RAPID DEPLOYMENT: A POTENTIAL APPROACH TO REDUCING THE COSTS OF PAINTING STEEL OVERPASS BRIDGES OVER BUSY HIGHWAYS

by Eric S. Kline, KTA-Tator, Inc., and Carl A. Angeloff, Bayer Corporation

A primary concern for bridge owners is the dramatic escalation of the cost of repainting steel bridges coated with lead-based paint. In addition, a way is needed to minimize the impact of field painting of bridges on the traveling population. Limiting the extent and duration of lane closures when painting overpass bridges will minimize traffic congestion and improve safety on the highway below the bridge. However, accomplishing this feat has created a daunting scheduling and quality control challenge for the painting contractor, who must move in and out of the lane closure daily while trying to blast clean and paint the bridge.

To address these issues, the authors organized a team of coatings industry personnel (coating manufacturers, painting contractors, and consultants) to examine novel methodologies for minimizing the impact of bridge painting on the traveling population. The term “rapid deployment” was coined as the name for the team’s efforts to develop and investigate the benefits of combining cutting-edge coatings technology with containment technology capable of allowing rapid mobilization into and out of a lane closure. The term describes the total painting process whereby all work functions are fully contained within a mobile trailer-mounted work platform. The goal of rapid deployment is to reduce traffic disruption by consuming only a one-night closure per traffic lane. The single closure is scheduled during off-peak periods. Within the mobile work enclosure, the existing paint is totally removed by open nozzle blast cleaning, and high-performance two-coat paint system is applied, all during one work shift.

A discussion of the basic components and expected results of rapid deployment follows. The present article is based largely on observations during the first of two demonstration projects. The mobile work platform, chloride remediation, coating system requirements, impact on traffic, coating life expectancy, and cost issues will be discussed first, followed by a summary of lessons learned during the initial trial project. The first trial was completed in October 1999. Some observations from it are included as well. More details of the second project will be reported in a subsequent presentation.

MOVEABLE WORK PLATFORM

The truck-mounted work platform, which serves as the base for the containment system, can be moved quickly into and out of the work area (Fig. 1). All of the blast cleaning and coating application equipment, lighting, and personnel are located on this platform or on an adjacent truck. The mobile containment unit (like a reusable space shuttle) can be easily reused on other steel overpass bridge projects.

continued on page 4
Indiana LTAP

Indiana Local Technical Assistance Program (LTAP) was established by the Federal Highway Administration (FHWA). The purpose of the LTAP program is to translate the latest, state-of-the-art road, highway and bridge technologies into systems usable by local highway agencies. LTAP is funded by FHWA, the local agency distribution of the Motor Vehicle Highway Account and Purdue University. A newsletter is published quarterly by the Indiana LTAP office at Purdue University. It is distributed free to county, city or town road and street personnel, and others with transportation responsibilities.

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Advisory Board Meeting
The next meeting of the LTAP Advisory Board will take place on
Thursday, January 24, 2008 at 10:00am
The meeting will be held in the LTAP Center Conference Room

Indiana LTAP Training Calendar
2007 - 2008

2008 County Bridge Conference
January 30-31
APWA Click, Listen & Learn
TARGET #2:DURING the Disaster
January 31
University Plaza Hotel
(formerly University Inn)
West Lafayette, IN

ATSSA Web Training
Sign Retroreflectivity-
New National Standards
February 12
LTAP Center
West Lafayette, IN

APWA Click, Listen & Learn
Water: A Precious Resource
February 21
LTAP Center
West Lafayette, IN

2008 Stormwater Drainage Conference
February 28
University Plaza Hotel
(formerly University Inn)
West Lafayette, IN

94th Annual Purdue Road School
March 25-27
Stewart Center/Memorial Union
Purdue University
West Lafayette, IN

March 26
Road Scholar Core Courses
#11 Road and Bridge Plan Reading
#12 Estimating Cost & Quantity
(at Road School)
On behalf of the Indiana LTAP staff, I would like to wish all of you a Happy New Year. The LTAP looks forward to an outstanding year as we strive to provide the best services possible to our local customers. To that end, I thought that it would be appropriate in the first newsletter of the year to oversee some of the 2008 LTAP goals.

First let me direct your attention to the lack of a title on this newsletter issue. This is because the newsletter will be receiving a new name in 2008. In discussions with our staff and various local agencies throughout the state, it was decided that the name “Pothole Gazette” did not accurately represent our objectives as an organization. Instead, the newsletter should have a name that invokes the vision of improving local transportation. To this end, LTAP has decided to sponsor a contest to choose a new name for the newsletter. If you would like to offer a suggestion for the competition, please complete the form on the back page of this issue and send it to us. The winner of the competition will receive a complimentary registration to an LTAP event of their choice in the year 2008.

The LTAP staff is currently programming the 2008 calendar. Events will include County Bridge Conference (30-31 Jan), Stormwater Drainage Conference (28 Feb), 94th Annual Road School (25-27 Mar), Transportation Expo and Snow Plow Roadeo (10-11 Sep), and various Road Scholar Workshops, as well as Click, Listen, and Learn classes. For more information on upcoming events, see the events calendar on Page 2 of this newsletter issue, or visit the newly renovated LTAP website at www.purdue.edu/INLTAP.

Another service provided by LTAP is the Resource Library. Currently it contains hundreds of publications, videos, and DVDs available free of charge. The LTAP staff will be updating some of our more popular publications this year including the Bridge Sufficiency Rating Report, Needs Assessment, Stormwater Drainage Manual, and Summary of Highway Revenues, Distributions, and Expenses. The library contents can be searched via the website, or if you prefer, let us know and we can send you a CD of the current library catalog.

Finally, please remember that the LTAP staff is always available to take your calls. If you need information or if you simply have a suggestion, please feel free to call (765) 494-2164 or (800) 428-7639 (toll-free in Indiana). We are here to serve you, the local communities.

Have a safe, happy, and successful 2008!

CONGRATULATIONS TO JOSEPH BUNTING, TIPPECANOE COUNTY HIGHWAY SUPERVISOR

After almost 20 years of service to the Tippecanoe County Highway Department, Highway Supervisor Joseph Bunting retired as of December 31, 2007.

Joe began his employment as Assistant Supervisor on July 18, 1988 and was appointed County Highway Supervisor in May of 1991. Since then, Joe has worked diligently over the years to improve the roads in Tippecanoe County. Joe believed in serving the public faithfully and worked to rectify all complaints on the day they were reported. Tippecanoe County employees will miss him.

On January 1, 2008 Assistant Supervisor Jack Fisher will take his post as the new Tippecanoe County Highway Supervisor.
The moveable work platform technology necessary to accomplish this end already exists in many areas of the U.S. Innovative suppliers and contractors have created and assembled a wide variety of such devices.

**CHLORIDE REMEDIATION**

To achieve the full service life of a high-performance coating system, it will be necessary to substantially remove any chloride contaminants (salts) and other residue from the steel. Bridges that are heavily contaminated with chlorides (from deicing operations) require substantially complete chloride remediation before recoating.

Many chloride removal methods are available. These include cleaning the steel surface with water, steam, or, in some cases, a mixture of fine and coarse abrasive. The small abrasive particles in this abrasive mixture are believed to remove chlorides by scouring them from the severely pitted steel substrate. There has been a great deal of research done in the past five years or so regarding the nature of these salt residues and how to remove them. Successful remediation in a rapid deployment containment means that the chlorides will be removed or reduced to a level generally considered safe – no more than 10µg/cm² – to prevent corrosion beneath the primer.

**REQUIREMENTS FOR A FAST DRY/RECOAT COATING SYSTEM**

The type of coating system chosen for the rapid deployment trials was based on a traditional polyurethane zinc-rich primer and a two-component aliphatic polyurethane topcoat. These types of coatings have been used in protective coatings in three-coat systems, and were modified to achieve higher film builds and to accelerate the dry times required for a rapid deployment concept. Modification with chemical accelerators to reduce dry times also allowed the team to anticipate and work within the wide range of ambient conditions possible during application.

To afford effective protection, the modified two-coat system must be applied at a film thickness comparable to that achieved by a three-coat system. The coatings must be able to be applied with normal field application tools and methods – brush, roller, or spray; and they must build to a target dry film thickness range of 8 to 11 mils (200 to 275 microns). The coatings must be applied in two coats and be free of notable runs, sags, drips, or holidays. To meet these application requirements, the coatings must be easy for the applicator to work with.

The coatings also must meet all relevant restrictions on volatile organic compound levels (VOCs) in industrial maintenance coatings. The U.S. federal limit is 450 g/L as applied. The system used in the first trial project had a primer with VOC level of 2.8 lbs/gal. (approximately 340 g/L) and a topcoat with a VOC level of 1.93 lbs/gal. (approximately 230 g/L). The primer on the second trial project had a VOC level of 2/8 lbs/gal. (approximately 230 g/L), and the topcoat had a VOC level of 3.1 lbs/gal. (approximately 370 g/L).

The components must be able to be mixed and applied when the temperature range is approximately 40 F to 100 F (4 C to 38 C). The primer must be recoatable in 1 to 1 ½ hours, immediately followed by striping. The topcoat is then applied one hour after the stripe coat is started. On the first trial project, surface temperatures ranged from 37 F to 91 F (approximately 3 C to 33 C). Relative humidity ranged from 26% to 90%. On the second trial project, environmental conditions ranged from 45 F to 60 F (7 C to 16 C), and relative humidity was less than 85%. In general, the lane closures were completed on time; in some cases, they were completed as much as two hours ahead of schedule.

Note that while urethane coatings can cure at low temperatures, in such cases, recoat times of the zinc primer and dust-free dry times of the topcoat may be extended. One advantage of rapid deployment and the self-contained mobile work unit is the ability to control environmental conditions by introducing heat and humidity as required so that application conditions do not extend dry and recoat times.

Other coating systems that may have potential as rapid deployment systems include ultra-high-solids, fast-cure aliphatic polyureas, and very high-solids epoxy systems.

**WHAT RESULTS ARE POSSIBLE WITH RAPID DEPLOYMENT?**

The use of rapid deployment technology can achieve the following results.
Reduction in inconvenience to the Traveling Public
Rapid deployment is a custom-tailored solution for painting in areas with heavy traffic. The public prefers that travel on limited access highways (particularly toll roads) be uninhibited during peak travel hours. Inconvenience to the traveling public caused by lane closures can be reduced significantly. Being able to blast clean and apply the entire coating system over one lane in one night is preferable to blast cleaning and priming the first night, applying the intermediate coat the second night, and topcoating the third night. Rapid deployment allows the traveling public to enjoy unimpeded travel during daylight hours by limiting lane closures to nighttime hours when traffic congestion is at its lowest. In addition, only one closure per lane is slated. Completion of all tasks within any one such lane closure night will appreciably lower user costs, improve safety, enhance public relations, and lower the costs of maintenance and protection of traffic.

Reduction in Contract Costs and Costs of Maintenance and Protection of Traffic
Contract labor costs can be reduced dramatically by limiting the hours worked to clean and recoat steel overpass bridges to nighttime and by limiting the closures to one night per traffic lane. Both crew hours and overtime will be reduced. A bridge over four lanes of traffic and a 10-foot-wide (3-meter-wide) median strip can be completely blast cleaned and repainted in only six crew nights. The rapid set-up of the work platform and the fast-cure coating system allow more work to be done in less time, thereby reducing the total crew time for each bridge to be cleaned and painted.

The calculation of crew nights above is based broadly on the following. It is assumed that four lanes will require a night each to complete, and that half of the median will require a night. The entire median requires two nights of work because only one lane at a time can be closed to work on the median (Fig. 2). If work is being performed on the eastbound side of the median, the westbound side of the median cannot be worked on without closing the westbound lane. Therefore, a 10-foot (3-meter) median strip takes two crew nights.

Having the crew work nights (Fig. 3) does entail some additional labor costs (e.g. shift differential), but the added costs are more than offset because fewer crew days are required. On the example cited above, the crew would be on site for only six nights. In contrast, a normal project on which conventional methods are used on an overpass crossing four lanes would require a minimum of 18 days (3 days for each lane and median side).

Maintenance and protection of traffic (MPT) are both labor- and equipment-intensive components of any bridge repainting project. With rapid deployment, the lane closure time is much shorter. Using a rapid deployment approach, a comparable high-quality, durable paint system can be installed in six nights. MPT costs have been estimated at approximately 20% of the cost of cleaning and painting. Using rapid deployment may reduce this cost item alone by more than half.

Coating Life Expectancy
Maintenance painting is crucial to maintain and extend the life expectancy of structural steel overpass bridges. The installation of a high-performance coating system with a zinc-rich primer means that the system can be expected to provide long-term protection of the steel (at least 30 years in the first author’s experience). Of course, this service life assumes that periodic maintenance touch-up may be necessary to preserve the integrity of the coating system. When overpasses are saved from deterioration by effective repainting utilizing a method that will reduce life cycle costs, money saved can be used for painting other bridges or for funding other projects.

LESSONS LEARNED FROM THE FIRST RAPID DEPLOYMENT TRIAL PROJECT
The initial demonstration project was completed in October 1998 on two overpass bridges on the Pennsylvania Turnpike in Somerset, Pennsylvania. Several important lessons were learned from this project, including the following.

Fig 2 Containment in place for work over half of median. Lane to left of mobile unit is closed off during times of light traffic. Courtesy of Bayer Corporation

Fig 3. Prototype containment lit for night work
Courtesy of R.J. Wildner Contracting Company, Inc.
Coating contractor personnel need to be well acquainted with the goals of the rapid deployment system. The effective use of the containment equipment and the fast recoat coating system requires a clear understanding by the contractor staff so that savings inherent in the approach are realized. Otherwise, the staff will be unable to consistently follow through with the correct sequence of activities, and potential cost savings will not be achieved.

- Stripe coating of the primer is a specification requirement and must be performed diligently in a two-coat system to get full coverage without pinholes or holidays.
- Abrasive embedment in the prime or finish coat is a potential problem when fast recoat work is done in close quarters. Extra care must be taken to avoid this unsightly problem.
- Much additional effort was required for chloride mitigation. The overpass had low clearance, and trucks in transit heavily contaminated the overpass girders by splashing them with roadway water that contained deicing salts. In addition, the bottom flange of the girder cleared the truck trailers by only about a foot (30 cm) or so. As a result, the girder steel was heavily pitted and contaminated with chloride. Chloride remediation consumed valuable blast cleaning time during the night and delayed painting. As a result, it was difficult to complete the painting operations and remove the work platform from the road by 7 a.m. Even though the chloride removal effort took extra job time, the end result of the additional blast cleaning was well worth the effort.

In the future, bridges with heavy pitting will require a larger blast cleaning crew or a variation in the chloride remediation technique to stay on schedule.

The second trial project was completed in the fall of 1999 in Ohio and is the subject of a paper currently being written. In addition to the topics covered in the present article, the upcoming paper is expected to address topics such as the special training requirements for night work, special accommodations for lighting, and a cost analysis based on crew hours actually expended.

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**INDIANA FARM BUREAU BULLETIN FOR COUNTY HIGHWAYS AND PROPERTY OWNERS**

by Mark Thornburg, Indiana Farm Bureau Director of Legal Affairs and Jessica Mitchell, Indiana Farm Bureau Summer Law Associate

Property owners are often faced with concerns regarding neighboring county highways. Understanding basic concepts regarding county highways will be important to ensure your rights are protected.

Determining how and when the highway right-of-way was established will make a difference when resolving issues surrounding its existence. The Indiana Code requires a county highway right-of-way to be at least 20 feet on each side of the centerline, or at least 40 feet across. Additional width may be needed for cuts, fills, drainage, utilities, and public safety. IC § 8-20-1-15. Prior versions of the statute required a width of 30 feet.

Often no documents exist properly establishing a county highway right-of-way. If this is the case, the width of the right-of-way is determined by the public’s continuous use rather than the Indiana Code. Thus, the width of the right-of-way is equal the traveled portion of the road, not including the berm or shoulder. *Contel of Indiana Inc. v. Coulson*, 659 N.E.2d 224 (Ind. App. 1995).

The right-of-way grants the public a right to use the road, but the landowner retains the land’s title. Reasonable care must be exercised so that the property’s use does not interfere with safe travel and a landowner may be responsible for injuries occurring if a hazard they created visits the roadway. Liability may also be incurred if a landowner knew of or should have known of the risks created and failed to take reasonable steps to avoid harming travelers.

The county may make alterations and improvements needed to enjoy the right-of-way, but may not use the land in a way that is beyond the scope of the easement. The Indiana Supreme Court has taken the view that allowing utilities to lay pipes or install poles and wires in and upon a highway right-of-way does not go beyond the scope of the original easement. *Fox v. Ohio Valley Gas Corp.*, 235 N.E.2d 168 (Ind. 1968).

However, when a right-of-way does not extend beyond the traveled portion of the road, the county does not have the authority to allow utilities to use land beyond that portion. In these situations, the county’s authority to enter the adjacent property is based on a license granting the county a privilege to enter and perform some act, such as mowing or maintaining a ditch.

If needed, county commissioners may acquire additional land to widen, straighten, or change the route of any county highway. IC § 8-20-3-1. If no agreement can be reached for a purchase price or damages, eminent domain may be used to condemn the land. Generally, the landowner retains ownership over the soil and the trees in the right-of-way. Items may be removed if necessary to use the right-of-way, but they remain the property of the landowner. This is important because while removing trees may be allowed, the Indiana Court of Appeals ruled it to be an unlawful taking when a county removed and later sold the trees along a right-of-way. Thus a county may wish to consult with a landowner prior to disposing items removed from a right-of-way.
INTRODUCTION

The Indiana Department of Environmental Management (IDEM) regulates culverts, bridges and other similar stream crossings through the Section 401 Water Quality Certification Program to ensure that these structures maintain stream integrity.

IDEM, working with the U.S. Army Corps of Engineers (Corps), has several rapid permitting mechanisms, (i.e., Regional General Permit #1, Nationwide Permit #3, and Nationwide Permit #46) to authorize culvert and stream crossing activities that have a low risk of causing or contributing to stream impairment.

IDEM recognizes that there is no one size fits all approach for stream crossing activities and will work with the applicant and other agencies through the individual permit process for those site specific situations where the general permit is not applicable.

Most all culverts and stream crossings are authorized if not through issuance of a general permit, then through an individual permit.

The following provides information on the IDEM requirements to qualify for the below-mentioned permits.

NEW CULVERTS: New culverts and crossings may be authorized under a general or an individual permit.

Regional General Permit (RGP) #1 requires a thirty-day notice to IDEM and the Corps prior to construction and does not involve a site specific review by IDEM. To qualify for this general permit, the culvert must meet the following conditions:

- The cross sectional area is at least 20% larger than the bankfull area of the stream immediately up and downstream of the culvert;
- It does not exceed 150 linear feet;
- If it has more than one opening, then one of the openings meets the cross sectional area requirement;
- It has either no bottom (e.g. three-sided culvert) or is 20% embedded into the streambed (imbedded area must be subtracted from the cross-sectional area); and
- The slope of the culvert bed matches the slope of the streambed both upstream and downstream of the culvert

Individual Permits. An individual site specific section 401 Water Quality Certification is required for new culvert projects that do not meet the conditions above.

MITIGATION IS NOT REQUIRED FOR PROJECTS QUALIFYING UNDER THE REGIONAL GENERAL PERMIT (RGP)

CULVERTS IN DITCHES: The Corps defines non-tidal ditches as ditches that are constructed in uplands and receive water from or divert water to an area determined to be water of the United States prior to the construction of the ditch. For most culvert projects in ditches, a Corps general permit known as Nationwide Permit #46 may be used. Pre-construction notification is made to the Corps, not to IDEM.

Nationwide Permit #46 excludes:

- Channelized streams,
- Relocated streams, and
- Increases in ditch capacity that cause the ditch to drain wetlands and other Waters of the U.S.

1Bankfull is the point where a stream spills out of the channel and into the floodplain. The bankfull event occurs roughly every 1.5 years. For design purposes one could size the structure by computing the “bankfull” stream flow for a 24 hour storm with a 1.5 year “storm” by means of interpolation. In entrenched streams this elevation may be well below the top of both banks. The bankfull area is the cross sectional area below the bankfull elevation.

Culverts & Stream Crossings Environmental Fact Sheet
Indiana Department of Environmental Management Office of Water Quality

FOR MORE INFORMATION:

- About the Corps’ Nationwide Permits, visit the Corps website at: http://www.usace.army.mil/cw/cecwo/reg/nationwide_permits.htm
- For a copy of IDEM’s Water Quality Certification of the Corps nationwide permits and the regional general permit, visit: http://www.idem.gov/programs/water/401/docs/nwpletter.pdf
- For application and notification information, visit: http://www.idem.IN.gov/programs/water/401/application.html
- To contact the project manager who handles your section of the state visit: http://www.idem.IN.gov/programs/water/401/staff.html
- On determining bankfull elevation see the Watershed Assessment of River Stability & Sediment Supply (WARSSS) at http://www.epa.gov/warsss/pla/box03.htm
- For questions and concerns, feel free to call IDEM’s Office of Water Quality at (317) 233-8488
COUNTY BRIDGE CONFERENCE

JANUARY 30-31, 2008

UNIVERSITY PLAZA HOTEL
3001 NORTHWESTERN AVENUE
WEST LAFAYETTE, IN  47906

This annual conference explores various aspects of design, construction, maintenance, and replacement of bridge structures. Speakers and presentations will provide current information for attendees responsible for bridge maintenance. Join us for two days of informative sessions. Lunch, sponsored by exhibitors, will be provided on Thursday, January 31st. Continental breakfast offered on both days beginning at 7am.

SOME TOPICS TO BE COVERED...

INSPECTION
Topics include underwater inspection, load ratings and National Bridge Inspection Standards

MAINTENANCE

MAINTENANCE

PURDUE RESEARCH UPDATES

FEDERAL HIGHWAY UPDATE

INDOT STANDARDS UPDATE & LRFD UPDATES

RECONSTRUCTION/REPLACEMENT PROJECT
Case study on Design vs. Replacement

HISTORICAL BRIDGE UPDATE

DECODING THE FEDERAL BRIDGE PROGRAM
FHWA presentations on funding, inspection and the federal bridge program

FUTURE OF BRIDGE INSPECTION
INDOT presentation on local bridge inspection manual, bridge inspection database and the status of inspection reports

BRIDGE FUNDING AND CALL FOR PROJECTS

WHO SHOULD ATTEND
Local road and street personnel responsible for the design, construction, maintenance, and replacement of city and county bridges as well as consulting engineers will find the conference invaluable. Indiana Department of Transportation personnel with responsibilities for programming and review of bridge projects will also find the program beneficial.

REGISTRATION INFORMATION
The registration fee is on a per day basis. A discount will be given if you register for both days. No refunds will be given for cancellation after January 23, 2008.

Please direct questions regarding registration, billing and payment to Erica Wilson, Conference Coordinator at (765) 494-7221, or by email at ericaw@purdue.edu.

For additional program information, contact Rich Domonkos, Training Specialist, Indiana LTAP at (800) 428-7639, or (765) 494-2164.

You can also register online!

- Go to www.purdue.edu/INLTAP.
- Click on “Training”
- Click to January on our training calendar
- Click on County Bridge Conference - “Register”

HOTEL INFORMATION
Rooms have been blocked at the University Plaza Hotel (formerly University Inn). Rates are $79/single and $89/ double plus applicable taxes. Call (800) 777-9808 to make a reservation and mention Indiana LTAP.
STORMWATER DRAINAGE CONFERENCE
FEBRUARY 28, 2008
UNIVERSITY PLAZA HOTEL
3001 NORTHWESTERN AVENUE
WEST LAFAYETTE, IN 47906

This conference will focus primarily on regulations, design & maintenance techniques concerning stormwater drainage. The agenda is structured to provide current information to those in management and decision-making, combined with practical applications and approaches for those involved in the technical design and maintenance of stormwater systems. Lunch, sponsored by exhibitors, will be provided.

SOME ITEMS ON THE AGENDA...

GREEN TECHNOLOGY AS IT APPLIES TO STORMWATER DRAINAGE
Portland Cement Concrete Porous Pavement - Case Study
Asphalt Cement Porous Pavement - Case Study

GEOGRAPHIC INFORMATION SYSTEM (GIS) RESOURCES
What is out there and how to access it?

PROJECT SHOWCASE
Tippecanoe County - A study on perseverance and multi-jurisdictional cooperation.

DRAINAGE LAW UPDATES
INDIANA PROFESSIONAL ENGINEERING/SURVEYING LICENSING CEU REQUIREMENTS

REGULATORY ISSUES
Renewal of Permits for Phase II Compliance

EROSION CONTROL
Observations from the field, the good the bad and the fine!

PURDUE CIVIL ENGINEERING RESEARCH UPDATES

STORMWATER DRAINAGE MANUAL
Discussion of updates

TR-55 WINDOWS VERSIONS & HY-8
Will be taught with computers in separate sessions

WHO SHOULD ATTEND
Local road and street personnel who are responsible for the design, construction, and maintenance of city and county drainage systems as well as consulting engineers will find the conference invaluable. Indiana Department of Transportation personnel with responsibilities for programming and review of drainage projects will also find the program beneficial.

REGISTRATION INFORMATION
The registration fee is $75 for government employees and $90 for non-government. No refunds will be given for cancellation after February 22, 2008.

Please direct questions regarding registration, billing and payment to Erica Wilson, Conference Coordinator at (765) 494-7221, or by email at ericaw@purdue.edu.

For additional program information, contact Rich Domonkos, Training Specialist, Indiana LTAP at (800) 428-7639, or (765) 494-2164.

You can also register online:
- Go to www.purdue.edu/INLTAP.
- Click on “Training”.
- Click to February on our training calendar
- Click on Stormwater Drainage Conference - “Register”
UPCOMING ASSOCIATION EVENTS

Indiana Association of County Commissioners
Board Meetings:
- January 10th
- February 14th
- March 13th
- April 10th
- May 8th
IACC will meet at Road School on March 27th
For more information visit www.indianacountycommissioners.org

Indiana Association of County Highway Engineers & Supervisors
BOD Meeting Dates:
- January 18th
- May 2nd
IACHES will meet at Road School on March 27th
For more information visit www.iaches.org

Indiana Street Commissioners Association
ISCA will meet at Road School on March 27th

Indiana Association of Cities and Towns
Legislative Conference
February 13th-14th
Indianapolis Marriott Downtown

Indiana Association of City Engineers
IACE will meet at Road School on March 27th
For more information visit www.cityengineer.org

The Indiana House of Representatives and the Indiana Senate
reconvene at 1:30 p.m. on Tuesday, January 8, 2008. Below are some resources to help you stay current on those bills affecting local government issues, including roads and streets:

Indiana General Assembly
http://www.in.gov/apps/lsa/session/billwatch/billinfo

Indiana Association of County Commissioners
http://www.indianacountycommissioners.org/

Association of Indiana Counties
2008 Legislative Conference
January 29-30
Board Meetings
January 29th
March 20th
North West District Meeting
April 8th
North East District Meeting
April 9th
West Central District Meeting
April 22nd
East Central District Meeting
April 23rd
South West District Meeting
April 29th
South East District Meeting
April 30th

Association of Indiana Counties
http://www.indianacounties.org/department/?fDD=5-0

Indiana Association of Cities and Towns
http://www.citiesandtowns.org/content/member_resources/governmentaffairs_DHT.htm
RESEARCH ENGINEER
Indiana LTAP, West Lafayette, IN

The Indiana LTAP is currently seeking to add a Research Engineer to its staff of professionals. Research Engineer duties include developing, promoting, and conducting technology transfer programs to provide training and implementation of the best practices for the operation of local roads and streets in Indiana. This will include the development of training materials and coordination with town, city, county, state, and federal officials, and University staff to enable these programs to be effectively presented throughout the state. Research efforts will relate to these technology transfer activities. The Research Engineer also makes decisions regarding the identification, demonstration, and education necessary to persuade local officials to adopt new or more efficient procedures.

The successful candidate will have an M.S. in Civil Engineering and 5 years experience; or a B.S. in Civil Engineering and 10 years experience; he or she must also be a licensed professional engineer. Prior experience in engineering, planning, and/or education is desirable.

The Research Engineer is required to have strong oral and written communication skills along with knowledge of word processing, database development and management, spreadsheets, email, and the internet. An understanding of Indiana local government, knowledge and experience in state and local highway planning, design, operations, and maintenance is highly desirable.

Visit www.purdue.edu/hr/Employment for job listing and “how to apply”.

SECRETARY
Indiana LTAP, West Lafayette, IN

Some responsibilities include providing administrative assistance to the Program Manager and LTAP staff in regards to purchasing, travel and conference registrations, and mailings. Assist with hospitality and assemble materials for workshops and conferences. Reserve locations and handle correspondence for Advisory Board meetings, assemble materials for these meetings and prepare travel reimbursements for eligible Board members. Answer calls and direct inquiries to appropriate staff members. Maintain Contacts and Requests database. Work closely with Civil Engineering Business Office regarding purchase requests, travel reimbursements and payroll for hourly employees. Experience with Microsoft Word, Excel, Outlook, PowerPoint, and Publisher preferred.

For a complete job description visit www.purdue.edu/hr/Employment. Click on “how to apply” to submit your resume.

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Please submit your idea by February 15th!