Advancing Pavement Preservation Through Certification

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Presentation Outline

- Background
- Certification Framework
- Agency Certification Process
- Contractor Certification Process
- Contractor Company Decertification

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INSPECTION
OF THE
MATERIALS AND WORKMANSHIP
EMPLOYED IN
CONSTRUCTION.

A Reference Book for the Use of Inspectors, Superintendents, and Others Engaged in the Construction of Public and Private Works.

CONTAINING

A COLLECTION OF MEMORANDA PERTAINING TO THE DUTY OF INSPECTORS: QUALITY AND DEFECTS OF MATERIALS; REQUISITES FOR GOOD CONSTRUCTION; METHODS OF SLIGHTING WORK; ETC., ETC.

BY
AUSTIN T. BYRNE,
Civil Engineer,
Author of "Highway Construction."

FIRST EDITION.
FIRST THOUSAND.

NEW YORK:
JOHN WILEY & SONS.
LONDON: CHAPMAN & HALL, LIMITED.
1899.

Background

1899

1st Comprehensive Inspection Manual in the United States

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Background

1974

- Certification concept for highway construction was envisioned.
- American Association of State Highway and Transportation Officials (AASHTO) and the Federal Highway Administration partnered to develop "*a nationally-applicable, individualized, job-competency-based, nondiscriminatory certification system that could be interfaced with education/training resources and a variety of personnel systems*."

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Background

1976

- AASHTO endorsed the program for use on a voluntary basis by State Departments of Highways and Transportation.

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Background

Today

- To receive federal funding for highway and bridge projects, a quality assurance/quality control program must be in place that ensures that qualified and certified personnel are testing and inspecting materials used on those projects.

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Background

Certification Goal

- To certify that personnel have demonstrated the abilities to engage in quality control (contractor), quality acceptance (agency), or independent assurance activities.

Background

The Issue

The best designs and materials are of no value without good workmanship.

Background

Examples of Poor Workmanship

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Background

Examples of Poor Workmanship

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Examples of Poor Workmanship

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Background

Value of Pavement Preservation Certification

1. Reflects achievement
2. Establishes credentials
3. Improves skills and knowledge
4. Offers greater recognition from peers
5. Demonstrates commitment to pavement preservation

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Certification Framework for Pavement Preservation

The AASHTO TSP•2 Oversight Panel identified 3 areas to increase the quality of pavement preservation treatments:

1. Laboratory Accreditation – AASHTO re:source (AMRL)
2. Updated Specifications – AASHTO TSP•2 ETF & SOM
3. Certification

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Certification Framework for Pavement Preservation

- AASHTO TSP2 Oversight Panel approved implementation of a pavement preservation certification program on April 13, 2016.
- The National Center for Pavement Preservation (NCPP) will administer the certification program for AASHTO TSP2 .

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Certification Framework for Pavement Preservation

Recipe for Success

- Certification of both agency and contractor employees is key to achieve consistently high-quality preservation treatments.

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Certification Framework for Pavement Preservation

- Certification is granted through an exam, and for contractors, additional performance assessments are required.
- The program is not related to, nor will it infringe on, any prequalification program required by an agency.

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Certification Framework for Pavement Preservation

- Treatments currently available for Certification
  - Slurry Systems (Micro Surfacing, Slurry Seal & Polymer Modified Slurry)
  - Chip Seals & Fog Seals
  - Crack Treatments

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Certification Framework for Pavement Preservation

- Sources to prepare for certification examination
  - **Free Web-Based Training from ISSA**

http://slurry.org/education/industry-training-courses/web-based-courses/

  - **AASHTO TC3** ***(Membership or Course Fee Required)***

http://tc3.transportation.org/training-resources/courses/

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Pavement Preservation Certification Framework

- Treatment Topics Covered in Examinations
  - Project Selection
  - Materials
  - Design
  - Equipment
  - Construction
  - Quality Assurance

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Agency Certification Process

- Benefits to Agency
  - Will ensure that future investments in the preservation treatment will be properly designed, constructed, and that the treatment will perform as intended.
  - Certified personnel will serve as the agency technical experts for the treatment.

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Agency Certification Process

- Recommended Personnel for Certification
  - One senior level inspector & designer from each district or region.
  - One engineering preservation specialist from headquarters / central office.
  - Outside consultants if providing inspection services to agency.

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Agency Certification Process

- Voluntary Program
- Certification Valid for 3 Years
- Examination consists of 50 Questions
- Focus on Fundamental Treatment Components and Inspection Points
- Passing Score is 70% or better

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Agency Certification Process

- Personnel Passing the Examination
  - Name entered in the certification database accessible at https://www.tsp2.org/certification/
  - Issued a durable, non-transferable card stating their qualification.

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Contractor Certification Process

- The International Slurry Surfacing Association (ISSA) is a nonprofit association dedicated to the interests, education and success of *slurry seal, micro surfacing, chip sealing and crack treatment* professionals and corporations around the world.
- The Certification Process has been reviewed and approved by the ISSA Board of Directors.

Contractor Certification Process

- Contractor Company is Certified as an Entity
- The Company is responsible for ensuring:
  - a properly trained workforce, including specific certified employees, and
  - a detailed Quality Control plan (QC).

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Contractor Certification Process

- Contractor Company is Certified for 1-year
  - Annual renewal is required
- Company Employees are Certified for 3-years
  - Required employees include:
    1) Company superintendent(s)
    2) Company trainer (if designated)
    3) Crew foreman
    4) Placement machine operator

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Contractor Certification Process

- Contractor Company Annual Renewal Process
  - Current listing of field employees
  - Confirmation of critical experience
    1) Company superintendent(s) – 3 years
    2) Company trainer (if designated) – 3 years
    3) Crew foreman - 2 years
    4) Placement machine operator – 2 years

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Contractor Certification Process

- Contractor Company Annual Renewal Process
  - Verification of crew / laborer training
    1) Completion of ISSA web-based training on specific treatment
    2) Internal training records, that include:
       a. 4 hours Classroom training by company trainer or superintendent, and
       b. 4 hours on-the-job (OJT) training.

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Contractor Certification Process

- Contractor Company Annual Renewal Process
  - Submission of the company's Quality Control plan (QC) for review and approval.

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Contractor Certification Process

- Contractor's Quality Control Plan
  - Quality Control Testing
    - → List materials to be tested, tests to be conducted, location of sampling, and testing frequency.
    - → Establish detailed testing schedule based on production and the means to insure its accomplishment.

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Contractor Certification Process

- Contractor's Quality Control Plan
  - The quality control plan must define the expected results and describe how those results will be achieved. It must detail the following:
    - → steps the contractor will go through to have a successful project, and
    - → how the contractor will determine a problem that will cause the project to not be successful, and
    - → steps that will be taken to get the project back on track.

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Contractor Certification Process

- Contractor's Quality Control Plan
  - Design Protocol
    - → material and mix design laboratory is accredited by AASHTO re:source
    - → tests to be completed
    - → verification procedures to assure project job mix formula (JMF) meets the mix design requirements

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Contractor Certification Process

- Contractor's Quality Control Plan
  - Inspection/Control Procedures for each phase of project.
    - → Preparatory phase
    - → Start up phase
    - → Production phase
  - Description of records to be maintained

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Contractor Certification Process

- Contractor Certified Employee Requirements
  - Certification Valid for 3 Years
  - Examination consists of 80 Questions
  - Focus on Pivotal Knowledge that leads to a Quality Product
  - Passing Score is 70% or better

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Contractor Certification Process

- Certified Superintendent Responsibilities
  - Oversees no more than 3 projects at a time
  - Reviews project QC plan with all crew members
  - Witnesses equipment calibration and test strip placement
  - Ensures certification documentation is available prior to beginning work

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Contractor Certification Process

- Certified Foreman Responsibilities
  - Manages and remains on-site for 1 project at a time
  - Makes certain project QC plan is followed
  - Witnesses equipment calibration and test strip placement
  - Ensures certification documentation is available prior to beginning work

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Contractor Certification Process

- Certified Operator Responsibilities
  - Places treatment according to best practices and procedures

Contractor Certification Process

- Verification of Certification
  - Company name entered in the certification database
  - Company issued a plaque of recognition for year
  - Employee names entered in the certification database accessible at https://www.tsp2.org/certification/
  - Issued a durable, non-transferable card stating their qualification.

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Certification Exam Offerings

- In conjunction with TSP·2 Pavement Preservation Partnership Meetings
- ISSA Slurry Systems Workshop
- In person with NCPP staff
- National College Testing Association has a Consortium of College Testing Centers (348 centers in 45 states)

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Contractor Company Decertification

- A certified agency submitting documentation that showing either:
  - A company failed to produce or follow the project QC plan, or
  - A company engaged in fraudulent action or deliberate misrepresentation

the company will be decertified.

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Thank you

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UNIVERSITY

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