

TCCC Training Course Development Report

Updated for July 2007

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Available Training:

Bridge Construction Inspection

130088

This training course presents bridge construction topics for the inspector level and has been developed in a modular fashion. The course serves as an introduction for State and local DOT inspectors to become familiar with construction operations on bridge projects. It covers project planning foundations, materials, substructures, superstructures, and decks. This course includes four days of material and is available to State and local governments. The pilot was held in Missouri in April 2005 and this course is now available for scheduling.

- Technical Contact: Chris Newman (202) 366-2023
- NHI Contact: Marty Ross (703) 235-0524

Hot-Mix Asphalt Construction

131032

The course was originally developed by the AASHTO Joint Asphalt Industry/Agency Committee in 1991/92 and was revised for NHI in 2002. The course is targeted for contractor project superintendents, foremen, SHA project engineers, and lead inspectors. It covers hot-mix paving including an overview of materials, transport, placement, and compaction. The course is available for scheduling, with instructors provided by ERES Consultants. The *Hot Mix Asphalt Handbook 2000*, the revised reference for the course, has been published by TRB and is also now available as a technical resource.

- Technical Contact: Jim Sorenson (202) 366-1333
- Technical Contact: Matt Corrigan (202) 366-1549
- NHI Contact: Marty Ross (703) 235-0524

Construction of Portland Cement Concrete Pavements

131033

This joint industry/agency training is divided into 6 modules: 1) Introduction/Quality PCC Pavements; 2) PCC Production (ready-mix and central); 3) Slipform paving operations; 4) Fixed Form paving operations; 5) Pavement curing, sawing, and sealing operations; and 6) Concrete Pavement Rehabilitation (CPR) techniques. The Office of Pavement Technology, TCCC, and NHI are convening a technical panel to evaluate the course materials, and process a new contract for simultaneous course update and delivery. In the meantime, the course is not available for delivery, but course materials can be obtained through NHI.

- Technical Contact: Mike Rafalowski (202) 366-1571
- NHI Contact: Marty Ross (703) 235-0524

Hot Mix Asphalt Production Facilities**131044**

This 2-day course is designed to give participants the background information on HMA plant production to adequately inspect the HMA plant production process to ensure minimum standards of product quality are met. It is designed for project engineers, lead inspectors, plant supervisors, foremen, and all others involved with the HMA plant production. This is a joint industry/agency effort developed by the Asphalt Joint Training Committee. Course materials were updated and completed in July of 2002. This course is available for delivery with instructors provided by Applied Pavement Technologies.

- Technical Contact: Chris Newman (202) 366-2023
- Technical Contact: Matt Corrigan (202) 366-1549
- NHI Contact: Marty Ross (703) 235-0524

Hot-Mix Asphalt Materials, Characteristics & Control**131045**

This training course is the result of a partnership between AASHTO, FHWA, and the Hot-Mix Asphalt (HMA) Industry. It combines lectures and problem solving workshop sessions to provide participants with a working knowledge of HMA materials, their characteristics and controls. The course focuses on two areas. The first provides technical information on the material properties of HMA, the processes used to measure these properties, and the effect that these properties have on the final, compacted pavement. The second involves achieving these properties in the field, with discussions on quality management, and analyzing the impact of segregation and density on HMA pavement performance. The course concludes with an examination, which reviews the key elements of HMA materials, characteristics and control. Course materials were updated and completed in July of 2002. Available for scheduling with instructors provided ERES.

- Technical Contact: Matt Corrigan (202) 366-1549
- NHI Contact: Marty Ross (703) 235-0524

**Pavement Preservation:
The Preventive Maintenance Concept****131054**

The Pavement Preservation Expert Task Group (PP ETG) supports the development of the joint FHWA/Industry NHI short course on pavement preservation. This course makes the case for preventive maintenance and pavement preservation programming for upper and mid-level managers. In addition, it provides an overview on effective preventive maintenance techniques and their cost effectiveness. The course discusses the importance of preventive maintenance (PM) and show how PM techniques can be used to effectively preserve the pavement performance and prolong its life. The demonstration of preventive maintenance techniques enables the State to plan, design, and apply the right technique, at the appropriate time, to preserve their highway system. Available for scheduling, with instructors provided by Applied Pavement Technologies.

- Technical Contact: Jim Sorenson (202) 366-1333
- NHI Contact: Marty Ross (703) 235-0524

Pavement Preservation: Selecting Pavements for Preventive Maintenance

131058

This short course focuses on selecting the right pavement for the various preservation treatments by evaluating the merits of each treatment under various field conditions. This course illustrates in detail pavement evaluation, project selection, and materials considerations for the various preventive maintenance applications. It is intended for field manager and practitioners for both the owner and the industry. The course is complete and available for scheduling, with instructors provided by Applied Pavement Technologies.

- Technical Contact: Jim Sorenson (202) 366-1333
- NHI Contact: Marty Ross (703) 235-0524

Technical Panel:
Mike Voth (CFLHD)

Pavement Preservation: Design and Construction Of Quality Preventive Maintenance Treatments

131103

The training course is designed for the foreman on a road crew constructing preventive maintenance treatments, and for the agency or agency's representatives responsible for inspecting the project up to and including middle managers. The course will clearly distinguish between good and bad practices in the selection, design, and construction of quality preventive maintenance treatments. The following content areas are covered for each pavement preservation treatment:

1. Material evaluation and selection.
2. Logical sequence of steps in the construction process.
3. Pre-construction inspection or evaluation to identify conditions that might have an adverse effect on treatment construction or performance.
4. Common problems and the troubleshooting procedures used to identify and correct them.
5. Post-construction inspection to verify that the project is constructed properly and ready to open to traffic.

This course was developed in cooperation with the Foundation for Pavement Preservation, a longtime collaborator with FHWA on the development of courses in the Pavement Preservation series. This course is complete and available for scheduling.

- Technical Contact: Joe Gregory (202) 366-1557
 - NHI contact: Marty Ross (703) 235-0524
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**Pavement Preservation: Integrating Preventive Maintenance
With Pavement Management Systems** **131104**

The course communicates the importance of integrating preventive maintenance activities with pavement management systems to highway agencies. The course identifies how preventive maintenance affects pavement performance, how preventive maintenance and pavement management can be integrated, and how enhanced or integrated pavement management systems can be used effectively to support asset management decisions. A contract has been awarded for the development of the course, and a pilot presentation was given to the North Carolina DOT in August 2003. This course is complete and available for scheduling.

- Technical Contact: Jim Sorenson (202) 366-1333
- NHI Contact: Marty Ross (703) 235-0524

**Principles & Practices for Enhanced
Maintenance Management Systems** **131107**

Building on the successful *AASHTO Maintenance Management Forum for the 21st Century*, the three day NHI short course will detail the state of the practice and will define the necessary components and measures necessary for a state of the art maintenance management system. The training is designed around the comprehensive AASHTO Guide. A pilot was held in September 2005 and the course is complete and may be ordered through NHI.

- Technical Contact: Celso Gatchalian (202) 366-1342
- NHI Contact: Marty Ross (703) 235-0524

Pavement Preservation Online Guide and Training **131110**

The FHWA, in partnership with Caltrans and the National Center for Pavement Preservation, has created the Pavement Preservation Online Guide (PPOG) as a resource for agency and industry pavement preservation practitioners. The guide covers basic pavement preservation concepts, as well as information on specific treatments to extend the life of asphalt pavements.

This course is designed to provide participants with an introduction to the PPOG, so that they can better use it to familiarize themselves with general information on pavement preservation concepts and techniques. The training course is primarily targeted at individuals unfamiliar with pavement preservation policy and technical information. The course is under development by PerformTech, and was piloted in February 2007. Final comments were addressed and the delivery of final course materials was May 2007.

- Technical Contact: Chris Newman (202) 366 2023
- NHI Contact: Marty Ross (703) 235-0524

Technical Panel: Shakir Shatnawi (Caltrans), Jason Dietz (CA Division), Jeff Forster (ND Division), Lita Davis (San Diego County, CA)

Geotechnical Inspector Certification Program

- **Driven Piles Inspector** **132069**
- **Drilled Shaft Foundation Inspector** **132070**

Certification materials and training documents for these NHI courses were completed and courses began Jan 03. The Drilled Shaft Foundation Inspector Course was piloted in Portland, OR and Kansas City, MO and the Driven Piles Inspector Course was piloted in Milford, MA. These courses are available through NHI and have been adapted by several State DOTs for in-house presentation as part of their technician certification programs. The courses have been a great success and are among the most requested NHI Geotechnical Courses.

- Technical Contact: TBD (401) 528-4550
- NHI Contact: Marty Ross (703) 235-0524

**Inspection of Mechanically Stabilized Earth Walls (MSEW)
And Reinforced Soil Slopes** **132080**

This module covers the Inspection of MSEW and RSS Construction. Topics include: Proper Construction Sequence; Backfill gradations, compaction, electrochemical properties; Reinforcement types, testing, and handling; Wall facing types, handling, attachments, and manufacturing; proper drainage details. The kick-off meeting was held in August of 2004. The technical panel held a pilot of the course in September 2005 and the course is now available through NHI.

- FHWA/NRC Contact: Peter Osborn (410) 962-0702
- NHI Contact: Marty Ross (703) 235-0524

Principles of Writing Highway Construction Specifications **134001**

This course addresses the engineering, legal aspects, and linguistics of writing specifications. This is not a course in technical writing. The course, however, addresses the issues of how to draft new specifications or rewrite existing ones into clear, readable, and definitive statements of contract requirements. Classroom activities include lectures, case studies, workshops and writing assignments. The course materials were revised in 2003, and the course is currently available for delivery with instructors provided from Trauner Consulting Services.

- Technical Contact: Roger Surdahl (720) 963-3768
- NHI Contact: Marty Ross (703) 235-0524

Bridge Maintenance**134029**

This course focuses on cost-effective bridge maintenance and repair procedures performed by typical transportation agency crews. Included are step-by-step instructions for preparing for and performing maintenance and repair on common bridge elements. Bridge preservation is emphasized throughout. While engineers often attend, the material is designed for bridge crew supervisors and technicians.

The course was last updated in 2003 and is available for delivery from NHI.

- Technical Contact: Wade Casey (202) 366-4606
- NHI Contact: Marty Ross (703) 235.0553

**Managing Highway Contract Claims:
Analysis and Avoidance****134037**

This course covers the subjects of claims avoidance, claims handling, and preparation of legal actions by both the State and the individuals involved, and is structured such that emphasis can be given to scheduling (using CPM) or to documentation and preparation of legal actions caused by claims. The course manual and classroom instruction address general contracting and claims terminology (such as Contract Clause Changes, Differing Site Conditions, Liquidated Damages, Suspension of Work, Termination, Inspection, Acceptance Indemnification Clauses), contract administration, excusable/ inexcusable delays, documentation and record keeping, design consultant liability, and dispute resolution. The course was piloted in 2004 and is complete and available for scheduling.

- Technical Contact: Chris Newman (202) 366-2023
- NHI Contact: Marty Ross (703) 235-0524

**Materials and Acceptance -
Quality Assurance (General Course)****134042**

An NHI contract for delivery of this course has been executed and the course is now available for delivery as either a 4-day course or an abbreviated 2-day course. The 4-day version is also included as one of the modules of the 6-week Materials Engineering Course. The course incorporates the elements of specification development and analysis, process control, acceptance sampling testing and inspection, quality assurance, independent assurance sampling, developing acceptable risk limits, project quality analysis, and bidding with respect to specifications, interpreting and reporting data, evaluating risk in acceptance specifications, and dispute resolution. The course integrates each of the elements and demonstrates how they work to deliver a quality product. In addition, the course has been designed to provide insight in developing solid, practical specifications that yield good performance along with equipping contractors to analyze their production capability to meet required criteria and assure a reasonable return for their work. This course is now available through NHI.

- Technical Contact: Mike Rafalowski (202) 366-1571
- Technical Contact: Ken Jacoby (202) 366-6503
- NHI Contact: Marty Ross (703) 235-0524

Use of CPM for Estimating, Scheduling and Timely Completion **134049**

This training course is designed to educate State Highway, FHWA, and Industry project staff about the availability of effective construction and maintenance planning and scheduling tools that can help in providing visual representation of current project status, completed tasks, and expected completion of all activities. These tools can be focused to accelerate construction and minimize impact on the traveling public. Available for delivery with instructors provided by Trauner Consulting Services.

- Technical Contact: Celso Gatchalian (202) 366-1342
- NHI Contact: Marty Ross (703) 235-0524

Design and Implementation of Erosion and Sediment Control **134054**

This course addresses management techniques for controlling erosion and sedimentation on highway construction and maintenance operations. Methods to identify the source of erosion and sedimentation will be presented, including best management practices to insure the current legislative and regulatory requirement of FHWA, EPA, and local governments are met. Joint development between HIAM/Environment. The course is available for delivery with instructors provided by Nichols Consulting Engineers.

- Technical Contact: Chris Newman (202) 366-2023
- Technical Contact: Patricia Cazenias (202) 366-4085
- NHI Contact: Mila Plosky (703) 235-0527

Construction Inspection, Workmanship, and Quality **134055**

This training effort is a short course on construction workmanship for inspectors, project engineers, foreman and superintendents. The target audience includes FHWA, SHA, and industry personnel. The course is aimed at improving workmanship decision making for quality highway construction projects. The intention of this course is not to replace the individual training SHA's are doing but rather establish a knowledge baseline for construction managers on a national level. The walk through was conducted in July 2005 and the pilot was held in Thornburg, VA in October 2005. The course is complete and available for delivery through NHI.

- Technical Contact: Chris Newman (202) 366-2023
- NHI Contact: Marty Ross (703) 235-0524

Conducting Reviews that Get Results **310111**

This half-day to 1-day training course is intended for FHWA and State DOT employees to assist in developing and carrying out process reviews. The training course is presented by key FHWA staff on short notice, when a review is about to be initiated, to teach FHWA and State DOT staff the PR/PE review methodology. The main topics of the training course are be Clarification of the Review, Planning the Review, Data Collection, Analysis of Data, and Selling and Implementing Improvements. The course is currently available with instructors provided by FHWA.

- Technical Contact: Chris Newman (202) 366-2023
- Technical Contact: Denise Saunders (202) 366-0438

Construction Program Management Workshop for FHWA and SHAs

The FHWA Office of Infrastructure is conducting workshops on Construction Program Management and Oversight. The workshops are targeted at Division field engineers and state agencies, and will provide staff with the background and knowledge they need for managing and overseeing their construction programs. The workshop is approximately 1 ½ days in length, and uses the Construction Program Management and Inspection Guide as instructional material. The workshop is targeted at the newer field engineers but it also serves as a refresher for more veteran staff. While the workshop is focused primarily at FHWA's staff and FHWA oversight activities, participation by State partners and other relevant entities is encouraged. It is recognized the Divisions are the frontline of the Federal-aid program and the team is relying heavily on Division Administrators to stress upon their staff, particularly new hires, to take advantage of this opportunity.

- Technical Contact: Ken Jacoby (202) 366-6503
- RC Contact: Douglas Townes (404) 562-3914

Instructor Development Course for Technical Trainers

The Instructor Development Course (IDC) for technicians is a 2 ½ day course that assists participants in conducting technical training. The course is intended to improve participants' presentation skills, communication skills, and adult learner skills. In addition the course includes demonstrations of the proper methods of instructing laboratory test procedures to new technicians. The course also covers administering written and proficiency exams for qualifications. The participants demonstrate a 15-minute training that is critiqued by the instructor and fellow participants to ensure mastery of the course learning outcomes. The pilot was successfully conducted in September 2004 and the course materials are available for distribution.

- Technical Contact: Chris Newman (202) 366-2023
NHI Contact: Debbie Gwaltney (703) 235-1199

Subsurface Investigation Inspection

This course covers the inspection of subsurface explorations. Topic include: Soil Borings, Rock Coring, Standard Penetration Test (SPT), proper sampling and handling procedures, Safety, In-situ testing techniques, basic instrumentation. A pilot presentation was held in April 2005, and the course is now complete and available for delivery through NHI.

- FHWA/NRC Contact: Peter Osborn (410) 962-0702
- NHI Contact: Larry Jones (703) 235-0523

Courses Under Development

Partnering: A Key Tool for Improving Project Delivery in the Field

134060

This course will be based on other partnering training used in Washington, Ohio, Arizona, and Maryland. The NHI training course will focus on improved product delivery through partnering. The course is aimed at helping those involved in highway construction projects to create, participate in, lead, champion, and/or evaluate partnered projects. The target audience for the course includes; personnel responsible for the delivery of multiple construction projects; personnel who are involved on-site on a daily basis on construction projects; and participants at the management level responsible for the delivery of a construction program through subordinate organizations or staff. The delivery of the course is most effective when there is a mix of both state agency employees and construction contractors participating. The development task has been awarded to Trauner. Two pilot courses were held in Arizona and in Ohio, and a final pilot was held in May 2007 in Washington DC. Final course materials will be available...

- Technical Contact: Ken Jacoby (202) 366-1342
- NHI Contact: Marty Ross (703) 235-0524

Technical Panel:

Bob Templeton (NPHQ)/ Kevin Dayton (WSDOT)/ Bridgid Seering (MDSHA)/ Celso Gatchalian (FHWA)/ Ken Jacoby (FHWA)/ Judonne Greham (AZ DOT)/ Gary Angles (OH DOT)/ Jack Ford (Beaver Excavating)

Field Structural Coatings Inspection Certification Course

This course has been developed through the partnership of the FHWA/ State/ industry Coatings Expert Task Group (ETG). It is envisioned that the "course" will likely be a basic level course providing a baseline certification. Other course modules dealing with various specialty topics in coatings (lead paint removal, abrasive blasting, high pressure water blasting, metalizing, 100% solids coatings, shop coatings, etc.) will be subsequently developed. The development of the basic curriculum and certification requirements is complete and several pilot sessions of the training course have been held. The Society for Protective Coatings (SSPC) will be the organization that grants and maintains the actual certification, and will also be an avenue for delivery of the training. The NHI and Coatings ETG are devising a strategy through which the training can be offered through NHI, to make the course more widely available to state DOT's nationwide. In the meantime, the course is complete and available for scheduling through SSPC.

- Technical Contact: Larry O'Donnell (708) 283-3502
- NHI Contact: Marty Ross (703) 235-0524

Technical Panel:

Mike Leote (Triborough Bridge & Tunnel Authority)/ Brian Castler (CT DOT)/ Heather Gilmer (TXDOT)/ Chris Peoples (NCDOT)/ Derrick Castle (KTC)/ Andy Rogerson (CalTrans)/ Gary Kowalski (ILDOT)

Transportation Construction Quality Assurance Course**134050**

This NHI course is based on the NETTCP Quality Assurance Technologist Course. The course presents QA principles at an instruction level intended for the construction team and geared for application to improving construction and material quality for the project. The NETTCP course underwent extensive peer review in 2005. FHWA and NHI are now working (through a contract with ADNET) to adopt the material as an NHI course. The course materials are expected to be completed by the end of 2007.

- Technical Contact: Ken Jacoby (202) 366-6503
- NHI Contact: Marty Ross (703) 235-0524

Technical Panel:

Greg Doyle (FHWA-MA)/ Woody Hood (MDSHA)/ Ewa Flom (FHWA)/ Alan Samuels (AZ DOT)/ Douglas Townes (FHWA)

**Bridge Rehabilitation Evaluation and Design
Inspection of Bridge Rehabilitation Projects****134062****134067**

The FHWA is leading an effort to improve the quality of highway facilities by developing a training program for bridge rehabilitation. The ultimate goal of this effort is the development of a nationally accepted program that will serve to improve quality, ensure uniformity and establish a minimum standard for bridge rehabilitation. The training will present innovative and state-of-the-art bridge rehabilitation technologies and procedures for a broad array of structural elements including bridge decks, girders, piers and abutments. The course development has been awarded to WJE.

Two courses are under development. The first, Bridge Rehabilitation Evaluation and Design, focuses on analysis of bridge inspection and condition data to determine appropriate rehabilitation strategies. It will include some coverage of construction details so that designers are familiar with the technical requirement and considerations of bridge rehabilitation. Course development is underway: preliminary lesson plans have been submitted and reviewed (August 2006), and the panel has conducted the technical walkthrough of the course material (February 2007). The first pilot was held in May 2007 and another pilot is scheduled for July 2007 in Sterling, VA.

The second course, Inspection of Bridge Rehabilitation Projects, covers similar material but with a greater emphasis on needs of the construction inspectors. There will be some coverage of inspection/ condition assessment to provide context to the purposes of the bridge repairs; the majority of the content will focus on rehabilitation techniques themselves, so that construction inspection crews can identify issues, troubleshoot situations, and in general contribute to improved quality of repair work. The FHWA is in the process of executing the contract modification with WJE for this part of the training development.

The technical panels for the two courses will coordinate with one another to ensure consistency within the training course materials.

- Technical Contact: Tom Everett (202) 366-4675
Chris Newman (202) 366 2023
- NHI Contact: Marty Ross (703) 235-0524

Technical Panel (134064):

Shoukry Elnahar (FHWA RC)/ Jeff Smith (FHWA RC)/ Wade Casey (FHWA)

Technical Panel (134067):

Chris Newman (FHWA HAIM)/ Calvin Karper (FHWA-OK)/ Linda Hughes (WSDOT)/ Eric Burns (MI DOT)/ Finn Hubbard (WI DOT)/ Robert Garcia (NMDOT)

Pavement Preservation: Selection and Timing of Preventive Maintenance Treatments 131115

This training course will be an update to the popular and successful curriculum of pavement preservation courses, combining elements of the first two courses (*The Preventive Maintenance Concept and Selection of Preventive Maintenance Treatments*). It is intended to address both the need for general pavement preservation concepts and applications such treatment comparison, selection, and timing. The course development is underway, and the preliminary lesson plans were submitted for panel review in April 2007. The technical walk-through will take place in July 2007 and the pilot will be scheduled for August 2007 in Little Rock, AR.

- Technical Contact: Chris Newman (202) 366 2023
- NHI Contact: Marty Ross (703) 235-0524

Technical Panel: Jon Rice (Kent County, MI), Doug Gransberg (Univ. of Oklahoma), Colin Franco (RIDOT), Jeff Forster (ND Division), Lita Davis (San Diego County, CA), Joe Gregory (HIAM-20)

Pavement Preservation: Optimal Timing of Pavement Preservation Treatments (workshop) 131114

This is a one-day on-line workshop envisioned to help highway agencies use the optimal timing spreadsheet developed as part of the NCHRP Report 523. The workshop will be tailored to use the pavement treatment selection process used by the host state. The workshop will be designed to be presented either in person or using computer-based training. The workshop development is underway. The technical walk-through will take place on July 9, 2007 and the pilot will be on July 28, 2007.

- Technical Contact: Chris Newman (202) 366 2023
- NHI Contact: Marty Ross (703) 235-0524

Technical Panel: Jon Rice (Kent County, MI), Ed Denehy (NYSDOT), Steve Mueller (Resource Center)

Environmental Factors of Construction and Maintenance

The course is intended to familiarize construction teams with environmental concerns to be addressed as part of construction operations. These include

- construction noise
- construction dust
- light pollution from nighttime operations
- vibration
- alkali runoff from concrete pour/ sawcut
- emissions from equipment exhaust
- disruption of species habitat or migration/ESA commitments
- damage to archaeological or cultural resources
- Stormwater Pollution Prevention Plan (SWPPP)-maintenance activities
- hazardous materials

Many of these subjects are covered in detail in existing NHI training, but the relation to construction operations may not have been fully explored.

The scope of work for the training has been prepared, and a request for proposals will be issued in June 2007.

- Technical Contact: Chris Newman/Pat Cazenias (202) 366-2023
- NHI Contact: Marty Ross (703) 235-0524

Technical Panel:

Melinda Bowen (FHWA-PA) / Bob Orthmeyer (FHWA RC – Olympia Fields)/

Maintenance Academy

134063

This training is envisioned as a 4-6 week course much like the NHI Materials course, involving intensive training time for individuals new or rising to supervisory maintenance positions. The topics included within the curriculum are expected to include pavement preservation, weather-related maintenance, maintenance management, equipment and personnel management, and network analysis/ project planning and selection. A scoping meeting was held in August 2006 to better refine the target audience and draft the curriculum. A scope of work for development of the overall course is underway, and is expected to be issued as a RFP in April 2007.

- Technical Contact: Chris Newman (202) 366-2023
- NHI Contact: Marty Ross (703) 235-0524

Technical Panel:

Jim Sorenson (FHWA-HIAM)/ Jim Feda (SCDOT)/ Pat Sullivan (AR DOT)/ Richard Clarke (UDOT)/
Chris Christopher (WSDOT)/ Amir Hanna (TRB)

Work Zone Traffic Control Short Courses

NHI, in partnership with the FHWA Offices of Safety and Operations, as well as with TCCC representatives, has created an overall curriculum of work zone training for various audiences. The end result will be the development of several courses through NHI. The Fundamental course is 75% complete. The technical panel for the Advanced course has resolved the technical walk-through comments with the contractor and the pilot is scheduled for June 11-14, 2007.

- Technical Contact: Ben Gribbon (202) 366-1809
- NHI Contact: Tom Elliott (703) 235-0539

Technical Panel:

Ben Gribbon (FHWA)/ Donna Clark (ATSSA)/ Jack Cowsert (NCDOT)

Upcoming Courses:

Contract Maintenance Concepts

Short course to follow recently revised AASHTO Guide on Contract Maintenance. A workshop was held in San Antonio in March 2007, during which there was a peer exchange of state experiences and the establishment of background material for the course. The RFP will be issued in June 2007.

- Technical Contact: Celso Gatchalian (202) 366-1342
- SHA Contact: Jim Carney (MODOT)

Technical Panel:

Lubin Quinones (FHWA-PR)/ Jim Carney (MODOT)/ Ed Sheldahl (FHWA)

Understanding Benchmarking and Performance Measures

The scope of work for this course is under development, and will take a two-phase approach. A scoping meeting will be held in August 2007 to establish desired course outcomes, refine the target audience, etc. Using the results of the scoping meeting, a RFP should be issued by February 2007 for the development of this course.

- Technical Contact: Chris Schneider (202) 493-0551
- SHA Contact: Mike Bousliman (MTDOT)

Technical Panel: tbd

QA Specifications Development and Validation

A Technical Panel has been established and has met several times to develop an RFP for the course development. The panel is currently awaiting the Beta version of ongoing QA software that will be used with this course. A scope of work has been completed for this course, but it is pending the completion of the software needed to support the course. An RFP for the development of the software is complete, so it is expected that the scope of work for the course development will be reissued for solicitation in the Fall of 2006.

- Technical Contact: Ken Jacoby (202) 493-0551
- NHI Contact: Louisa Ward (703) 235-0523

Technical Panel:

Ken Jacoby (FHWA)/ Mike Rafalowski (FHWA)/ Peter Kopac (FHWA TFHRD)

Highway Maintenance Quality Assurance for State and Local Agencies

This short course will be developed using the outcome and results of the NCHRP Project 14-12 completed in 1998 by ERES Consultants. This course will educate governmental agencies on how to evaluate the Level of Service (LOS) being provided by maintenance forces in comparison to the LOS targeted by the agency or expected by its customers. In addition, the quality assessment process will allow an agency to benchmark maintenance levels at the time LOS monitoring begins, thereby providing a numerical point of reference for evaluating maintenance conditions over time. RFP is under development and will be submitted for solicitation.

- Technical Contact: Jim Sorenson (202) 366-1333
- NHI Contact: Marty Ross (703) 235-0524

Technical Panel:

Celso Gatchalian (FHWA)/ Alison Lebwohl (WisDOT)/ Rico Baroga (WSDOT)/ Mike Bousliman (MTDOT)

Structural Bolting Course

A High Strength Bolting Course for the installers of Bolted Connections for Structural Steel, Overhead Traffic Structures, Guide Rail and other Miscellaneous Structures. This course will cover identification of bolt, nut and washer manufacturer, bolt/nut/washer designations, condition as received on project and the various equipment and methods used to assure the proper torque. Course can be used as a training course, geared toward inspection, or to certify installers as required by agencies.

- Technical Contact: Chris Newman (202) 366-2023

Technical Panel:

Woody Hoody (MDSHA)

Advanced Emulsion Technology Course

The proposed training course will be an intensive session on emulsion technology, focusing on the use of these materials in pavement preservation thin surface treatments. It will be designed to combine self-taught web-based training with classroom sessions and hands-on laboratory work for exercises and workshops. Topics included will be petroleum science, chemical analysis, emulsion production, polymer modifications, and applications and limitations for specific thin surface treatments. Particular attention will be placed on the practical relationship between the emulsion lab properties and the behavior of the material during placement and its long-term performance. It is anticipated that the course developer will work closely with industry to make use of existing technical information, training, and marketing material in the curriculum. An excellent opportunity exists for partnership between government and industry to access industry's materials and resources to increase the level of knowledge among agency designers, inspectors, and materials technicians and contractor personnel. A request for proposals will be issued for course development during Summer 2007.

- Technical Contact: Chris Newman (202) 366-2023
- NHI Contact: Marty Ross (703) 235-0524

Technical panel – tbd