meet INDOT specifications for immediate use on INDOT Contracts.

Frequency of Sampling and Testing Manual
This is the manual that outlines the Sampling and Testing requirements of materials for acceptance purposes on INDOT contracts.

Materials Management Information

PG Asphalt Binder Index

PG 64-22 Average Monthly Price
PG Asphalt Binder Index Adjustment

Publications and Manuals

Geotechnical Manuals and Guidelines
Manuals, Guidelines, Forms, and Approved List of Suppliers and Geotechnical Consultants.

Indiana Test Methods or Procedures Index
Test Methods and Procedures developed by INDOT for use with INDOT Specifications

Materials Management Information

Quality Assurance Manuals:

Certified Aggregate Technician Manual

Manual outlining the procedures to be followed by the Certified Aggregate Technicians

Certified Hot Mix Asphalt Technician Manual

Manual outlining the procedures to be followed by the Certified Hot Mix Asphalt Technician

Inspection and Sampling Procedures for Fine & Coarse Aggregates

Procedures to be followed for the inspection and sampling of fine and coarse aggregate stockpiles

Superstructure Concrete Certified Technician Program Manual

Manual outlining the procedures to be followed by the Certified Superstructure Concrete Technician

Qualified Technician Program

Program Description

Test Methods